



2022

**PROJAHN**

Precision Tools

# IMPRINT

Publisher PROJAHN Präzisionswerkzeuge GmbH | Gottlieb-Daimler-Str. 5 | 63128 Dietzenbach | GERMANY | projahn.de  
Managing Director Markus Dreps  
HRB 43647  
VAT ID no. DE 8 150 31 095  
Direction Axel Lemmer, Alexander Henn  
Product Manager Thomas Mletzko  
Design Anastasia Schreider, Laura Salewski  
Photo Credits Icons designed by dDara/Eucalyp/Freepik/photo3idea\_studio/srip/ultimatearm retrieved from Flaticon on 03/04/2021  
Print AC medienhaus GmbH | Ostring 13 | 65205 Wiesbaden-Nordenstadt | GRMANY | acmedien.de  
Date March 2022

Performance specifications, properties, illustrations, compilations, dimensions and weights of products can change in the course of technical development and adaptation to the requirements of our customers without obligation or prior notification. There is no obligation to change products that have already been delivered accordingly. We reserve the right to remove items from our delivery program. Sales only through specialist retailers. Errors and misprints as well as color deviations reserved.

© 2022 PROJAHN Präzisionswerkzeuge GmbH Germany. Further information is available at [www.projahn.de](http://www.projahn.de)



## Dear customers and valued business partners,

Our two catalogues **Precision Tools** and **Hand Tools** give you a quick and compact overview about our product range on more than 600 pages. In our logistics centre in Dietzenbach, more than **10,000 different stock items** are immediately available for you.

Even though the trend towards online marketing is increasing, we hear from our customers again and again that the printed catalogue represents a significant added value.

Both in the quick product search and in the individual consultation with the customer, this reference book in your hands provides **valuable support**.

The quick overview on the first pages helps just as much as the application recommendations and product comparisons at the beginning of each chapter. At the end of the catalogue you will also find indexes of article numbers and keywords for a quick navigation.

Consistently **high product quality** is a requirement, but our understanding of quality goes far beyond that. Reliability, trust and a business relationship based on partnership are equally important to us. Consistent customer orientation, good availability, flexibility and a competent field service complete our range of services.

We are pleased that we have been elected again as „**Partner of the PVH**“ by the Zentralverband Hartwarenhandel e.V. (Central Association of the Hardware Trade) by our specialized retail partners for exactly these added values. Many thanks for this award!



The **quality of product data** is becoming very important due to digitalisation. With our new data management system, we make all information available to you on all communication channels. We have added many relevant details and structured them clearly. The clear presentation helps you to find the right product for you quickly and easily during consultation and sales.

In addition, there are many possibilities to support your sales activities, such as the supply of customized dimensions or individual support in project business. Challenge us!

Do you have a suggestion for improvement? We would like to develop continuously and welcome every suggestion. As a thank you, you will receive a product reward from our product range.

We wish you much success with your PROJAHN tools!

**Your PROJAHN team**

**PROJAHN Präzisionswerkzeuge GmbH**

63128 Dietzenbach | GERMANY | +49 (0)60 74 / 696 66 - 66 | sales@projahn.de | www.projahn.de

# That is what makes us who we are

---



## Sustainability

---

PROJAHN's philosophy: Sustainability and continuity in collaborations with customers, suppliers and employees to generate benefits for all. Only long-term commitment at all levels facilitates close and strong relationships.



## Reliability

---

Reliability is the basis for long-term partnerships. Just as your customer relies on you, you can rely on PROJAHN. Orders will be processed immediately. Usually, the goods will even be dispatched on the same day. Furthermore, PROJAHN customers can count on getting goods in a consistently high quality. You know, you can rely on us!



## Expertise

---

PROJAHN combines extensive product know-how with a unique product range. As a PROJAHN customer this means for you: Only the best products will be included into our large portfolio for craftsmen and industry. Benefit from our large product range through easy procurement routes combined with constant quality and high expertise.



## Personal Support

---

Personal support ensures a strong alliance between customer and supplier. The PROJAHN team stands for consistency in personal contacts. You know whom to turn to – whether it is the field staff or the office staff. And you can rely on your contact partners.



## Immediate Delivery

---

Almost all of PROJAHN's articles which are listed in the catalogue are available in stock at the logistics center in Germany: from the smallest drill bit to the largest workshop trolley. This means for you as specialized dealer: You are able to supply your customers on short notice with the requested tools, even without requiring high stocks of your own.



## Customized Marketing Support

---

PROJAHN's Marketing Support Department offers you professional communication and marketing; e.g. the new catalogue – which you just hold in your hands – is designed and optimized for ease of use correspond to the feedback of our partners. So our customers don't spend long time to search – they easily find what they need.



## Innovations

---

PROJAHN maintains an extensive customer and supplier network. Daily work often inspires us with new and better ideas, to come up with innovative product solutions. In cooperation with suppliers, we use these ideas to develop professional tools that make daily work easier increasing performance as well as effectiveness.



## Quality

---

PROJAHN supplies professional partners from craft, industry and commerce. Our customers ask for high-quality tools. In daily use, tools have to be durable and work reliable. Because only good tools enable you to do a good job! Therefore, we offer professional quality for professional users. That is what PROJAHN stands for.



## Versatile Product Portfolio

---

Hand tools and precision tools are daily used by every craftsman and in industrial processes. Like no other supplier, PROJAHN offers you a broad as well as deep product range out of both product fields. Benefit from synergies and optimized procurement. Convince yourself of the efficiency of our unique product range.

**Quality | Service | Reliability**

---

## **BRAND & VALUES**












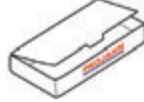
















## **SERVICE & PARTNERSHIP**



## **PRODUCTS & INNOVATION**



# Legend to Packaging

	Pouch with euro perforation		Blister packaging with euro perforation		Clip holder with euro perforation		Twistpack with euro perforation
	Twistpack		Twistpack with round perforation		Screwpack		Screwpack with round perforation
	Plastic box with euro perforation		Plastic box		Plastic box		Plastic box with euro perforation
	Cardboard packaging with euro perforation		Cardboard box		Cardboard packaging		Round sleeve with round perforation
	Cardboard card with euro perforation		Loose in PE bag		Plastic box		Plastic box with round perforation
	Quadro pack with Euro perforation		Quadro pack		Quadro pack with round perforation		Plastic box with euro perforation
	Pouch with round perforation		Cardboard card with euro perforation				

# Legend Pictograms

Reinforced concrete	Masonry	Concrete	Natural stone	Hollow bricks	Eternit	Ply-, hard-, soft- wood, chipboard	Coated chipboard	Wood with metal residues	Laminate coated, parquet	Wood	Green wood	Hard wood
Leather	Rubber	Steel pipes, -profiles, solid metal	Steel pipes, -profiles, solid metal <800 N/mm <sup>2</sup>	HD Heavy Duty <1,400 N/mm <sup>2</sup>	Aluminum	Sheet metals	Nonferrous metals	Cast iron	Stainless steel	Carbide tipped	Glass fiber reinforced plastics	Carbon fiber reinforced plastics
Plastics	Gypsum boards	Sandwich materials	Insulation material	Insulation material	Pallet repair	Aerated concrete	Dismantling of window frames	Plexiglass	Glass	Ceramics, tiles	Tiles	Roofing tiles
Frozen food	Ice	Rebuilding, dismantling	Plastic, pipes, rails, plates	Shank triple ground	STARLOCK tool holder	Teeth distance mm	For the work on tile grout and tile adhesives	For the work on residual adhesive, silicone, varnishes, paints or the like				
For cutting carpet and roofing felt	Metric	Metric fine	British standard pipe	British standard withworth BS 84	American unified coarse thread	American unified fine thread	Hand tap	Machine tap	Through hole thread	Blind hole thread	External thread	
Saw blade for curved cuts	Quick cut	Clean cut	Rough cut	Vario toothing	Reverse teeth	Straight cut	Cutting length	Teeth per inch/ tooth distance in mm	Side set toothing - rough cuts	Conically ground blade, teeth diagon., sharpened toothing - precise, clean cuts	Wavy set toothing - fine and clean cuts	Side set, diagonally sharpened toothing - rough, quick cuts
Switch off percussion	Suitable for percussion	Coolant required	No coolant required	Special cooling fluid for cutting stainless steel	Long life-time	Extra long life-time	Technical information	Diamond coated tool				
Use safety gloves	Wear safety goggles	Use mask	Use ear protection	Cordless drill	Hex shank	M14 thread shank						

<b>A Ø</b>	Outside diameter	<b>W</b>	Width
<b>AK</b>	Outer cone	<b>L</b>	Total Length
<b>IK</b>	Inner cone	<b>L2</b>	Working Length
<b>MK</b>	Morse taper	<b>tpi</b>	Teeth per inch
<b>Abst.</b>	Steps	<b>R</b>	Radius
<b>Bb</b>	Drilling range	<b>PU</b>	Packaging unit

# Quality Levels in Catalogue

PROJAHN always provides you with consistently high quality. To make the search for the optimal tool for your needs as easy as possible,

you find the PROJAHN Quality seal on top of each product. The following levels are dividing the entire PROJAHN range.

## Highest Quality Level

# PROFESSIONAL PLUS STANDARD

- ▶ Highest level of quality for excellent precision
- ▶ Exceeds DIN and ISO standards
- ▶ For the hardest applications by low wear
- ▶ Very long life time
- ▶ High-quality materials, professional finish
- ▶ Uncompromising quality for highest demands

## Medium Quality Level

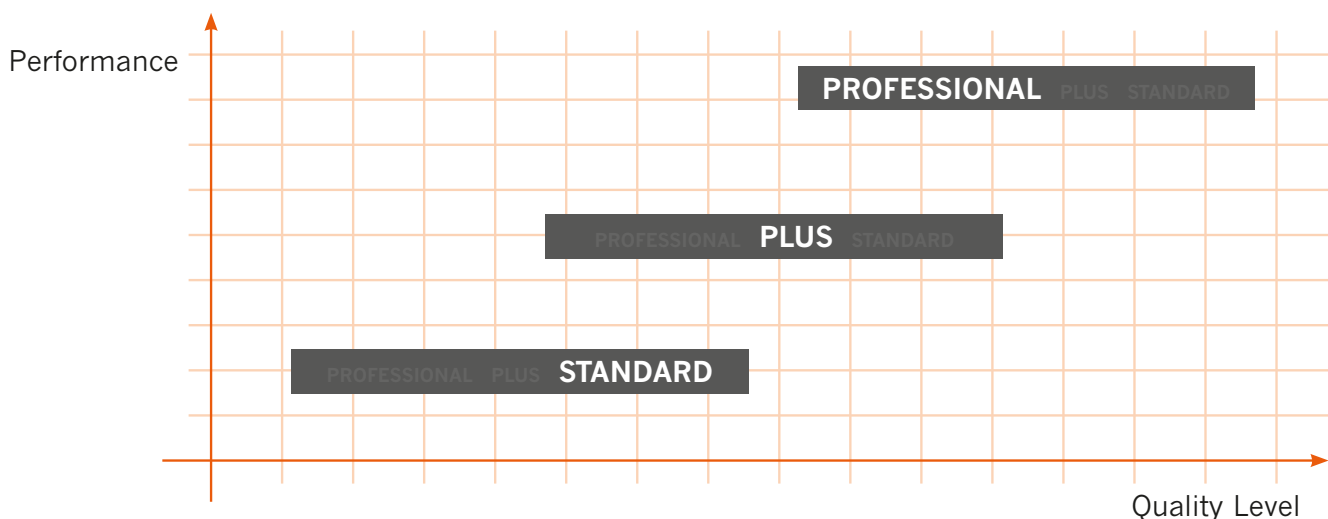
# PROFESSIONAL PLUS STANDARD

- ▶ Very high level of quality for highest precision
- ▶ Quality higher than DIN and ISO standards
- ▶ Tools for difficult requirements
- ▶ For problem-solving users
- ▶ High-quality manufacturing, ergonomic design

## Standard Quality Level

# PROFESSIONAL PLUS STANDARD

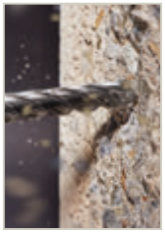
- ▶ Good brand quality
- ▶ Attractive price-performance ratio
- ▶ Quality complies with DIN and ISO standards





# Table of contents

---



## Stone

P 9 – P 62



## Steel

P 63 – P 144



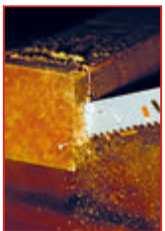
## Thread

P 145 – P 168



## Wood

P 169 – P 192



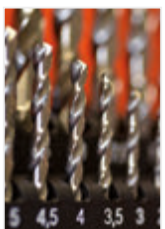
## Saws

P 193 – P 242



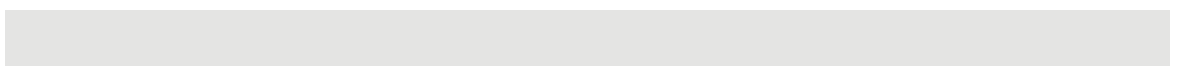
## Measuring Tools

P 243 – P 246



## Sets

P 247 – P 291



Discover also our assortment from the Hand Tools catalogue



# STONE



# Overview of stone tools with recommendation



Stone													
Qualität		PROFESSIONAL	PROFESSIONAL	PROFESSIONAL	PROFESSIONAL	STANDARD	STANDARD	PROFESSIONAL	PROFESSIONAL	PROFESSIONAL	PROFESSIONAL	PROFESSIONAL	PROFESSIONAL
Product		ROCKET 5 4 cutter	ROCKET 5 stop drill bit	ROCKET 5 4 cutter	ROCKET 3 2 cutter	ECO 2 cutter	ECO 2 cutter	CLEANER suction drill	CLEANER suction drill	BREAKER core cutter	BREAKER Hammer HCB	BREAKER Hammer HCB	PRO- Connect
Shank		SDS-plus	SDS-plus	SDS-max	SDS-plus	SDS-plus	SDS-max	SDS-plus	SDS-max	SDS-max	SDS-max	SDS-max	Various
Ø mm		5 - 32	8 - 15	12 - 52	3 - 26	4 - 16	12 - 40	12 - 24	14 - 35	45 - 80	50 - 150	50 - 100	-
Series		830004	830007	80000	83000	830002	800002	830006	800006	81800	81300	81000	85500
Art.-Group		45	97	43	41	80	80	95	96	35	48	48	36
Page		P 16	P 18	P 19	P 22	P 24	P 25	P 27	P 27	P 28	P 29	P 30	P 31
Reinforced concrete		+++	+++	+++	+		+	++	++	+	+	+	
Concrete		+++	+++	+++	+++	++	++	+++	+++	+++	+++	+++	
Masonry		++	++	++	+++	+++	+	+++	+++	+++	+++	+++	
Natural stone		+++	+++	+++	++	+	+	++	++	++	++	++	
Hollow bricks		+	+		+	+		+	+	++	++	++	
Roofing tiles													
Aerated concrete		+	+	+	+	+	+	+	+	+	+	+	
Ceramics, tiles													
Glass													
Plastic													
Steel													
Wood													

+++ recommended

++ well-suited

+ suitable

## Overview of stone tools with recommendation

														
	PROFESSIONAL	PROFESSIONAL	STANDARD	PROFESSIONAL	PROFESSIONAL	STANDARD	PROFESSIONAL	PLUS	STANDARD	PROFESSIONAL	PROFESSIONAL	PLUS	STANDARD	PLUS
	VERSIO	Hollow core bit	Hollow core bit	Diamond drill bit	Diamond drill bit	Diamond drill bit	Super-Schlag	PRODUR	ECO	MULTI-STAR	MULTI-STAR	Multi material drill bit	Stone drill bit	Roof tile drill bit
	Various	Various	Various	Hex	M14 thread	Straight	Straight	Straight	Straight	Straight	Hex	Straight	Hex	Hex
	45 - 125	30 - 100	68 - 82	5 - 16	6 - 68	3 - 83	3 - 20	3 - 16	3 - 25	4 - 16	4 - 10	3 - 12	3 - 10	3.5 - 6
	85000	81500	50100	59800	59400	59900	57500	55000	50000	57000	570006	57600	50300	53200
	35	53	47	52	52	52	56	58	57	89	89	89	57	59
	P 32 P 33	P 34	P 35	P 36	P 37	P 38	P 39	P 40	P 41	P 42	P 43	P 44	P 45	P 46
							++	+	+	+	+	+	+	
	+++	+++					+++	+++	++	+++	+++	+++	++	+
	+++	+	++	++	+		++	+	+	+	+	+	+	
	++	++					++	++	++	+++	+++	++	++	+
	+	+	+	+	+		++	+	+	++	++	+	+	+++
	+++	+++					+++	+++	+++	++	++	++	+++	
	+	+	+++	+++	+++		++	+		++	++	++		++
			++	++	++					+	+	+		
									++	+++	+++	++	++	+
										++	++	+		
									+	+++	+++	+++	+	+

+++ recommended

++ well-suited

+ suitable

# Overview of stone tools with recommendation

													
Quality		PLUS	PROFESSIONAL	STANDARD	PROFESSIONAL	PLUS	PROFESSIONAL	PLUS	PROFESSIONAL	STANDARD			
Product		ALLRO	Glass drill bit	CRYSTAL	EXTREME	Adapter	Chisels	Chisels	Floor cleaning	ECO			
Shank		Straight	Hex	Straight	Straight	Various	SDS-plus SDS-max	Various	SDS-max	SDS-plus SDS-max			
Ø mm		5 - 12	3 - 10	3 - 12	3.5 - 11	-	-	-	-	-			
Series		58000	59200	59000	59700	811xx	840004	84000	84900	840002			
Art.-Group		51	51	51	52	37	72	42, 49, 73	73	74			
Page		P 46	P 47	P 48	P 49	P 50	P 52	P 54	P 55	P 61			
 Reinforced concrete							++	++		+			
 Concrete							+++	++		++			
 Masonry		++			++		+++	++		+++			
 Natural stone		++					+	+					
 Hollow bricks		++			++		+++	+++		+++			
 Roofing tiles		++	+	+	++								
 Aerated concrete													
 Ceramics, tiles		++	+	+	+++								
 Glass		+	+++	+++	++								
 Plastic		++			++				+++				
 Steel													
 Wood		+			+								

+++ recommended

++ well-suited

+ suitable



**ROCKET**

# ROCKET 5

Especially for reinforced concrete - Long lifetime



The aggressively shaped drill bit head with five crushers is setting new standards for drilling into reinforced concrete and in terms of lifetime.

The ROCKET is made of high-quality tempering steel, which can withstand even the toughest applications.

The PGM-Certification guarantees accurate dowel holes and precise concentricity.



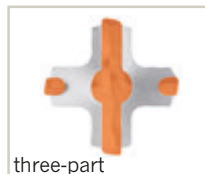
Range:

SDS-plus Ø 5 - 32 mm, SDS-max Ø 12 - 52 mm



one-piece

Carbide plate up to  
Ø 28 mm



three-part

Carbide plate from  
Ø 30 mm



# Technical details



**POWERFUL**

### 5 Crushers

- 5 crushers create with impact and torsion precise holes in concrete and reinforcement
- Specially developed cutting symmetry with five crushers equally high, in 90° angle arranged cutting edges
- Demolition effect for highly effective destruction of the material
- Perfect concentricity

### Centering point

- Robust one-piece carbide plate (up to Ø 28 mm; from Ø 30 mm three-part ) with centering point
- Accurate drilling without slipping off the material
- Ensures long tool lifetime even in extreme applications

**DURABLE**



**PRECISE**

### Reinforcement protection and wear marks

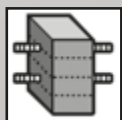
- Carbide plate with radially shaped protection against reinforcement prevents jamming when drilling reinforced concrete
- Wear marks show, whether the tool is still suitable to drill dowelcompatible holes
- Short transition from head to flute ensures fast removal of the drilling dust

### Geometry

- 4-flute geometry
- Very long lifetime due to evenly spread wear
- Smooth running and optimal guidance in the drill hole
- Low vibration for protection of people and machine

SDS-plus  
SDS-max

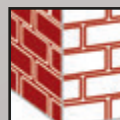
## Range of application:



Reinforced concrete



Concrete



Masonry



Natural stone

## Characteristics:



Durable



Precise



Powerful

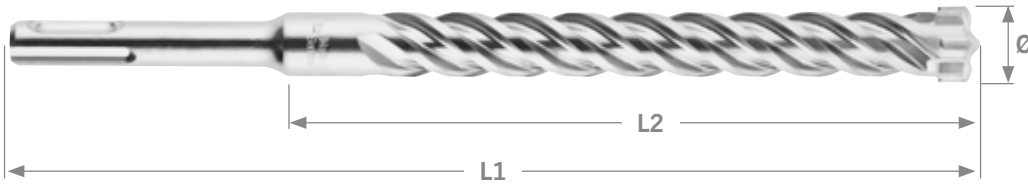
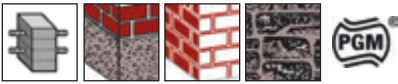


Low vibration



# 830004 | ROCKET 5 hammer drill bit SDS-plus shank

Art.-Group 45



**Due to the 5 crushers, the Rocket 5 is the perfect product for working with reinforced concrete**

- ▶ Made of high-quality tempering steel especially selected for the toughest applications
- ▶ 4-flute geometry
- ▶ 5 crushers create precise holes in concrete and reinforcement with impact and torsion
- ▶ Carbide plate with radially shaped protection against reinforcement prevents jamming when drilling reinforced concrete
- ▶ The heightened centering tip ensures long tool life even in extreme applications
- ▶ Wear marks show, whether the tool is still suitable to drill dowel-compatible holes
- ▶ Low vibration for protection of person and machine
- ▶ Very long lifetime due to evenly spread wear
- ▶ The PGM-Certification guarantees accurate dowel holes and precise concentricity

Single packaging with hanger



Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.
5.0	110	50	83 05 110 4	10.0	210	150	83 10 210 4	16.0	160	110	83 16 160 4
5.0	160	100	83 05 160 4	10.0	260	200	83 10 260 4	16.0	210	160	83 16 210 4
5.0	260	200	83 05 260 4	10.0	310	250	83 10 310 4	16.0	260	210	83 16 260 4
5.5	110	50	83 055 110 4	10.0	360	300	83 10 360 4	16.0	310	260	83 16 310 4
5.5	160	100	83 055 160 4	10.0	450	390	83 10 450 4	16.0	450	400	83 16 451 4
6.0	110	50	83 06 110 4	10.0	600	540	83 10 600 4	16.0	600	550	83 16 600 4
6.0	160	100	83 06 160 4	10.0	1000	940	83 101 000 4	16.0	1000	950	83 161 000 4
6.0	210	150	83 06 210 4	11.0	160	100	83 11 160 4	18.0	250	200	83 18 250 4
6.0	260	200	83 06 260 4	11.0	210	150	83 11 210 4	18.0	450	400	83 18 450 4
6.0	310	250	83 06 310 4	11.0	310	250	83 11 310 4	20.0	250	200	83 20 250 4
6.5	160	100	83 065 160 4	12.0	160	110	83 12 160 4	20.0	450	400	83 20 450 4
6.5	210	150	83 065 210 4	12.0	210	160	83 12 210 4	22.0	250	200	83 22 250 4
6.5	260	200	83 065 260 4	12.0	260	210	83 12 260 4	22.0	450	400	83 22 450 4
6.5	310	250	83 065 310 4	12.0	310	260	83 12 310 4	24.0	250	200	83 24 250 4
7.0	110	50	83 07 110 4	12.0	450	400	83 12 450 4	24.0	450	400	83 24 450 4
7.0	160	100	83 07 160 4	12.0	600	550	83 12 600 4	25.0	250	200	83 25 250 4
8.0	110	50	83 08 110 4	12.0	1000	950	83 121 000 4	25.0	450	400	83 25 450 4
8.0	160	100	83 08 160 4	14.0	160	110	83 14 160 4	28.0	250	200	83 28 250 4
8.0	210	150	83 08 210 4	14.0	210	160	83 14 210 4	28.0	450	400	83 28 450 4
8.0	260	200	83 08 260 4	14.0	260	210	83 14 260 4	30.0	250	200	83 30 250 4
8.0	310	250	83 08 310 4	14.0	310	260	83 14 310 4	30.0	450	400	83 30 450 4
8.0	360	300	83 08 360 4	14.0	450	400	83 14 450 4	32.0	450	400	83 32 450 4
8.0	460	400	83 08 460 4	14.0	600	550	83 14 600 4				
8.0	610	550	83 08 600 4	14.0	1000	950	83 141 000 4				
10.0	110	50	83 10 110 4	15.0	160	110	83 15 160 4				
10.0	160	100	83 10 160 4	15.0	210	160	83 15 210 4				
				15.0	260	210	83 15 260 4				
				15.0	450	400	83 15 450 4				

Note: Special dimensions on request. Also possible in lengths over 1,000 mm.

# 5-pack and 10-pack

Art.-Group 45



5-pack with hanger

Ø mm	L1 mm	L2 mm	Art.-No.
5.0	110	50	83 05 110 45
5.0	160	100	83 05 160 45
6.0	110	50	83 06 110 45
6.0	160	100	83 06 160 45
6.0	210	150	83 06 210 45
6.5	210	150	83 065 210 45
6.5	260	200	83 065 260 45
6.5	310	250	83 065 310 45

Ø mm	L1 mm	L2 mm	Art.-No.
8.0	160	100	83 08 160 45
8.0	210	150	83 08 210 45
10.0	160	100	83 10 160 45
10.0	210	150	83 10 210 45
12.0	160	110	83 12 160 45
12.0	210	160	83 12 210 45
12.0	260	210	83 12 260 45

Ø mm	L1 mm	L2 mm	Art.-No.
14.0	160	110	83 14 160 45
14.0	210	160	83 14 210 45
14.0	260	210	83 14 260 45
16.0	260	210	83 16 260 45

10-pack with hanger

Ø mm	L1 mm	L2 mm	Art.-No.
6.0	110	50	83 06 110 410
6.0	160	100	83 06 160 410
8.0	160	100	83 08 160 410
8.0	260	200	83 08 260 410

Ø mm	L1 mm	L2 mm	Art.-No.
10.0	160	100	83 10 160 410
10.0	260	200	83 10 260 410
12.0	160	110	83 12 160 410
12.0	260	210	83 12 260 410

Ø mm	L1 mm	L2 mm	Art.-No.
14.0	160	110	83 14 160 410



# Sets

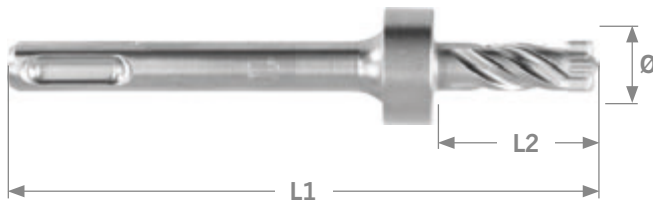
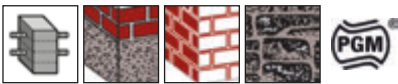
Art.-Group 47



Content	Packaging	Art.-No.
Ø 6 - 8 - 10 x 160/100 mm	3 pcs. in plastic box	99 954
Ø 6 x 110/50 mm Ø 6 - 8 - 10 x 160/100 mm Ø 12 x 160/110 mm	5 pcs. in plastic box	83 046
Ø 6 x 110/50 mm Ø 6 - 8 - 10 x 160/100 mm Ø 12 x 160/110 mm	5 pcs. in plastic box	99 953
Ø 5 - 6 - 8 x 110/50 mm Ø 6 - 8 - 10 x 160/100 mm Ø 12 x 160/110 mm	7 pcs. in metal box	83 044
Ø 5 - 6 - 8 x 110/50 mm Ø 6 - 8 - 10 x 160/100 mm Ø 12 x 160/110 mm	7 pcs. in plastic box	83 744
5x each Ø 6 x 110/50 mm Ø 6 - 8 - 10 x 160/100 mm Ø 12 x 160/110 mm Ø 8 - 10 x 210/150 mm Ø 12 x 210/160 mm	40 pcs. in metal case	83 040

# 830007 | ROCKET 5 stop drill bit SDS-plus

Art.-Group 97



### Perfectly suited for drop-in anchors

- ▶ Hammer drill bit with depth stop
- ▶ For drilling holes of continuously constant depth
- ▶ Maximum precision in the depth of the drill hole, as the depth stop on the drilling machine cannot shift
- ▶ Enormous time savings compared to standard drills, as there is no need to carefully approach the drill with a depth stop or an adhesive tape

- ▶ Wear marks show, whether the tool is still suitable to drill dowel-compatible holes
- ▶ Made of high-quality tempering steel especially selected for the toughest applications
- ▶ Very long lifetime due to evenly spread wear
- ▶ The PGM-Certification guarantees accurate dowel holes and precise concentricity

Single packaging with hanger

Ø mm	L1 mm	L2 mm	For anchor size	Art.-No.
8.0	113	27	M6/ 25mm	8 308 277
8.0	119	33	M6/ 30mm	8 308 337
10.0	119	27	M8/ 25mm	8 310 277
10.0	119	33	M8/ 30mm	8 310 337
10.0	130	44	M8/ 40mm	8 310 447

Ø mm	L1 mm	L2 mm	For anchor size	Art.-No.
12.0	122	27	M10/ 25mm	8 312 277
12.0	133	44	M10/ 40mm	8 312 447
15.0	122	27	M12/ 25mm	8 315 277
15.0	144	55	M12/ 50mm	8 315 557

10 pcs. in cardboard box

Ø mm	L1	L2	For anchor size	Pc./PU	Art.-No.
8.0	113	27	M6/ 25mm	10	830 827 710
10.0	119	33	M8/ 30mm	10	831 033 710

Ø mm	L1	L2	For anchor size	Pc./PU	Art.-No.
12.0	133	44	M10/ 40mm	10	831 244 710
15.0	144	55	M12/ 50mm	10	831 555 710



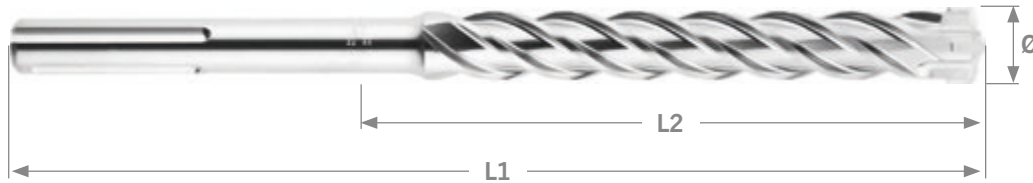
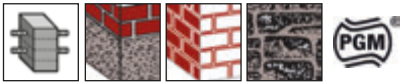
Perfect for the assembly of cable routes and water pipes



For setting drop-in anchors

# 80000 | ROCKET 5 hammer drill bit SDS-max shank

Art.-Group 43



**Due to its 5 crushers, the Rocket 5 is the perfect product for working with reinforced concrete**

- ▶ Made of high-quality tempering steel especially selected for the toughest applications.
- ▶ 4-flute geometry
- ▶ 5 crushers create precise holes in concrete and reinforcement with impact and torsion
- ▶ Carbide plate with radially shaped protection against reinforcement prevents jamming when drilling reinforced concrete
- ▶ The heightened centering tip ensures long tool life even in extreme applications
- ▶ Wear marks show, whether the tool is still suitable to drill dowel-compatible holes
- ▶ Carbide plate up to Ø 28 mm in one piece, from Ø 30 mm in three parts
- ▶ Low vibration for protection of person and machine
- ▶ Very long lifetime due to evenly spread wear
- ▶ The PGM-Certification guarantees accurate dowel holes and precise concentricity
- ▶ For drills longer than 450 mm, it is recommended to pre-drill with a shorter drill of the same diameter



Single packaging with hanger

Ø mm	L1 mm	L2 mm	Art.-No.
12.0	340	200	812 340
12.0	540	400	812 540
12.0	740	600	812 740
14.0	340	200	814 340
14.0	540	400	814 540
15.0	340	200	815 340
16.0	340	200	816 340
16.0	540	400	816 540
16.0	940	800	816 920
16.0	1320	1180	8 161 320
18.0	340	200	818 340
18.0	540	400	818 540
18.0	940	800	818 920
18.0	1320	1180	8 181 320
20.0	320	200	820 320
20.0	520	400	820 520
20.0	920	800	820 920
20.0	1320	1200	8 201 320
20.0	2000	1880	8 202 000
22.0	320	200	822 320
22.0	520	400	822 520
22.0	920	800	822 920

Ø mm	L1 mm	L2 mm	Art.-No.
22.0	1320	1200	8 221 320
22.0	2000	1880	8 222 000
24.0	320	200	824 320
24.0	520	400	824 520
25.0	320	200	825 320
25.0	520	400	825 520
25.0	920	800	825 920
25.0	1320	1200	8 251 320
25.0	2000	1880	8 252 000
26.0	520	400	826 520
28.0	370	250	828 370
28.0	570	450	828 570
28.0	670	550	828 670
28.0	920	800	828 920
30.0	370	250	830 370
30.0	570	450	830 570
32.0	370	250	832 370
32.0	570	450	832 570
32.0	920	800	832 920
32.0	1320	1200	8 321 320
32.0	2000	1880	8 322 000

Ø mm	L1 mm	L2 mm	Art.-No.
35.0	370	250	835 370
35.0	570	450	835 570
35.0	670	550	835 670
35.0	920	800	835 920
35.0	2000	1880	8 352 000
37.0	370	250	837 370
37.0	570	450	837 570
37.0	920	800	837 920
38.0	370	250	838 370
38.0	570	450	838 570
40.0	370	250	840 370
40.0	570	450	840 570
40.0	920	800	840 920
40.0	1320	1200	8 401 320
40.0	2000	1880	8 402 000
45.0	570	450	845 570
45.0	920	800	845 920
52.0	570	450	852 570

**Note: Special dimensions on request. Also possible in lengths over 2,000 mm.**

## Sets

Content	Packaging	Art.-No.
Ø 20 x 520/400 mm Ø 25 x 520/400 mm Ø 35 x 570/450 mm	3 pcs. in plastic box	99 960



**3  
PIECES**

Art.-Gruppe 47

# ROCKET 3

Maximum drilling speed



The next generation hammer drill bit designed and manufactured with state-of-the-art technology for maximum drilling speed and unprecedented stability.

The ROCKET is made of high-quality tempering steel, selected to withstand even the toughest applications.

The PGM-Certification guarantees accurate dowel holes and precise concentricity.

Range: SDS-plus Ø 3 - 26 mm

Slim drill bit head with strong centering point.



# Technical details



**POWERFUL**

### 3 Crushers

- 3 crushers achieve maximum drilling speed and ultimate destruction with impact and torsion.
- Carbide plate with three robust crushers and shovel-effect
- Incomparable, at least 20% faster drilling of the processed material then with reference products

### Centering point

- Accurate drilling without slipping off the material

**FAST**

### Core reinforced flute

- Maximum resistance against breaking even under extreme conditions
- Reduced vibration for protection of person and machine



**PRECISE**

### Wear marks

- Wear marks show, whether the tool is still suitable to drill dowel-compatible holes

### Geometry

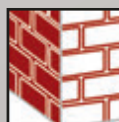
- 2-flute geometry with large-volume spiral
- Reduces friction and ensures rapid removal of the drilling dust

SDS-plus

## Range of application:



Concrete



Masonry



Natural stone

## Characteristics:



Fast



Precise



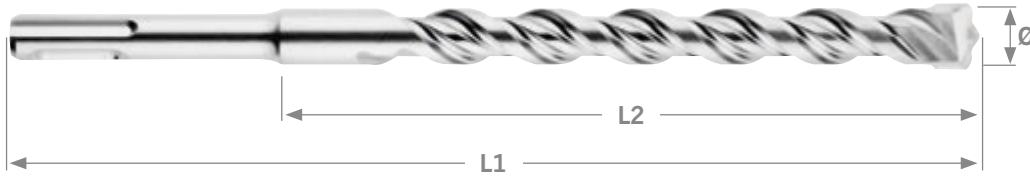
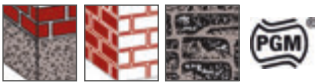
Powerful



Low vibration

# 83000 | ROCKET 3 hammer drill bit SDS-plus shank

Art.-Group 41



The next generation hammer drill bit designed and manufactured with state-of-the-art technology for maximum drilling speed and unprecedented stability

- ▶ Made of high-quality tempering steel specially selected for the toughest applications
- ▶ 3 crushers achieve with impact and torsion maximum drilling speed and ultimate destruction
- ▶ Core-reinforced spiral ensures highest breaking stability even under extreme stress
- ▶ 2-flute geometry with large-volume spiral
- ▶ Accurate drilling without slipping off the material
- ▶ The PGM-Certification guarantees accurate dowel holes and precise concentricity
- ▶ Wear marks show, whether the tool is still suitable to drill dowel-compatible holes
- ▶ For drill bits longer than 450 mm, it is recommended to pre-drill with a shorter drill of the same diameter

Single packaging with hanger

Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.
3.0	110	50	8 303 110	8.0	110	50	8 308 110	13.0	450	400	8 313 450
4.0	110	50	8 304 110	8.0	160	100	8 308 160	14.0	160	110	8 314 166
4.0	160	100	8 304 160	8.0	210	150	8 308 210	14.0	210	160	8 314 216
5.0	110	50	8 305 110	8.0	260	200	8 308 260	14.0	260	210	8 314 266
5.0	160	100	8 305 160	8.0	310	250	8 308 310	14.0	310	260	8 314 310
5.0	210	150	8 305 210	8.0	400	340	8 308 400	14.0	450	400	8 314 450
5.0	260	200	8 305 260	8.0	460	400	8 308 460	14.0	600	550	8 314 600
5.0	310	250	8 305 310	8.0	600	540	8 308 600	14.0	1000	950	83 141 000
5.0	360	300	8 305 360	8.0	1000	940	83 081 000	15.0	160	110	8 315 166
5.0	450	390	8 305 450	9.0	160	100	8 309 160	15.0	210	160	8 315 210
5.5	110	50	83 055 110	9.0	210	150	8 309 210	15.0	260	210	8 315 266
5.5	160	100	83 055 160	10.0	110	50	8 310 110	16.0	160	110	8 316 166
5.5	210	150	83 055 210	10.0	160	100	8 310 160	16.0	210	160	8 316 216
5.5	260	200	83 055 260	10.0	210	150	8 310 210	16.0	260	210	8 316 260
5.5	310	250	83 055 310	10.0	260	200	8 310 260	16.0	310	260	8 316 300
5.5	410	350	83 055 410	10.0	310	250	8 310 310	16.0	450	400	8 316 450
6.0	110	50	8 306 110	10.0	350	290	8 310 350	16.0	600	550	8 316 600
6.0	160	100	8 306 160	10.0	450	390	8 310 450	16.0	800	750	8 316 800
6.0	210	150	8 306 210	10.0	600	540	8 310 600	16.0	1000	950	83 161 000
6.0	260	200	8 306 260	10.0	800	740	8 310 800	17.0	210	160	8 317 200
6.0	310	250	8 306 310	10.0	1000	940	83 101 000	17.0	310	260	8 317 310
6.0	460	400	8 306 450	11.0	160	100	8 311 160	18.0	200	150	8 318 200
6.5	110	50	83 065 110	11.0	260	200	8 311 260	18.0	300	250	8 318 300
6.5	160	100	83 065 160	12.0	160	110	8 312 166	18.0	450	400	8 318 450
6.5	210	150	83 065 210	12.0	210	160	8 312 216	18.0	600	550	8 318 600
6.5	260	200	83 065 260	12.0	260	210	8 312 266	18.0	1000	950	83 181 000
6.5	310	250	83 065 310	12.0	310	260	8 312 310	19.0	200	150	8 319 200
6.5	450	390	83 065 450	12.0	360	310	8 312 360	19.0	450	400	8 319 450
7.0	110	50	8 307 110	12.0	450	400	8 312 450	20.0	200	150	8 320 200
7.0	160	100	8 307 160	12.0	600	550	8 312 600	20.0	300	250	8 320 300
7.0	210	150	8 307 210	12.0	1000	950	83 121 000	20.0	450	400	8 320 450
7.0	250	190	8 307 250	13.0	160	110	8 313 166	20.0	600	550	8 320 600
				13.0	260	210	8 313 266	20.0	1000	950	83 201 000
				13.0	310	260	8 313 310				

Note: Special dimensions on request. Also possible in lengths over 1,000 mm.



# 83000 | ROCKET 3 hammer drill bit SDS-plus shank

Art.-Group 41

Ø mm	L1 mm	L2 mm	Art.-No.
22.0	250	200	8 322 250
22.0	450	400	8 322 450
22.0	600	550	8 322 600
22.0	1000	950	83 221 000

Ø mm	L1 mm	L2 mm	Art.-No.
24.0	250	200	8 324 250
24.0	450	400	8 324 450
25.0	250	200	8 325 250
25.0	450	400	8 325 450

Ø mm	L1 mm	L2 mm	Art.-No.
25.0	600	550	8 325 600
25.0	1000	950	83 251 000
26.0	250	200	8 326 250
26.0	450	400	8 326 450

## 5-pack, 10-pack and 50-pack

Art.-Group 40

5-pack with hanger

Ø mm	L1 mm	L2 mm	Art.-No.
6.5	210	150	83 065 210 05

Ø mm	L1 mm	L2 mm	Art.-No.
6.5	260	200	83 065 260 05

Ø mm	L1 mm	L2 mm	Art.-No.
6.5	310	250	83 065 310 05



10-pack with hanger

Ø mm	L1 mm	L2 mm	Art.-No.
5.0	110	50	83 05 110 10
5.0	160	100	83 05 160 10
6.0	110	50	83 06 110 10
6.0	160	100	83 06 160 10
6.0	210	150	83 06 210 10
6.0	260	200	83 06 260 10
8.0	110	50	83 08 110 10
8.0	160	100	83 08 160 10

Ø mm	L1 mm	L2 mm	Art.-No.
8.0	210	150	83 08 210 10
8.0	260	200	83 08 260 10
10.0	110	50	83 10 110 10
10.0	160	100	83 10 160 10
10.0	210	150	83 10 210 10
10.0	260	200	83 10 260 10
10.0	310	250	83 10 310 10

Ø mm	L1 mm	L2 mm	Art.-No.
12.0	160	110	83 12 166 10
12.0	210	160	83 12 216 10
12.0	260	210	83 12 266 10
12.0	310	260	83 12 310 10
14.0	160	110	83 14 166 10
14.0	210	160	83 14 216 10
14.0	260	210	83 14 266 10
14.0	310	260	83 14 310 10



50-pack

Ø mm	L1 mm	L2 mm	Art.-No.
5.0	110	50	83 05 110 5
6.0	110	50	83 06 110 5

Ø mm	L1 mm	L2 mm	Art.-No.
6.0	160	100	83 06 160 5
8.0	160	100	83 08 160 5

Ø mm	L1 mm	L2 mm	Art.-No.
10.0	160	100	83 10 160 5



## Sets

Art.-Group 47



83 045



83 300



83 730

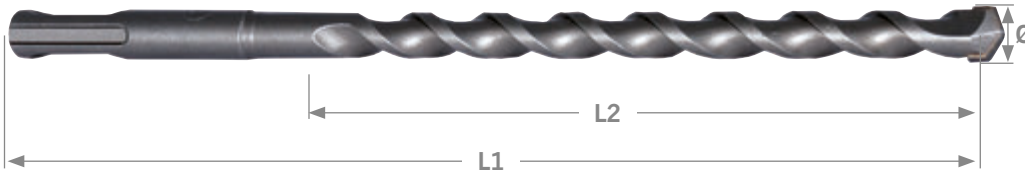
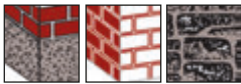


83 041

Content	Packaging	Art.-No.
Ø 6 x 110/50 mm, Ø 6 - 8 - 10 x 160/100 mm, Ø 12 x 160/110 mm	5 pcs. in plastic box	83 045
Ø 5 - 6 - 8 x 110/50 mm, Ø 6 - 8 - 10 x 160/100 mm, Ø 12 x 160/110 mm	7 pcs. in metal box	83 300
Ø 5 - 6 - 8 x 110/50 mm, Ø 6 - 8 - 10 x 160/100 mm, Ø 12 x 160/110 mm	7 pcs. in plastic box	83 730
5x each Ø 6 x 110/50 mm, Ø 10 x 160/100 mm, Ø 12 x 160/110 mm, Ø 8 - 10 x 210/150 mm, Ø 12 x 210/160 mm, 10x each Ø 6 - 8 x 160/100 mm	50 pcs. in metal case	83 041

# 830002 | Hammer drill bit ECO SDS-plus shank

Art.-Group 80



## For rotary drill hammers with SDS-plus or 2-slot bit reception (TE-system)

- Sturdy and fast rotary hammer drill bit, with 2-cutter head geometry
- Designed to drill: concrete, masonry and natural stone

Single packaging with hanger

Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.
4.0	110	50	83 04 110 2	6.5	160	100	83 065 160 2	12.0	160	100	83 12 160 2
5.0	110	50	83 05 110 2	6.5	210	150	83 065 210 2	12.0	210	150	83 12 210 2
5.0	160	100	83 05 160 2	8.0	110	50	83 08 110 2	12.0	260	200	83 12 260 2
5.5	160	100	83 055 160 210	8.0	160	100	83 08 160 2	14.0	160	100	83 14 160 2
6.0	110	50	83 06 110 2	8.0	210	150	83 08 210 2	14.0	210	150	83 14 210 2
6.0	160	100	83 06 160 2	8.0	260	200	83 08 260 2	14.0	260	200	83 14 260 2
6.0	210	150	83 06 210 2	10.0	160	100	83 10 160 2	16.0	160	100	83 16 160 2
6.0	260	200	83 06 260 2	10.0	210	150	83 10 210 2	16.0	210	150	83 16 210 2
				10.0	260	200	83 10 260 2	16.0	310	250	83 16 310 2

## Sets

Art.-Group 47



830 452



83 841



99 982

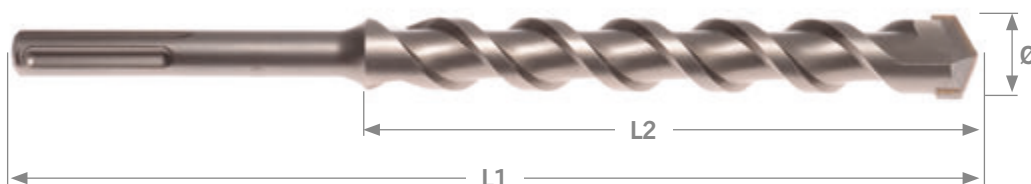
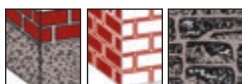


83 042

Content	Packaging	Art.-No.
Ø 5 - 6 x 110/50 mm, Ø 6 - 8 - 10 x 160/100 mm	5 pcs. in plastic box	830 452
Rotary hammer drill bit SDS-plus Ø 6 - 8 - 10 x 160/100 mm, Ø 12 x 160/110 mm Pointed chisel SDS-plus length 140 mm Flat chisel SDS-plus 140 mm x 20 mm	6 pcs. in metal box	83 841
Rotary hammer drill bit SDS-plus Ø 5 - 6 - 8 - 10 x 110/50 mm, Ø 6 - 8 - 10 - 12 x 160/100 mm Ø 8 - 10 x 210/150 mm, Ø 12-14 x 260/200 mm Pointed chisel SDS-plus length 250 mm, Length 140 mm Flat chisel SDS-plus 250 mm x 20 mm, 140 mm x 20 mm Spade chisel SDS-plus 250 mm x 40 mm	17 pcs. in metal case	99 982
5x each Ø 6 x 110/50 mm, Ø 10 - 12 x 160/100 mm, Ø 8 - 10 - 12 x 210/150 mm, 10x each Ø 6 - 8 x 160/100 mm	50 pcs. in metal case	83 042

# 800002 | Hammer drill bit ECO SDS-max shank

Art.-Group 91



- ▶ SDS-Max Rotary hammer drill bit with 2-cutting-head geometry for fast drilling rate
- ▶ Durable carbide tip for heavy duty work
- ▶ Large-volume flute geometry for rapid removal of the drilling debris

- ▶ Designed to drill: concrete, masonry and natural stone
- ▶ For drills longer than 450 mm, it is recommended to pre-drill with a shorter drill of the same diameter

Single packaging with hanger

Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.
12.0	340	200	8 123 402	22.0	340	200	8 223 402	32.0	370	250	8 323 702
12.0	540	400	8 125 402	22.0	540	400	8 225 402	32.0	570	450	8 325 702
14.0	340	200	8 143 402	24.0	340	200	8 243 402	35.0	370	250	8 353 702
14.0	540	400	8 145 402	24.0	540	400	8 245 402	35.0	570	450	8 355 702
16.0	340	200	8 163 402	25.0	340	200	8 253 402	38.0	370	250	8 383 702
16.0	540	400	8 165 402	25.0	540	400	8 255 402	38.0	570	450	8 385 702
18.0	340	200	8 183 402	28.0	370	250	8 283 702	40.0	370	250	8 403 702
18.0	540	400	8 185 402	28.0	570	450	8 285 702	40.0	570	450	8 405 702
20.0	340	200	8 203 402	30.0	370	250	8 303 702				
20.0	540	400	8 205 402	30.0	570	450	8 305 702				

## Sets

Art.-Group 47



Set of 3 sizes

Content	Packaging	Art.-No.
Ø 16 x 540/400 mm Ø 20 x 540/400 mm Ø 25 x 540/400 mm	3 pcs. in plastic box	80 002

# CLEANER

## Technical details



**PRECISE**

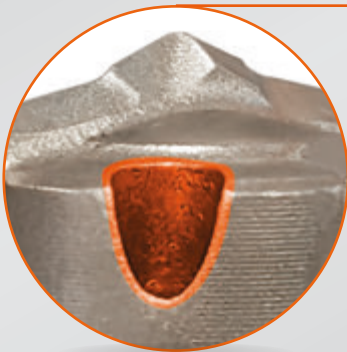
### Geometry

- Two suction holes ensure fast removal of the drill dust
- 4-cutter - from diameter 16 mm

**TIME SAVING**

### Speed

- High time saving, as there is no need to additionally clean the drill hole



**DUST-FREE**

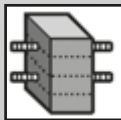
### Suction holes

- Suction of the drill dust on both sides for a clean drill hole
- Enormous reduction of fine dust due to suction at the head
- High level of health protection

### Connection

- Connection for industrial vacuum cleaners class M for dust extraction

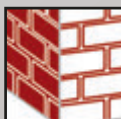
## Range of application:



Reinforced concrete



Concrete



Masonry



Natural stone

SDS-plus  
SDS-max

## Characteristics:



Durable



Precise



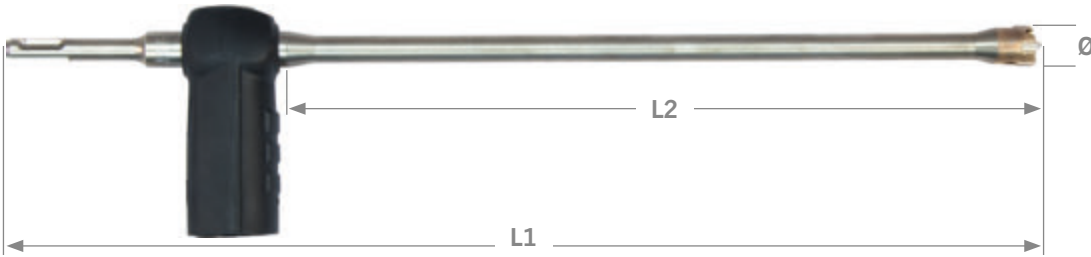
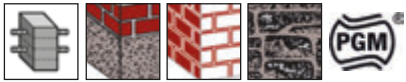
Powerful



Dust-Free

# 830006 | Dust extraction drill bit CLEANER SDS-plus

Art.-Group 95



**Drilling and cleaning in one operation**

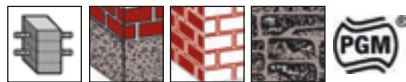
- ▶ Up to 50% time savings when setting dowels, as there is no need to clean the drill hole
- ▶ Up to 20% faster working by instant crushing the concrete without dust residues in the drill hole
- ▶ Two suction holes ensure fast removal of the drill dust
- ▶ Perfect for dust-free work
- ▶ Hazardous fine dust is extracted directly at the tip of the drill bit as it arises, high level of health protection for operators
- ▶ Perfect for working in buildings such as hospitals, kindergartens, schools, etc.
- ▶ Centering point for precise drilling without slipping
- ▶ Wear marks for the proof of dowel-compatible holes
- ▶ For use in combination with class M industrial vacuum cleaners
- ▶ Up to diameter 15 mm - 2-cutter
- ▶ From diameter 16 mm - 4-cutter
- ▶ Suitable for reinforced concrete, masonry and natural stone

Single packaging with hanger

Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.
12.0	330	200	83 12 330 6	16.0	380	250	83 16 380 6	22.0	450	320	83 22 450 6
14.0	380	250	83 14 380 6	18.0	450	320	83 18 450 6	24.0	450	320	83 24 450 6
15.0	380	250	83 15 380 6	20.0	450	320	83 20 450 6				

# 800006 | Dust extraction drill bit CLEANER SDS-max

Art.-Group 96



**Drilling and cleaning in one operation**

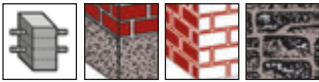
- ▶ Up to 50% time savings when setting dowels, as there is no need to clean the drill hole
- ▶ Up to 20% faster working by instant crushing the concrete without dust residues in the drill hole
- ▶ Two suction holes ensure fast removal of the drill dust
- ▶ Perfect for dust-free work
- ▶ Hazardous fine dust is extracted directly at the tip of the drill bit as it arises, high level of health protection for operators
- ▶ Perfect for working in buildings such as hospitals, kindergartens, schools, etc.
- ▶ Centering point for precise drilling without slipping
- ▶ Wear marks for the proof of dowel-compatible holes
- ▶ For use in combination with class M industrial vacuum cleaners
- ▶ From diameter 16 mm - 4-cutter
- ▶ Suitable for reinforced concrete, masonry and natural stone

Single packaging with hanger

Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.
14.0	620	400	8 14 620 6	22.0	620	400	8 22 620 6	30.0	820	600	8 30 820 6
16.0	620	400	8 16 620 6	24.0	620	400	8 24 620 6	32.0	820	600	8 32 820 6
18.0	620	400	8 18 620 6	25.0	720	500	8 25 720 6	35.0	870	650	8 35 870 6
20.0	620	400	8 20 620 6	28.0	820	600	8 28 820 6				

# 81800 | Concrete core cutter with SDS-max shank

Art.-Group 35



## Concrete core cutter with integrated SDS-max shank

- ▶ One-piece solid breakthrough tool for efficient drilling
- ▶ Accurate spot drilling and rapid drilling progress due to the drill bit head which is equipped with chisel-shaped carbide teeth and a centering tip
- ▶ Improved durability in reinforced concrete
- ▶ The short helix with large flutes allows efficient dust removal and reduces abrasion and vibration
- ▶ Drill hole depth variable depending on length of shank, no chiseling required because core cutter drills the entire cross section in one operation
- ▶ Efficient handling due to one-piece tool design, optimum power transmission, assembly of adapters and center drill bits is not required
- ▶ Optimal tooth geometry and tooth arrangement for drilling through reinforcement and heavy materials
- ▶ New cutting head geometry for straight and round drill holes
- ▶ Suitable for reinforced concrete, masonry and natural stone



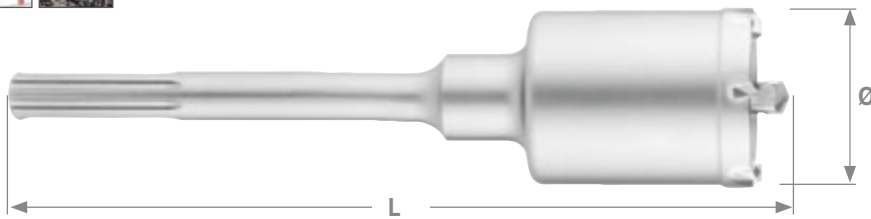
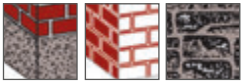
Single packaging with hanger

Ø mm	L mm	Art.-No.	Ø mm	L mm	Art.-No.	Ø mm	L mm	Art.-No.
45.0	310	818 045 280	55.0	550	818 055 550	65.0	990	818 065 990
45.0	550	818 045 550	55.0	990	818 055 990			
45.0	990	818 045 990				80.0	310	818 080 280
			65.0	310	818 065 280	80.0	550	818 080 550
55.0	310	818 055 280	65.0	550	818 065 550	80.0	990	818 080 990



# 81300 | Hammer hollow core bit with SDS-max shank

Art.-Group 48



## Hammer hollow core bit with integrated SDS-max shank and center drill bit with thread

- ▶ Solid, one-piece-construction with exchangeable centering drill bit (included) for heavy duty applications in concrete and other types of materials
- ▶ Hammer hollow core bit with alternating tooth geometry of flat and roof-shaped teeth for efficient removal of drill dust and fast drilling speed
- ▶ Fast drilling progress as only one ring is drilled and the drill core does not have to be crushed
- ▶ Maximum drilling depth approx. 80 mm
- ▶ The wide range of different diameters and different shaft lengths offers a variety of applications
- ▶ Designed to drill: concrete, masonry and natural stone



Single packaging with hanger

Ø mm	L mm	Art.-No.	Ø mm	L mm	Art.-No.	Ø mm	L mm	Art.-No.
50.0	290	81 350 290	80.0	290	81 380 290	100.0	290	813 100 290
50.0	550	81 350 550	80.0	550	81 380 550	100.0	550	813 100 550
68.0	290	81 366 290	90.0	290	81 390 290	125.0	550	813 125 550
68.0	550	81 366 550	90.0	550	81 390 550	150.0	550	813 150 550

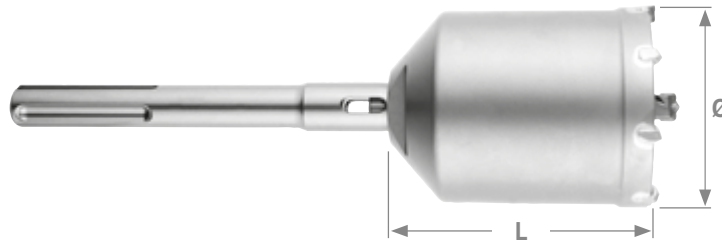
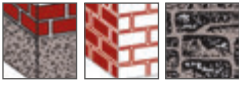
Single packaging with hanger

Description	Art.-No.
Centering drill bit with thread Ø 11 mm - length 120 mm	81 006



# 81000 | Hammer hollow drill bit with SDS-plus or SDS-max shank

Art.-Group 48



## Hammer hollow drill bit with inner cone 1: 8

- ▶ Multi-part tool consisting of hollow core bit, adapter and centering drill bit
- ▶ Solid universal hollow core bit for heavy-duty work
- ▶ Special teeth made of high-quality carbide allow fast drilling progress even in the hardest types of stone and concrete
- ▶ Hard-turned internal taper for a precise and force-fit connection
- ▶ Due to its diminution taper, the 1:8 cone has a strong self-locking effect. This allows the cone to withstand high torques when drilling
- ▶ Maximum drilling depth approx. 80 mm
- ▶ The ejector eases the disassembly of the component parts
- ▶ Designed to drill: concrete, masonry and natural stone



Single packaging with hanger



	Ø mm	L mm	Art.-No.
1	50.0	100	81 050
	68.0	100	81 068
	80.0	100	81 080
	90.0	100	81 090
	100.0	100	81 100

Single packaging with hanger



81 005  
81 119



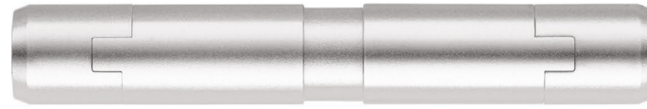
	Description	Art.-No.
2	Centering drill bit Ø 11 mm - length 120 mm	81 005
	Ejector for adapter	81 119
3	Adapter with SDS-plus shank - length 115 mm	81 116
	Adapter with SDS-max shank - length 180 mm	81 111
	Adapter with SDS-max shank - length 450 mm	81 113





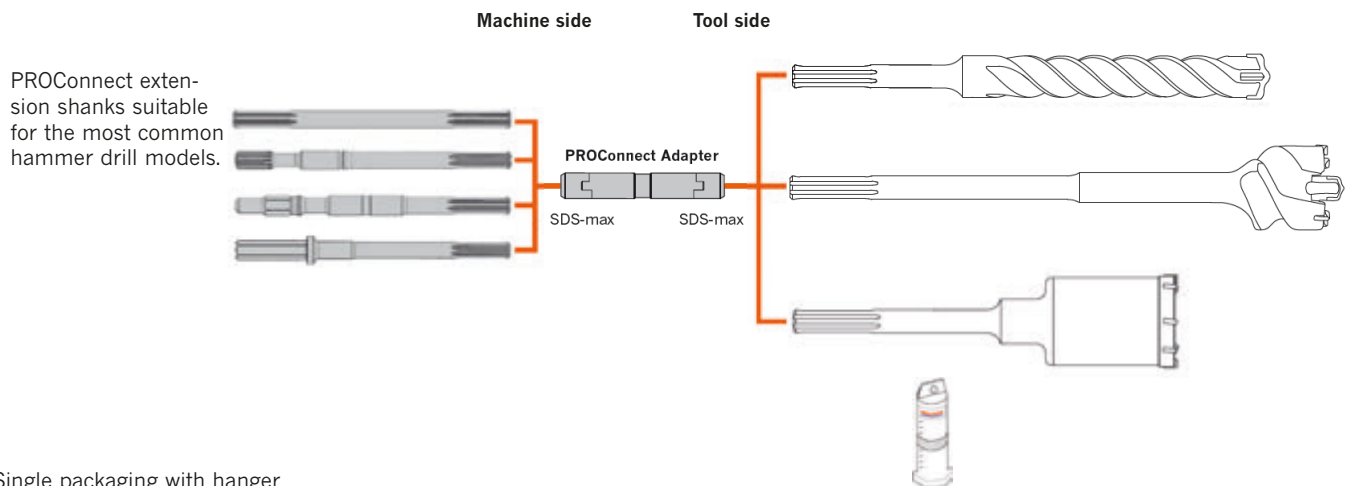
# 85500 | PROConnect extension system

Art.-Group 36



### An extremely strong connection!

- ▶ Simple and economical extension of the drilling tools
- ▶ With the patented PROConnect adapter, PROJAHN sets innovative standards in the field of heavy, multi-part tools **starting from diameter of 32 mm**
- ▶ The PROConnect adapter creates a secure and quick connection between the tool and the extension shank with its two SDS-max holders
- ▶ No loss of power, the power of the machine is fully transferred to the tool tip.
- ▶ The high profitability of the PROConnect system in combination with the economical extensions can convince every professional



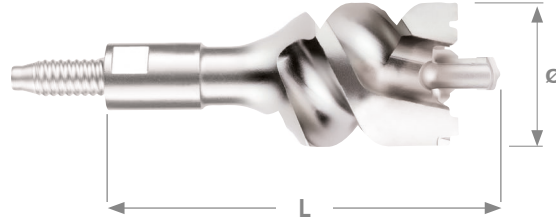
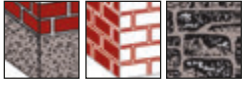
Single packaging with hanger

Description	L mm	Art.-No.
PROConnect adapter SDS-max on both sides / SDS-max on both sides	192	85 500
Extension shank SDS-max	320	85 501
Extension shank SDS-max	750	85 502
Extension shank SDS-max	1100	85 503
Extension shank	320	85 508*
Extension shank hexagon SW19	750	85 513*
Extension shank hexagon SW19 (Wacker)	750	85 515*

\* Delivery while stocks last

# 85000 | VERSIO concrete core cutter - the threaded tool system

Art.-Group 35



## The VERSIO tool system with thread

- ▶ Specific combination of VERSIO System components acc. to the demand
- ▶ Suitable for every hammer drill type due to comprehensive adapter program
- ▶ Professional tool system with long life expectancy
- ▶ Easy to disassemble threads enables quick reconnection
- ▶ Variable drilling depth through VERSIO extension
- ▶ Exchangeable VERSIO threaded stud avoids damages when overloading of drilling tool
- ▶ Simple screwing of concrete core cutter and hammer hollow core bit with center drill bit into the extension and adapter
- ▶ Chisel shaped carbide teeth cut through the rebar when drilling, if pressure is adapted carefully
- ▶ Short spiral flute with large dust flutes: low friction and fast drilling progress
- ▶ Optimal transmission of impact energy of the hammer drill into drilling performance
- ▶ Straight round holes
- ▶ For hammer drills up to 8 kg, with adapters suitable for the most common hammer drill models
- ▶ Designed to drill: concrete, masonry and natural stone

Single packaging with hanger



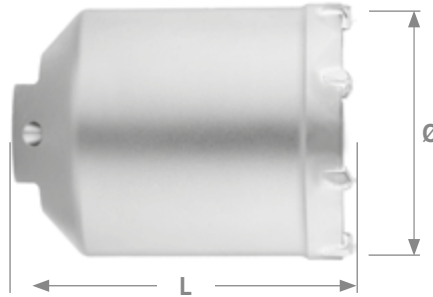
Ø mm	L mm	Art.-No.	Ø mm	L mm	Art.-No.	Ø mm	L mm	Art.-No.
45.0	150	85 045	55.0	150	85 055	68.0	150	85 068
50.0	150	85 050	60.0	150	85 060	80.0	150	85 080



Accessories for the VERSIO concrete core cutters can be found on page P 33

# 85000 | VERSIO Hollow core bit - the threaded tool system

Art.-Group 35



- ▶ The hollow core bits completes the versatile VERSIO thread system in the large diameter ranges up to Ø 125 mm
- ▶ Maximum drilling depth approx. 80 mm
- ▶ Designed to drill: concrete, masonry and natural stone



Single packaging with hanger

Ø mm	L mm	Art.-No.	Ø mm	L mm	Art.-No.	Ø mm	L mm	Art.-No.
50.0	105	852 050	80.0	105	852 080	100.0	105	852 100
68.0	105	852 065	90.0	105	852 090	125.0	105	852 125





# 85000 | VERSIO accessories

Art.-Group 35

- ▶ Centering drill bit with thread enables precise drilling and ensures a straight, round drill hole. It connects the hollow core bit with the adapter
- ▶ Adapter with thread, suitable for all common hammer drill models
- ▶ Extension with conveying spirals for variable drilling depths. Can be combined with all modular parts
- ▶ Threaded stud is used as a connecting element and overload protection

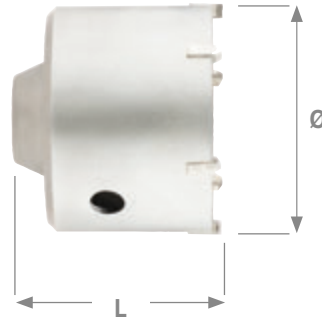


Single packaging with hanger

Description	L mm	Art.-No.	
VERSIO centering drill bit Ø 12	155	85 212	
VERSIO adapter with SDS-max shank	185	85 008	
VERSIO extension Ø 25	280	85 025	
VERSIO threaded stud	60	85 010	

# 81500 | Hollow core bit with SDS-plus or hexagonal shank

Art.-Group 53



## Hollow core bit for light hammer drills

- ▶ With SDS-plus adapter for lightweight hammer drills and with hexagonal adapter for impact drills with 3-jaw chuck (adapter not included)
- ▶ Long lifetime due to carefully applied copper brazing of the carbide teeth on the hollow core bit
- ▶ Maximum drilling depth approx. 55 mm
- ▶ Multi-component tool with M16 thread
- ▶ Hollow core bit with hardened steel body
- ▶ Multiple applications for installations in masonry and modern lightweight building materials, e.g. switch boxes, junction boxes as well as water, drain and heating pipes
- ▶ Designed to drill: sandstone, gas-formed concrete, masonry and natural stone



Single packaging with hanger

Ø mm	L mm	Art.-No.	Ø mm	L mm	Art.-No.	Ø mm	L mm	Art.-No.
30.0	70.5	81 530	50.0	70.5	81 550	82.0	70.5	81 582
35.0	70.5	81 535	65.0	70.5	81 565	90.0	70.5	81 590
40.0	70.5	81 540	68.0	70.5	81 568	100.0	70.5	815 100
45.0	70.5	81 545	80.0	70.5	81 580			

# 81500 | Accessories for hollow core bits

Art.-Group 53

Single packaging with hanger



81 529



Description	L mm	Art.-No.
Centering drill bit Ø 11 mm	110	81 529
Combi-Adapter SDS-plus	105	81 520
Combi-Adapter SDS-plus	220	81 521
Combi-Adapter SDS-plus	370	81 522
Combi-Adapter hexagon WS 11	90	81 523



## Sets

Art.-Group 47

Content	Packaging	Art.-No.
1x hollow core bit Ø 68 mm 1x M16 SDS-plus shank length 105 mm 1x centering drill bit - length 110 mm	3 pcs. in plastic box	81 501
1x hollow core bit Ø 82 mm 1x M16 SDS-plus shank length 105 mm 1x centering drill bit - length 110 mm	3 pcs. in plastic box	81 502



**3**  
PIECES

## 50100 | Hollow core bit with SDS-plus shank

Art.-Group 47



**Ideal tool for plumbers, heating engineers, electricians, etc.**

- ▶ Hollow core bit with 8 carbide teeth
- ▶ Maximum drilling depth 50 mm
- ▶ Thread M22
- ▶ Designed to drill: lightweight concrete, masonry, hollow bricks and sand-lime bricks



3 pcs. on clip

Description	L mm	Art.-No.	Description	L mm	Art.-No.
Hollow core bit set Ø 68 mm including SDS-plus shank and centering drill bit	175	54 166	Hollow core bit set Ø 82 mm including SDS-plus shank and centering drill bit	175	54 180

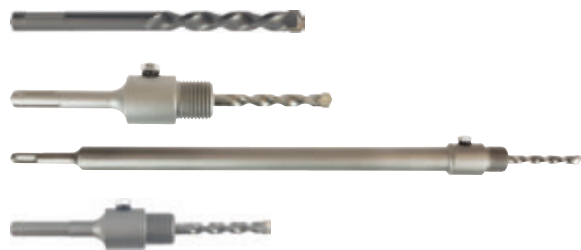
## 50100 | Accessories for hollow core bit

Art.-Group 55



Single packaging with hanger

Description	L mm	Art.-No.
Centering drill bit Ø 8 mm	110	50 101
SDS-plus adapter including centering drill bit Ø 8 mm	110	50 104
SDS-plus adapter including centering drill bit Ø 8 mm	430	50 108
Hexagonal adapter AF 9 incl. centering drill bit Ø 8 mm	110	50 102



## Sets

Art.-Group 47

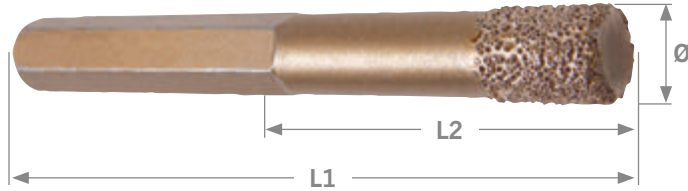
Content	Packaging	Art.-No.
Hollow core drill bits Ø 68 mm and Ø 82 mm SDS-plus shank M22 length 110 mm Hexagonal shank M22 length 110 mm 2x centering drill bits - length 110 mm	6-pcs. in plastic case	54 100



**6**  
PIECES

# 59800 | Diamond drill bit self-cooling with hexagonal shank

Art.-Group 52



- ▶ The perfect tool for extra hard tiles, ceramics and porcelain stoneware
- ▶ Wax filling inside the drill bits
- ▶ Self-cooling, as the wax liquefies during drilling
- ▶ Fast drilling rate
- ▶ Long lifetime
- ▶ No contamination by coolant
- ▶ Hex shank for 3-jaw chuck, thus very good hold without slipping
- ▶ For rotating use only - no impact drilling!
- ▶ Designed to drill: tiles, ceramics, and porcelain stoneware

Single packaging with hanger



Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.
5.0	80	30	59 805	10.0	80	40	59 810	16.0	80	40	59 816
6.0	80	30	59 806	12.0	80	40	59 812				
8.0	80	40	59 808	14.0	80	40	59 814				

## Sets

Art.-Group 47



59 801

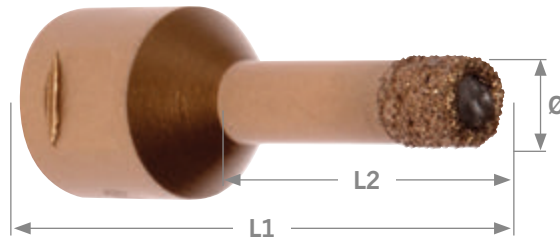


59 803

Content	Packaging	Art.-No.
Diamond drill bits with self-cooling Ø 6 - 8 - 10 mm	3 pcs. in plastic box	59 801
Diamond drill bits with self-cooling Ø 6 - 8 - 10 mm Concrete drill bits Ø 6 - 8 - 10 mm Centering aid for Ø 4 - 6 - 8 - 10 - 12 mm	7 pcs. in plastic box	59 803

## 59400 | Diamond drill bit self-cooling with M14 shank

Art.-Group 52



- ▶ The perfect tool for extra hard tiles, ceramics and porcelain stoneware
- ▶ Wax filling inside the drill bits
- ▶ Self-cooling, as the wax liquefies during drilling
- ▶ Fast drilling rate
- ▶ Long lifetime
- ▶ No contamination by coolant
- ▶ M14 threaded shank for angle grinders - therefore very fast drilling due to the high rotational speed
- ▶ From Ø 20 mm with air inlets self-cooling
- ▶ Designed to drill: tiles, ceramics, and porcelain stoneware

Single packaging with hanger



Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.
6.0	62	39	59 406	14.0	62	39	59 414	25.0	60	37	59 425
8.0	62	39	59 408	16.0	62	39	59 416	35.0	60	37	59 435
10.0	62	39	59 410	20.0	60	37	59 420	68.0	60	37	59 468
12.0	62	39	59 412	22.0	60	37	59 422				

## 59499 | Adapter from hex shank to M14 threaded shank



- ▶ For using diamond drill bits with M14 threaded shank in a 3-jaw drill chuck



Single packaging with hanger

Art.-No.  
59 499

## Sets

Art.-Group 47



59 401

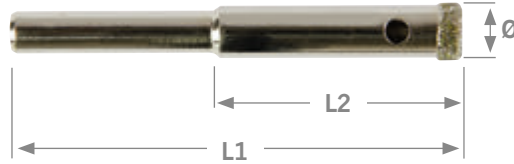


59 802

Content	Packaging	Art.-No.
Diamond drill bits with self-cooling Ø 6 - 8 - 10 - 14 mm Concrete drill bits Ø 6 - 8 - 10 - 14 mm Adapter from hex shank to M14 threaded shank	9 pcs. in plastic box	59 401
Diamond drill bits with self-cooling Ø 6 - 8 - 10 - 12 mm	4 pcs. in plastic box	59 802

# 59900 | Diamond drill bit

Art.-Group 52



- ▶ The ideal drilling solution for drilling into very hard tiles
- ▶ Diamond coated cutting edge
- ▶ Easy and precise centering drilling on tiles
- ▶ Excellent form closure due to the three flats on shank from a diameter of 16 mm

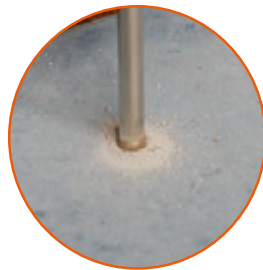
- ▶ Attention: Please always ensure adequate cooling!
- ▶ For rotating use only - no impact drilling!
- ▶ Designed to drill: glazed tiles, glass, fine stone tiles, ceramic, etc.

Single packaging with hanger

Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.
3.0	65	31	59 903	18.0	65	31	59 918	50.0	65	31	59 950
4.0	65	31	59 904	22.0	65	31	59 922	60.0	65	31	59 960
5.0	65	31	59 905	25.0	65	31	59 925	65.0	65	31	59 965
6.0	65	31	59 906	27.0	65	31	59 927	68.0	65	31	59 968
8.0	65	31	59 908	32.0	65	31	59 932	70.0	65	31	59 970
10.0	65	31	59 910	35.0	65	31	59 935	75.0	65	31	59 975
12.0	65	31	59 912	38.0	65	31	59 938	83.0	65	31	59 983
16.0	65	31	59 916	40.0	65	31	59 940				



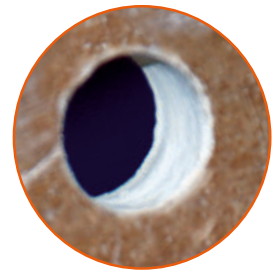
Bevel spot drilling ...



... put drill bit on the ground with light contact pressure.



Drilling with slight oscillations. Attention: Please use water for cooling!



Accurate drilling also in hard materials - no damaging.

## Drilling aids for diamond drill bits

Art.-Group 52



- ▶ With vacuum fixation
- ▶ Dimension range from Ø 6 to 83 mm

Single packaging with hanger

Art.-No.  
59 901



- ▶ With vacuum fixation
- ▶ For Ø 4 - 6 - 8 - 10 - 12 mm

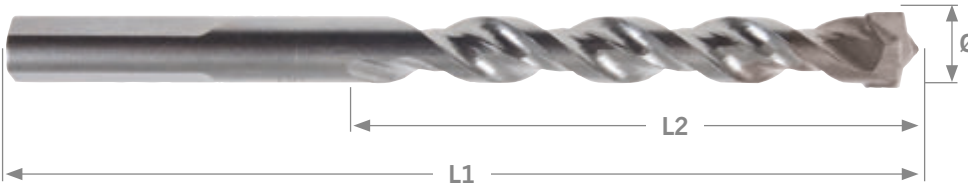
Single packaging with hanger

Art.-No.  
59 899



# 57500 | SuperSchlag masonry drill bit

Art.-Group 56



## The superelastic drill hammer solid stone and masonry drill bit

- ▶ The copper soldering of the almost fully embedded carbide plate ensures a long lifetime and resists maximum work loads
- ▶ Three milled clamping surfaces on the shank for a perfect fit of the drill in the chuck without slipping (till length 200 mm)
- ▶ For use in heavy-duty hammer drills and light weight rotary hammers (with max. 2 joule impact energy) with 3 jaw chucks and also in cordless hammer drills
- ▶ Designed to drill: concrete, masonry, natural stone and artificial stone

Single packaging with hanger

Ø mm	L1 mm	L2 mm	Art.-No.
3.0	75	40	57 503
4.0	75	45	57 504
5.0	85	45	57 505
5.0	150	80	57 505 150
6.0	100	60	57 506
6.0	150	80	57 506 150
6.5	100	60	575065*
6.5	150	80	575 065 150*

Ø mm	L1 mm	L2 mm	Art.-No.
7.0	100	60	57 507
7.0	150	80	57 507 150*
8.0	120	75	57 508
8.0	200	130	57 508 200
8.0	400	320	57 508 400
9.0	120	75	57 509*
10.0	120	75	57 510
10.0	200	130	57 510 200
10.0	400	320	57 510 400

Ø mm	L1 mm	L2 mm	Art.-No.
12.0	150	80	57 512
12.0	200	130	57 512 200
12.0	400	320	57 512 400
14.0	150	80	57 514
16.0	150	80	57 516
20.0	600	560	57 520 600*

## 5-pack and 10-pack

Art.-Group 45

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
4.0	75	45	10	575041
5.0	85	45	10	575051
6.0	100	60	10	575061

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
8.0	120	75	10	575081
10.0	120	75	10	575101
12.0	150	80	5	575121

## Sets

Art.-Group 47

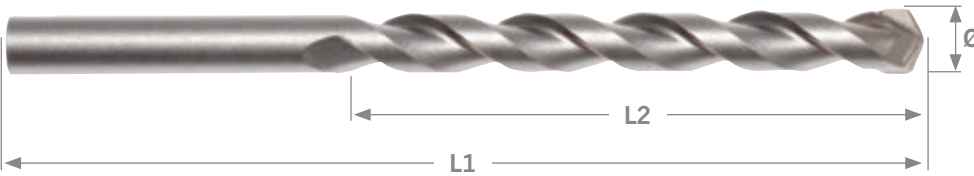


Content	Packaging	Art.-No.
1x Ø 5 - 8 - 10 - 12 mm 2x Ø 6 mm	6 pcs. in plastic case	57 501
Ø 5 - 6 - 8 - 10 mm	4 pcs. in plastic box	57 502

\* Delivery while stocks last

# 55000 | PRODUR masonry drill bit

Art.-Group 58



## High performing with special head geometry

- ▶ Continuous hardened for high flexibility
  - ▶ Surface shotpeened for high density resulting in long life
  - ▶ Resistant to bending forces
  - ▶ Powerful
  - ▶ The economic solution for the professional application
- ▶ With straight shank
  - ▶ For use in impact drills
  - ▶ Designed to drill: c oncrete, masonry and sandstone

Single packaging with hanger

Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.
3.0	70	40	55 030	6.5	100	60	55 065	11.0	150	90	55 110
4.0	85	50	55 040	6.5	150	90	55 065 150	12.0	150	110	55 120
5.0	85	50	55 050	7.0	100	60	55 070	12.0	200	160	5 512 200
5.0	150	115	5 505 150	7.0	150	110	5 507 150	13.0	150	110	55 130
5.5	85	50	55 055	8.0	120	80	55 080	14.0	150	110	55 140
5.5	150	90	55 055 150	8.0	200	160	5 508 200	16.0	150	110	55 160
6.0	100	60	55 060	9.0	120	80	55 090				
6.0	150	110	5 506 150	10.0	120	80	55 100				
6.0	200	150	5 506 200	10.0	200	160	5 510 200				

## Sets

Art.-Group 47



Content

Packaging

Art.-No.

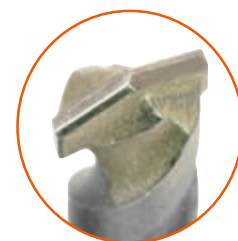
Ø 5 - 6 - 8 - 10 mm

4 pcs. in plastic box

55 001

# 50000 | ECO Masonry drill bit

Art.-Group 57



- ▶ Standard masonry drill bit with carbide tip
- ▶ Good price-performance ratio
- ▶ For rotary and percussive drilling in power tools with 3-jaw chuck

- ▶ Until 14 mm drill diameter with Ø 10 mm reduced shank, from 16 mm drill diameter with reduced shank between Ø 10 mm - 13 mm
- ▶ Designed to drill: masonry and artificial stone

Single packaging with hanger

Ø mm	L1 mm	L2 mm	Art.-No.
3.0	60	30	50 300
3.5	65	38	50 350
4.0	76	38	50 400
5.0	84	44	50 500
5.5	84	44	50 550
6.0	100	54	50 600
6.0	200	135	506 200
6.0	400	300	506 400
6.5	100	54	50 650
7.0	110	54	50 700
8.0	115	67	50 800
8.0	200	135	508 200

Ø mm	L1 mm	L2 mm	Art.-No.
8.0	400	300	508 400
8.0	600	450	508 600
9.0	125	67	50 900
10.0	125	67	51 000
10.0	200	135	510 200
10.0	400	300	510 400
10.0	600	450	510 600
12.0	140	85	51 200
12.0	200	135	512 200
12.0	400	300	512 400
12.0	600	450	512 600
14.0	150	85	51 400
14.0	200	135	514 200
14.0	400	300	514 400
14.0	600	450	514 600

Ø mm	L1 mm	L2 mm	Art.-No.
15.0	150	85	51 500
16.0	150	85	51 600
16.0	400	300	516 400
16.0	600	450	516 600
18.0	160	100	51 800
18.0	400	300	518 400
18.0	600	450	518 600
20.0	160	100	52 000
20.0	400	300	520 400
22.0	160	100	52 200
22.0	400	300	522 400
24.0	400	300	524 400
25.0	160	100	52 500
25.0	400	300	525 400

## Sets

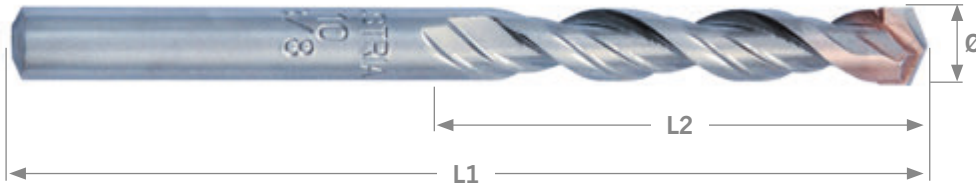
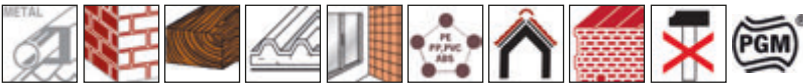
Art.-Group 47



Content	Packaging	Art.-No.
Ø 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 mm	8 pcs. in plastic box	67 045

# 57000 | MULTI-STAR multi-purpose drill bit

Art.-Group 89



## The powerful all-rounder

- ▶ For use in a variety of materials
- ▶ Composite different materials, such as for window installation, can be optimally drilled without changing tools
- ▶ Extra sharp carbide cutting edges
- ▶ Innovative spiral design
- ▶ Optimal chip removal
- ▶ For rotating use only - no impact drilling!
- ▶ Designed to drill: brick, hollow tiles, roof tiles, natural stone, tiles, wood, metal, plastic

Single packaging with hanger

Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.
4.0	75	39	57 040	6.5	100	54	57 065	10.0	120	80	57 100
5.0	85	39	57 050	6.5	200	135	57 065 200	10.0	200	135	57 100 200
5.0	150	85	57 050 150	6.5	400	300	57 065 400	10.0	400	300	57 100 400
5.5	85	39	57 055	7.0	100	54	57 070	12.0	220	150	57 120 220
5.5	150	85	57 055 150	7.0	200	135	57 070 200	12.0	400	300	57 120 400
6.0	100	54	57 060	8.0	120	80	57 080	14.0	220	150	57 140 220
6.0	200	135	57 060 200	8.0	200	135	57 080 200	14.0	400	300	57 140 400
6.0	400	300	57 060 400	8.0	400	300	57 080 400	16.0	400	300	57 160 400

## Sets

Art.-Group 47



57 001



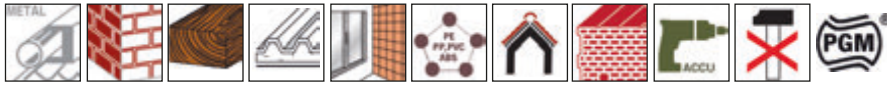
57 002



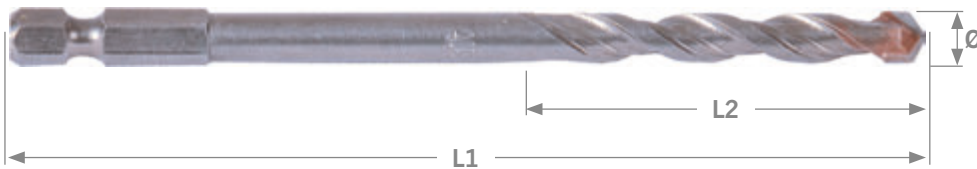
57 003

Content	Packaging	Art.-No.
Multi-purpose drill bits with straight shank Ø 5 - 6 - 8 mm	3 pcs. in plastic box	57 001
Multi-purpose drill bits with straight shank Ø 4 - 5 - 6 - 8 - 10 mm	5 pcs. in plastic box	57 002
Multi-purpose drill bits with straight shank Ø 6 - 8 - 10 - 12 x 400/300 mm	4 pcs. in plastic box	57 003

# 570006 | MULTI-STAR multi-purpose drill bit with 6.35 mm [1/4"] hexagonal shank



Art.-Group 89



### The powerful all-rounder

- ▶ For use in a variety of materials
- ▶ Composite different materials, such as for window installation, can be optimally drilled without changing tools
- ▶ Extra sharp carbide cutting edges
- ▶ Innovative spiral design
- ▶ Optimal chip removal
- ▶ For rotating use only - no impact drilling!
- ▶ Designed to drill: brick, hollow tiles, roof tiles, natural stone, tiles, wood, metal, plastic

Single packaging with hanger

Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.
4.0	100	39	570 406	5.5	100	39	570 556	8.0	120	80	570 806
5.0	100	39	570 506	6.0	100	54	570 606	10.0	120	80	571 006



## Sets

Art.-Group 47



57 004

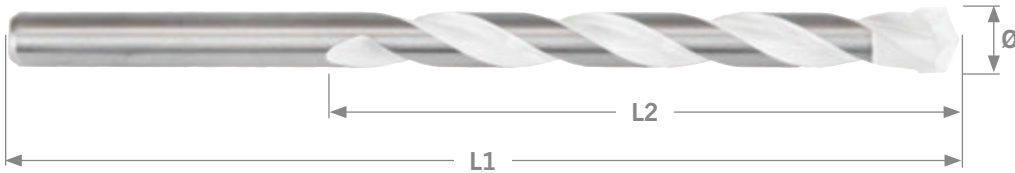
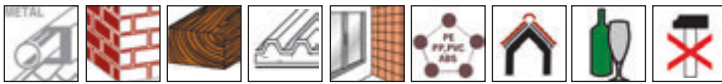


57 005

Content	Packaging	Art.-No.
Multipurpose drill bit with hexagonal shank Ø 5 - 6 - 8 mm	3 pcs. in plastic box	57 004
Multipurpose drill bit with hexagonal shank Ø 4 - 5 - 6 - 8 - 10 mm	5 pcs. in plastic box	57 005

# 57600 | Multi material drill bit

Art.-Group 89



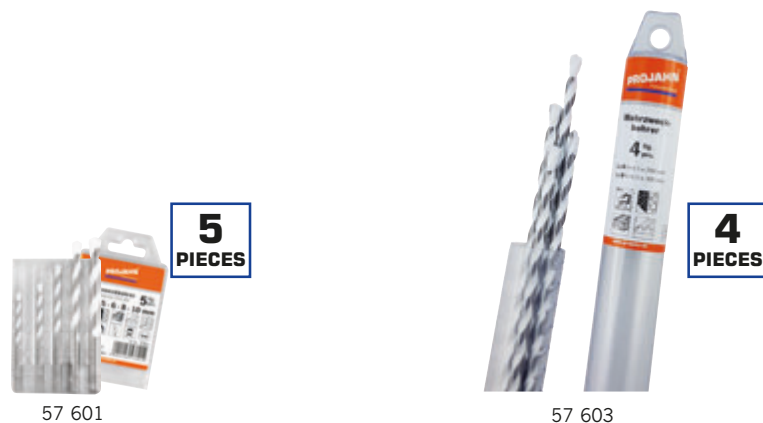
- ▶ Multi material drill bit with extra sharp tungsten carbide tip for precise drilling in various materials
- ▶ High flute volume for fast transport of drilling dust and chips
- ▶ For rotating use only - no impact drilling!
- ▶ Designed to drill: masonry, tiles, wood, plastic, metal and material combinations

Single packaging with hanger

Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.
3.0	70	40	576 030 070	6.0	100	60	576 060 100	8.0	120	80	576 080 120
4.0	75	40	576 040 085	6.0	150	85	576 060 150	8.0	200	150	576 080 200
5.0	85	50	576 050 085	6.0	200	150	576 060 200	10.0	120	80	576 100 120
5.5	85	50	576 055 085	6.0	300	220	576 060 300	10.0	200	150	576 100 200
				6.5	200	150	576 065 200	12.0	150	90	576 120 150
				6.5	300	220	576 065 300				

## Sets

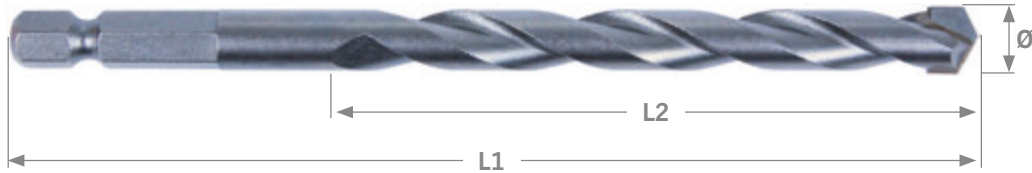
Art.-Group 47



Content	Packaging	Art.-No.
Ø 4 - 5 - 6 - 8 - 10 mm	5 pcs. in plastic box	57 601
Ø 6.0 x 200/150 mm, Ø 6.0 x 300/220 mm	4 pcs. in plastic box	57 603
Ø 6.5 x 200/150 mm, Ø 6.5 x 300/220 mm		

# 50300 | Masonry drill bit with 6.35 mm [1/4"] hexagonal shank

Art.-Group 57



- ▶ Optimal for cordless screwdrivers due to 6.35 mm [1/4"] hexagonal shank
- ▶ Quick rechucking
- ▶ Standard masonry drill bit with carbide tip
- ▶ Milled finishing
- ▶ Designed to drill: artificial stone, masonry and gas-formed concrete

Single packaging with hanger

Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.
3.0	75	40	50 303	6.0	100	60	50 306	9.0	120	80	50 309
4.0	75	40	50 304	7.0	100	60	50 307	10.0	120	80	50 310
5.0	85	50	50 305	8.0	120	80	50 308				

## Sets

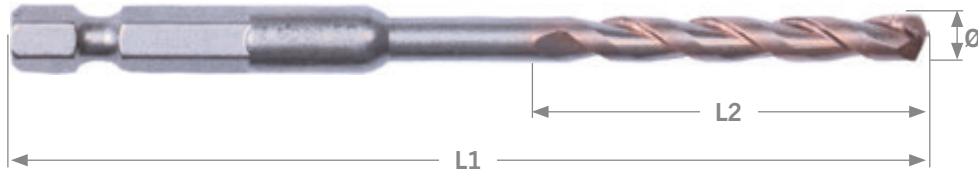
Art.-Group 47



Content	Packaging	Art.-No.
Ø 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 mm	8 pcs. in metal box	50 301

## 53200 | Roof tile drill bit 6.35 mm [1/4"] hexagonal shank

Art.-Group 59



- ▶ Even the hardest roof tiles can be drilled
- ▶ Carbide tip 130°
- ▶ For use in cordless drills
- ▶ Quick drill bit change due to standardized shank profile
- ▶ For rotating use only - no impact drilling!
- ▶ Designed to drill: roof tiles, concrete tiles, eternit, slate tiles and ceramics

Single packaging with hanger

Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.
3.5	100	39	532 035	5.0	100	39	532 050
4.0	100	39	532 040	6.0	100	39	532 060



## 10-pack

Art.-Group 45

10-pack

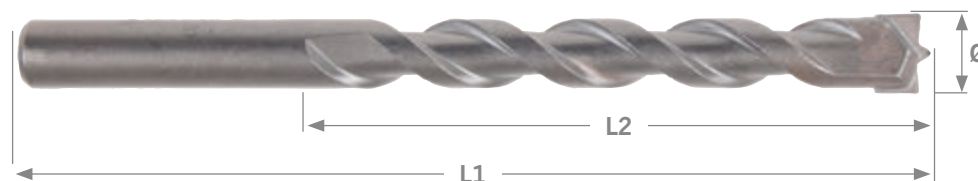
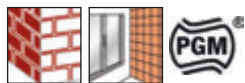
Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.
3.5	100	39	53 203 510	5.0	100	39	53 205 010
4.0	100	39	53 204 010	6.0	100	39	53 206 010



ALLRO

## 58000 | ALLRO tile drill bit

Art.-Group 51



- ▶ Allows easy centering and spot drilling on hard, slippery surfaces
- ▶ Special drill bit with centering point and straight shank for rotary and percussive applications
- ▶ Good guidance due to centering point
- ▶ Long lifetime due to the specially ground carbide cutting edge
- ▶ Large flutes for rapid removal of dust and debris
- ▶ Designed to drill: tiles, marble and masonry

Single packaging with hanger

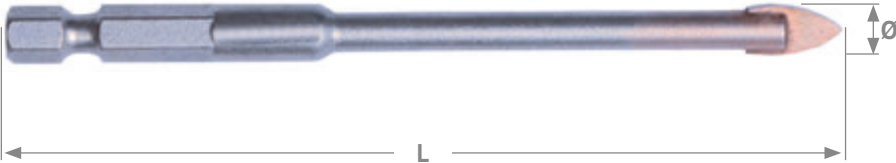
Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.
5.0	90	50	58 050	8.0	120	80	58 080	12.0	130	90	58 120
6.0	100	60	58 060	10.0	120	80	58 100				





# 59200 | Glass drill bit 6.35 mm [1/4"] hexagonal shank

Art.-Group 51



- ▶ For use in cordless drills
- ▶ Easy centering due to diamond-ground carbide tip
- ▶ Surface is shot peened

- ▶ Designed to drill: glass, bottles, porcelain, tiles and roof tiles
- ▶ For rotating use only - no impact drilling!

Single packaging with hanger

Ø mm	L mm	Art.-No.	Ø mm	L mm	Art.-No.	Ø mm	L mm	Art.-No.
3.0	100	59 203	5.0	105	59 205	8.0	110	59 208
4.0	100	59 204	6.0	105	59 206	10.0	110	59 210

## Sets

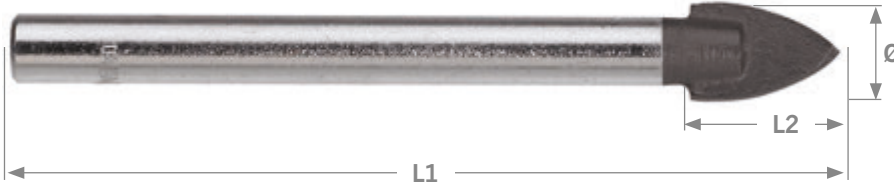
Art.-Group 47



Content	Packaging	Art.-No.
Ø 5 - 6 - 8 - 10 mm	4 pcs. in plastic box	59 201

# 59000 | CRYSTAL glass drill bit

Art.-Group 51



- ▶ With special carbide tip and straight shank
- ▶ Best drilling results at low speeds and with sufficient cooling with e.g. water, turpentine, vinegar or petroleum
- ▶ Designed to drill: glass, tiles, ceramic, mirror glass and porcelain
- ▶ For rotating use only - no impact drilling!

Single packaging with hanger



Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.
3.0	60	8	59 030	6.0	75	13	59 060	12.0	100	18	59 120
4.0	60	10	59 040	8.0	80	14	59 080				
5.0	70	11	59 050	10.0	100	15	59 100				

## Sets

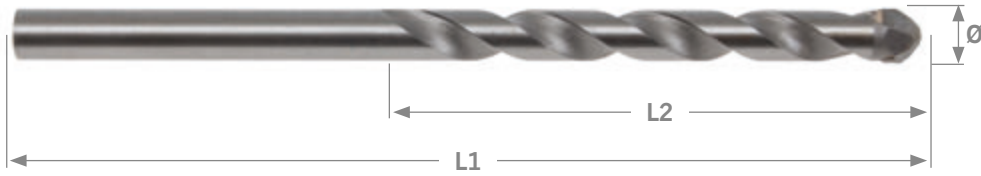
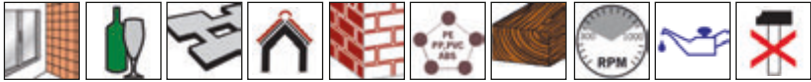
Art.-Group 47



Content	Packaging	Art.-No.
Ø 6 - 6 - 8 - 8 - 10 mm	5 pcs. in plastic box	59 001

# 59700 | EXTREME universal drill bit

Art.-Group 52



### Universal drill bit for extreme applications

- ▶ Extremely sharp, especially ground tungsten carbide tip
- ▶ High quality soldering, extremely heat resistant
- ▶ The problem solver for various materials (e.g. very hard tiles)
- ▶ Also possible drilling in plastic, wood, sheet metal, glass, etc. therefore ideal for drilling combinations of different materials
- ▶ Attention: Please always ensure adequate cooling!
- ▶ For rotating use only - no impact drilling!
- ▶ Simple and safe drilling in all types of tiles (including kress tiles, ceramic tiles etc.)

Single packaging with hanger

Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.
3.5	85	42	597 035*	6.0	100	65	597 060	10.0	150	90	597 100
4.0	85	50	597 040	7.0	125	75	597 070*	11.0	150	90	597 110*
4.5	85	50	597 045	8.0	125	75	597 080				
5.0	85	50	597 050	9.0	150	90	597 090*				



## Sets

Art.-Group 47



Content	Packaging	Art.-No.
Ø 4 - 5 - 6 - 8 mm	4 pcs. in plastic box	59 701

\* Delivery while stocks last

## 81126 | Adapter for SDS-plus hammer drill bits

Art.-Group 37



- ▶ For power tools with SDS-max shank
- ▶ Adapter for connecting drilling tools with SDS-plus shank
- ▶ Drilling tools of smaller diameters can also be used in heavy hammer drills

Single packaging with hanger

Description	Art.-No.
Adapter for SDS-plus hammer drill bits / power tools with SDS-max socket	81 126



## 81121 | SDS-plus adapter for [1/2"] drill chuck - 20 UNF-2A

Art.-Group 37



- ▶ SDS-plus 3-jaw chuck adapter with internal thread
- ▶ Suitable for hammer drills with SDS-plus shank or 2-slot bit reception (TE-system)
- ▶ Internal thread M6-LH
- ▶ Mounting shank for 3-jaw chuck, screw included

Single packaging with hanger

Description	Art.-No.
Adapter for drill chucks [1/2"]-20 UNF-2A / power tools with SDS-plus socket	81 121



## 81130 | SDS-plus Adapter for 6.35 mm [1/4"] hexagonal shank

Art.-Group 37



- ▶ Suitable for hammer drills with SDS-plus shank or 2-slot bit reception (TE-system)
- ▶ SDS-plus shank for bit 6.35 mm [1/4"] hexagonal shank allows the operation of light hammer drills as screwdrivers

Single packaging with hanger

Description	Art.-No.
Adapter for 6.35 mm [1/4"] hexagonal shank / power tools with SDS-plus socket	81 130

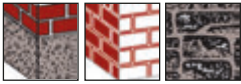


# CHISELS



# 840004 | Self-sharpening chisel with SDS-plus shank

Art.-Group 72



- ▶ Self-sharpening effect: Specially designed geometry that ensures permanently sharp chisels and therefore they can be used for a longer lifetime
- ▶ Efficient working: Due to special technical characteristics, a significantly higher removal rate is achieved compared to standard chisels



Single packaging with hanger



### Pointed chisel

- ▶ Special zones induction hardening process ensures maximum resistance against breaking forces
- ▶ With self-sharpening effect

Chisel type	Shank	L mm	Art.-No.
Pointed chisel	SDS-plus	250	84 106 250 4



### Flat chisel

- ▶ Two additional teeth ensure better material destruction
- ▶ With self-sharpening effect

Chisel type	Shank	L mm	W mm	Art.-No.
Flat chisel	SDS-plus	250	20	84 206 250 4



### Spade chisel

- ▶ Compared to standard chisels the blade is twice as long this increases the lifetime up to 100%
- ▶ With self-sharpening effect

Chisel type	Shank	L mm	W mm	Art.-No.
Spade chisel	SDS-plus	250	40	84 406 250 4



### Tile chisel

- ▶ Cranked shape with extra long and slim blade increases the material removing up to 30%
- ▶ With self-sharpening effect

Chisel type	Shank	L mm	W mm	Art.-No.
Tile chisel	SDS-plus	260	40	84 806 260 4



### Scraping chisel

- ▶ Extra wide blade perfect for removing plaster and grout
- ▶ With self-sharpening effect

Chisel type	Shank	L mm	W mm	Art.-No.
Scraping chisel	SDS-plus	250	60	84 806 250 4

# 840004 | Self-sharpening chisel with SDS-max shank

Art.-Group 72



- ▶ Self-sharpening effect: Specially designed geometry that ensures permanently sharp chisels
- ▶ Efficient working: Due to special technical characteristics, a significantly higher removal rate is achieved compared to standard chisels



Single packaging with hanger



## Pointed chisel

- ▶ Special spiral tip ensures maximum material destruction
- ▶ With self-sharpening effect

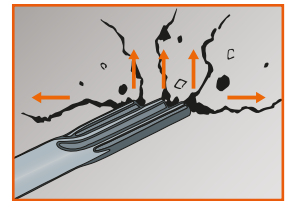


Chisel type	Shank	L mm	Art.-No.
Pointed chisel	SDS-max	400	84 170 400 4



## Flat chisel

- ▶ Additional cutting edges ensure maximum material destruction
- ▶ With self-sharpening effect



Chisel type	Shank	L mm	W mm	Art.-No.
Flat chisel	SDS-max	400	25	84 270 400 4



## Spade chisel

- ▶ Compared to standard chisels the blade is twice as long this increases the lifetime up to 100%
- ▶ With self-sharpening effect

Chisel type	Shank	L mm	W mm	Art.-No.
Spade chisel	SDS-max	350	50	84 470 350 4



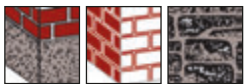
## Tile chisel

- ▶ Cranked shape with extra long and slim blade increases the material removing up to 30%
- ▶ With self-sharpening effect

Chisel type	Shank	L mm	W mm	Art.-No.
Tile chisel	SDS-max	300	50	84 870 300 4

# 84000 | Chisel with SDS-plus shank

Art.-Group 42



Single packaging with hanger



Chisel bulk pack



## Pointed chisel

- For general chiseling and demolition work

Chisel type	L mm	Packaging	Pc./PU	Art.-No.
Pointed chisel	250	Single	1	84 106 250
Pointed chisel	250	Single packaging with hanger	1	84 106 250 5
Pointed chisel	250	Chisel bulk pack	10	99 965
Pointed chisel short	140	Single	1	84 106 140
Pointed chisel short	140	Single packaging with hanger	1	84 106 140 5



## Flat chisel

- For general chiseling and demolition work
- Targeted crushing effect on masonry, concrete and loose rock

Chisel type	L mm	W mm	Packaging	Pc./PU	Art.-No.
Flat chisel	250	20	Single	1	84 206 250
Flat chisel	250	20	Single packaging with hanger	1	84 206 250 5
Flat chisel	250	20	Chisel bulk pack	10	99 966
Flat chisel short	140	20	Single	1	84 206 140
Flat chisel short	140	20	Single packaging with hanger	1	84 206 140 5



## Spade chisel

- For universal applications like chiseling of floor coverings, screed and tar paper
- For removing material on a larger scale

Chisel type	L mm	W mm	Packaging	Pc./PU	Art.-No.
Spade chisel	250	40	Single	1	84 406 250
Spade chisel	250	40	Single packaging with hanger	1	84 406 250 5
Spade chisel	250	40	Chisel bulk pack	5	99 967
Spade chisel short	140	40	Single	1	84 406 140
Spade chisel short	140	40	Single packaging with hanger	1	84 406 140 5



## Tile chisel

- Ergonomically angled chisel end
- For the easy removal of tiles

Chisel type	L mm	W mm	Packaging	Pc./PU	Art.-No.
Tile chisel	250	40	Single	1	84 806 250
Tile chisel	250	40	Single packaging with hanger	1	84 806 250 5



## Hollow chisel

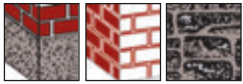
- For putting channels in masonry (e.g. in brick and sand-lime brick)

Chisel type	L mm	W mm	Packaging	Pc./PU	Art.-No.
Hollow chisel	250	22	Single	1	84 506 250
Hollow chisel	250	22	Single packaging with hanger	1	84 506 250 5



# 84000 | Chisel with SDS-max shank

Art.-Group 73



Single packaging with hanger



Chisel bulk pack



## Pointed chisel

- For general chiseling and demolition work

Chisel type	L mm	Packaging	Pc./PU	Art.-No.
Pointed chisel	280	Single	1	84 170 280
Pointed chisel	280	Single packaging with hanger	1	84 170 280 5
Pointed chisel	400	Single	1	84 170 400
Pointed chisel	400	Single packaging with hanger	1	84 170 400 5
Pointed chisel	400	Chisel bulk pack	20	99 962
Pointed chisel	600	Single	1	84 170 600
Pointed chisel	600	Single packaging with hanger	1	84 170 600 5



## Flat chisel

- For general chiseling and demolition work
- Targeted crushing effect on masonry, concrete and loose rock

Chisel type	L mm	W mm	Packaging	Pc./PU	Art.-No.
Flat chisel	280	25	Single	1	84 270 280
Flat chisel	280	25	Single packaging with hanger	1	84 270 280 5
Flat chisel	400	25	Single	1	84 270 400
Flat chisel	400	25	Single packaging with hanger	1	84 270 400 5
Flat chisel	400	25	Chisel bulk pack	20	99 963
Flat chisel	600	25	Single	1	84 270 600
Flat chisel	600	25	Single packaging with hanger	1	84 270 600 5



## Spade chisel

- For universal applications like chiseling of floor coverings, screed and tar paper
- For removing material on a larger scale

Chisel type	L mm	W mm	Packaging	Pc./PU	Art.-No.
Spade chisel	300	80	Single	1	84 470 800
Spade chisel	300	80	Single packaging with hanger	1	84 470 800 5
Spade chisel	350	115	Single	1	84 470 115
Spade chisel	350	115	Single packaging with hanger	1	84 470 115 5
Spade chisel	400	50	Single	1	84 470 500
Spade chisel	400	50	Single packaging with hanger	1	84 470 500 5
Spade chisel	400	50	Chisel bulk pack	10	99 964

# 84900 | Floor cleaning tool SDS-max



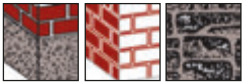
Single

- Ideal for removing adhesive residues e.g. carpet or cork flooring on screeded concrete

Description	L mm	W mm	Packaging	Art.-No.
Floor cleaning tool	635	152	Single	84 970 630
Replacement plate	175	152	Single	84 970 001

# 84000 | Chisel with SDS-max shank

Art.-Group 42



Single packaging with hanger



## Tile chisel

- ▶ Ergonomically angled chisel end
- ▶ For the easy removal of tiles

Chisel type	L mm	W mm	Packaging	Art.-No.
Tile chisel	300	50	Single	84 870 400
Tile chisel	300	50	Single packaging with hanger	84 870 400 5



## Hollow chisel

- ▶ For putting channels in masonry (e.g. in brick and sand-lime brick)

Chisel type	L mm	W mm	Packaging	Art.-No.
Hollow chisel	300	26	Single	84 570 300
Hollow chisel	300	26	Single packaging with hanger	84 570 300 5



## Canal chisel

- ▶ For chiseling narrow channels in concrete

Chisel type	L mm	W mm	Packaging	Art.-No.
Canal chisel	300	32	Single	84 370 320
Canal chisel	300	32	Single packaging with hanger	84 370 320 5



## Slotting chisel

- ▶ For renovating masonry (e.g. removing tile joints)

Chisel type	L mm	W mm	Packaging	Art.-No.
Slotting chisel	280	38	Single	84 670 300
Slotting chisel	280	38	Single packaging with hanger	84 670 300 5

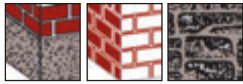


## Mortar chisel

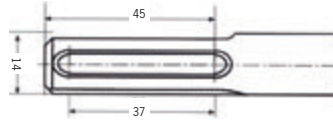
- ▶ For removing and cleaning joints in masonry and mortar

Chisel type	L mm	W mm	Packaging	Art.-No.
Mortar chisel	300	28	Single	84 770 300
Mortar chisel	300	28	Single packaging with hanger	84 770 300 5

## 84000 | Chisel with SDS-top shank



Single packaging with hanger



Art.-Group 49



### Pointed chisel

- ▶ For general chiseling and demolition work
- ▶ e.g. for laying cables

Chisel type	L mm	Packaging	Art.-No.
Pointed chisel	350	Single packaging with hanger	84 130 350 5*

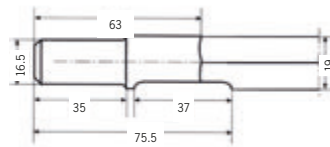
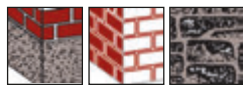


### Hollow chisel

- ▶ For putting channels in masonry (e.g. in brick and sand-lime brick)

Chisel type	L mm	W mm	Packaging	Art.-No.
Hollow chisel	250	22	Single	84 530 250*

## 84000 | Chisel with 19 mm hexagonal shank / Bosch large splined shaft



Art.-Group 49



### Pointed chisel

- ▶ For general chiseling and demolition work
- ▶ e.g. for laying cables

Chisel type	L mm	Packaging	Art.-No.
Pointed chisel	400	Single	84 101 400
Pointed chisel	600	Single	84 101 600*



### Flat chisel

- ▶ For general chiseling and demolition work
- ▶ Targeted crushing effect on masonry, concrete and loose rock

Chisel type	L mm	W mm	Packaging	Art.-No.
Flat chisel	400	25	Single	84 201 400



### Spade chisel

- ▶ For universal applications like chiseling of floor coverings, screed and tar paper

Chisel type	L mm	W mm	Packaging	Art.-No.
Spade chisel	400	50	Single	84 401 500
Spade chisel	300	75	Single	84 401 800



### Hollow chisel

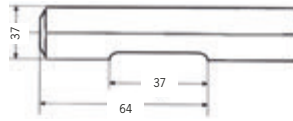
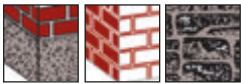
- ▶ For putting in grooves in masonry work

Chisel type	L mm	W mm	Packaging	Art.-No.
Hollow chisel	250	22	Single	84 501 250*

\* Delivery while stocks last

## 84000 | Chisel with 19 mm hexagonal shank / Bosch

Art.-Group 49



### Pointed chisel

- For general chiseling and demolition work
- e.g. for laying cables

Chisel type	L mm	Packaging	Art.-No.
Pointed chisel	400	Single	84 102 400



### Flat chisel

- For general chiseling and demolition work
- Targeted crushing effect on masonry, concrete and loose rock

Chisel type	L mm	W mm	Packaging	Art.-No.
Flat chisel	300	25	Single	84 202 300*
Flat chisel	400	25	Single	84 202 400
Flat chisel	600	25	Single	84 202 600*



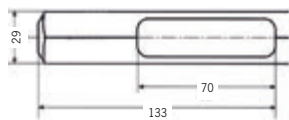
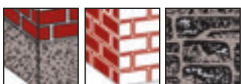
### Spade chisel

- For universal applications like chiseling of floor coverings, screed and tar paper

Chisel type	L mm	W mm	Packaging	Art.-No.
Spade chisel	450	50	Single	84 402 500

## 84000 | Chisel with 29 mm hexagonal shank / Bosch

Art.-Group 49



### Pointed chisel

- For general chiseling and demolition work
- e.g. for laying cables

Chisel type	L mm	Packaging	Art.-No.
Pointed chisel	400	Single	84 108 400



### Flat chisel

- For general chiseling and demolition work
- Targeted crushing effect on masonry, concrete and loose rock

Chisel type	L mm	W mm	Packaging	Art.-No.
Flat chisel	400	36	Single	84 208 400



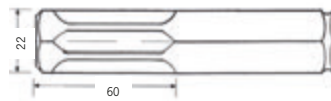
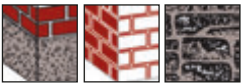
### Spade chisel

- For universal applications like chiseling of floor coverings, screed and tar paper

Chisel type	L mm	W mm	Packaging	Art.-No.
Spade chisel	400	80	Single	84 408 800
Spade chisel	500	125	Single	84 408 125

## 84000 | Chisel with 22 mm hexagonal shank / 6 slots Hilti

Art.-Group 49



### Pointed chisel

- ▶ For general chiseling and demolition work
- ▶ e.g. for laying cables

Chisel type	L mm	Packaging	Art.-No.
Pointed chisel	360	Single	84 181 360



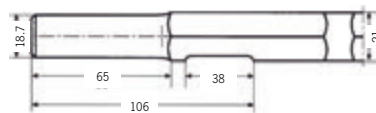
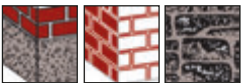
### Flat chisel

- ▶ For general chiseling and demolition work
- ▶ Targeted crushing effect on masonry, concrete and loose rock

Chisel type	L mm	W mm	Packaging	Art.-No.
Flat chisel	360	30	Single	84 281 360

## 84000 | Chisel with 21 mm hexagonal shank / Kango

Art.-Group 49



### Pointed chisel

- ▶ For general chiseling and demolition work
- ▶ e.g. for laying cables

Chisel type	L mm	Packaging	Art.-No.
Pointed chisel	380	Single	84 190 380
Pointed chisel	460	Single	84 190 460



### Flat chisel

- ▶ For general chiseling and demolition work
- ▶ Targeted crushing effect on masonry, concrete and loose rock

Chisel type	L mm	W mm	Packaging	Art.-No.
Flat chisel	450	30	Single	84 290 460

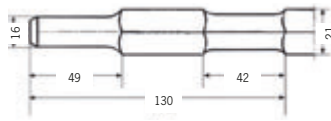
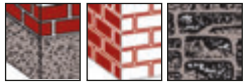


### Spade chisel

- ▶ For universal applications like chiseling of floor coverings, screed and tar paper

Chisel type	L mm	W mm	Packaging	Art.-No.
Spade chisel	380	50	Single	84 490 500
Spade chisel	380	75	Single	84 490 800

## 84000 | Chisel with 21 mm hexagonal shank / Makita



Art.-Group 49



### Pointed chisel

- ▶ For general chiseling and demolition work
- ▶ e.g. for laying cables

Chisel type	L mm	Packaging	Art.-No.
Pointed chisel	450	Single	84 112 450



### Flat chisel

- ▶ For general chiseling and demolition work
- ▶ Targeted crushing effect on masonry, concrete and loose rock

Chisel type	L mm	W mm	Packaging	Art.-No.
Flat chisel	450	25	Single	84 212 450

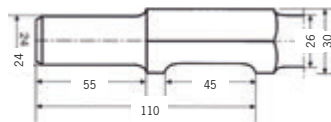
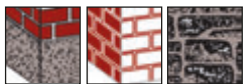


### Spade chisel

- ▶ For universal applications like chiseling of floor coverings, screed and tar paper

Chisel type	L mm	W mm	Packaging	Art.-No.
Spade chisel	320	50	Single	84 412 800

## 84000 | Chisel with 30 mm hexagonal shank / Makita



Art.-Group 49



### Pointed chisel

- ▶ For general chiseling and demolition work
- ▶ e.g. for laying cables

Chisel type	L mm	Packaging	Art.-No.
Pointed chisel	410	Single	84 110 400



### Flat chisel

- ▶ For general chiseling and demolition work
- ▶ Targeted crushing effect on masonry, concrete and loose rock
- ▶ Chisel cutting edge is perpendicular to the recess on the hexagonal shaft

Chisel type	L mm	W mm	Packaging	Art.-No.
Flat chisel	410	35	Single	84 210 400



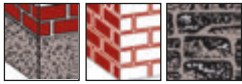
### Spade chisel

- ▶ For universal applications like chiseling of floor coverings, screed and tar paper
- ▶ Chisel cutting edge is perpendicular to the recess on the hexagonal shaft

Chisel type	L mm	W mm	Packaging	Art.-No.
Spade chisel	400	75	Single	84 421 075
Spade chisel	450	125	Single	84 410 100

# 840002 | ECO chisel with SDS-plus shank

Art.-Group 74



Single packaging with hanger

Chisel bulk pack



### Pointed chisel

- ▶ For general chiseling and demolition work
- ▶ e.g. for laying cables

Chisel type	L mm	Packaging	Pc./PU	Art.-No.
Pointed chisel	250	Single packaging with hanger	1	84 106 250 2
Pointed chisel	250	Chisel bulk pack	10	84 106 250 210



### Flat chisel

- ▶ For general chiseling and demolition work
- ▶ Targeted crushing effect on masonry, concrete and loose rock

Chisel type	L mm	W mm	Packaging	Pc./PU	Art.-No.
Flat chisel	250	20	Single packaging with hanger	1	84 206 250 2
Flat chisel	250	20	Chisel bulk pack	10	84 206 250 210



### Spade chisel

- ▶ For universal applications like chiseling of floor coverings, screed and tar paper

Chisel type	L mm	W mm	Packaging	Pc./PU	Art.-No.
Spade chisel	250	40	Single packaging with hanger	1	84 406 250 2
Spade chisel	250	40	Chisel bulk pack	10	84 406 250 210

## Sets

Art.-Group 47



83 841



99 956

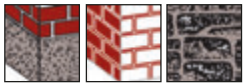


99 982

Content	Packaging	Art.-No.
Rotary hammer drill bit SDS-plus Ø 6 - 8 - 10 x 160/100 mm, Ø 12 x 160/110 mm Pointed chisel SDS-plus length 140 mm Flat chisel SDS-plus 140 mm x 20 mm	6 pcs. in metal box	83 841
Pointed chisel SDS-plus length 250 mm Flat chisel SDS-plus 250 mm x 20 mm Spade chisel SDS-plus 250 mm x 40 mm	3 pcs. in plastic box	99 956
Rotary hammer drill bit SDS-plus Ø 5 - 6 - 8 - 10 x 110/50 mm, Ø 6 - 8 - 10 - 12 x 160/100 mm Ø 8 - 10 x 210/150 mm, Ø 12-14 x 260/200 mm Pointed chisel SDS-plus length 250 mm, length 140 mm Flat chisel SDS-plus 250 mm x 20 mm, 140 mm x 20 mm Spade chisel SDS-plus 250 mm x 40 mm	17 pcs. in metal case	99 982

# 840002 | ECO chisel with SDS-max shank

Art.-Group 74



Single packaging with hanger



Chisel bulk pack



### Pointed chisel

- ▶ For general chiseling and demolition work
- ▶ e.g. for laying cables

Chisel type	L mm	Packaging	Pc./PU	Art.-No.
Pointed chisel	400	Single packaging with hanger	1	84 170 400 2
Pointed chisel	400	Chisel bulk pack	10	84 170 400 210



### Flat chisel

- ▶ For general chiseling and demolition work
- ▶ Targeted crushing effect on masonry, concrete and loose rock

Chisel type	L mm	W mm	Packaging	Pc./PU	Art.-No.
Flat chisel	400	25	Single packaging with hanger	1	84 270 400 2
Flat chisel	400	25	Chisel bulk pack	10	84 270 400 210



### Spade chisel

- ▶ For universal applications like chiseling of floor coverings, screed and tar paper

Chisel type	L mm	W mm	Packaging	Pc./PU	Art.-No.
Spade chisel	400	50	Single packaging with hanger	1	84 470 400 2
Spade chisel	400	50	Chisel bulk pack	10	84 470 400 210

## Sets

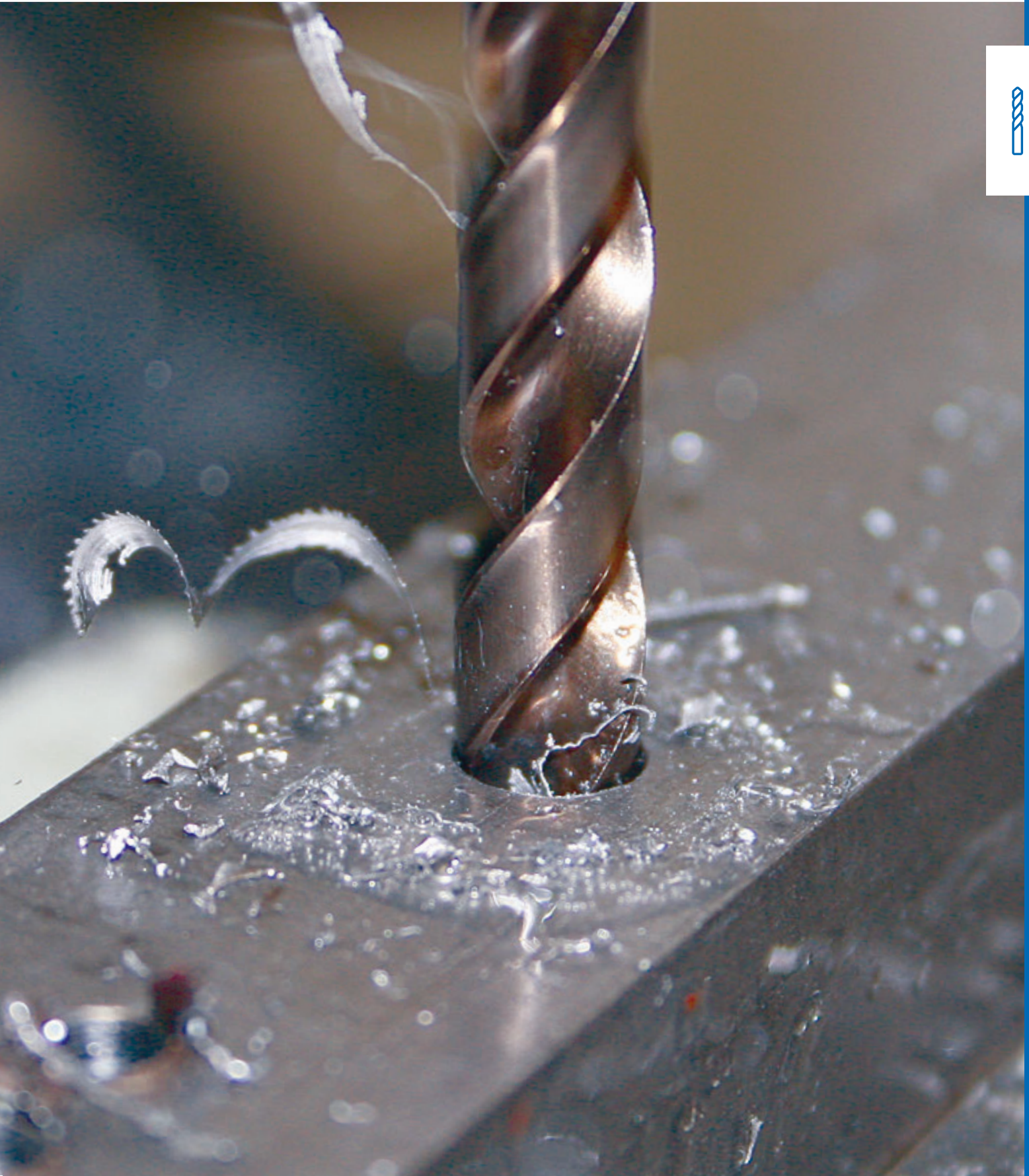
Art.-Group 47



Content	Packaging	Art.-No.
Pointed chisel SDS-max length 400 mm Flat chisel SDS-max 400 mm x 25 mm Spade chisel SDS-max 400 mm x 50 mm	3 pcs. in plastic box	844 002



# STEEL



# Overview of metal drill bits with recommendation



Steel														
	PROFESSIONAL	PROFESSIONAL	PROFESSIONAL	PROFESSIONAL	PROFESSIONAL	PLUS	STANDARD	PROFESSIONAL	PROFESSIONAL	PLUS	PLUS	PLUS	STANDARD	PLUS
Quality	PROFESSIONAL	PROFESSIONAL	PROFESSIONAL	PROFESSIONAL	PROFESSIONAL	PLUS	STANDARD	PROFESSIONAL	PROFESSIONAL	PLUS	PLUS	PLUS	STANDARD	PLUS
DIN Norm	338	338	338	338	338	338	338	338	338	338	338	338	338	338
Product	Heavy Duty	-	-	Speed	PROgresso	ECO	Basic	Turbo	-	ECO	-	ECO	Basic	ECO
Product material	HSS-Co 8%	HSS-Co 5%	HSS-Co 5%	HSS-Co 5%	HSS-G	HSS-Co 5%	HSS-Co 5%	HSS-G	HSS-G	HSS-G	HSS-G	HSS-G	HSS-G	HSS-R
Type	HD	UF-L	UF-L	S	SN	VA	N	N	SN	N	N	N	N	N
Point angle	135°	130°	130°	130°	130°	135°	135°	118°	130°	135°	118°	135°	135°	118°
Coating	-	ALTiN	-	-	-	-	-	-	TiN	TiN	-	-	-	-
Shank	Straight	Straight	Straight	Straight	Straight	Straight	Straight	Straight	Straight	Straight	Straight	Straight	Straight	Straight
Ø mm	1 - 13	1.5 - 16	1.5 - 16	0.4 - 13	1 - 20	1 - 13	1 - 13	0.3 - 16	1 - 13	1 - 13	1 - 13	1 - 13	1 - 13	0.3 - 20
Series	23000	32000	34000	26000	12500	25000	25500	14000	29000	29500	18000L	18000	18500	10000
Article-Group	81	28	28	21	75	20	92	14	29	78	76	32	88	01
Page	P 68	P 70	P 72	P 74	P 76	P 78	P 80	P 82	P 84	P 86	P 87	P 88	P 90	P 92
HD Heavy Duty <math><1,400\text{ N/mm}^2</math>	+++													
Steel pipes, -profiles, solid metal	+++	+++	+++	+++	+++	++	++	+++	+++	++	+++	++	++	++
Cast iron	++			+	+++	++	++	+++	+++	++	+++	++	++	++
Stainless steel	++	++	++	+++	+	++	++							
Nonferrous metals	++	++	++	++	++	++	++	+	+	+	+	+	+	+
Sheet metals	+			++	++	+	+	+	+	+	+	+	+	+
Aluminum	++		++	+	++	+	+	++			++	++	++	++
Plexiglass						+	+	+	+	+	+	+	+	+
Plastic	+	+	+	+	++	++	++	++	++	++	++	++	++	++
Wood	+			+	+	+	+	+	+	+	+	+	+	+
Sandwich materials														

+++ recommended

++ well-suited

+ suitable

## Overview of metal drill bits with recommendation

																	
	PLUS	STANDARD	PROFESSIONAL	PROFESSIONAL	PLUS	PLUS	STANDARD	PROFESSIONAL	PLUS	STANDARD	PROFESSIONAL	PLUS	PROFESSIONAL	PLUS	STANDARD	PLUS	PLUS
PROJAHN standard	338	1897	1897	1897	1897	-	340	340	340	1869	1869	345	345	345	PROJAHN standard	2185	
-	ECO	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
HSS-G	HSS-R	HSS-Co 5%	HSS-Co 5%	HSS-Co 5%	HSS-G	HSS-G	HSS-Co 5%	HSS-G	HSS-R	HSS-Co 5%	HSS-G	HSS-Co 5%	HSS-G	HSS-R	HSS-G	-	
N	N	UF-L	UF-L	N	N	-	UF-L	N	N	UF-L	N	RN	N	N	N	-	
118°	118°	130°	130°	135°	135°	135°	130°	135°	118°	130°	118°	135°	118°	118°	118°	-	
-	-	ALTiN	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
Reduced	Reduced	Straight	Straight	Straight	Straight	Hex	Straight	Straight	Straight	Straight	Straight	Morse taper	Morse taper	Morse taper	Straight	Morse taper	
10 - 30	10 - 25	2 - 20	2 - 16	2 - 10.2	2 - 10.2	3 - 10	2 - 13	1 - 13	2 - 13	2 - 16	3 - 10	7 - 50	10 - 60	8 - 60	3 - 5.8	-	
49500	49000	46000	44000	41000	40000	13300	42000	30000	31000	43000	17000	24000	22000	20000	48000	27000	
4	4	28	28	6	6	6	28	7	85	28	18	77	71	9	5	27	
P 95	P 96	P 97	P 98	P 99	P 100	P 101	P 102	P 103	P 105	P 106	P 107	P 108	P 109	P 110	P 111	P 112	
+++	++	+++	+++	++	++	++	+++	+++	++	+++	+++	+++	+++	+++	++	++	
++	++			++	++	++		++	+			++	++	++	+	+	
		++	++	++			++			++		++					
++	+	++	++	++	++	++	++	++	+	++	+	++	++	+	+		
+	+			++	++	++		+	+			+	+	+	++		
++	++		++	++	++	++	++	++	++	++	+	++	++		+		
+	+			+	+	+		+	+				+	+	+		
++	++	+	+	++	++	++	+	+	+				++	++	+		
+	+			+	+	+		+	+				+	+	+		
															+++		

+++ recommended

++ well-suited

+ suitable

# Overview of metal drill bits with recommendation

# 3

Steel														
	PLUS	PLUS	PROFESSIONAL	PROFESSIONAL	PROFESSIONAL	PLUS	PLUS	PLUS	PLUS	PLUS	PLUS	PROFESSIONAL	PROFESSIONAL	PLUS
Quality	PLUS	PLUS	PROFESSIONAL	PROFESSIONAL	PROFESSIONAL	PLUS	PLUS	PLUS	PLUS	PLUS	PLUS	PROFESSIONAL	PROFESSIONAL	PLUS
DIN Norm	-	-	-	-	-	333	-	-	-	-	-	-	-	-
Product	-	-	-	-	-	-	-	-	-	-	-	PRO	PRO	-
Product material	HSS-Co 5%	HSS-G	HSS-Co 5%	HSS-Co 5%	HSS	HSS-G	HSS-G	HSS-G	-	HSS-Co 5%	HSS	HSS-Co 5%	HSS	HSS-Co 5%
Type	-	-	N	-	-	-	-	-	-	-	-	-	-	-
Point angle	135°	135°	120/180°	-	-	118°	118°	118°	-	-	-	-	-	-
Coating	-	-	-	-	-	-	TiN	-	-	-	-	-	-	-
Shank	Double end drill bit	Double end drill bit	Straight	Straight	Straight	Straight	Straight	Straight	-	Straight	Straight	Straight	Straight	Straight
Ø mm	3 - 5.5	3 - 6	6 - 10	8	10	1 - 6.3	6	6	-	3 - 60	3 - 60	4 - 36	4 - 36	4 - 37
Series	45100	45000	70600	70840	70002	39000	70005	70001	70101	75600	75000	76900	76800	76600
Article-Group	08	08	11	11	11	10	11	11	11	12	12	12	12	12
Page	P 113	P 113	P 114	P 114	P 115	P 115	P 116	P 116	P 116	P 117	P 117	P 118	P 118	P 119
HD Heavy Duty <math><1,400\text{ N/mm}^2</math>														
Steel pipes, -profiles, solid metal	++	++	++	++	++	++				+	+	+++	+++	++
Cast iron	++	++										++		++
Stainless steel	++		++	++						++		++		++
Nonferrous metals	++	++	++	++	++	+				+	+	++	++	++
Sheet metals	+++	+++	+++	+++	+++	+++	++	++		+++	+++	+++	+++	+++
Aluminum	++	++	+	+	+	++	+	+		++	++	++	++	++
Plexiglass	+	+				+	+	+				+	+	+
Plastic	++	++				++	++	++		++	++	++	++	++
Wood	+	+					++	++						
Sandwich materials														

+++ recommended

++ well-suited

+ suitable

## Overview of metal drill bits with recommendation

																
	PLUS	PROFESSIONAL	PROFESSIONAL	PROFESSIONAL	PLUS	PLUS	PLUS	STANDARD	PROFESSIONAL	PROFESSIONAL	PROFESSIONAL	PROFESSIONAL	PROFESSIONAL	PROFESSIONAL	PROFESSIONAL	PROFESSIONAL
	-	335 C	335 C	335 C	335 C	335 C	-	-	-	373	373	373	-	-	-	-
	-	PRO	PRO	PRO	ECO	ECO	-	-	-	-	-	-	-	-	-	-
	HSS	HSS-Co 5%	HSS-Co 5%	HSS-Co 5%	HSS-Co 5%	HSS	HSS-Co 5%	HSS-G	HM/TC	HSS-Co 5%	HSS-Co 5%	HSS-Co 5%	HSS-Co 8%	HSS	HSS-Co 8%	HD
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	-	ALTiN	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Straight	Straight	Straight	Straight	Straight	Straight	Straight	Hex	Hex	Straight	Straight	Straight	WELDON	WELDON	QuickIn	Straight
	4 - 37	6.3 - 30	6.3 - 30	6.3 - 30	6.3 - 30	6.3 - 30	2 - 20	6.3 - 20.5	3 - 54	M3 - M12	M3 - M12	M3 - M12	12 - 60	12 - 60	12 - 60	3 - 16
	76000	35900	35700	35800	35600	35000	36600	35300	35400	36700	36800	36900	38700	38500	38300	70000
	12	15	15	15	15	15	15	15	15	15	15	15	84	84	84	70
	P 119	P 120	P 121	P 121	P 122	P 122	P 123	P 124	P 125	P 125	P 125	P 125	P 126	P 127	P 128	P 133
	+++	+++	+++	+++	++	++	++	++	+++	+++	+++	+++	+++	+++	+++	+++
	+	+++	+++	+++	++	+	++	+	++	++	++	++	++	++	++	++
		++	++	++	+		++		++	+++	+++	+++	+++	+++	+++	+++
	+	++	++	++	++	+	+	+	++	+++	+++	+++	+	+	+	
	+++	++	++	++	++	++	++	++		++	++	++				
	++		++	++	++	++	++	++	++							
	+				+	+	+	+								
	++	+	+	+	++	++	++	++	++							
					+	+	+	+	++							

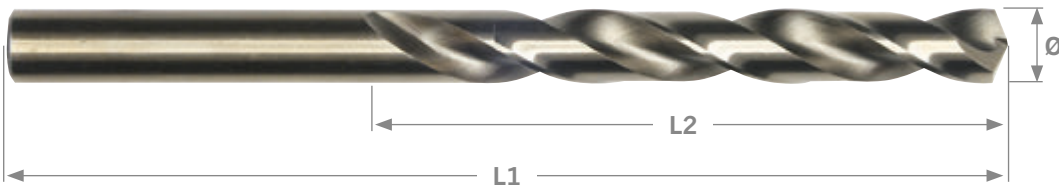
+++ recommended

++ well-suited

+ suitable

# 23000 | Short twist drill bit with straight shank HSS-Co 8% DIN 338 Type HD HEAVY DUTY

Art.-Group 81



## The professional twist drill bit for the toughest applications

- ▶ Extremely robust drill bit made of high-alloy HSS-Co (8% cobalt, 10% molybdenum) with distinct heat resistance
- ▶ Designed to drill: hardox, wear-resistant sheet metal, steel and bronze up to 1,400 N/mm<sup>2</sup>, solid and high-strength CrNi-based alloys as well as acid- and heat-resistant steels

<b>Tolerance</b>	H8	<b>Web thinning</b>	Split point	<b>Helix angle</b>	Normal
<b>Material</b>	HSS-Co 8%	<b>Web thickness</b>	Thicker than regular	<b>Constructional features</b>	DIN 1414
<b>Point grinding</b>	Tapered finish	<b>Tensile strength</b>	1,400 N/mm <sup>2</sup>		
<b>Point angle</b>	135°	<b>Web taper</b>	Thicker than regular		

Quadro pack with hanger

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
1.0	34	12	10	230 100	4.4	80	47	10	230 440	7.8	117	75	10	230 780
1.1	36	14	10	230 110	4.5	80	47	10	230 450	7.9	117	75	10	230 790
1.2	38	16	10	230 120	4.6	80	47	10	230 460	8.0	117	75	10	230 800
1.3	38	16	10	230 130	4.7	80	47	10	230 470	8.1	117	75	5	230 810
1.4	40	17	10	230 140	4.8	86	52	10	230 480	8.2	117	75	5	230 820
1.5	40	17	10	230 150	4.9	86	52	10	230 490	8.3	117	75	5	230 830
1.6	43	20	10	230 160	5.0	86	52	10	230 500	8.4	117	75	5	230 840
1.7	43	20	10	230 170	5.1	86	52	10	230 510	8.5	117	75	5	230 850
1.8	46	22	10	230 180	5.2	86	52	10	230 520	8.6	125	81	5	230 860
1.9	46	22	10	230 190	5.3	86	52	10	230 530	8.7	125	81	5	230 870
2.0	49	24	10	230 200	5.4	93	57	10	230 540	8.8	125	81	5	230 880
2.1	49	24	10	230 210	5.5	93	57	10	230 550	8.9	125	81	5	230 890
2.2	53	27	10	230 220	5.6	93	57	10	230 560	9.0	125	81	5	230 900
2.3	53	27	10	230 230	5.7	93	57	10	230 570	9.1	125	81	5	230 910
2.4	57	30	10	230 240	5.8	93	57	10	230 580	9.2	125	81	5	230 920
2.5	57	30	10	230 250	5.9	93	57	10	230 590	9.3	125	81	5	230 930
2.6	57	30	10	230 260	6.0	93	57	10	230 600	9.4	125	81	5	230 940
2.7	61	33	10	230 270	6.1	101	63	10	230 610	9.5	125	81	5	230 950
2.8	61	33	10	230 280	6.2	101	63	10	230 620	9.6	133	87	5	230 960
2.9	61	33	10	230 290	6.3	101	63	10	230 630	9.7	133	87	5	230 970
3.0	61	33	10	230 300	6.4	101	63	10	230 640	9.8	133	87	5	230 980
3.1	65	36	10	230 310	6.5	101	63	10	230 650	9.9	133	87	5	230 990
3.2	65	36	10	230 320	6.6	101	63	10	230 660	10.0	133	87	5	231 000
3.3	65	36	10	230 330	6.7	101	63	10	230 670	10.2	133	87	1	231 020
3.4	70	39	10	230 340	6.8	109	69	10	230 680	10.5	133	87	1	231 050
3.5	70	39	10	230 350	6.9	109	69	10	230 690	11.0	142	94	1	231 100
3.6	70	39	10	230 360	7.0	109	69	10	230 700	11.5	142	94	1	231 150
3.7	70	39	10	230 370	7.1	109	69	10	230 710	12.0	151	101	1	231 200
3.8	75	43	10	230 380	7.2	109	69	10	230 720	12.5	151	101	1	231 250
3.9	75	43	10	230 390	7.3	109	69	10	230 730	13.0	151	101	1	231 300
4.0	75	43	10	230 400	7.4	109	69	10	230 740					
4.1	75	43	10	230 410	7.5	109	69	10	230 750					
4.2	75	43	10	230 420	7.6	117	75	10	230 760					
4.3	80	47	10	230 430	7.7	117	75	10	230 770					

## 23000 | Single packed items

Art.-Group **81**

In pouch  
Single packaging hangable (2 pieces up to Ø 4 mm)

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
1.0	34	12	2	230 100 01	4.0	75	43	2	230 400 01	6.8	109	69	1	230 680 01
1.5	40	18	2	230 150 01	4.1	75	43	1	230 410 01	7.0	109	69	1	230 700 01
2.0	49	24	2	230 200 01	4.2	75	43	1	230 420 01	7.5	109	69	1	230 750 01
2.5	57	30	2	230 250 01	4.5	80	47	1	230 450 01	8.0	117	75	1	230 800 01
3.0	61	33	2	230 300 01	4.8	86	52	1	230 480 01	8.5	117	75	1	230 850 01
3.1	65	36	2	230 310 01	5.0	86	52	1	230 500 01	9.0	125	81	1	230 900 01
3.2	65	36	2	230 320 01	5.5	93	57	1	230 550 01	9.5	125	81	1	230 950 01
3.3	65	36	2	230 330 01	6.0	93	57	1	230 600 01	10.0	133	87	1	231 000 01
3.5	70	39	2	230 350 01	6.5	101	63	1	230 650 01					

## Sets

Art.-Group **16**



60 023

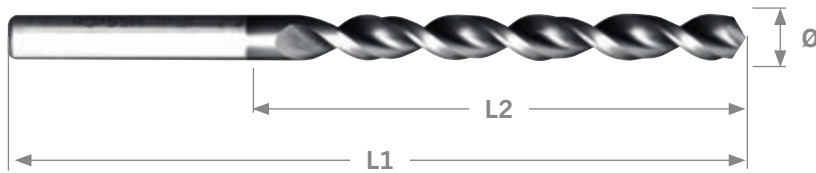


60 024

Content	Packaging	Art.-No.
Ø 1 - 10 / 0.5 mm increasing	19 pcs. in plastic box	60 023
Ø 1 - 13 / 0.5 mm increasing	25 pcs. in plastic box	60 024

# 32000 | Short multipurpose twist drill bit with straight shank HSS-Co 5% AlTiN DIN 338 Type UF-L

Art.-Group 28



## The multi-problem solver

- ▶ Best suited for deep drilling even with minimal amount of coolant
- ▶ AlTiN consists of aluminum (Al), titanium (Ti) and nitrogen (N)
- ▶ This coating has a much higher thermal insulation (900°C) and hardness (3300 - 3500 HV) than the TiN coating (550°C/2300 HV)
- ▶ Mainly used against extreme wear or when exposed to high temperature, e.g. in case of insufficient lubrication or without coolant
- ▶ Designed to drill: medium and long-chipping materials with a tensile strength up to 1,200 N/mm<sup>2</sup>, aluminum, copper, AlSi alloys, soft bronze, electrolytic copper, tough brass, stainless steels, titanium and titanium alloys

**Tolerance** H8  
**Material** HSS-Co 5%  
**Point grinding** PROJAHN standard  
**Point angle** 130°

**Web thinning** DIN 1412, shape UX  
**Web thickness** Thicker than normal  
**Tensile strength** 1,200 N/mm<sup>2</sup>  
**Web taper** Normal

**Helix angle** 40°  
**Constructional features** DIN 1414

Quadro pack with hanger



Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
1.5	40	18	10	32 015
1.6	43	20	10	32 016
1.7	43	20	10	32 017
1.8	46	22	10	32 018
1.9	46	22	10	32 019
2.0	49	24	10	32 020
2.1	49	24	10	32 021
2.2	53	27	10	32 022
2.3	53	27	10	32 023
2.4	57	30	10	32 024
2.5	57	30	10	32 025
2.6	57	30	10	32 026
2.7	61	33	10	32 027
2.8	61	33	10	32 028
2.9	61	33	10	32 029
3.0	61	33	10	32 030
3.1	65	36	10	32 031
3.2	65	36	10	32 032
3.3	65	36	10	32 033
3.4	70	39	10	32 034
3.5	70	39	10	32 035
3.6	70	39	10	32 036
3.7	70	39	10	32 037
3.8	75	43	10	32 038
3.9	75	43	10	32 039
4.0	75	43	10	32 040
4.1	75	43	10	32 041
4.2	75	43	10	32 042
4.3	80	47	10	32 043
4.4	80	47	10	32 044

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
4.5	80	47	10	32 045
4.6	80	47	10	32 046
4.7	80	47	10	32 047
4.8	86	52	10	32 048
4.9	86	52	10	32 049
5.0	86	52	10	32 050
5.1	86	52	10	32 051
5.2	86	52	10	32 052
5.3	86	52	10	32 053
5.4	93	57	10	32 054
5.5	93	57	10	32 055
5.6	93	57	10	32 056
5.7	93	57	10	32 057
5.8	93	57	10	32 058
5.9	93	57	10	32 059
6.0	93	57	10	32 060
6.1	101	63	10	32 061
6.2	101	63	10	32 062
6.3	101	63	10	32 063
6.4	101	63	10	32 064
6.5	101	63	10	32 065
6.6	101	63	10	32 066
6.7	101	63	10	32 067
6.8	109	69	10	32 068
6.9	109	69	10	32 069
7.0	109	69	10	32 070
7.1	109	69	10	32 071
7.2	109	69	10	32 072
7.3	109	69	10	32 073
7.4	109	69	10	32 074

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
7.5	109	69	10	32 075
7.6	117	75	10	32 076
7.7	117	75	10	32 077
7.8	117	75	10	32 078
7.9	117	75	10	32 079
8.0	117	75	10	32 080
8.1	117	75	10	32 081
8.2	117	75	10	32 082
8.3	117	75	10	32 083
8.4	117	75	10	32 084
8.5	117	75	10	32 085
8.6	125	81	10	32 086
8.7	125	81	10	32 087
8.8	125	81	10	32 088
8.9	125	81	10	32 089
9.0	125	81	10	32 090
9.1	125	81	10	32 091
9.2	125	81	10	32 092
9.3	125	81	10	32 093
9.4	125	81	10	32 094
9.5	125	81	10	32 095
9.6	133	87	10	32 096
9.7	133	87	10	32 097
9.8	133	87	10	32 098
9.9	133	87	10	32 099
10.0	133	87	10	32 100
10.2	133	87	5	32 102
10.5	133	87	5	32 105



# 32000 | Short multipurpose twist drill bit with straight shank HSS-Co 5% AlTiN DIN 338 Type UF-L

Art.-Group 28

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
11.0	142	94	5	32 110	13.0	151	101	5	32 130	15.0	169	114	1	32 150
11.5	142	94	5	32 115	13.5	160	108	5	32 135	15.5	178	120	1	32 155
12.0	151	101	5	32 120	14.0	160	108	5	32 140	16.0	178	120	1	32 160
12.5	151	101	5	32 125	14.5	169	114	1	32 145					



## Sets

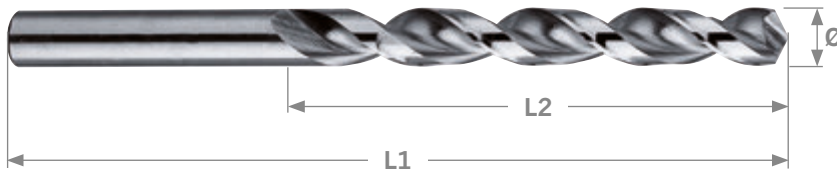
Art.-Group 16



Content	Packaging	Art.-No.
Ø 1 - 10 / 0.5 mm increasing	19 pcs. in metal box	60 321

# 34000 | Short multipurpose twist drill bit with straight shank HSS-Co 5% DIN 338 Type UF-L

Art.-Group 28



- ▶ Robust multipurpose drill bit with high heat resistance
- ▶ Very good chip removal
- ▶ Perfect for very deep drill holes
- ▶ To be used at NC and CNC machining centers as well as automatic lathes

- ▶ Designed to drill: medium and long-chipping materials with a tensile strength up to 1,200 N/mm<sup>2</sup>, aluminum, copper, AlSi alloys, soft bronze, electrolytic copper, tough brass, stainless steels, titanium and titanium alloys

**Tolerance** H8  
**Material** HSS-Co 5%  
**Point grinding** PROJAHN standard  
**Point angle** 130°

**Web thinning** DIN 1412, shape UX  
**Web thickness** Thicker than normal  
**Tensile strength** 1,200 N/mm<sup>2</sup>  
**Web taper** Normal

**Helix angle** 40°  
**Constructional features** DIN 1414

Quadro pack with hanger

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
1.5	40	18	10	34 015
1.6	43	20	10	34 016
1.7	43	20	10	34 017
1.8	46	22	10	34 018
1.9	46	22	10	34 019
2.0	49	24	10	34 020
2.1	49	24	10	34 021
2.2	53	27	10	34 022
2.3	53	27	10	34 023
2.4	57	30	10	34 024
2.5	57	30	10	34 025
2.6	57	30	10	34 026
2.7	61	33	10	34 027
2.8	61	33	10	34 028
2.9	61	33	10	34 029
3.0	61	33	10	34 030
3.1	65	36	10	34 031
3.2	65	36	10	34 032
3.3	65	36	10	34 033
3.4	70	39	10	34 034
3.5	70	39	10	34 035
3.6	70	39	10	34 036
3.7	70	39	10	34 037
3.8	75	43	10	34 038
3.9	75	43	10	34 039
4.0	75	43	10	34 040
4.1	75	43	10	34 041
4.2	75	43	10	34 042
4.3	80	47	10	34 043
4.4	80	47	10	34 044
4.5	80	47	10	34 045
4.6	80	47	10	34 046

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
4.7	80	47	10	34 047
4.8	86	52	10	34 048
4.9	86	52	10	34 049
5.0	86	52	10	34 050
5.1	86	52	10	34 051
5.2	86	52	10	34 052
5.3	86	52	10	34 053
5.4	93	57	10	34 054
5.5	93	57	10	34 055
5.6	93	57	10	34 056
5.7	93	57	10	34 057
5.8	93	57	10	34 058
5.9	93	57	10	34 059
6.0	93	57	10	34 060
6.1	101	63	10	34 061
6.2	101	63	10	34 062
6.3	101	63	10	34 063
6.4	101	63	10	34 064
6.5	101	63	10	34 065
6.6	101	63	10	34 066
6.7	101	63	10	34 067
6.8	109	69	10	34 068
6.9	109	69	10	34 069
7.0	109	69	10	34 070
7.1	109	69	10	34 071
7.2	109	69	10	34 072
7.3	109	69	10	34 073
7.4	109	69	10	34 074
7.5	109	69	10	34 075
7.6	117	75	10	34 076
7.7	117	75	10	34 077
7.8	117	75	10	34 078

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
7.9	117	75	10	34 079
8.0	117	75	10	34 080
8.1	117	75	10	34 081
8.2	117	75	10	34 082
8.3	117	75	10	34 083
8.4	117	75	10	34 084
8.5	117	75	10	34 085
8.6	125	81	10	34 086
8.7	125	81	10	34 087
8.8	125	81	10	34 088
8.9	125	81	10	34 089
9.0	125	81	10	34 090
9.1	125	81	10	34 091
9.2	125	81	10	34 092
9.3	125	81	10	34 093
9.4	125	81	10	34 094
9.5	125	81	10	34 095
9.6	133	87	10	34 096
9.7	133	87	10	34 097
9.8	133	87	10	34 098
9.9	133	87	10	34 099
10.0	133	87	10	34 100
10.2	133	87	5	34 102
10.5	133	87	5	34 105
11.0	142	94	5	34 110
11.5	142	94	5	34 115
12.0	151	101	5	34 120
12.5	151	101	5	34 125
13.0	151	101	5	34 130



# 34000 | Short multipurpose twist drill bit with straight shank HSS-Co 5% DIN 338 Type UF-L

Art.-Group 28

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
13.5	160	108	5	34 135	14.5	169	114	1	34 145	15.5	178	120	1	34 155
14.0	160	108	5	34 140	15.0	169	114	1	34 150	16.0	178	120	1	34 160



## Sets

Art.-Group 16



60 340

60 345

60 343

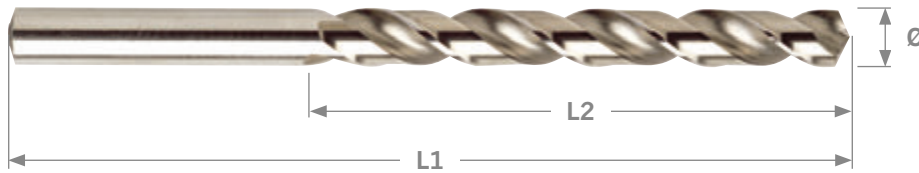
60 342

60 341

Content	Packaging	Art.-No.
Ø 1 - 10 / 0.5 mm increasing	19 pcs. in metal box	60 340
Ø 1 - 13 / 0.5 mm increasing	25 pcs. in metal box	60 345
Ø 1 - 10.5 / 0.5 mm increasing Core hole dimensions Ø 3.3 - 4.2 - 6.8 - 10.2 mm	24 pcs. in metal box	60 343
Ø 6 - 10 / 0.1 mm increasing	41 pcs. in metal box	60 342
Ø 1 - 5.9 / 0.1 mm increasing	50 pcs. in metal box	60 341

# 26000 | Short twist drill bit with straight shank HSS-Co 5% DIN 338 Type S SPEED

Art.-Group 21



## Precise and fast high performance drill bit

- ▶ High true-running accuracy
- ▶ High safety against fracture due to strong drill core
- ▶ Long tool life
- ▶ High heat resistance
- ▶ Ground from solid material
- ▶ Drilling depth up to about 5x diameter

- ▶ Designed to drill: steel up to 1,100N/mm<sup>2</sup>, stainless steel, hot and cold work steel, high-alloy steel, quenched and malleable steel, hardened steel, bearing steel, tool steel, spring steel, titanium and titanium alloy, brass, bronze long-chipping

<b>Tolerance</b>	H8	<b>Web thinning</b>	Split point	<b>Helix angle</b>	35°
<b>Material</b>	HSS-Co 5%	<b>Web thickness</b>	Reinforced	<b>Constructional features</b>	DIN 1414
<b>Point grinding</b>	Tapered finish	<b>Tensile strength</b>	1,100 N/mm <sup>2</sup>		
<b>Point angle</b>	130°	<b>Web taper</b>	Normal		

Quadro pack with hanger



Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
0.4	20	5	10	260 040	3.5	70	39	10	260 350	6.6	101	63	10	260 660
0.5	22	6	10	260 050	3.6	70	39	10	260 360	6.7	101	63	10	260 670
0.6	24	7	10	260 060	3.7	70	39	10	260 370	6.8	109	69	10	260 680
0.7	28	9	10	260 070	3.8	75	43	10	260 380	6.9	109	69	10	260 690
0.8	30	10	10	260 080	3.9	75	43	10	260 390	7.0	109	69	10	260 700
0.9	32	11	10	260 090	4.0	75	43	10	260 400	7.1	109	69	10	260 710
1.0	34	12	10	260 100	4.1	75	43	10	260 410	7.2	109	69	10	260 720
1.1	36	14	10	260 110	4.2	75	43	10	260 420	7.3	109	69	10	260 730
1.2	38	16	10	260 120	4.3	80	47	10	260 430	7.4	109	69	10	260 740
1.3	38	16	10	260 130	4.4	80	47	10	260 440	7.5	109	69	10	260 750
1.4	40	18	10	260 140	4.5	80	47	10	260 450	7.6	117	75	10	260 760
1.5	40	18	10	260 150	4.6	80	47	10	260 460	7.7	117	75	10	260 770
1.6	43	20	10	260 160	4.7	80	47	10	260 470	7.8	117	75	10	260 780
1.7	43	20	10	260 170	4.8	86	52	10	260 480	7.9	117	75	10	260 790
1.8	46	22	10	260 180	4.9	86	52	10	260 490	8.0	117	75	10	260 800
1.9	46	22	10	260 190	5.0	86	52	10	260 500	8.1	117	75	10	260 810
2.0	49	24	10	260 200	5.1	86	52	10	260 510	8.2	117	75	10	260 820
2.1	49	24	10	260 210	5.2	86	52	10	260 520	8.3	117	75	10	260 830
2.2	53	27	10	260 220	5.3	86	52	10	260 530	8.4	117	75	10	260 840
2.3	53	27	10	260 230	5.4	93	57	10	260 540	8.5	117	75	10	260 850
2.4	57	30	10	260 240	5.5	93	57	10	260 550	8.6	125	81	10	260 860
2.5	57	30	10	260 250	5.6	93	57	10	260 560	8.7	125	81	10	260 870
2.6	57	30	10	260 260	5.7	93	57	10	260 570	8.8	125	81	10	260 880
2.7	61	33	10	260 270	5.8	93	57	10	260 580	8.9	125	81	10	260 890
2.8	61	33	10	260 280	5.9	93	57	10	260 590	9.0	125	81	10	260 900
2.9	61	33	10	260 290	6.0	93	57	10	260 600	9.1	125	81	10	260 910
3.0	61	33	10	260 300	6.1	101	63	10	260 610	9.2	125	81	10	260 920
3.1	65	36	10	260 310	6.2	101	63	10	260 620	9.3	125	81	10	260 930
3.2	65	36	10	260 320	6.3	101	63	10	260 630	9.4	125	81	10	260 940
3.3	65	36	10	260 330	6.4	101	63	10	260 640	9.5	125	81	10	260 950
3.4	70	39	10	260 340	6.5	101	63	10	260 650	9.6	133	87	10	260 960

## 26000 | Short twist drill bit with straight shank HSS-Co 5% DIN 338 Type S SPEED

Art.-Group 21

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
9.7	133	87	10	260 970	10.7	142	94	5	261 070	11.8	142	94	5	261 180
9.8	133	87	10	260 980	10.8	142	94	5	261 080	12.0	151	101	5	261 200
9.9	133	87	10	260 990	11.0	142	94	5	261 100	12.1	151	101	5	261 210
10.0	133	87	10	261 000	11.1	142	94	5	261 110	12.2	151	101	5	261 220
10.1	133	87	5	261 010	11.2	142	94	5	261 120	12.3	151	101	5	261 230
10.2	133	87	5	261 020	11.3	142	94	5	261 130	12.5	151	101	5	261 250
10.3	133	87	5	261 030	11.5	142	94	5	261 150	12.8	151	101	5	261 280
10.5	133	87	5	261 050	11.6	142	94	5	261 160	13.0	151	101	5	261 300
10.6	133	87	5	261 060	11.7	142	94	5	261 170					

## 26000 | Single packed items

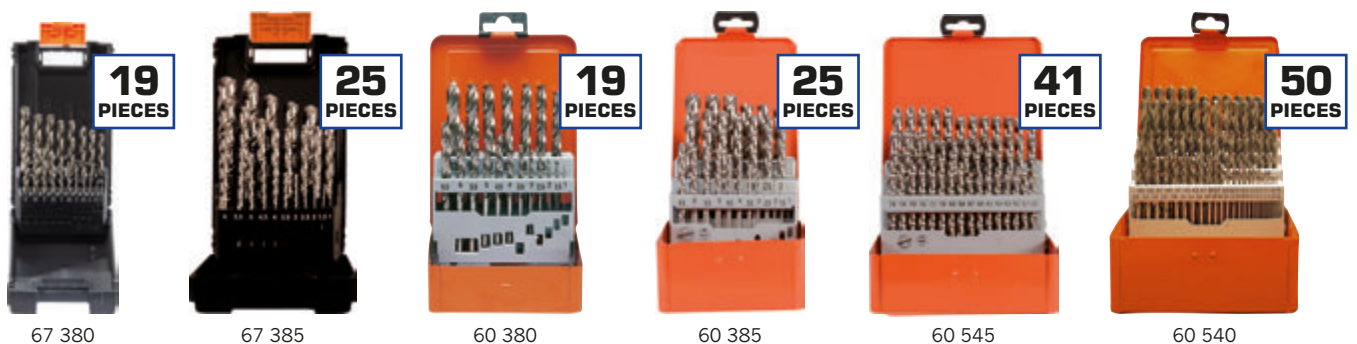
Art.-Group 21

In pouch  
Single packaging hangable (2 pieces up to Ø 4 mm)

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
1.0	34	12	2	260 100 01	4.5	80	47	1	260 450 01	9.0	125	81	1	260 900 01
1.5	40	18	2	260 150 01	4.8	86	52	1	260 480 01	9.5	125	81	1	260 950 01
2.0	49	24	2	260 200 01	5.0	86	52	1	260 500 01	10.0	133	87	1	261 000 01
2.5	57	30	2	260 250 01	5.5	93	57	1	260 550 01	10.2	133	87	1	261 020 01
3.0	61	33	2	260 300 01	6.0	93	57	1	260 600 01	10.5	133	87	1	261 050 01
3.1	65	36	2	260 310 01	6.5	101	63	1	260 650 01	11.0	142	94	1	261 100 01
3.2	65	36	2	260 320 01	6.8	109	69	1	260 680 01	11.5	142	94	1	261 150 01
3.3	65	36	2	260 330 01	7.0	109	69	1	260 700 01	12.0	151	101	1	261 200 01
3.5	70	39	2	260 350 01	7.5	109	69	1	260 750 01	12.5	151	101	1	261 250 01
4.0	75	43	2	260 400 01	8.0	117	75	1	260 800 01	13.0	151	101	1	261 300 01
4.1	75	43	1	260 410 01	8.5	117	75	1	260 850 01					
4.2	75	43	1	260 420 01										

## Sets

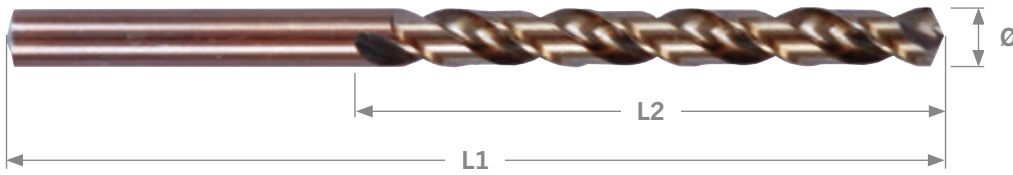
Art.-Group 16



Content	Packaging	Art.-No.
Ø 1 - 10 / 0.5 mm increasing	19 pcs. in plastic box	67 380
Ø 1 - 13 / 0.5 mm increasing	25 pcs. in plastic box	67 385
Ø 1 - 10 / 0.5 mm increasing	19 pcs. in metal box	60 380
Ø 1 - 13 / 0.5 mm increasing	25 pcs. in metal box	60 385
Ø 6 - 10 / 0.1 mm increasing	41 pcs. in metal box	60 545
Ø 1 - 5.9 / 0.1 mm increasing	50 pcs. in metal box	60 540

# 12500 | Short twist drill bit with straight shank HSS-G DIN 338 Type SN PROGRESSO

Art.-Group 75



### Ideal for free-hand drilling

- ▶ Low friction in the drill hole
  - ▶ High resistance due to 2-step amplified web taper
  - ▶ No center punch required
  - ▶ Optimized chamfer width - low heating of the drill bit
  - ▶ Reduction required feed force and torque
  - ▶ Quick and easy drilling directly into solid material
- ▶ Universal, very stable drill bit for all standard applications in materials with cutting ability
  - ▶ Designed to drill: steel and cast steel up to 1,000 N/mm<sup>2</sup> thermosets such as e.g. bakelite, pertinax, resopal, thermo-plastics such as e.g. PA, PE, PP, PVC, non-ferrous metals, aluminum, copper and brass

<b>Tolerance</b>	H8	<b>Web thinning</b>	Optimized split point	<b>Helix angle</b>	35 - 40°
<b>Material</b>	HSS-G	<b>Web thickness</b>	Thicker than normal	<b>Constructional features</b>	DIN 1414
<b>Point grinding</b>	Tapered finish	<b>Tensile strength</b>	1,000 N/mm <sup>2</sup>		
<b>Point angle</b>	130°	<b>Web taper</b>	Strong (2-stage amplified)		

Quadro pack with hanger



Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
1.0	34	12	10	125 010	4.0	75	43	10	125 040	7.0	109	69	10	125 070
1.1	36	14	10	125 011	4.1	75	43	10	125 041	7.1	109	69	10	125 071
1.2	38	16	10	125 012	4.2	75	43	10	125 042	7.2	109	69	10	125 072
1.3	38	16	10	125 013	4.3	80	47	10	125 043	7.3	109	69	10	125 073
1.4	40	17	10	125 014	4.4	80	47	10	125 044	7.4	109	69	10	125 074
1.5	40	17	10	125 015	4.5	80	47	10	125 045	7.5	109	69	10	125 075
1.6	43	20	10	125 016	4.6	80	47	10	125 046	7.6	117	75	10	125 076
1.7	43	20	10	125 017	4.7	80	47	10	125 047	7.7	117	75	10	125 077
1.8	46	22	10	125 018	4.8	86	52	10	125 048	7.8	117	75	10	125 078
1.9	46	22	10	125 019	4.9	86	52	10	125 049	7.9	117	75	10	125 079
2.0	49	24	10	125 020	5.0	86	52	10	125 050	8.0	117	75	10	125 080
2.1	49	24	10	125 021	5.1	86	52	10	125 051	8.1	117	75	10	125 081
2.2	53	27	10	125 022	5.2	86	52	10	125 052	8.2	117	75	10	125 082
2.3	53	27	10	125 023	5.3	86	52	10	125 053	8.3	117	75	10	125 083
2.4	57	30	10	125 024	5.4	93	57	10	125 054	8.4	117	75	10	125 084
2.5	57	30	10	125 025	5.5	93	57	10	125 055	8.5	117	75	10	125 085
2.6	57	30	10	125 026	5.6	93	57	10	125 056	8.6	125	81	10	125 086
2.7	61	33	10	125 027	5.7	93	57	10	125 057	8.7	125	81	10	125 087
2.8	61	33	10	125 028	5.8	93	57	10	125 058	8.8	125	81	10	125 088
2.9	61	33	10	125 029	5.9	93	57	10	125 059	8.9	125	81	10	125 089
3.0	61	33	10	125 030	6.0	93	57	10	125 060	9.0	125	81	10	125 090
3.1	65	36	10	125 031	6.1	101	63	10	125 061	9.1	125	81	10	125 091
3.2	65	36	10	125 032	6.2	101	63	10	125 062	9.2	125	81	10	125 092
3.3	65	36	10	125 033	6.3	101	63	10	125 063	9.3	125	81	10	125 093
3.4	70	39	10	125 034	6.4	101	63	10	125 064	9.4	125	81	10	125 094
3.5	70	39	10	125 035	6.5	101	63	10	125 065	9.5	125	81	10	125 095
3.6	70	39	10	125 036	6.6	101	63	10	125 066	9.6	133	87	10	125 096
3.7	70	39	10	125 037	6.7	101	63	10	125 067	9.7	133	87	10	125 097
3.8	75	43	10	125 038	6.8	109	69	10	125 068	9.8	133	87	10	125 098
3.9	75	43	10	125 039	6.9	109	69	10	125 069	9.9	133	87	10	125 099

# 12500 | Short twist drill bit with straight shank HSS-G DIN 338 Type SN PROGRESSO

Art.-Group 75

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
10.0	133	87	10	125 100	13.0	151	101	5	125 130	17.0	184	125	1	125 170
10.2	133	87	5	125 102	13.5	160	108	5	125 135	18.0	191	130	1	125 180
10.5	133	87	5	125 105	14.0	160	108	5	125 140	19.0	198	135	1	125 190
11.0	142	94	5	125 110	14.5	169	114	1	125 145	20.0	205	140	1	125 200
11.5	142	94	5	125 115	15.0	169	114	1	125 150					
12.0	151	101	5	125 120	16.0	178	120	1	125 160					
12.5	151	101	5	125 125										

Reduced shank: 13.5 mm - 20.0 mm = Ø 13.0 mm

## 12500 | Single packed items

Art.-Group 75

In pouch

Single packaging hangable (2 pieces up to Ø 4 mm)

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
1.0	34	12	2	125 010 01	4.5	80	47	1	125 045 01	9.0	125	81	1	125 090 01
1.5	40	18	2	125 015 01	4.8	86	52	1	125 048 01	9.5	125	81	1	125 095 01
2.0	49	24	2	125 020 01	5.0	86	52	1	125 050 01	10.0	133	87	1	125 100 01
2.5	57	30	2	125 025 01	5.5	93	57	1	125 055 01	10.2	133	87	1	125 102 01
3.0	61	33	2	125 030 01	6.0	93	57	1	125 060 01	10.5	133	87	1	125 105 01
3.1	65	36	2	125 031 01	6.5	101	63	1	125 065 01	11.0	142	94	1	125 110 01
3.2	65	36	2	125 032 01	6.8	109	69	1	125 068 01	11.5	142	94	1	125 115 01
3.3	65	36	2	125 033 01	7.0	109	69	1	125 070 01	12.0	151	101	1	125 120 01
3.5	70	39	2	125 035 01	7.5	109	69	1	125 075 01	12.5	151	101	1	125 125 01
4.0	75	43	2	125 040 01	8.0	117	75	1	125 080 01	13.0	151	101	1	125 130 01
4.1	75	43	1	125 041 01	8.5	117	75	1	125 085 01					
4.2	75	43	1	125 042 01										

## Sets

Art.-Group 16



60 021



60 022

Content	Packaging	Art.-No.
Ø 1 - 10 / 0.5 mm increasing	19 pcs. in plastic box	60 021
Ø 1 - 13 / 0.5 mm increasing	25 pcs. in plastic box	60 022

# 25000 | Short twist drill bit with straight shank HSS-Co 5% DIN 338 Type VA ECO

Art.-Group 20



- ▶ Cobalt alloyed twist drill bit according to DIN 338 with straight shank
- ▶ 135° split point from Ø 3 mm

- ▶ Designed to drill: steel and cast steel up to 1,100 N/mm<sup>2</sup>, stainless and acid-resistant steels, tool steels, spring steels as well as non-ferrous metals

<b>Tolerance</b>	h8	<b>Web thinning</b>	Split point form C	<b>Helix angle</b>	Normal
<b>Material</b>	HSS-Co 5%	<b>Web thickness</b>	Normal	<b>Constructional features</b>	DIN 1414
<b>Point grinding</b>	Tapered finish	<b>Tensile strength</b>	1,100 N/mm <sup>2</sup>		
<b>Point angle</b>	135°	<b>Web taper</b>	Normal		



Quadro pack with hanger

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
1.0	34	12	10	250 100	4.4	80	47	10	250 440	7.8	117	75	10	250 780
1.1	36	14	10	250 110	4.5	80	47	10	250 450	7.9	117	75	10	250 790
1.2	38	16	10	250 120	4.6	80	47	10	250 460	8.0	117	75	10	250 800
1.3	38	16	10	250 130	4.7	80	47	10	250 470	8.1	117	75	10	250 810
1.4	40	18	10	250 140	4.8	86	52	10	250 480	8.2	117	75	10	250 820
1.5	40	18	10	250 150	4.9	86	52	10	250 490	8.3	117	75	10	250 830
1.6	43	20	10	250 160	5.0	86	52	10	250 500	8.4	117	75	10	250 840
1.7	43	20	10	250 170	5.1	86	52	10	250 510	8.5	117	75	10	250 850
1.8	46	22	10	250 180	5.2	86	52	10	250 520	8.6	125	81	10	250 860
1.9	46	22	10	250 190	5.3	86	52	10	250 530	8.7	125	81	10	250 870
2.0	49	24	10	250 200	5.4	93	57	10	250 540	8.8	125	81	10	250 880
2.1	49	24	10	250 210	5.5	93	57	10	250 550	8.9	125	81	10	250 890
2.2	53	27	10	250 220	5.6	93	57	10	250 560	9.0	125	81	10	250 900
2.3	53	27	10	250 230	5.7	93	57	10	250 570	9.1	125	81	10	250 910
2.4	57	30	10	250 240	5.8	93	57	10	250 580	9.2	125	81	10	250 920
2.5	57	30	10	250 250	5.9	93	57	10	250 590	9.3	125	81	10	250 930
2.6	57	30	10	250 260	6.0	93	57	10	250 600	9.4	125	81	10	250 940
2.7	61	33	10	250 270	6.1	101	63	10	250 610	9.5	125	81	10	250 950
2.8	61	33	10	250 280	6.2	101	63	10	250 620	9.6	133	87	10	250 960
2.9	61	33	10	250 290	6.3	101	63	10	250 630	9.7	133	87	10	250 970
3.0	61	33	10	250 300	6.4	101	63	10	250 640	9.8	133	87	10	250 980
3.1	65	36	10	250 310	6.5	101	63	10	250 650	9.9	133	87	10	250 990
3.2	65	36	10	250 320	6.6	101	63	10	250 660	10.0	133	87	10	251 000
3.3	65	36	10	250 330	6.7	101	63	10	250 670	10.2	133	87	5	251 020
3.4	70	39	10	250 340	6.8	109	69	10	250 680	10.5	133	87	5	251 050
3.5	70	39	10	250 350	6.9	109	69	10	250 690	11.0	142	94	5	251 100
3.6	70	39	10	250 360	7.0	109	69	10	250 700	11.5	142	94	5	251 150
3.7	70	39	10	250 370	7.1	109	69	10	250 710	12.0	151	101	5	251 200
3.8	75	43	10	250 380	7.2	109	69	10	250 720	12.5	151	101	5	251 250
3.9	75	43	10	250 390	7.3	109	69	10	250 730	13.0	151	101	5	251 300
4.0	75	43	10	250 400	7.4	109	69	10	250 740					
4.1	75	43	10	250 410	7.5	109	69	10	250 750					
4.2	75	43	10	250 420	7.6	117	75	10	250 760					
4.3	80	47	10	250 430	7.7	117	75	10	250 770					



## 28000 | Single packed items

In pouch

Single packaging hangable (2 pieces up to Ø 4 mm)

Art.-Group 20

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
1.0	34	12	2	28 010	4.5	80	47	1	28 045	9.0	125	81	1	28 090
1.5	40	18	2	28 015	4.8	86	52	1	28 048	9.5	125	81	1	28 095
2.0	49	24	2	28 020	5.0	86	52	1	28 050	10.0	133	87	1	28 100
2.5	57	30	2	28 025	5.5	93	57	1	28 055	10.2	133	87	1	28 102
3.0	61	33	2	28 030	6.0	93	57	1	28 060	10.5	133	87	1	28 105
3.1	65	36	2	28 031	6.5	101	63	1	28 065	11.0	142	94	1	28 110
3.2	65	36	2	28 032	6.8	109	69	1	28 068	11.5	142	94	1	28 115
3.3	65	36	2	28 033	7.0	109	69	1	28 070	12.0	151	101	1	28 120
3.5	70	39	2	28 035	7.5	109	69	1	28 075	12.5	151	101	1	28 125
4.0	75	43	2	28 040	8.0	117	75	1	28 080	13.0	151	101	1	28 130
4.1	75	43	1	28 041	8.5	117	75	1	28 085					
4.2	75	43	1	28 042										

## Sets

Art.-Group 16

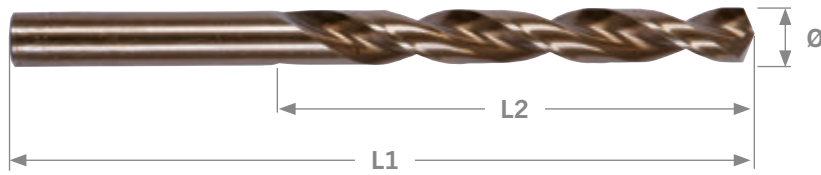


Content	Packaging	Art.-No.
Ø 1 - 10 / 0.5 mm increasing	19 pcs. in plastic box	67 381
Ø 1 - 13 / 0.5 mm increasing	25 pcs. in plastic box	67 386
Ø 1 - 10 / 0.5 mm increasing	19 pcs. in metal box	60 381
Ø 1 - 13 / 0.5 mm increasing	25 pcs. in metal box	60 386
Ø 1 - 10 / 0.5 mm increasing Core hole dimensions Ø 3.3 - 4.2 - 6.8 - 10.2 mm	24 pcs. in metal box	60 383
5x Ø 2 - 2.5 - 3 - 3.5 mm 3x Ø 4 - 4.5 - 5 - 5.5 mm 2x Ø 6 - 6.5 mm	36 pcs. in metal box	60 668*
5x Ø 1.0 - 5.0 / 0.5 mm increasing 3x Ø 5.5 - 7.5 / 0.5 mm increasing 2x Ø 8.0 - 10.0 / 0.5 mm increasing	70 pcs. in metal case	60 643
10x Ø 1 - 8 / 0.5 mm increasing 5x Ø 8.5 - 10 / 0.5 mm increasing	170 pcs. in metal case	60 613
10x Ø 1 - 8 / 0.5 mm increasing 5x Ø 8.5 - 10 / 0.5 mm increasing	170 pcs. in plastic case	67 613

\* Delivery while stocks last

# 25500 | Short twist drill bit with straight shank HSS-Co 5% DIN 338 Type N BASIC

Art.-Group 92



- ▶ Twist drill bit according to DIN 338 type N with straight shank
- ▶ 135° split point from Ø 3 mm

- ▶ Designed to drill: steel and cast steel up to 1,100 N/mm<sup>2</sup>, stainless steels, tool steels, spring steels, non-ferrous metals and plastics

<b>Tolerance</b>	h8	<b>Web thinning</b>	Split point form C	<b>Helix angle</b>	Normal
<b>Material</b>	HSS-Co 5%	<b>Web thickness</b>	Normal	<b>Constructional features</b>	DIN 1414
<b>Point grinding</b>	Tapered finish	<b>Tensile strength</b>	1,100 N/mm <sup>2</sup>		
<b>Point angle</b>	135°	<b>Web taper</b>	Normal		

Quadro pack with hanger



Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
1.0	34	12	10	255 010	4.8	86	52	10	255 048	8.5	117	75	10	255 085
1.5	40	18	10	255 015	5.0	86	52	10	255 050	9.0	125	81	10	255 090
2.0	49	24	10	255 020	5.1	86	52	10	255 051	9.5	125	81	10	255 095
2.5	57	30	10	255 025	5.2	86	52	10	255 052	10.0	133	87	10	255 100
3.0	61	33	10	255 030	5.5	93	57	10	255 055	10.2	133	87	5	255 102
3.1	65	36	10	255 031	6.0	93	57	10	255 060	10.5	133	87	5	255 105
3.2	65	36	10	255 032	6.2	101	63	10	255 062	11.0	142	94	5	255 110
3.3	65	36	10	255 033	6.5	101	63	10	255 065	11.5	142	94	5	255 115
3.5	70	39	10	255 035	6.8	109	69	10	255 068	12.0	151	101	5	255 120
3.8	75	43	10	255 038	7.0	109	69	10	255 070	12.5	151	101	5	255 125
4.0	75	43	10	255 040	7.5	109	69	10	255 075	13.0	151	101	5	255 130
4.1	75	43	10	255 041	8.0	117	75	10	255 080					
4.2	75	43	10	255 042	8.2	117	75	10	255 082					
4.5	80	47	10	255 045										

# Sets

Art.-Group 16



67 319



67 379



60 319



60 379



60 617

## Content

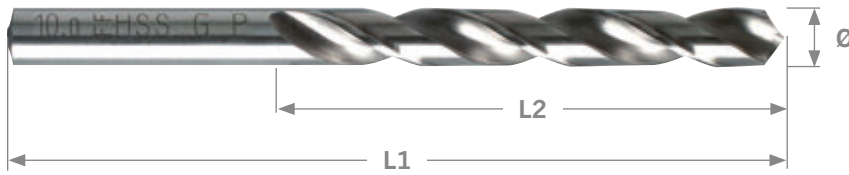
## Packaging

## Art.-No.

Ø 1 - 10 / 0.5 mm increasing	19 pcs. in plastic box	67 319
Ø 1 - 13 / 0.5 mm increasing	25 pcs. in plastic box	67 379
Ø 1 - 10 / 0.5 mm increasing	19 pcs. in metal box	60 319
Ø 1 - 13 / 0.5 mm increasing	25 pcs. in metal box	60 379
10x Ø 1 - 8 / 0.5 mm increasing 5x Ø 8.5 - 10 / 0.5 mm increasing	170 pcs. in metal case	60 617

# 14000 | Short twist drill bit with straight shank HSS-G DIN 338 Type N TURBO

Art.-Group 14



## The twist drill bit with the TURBO tip

- ▶ Instant centering without center punching (from Ø 3.0 mm)
- ▶ Accurate and round holes with every drilling
- ▶ High true-running accuracy
- ▶ Reduction required feed force and torque
- ▶ High resistance against breaking forces
- ▶ Long tool life
- ▶ Suitable for standard drilling operations in all common material
- ▶ Designed to drill: steel up to a maximum of 900 N/mm<sup>2</sup>, cast steel alloyed and unalloyed, gray cast iron, malleable cast iron, sintered iron, nodular cast iron, graphite, bronze, tough brass, aluminum short chipping

<b>Tolerance</b>	h8	<b>Web thinning</b>	Form A according to DIN 1412 starting at Ø 3 mm	<b>Helix angle</b>	Normal
<b>Material</b>	HSS-G	<b>Web thickness</b>	Normal	<b>Constructional features</b>	DIN 1414
<b>Point grinding</b>	Tapered finish	<b>Tensile strength</b>	900 N/mm <sup>2</sup>		
<b>Point angle</b>	118°	<b>Web taper</b>	Normal		

Quadro pack with hanger

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
0.3	19	3	10	140 030	3.7	70	39	10	140 370	7.0	109	69	10	140 700
0.4	20	5	10	140 040	3.8	75	43	10	140 380	7.1	109	69	10	140 710
0.5	22	6	10	140 050	3.9	75	43	10	140 390	7.2	109	69	10	140 720
0.6	24	7	10	140 060	4.0	75	43	10	140 400	7.3	109	69	10	140 730
0.7	28	9	10	140 070	4.1	75	43	10	140 410	7.4	109	69	10	140 740
0.8	30	10	10	140 080	4.2	75	43	10	140 420	7.5	109	69	10	140 750
0.9	32	11	10	140 090	4.3	80	47	10	140 430	7.6	117	75	10	140 760
1.0	34	12	10	140 100	4.4	80	47	10	140 440	7.7	117	75	10	140 770
1.1	36	14	10	140 110	4.5	80	47	10	140 450	7.8	117	75	10	140 780
1.2	38	16	10	140 120	4.6	80	47	10	140 460	7.9	117	75	10	140 790
1.3	38	16	10	140 130	4.7	80	47	10	140 470	8.0	117	75	10	140 800
1.4	40	18	10	140 140	4.8	86	52	10	140 480	8.1	117	75	10	140 810
1.5	40	18	10	140 150	4.9	86	52	10	140 490	8.2	117	75	10	140 820
1.6	43	20	10	140 160	5.0	86	52	10	140 500	8.3	117	75	10	140 830
1.7	43	20	10	140 170	5.1	86	52	10	140 510	8.4	117	75	10	140 840
1.8	46	22	10	140 180	5.2	86	52	10	140 520	8.5	117	75	10	140 850
1.9	46	22	10	140 190	5.3	86	52	10	140 530	8.6	125	81	10	140 860
2.0	49	24	10	140 200	5.4	93	57	10	140 540	8.7	125	81	10	140 870
2.1	49	24	10	140 210	5.5	93	57	10	140 550	8.8	125	81	10	140 880
2.2	53	27	10	140 220	5.6	93	57	10	140 560	8.9	125	81	10	140 890
2.3	53	27	10	140 230	5.7	93	57	10	140 570	9.0	125	81	10	140 900
2.4	57	30	10	140 240	5.8	93	57	10	140 580	9.1	125	81	10	140 910
2.5	57	30	10	140 250	5.9	93	57	10	140 590	9.2	125	81	10	140 920
2.6	57	30	10	140 260	6.0	93	57	10	140 600	9.3	125	81	10	140 930
2.7	61	33	10	140 270	6.1	101	63	10	140 610	9.4	125	81	10	140 940
2.8	61	33	10	140 280	6.2	101	63	10	140 620	9.5	125	81	10	140 950
2.9	61	33	10	140 290	6.3	101	63	10	140 630	9.6	133	87	10	140 960
3.0	61	33	10	140 300	6.4	101	63	10	140 640	9.7	133	87	10	140 970
3.1	65	36	10	140 310	6.5	101	63	10	140 650	9.8	133	87	10	140 980
3.2	65	36	10	140 320	6.6	101	63	10	140 660	9.9	133	87	10	140 990
3.3	65	36	10	140 330	6.7	101	63	10	140 670	10.0	133	87	10	141 000
3.4	70	39	10	140 340	6.8	109	69	10	140 680	10.1	133	87	5	141 010
3.5	70	39	10	140 350	6.9	109	69	10	140 690	10.2	133	87	5	141 020
3.6	70	39	10	140 360						10.3	133	87	5	141 030

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
10.4	133	87	5	141 040
10.5	133	87	5	141 050
10.6	133	87	5	141 060
10.7	142	97	5	141 070
10.8	142	97	5	141 080
10.9	142	97	5	141 090
11.0	142	94	5	141 100
11.1	142	94	5	141 110
11.2	142	94	5	141 120
11.3	142	94	5	141 130
11.4	142	94	5	141 140
11.5	142	94	5	141 150

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
11.6	142	94	5	141 160
11.7	142	94	5	141 170
11.8	142	94	5	141 180
11.9	151	101	5	141 190
12.0	151	101	5	141 200
12.1	151	101	5	141 210
12.2	151	101	5	141 220
12.3	151	101	5	141 230
12.4	151	101	5	141 240
12.5	151	101	5	141 250
12.6	151	101	5	141 260
12.7	151	101	5	141 270

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
12.8	151	101	5	141 280
12.9	151	101	5	141 290
13.0	151	101	5	141 300
13.5	160	108	5	141 350
14.0	160	108	5	141 400
14.5	169	114	1	141 450
15.0	169	114	1	141 500
15.5	178	120	1	141 550
16.0	178	120	1	141 600

## 16000-10 | Single packed items

In pouch

Single packaging hangable (2 pieces up to Ø 4 mm)

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
1.0	34	12	2	16 010-10
1.5	40	18	2	16 015-10
2.0	49	24	2	16 020-10
2.5	57	30	2	16 025-10
3.0	61	33	2	16 030-10
3.1	65	36	2	16 031-10
3.2	65	36	2	16 032-10
3.5	70	39	2	16 035-10
4.0	75	43	2	16 040-10
4.1	75	43	1	16 041-10
4.2	75	43	1	16 042-10
4.5	80	47	1	16 045-10

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
4.8	86	52	1	16 048-10
5.0	86	52	1	16 050-10
5.5	93	57	1	16 055-10
6.0	93	57	1	16 060-10
6.5	101	63	1	16 065-10
6.8	109	69	1	16 068-10
7.0	109	69	1	16 070-10
7.5	109	69	1	16 075-10
8.0	117	75	1	16 080-10
8.5	117	75	1	16 085-10

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
9.0	125	81	1	16 090-10
9.5	125	81	1	16 095-10
10.0	133	87	1	16 100-10
10.2	133	87	1	16 102-10
10.5	133	87	1	16 105-10
11.0	142	94	1	16 110-10
11.5	142	94	1	16 115-10
12.0	151	101	1	16 120-10
12.5	151	101	1	16 125-10
13.0	151	101	1	16 130-10

## Sets



Content	Packaging	Art.-No.
Ø 1 - 10 / 0.5 mm increasing	19 pcs. in plastic box	67 314
Ø 1 - 13 / 0.5 mm increasing	25 pcs. in plastic box	67 374
Ø 1 - 10 / 0.5 mm increasing	19 pcs. in metal box	60 314
Ø 1 - 13 / 0.5 mm increasing	25 pcs. in metal box	60 374
Ø 1 - 10.5 / 0.5 mm increasing, core hole dimensions Ø 3.3 - 4.2 - 6.8 - 10.2 mm	24 pcs. in metal box	60 424
Ø 6 - 10 / 0.1 mm increasing	41 pcs. in metal box	60 445
Ø 1 - 5.9 / 0.1 mm increasing	50 pcs. in metal box	60 440
10x Ø 1 - 8 / 0.5 mm increasing 5x Ø 8.5 - 10 / 0.5 mm increasing	170 pcs. in metal case	60 614

# 29000 | Short twist drill bit with straight shank HSS-G TiN DIN 338 Type SN PROGRESSO

Art.-Group 29



## The twist drill bit with an excellent durability

- ▶ The TiN-coated head extends the tool lifetime at same cutting parameters or allows even higher cutting parameters to increase productivity
- ▶ The drill bit has all the positive characteristics of a drill bit with a complete TiN coating
- ▶ Up to a four times longer tool lifetime compared to uncoated drill bits
- ▶ Designed to drill: materials up to 1,000 N/mm<sup>2</sup>, cast steel, gray cast iron, malleable cast iron, sintered iron, nickel silver and graphite

<b>Tolerance</b>	H8	<b>Web thinning</b>	Optimized split point	<b>Helix angle</b>	35 – 40°
<b>Material</b>	HSS-G	<b>Web thickness</b>	Thicker than normal	<b>Constructional features</b>	DIN 1414
<b>Point grinding</b>	Tapered finish	<b>Tensile strength</b>	1,000 N/mm <sup>2</sup>		
<b>Point angle</b>	130°	<b>Web taper</b>	Strong (2-stage amplified)		

Quadro pack with hanger



Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
1.0	34	12	10	29 010	4.4	80	47	10	29 044	7.0	109	69	10	29 070
1.5	40	18	10	29 015	4.5	80	47	10	29 045	7.1	109	69	10	29 071
					4.6	80	47	10	29 046	7.2	109	69	10	29 072
2.0	49	24	10	29 020	4.7	80	47	10	29 047	7.3	109	69	10	29 073
2.1	49	24	10	29 021	4.8	86	52	10	29 048	7.4	109	69	10	29 074
2.2	53	27	10	29 022	4.9	86	52	10	29 049	7.5	109	69	10	29 075
2.3	53	27	10	29 023						7.6	117	75	10	29 076
2.4	57	30	10	29 024	5.0	86	52	10	29 050	7.7	117	75	10	29 077
2.5	57	30	10	29 025	5.1	86	52	10	29 051	7.8	117	75	10	29 078
2.6	57	30	10	29 026	5.2	86	52	10	29 052	7.9	117	75	10	29 079
2.7	61	33	10	29 027	5.3	86	52	10	29 053					
2.8	61	33	10	29 028	5.4	93	57	10	29 054	8.0	117	75	10	29 080
2.9	61	33	10	29 029	5.5	93	57	10	29 055	8.5	117	75	10	29 085
					5.6	93	57	10	29 056					
3.0	61	33	10	29 030	5.7	93	57	10	29 057	9.0	125	81	10	29 090
3.1	65	36	10	29 031	5.8	93	57	10	29 058	9.5	125	81	10	29 095
3.2	65	36	10	29 032	5.9	93	57	10	29 059					
3.3	65	36	10	29 033						10.0	133	87	10	29 100
3.4	70	39	10	29 034	6.0	93	57	10	29 060	10.2	133	87	5	29 102
3.5	70	39	10	29 035	6.1	101	63	10	29 061	10.5	133	87	5	29 105
3.6	70	39	10	29 036	6.2	101	63	10	29 062					
3.7	70	39	10	29 037	6.3	101	63	10	29 063	11.0	142	94	5	29 110
3.8	75	43	10	29 038	6.4	101	63	10	29 064	11.5	142	94	5	29 115
3.9	75	43	10	29 039	6.5	101	63	10	29 065					
					6.6	101	63	10	29 066	12.0	151	101	5	29 120
4.0	75	43	10	29 040	6.7	101	63	10	29 067	12.5	151	101	5	29 125
4.1	75	43	10	29 041	6.8	109	69	10	29 068					
4.2	75	43	10	29 042	6.9	109	69	10	29 069	13.0	151	101	5	29 130
4.3	80	47	10	29 043										

**Sets**

Art-Group 16



67 391



67 396

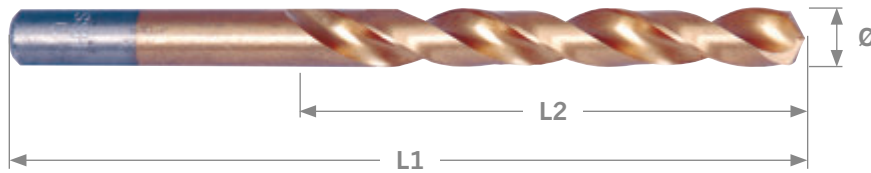


Content	Packaging	Art.-No.
Ø 1 - 10 / 0.5 mm increasing	19 pcs. in plastic box	67 391
Ø 1 - 13 / 0.5 mm increasing	25 pcs. in plastic box	67 396



# 29500 ECO | Short twist drill bit with straight shank HSS-G TiN DIN 338 Type N ECO

Art.-Group 78



## The twist drill bit with a longer lifetime

- ▶ Twist drill bit according to DIN 338 type N with straight shank
- ▶ Specially treated surface with titanium nitride coating TiN
- ▶ 135° split point from Ø 3 mm
- ▶ Designed to drill: steel, cast steel alloyed and unalloyed, gray cast iron, malleable cast iron, sintered iron, nodular cast iron, graphite, bronze, brass tough

<b>Tolerance</b>	h8	<b>Web thinning</b>	Split point	<b>Helix angle</b>	Normal
<b>Material</b>	HSS-G	<b>Web thickness</b>	Normal	<b>Constructional features</b>	DIN 1414
<b>Point grinding</b>	Tapered finish	<b>Tensile strength</b>	900 N/mm <sup>2</sup>		
<b>Point angle</b>	135°	<b>Web taper</b>	Normal		

Quadro pack with hanger

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
1.0	34	12	10	295 010	5.0	86	52	10	295 050	9.0	125	81	10	295 090
1.5	40	18	10	295 015	5.2	86	52	10	295 052	9.5	125	81	10	295 095
2.0	49	24	10	295 020	5.5	93	57	10	295 055	10.0	133	87	10	295 100
2.5	57	30	10	295 025	6.0	93	57	10	295 060	10.2	133	87	5	295 102
3.0	61	33	10	295 030	6.5	101	63	10	295 065	10.5	133	87	5	295 105
3.2	65	36	10	295 032	6.8	109	69	10	295 068	11.0	142	94	5	295 110
3.5	70	39	10	295 035	7.0	109	69	10	295 070	11.5	142	94	5	295 115
4.0	75	43	10	295 040	7.5	109	69	10	295 075	12.0	151	101	5	295 120
4.2	75	43	10	295 042	8.0	117	75	10	295 080	12.5	151	101	5	295 125
4.5	80	47	10	295 045	8.5	117	75	10	295 085	13.0	151	101	5	295 130

## Sets

Art.-Group 16



Content	Packaging	Art.-No.
Ø 1.5 - 2 - 2.5 - 3 - 3.2 - 3.5 - 4 - 4.5 - 4.8 - 5 - 5.5 - 6 - 6.5 mm	13 pcs. in plastic box	67 029
Ø 1 - 10 / 0.5 mm increasing	19 pcs. in metal box	60 390
Ø 1 - 13 / 0.5 mm increasing	25 pcs. in metal box	60 395
10x Ø 1 - 8 / 0.5 mm increasing 5x Ø 8.5 - 10 / 0.5 mm increasing	170 pcs. in metal case	6065_TIN



# 18000L | Short twist drill bit with straight shank HSS-G DIN 338 Type N Left-hand cutting

Art.-Group 76



## The left-hand cutting drill bit for drilling out broken screws

- ▶ Twist drill bit according to DIN 338 type N, left-hand cutting with straight shank
- ▶ Short version, profile ground
- ▶ 118° tapered finish

<b>Tolerance</b>	H8	<b>Web thinning</b>	Without	<b>Helix angle</b>	Normal
<b>Material</b>	HSS-G	<b>Web thickness</b>	Normal	<b>Constructional features</b>	DIN 1414
<b>Point grinding</b>	Tapered finish	<b>Tensile strength</b>	900 N/mm <sup>2</sup>		
<b>Point angle</b>	118°	<b>Web taper</b>	Normal		

Quadro pack with hanger

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
1.0	34	12	10	180 10L
1.5	40	18	10	180 15L
2.0	49	24	10	180 20L
2.5	57	30	10	180 25L
3.0	61	33	10	180 30L
3.2	65	36	10	180 32L
3.5	70	39	10	180 35L
4.0	75	43	10	180 40L
4.2	75	43	10	180 42L
4.5	80	47	10	180 45L

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
5.0	86	52	10	180 50L
5.5	93	57	10	180 55L
6.0	93	57	10	180 60L
6.5	101	63	10	180 65L
6.8	109	69	10	180 68L
7.0	109	69	10	180 70L
7.5	109	69	10	180 75L
8.0	117	75	10	180 80L
8.5	117	75	10	180 85L
9.0	125	81	10	180 90L

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
9.5	125	81	10	180 95L
10.0	133	87	10	181 00L
10.2	133	87	5	181 02L
10.5	133	87	5	181 05L
11.0	142	94	5	181 10L
11.5	142	94	5	181 15L
12.0	151	101	5	181 20L
12.5	151	101	5	181 25L
13.0	151	101	5	181 30L

## Sets

Art.-Group 16



603 15L

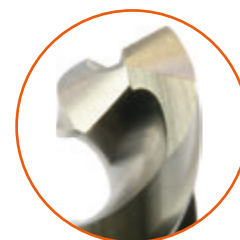


603 75L

Content	Packaging	Art.-No.
Ø 1 - 10 / 0.5 mm increasing	19 pcs. in plastic box	603 15L
Ø 1 - 13 / 0.5 mm increasing	25 pcs. in plastic box	603 75L

# 18000 | Short twist drill bit with straight shank HSS-G DIN 338 Type N ECO

Art.-Group 32



- ▶ Twist drill bit according to DIN 338 type N with straight shank
- ▶ Short version, profile ground
- ▶ 135° split point from Ø 3 mm

- ▶ Designed to drill: steel, cast steel alloyed and unalloyed as well as aluminum and plastics

<b>Tolerance</b>	H8	<b>Web thinning</b>	Split point	<b>Helix angle</b>	Normal
<b>Material</b>	HSS-G	<b>Web thickness</b>	Thicker than normal	<b>Constructional features</b>	DIN 1414
<b>Point grinding</b>	Tapered finish	<b>Tensile strength</b>	900 N/mm <sup>2</sup>		
<b>Point angle</b>	135°	<b>Web taper</b>	Normal		

Quadro pack with hanger



Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
1.0	34	12	10	18 010
1.1	36	14	10	18 011
1.2	38	16	10	18 012
1.3	38	16	10	18 013
1.4	40	18	10	18 014
1.5	40	18	10	18 015
1.6	43	20	10	18 016
1.7	43	20	10	18 017
1.8	46	22	10	18 018
1.9	46	22	10	18 019
2.0	49	24	10	18 020
2.1	49	24	10	18 021
2.2	53	27	10	18 022
2.3	53	27	10	18 023
2.4	57	30	10	18 024
2.5	57	30	10	18 025
2.6	57	30	10	18 026
2.7	61	33	10	18 027
2.8	61	33	10	18 028
2.9	61	33	10	18 029
3.0	61	33	10	18 030
3.1	65	36	10	18 031
3.2	65	36	10	18 032
3.3	65	36	10	18 033
3.4	70	39	10	18 034
3.5	70	39	10	18 035
3.6	70	39	10	18 036
3.7	70	39	10	18 037
3.8	75	43	10	18 038
3.9	75	43	10	18 039
4.0	75	43	10	18 040
4.1	75	43	10	18 041
4.2	75	43	10	18 042
4.3	80	47	10	18 043

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
4.4	80	47	10	18 044
4.5	80	47	10	18 045
4.6	80	47	10	18 046
4.7	80	47	10	18 047
4.8	86	52	10	18 048
4.9	86	52	10	18 049
5.0	86	52	10	18 050
5.1	86	52	10	18 051
5.2	86	52	10	18 052
5.3	86	52	10	18 053
5.4	93	57	10	18 054
5.5	93	57	10	18 055
5.6	93	57	10	18 056
5.7	93	57	10	18 057
5.8	93	57	10	18 058
5.9	93	57	10	18 059
6.0	93	57	10	18 060
6.1	101	63	10	18 061
6.2	101	63	10	18 062
6.3	101	63	10	18 063
6.4	101	63	10	18 064
6.5	101	63	10	18 065
6.6	101	63	10	18 066
6.7	101	63	10	18 067
6.8	109	69	10	18 068
6.9	109	69	10	18 069
7.0	109	69	10	18 070
7.1	109	69	10	18 071
7.2	109	69	10	18 072
7.3	109	69	10	18 073
7.4	109	69	10	18 074
7.5	109	69	10	18 075
7.6	117	75	10	18 076
7.7	117	75	10	18 077

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
7.8	117	75	10	18 078
7.9	117	75	10	18 079
8.0	117	75	10	18 080
8.1	117	75	10	18 081
8.2	117	75	10	18 082
8.3	117	75	10	18 083
8.4	117	75	10	18 084
8.5	117	75	10	18 085
8.6	125	81	10	18 086
8.7	125	81	10	18 087
8.8	125	81	10	18 088
8.9	125	81	10	18 089
9.0	125	81	10	18 090
9.1	125	81	10	18 091
9.2	125	81	10	18 092
9.3	125	81	10	18 093
9.4	125	81	10	18 094
9.5	125	81	10	18 095
9.6	133	87	10	18 096
9.7	133	87	10	18 097
9.8	133	87	10	18 098
9.9	133	87	10	18 099
10.0	133	87	10	18 100
10.2	133	87	5	18 102
10.5	133	87	5	18 105
11.0	142	94	5	18 110
11.5	142	94	5	18 115
12.0	151	101	5	18 120
12.5	151	101	5	18 125
13.0	151	101	5	18130

# 16000 ECO | Single packed items

In pouch  
Single packaging hangable (2 pieces up to Ø 4 mm)

Art.-Group 32

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
1.0	34	12	2	16 010	4.5	80	47	1	16 045	9.0	125	81	1	16 090
1.5	40	18	2	16 015	4.8	86	52	1	16 048	9.5	125	81	1	16 095
2.0	49	24	2	16 020	5.0	86	52	1	16 050	10.0	133	87	1	16 100
2.5	57	30	2	16 025	5.5	93	57	1	16 055	10.2	133	87	1	16 102
3.0	61	33	2	16 030	6.0	93	57	1	16 060	10.5	133	87	1	16 105
3.1	65	36	2	16 031	6.5	101	63	1	16 065	11.0	142	94	1	16 110
3.2	65	36	2	16 032	6.8	109	69	1	16 068	11.5	142	94	1	16 115
3.3	65	36	2	16 033	7.0	109	69	1	16 070	12.0	151	101	1	16 120
3.5	70	39	2	16 035	7.5	109	69	1	16 075	12.5	151	101	1	16 125
4.0	75	43	2	16 040	8.0	117	75	1	16 080	13.0	151	101	1	16 130
4.1	75	43	1	16 041	8.5	117	75	1	16 085					
4.2	75	43	1	16 042										

## Sets

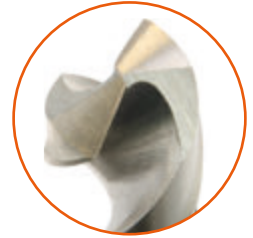
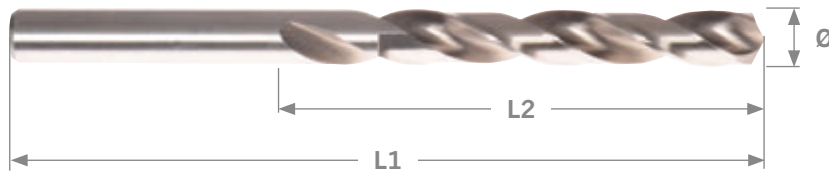
Art.-Group 16



Content	Packaging	Art.-No.
Ø 1 - 10 / 0.5 mm increasing	19 pcs. in plastic box	67 315
Ø 1 - 13 / 0.5 mm increasing	25 pcs. in plastic box	67 375
Ø 1 - 10 / 0.5 mm increasing	19 pcs. in metal box	60 315
Ø 1 - 13 / 0.5 mm increasing	25 pcs. in metal box	60 375
Ø 1.5 - 6.5 / 0.5 mm increasing Core hole dimensions Ø 3.3 - 4.8 mm	13 pcs. in metal box	60 413
Ø 1 - 10.5 / 0.5 mm increasing Core hole dimensions Ø 3.3 - 4.2 - 6.8 - 10.2 mm	24 pcs. in metal box	60 425
Ø 1 - 10 / 0.1 mm increasing	91 pcs. in metal box	60 436
5x Ø 1.0 - 5.0 / 0.5 mm increasing 3x Ø 5.5 - 7.5 / 0.5 mm increasing 2x Ø 8.0 - 10.0 / 0.5 mm increasing	70 pcs. in metal case	60 645
10x Ø 1 - 8 / 0.5 mm increasing 5x Ø 8.5 - 10 / 0.5 mm increasing	170 pcs. in metal case	60 615
10x Ø 1 - 8 / 0.5 mm increasing 5x Ø 8.5 - 10 / 0.5 mm increasing	170 pcs. in plastic case	67 615
10x Ø 1 - 8 / 0.5 mm increasing 10x Ø 3.3 - 4.2 mm, 5x Ø 8.5 - 13.0 / 0.5 mm increasing	220 pcs. in metal case	60 715

# 18500 | Short twist drill bit with straight shank HSS-G DIN 338 Type N BASIC

Art.-Group 88



► Twist drill bit according to DIN 338 type N with straight shank

► Short version, profile ground  
► 135° split point from Ø 3 mm

<b>Tolerance</b>	H8	<b>Web thinning</b>	Split point	<b>Helix angle</b>	Normal
<b>Material</b>	HSS-G	<b>Web thickness</b>	Normal	<b>Constructional features</b>	DIN 1414
<b>Point grinding</b>	Tapered finish	<b>Tensile strength</b>	900 N/mm <sup>2</sup>		
<b>Point angle</b>	135°	<b>Web taper</b>	Normal		



Quadro pack with hanger

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
1.0	34	12	10	185 010
1.1	36	14	10	185 011
1.2	38	16	10	185 012
1.3	38	16	10	185 013
1.4	40	18	10	185 014
1.5	40	18	10	185 015
1.6	43	20	10	185 016
1.7	43	20	10	185 017
1.8	46	22	10	185 018
1.9	46	22	10	185 019
2.0	49	24	10	185 020
2.1	49	24	10	185 021
2.2	53	27	10	185 022
2.3	53	27	10	185 023
2.4	57	30	10	185 024
2.5	57	30	10	185 025
2.6	57	30	10	185 026
2.7	61	33	10	185 027
2.8	61	33	10	185 028
2.9	61	33	10	185 029
3.0	61	33	10	185 030
3.1	65	36	10	185 031
3.2	65	36	10	185 032
3.3	65	36	10	185 033
3.4	70	39	10	185 034
3.5	70	39	10	185 035
3.6	70	39	10	185 036
3.7	70	39	10	185 037
3.8	75	43	10	185 038
3.9	75	43	10	185 039
4.0	75	43	10	185 040
4.1	75	43	10	185 041
4.2	75	43	10	185 042
4.3	80	47	10	185 043

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
4.4	80	47	10	185 044
4.5	80	47	10	185 045
4.6	80	47	10	185 046
4.7	80	47	10	185 047
4.8	86	52	10	185 048
4.9	86	52	10	185 049
5.0	86	52	10	185 050
5.1	86	52	10	185 051
5.2	86	52	10	185 052
5.3	86	52	10	185 053
5.4	93	57	10	185 054
5.5	93	57	10	185 055
5.6	93	57	10	185 056
5.7	93	57	10	185 057
5.8	93	57	10	185 058
5.9	93	57	10	185 059
6.0	93	57	10	185 060
6.1	101	63	10	185 061
6.2	101	63	10	185 062
6.3	101	63	10	185 063
6.4	101	63	10	185 064
6.5	101	63	10	185 065
6.6	101	63	10	185 066
6.7	101	63	10	185 067
6.8	109	69	10	185 068
6.9	109	69	10	185 069
7.0	109	69	10	185 070
7.1	109	69	10	185 071
7.2	109	69	10	185 072
7.3	109	69	10	185 073
7.4	109	69	10	185 074
7.5	109	69	10	185 075
7.6	117	75	10	185 076
7.7	117	75	10	185 077

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
7.8	117	75	10	185 078
7.9	117	75	10	185 079
8.0	117	75	10	185 080
8.1	117	75	10	185 081
8.2	117	75	10	185 082
8.3	117	75	10	185 083
8.4	117	75	10	185 084
8.5	117	75	10	185 085
8.6	125	81	10	185 086
8.7	125	81	10	185 087
8.8	125	81	10	185 088
8.9	125	81	10	185 089
9.0	125	81	10	185 090
9.1	125	81	10	185 091
9.2	125	81	10	185 092
9.3	125	81	10	185 093
9.4	125	81	10	185 094
9.5	125	81	10	185 095
9.6	133	87	10	185 096
9.7	133	87	10	185 097
9.8	133	87	10	185 098
9.9	133	87	10	185 099
10.0	133	87	10	185 100
10.2	133	87	5	185 102
10.5	133	87	5	185 105
11.0	142	94	5	185 110
11.5	142	94	5	185 115
12.0	151	101	5	185 120
12.5	151	101	5	185 125
13.0	151	101	5	185 130

# Sets

Art-Group 16



60 318



60 378



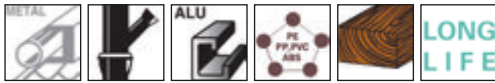
67 018



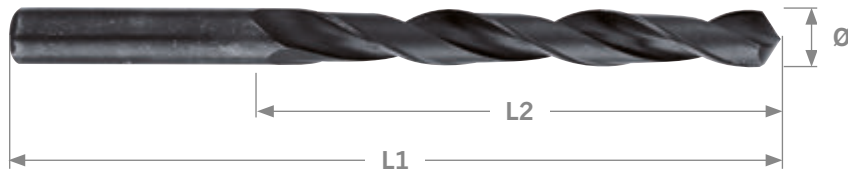
60 616

Content	Packaging	Art.-No.
Ø 1 - 10 / 0.5 mm increasing	19 pcs. in metal box	60 318
Ø 1 - 13 / 0.5 mm increasing	25 pcs. in metal box	60 378
Ø 1.5 - 2 - 2.5 - 3 - 3.2 - 3.5 - 4 - 4.5 - 4.8 - 5 - 5.5 - 6 - 6.5 mm	13 pcs. in plastic box	67 018
10x Ø 1 - 8 / 0.5 mm increasing 5x Ø 8.5 - 10 / 0.5 mm increasing	170 pcs. in metal case	60 616

# 10000 | Short twist drill bit with straight shank HSS-R DIN 338 Type N ECO



Art.-Group 1



## High performance standard twist drill bit

- ▶ High concentricity and resistance against breaking forces
- ▶ Steam tempered for better adhesion of the coolant
- ▶ Optimal chip removal
- ▶ Cutting edge resistance for temperatures up to 400°C
- ▶ Designed to drill: alloyed and unalloyed steel or cast steel, gray cast iron, malleable cast iron, sintered iron, nodular cast iron, graphite and bronze

<b>Tolerance</b>	H8	<b>Web thinning</b>	Without	<b>Helix angle</b>	Normal
<b>Material</b>	HSS-R	<b>Web thickness</b>	Normal	<b>Constructional features</b>	DIN 1414
<b>Point grinding</b>	Tapered finish	<b>Tensile strength</b>	900 N/mm <sup>2</sup>		
<b>Point angle</b>	118°	<b>Web taper</b>	Normal		



Quadro pack with hanger

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
0.30	19	3	10	10 030
0.40	20	5	10	10 040
0.50	22	6	10	10 050
0.60	24	7	10	10 060
0.70	28	9	10	10 070
0.75	28	9	10	10 075
0.80	30	10	10	10 080
0.90	32	11	10	10 090
1.00	34	12	10	10 100
1.10	36	14	10	10 110
1.20	38	16	10	10 120
1.25	38	16	10	10 125
1.30	38	16	10	10 130
1.40	40	18	10	10 140
1.50	40	18	10	10 150
1.60	43	20	10	10 160
1.70	43	20	10	10 170
1.75	46	22	10	10 175
1.80	46	22	10	10 180
1.90	46	22	10	10 190
2.00	49	24	10	10 200
2.10	49	24	10	10 210
2.20	53	27	10	10 220
2.25	53	27	10	10 225
2.30	53	27	10	10 230
2.40	57	30	10	10 240
2.50	57	30	10	10 250
2.60	57	30	10	10 260
2.70	61	33	10	10 270
2.75	61	33	10	10 275
2.80	61	33	10	10 280
2.90	61	33	10	10 290
3.00	61	33	10	10 300
3.10	65	36	10	10 310

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
3.20	65	36	10	10 320
3.25	65	36	10	10 325
3.30	65	36	10	10 330
3.40	70	39	10	10 340
3.50	70	39	10	10 350
3.60	70	39	10	10 360
3.70	70	39	10	10 370
3.75	70	39	10	10 375
3.80	75	43	10	10 380
3.90	75	43	10	10 390
4.00	75	43	10	10 400
4.10	75	43	10	10 410
4.20	75	43	10	10 420
4.25	75	43	10	10 425
4.30	80	47	10	10 430
4.40	80	47	10	10 440
4.50	80	47	10	10 450
4.60	80	47	10	10 460
4.70	80	47	10	10 470
4.75	80	47	10	10 475
4.80	86	52	10	10 480
4.90	86	52	10	10 490
5.00	86	52	10	10 500
5.10	86	52	10	10 510
5.20	86	52	10	10 520
5.25	86	52	10	10 525
5.30	86	52	10	10 530
5.40	93	57	10	10 540
5.50	93	57	10	10 550
5.60	93	57	10	10 560
5.70	93	57	10	10 570
5.75	93	57	10	10 575
5.80	93	57	10	10 580
5.90	93	57	10	10 590

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
6.00	93	57	10	10 600
6.10	101	63	10	10 610
6.20	101	63	10	10 620
6.25	101	63	10	10 625
6.30	101	63	10	10 630
6.40	101	63	10	10 640
6.50	101	63	10	10 650
6.60	101	63	10	10 660
6.70	101	63	10	10 670
6.75	109	69	10	10 675
6.80	109	69	10	10 680
6.90	109	69	10	10 690
7.00	109	69	10	10 700
7.10	109	69	10	10 710
7.20	109	69	10	10 720
7.25	109	69	10	10 725
7.30	109	69	10	10 730
7.40	109	69	10	10 740
7.50	109	69	10	10 750
7.60	117	75	10	10 760
7.70	117	75	10	10 770
7.80	117	75	10	10 780
7.90	117	75	10	10 790
8.00	117	75	10	10 800
8.10	117	75	10	10 810
8.20	117	75	10	10 820
8.25	117	75	10	10 825*
8.30	117	75	10	10 830
8.40	117	75	10	10 840
8.50	117	75	10	10 850
8.60	125	81	10	10 860
8.70	125	81	10	10 870
8.80	125	81	10	10 880
8.90	125	81	10	10 890

# 10000 | Short twist drill bit with straight shank HSS-R DIN 338 Type N ECO

Art.-Group 1

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
9.00	125	81	10	10 900
9.10	125	81	10	10 910
9.20	125	81	10	10 920
9.30	125	81	10	10 930
9.40	125	81	10	10 940
9.50	125	81	10	10 950
9.60	133	87	10	10 960
9.70	133	87	10	10 970
9.80	133	87	10	10 980
9.90	133	87	10	10 990
10.00	133	87	10	11 000
10.10	133	87	5	11 010
10.20	133	87	5	11 020
10.30	133	87	5	11 030
10.40	133	87	5	11 040
10.50	133	87	5	11 050
10.60	133	87	5	11 060
10.70	142	94	5	11 070
10.80	142	94	5	11 080
11.00	142	94	5	11 100

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
11.10	142	94	5	11 110
11.20	142	94	5	11 120
11.30	142	94	5	11 130
11.40	142	94	5	11 140
11.50	142	94	5	11 150
11.60	142	94	5	11 160
11.70	142	94	5	11 170
11.80	142	94	5	11 180
11.90	151	101	5	11 190
12.00	151	101	5	11 200
12.10	151	101	5	11 210
12.20	151	101	5	11 220
12.30	151	101	5	11 230
12.40	151	101	5	11 240
12.50	151	101	5	11 250
12.60	151	101	5	11 260
12.70	151	101	5	11 270
12.80	151	101	5	11 280
12.90	151	101	5	11 290
13.00	151	101	5	11 300

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
13.50	160	108	5	11 350
14.00	160	108	5	11 400
14.50	169	114	5	11 450
15.00	169	114	5	11 500
15.50	178	120	5	11 550
16.00	178	120	5	11 600
16.50	184	125	1	11 650
17.00	184	125	1	11 700
17.50	191	130	1	11 750
18.00	191	130	1	11 800
18.50	198	135	1	11 850
19.00	198	135	1	11 900
19.50	205	140	1	11 950
20.00	205	140	1	12 000

# 15000 ECO | Single packed items

Art.-Group 2

In pouch

Single packaging hangable (2 pieces up to Ø 4 mm)

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
1.0	34	12	2	15 010
1.5	40	18	2	15 015
2.0	49	24	2	15 020
2.5	57	30	2	15 025
3.0	61	33	2	15 030
3.1	65	36	2	15 031
3.2	65	36	2	15 032
3.3	65	36	2	15 033
3.5	70	39	2	15 035
4.0	75	43	2	15 040
4.1	75	43	1	15 041
4.2	75	43	1	15 042

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
4.5	80	47	1	15 045
4.8	86	52	1	15 048
5.0	86	52	1	15 050
5.5	93	57	1	15 055
6.0	93	57	1	15 060
6.5	101	63	1	15 065
6.8	109	69	1	15 068
7.0	109	69	1	15 070
7.5	109	69	1	15 075
8.0	117	75	1	15 080
8.5	117	75	1	15 085

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
9.0	125	81	1	15 090
9.5	125	81	1	15 095
10.0	133	87	1	15 100
10.2	133	87	1	15 102
10.5	133	87	1	15 105
11.0	142	94	1	15 110
11.5	142	94	1	15 115
12.0	151	101	1	15 120
12.5	151	101	1	15 125
13.0	151	101	1	15 130



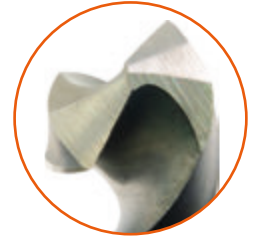
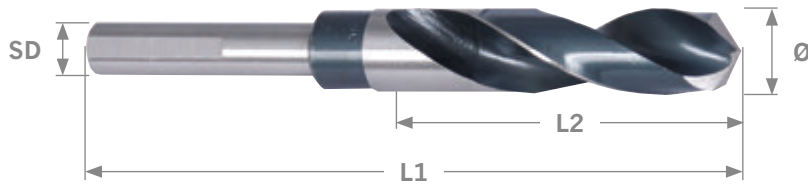


Content	Packaging	Art.-No.
Ø 1 - 10 / 0.5 mm increasing	19 pcs. in plastic box	67 003
Ø 1 - 13 / 0.5 mm increasing	25 pcs. in plastic box	67 007
Ø 1 - 10 / 0.5 mm increasing	19 pcs. in metal box	60 001
Ø 1 - 13 / 0.5 mm increasing	25 pcs. in metal box	60 005
Ø 1.5 - 6.5 / 0.5 mm increasing Core hole dimensions Ø 3.3 - 4.8 mm	13 pcs. in metal box	60 313
Ø 1 - 10.5 / 0.5 mm increasing Core hole dimensions Ø 3.3 - 4.2 - 6.8 - 10.2 mm	24 pcs. in metal box	60 325
5x Ø 2 - 2.5 - 3 - 3.5 mm 3x Ø 4 - 4.5 - 5 - 5.5 mm 2x Ø 6 - 6.5 mm	36 pcs. in metal box	60 666*
Ø 1 - 10 / 0.1 mm increasing	91 pcs. in metal box	60 336
Ø 6 - 10 / 0.1 mm increasing	41 pcs. in metal box	60 335
Ø 1 - 5.9 / 0.1 mm increasing	50 pcs. in metal box	60 330
Ø 1.5 - 6.5 / 0.5 mm increasing + Ø 3.2 - 4.8 mm	13 pcs. in plastic box	67 000
Ø 2.0 - 8.0 / 0.5 mm increasing	13 pcs. in plastic box	67 005
10x Ø 1 - 8 / 0.5 mm increasing 5x Ø 8.5 - 10 / 0.5 mm increasing	170 pcs. in metal case	60 600
10x Ø 1 - 8 / 0.5 mm increasing 5x Ø 8.5 - 10 / 0.5 mm increasing	170 pcs. in plastic case	67 600
10x Ø 1 - 8 / 0.5 mm increasing 10x Ø 3.3 - 4.2 mm 5x Ø 8.5 - 13.0 / 0.5 mm increasing	220 pcs. in metal case	60 700



# 49500 | Twist drill bits with reduced straight shank HSS-G PROJAHN standard Type N

Art.-Group 4



## High performance ground drill bit, reduced shank

- ▶ All drill bits with the same total length, good for optimized work on a drill press
- ▶ Reduction of the feed force
- ▶ High chipping removal and long lifetime
- ▶ 3-surface grinding on the shank for a better form fit, ensuring an optimum power transmission
- ▶ High true-running accuracy
- ▶ Designed to drill: alloyed and unalloyed steel or cast steel up to 900 N/mm<sup>2</sup>, gray cast iron, malleable cast iron, sintered iron, nodular cast iron, graphite, bronze, brass tough and aluminum short-chipping

<b>Tolerance</b>	H8	<b>Web thinning</b>	Split point	<b>Helix angle</b>	Normal
<b>Material</b>	HSS-G	<b>Web thickness</b>	Normal	<b>Constructional features</b>	DIN 1414
<b>Point grinding</b>	Tapered finish	<b>Tensile strength</b>	900 N/mm <sup>2</sup>		
<b>Point angle</b>	118°	<b>Web taper</b>	Normal		



Single packaging with hanger

Ø mm	L1 mm	L2 mm	SD mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	SD mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	SD mm	Pc./PU	Art.-No.
10.0	152	76	10	1	495 100	17.0	152	76	12.7	1	495 170	24.0	152	76	12.7	1	495 240
10.5	152	76	10	1	495 105	17.5	152	76	12.7	1	495 175	24.5	152	76	12.7	1	495 245
11.0	152	76	10	1	495 110	18.0	152	76	12.7	1	495 180	25.0	152	76	12.7	1	495 250
11.5	152	76	10	1	495 115	18.5	152	76	12.7	1	495 185	25.5	152	76	12.7	1	495 255
12.0	152	76	10	1	495 120	19.0	152	76	12.7	1	495 190	26.0	152	76	12.7	1	495 260
12.5	152	76	10	1	495 125	19.5	152	76	12.7	1	495 195	26.5	152	76	12.7	1	495 265
13.0	152	76	10	1	495 130	20.0	152	76	12.7	1	495 200	27.0	152	76	12.7	1	495 270
13.5	152	76	10	1	495 135	20.5	152	76	12.7	1	495 205	27.5	152	76	12.7	1	495 275
14.0	152	76	10	1	495 140	21.0	152	76	12.7	1	495 210	28.0	152	76	12.7	1	495 280
14.5	152	76	10	1	495 145	21.5	152	76	12.7	1	495 215	28.5	152	76	12.7	1	495 285
15.0	152	76	10	1	495 150	22.0	152	76	12.7	1	495 220	29.0	152	76	12.7	1	495 290
15.5	152	76	10	1	495 155	22.5	152	76	12.7	1	495 225	29.5	152	76	12.7	1	495 295
16.0	152	76	10	1	495 160	23.0	152	76	12.7	1	495 230	30.0	152	76	12.7	1	495 300
16.5	152	76	12.7	1	495 165	23.5	152	76	12.7	1	495 235						

## Sets

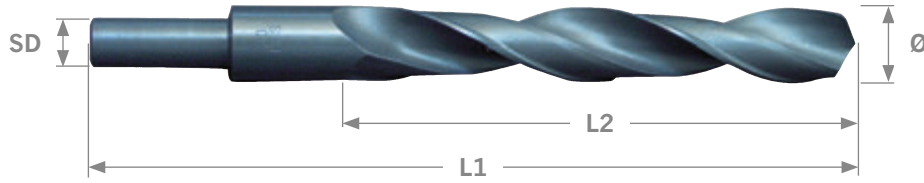
Art.-Group 16



<b>Content</b>	<b>Packaging</b>	<b>Art.-No.</b>
Ø 10.0 - 26.0 / 2 mm increasing + Ø 25.0 mm	10 pcs. in metal case	60 749

# 49000 | Twist drill bit with reduced straight shank HSS-R DIN 338 Type N ECO

Art.-Group 4



## Standard twist drill bit, reduced shank

- ▶ High true-running accuracy
  - ▶ High cutting performance and good chip removal
  - ▶ Long tool life
  - ▶ High resistance against breaking forces
  - ▶ Steam tempered for better adhesion of the coolant
  - ▶ Reduced shank ensures that even larger drill bit diameters fit into smaller drill chucks
- ▶ Designed to drill: alloyed and unalloyed steel or cast steel up to 900 N/mm<sup>2</sup>, gray cast iron, malleable cast iron, sintered iron, nodular cast iron, graphite, bronze, brass tough and aluminum short-chipping

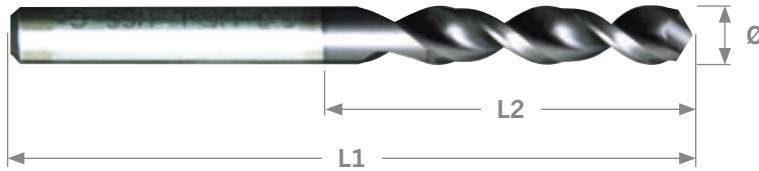
<b>Tolerance</b>	H8	<b>Web thinning</b>	Without	<b>Helix angle</b>	Normal
<b>Material</b>	HSS-R	<b>Web thickness</b>	Normal	<b>Constructional features</b>	DIN 1414
<b>Point grinding</b>	Tapered finish	<b>Tensile strength</b>	900 N/mm <sup>2</sup>		
<b>Point angle</b>	118°	<b>Web taper</b>	Normal		

Single packaging with hanger

Ø mm	L1 mm	L2 mm	SD mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	SD mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	SD mm	Pc./PU	Art.-No.
10.0	133	87	8	1	49 100*	16.0	178	120	10	1	49 160	22.0	219	150	13	1	49 220
10.5	133	87	10	1	49 105	16.5	184	125	13	1	49 165	22.5	221	155	13	1	49 225
11.0	142	94	10	1	49 110	17.0	184	125	13	1	49 170	23.0	221	155	13	1	49 230
11.5	142	94	10	1	49 115	17.5	191	130	13	1	49 175	23.5	230	155	13	1	49 235
12.0	151	101	10	1	49 120	18.0	191	130	13	1	49 180	24.0	246	160	13	1	49 240
12.5	151	101	10	1	49 125	18.5	198	135	13	1	49 185	24.5	246	160	13	1	49 245
13.0	151	101	10	1	49 130	19.0	198	135	13	1	49 190	25.0	246	160	13	1	49 250
13.5	160	108	10	1	49 135	19.5	205	140	13	1	49 195						
14.0	160	108	10	1	49 140	20.0	205	140	13	1	49 200						
14.5	169	114	10	1	49 145	20.5	214	145	13	1	49 205						
15.0	169	114	10	1	49 150	21.0	214	145	13	1	49 210						
15.5	178	120	10	1	49 155	21.5	219	150	13	1	49 215						

# 46000 | Extra short multi-purpose twist drill bit with straight shank HSS-Co 5% AlTiN DIN 1897 Type UF-L

Art.-Group 28



**Tolerance** H8  
**Material** HSS-Co 5%  
**Point grinding** PROJAHN standard  
**Point angle** 130°

**Web thinning** DIN 1412, shape UX  
**Web thickness** Thicker than Normal  
**Tensile strength** 1,200 N/mm<sup>2</sup>  
**Web taper** Normal

**Helix angle** 40°  
**Constructional features** DIN 1414

Further details regarding this product can be found on page P 70

Quadro pack with hanger



Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
2.0	38	12	10	46 020
2.1	38	12	10	46 021
2.2	40	13	10	46 022
2.3	40	13	10	46 023
2.4	43	14	10	46 024
2.5	43	14	10	46 025
2.6	43	14	10	46 026
2.7	46	16	10	46 027
2.8	46	16	10	46 028
2.9	46	16	10	46 029
3.0	46	16	10	46 030
3.1	49	18	10	46 031
3.2	49	18	10	46 032
3.3	49	18	10	46 033
3.4	52	20	10	46 034
3.5	52	20	10	46 035
3.6	52	20	10	46 036
3.7	52	20	10	46 037
3.8	55	22	10	46 038
3.9	55	22	10	46 039
4.0	55	22	10	46 040
4.1	55	22	10	46 041
4.2	55	22	10	46 042
4.3	58	24	10	46 043
4.4	58	24	10	46 044
4.5	58	24	10	46 045
4.6	58	24	10	46 046
4.7	58	24	10	46 047

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
4.8	62	26	10	46 048
4.9	62	26	10	46 049
5.0	62	26	10	46 050
5.1	62	26	10	46 051
5.2	62	26	10	46 052
5.3	62	26	10	46 053
5.4	66	28	10	46 054
5.5	66	28	10	46 055
5.6	66	28	10	46 056
5.7	66	28	10	46 057
5.8	66	28	10	46 058
5.9	66	28	10	46 059
6.0	66	28	10	46 060
6.5	70	31	10	46 065
6.8	74	34	10	46 068
7.0	74	34	10	46 070
7.5	74	34	10	46 075
8.0	79	37	10	46 080
8.5	79	37	10	46 085
9.0	84	40	10	46 090
9.5	84	40	10	46 095
10.0	89	43	10	46 100
10.2	89	43	5	46 102
10.5	89	43	5	46 105

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
11.0	95	47	5	46 110
11.5	95	47	5	46 115
12.0	102	51	5	46 120
12.5	102	51	5	46 125
13.0	102	51	5	46 130
13.5	107	54	5	46 135
14.0	107	54	5	46 140
14.5	111	56	1	46 145
15.0	111	56	1	46 150
15.5	115	58	1	46 155
16.0	115	58	1	46 160
16.5	119	60	1	46 165
17.0	119	60	1	46 170
17.5	123	62	1	46 175
18.0	123	62	1	46 180
18.5	127	64	1	46 185
19.0	127	64	1	46 190
19.5	131	66	1	46 195
20.0	131	66	1	46 200

## Sets

Art.-Group 16

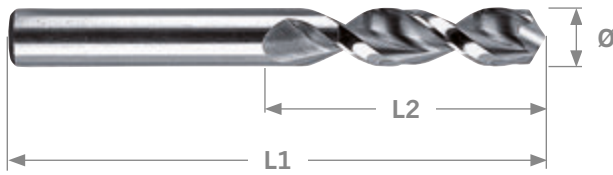


Content	Packaging	Art.-No.
Ø 2.0 - 10.2 / 0.5 mm increasing, Core hole dimensions Ø 3.3 - 4.2 - 6.8 mm	21 pcs. in metal box	284.50 60 846

# 44000 | Extra short multi-purpose twist drill bit with straight shank HSS-Co 5% DIN 1897 Type UF-L



Art.-Group 28



<b>Tolerance</b>	H8	<b>Web thinning</b>	DIN 1412, shape UX
<b>Material</b>	HSS-Co 5%	<b>Web thickness</b>	Thicker than normal
<b>Point grinding</b>	PROJAHN standard	<b>Tensile strength</b>	1,200 N/mm <sup>2</sup>
<b>Point angle</b>	130°	<b>Web taper</b>	Normal

<b>Helix angle</b>	40°
<b>Constructional features</b>	DIN 1414

Further details regarding this product can be found on page P 72



Quadro pack with hanger

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
2.0	38	12	10	44 020
2.1	38	12	10	44 021
2.2	40	13	10	44 022
2.3	40	13	10	44 023
2.4	43	14	10	44 024
2.5	43	14	10	44 025
2.6	43	14	10	44 026
2.7	46	16	10	44 027
2.8	46	16	10	44 028
2.9	46	16	10	44 029
3.0	46	16	10	44 030
3.1	49	18	10	44 031
3.2	49	18	10	44 032
3.3	49	18	10	44 033
3.4	52	20	10	44 034
3.5	52	20	10	44 035
3.6	52	20	10	44 036
3.7	52	20	10	44 037
3.8	55	22	10	44 038
3.9	55	22	10	44 039
4.0	55	22	10	44 040
4.1	55	22	10	44 041
4.2	55	22	10	44 042
4.3	58	24	10	44 043

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
4.4	58	24	10	44 044
4.5	58	24	10	44 045
4.6	58	24	10	44 046
4.7	58	24	10	44 047
4.8	62	26	10	44 048
4.9	62	26	10	44 049
5.0	62	26	10	44 050
5.1	62	26	10	44 051
5.2	62	26	10	44 052
5.3	62	26	10	44 053
5.4	66	28	10	44 054
5.5	66	28	10	44 055
5.6	66	28	10	44 056
5.7	66	28	10	44 057
5.8	66	28	10	44 058
5.9	66	28	10	44 059
6.0	66	28	10	44 060
6.5	70	31	10	44 065
6.8	74	34	10	44 068
7.0	74	34	10	44 070
7.5	74	34	10	44 075
8.0	79	37	10	44 080

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
8.5	79	37	10	44 085
9.0	84	40	10	44 090
9.5	84	40	10	44 095
10.0	89	43	10	44 100
10.2	89	43	5	44 102
10.5	89	43	5	44 105
11.0	95	47	5	44 110
11.5	95	47	5	44 115
12.0	102	51	5	44 120
12.5	102	51	5	44 125
13.0	102	51	5	44 130
13.5	107	54	5	44 135
14.0	107	54	1	44 140
14.5	111	56	1	44 145
15.0	111	56	1	44 150
15.5	115	58	1	44 155
16.0	115	58	1	44 160

## Sets

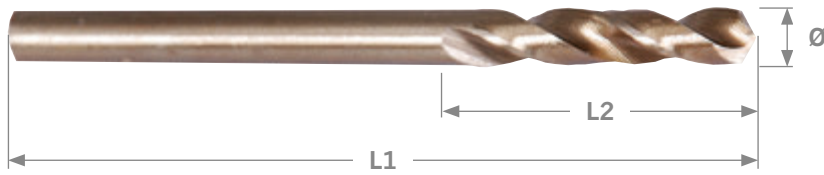
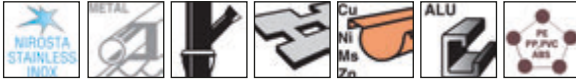
Art.-Group 16



<b>Content</b>	<b>Packaging</b>	<b>Art.-No.</b>
Ø 2.0 - 10.2 / 0.5 mm increasing Core hole dimensions Ø 3.3 - 4.2 - 6.8 mm	21 pcs. in metal box	60 844

# 41000 | Extra short twist drill bit with straight shank HSS-Co 5% DIN 1897 Type N

Art.-Group 6



## High performance twist drill bit, extra short version

- Suitable on automatic drilling mashines and turret lathes as well as for use in hand drills
- High true-running accuracy
- High heat resistance
- Designed to drill: alloyed and unalloyed steel or cast steel, stainless steel, for thin-walled material e.g. sheet metal, flat and sectional iron as well as for assembly work

<b>Tolerance</b>	H8	<b>Web thinning</b>	Split point	<b>Helix angle</b>	Normal
<b>Material</b>	HSS-Co 5%	<b>Web thickness</b>	Reinforced	<b>Constructional features</b>	DIN 1414
<b>Point grinding</b>	Tapered finish	<b>Tensile strength</b>	1,100 N/mm <sup>2</sup>		
<b>Point angle</b>	135°	<b>Web taper</b>	Normal		



Quadro pack with hanger

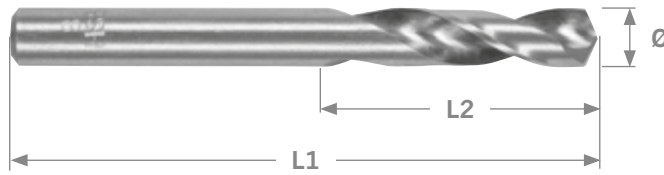
Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
2.0	38	12	10	410 200
2.5	43	14	10	410 250
2.8	46	16	10	410 280
3.0	46	16	10	410 300
3.1	49	18	10	410 310
3.2	49	18	10	410 320
3.2	49	18	10	410 325
3.3	49	18	10	410 330
3.4	52	20	10	410 340
3.5	52	20	10	410 350
3.6	52	20	10	410 360
3.7	52	20	10	410 370
3.8	55	22	10	410 380
3.9	55	22	10	410 390

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
4.0	55	22	10	410 400
4.1	55	22	10	410 410
4.2	55	22	10	410 420
4.3	58	24	10	410 430
4.4	58	24	10	410 440
4.5	58	24	10	410 450
4.8	62	26	10	410 480
4.9	62	26	10	410 490
5.0	62	26	10	410 500
5.1	62	26	10	410 510
5.2	62	26	10	410 520
5.5	66	28	10	410 550
5.7	66	28	10	410 570

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
6.0	66	28	10	410 600
6.5	70	31	10	410 650
6.8	74	34	10	410 680
7.0	74	34	10	410 700
7.5	74	34	10	410 750
8.0	79	37	10	410 800
8.5	79	37	10	410 850
9.0	84	40	10	410 900
9.5	84	40	10	410 950
10.0	89	43	10	411 000
10.2	89	43	5	411 020

# 40000 | Extra short twist drill bit with straight shank HSS-G DIN 1897 Type N

Art.-Group 6



- ▶ High true-running accuracy
- ▶ Suitable on automatic drilling machines and turret lathes as well as for use in hand drills
- ▶ Designed to drill: alloyed and unalloyed steel or cast steel, for thin-walled material e.g. sheet metal, flat and sectional iron as well as for assembly work

<b>Tolerance</b>	H8	<b>Web thinning</b>	Split point from Ø 3.0 mm	<b>Helix angle</b>	Normal
<b>Material</b>	HSS-G	<b>Web thickness</b>	Normal	<b>Constructional features</b>	DIN 1414
<b>Point grinding</b>	Tapered finish	<b>Tensile strength</b>	900 N/mm <sup>2</sup>		
<b>Point angle</b>	135°	<b>Web taper</b>	Normal		



Quadro pack with hanger

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
2.0	38	12	10	40 200	4.0	55	22	10	40 400	6.0	66	28	10	40 600
2.5	43	14	10	40 250	4.1	55	22	10	40 410	6.5	70	31	10	40 650
2.8	46	16	10	40 280	4.2	55	22	10	40 420	6.8	74	34	10	40 680
3.0	46	16	10	40 300	4.3	58	24	10	40 430	7.0	74	34	10	40 700
3.1	49	18	10	40 310	4.4	58	24	10	40 440	7.5	74	34	10	40 750
3.2	49	18	10	40 320	4.5	58	24	10	40 450	8.0	79	37	10	40 800
3.2	49	18	10	40 325	4.8	62	26	10	40 480	8.5	79	37	10	40 850
3.3	49	18	10	40 330	4.9	62	26	10	40 490	9.0	84	40	10	40 900
3.4	52	20	10	40 340	5.0	62	26	10	40 500	9.5	84	40	10	40 950
3.5	52	20	10	40 350	5.1	62	26	10	40 510	10.0	89	43	10	41 000
3.6	52	20	10	40 360	5.2	62	26	10	40 520	10.2	89	43	5	41 020
3.7	52	20	10	40 370	5.5	66	28	10	40 550					
3.8	55	22	10	40 380	5.7	66	28	10	40 570					
3.9	55	22	10	40 390										

## Sets

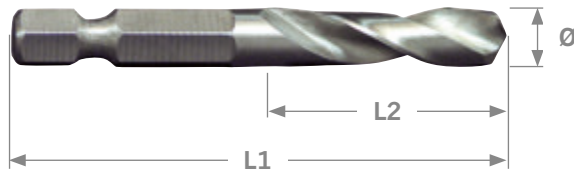
Art.-Group 16



Content	Packaging	Art.-No.
Ø 2 - 10.2 / 0.5 mm increasing Core hole dimensions Ø 3.3 - 4.2 - 6.8 mm	21 pcs. in metal box	60 840

# 13300 | Twist drill bit 6.35 mm [1/4"] hexagonal shank HSS-G

Art.-Group 6



**High quality metal drill bit, shank and helix are made of one-piece from solid material, not connected together!**

- ▶ Optimal for cordless screwdrivers due to 6.35 mm [1/4"] hexagonal shank
- ▶ Quick rechucking
- ▶ Designed to drill: alloyed and unalloyed steel up to 800 N/mm<sup>2</sup>, thin-walled material, ideally suited for assembly work

<b>Tolerance</b>	H8	<b>Web thinning</b>	Split point	<b>Helix angle</b>	Normal
<b>Material</b>	HSS-G	<b>Web thickness</b>	Normal	<b>Constructional features</b>	DIN 1414
<b>Point grinding</b>	Tapered finish	<b>Tensile strength</b>	800 N/mm <sup>2</sup>		
<b>Point angle</b>	135°	<b>Web taper</b>	Normal		

Single packaging with hanger



Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.
3.0	47	16	133 030	4.8	59	26	133 048	8.0	60	32	133 080
3.2	47	16	133 032	5.0	59	26	133 050	9.0	83	45	133 090
3.5	47	16	133 035	6.0	59	26	133 060	10.0	87	50	133 100
4.0	53	20	133 040	7.0	59	30	133 070				
4.2	53	20	133 042								
4.5	53	20	133 045								

## Sets

Art.-Group 16



13 399

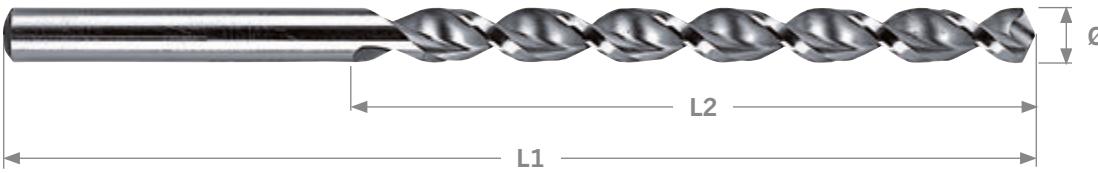


13 302

Content	Packaging	Art.-No.
Ø 2 - 3 - 4 - 5 - 6 mm	5 pcs. in plastic box	13 399
Ø 3 - 4 - 5 - 6 - 8 - 10 mm	6 pcs. in metal box	13 302

# 42000 | Long multi-purpose twist drill bit with straight shank HSS-Co 5% DIN 340 Type UF-L

Art.-Group 28



## The multi-problem solver

- ▶ Robust multipurpose drill bit with high heat resistance
- ▶ The ultra-flat flute profile guarantees good cooling of the cutting edges and allows chip removal up to the flute length of L2
- ▶ Drilling depth up to 10x diameter
- ▶ Designed to drill: medium and long-chipping materials with a tensile strength up to 1,200 N/mm<sup>2</sup>, aluminum, copper, AISi alloys, soft bronze, electrolytic copper, tough brass, stainless steels, titanium and titanium alloys

**Tolerance** | H8  
**Material** | HSS-Co 5%  
**Point grinding** | PROJAHN standard  
**Point angle** | 130°

**Web thinning** | DIN 1412, shape UX  
**Web thickness** | Thicker than normal  
**Tensile strength** | 1,200 N/mm<sup>2</sup>  
**Web taper** | Normal

**Helix angle** | 40°  
**Constructional features** | DIN 1414



Quadro Pack not hangable

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
2.0	85	56	10	42 020
2.5	95	62	10	42 025
3.0	100	66	10	42 030
3.2	106	69	10	42 032
3.3	106	69	10	42 033
3.5	112	73	10	42 035
4.0	119	78	10	42 040
4.2	119	78	10	42 042
4.5	126	82	10	42 045
5.0	132	87	10	42 050

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
5.2	132	87	10	42 052
5.5	139	91	10	42 055
6.0	139	91	10	42 060
6.5	148	97	10	42 065
6.8	156	102	10	42 068
7.0	156	102	10	42 070
7.5	156	102	10	42 075
8.0	165	109	10	42 080
8.5	165	109	10	42 085
9.0	175	115	10	42 090

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
9.5	175	115	10	42 095
10.0	184	121	10	42 100
10.2	184	121	5	42 102
10.5	184	121	5	42 105
11.0	195	128	5	42 110
11.5	195	128	5	42 115
12.0	205	134	5	42 120
12.5	205	134	5	42 125
13.0	205	134	5	42 130



# 30000 | Long twist drill bit with straight shank HSS-G DIN 340 Type N

Art.-Group 7



## Standard twist drill bit for deep hole drilling

- ▶ Top performing and robust twist drill bit with high concentricity and cutting performance
- ▶ For deep hole drilling and deepended drill holes, drilling through drill bushes, deep hole drilling requires low feed and constant chip draining
- ▶ Designed to drill: steel, cast steel alloyed and unalloyed as well as aluminum and plastics

<b>Tolerance</b>	H8	<b>Web Thinning</b>	Split point from Ø 3,0 mm	<b>Helix Angle</b>	Normal
<b>Material</b>	HSS-G	<b>Web Thickness</b>	Thicker than normal	<b>Constructional Features</b>	DIN 1414
<b>Point Grinding</b>	Tapered finish	<b>Tensile strength</b>	900 N/mm <sup>2</sup>		
<b>Point Angle</b>	135°	<b>Web Taper</b>	Normal		

Quadro pack with hanger



Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
1.0	56	33	10	30 100
1.5	70	45	10	30 150
2.0	85	56	10	30 200
2.5	95	62	10	30 250
2.8	100	66	10	30 280
3.0	100	66	10	30 300
3.1	106	69	10	30 310
3.2	106	69	10	30 320
3.3	106	69	10	30 330
3.4	112	73	10	30 340
3.5	112	73	10	30 350
3.6	112	73	10	30 360
3.7	112	73	10	30 370
3.8	119	78	10	30 380
3.9	119	78	10	30 390
4.0	119	78	10	30 400
4.1	119	78	10	30 410
4.2	119	78	10	30 420
4.3	126	82	10	30 430
4.4	126	82	10	30 440

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
4.5	126	82	10	30 450
4.6	126	82	10	30 460
4.7	126	82	10	30 470
4.8	132	87	10	30 480
4.9	132	87	10	30 490
5.0	132	87	10	30 500
5.1	132	87	10	30 510
5.2	132	87	10	30 520
5.3	132	87	10	30 530
5.4	139	91	10	30 540
5.5	139	91	10	30 550
5.6	139	91	10	30 560
5.7	139	91	10	30 570
5.8	139	91	10	30 580
5.9	139	91	10	30 590
6.0	139	91	10	30 600
6.1	148	97	10	30 610
6.2	148	97	10	30 620
6.3	148	97	10	30 630
6.4	148	97	10	30 640
6.5	148	97	10	30 650

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
6.8	156	102	10	30 680
7.0	156	102	10	30 700
7.5	156	102	10	30 750
8.0	165	109	10	30 800
8.5	165	109	10	30 850
9.0	175	115	10	30 900
9.5	175	115	10	30 950
10.0	184	121	10	31 000
10.2	184	121	5	31 020
10.5	184	121	5	31 050
11.0	195	128	5	31 100
11.5	195	128	5	31 150
12.0	205	134	5	31 200
12.5	205	134	5	31 250
13.0	205	134	5	31 300

## 300005 | Single packed items

Art.-Group 7

In pouch  
Single packaging hangable (2 pieces up to Ø 4 mm)

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
2.0	85	56	2	302 005	5.5	139	91	1	305 505	9.5	175	115	1	309 505
2.5	95	62	2	302 505	6.0	139	91	1	306 005	10.0	184	121	1	310 005
3.0	100	66	2	303 005	6.5	148	97	1	306 505	10.2	184	121	1	310 205
3.2	106	69	2	303 205	6.8	156	102	1	306 805	10.5	184	121	1	310 505
3.5	112	73	2	303 505	7.0	156	102	1	307 005	11.0	195	128	1	311 005
4.0	119	78	2	304 005	7.5	156	102	1	307 505	11.5	195	128	1	311 505
4.2	119	78	1	304 205	8.0	165	109	1	308 005	12.0	205	134	1	312 005
4.5	126	82	1	304 505	8.5	165	109	1	308 505	12.5	205	134	1	312 505
4.8	132	87	1	304 805	9.0	175	115	1	309 005	13.0	205	134	1	313 005
5.0	132	87	1	305 005										

## Sets

Art.-Group 16



Content

Ø 1 - 10 / 0.5 mm increasing

Packaging

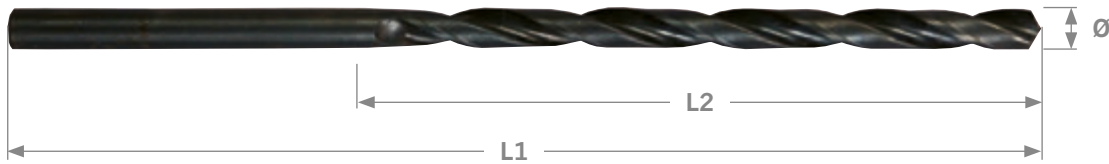
19 pcs. in metal box

Art.-No.

60 830

# 31000 | Long twist drill bit with straight shank HSS-R/\*HSS-G DIN 340 Type N

Art.-Group 85



## Drill bit for deep hole drilling

- For deep hole drilling and deepended drill holes as well as drilling through drill bushes
- Steam tempered for better adhesion of the coolant
- Designed to drill: steel, cast steel, non-ferrous metals, plastics and wood

<b>Tolerance</b>	H8	<b>Web Thinning</b>	Split point from Ø 3.0 mm	<b>Helix Angle</b>	Normal
<b>Material</b>	HSS-R/*HSS-G	<b>Web Thickness</b>	Normal	<b>Constructional Features</b>	DIN 1414
<b>Point Grinding</b>	Tapered finish	<b>Tensile strength</b>	900 N/mm <sup>2</sup>		
<b>Point Angle</b>	118°/135°	<b>Web Taper</b>	Normal		



Quadro Pack not hangable

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
2.0	85	56	10	310 200
2.1	85	56	10	310 210
2.2	90	59	10	310 220
2.3	90	59	10	310 230
2.4	95	62	10	310 240
2.5*	95	62	10	310 250
2.6	95	62	10	310 260
2.7	100	66	10	310 270
2.8	100	66	10	310 280
2.9	100	66	10	310 290
3.0*	100	66	10	310 300
3.1	106	69	10	310 310
3.2*	106	69	10	310 320
3.3	106	69	10	310 330
3.4*	112	73	10	310 340
3.5*	112	73	10	310 350
3.6*	112	73	10	310 360
3.7	112	73	10	310 370
3.8	119	78	10	310 380
3.9*	119	78	10	310 390
4.0	119	78	10	310 400
4.1*	119	78	10	310 410

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
4.2*	119	78	10	310 420
4.3*	126	82	10	310 430
4.4	126	82	10	310 440
4.5*	126	82	10	310 450
4.6	126	82	10	310 460
4.7*	126	82	10	310 470
4.8*	132	87	10	310 480
4.9*	132	87	10	310 490
5.0*	132	87	10	310 500
5.1	132	87	10	310 510
5.2	132	87	10	310 520
5.3	132	87	10	310 530
5.4	139	91	10	310 540
5.5*	139	91	10	310 550
5.6	139	91	10	310 560
5.7*	139	91	10	310 570
5.8*	139	91	10	310 580
5.9	139	91	10	310 590
6.0*	139	91	10	310 600
6.1	148	97	10	310 610
6.2	148	97	10	310 620
6.3	148	97	10	310 630

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
6.4	148	97	10	310 640
6.5*	148	97	10	310 650
6.8*	156	102	10	310 680
7.0*	156	102	10	310 700
7.5	156	102	10	310 750
8.0*	165	109	10	310 800
8.5*	165	109	10	310 850
9.0*	175	115	10	310 900
9.5	175	115	10	310 950
10.0*	184	121	10	311 000
10.2*	184	121	5	311 020
10.5*	184	121	5	311 050
11.0	195	128	5	311 100
11.5	195	128	5	311 150
12.0	205	134	5	311 200
12.5	205	134	5	311 250
13.0	205	134	5	311 300

## Sets

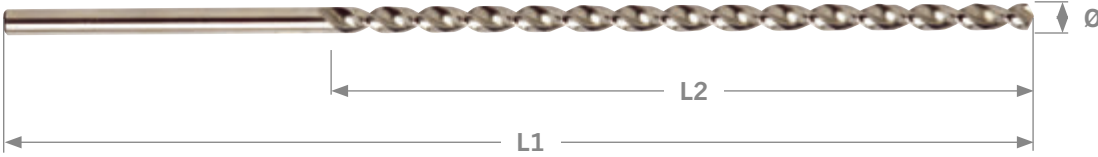
Art.-Group 16



<b>Content</b>	<b>Packaging</b>	<b>Art.-No.</b>
Ø 1 - 10 / 0.5 mm increasing	19 pcs. in metal box	60 831

# 43000 | Extra long multi-purpose twist drill bit HSS-Co 5% DIN 1869 Type UF-L

Art.-Group 28



## The multi-problem solver for deep hole drilling

- ▶ Twist drill bit for extrem deep drilling
- ▶ Due to the ultra-flat flute profile (wide flute angle, large tool side rake) even extreme long drill bits achieve the required stability (the core is reinforced, but not rising) and a good chip removal
- ▶ For large drill depths (approx. 10 to 15 x Ø - depending on the material) it is recommended to frequently pull out the drill bit

- ▶ Designed to drill: medium and long-chipping materials with a tensile strength up to 1,200 N/mm<sup>2</sup>, aluminum, copper, AISi alloys, soft bronze, electrolytic copper, tough brass, stainless steels, titanium and titanium alloys

**Tolerance** H8  
**Material** HSS-Co 5%  
**Point grinding** PROJAHN standard  
**Point angle** 130°

**Web thinning** DIN 1412, shape UX  
**Web thickness** Thicker than normal  
**Tensile strength** 1,200 N/mm<sup>2</sup>  
**Web taper** Normal

**Helix angle** 40°  
**Constructional features** DIN 1414



Quadro Pack not hangable

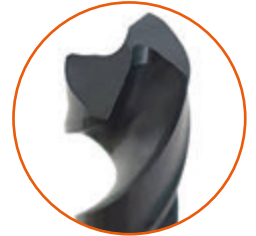
Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
2.0	125	85	1	430 201
2.5	140	95	1	430 251
3.0	150	100	1	430 301
3.0	190	130	1	430 302
3.3	155	105	1	430 331
3.3	200	135	1	430 332
3.5	165	115	1	430 351
3.5	210	145	1	430 352
3.5	265	180	1	430 353
4.0	175	120	1	430 401
4.0	220	150	1	430 402
4.0	280	190	1	430 403
4.2	175	120	1	430 421
4.2	220	150	1	430 422
4.2	280	190	1	430 423
4.5	185	125	1	430 451
4.5	235	160	1	430 452
4.5	295	200	1	430 453
5.0	195	135	1	430 501
5.0	245	170	1	430 502
5.0	315	210	1	430 503
5.5	205	140	1	430 551
5.5	260	180	1	430 552
5.5	330	225	1	430 553
6.0	205	140	1	430 601
6.0	260	180	1	430 602
6.0	330	225	1	430 603
6.5	215	150	1	430 651
6.5	275	190	1	430 652
6.5	350	235	1	430 653

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
6.8	225	155	1	430 681
6.8	290	200	1	430 682
6.8	370	250	1	430 683
7.0	225	155	1	430 701
7.0	290	200	1	430 702
7.0	370	250	1	430 703
7.5	225	155	1	430 751
7.5	290	200	1	430 752
7.5	370	250	1	430 753
8.0	240	165	1	430 801
8.0	305	210	1	430 802
8.0	390	265	1	430 803
8.5	240	165	1	430 851
8.5	305	210	1	430 852
8.5	390	265	1	430 853
9.0	250	175	1	430 901
9.0	320	220	1	430 902
9.0	410	280	1	430 903
9.5	250	175	1	430 951
9.5	320	220	1	430 952
9.5	410	280	1	430 953
10.0	265	185	1	431 001
10.0	340	235	1	431 002
10.0	430	295	1	431 003
10.2	265	185	1	431 021
10.2	340	235	1	431 022
10.2	430	295	1	431 023
10.5	265	185	1	431 051
10.5	340	235	1	431 052
10.5	430	295	1	431 053

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
11.0	280	195	1	431 101
11.0	365	250	1	431 102
11.0	455	310	1	431 103
11.5	280	195	1	431 151
11.5	365	250	1	431 152
11.5	455	310	1	431 153
12.0	295	205	1	431 201
12.0	375	260	1	431 202
12.0	480	330	1	431 203
12.5	295	205	1	431 251
12.5	375	260	1	431 252
12.5	480	330	1	431 253
13.0	295	205	1	431 301
13.0	375	260	1	431 302
13.0	480	330	1	431 303
13.5	310	220	1	431 351
13.5	380	275	1	431 352
14.0	310	220	1	431 401
14.0	380	275	1	431 402
14.5	310	220	1	431 451
14.5	380	275	1	431 452
15.0	310	220	1	431 501
15.0	380	275	1	431 502
15.5	320	230	1	431 551
15.5	400	295	1	431 552
16.0	320	230	1	431 601
16.0	400	295	1	431 602

# 17000 | Extra long twist drill bit with straight shank HSS-G DIN 1869 Type N

Art.-Group 18



## High performance twist drill bit for deep hole drilling

- ▶ Precise point grinding
- ▶ Pointed chisel edge helps to reduce feed force and torque
- ▶ Steam tempered for better adhesion of the coolant
- ▶ For drilling into solid material
- ▶ For drilling deep drill holes
- ▶ Extended service life due to frequent chip removal and sufficient cooling

- ▶ Cutting terms (cutting speed and feed motion) have to match the stability of the drill bit
- ▶ Designed to drill: steel up to 1,000 N/mm<sup>2</sup>, cast steel, gray cast iron, malleable cast iron, sintered iron, graphite, brass tough and aluminum short-chipping

<b>Tolerance</b>	H8
<b>Material</b>	HSS-G
<b>Point grinding</b>	Tapered finish
<b>Point angle</b>	118°

<b>Web thinning</b>	Form A according to DIN 1412 starting at Ø 3 mm
<b>Web thickness</b>	Thicker than regular
<b>Tensile strength</b>	1,000 N/mm <sup>2</sup>

<b>Web taper</b>	Normal
<b>Helix angle</b>	Normal
<b>Constructional features</b>	DIN 1414



Quadro Pack not hangable

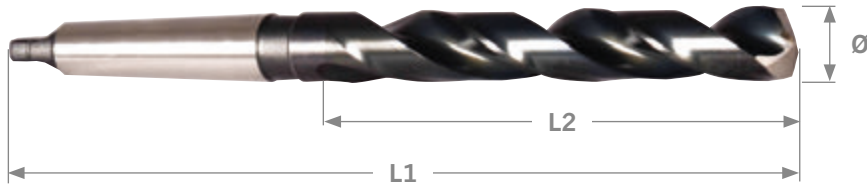
Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
3.0	150	105	1	170 301
3.3	155	105	1	170 331
4.0	175	120	1	170 401
4.2	175	120	1	170 421
4.5	185	125	1	170 451

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
5.0	195	135	1	170 501
6.0	205	140	1	170 601
6.8	225	155	1	170 681
7.0	225	155	1	170 701

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
8.0	240	165	1	170 801
8.5	240	165	1	170 851
9.0	250	175	1	170 901
10.0	265	185	1	171 001

# 24000 | PREMIUM twist drill bit with morse taper HSS-Co 5% DIN 345 Type RN

Art.-Group 77



## Precise and fast high performance drill bit

- ▶ Optimized premium product with split point
- ▶ Steam tempered for better adhesion of the coolant
- ▶ Long tool life
- ▶ Optimal chip removal

- ▶ High heat resistance
- ▶ Designed to drill: steel up to 1,300 N/mm<sup>2</sup>, stainless steels, cast iron, aluminum and non-ferrous metals

**Tolerance** H8  
**Material** HSS-Co 5%  
**Point grinding** Split point  
**Point angle** 135°

**Web thinning** DIN 1412, shape C  
**Web thickness** Normal  
**Tensile strength** 1,300 N/mm<sup>2</sup>  
**Web taper** Normal

**Helix angle** Normal  
**Constructional features** DIN 1414



Quadro Pack not hangable

Ø mm	L1 mm	L2 mm	MK	Pc./PU	Art.-No.
7.0	150	69	1	1	240 070*
7.5	150	69	1	1	240 075*
8.0	156	75	1	1	240 080
9.0	162	81	1	1	240 090
9.5	162	81	1	1	240 095*
10.0	168	87	1	1	240 100
10.5	168	87	1	1	240 105
11.0	175	94	1	1	240 110
11.5	175	94	1	1	240 115
12.0	182	101	1	1	240 120
12.5	182	101	1	1	240 125
13.0	182	101	1	1	240 130
13.5	189	108	1	1	240 135
14.0	189	108	1	1	240 140
14.5	212	114	2	1	240 145
15.0	212	114	2	1	240 150
15.5	218	120	2	1	240 155
16.0	218	120	2	1	240 160
16.5	223	125	2	1	240 165
17.0	223	125	2	1	240 170
17.5	228	130	2	1	240 175

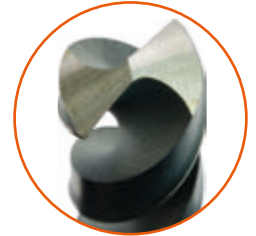
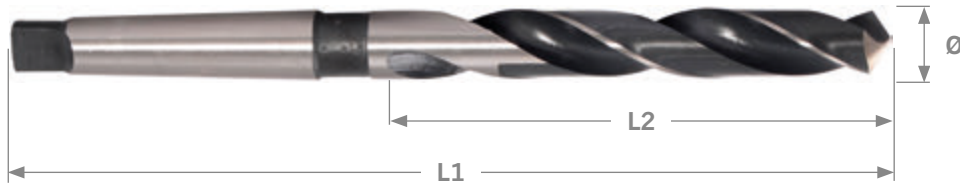
Ø mm	L1 mm	L2 mm	MK	Pc./PU	Art.-No.
18.0	228	130	2	1	240 180
18.5	233	135	2	1	240 185
19.0	233	135	2	1	240 190
19.5	238	140	2	1	240 195
20.0	238	140	2	1	240 200
20.5	243	145	2	1	240 205
21.0	243	145	2	1	240 210
21.5	248	150	2	1	240 215
22.0	248	150	2	1	240 220
22.5	253	155	2	1	240 225
23.0	253	155	2	1	240 230
23.5	276	155	3	1	240 235
24.0	281	160	3	1	240 240
24.5	281	160	3	1	240 245
25.0	281	160	3	1	240 250
25.5	286	165	3	1	240 255
26.0	286	165	3	1	240 260
26.5	286	165	3	1	240 265
27.0	291	170	3	1	240 270
27.5	291	170	3	1	240 275
28.0	291	170	3	1	240 280

Ø mm	L1 mm	L2 mm	MK	Pc./PU	Art.-No.
28.5	296	175	3	1	240 285
29.0	296	175	3	1	240 290
29.5	296	175	3	1	240 295
30.0	296	175	3	1	240 300
31.0	301	180	3	1	240 310
32.0	334	185	4	1	240 320
33.0	334	185	4	1	240 330
34.0	339	190	4	1	240 340
35.0	339	190	4	1	240 350
36.0	344	195	4	1	240 360
37.0	344	195	4	1	240 370
38.0	349	200	4	1	240 380
39.0	349	200	4	1	240 390
40.0	349	200	4	1	240 400
41.0	354	205	4	1	240 410*
43.0	359	210	4	1	240 430*
44.0	359	210	4	1	240 440*
45.0	359	210	4	1	240 450*
46.0	364	215	4	1	240 460*
47.0	364	215	4	1	240 470*
48.0	369	220	4	1	240 480*
49.0	369	220	4	1	240 490*
50.0	369	220	4	1	240 500*

Other dimensions and alloys on request

# 22000 | Twist drill bit with morse taper HSS-G DIN 345 Type N

Art.-Group 71



## Powerful drill bit for metal

- ▶ High resistance against breaking forces
- ▶ Optimal chip removal
- ▶ Designed to drill: steel up to 900 N/mm<sup>2</sup>, alloyed and unalloyed cast steel, gray cast iron, malleable cast iron,

sintered iron, nodular cast iron, graphite, bronze, brass tough and aluminum short-chipping

<b>Tolerance</b>	H8	<b>Web Thinning</b>	Without	<b>Helix Angle</b>	Normal
<b>Material</b>	HSS-G	<b>Web Thickness</b>	Normal	<b>Constructional Features</b>	DIN 1414
<b>Point Grinding</b>	Tapered finish	<b>Tensile strength</b>	900 N/mm <sup>2</sup>		
<b>Point Angle</b>	118°	<b>Web Taper</b>	Normal		



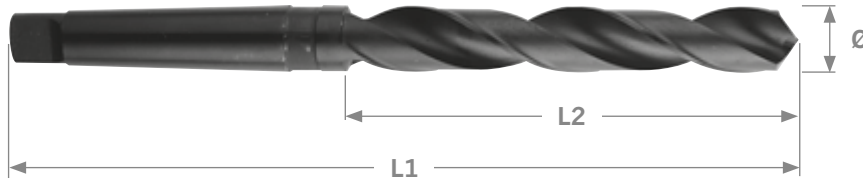
Single packaging with hanger

Ø mm	L1 mm	L2 mm	MK	Pc./ PU	Art.-No.
10.0	168	87	1	1	220 100
10.5	168	87	1	1	220 105
11.0	175	94	1	1	220 110
11.5	175	94	1	1	220 115
12.0	182	101	1	1	220 120
12.5	182	101	1	1	220 125
13.0	182	101	1	1	220 130
13.5	189	108	1	1	220 135
14.0	189	108	1	1	220 140
14.5	212	114	2	1	220 145
15.0	212	114	2	1	220 150
15.5	218	120	2	1	220 155
16.0	218	120	2	1	220 160
16.5	223	125	2	1	220 165
17.0	223	125	2	1	220 170
17.5	228	130	2	1	220 175
18.0	228	130	2	1	220 180
18.5	233	135	2	1	220 185
19.0	233	135	2	1	220 190
19.5	238	140	2	1	220 195
20.0	238	140	2	1	220 200
20.5	243	145	2	1	220 205
21.0	243	145	2	1	220 210
21.5	248	150	2	1	220 215

Ø mm	L1 mm	L2 mm	MK	Pc./ PU	Art.-No.
22.0	248	150	2	1	220 220
22.5	253	155	2	1	220 225
23.0	253	155	2	1	220 230
23.5	276	155	3	1	220 235
24.0	281	160	3	1	220 240
24.5	281	160	3	1	220 245
25.0	281	160	3	1	220 250
25.5	286	165	3	1	220 255
26.0	286	165	3	1	220 260
26.5	286	165	3	1	220 265
27.0	291	170	3	1	220 270
27.5	291	170	3	1	220 275
28.0	291	170	3	1	220 280
28.5	296	175	3	1	220 285
29.0	296	175	3	1	220 290
29.5	296	175	3	1	220 295
30.0	296	175	3	1	220 300
30.5	301	180	3	1	220 305
31.0	301	180	3	1	220 310
31.5	301	180	3	1	220 315
32.0	334	185	4	1	220 320
32.5	334	185	4	1	220 325
33.0	334	185	4	1	220 330
33.5	334	185	4	1	220 335
34.0	339	190	4	1	220 340
34.5	339	190	4	1	220 345
35.0	339	190	4	1	220 350

Ø mm	L1 mm	L2 mm	MK	Pc./ PU	Art.-No.
35.5	339	190	4	1	220 355
36.0	344	195	4	1	220 360
36.5	344	195	4	1	220 365
37.0	344	195	4	1	220 370
37.5	344	195	4	1	220 375
38.0	349	200	4	1	220 380
38.5	349	200	4	1	220 385
39.0	349	200	4	1	220 390
39.5	349	200	4	1	220 395
40.0	349	200	4	1	220 400
40.5	354	205	4	1	220 405
41.0	354	205	4	1	220 410
41.5	354	205	4	1	220 415
42.0	354	205	4	1	220 420
42.5	354	205	4	1	220 425
43.0	359	210	4	1	220 430
43.5	359	210	4	1	220 435
44.0	359	210	4	1	220 440
44.5	359	210	4	1	220 445
45.0	359	210	4	1	220 450
45.5	364	215	4	1	220 455
46.0	364	215	4	1	220 460
46.5	364	215	4	1	220 465
47.0	364	215	4	1	220 470
47.5	364	215	4	1	220 475
48.0	369	220	4	1	220 480
48.5	369	220	4	1	220 485
49.0	369	220	4	1	220 490
49.5	369	220	4	1	220 495
50.0	369	220	4	1	220 500
55.0	417	230	5	1	220 550
60.0	422	235	5	1	220 600

# 20000 | Twist drill bit with morse taper HSS-R DIN 345 Type N



## High performance standard twist drill bit

- ▶ High durability
- ▶ High cutting performance and good chip removal
- ▶ Steam tempered for better adhesion of the coolant
- ▶ Designed to drill: alloyed and unalloyed steel or cast steel, gray cast iron, malleable cast iron, sintered iron, nodular cast iron, graphite, bronze and brass tough

<b>Tolerance</b>	H8	<b>Web thinning</b>	Without	<b>Helix angle</b>	Normal
<b>Material</b>	HSS-R	<b>Web thickness</b>	Normal	<b>Constructional features</b>	DIN 1414
<b>Point grinding</b>	Tapered finish	<b>Tensile strength</b>	900 N/mm <sup>2</sup>		
<b>Point angle</b>	118°	<b>Web taper</b>	Normal		



Single packaging with hanger

Ø mm	L1 mm	L2 mm	MK	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	MK	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	MK	Pc./PU	Art.-No.
8.0	156	75	1	1	20 800	20.5	243	145	2	1	22 050	34.0	339	190	4	1	23 400
8.5	156	75	1	1	20 850	21.0	243	145	2	1	22 100	34.5	339	190	4	1	23 450
9.0	162	81	1	1	20 900	21.5	248	150	2	1	22 150	35.0	339	190	4	1	23 500
9.5	162	81	1	1	20 950	22.0	248	150	2	1	22 200	35.5	339	190	4	1	23 550
10.0	168	87	1	1	21 000	22.5	253	155	2	1	22 250	36.0	344	195	4	1	23 600
10.5	168	87	1	1	21 050	23.0	253	155	2	1	22 300	36.5	344	195	4	1	23 650
11.0	175	94	1	1	21 100	23.5	276	155	3	1	22 350	37.0	344	195	4	1	23 700
11.5	175	94	1	1	21 150	24.0	281	160	3	1	22 400	37.5	344	195	4	1	23 750
12.0	182	101	1	1	21 200	24.5	281	160	3	1	22 450	38.0	349	200	4	1	23 800
12.5	182	101	1	1	21 250	25.0	281	160	3	1	22 500	38.5	349	200	4	1	23 850
13.0	182	101	1	1	21 300	25.5	286	165	3	1	22 550	39.0	349	200	4	1	23 900
13.5	189	108	1	1	21 350	26.0	286	165	3	1	22 600	39.5	349	200	4	1	23 950
14.0	189	108	1	1	21 400	26.5	286	165	3	1	22 650	40.0	349	200	4	1	24 000
14.5	212	114	2	1	21 450	27.0	291	170	3	1	22 700	40.5	354	205	4	1	24 050
15.0	212	114	2	1	21 500	27.5	291	170	3	1	22 750	41.0	354	205	4	1	24 100
15.5	218	120	2	1	21 550	28.0	291	170	3	1	22 800	41.5	354	205	4	1	24 150
16.0	218	120	2	1	21 600	28.5	296	175	3	1	22 850	42.0	354	205	4	1	24 200
16.5	223	125	2	1	21 650	29.0	296	175	3	1	22 900	42.5	354	205	4	1	24 250
17.0	223	125	2	1	21 700	29.5	296	175	3	1	22 950	43.0	359	210	4	1	24 300
17.5	228	130	2	1	21 750	30.0	296	175	3	1	23 000	43.5	359	210	4	1	24 350
18.0	228	130	2	1	21 800	30.5	301	180	3	1	23 050	44.0	359	210	4	1	24 400
18.5	233	135	2	1	21 850	31.0	301	180	3	1	23 100	44.5	359	210	4	1	24 450
19.0	233	135	2	1	21 900	31.5	301	180	3	1	23 150	45.0	359	210	4	1	24 500
19.5	238	140	2	1	21 950	32.0	334	185	4	1	23 200	45.5	364	215	4	1	24 550
20.0	238	140	2	1	22 000	32.5	334	185	4	1	23 250	46.0	364	215	4	1	24 600
						33.0	334	185	4	1	23 300	46.5	364	215	4	1	24 650
						33.5	334	185	4	1	23 350	47.0	364	215	4	1	24 700
												47.5	364	215	4	1	24 750
												48.0	369	220	4	1	24 800
												48.5	369	220	4	1	24 850
												49.0	369	220	4	1	24 900
												49.5	369	220	4	1	24 950
												50.0	369	220	4	1	25 000
												55.0	417	230	5	1	25 500
												60.0	422	235	5	1	25 600

Other dimensions and alloys on request



# Sets

Art.-Group 16



## Content

Ø 14.0 - 30.0 / 2 mm increasing  
+ Ø 25.0 mm

## Packaging

10 pcs. in metal case

## Art.-No.

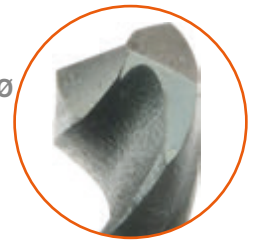
60 720



PROFESSIONAL PLUS STANDARD

# 48000 | Hollow section twist drill bit with straight shank, ground HSS-G PROJAHN standard Type N

Art.-Group 5



## Professional twist drill bit for hollow section

- ▶ The short helix reduces the possibility of tilting in the material
- ▶ The split point allows low drill pressure and precise drilling
- ▶ The long straight shank provides increased break resistance
- ▶ Designed to drill: hollow profiles e.g. in window installation, steel profile sheet constructions, aluminum, brass and plastics

<b>Tolerance</b>	H8	<b>Web thinning</b>	Split point form C	<b>Helix angle</b>	Normal
<b>Material</b>	HSS-G	<b>Web thickness</b>	Reinforced	<b>Constructional features</b>	DIN 1414
<b>Point grinding</b>	Tapered bevel	<b>Tensile strength</b>	900 N/mm <sup>2</sup>		
<b>Point angle</b>	118°	<b>Web taper</b>	Normal		



Quadro Pack not hangable

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
3.0	100	30	10	4 830 100
4.9	100	30	10	4 849 100
4.9	150	30	10	4 849 150
5.0	70	30	10	4 850 070
5.0	100	30	10	4 850 100
5.0	150	30	10	4 850 150
5.0	210	30	10	4 850 210
5.1	70	30	10	4 851 070
5.1	100	30	10	4 851 100
5.1	150	30	10	4 851 150

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
5.1	210	30	10	4 851 210
5.3	70	30	10	4 853 070
5.3	100	30	10	4 853 100
5.3	150	30	10	4 853 150
5.3	210	30	10	4 853 210
5.5	70	30	10	4 855 070
5.5	100	30	10	4 855 100
5.5	150	30	10	4 855 150
5.5	21	30	10	4 855 210
5.7	70	30	10	4 857 070

Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
5.7	100	30	10	4 857 100
5.7	120	30	10	4 857 120
5.7	150	30	10	4 857 150
5.7	180	30	10	4 857 180
5.7	210	30	10	4 857 210
5.8	70	30	10	4 858 070
5.8	100	30	10	4 858 100
5.8	120	30	10	4 858 120
5.8	150	30	10	4 858 150
5.8	180	30	10	4 858 180
5.8	210	30	10	4 858 210

## 27000 | Adaptor Sleeves DIN 2185

Art.-Group 27



► To compensate the different morse taper sizes on shank and power tool

► Throughout hardened  
► For tools with morse taper shank

Quadro pack



AK	IK	Art.-No.	AK	IK	Art.-No.	AK	IK	Art.-No.
2	1	27 021	4	1	27 041	5	3	27 053
3	1	27 031	4	2	27 042	5	4	27 054
3	2	27 032	4	3	27 043			

## 28000 | Ejector DIN 317 PROJAHN standard

Art.-Group 27



► For an easy removal of tools with morse taper shank

► Robust, handy and durable

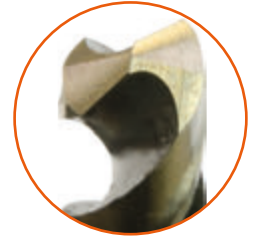
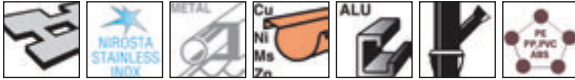
In pouch



Description	Art.-No.	Description	Art.-No.
Ejector suitable for size 1 and 2	28 012	Ejector suitable for size 4	28 004
Ejector suitable for size 3	28 003	Ejector suitable for sizes 5 and 6	28 056

# 45100 | Double end drill bit HSS-Co 5%

Art.-Group 8



### The drill bit with double benefit

- ▶ Short helix prevents jamming when drilling through sheet metal
- ▶ Good centering due to split point
- ▶ Perfect for sheet metal, profiles and hollow rivet holes
- ▶ Both sides usable
- ▶ Double economic efficiency
- ▶ Maximum break resistance due to short helix
- ▶ Especially for use in hand drills
- ▶ Designed to drill: steel, aluminum, non-ferrous metals and stainless steel

Quadro pack with hanger



Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
3.00	46	11	10	451 300	4.00	55	14	10	451 400	4.90	62	17	10	451 490
3.10	49	11	10	451 310	4.10	55	14	10	451 410	5.00	62	17	10	451 500
3.20	49	11	10	451 320	4.20	55	14	10	451 420	5.10	62	17	10	451 510
3.25	49	11	10	451 325	4.50	58	17	10	451 450	5.20	62	17	10	451 520
3.30	49	11	10	451 330	4.80	62	17	10	451 480	5.50	66	20	10	451 550
3.50	52	14	10	451 350										

# 45000 | Double end drill bit HSS-G

Art.-Group 8



Product advantages as article series 45100, except for the advantage in the area of stainless steels

Quadro pack with hanger

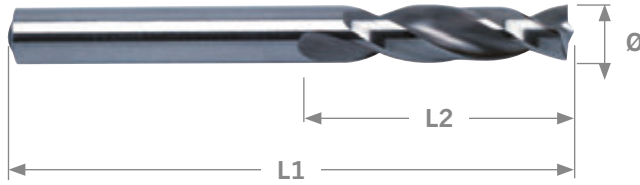


Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
3.00	46	11	10	45 300	4.00	55	14	10	45 400	5.00	62	17	10	45 500
3.10	49	11	10	45 310	4.10	55	14	10	45 410	5.10	62	17	10	45 510
3.20	49	11	10	45 320	4.20	55	14	10	45 420	5.20	62	17	10	45 520
3.25	49	11	10	45 325	4.50	58	17	10	45 450	5.50	66	20	10	45 550
3.30	49	11	10	45 330	4.80	62	17	10	45 480					
3.50	52	14	10	45 350	4.90	62	17	10	45 490	6.00	66	20	10	45 600

## 70600 / 70800 / 71000 | Weld spot drill bit HSS-Co 5%



Art.-Group 11



### High performance drill bit for milling out weld spots

- ▶ For clean, burr-free milling of weld spots
- ▶ No sliding off the welding spot due to the special ground joint with center point - shape E
- ▶ No subsequent grinding of the weld spot necessary
- ▶ Chatter-free operation
- ▶ Designed to drill: steel, sheet metal, non-ferrous metals and stainless steel

Quadro pack with hanger

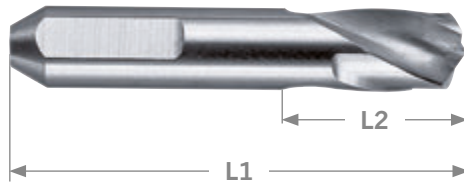


Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
6.0	66	28	10	70 600	8.0	79	37	10	70 800	10.0	89	43	10	71 000

## 70840 / 70844 | Spotle drill bit HSS-Co 5%



Art.-Group 11



### Precise weld spot drill bit for pneumatic machines

- ▶ No sliding off the welding spot due to the special ground joint with center point - shape E
- ▶ No subsequent grinding of the weld spot necessary
- ▶ Special shank for use in pneumatic machines
- ▶ Chatter-free operation
- ▶ For clean, burr-free milling of weld spots
- ▶ Designed to drill: steel, sheet metal, non-ferrous metals and stainless steel

Quadro pack with hanger

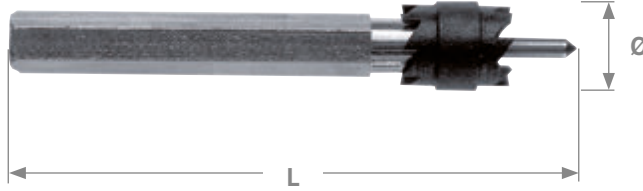


Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.	Ø mm	L1 mm	L2 mm	Pc./PU	Art.-No.
8.0	40	21	10	70 840	8.0	44	21	10	70 844

# 70002 | Weld spot cutter HSS



Art.-Group 11



- ▶ Exchangeable double sided cutting weld spot cutter head
- ▶ Adjustable milling depth
- ▶ No sheet metal deformation
- ▶ No rip out
- ▶ For detaching spot welded sheets



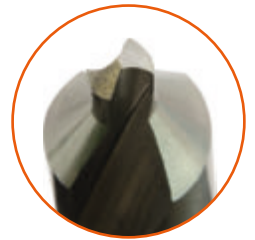
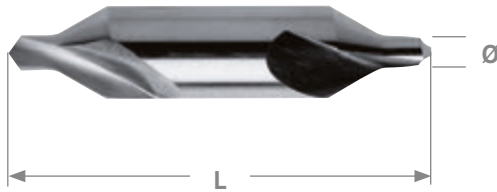
Quadro pack with hanger

Ø mm	L mm	Description	Art.-No.	Ø mm	L mm	Description	Art.-No.	Ø mm	L mm	Description	Art.-No.
10.0	72	Set	70 002	10.0	15	Milling cutter	70 003	2.5	27	Centering pin	70 004

# 39000 | Center drill bit HSS-G DIN 333 Form A 60°



Art.-Group 10



## High performance drill bit for drilling center holes

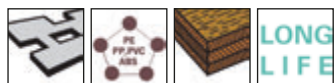
- ▶ Ground from solid material
- ▶ Spiral flute
- ▶ 118° point angle
- ▶ For centering holes 60° according to DIN 332, form A, with large surface contact on center punch tip



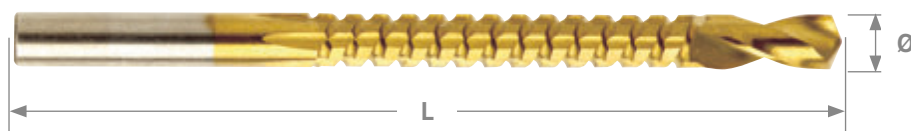
Quadro pack with hanger

Ø mm	L mm	Ø Shank	Pc./ PU	Art.-No.	Ø mm	L mm	Ø Shank	Pc./ PU	Art.-No.	Ø mm	L mm	Ø Shank	Pc./ PU	Art.-No.
1.00	31.5	3.15	10	39 100	2.50	45	6.3	10	39 250	5.00	63	12.5	5	39 500
1.60	35.5	4	10	39 160	3.15	50	8	10	39 315	6.30	71	16	5	39 630
2.00	40	5	10	39 200	4.00	56	10	10	39 400					

## 70005 | Universal milling drill bit with cylindrical shank HSS-TiN



Art.-Group 11



### Long service life due to TiN coating

- ▶ Drilling and milling with one tool in sheet metal and thin walled material
- ▶ Despite a small drill diameter larger holes can be made by using the milling ribs
- ▶ Universal applications in car body and panel construction as well as in the wood and plastics processing industry
- ▶ Milling drill bit with split point and 118° point angle
- ▶ Short helix followed by milling cutters with chipbreakers up to the clamping shank
- ▶ Designed to drill: sheet metal, wood and plastic made of thin-walled material

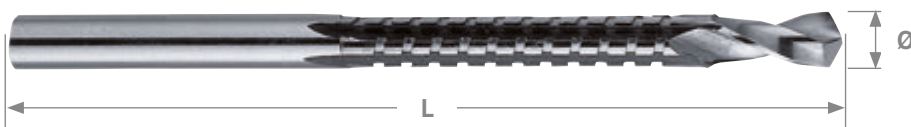
Single packaging with hanger

Ø mm	L mm	Art.-No.
6.0	90	70 005

## 70001 | Universal milling drill with straight shank HSS-G



Art.-Group 11



### Product advantages as article 70005, but without increased tool life due to missing TiN coating

Single packaging with hanger

Ø mm	L mm	Art.-No.
6.0	90	70 001

## 70101 | Scriber with carbide tip

Art.-Group 11



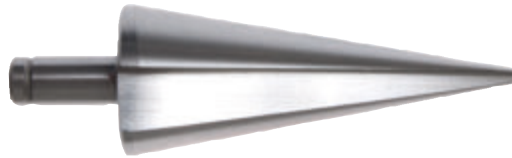
- ▶ For scribing metals and other materials with smooth surfaces
- ▶ With handy fastening clip
- ▶ Ideally suited for steel, sheet metal, tiles, stone, glass and plastics

Single packaging with hanger

L mm	Description	Art.-No.
150	For scribing metals and other materials	70 101

## 75600 | Tube and sheet drill bits HSS-Co 5%

Art.-Group 12



- ▶ For drilling larger holes in thin-walled material and for reaming existing holes, sheet steel and stainless steel 0.1 - 2.0 mm, non-ferrous metals 0.1 - 0.5 mm, stainless steel V2 A 0.1 - 1.0 mm and plastics up to 10 mm
- ▶ Sharp drill bit tip: Instant drilling without pre-drilling, burr and chatter mark free work
- ▶ Precision ground due to CBN grinding process
- ▶ 20° defined tapered cutting edges, with radial relief grinding
- ▶ 3-surface grinding on the shank for a better form fit, ensuring an optimum power transmission
- ▶ To be used in hand drills and pillar drills
- ▶ Always to use with suitable lubricant

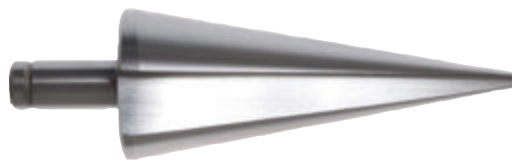
Single packaging with hanger



Size	Ø mm	Ø Shank	Art.-No.	Size	Ø mm	Ø Shank	Art.-No.	Size	Ø mm	Ø Shank	Art.-No.
1	3 - 14	6	75 601	4	26 - 40	12	75 604	L	4 - 30.5	10	75 609
2	8 - 20	8	75 602	5	36 - 50	13	75 605	<b>Description</b>			<b>Art.-No.</b>
3	16 - 30.5	10	75 603	6	46 - 60	13	75 606	Cutting paste 7 ml			75 052

## 75000 | Tube and sheet drill bits HSS-G

Art.-Group 12



Product advantages as article series 75600, except for the advantage in the area of stainless steels

Single packaging with hanger



Size	Ø mm	Ø Shank	Art.-No.	Size	Ø mm	Ø Shank	Art.-No.	Size	Ø mm	Ø Shank	Art.-No.
1	3 - 14	6	75 001	4	26 - 40	12	75 004	L	4 - 30.5	10	75 009
2	8 - 20	8	75 002	5	36 - 50	13	75 005	1a	2 - 7.8	6	75 011
3	16 - 30.5	10	75 003	6	46 - 60	13	75 006	2a	4 - 22.5	8	75 010

## Sets

Art.-Group 16



75 060

75 055

Content	Packaging	Art.-No.
1x HSS-G sheet drill bit size 2a for Ø 4 - 22.5 mm, 1x universal milling drill bit Ø 6 mm, 1x cutting paste, 1x HSS-G sheet drill bit size L for Ø 4 - 30.5 mm	4 pcs. in plastic box	75 060
1x HSS-G sheet drill bit size 1 for Ø 3 - 14 mm, 1x HSS-G sheet drill bit size 2 for Ø 8 - 20 mm, 1x HSS-G sheet drill bit size 3 for Ø 16 - 30.5 mm, 1x cutting paste	4 pcs. in plastic box	75 055

# 76900 | Step drill bit with spiral flute HSS-Co 5%



Art.-Group 12



## Precise and versatile step drill bit with extra long tool life

- ▶ Perfect for sheet metal working, stainless steel sheets, non-ferrous metals, plastics and plexiglass
- ▶ Multi-step drill bit with spiral flute and edge breaker for drilling and deburring cylindrical holes
- ▶ 3-surface grinding on the shank for a better form fit, ensuring an optimum power transmission
- ▶ Sharp drill bit tip: Instant drilling without pre-drilling, burr and chatter mark free work
- ▶ Precision ground due to CBN grinding process
- ▶ High running smoothness with an excellent cutting performance
- ▶ Optimal chip removal, especially with non-breaking chips
- ▶ Spiral geometry of the flutes results in a longer tool life
- ▶ The next larger step can be used for slight countersinking or deburring



Single packaging with hanger

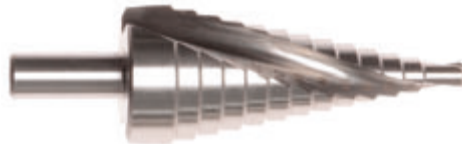
Size	Ø of single steps	L mm	Ø Shank	Art.-No.
1	4-5-6-7-8-9-10-11-12	80	6	76 901
2	6-8-10-12-14-16-18-20	70	9	76 902

Size	Ø of single steps	L mm	Ø Shank	Art.-No.
3	6-8-10-12-14-16-18-20-22-24-26-28-30	100	10	76 903
4	9-12-15-18-21-24-27-30-33-36	96	12	76 904

# 76800 | Step drill bit with spiral flute HSS



Art.-Group 12



## Product advantages as article series 76900, except for the advantage in the area of stainless steels

Single packaging with hanger



Size	Ø of single steps	L mm	Ø Shank	Art.-No.
1	4-5-6-7-8-9-10-11-12	80	6	76 801
2	6-8-10-12-14-16-18-20	70	9	76 802

Size	Ø of single steps	L mm	Ø Shank	Art.-No.
3	6-8-10-12-14-16-18-20-22-24-26-28-30	100	10	76 803
4	9-12-15-18-21-24-27-30-33-36	96	12	76 804

## Sets

Art.-Group 16

Content	Material	Packaging	Art.-No.
Size 1 step drill bit 4 - 12.0 mm Size 2 step drill bit 6 - 20.0 mm Size 3 step drill bit 6 - 30.0 mm Cutting paste	HSS-Co 5%	4 pcs. in plastic box	76 911
Size 1 step drill bit 4 - 12.0 mm Size 2 step drill bit 6 - 20.0 mm Size 3 step drill bit 6 - 30.0 mm Cutting paste	HSS-G	4 pcs. in plastic box	76 811



**4**  
PIECES

76 911  
76 811



## 76600 | Step drill bit HSS-Co 5%

Art.-Group 12



- ▶ For drilling larger holes in thin-walled material and for reaming existing holes
- ▶ Sharp drill bit tip: Instant drilling without pre-drilling, burr and chatter mark free work
- ▶ Step drill bit with two cutting edges
- ▶ Precision ground due to CBN grinding process
- ▶ Transition from one step to the next step 45°
- ▶ The next larger step can be used for slight countersinking or deburring

- ▶ Double sided drilling enables up to 7 mm drilling depth
- ▶ To be used in hand drills and box column drills
- ▶ Always use suitable lubricant
- ▶ For sheet steel and stainless steel 0.1 - 2.0 mm, non-ferrous metals 0.1 - 5.0 mm, plastic up to 7.0 mm and plexiglass



Single packaging with hanger

Size	Ø of single steps	L mm	Ø Shank	Art.-No.
1	4-5-6-7-8-9-10-11-12	65	6	76 601
2	6-8-10-12-14-16-18-20	75	9	76 602

Size	Ø of single steps	L mm	Ø Shank	Art.-No.
3	6-8-10-12-14-16-18-20-22-24-26-28-30	100	10	76 603
4	7 - 12.5 - 15.2 - 18.6 - 20.4 - 22.5 - 28.3 - 30.5 - 37	100	12	766 032

## 76000 | Step drill bit HSS

Art.-Group 12



Product advantages as article series 76600, except for the advantage in the area of stainless steels

Single packaging with hanger



Size	Ø of single steps	L mm	Ø Shank	Art.-No.
1	4-5-6-7-8-9-10-11-12	65	6	76 001
2	6-8-10-12-14-16-18-20	75	9	76 002

Size	Ø of single steps	L mm	Ø Shank	Art.-No.
3	6-8-10-12-14-16-18-20-22-24-26-28-30	100	10	76 003
4	7 - 12.5 - 15.2 - 18.6 - 20.4 - 22.5 - 28.3 - 30.5 - 37	100	12	760 032

# 35900 | Countersink 90° with three cutting edges HSS-Co 5% AlTiN DIN 335 C

Art.-Group 15



## The countersink for highest requirements regarding tool life

- ▶ Due to AlTiN coating (aluminum titanium nitride) especially qualified for minimal or no lubrication
- ▶ Suitable for all common industrial materials
- ▶ Multipurpose geometry to optimize chip formation, chip removal and centering characteristics
- ▶ Countersink with three cutting edges and a countersink angle of 90°
- ▶ 3-surface grinding on the shank for a better form fit, ensuring an optimum power transmission
- ▶ Radial and axial relief grinded
- ▶ The robust tool is used in the engineering-, machinery-, steelpipes-, wood-, furniture- and car-industry as well as in the aircraft-engineering
- ▶ Vibration free working
- ▶ Burr free countersinking without beads, also in wrought aluminum alloys
- ▶ Ideal for countersinking threaded holes
- ▶ Boring of tubes and metal sheets
- ▶ Deburring and countersinking in one work step
- ▶ For countersinking according to DIN 74 AF/BF and DIN 75 AF/BF
- ▶ Regrindable cutting edges
- ▶ For almost all materials up to approx. 1,100 N/mm<sup>2</sup>



Single packaging with hanger

Ø mm	L mm	Ø Shank	Ø Tip	Art.-No.	Ø mm	L mm	Ø Shank	Ø Tip	Art.-No.
6.3	45	5	1.5	359 063	16.5	60	10	3.2	359 165
8.3	50	6	2	359 083	20.5	63	10	3.5	359 205
10.4	50	6	2.5	359 104	25.0	67	10	3.8	359 250
12.4	56	8	2.8	359 124	31.0	71	12	4.2	359 300

## Countersinks for countersunk screws DIN 74/ DIN 75

Ø mm	Countersunk screws
6.3	M3
8.3	M4
10.4	M5
12.4	M6
16.5	M8
20.5	M10
25.0	M12
31.0	M16

## Sets

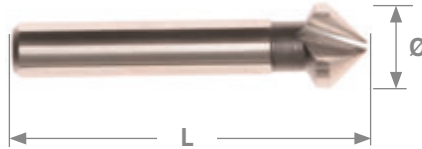
Art.-Group 16



Content	Packaging	Art.-No.
Ø 6.3 - 8.3 - 10.4 - 12.4 - 16.5 - 20.5 mm	6 pcs. in metal box	35 901

## 35700 | Countersink 90° with three cutting edges HSS-Co 5% DIN 335 C

Art.-Group 15



Product advantages as article 35900, but without increased tool life due to missing AlTiN coating



Single packaging with hanger

Ø mm	L mm	Ø Shank	Ø Tip	Art.-No.	Ø mm	L mm	Ø Shank	Ø Tip	Art.-No.
6.3	45	5	1.5	357 063	16.5	60	10	3.2	357 165
8.3	50	6	2	357 083	20.5	63	10	3.5	357 205
10.4	50	6	2.5	357 104	25.0	67	10	3.8	357 250
12.4	56	8	2.8	357 124	31.0	71	12	4.2	357 300

### Sets

Art.-Group 16



Content	Packaging	Art.-No.
Ø 6.3 - 8.3 - 10.4 - 12.4 - 16.5 - 20.5 mm	6 pcs. in metal box	35 701

## 35800 | Countersink 90° with three cutting edges HSS-Co 5% DIN 335 C long

Art.-Group 15



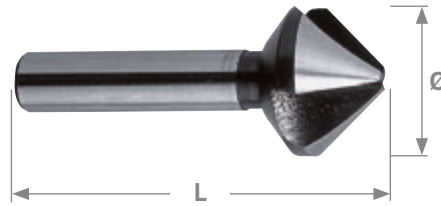
Product advantages as article 35900, but without increased tool life due to missing AlTiN coating



Single packaging with hanger

Ø mm	L mm	Ø Shank	Ø Tip	Art.-No.	Ø mm	L mm	Ø Shank	Ø Tip	Art.-No.
6.3	156	5	1.5	358 063	16.5	162	10	3.2	358 165
8.3	157	6	2	358 083	20.5	166	10	3.5	358 205
10.4	158	6	2.5	358 104	25.0	170	10	3.8	358 250
12.4	160	8	2.8	358 124	31.0	173	12	4.2	358 300

## 35600 | Countersink with three cutting edges HSS-Co 5% DIN 335 C ECO



Art.-Group 15

- ▶ Three cutting edges center the countersink exactly in the middle of the drill hole and produce a evenly round sink with a smooth surface
- ▶ Easy, chatter-free deburring of drill holes
- ▶ Countersinking and deburring in one working step

- ▶ Significant increase in tool life due to proper cooling of countersinks
- ▶ Best results at low cutting speed and high feed
- ▶ Suitable for almost all materials such as steel, sheet steel, non-ferrous metals, aluminum, cast iron, plastics and stainless steel



Single packaging with hanger

Ø mm	L mm	Ø Shank	Art.-No.	Ø mm	L mm	Ø Shank	Art.-No.	Ø mm	L mm	Ø Shank	Art.-No.
6.3	45	5	356 063	12.0	56	8	356 120	20.5	63	10	356 205
8.0	45	6	356 080	12.4	56	8	356 124	25.0	50	10	356 250
8.3	45	6	356 083	16.0	50	10	356 160	28.0	50	12	356 280
10.0	45	6	356 100	16.5	60	10	356 165	30.0	71	12	356 300
10.4	46	8	356 104	20.0	50	10	356 200				

## 35000 | Countersink with three cutting edges HSS DIN 335 C ECO



Art.-Group 15

Product advantages as article series 35600, except for the advantage in the area of stainless steels

Single packaging with hanger



Ø mm	L mm	Ø Shank	Art.-No.	Ø mm	L mm	Ø Shank	Art.-No.	Ø mm	L mm	Ø Shank	Art.-No.
6.3	45	5	35 063	12.0	56	8	35 120	20.5	63	10	35 205
8.0	50	6	35 080	12.4	56	8	35 124	25.0	67	10	35 250
8.3	50	6	35 083	16.0	60	10	35 160	28.0	71	12	35 280
10.0	50	6	35 100	16.5	60	10	35 165	30.0	71	12	35 300
10.4	50	8	35 104	20.0	63	10	35 200				

## Sets



Art.-Group 16

Content	Packaging	Art.-No.
Ø 6.3 - 8.0 - 10.0 - 12.0 - 16.0 - 20.0 mm 1x cutting paste	7 pcs. in plastic box	35 006

# 36600 | Countersink with cross hole 90° and straight shank HSS-Co 5%

Art.-Group 15



- ▶ Easy, peeling cut due to optimum cutting geometry
- ▶ Preventing damage to the countersink through optimum chip removal due to the cross hole inside the countersink
- ▶ Constant run of the tapered finish
- ▶ Easy, chatter-free deburring of drill holes

Single packaging with hanger

Size	Ø mm	L	Ø Shank	Art.-No.	Size	Ø mm	L	Ø Shank	Art.-No.
1	2 - 5	48	6	36 601	3	10 - 15	65	10	36 603
2	5 - 10	48	8	36 602	4	15 - 20	85	12	36 604



## Sets

Art.-Group 16



**Content**

Size 1 deburring countersink for Ø 2 - 5 mm  
 Size 2 deburring countersink for Ø 5 - 10 mm  
 Size 3 deburring countersink for Ø 10 - 15 mm  
 Size 4 deburring countersink for Ø 15 - 20 mm  
 1x cutting paste

**Packaging**

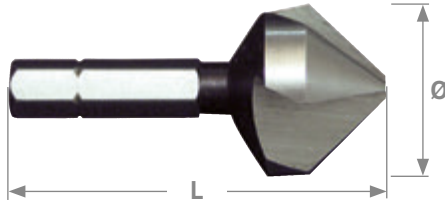
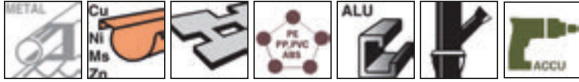
5 pcs. in plastic box

**Art.-No.**

36 055

# 35300 | Countersink bits 90° with three cutting edges HSS-G with 6.35 mm [1/4"] hexagon socket

Art.-Group 15



- ▶ Especially suited for deburring and countersinking
- ▶ Quick tool change due to hexagonal shank
- ▶ To be used in hand drills

- ▶ For almost all materials such as steel, sheet steel, non-ferrous metal, aluminum, cast iron, plastics, etc.



Single packaging with hanger

Ø mm	L	Counterbore	Art.-No.	Ø mm	L	Counterbore	Art.-No.	Ø mm	L	Counterbore	Art.-No.
6.3	31	M3	353 063	10.4	34	M5	353 104	16.5	40	M8	353 165
8.3	32	M4	353 083	12.4	36	M6	353 124	20.5	43	M10	353 205

## Sets

Art.-Group 16



Content	Packaging	Art.-No.
Ø 6.3 - 8.3 - 10.4 - 12.4 - 16.5 - 20.5 mm 1x universal bit holder	7 pcs. in metal box	35 003



# 35400 | Outer reamer with carbide cutting edges

Art.-Group 15



### Ideal for repair of threaded bolts and screws

- ▶ Fast and clean deburring of pipes, threaded rods, screws and much more due to carbide blades
- ▶ Suitable for diameters 3 – 54 mm
- ▶ To be used in cordless screwdrivers and drills
- ▶ Only use low rotational speed
- ▶ Perfect for various materials such as stainless steel, metal, non-ferrous metal and plastic

Single packaging with hanger

35 401



Size	Length mm	Ø range mm	Number of cutting edges	Max RPM	Art.-No.
1	49	3-19	3	500	35 401
2	57	13-35	5	150	35 402
3	63	34-54	9	60	35 403

# 36700 | 36800 | 36900 | Flat counterbore HSS-Co 5% DIN 373

Art.-Group 15



- ▶ Flat counterbore with spiral fluted cutting edges and a countersink angle of 180°
- ▶ The pin diameter is adapted to the respective application
- ▶ The threadhole is cut after the sinking operation
- ▶ For countersinking hexagon screws according to DIN 912, 6912, 7984 and cylindrical screws with slot according to ISO 1207 (DIN 84)
- ▶ FINE - for through hole grade fine according to DIN ISO 373
- ▶ MEDIUM - for through hole grade medium according to DIN ISO 373
- ▶ Core hole - the guide pin of the countersink fits only in threaded core holes
- ▶ For countersinks according to DIN 74 sheet 2

## 36700

Single packaging with hanger

for through hole, FINE

## 36800

for through hole, MEDIUM

## 36900

for core hole



Thread	Ø Head	Ø Shank	Ø Pin	Art.-No.
M3	6	5	3.2	36 703
M4	8	5	4.3	36 704
M5	10	8	5.3	36 705
M6	11	8	6.4	36 706
M8	15	12.5	8.4	36 708
M10	18	12.5	10.5	36 710
M12	20	12.5	13.0	36 712

Ø Pin	Art.-No.
3.4	36 803
4.5	36 804
5.5	36 805
6.6	36 806
9.0	36 808
11.0	36 810
13.5	36 812

Ø Pin	Art.-No.
2.5	36 903
3.3	36 904
4.2	36 905
5.0	36 906
6.8	36 908
8.5	36 910
10.2	36 912

# 38700 | Core drill bit with weldon shank 19 mm [3/4"] HSS-Co 8%

Art.-Group 84



- ▶ Core drill bits in HSS-Co 8% steel quality are made with a cutting depth of 30 resp. 55 mm
- ▶ Core drill bits are produced in full grinding technology, which provides a perfect surface finish with optimum chip removal
- ▶ The core drill bits are used on mobile magnetic core drilling machines or on stationary pillar drilling machines
- ▶ High cost and time savings because the core drill bit only drills out a ring and not the entire drill diameter
- ▶ Time saving effect can be up to a factor of 10 because time-consuming preparatory work such as pre-centring or pre-drilling and re-drilling is no longer necessary
- ▶ Due to the lower stress on the material, the core drills have a longer service life compared to solid drills
- ▶ The ejector pin (with spring) throws out the drill core
- ▶ Always use coolant and an optimum rotation speed
- ▶ You can find an overview of the recommended rotation speeds on page P 130

Quadro Pack not hangable



Ø mm	Cutting depth mm	Art.-No.	Ø mm	Cutting depth mm	Art.-No.	Ø mm	Cutting depth mm	Art.-No.
12.0	30	387 120 30	30.0	30	387 300 30	21.0	55	387 210 55
13.0	30	387 130 30	31.0	30	387 310 30	22.0	55	387 220 55
14.0	30	387 140 30	32.0	30	387 320 30	23.0	55	387 230 55
15.0	30	387 150 30	35.0	30	387 350 30	24.0	55	387 240 55
16.0	30	387 160 30	40.0	30	387 400 30	25.0	55	387 250 55
17.0	30	387 170 30	45.0	30	387 450 30	26.0	55	387 260 55
18.0	30	387 180 30	50.0	30	387 500 30	27.0	55	387 270 55
19.0	30	387 190 30	55.0	30	387 550 30	28.0	55	387 280 55
20.0	30	387 200 30	60.0	30	387 600 30	29.0	55	387 290 55
21.0	30	387 210 30	12.0	55	387 120 55	30.0	55	387 300 55
22.0	30	387 220 30	13.0	55	387 130 55	31.0	55	387 310 55
23.0	30	387 230 30	14.0	55	387 140 55	32.0	55	387 320 55
24.0	30	387 240 30	15.0	55	387 150 55	35.0	55	387 350 55
25.0	30	387 250 30	16.0	55	387 160 55	40.0	55	387 400 55
26.0	30	387 260 30	17.0	55	387 170 55	45.0	55	387 450 55
27.0	30	387 270 30	18.0	55	387 180 55	50.0	55	387 500 55
28.0	30	387 280 30	19.0	55	387 190 55	55.0	55	387 550 55
29.0	30	387 290 30	20.0	55	387 200 55	60.0	55	387 600 55

## Sets

Art.-Group 16



Content	Packaging	Art.-No.
Ø 12 - 14 - 16 - 18 - 20 - 22 mm including ejector pin Cutting depth 30	7 pcs. in metal box	60 039



# 38500 | Core drill bit with weldon shank 19 mm [3/4"] HSS

Art.-Group 84



- ▶ Core drill bits in HSS steel quality are made with a cutting depth of 30 mm respectively 55 mm
- ▶ The core drill bits are produced in fully ground technology, therefore the drill bits receive a perfect surface finish with optimal chip removal
- ▶ The core drill bits are used on mobile magnetic core drilling machines or on stationary pillar drilling machines
- ▶ High cost and time savings because the core drill bit only drills out a ring and not the entire drill diameter
- ▶ Time saving effect can be up to a factor of 10 because time-consuming preparatory work such as pre-centring or pre-drilling and re-drilling is no longer necessary
- ▶ Due to the lower stress on the material, the core drills have a longer service life compared to solid drills
- ▶ The ejector pin (with spring) throws out the drill core
- ▶ Always use coolant and an optimum rotation speed
- ▶ You can find an overview of the recommended speeds on page P 130



Quadro Pack not hangable

Ø mm	Cutting depth mm	Art.-No.	Ø mm	Cutting depth mm	Art.-No.	Ø mm	Cutting depth mm	Art.-No.
12.0	30	385 120 30	30.0	30	385 300 30	21.0	55	385 210 55
13.0	30	385 130 30	31.0	30	385 310 30	22.0	55	385 220 55
14.0	30	385 140 30	32.0	30	385 320 30	23.0	55	385 230 55
15.0	30	385 150 30	35.0	30	385 350 30	24.0	55	385 240 55
16.0	30	385 160 30	40.0	30	385 400 30	25.0	55	385 250 55
17.0	30	385 170 30	45.0	30	385 450 30	26.0	55	385 260 55
18.0	30	385 180 30	50.0	30	385 500 30	27.0	55	385 270 55
19.0	30	385 190 30	55.0	30	385 550 30	28.0	55	385 280 55
20.0	30	385 200 30	60.0	30	385 600 30	29.0	55	385 290 55
21.0	30	385 210 30	12.0	55	385 120 55	30.0	55	385 300 55
22.0	30	385 220 30	13.0	55	385 130 55	31.0	55	385 310 55
23.0	30	385 230 30	14.0	55	385 140 55	32.0	55	385 320 55
24.0	30	385 240 30	15.0	55	385 150 55	35.0	55	385 350 55
25.0	30	385 250 30	16.0	55	385 160 55	40.0	55	385 400 55
26.0	30	385 260 30	17.0	55	385 170 55	45.0	55	385 450 55
27.0	30	385 270 30	18.0	55	385 180 55	50.0	55	385 500 55
28.0	30	385 280 30	19.0	55	385 190 55	55.0	55	385 550 55
29.0	30	385 290 30	20.0	55	385 200 55	60.0	55	385 600 55

## Sets

Art.-Group 16



**Content**

Ø 12 - 14 - 16 - 18 - 20 - 22 mm  
including ejector pin  
Cutting depth 30

**Packaging**

7 pcs. in metal box

**Art.-No.**

60 038

# 38300 | Core drill bit with QuickIN shank HSS-Co 8%

Art.-Group 84

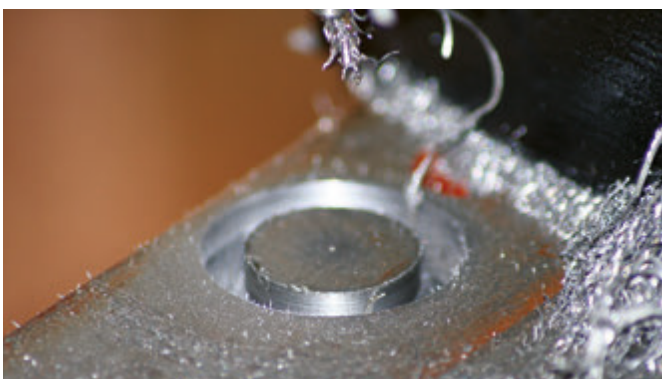


- ▶ Core drill bits in HSS-Co 8% steel quality with QuickIN shank are manufactured with a cutting depth of 35 mm
- ▶ Core drill bits are produced in full grinding technology, which provides a perfect surface finish with optimum chip removal
- ▶ The core drill bits are used on mobile magnetic core drilling machines or on stationary pillar drilling machines
- ▶ High cost and time savings because the core drill bit only drills out a ring and not the entire drill diameter
- ▶ Time saving effect can be up to a factor of 10 because time-consuming preparatory work such as pre-centring or pre-drilling and re-drilling is no longer necessary
- ▶ Due to the lower stress on the material, the core drills have a longer service life compared to solid drills
- ▶ The ejector pin (with spring) throws out the drill core
- ▶ Always use coolant and an optimum rotation speed
- ▶ You can find an overview of the recommended rotation speeds on page P 130

Quadro Pack not hangable



Ø mm	Cutting depth mm	Art.-No.	Ø mm	Cutting depth mm	Art.-No.	Ø mm	Cutting depth mm	Art.-No.
12.0	35	383 120 35	21.0	35	383 210 35	30.0	35	383 300 35
13.0	35	383 130 35	22.0	35	383 220 35	31.0	35	383 310 35
14.0	35	383 140 35	23.0	35	383 230 35	32.0	35	383 320 35
15.0	35	383 150 35	24.0	35	383 240 35	35.0	35	383 350 35
16.0	35	383 160 35	25.0	35	383 250 35	40.0	35	383 400 35
17.0	35	383 170 35	26.0	35	383 260 35	45.0	35	383 450 35
18.0	35	383 180 35	27.0	35	383 270 35	50.0	35	383 500 35
19.0	35	383 190 35	28.0	35	383 280 35	55.0	35	383 550 35
20.0	35	383 200 35	29.0	35	383 290 35	60.0	35	383 600 35



## 38500 | Ejector pin for core drill bit

Art.-Group 84

Single packed

Description	Art.-No.
Short ejector pin for core drill bits with a length of 30 mm and 35 mm	385 030 01
Long ejector pin for core drill bits with a length of 55 mm	385 030 02



## 38500 | Core drill bit adapter

Quadro Pack not hangable

Description	Art.-No.
Quick change adapter MK 2 to weldon shank 19 mm with automatic internal lubrication for core drill bits. Quick tool change without a chuck key. Version with hose and quick-release coupling.	385 000 02
Quick change adapter MK 3 to weldon shank 19 mm with automatic internal lubrication for core drill bits. Quick tool change without a chuck key. Version with hose and quick-release coupling.	385 000 03
Adapter from MK 2 to 19 mm weldon shank with manual internal lubrication	385 010 02
Adapter from MK 3 to 19 mm weldon shank with manual internal lubrication	385 010 03
Adapter from MK 2 to 19 mm weldon shank with automatic internal lubrication	385 020 02
Adapter from MK 3 to 19 mm weldon shank with automatic internal lubrication	385 020 03
Adapter from 19 mm weldon shank to 18 mm QuikIN shank including ejector pin	385 050 02
Adapter from 18 mm QuikIN shank to 19 mm weldon shank including two ejector pins	385 050 01
Drill chuck adapter from 19 mm weldon shank to 12.5 [1/2"] - 20 UNF	385 040 01



## 38500 | Magnetic stick

Single packed

Description	Art.-No.
Collects drilling chips and similar metallic waste with strong magnetic force	385 090 03



## 38500 | Cutting oil reservoir

In pouch

Description	Art.-No.
For automatic internal lubrication of core drill bits	385 090 01



# Core drill bits

Main applications, cutting speed, lubrication

Rotation speed overview for HSS/HSS-Co 8% core drills. Always use suitable cooling lubricant!

Material	Unalloyed steel up to 700 N/mm <sup>2</sup>	Alloyed steel up to 1,000 N/mm <sup>2</sup>	Aluminium Alloy
Not suitable for automatic feed!			
Ø mm [d]	RPM [n]	RPM [n]	RPM [n]
12	780	530	790
13	730	480	740
14	690	450	680
15	630	420	640
16	590	390	600
17	550	360	560
18	520	340	540
19	500	320	510
20	480	320	480
21	440	300	460
22	430	280	440
23	400	260	410
24	390	250	400
25	360	240	380
26	340	230	370
27	330	220	350
28	320	210	340
29	310	200	330
30	290	180	310
31	280	170	300
32	270	160	290
35	260	150	280
40	240	140	260
45	220	130	240
50	200	120	210
55	180	110	190
60	150	100	160

## Cutting speed:

$$V_c = \frac{d \times \pi \times n}{1000} = \text{m/min.}$$

## Rotational speed:

$$n = \frac{V_c \times 1000}{d \times \pi} = \text{min}^{-1}$$



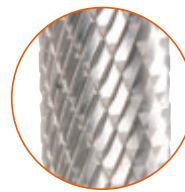
# Carbide burrs



PROJAHN carbide burrs are designed for universal applications on a wide variety of materials.

Enhanced geometry and design, resulting in optimum performance, make PROJAHN carbide burrs ideally suited for deburring and chamfering of surfaces

## Double cut



For universal applications, improved handling and smaller swarfs. Low vibration. For unhardened and hardened steel, brass, copper, cast iron.



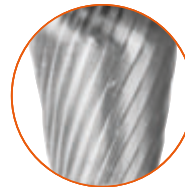
## Fast mill



Fast mill cut for rapid stock removal of softer non-ferrous materials, plastics and aluminium.



## Standard cut



For universal applications. For unhardened and hardened steel, brass, copper and cast iron.



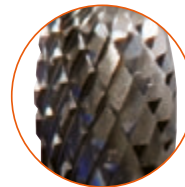
## AlTiN coating



Additional coating of carbide burrs with aluminum titanium nitride. The coated burrs have increased tool life through improved wear and heat resistance. Ideally suited for edgebreaking, deburring, weld-processing and many more applications.



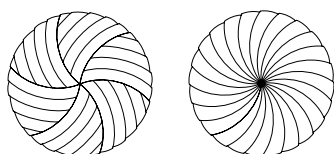
## Heavy-Duty cut



The HD-Cut guarantees high material removal by coarse, aggressive cutting of the material. The HD-Cross Cut is extremely robust and therefore particularly suitable for heavy duty applications; e.g. in shipbuilding, steel construction, car bodies or foundries.

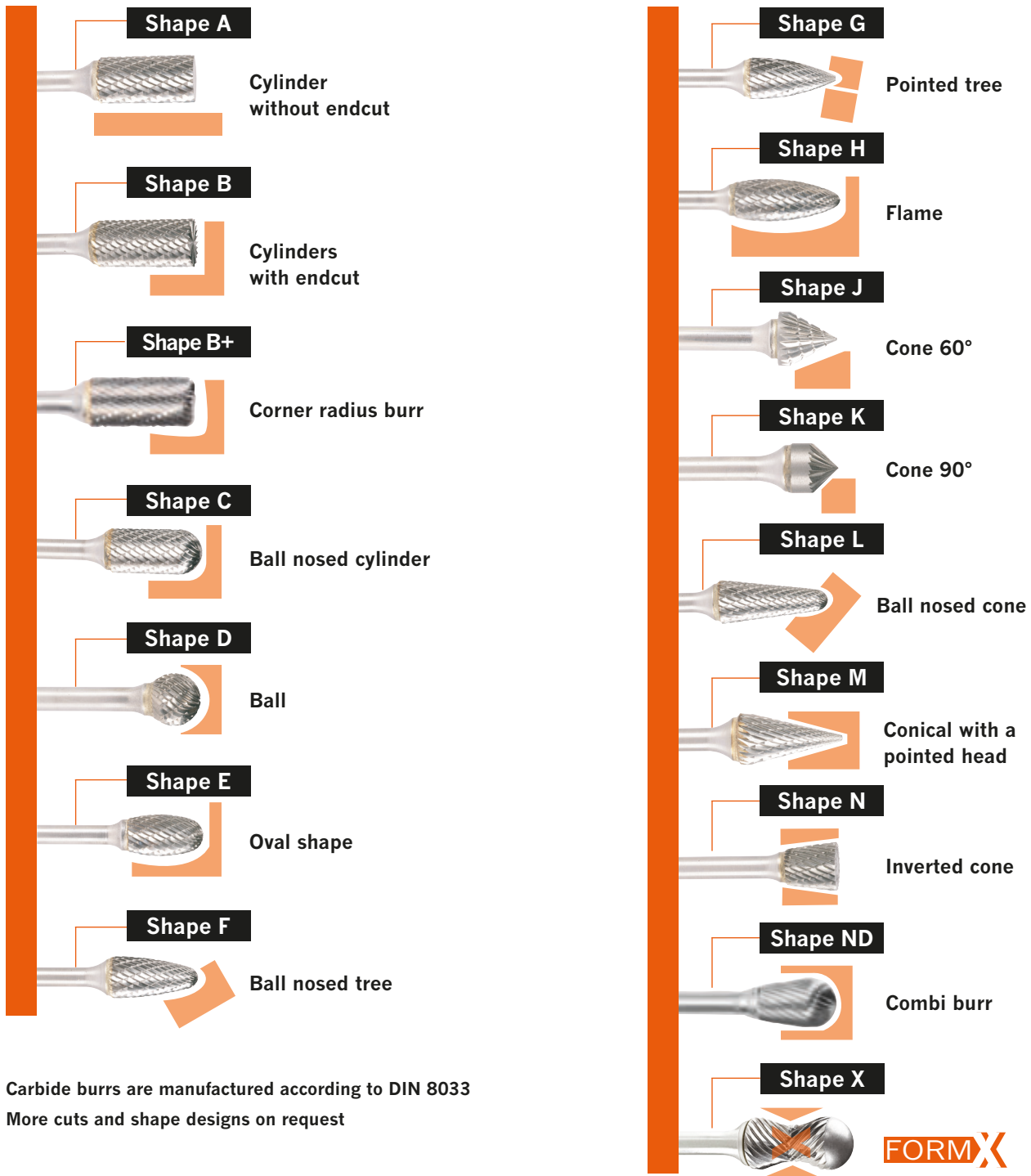


## »Skip Flute« special bevel



All PROJAHN radius and cutting burrs are produced with a »skip-flute« design, giving improved cutting action at the tool end. Simple design, teeth extend to the center.

# Carbide burrs



Carbide burrs are manufactured according to DIN 8033  
 More cuts and shape designs on request

## Recommended operating speeds

All speeds in the table below quoted x 1,000 RPM

Application in		Aluminum, plastic		Brass, copper, cast iron, bronze		Unhardened steel		Harden. a. stainless steel, nimonic alloys	
Burr head-Ø mm	max. rotation speeds	Rotation speed	recomm. start position	Rotation speed	recomm. start position	Rotation speed	recomm. start position	Rotation speed	recomm. start position
3 mm (1/8")	100	60 – 80	65	45 – 80	65	60 – 80	80	60 – 80	80
6.3 mm (1/4")	65	15 – 60	40	22 – 60	45	45 – 60	50	30 – 45	40
9.5 mm (3/8")	55	10 – 50	25	15 – 40	30	30 – 40	30	19 – 30	25
12.7 mm (1/2")	35	7 – 30	20	11 – 30	25	22 – 30	25	15 – 22	20
16 mm (5/8")	25	6 – 20	15	9 – 20	20	18 – 20	20	12 – 18	15
20 mm (3/4")	20	5 – 17	10	8 – 17	12	15 – 17	15	10 – 15	10
25 mm (1")	15	4 – 13	8	6 – 13	10	10 – 13	10	7 – 11	8

# 70000 | Carbide burrs shape A Cylinder without endcut

Art.-Group 70



Single packaging with hanger



	Head-Ø mm	Shank-Ø mm	L mm	Head-Length mm	Toothing	Type	Art.-No.
	3.0	3	38	14.0	Double cut	solid	700 163 030
	6.0	6	50	18.0	Double cut	solid	700 166 060
	6.3	3	45	12.7	Double cut	brazed	700 163 063
	8.0	6	64	19.0	Double cut	brazed	700 166 080
	9.5	6	64	19.0	Double cut	brazed	700 166 096
	12.7	6	70	25.0	Double cut	brazed	700 166 127
	16.0	6	70	25.0	Double cut	brazed	700 166 160
	6.0	6	50	18.0	Fast mill	solid	700 136 060
	9.5	6	64	19.0	Fast mill	brazed	700 136 096
	12.7	6	70	25.0	Fast mill	brazed	700 136 127

# 70000 | Carbide burrs shape B Cylinder with endcut

Art.-Group 70



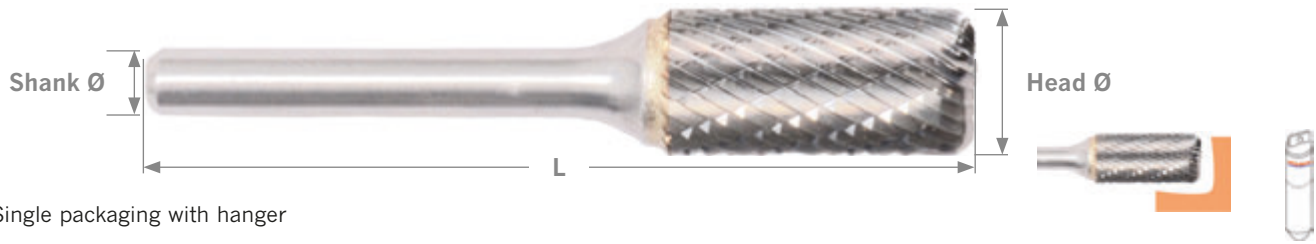
Single packaging with hanger



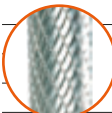
	Head-Ø mm	Shank-Ø mm	L mm	Head-Length mm	Toothing	Type	Art.-No.
	3.0	3	38	14.0	Double cut	solid	700 263 030
	6.0	6	50	18.0	Double cut	solid	700 266 060
	6.3	3	55	12.7	Double cut	brazed	700 263 063
	8.0	6	64	19.0	Double cut	brazed	700 266 080
	9.5	6	64	19.0	Double cut	brazed	700 266 096
	12.7	6	70	25.0	Double cut	brazed	700 266 127
	16.0	6	70	25.0	Double cut	brazed	700 266 160
	6.0	6	50	18.0	Fast mill	solid	700 236 060
	9.5	6	64	19.0	Fast mill	brazed	700 236 096
	12.7	6	70	25.0	Fast mill	brazed	700 236 127
	9.6	6	65	19.2	Foundry Cut	brazed	700 256 096

## 70000 | Carbide burrs shape B+ Corner radius burr

Art.-Group 70

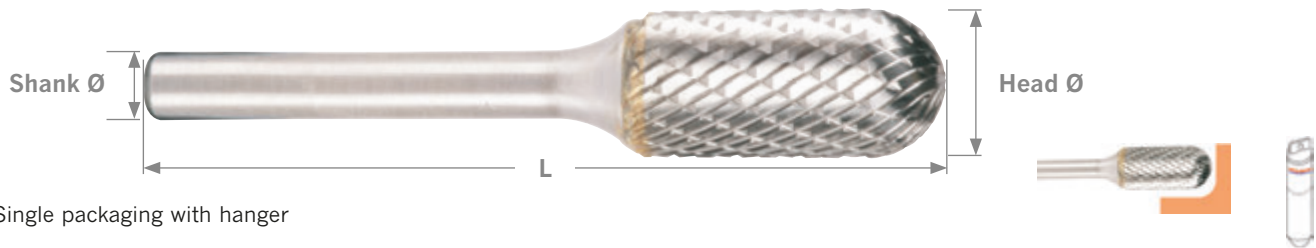


Single packaging with hanger

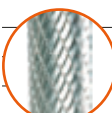


	Head-Ø mm	Shank-Ø mm	L mm	Head-Length mm	Toothing	Type	Art.-No.
	3.0	3	38	14.0	Double cut	solid	702 563 030
	6.0	6	50	18.0	Double cut	solid	702 566 060
	8.0	6	64	19.0	Double cut	brazed	702 566 080
	9.6	6	64	19.0	Double cut	brazed	702 566 100
	12.7	6	70	25.0	Double cut	brazed	702 566 120

## 70000 | Carbide burrs shape C Ball nosed cylinder

Art.-Group 70



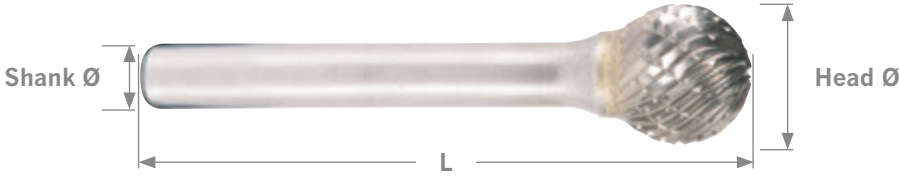
Single packaging with hanger

	Head-Ø mm	Shank-Ø mm	L mm	Head-Length mm	Toothing	Type	Art.-No.
	3.0	3	38	14.0	Double cut	solid	700 363 030
	6.0	6	50	18.0	Double cut	solid	700 366 060
	6.3	3	44	12.7	Double cut	brazed	700 363 063
	8.0	6	63	19.0	Double cut	brazed	700 366 080
	9.5	6	63	19.0	Double cut	brazed	700 366 096
	12.7	6	70	25.0	Double cut	brazed	700 366 127
	16.0	6	70	25.0	Double cut	brazed	700 366 160
	19.0	6	70	25.0	Double cut	brazed	700 366 190
	6.0	6	50	18.0	Fast mill	solid	700 336 060
	9.5	6	63	19.0	Fast mill	brazed	700 336 096
	12.7	6	70	25.0	Fast mill	brazed	700 336 127
	9.6	6	65	19.2	Foundry Cut	brazed	700 356 096



# 70000 | Carbide burrs shape D Ball

Art.-Group 70

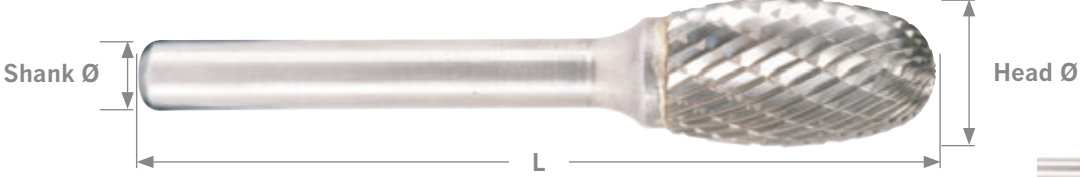


Single packaging with hanger

	Head-Ø mm	Shank-Ø mm	L mm	Head-Length mm	Toothing	Type	Art.-No.
	3.0	3	38	2.5	Double cut	solid	700 463 030
	4.0	3	38	3.4	Double cut	solid	700 463 040
	6.0	6	50	4.7	Double cut	solid	700 466 060
	6.3	3	38	5.0	Double cut	brazed	700 463 063
	8.0	6	52	6.0	Double cut	brazed	700 466 080
	9.5	6	54	8.0	Double cut	brazed	700 466 096
	12.7	6	56	11.0	Double cut	brazed	700 466 127
	16.0	6	60	14.0	Double cut	brazed	700 466 160
	6.0	6	50	4.7	Fast mill	solid	700 436 060
	9.5	6	54	8.0	Fast mill	brazed	700 436 096
	12.7	6	56	11.0	Fast mill	brazed	700 436 127
	9.6	6	54	8.5	Foundry Cut	brazed	700 456 096

# 70000 | Carbide burrs shape E Oval

Art.-Group 70

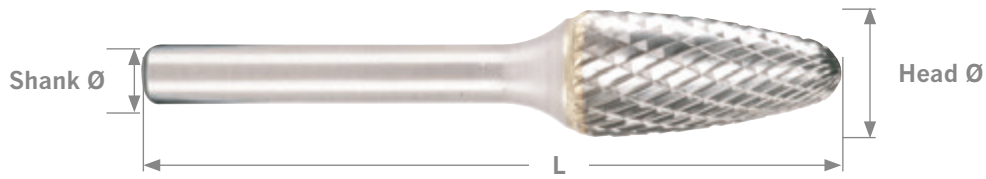


Single packaging with hanger

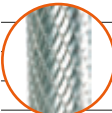
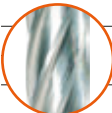

	Head-Ø mm	Shank-Ø mm	L mm	Head-Length mm	Toothing	Type	Art.-No.
	3.0	3	38	5.5	Double cut	solid	700 563 030
	6.0	6	50	10.0	Double cut	solid	700 566 060
	6.3	3	42	9.5	Double cut	brazed	700 563 063
	8.0	6	60	15.0	Double cut	brazed	700 566 080
	9.6	6	60	16.0	Double cut	brazed	700 566 096
	12.7	6	67	22.0	Double cut	brazed	700 566 127
	16.0	6	70	25.0	Double cut	brazed	700 566 160
	9.6	6	60	15.8	Foundry Cut	brazed	700 556 096

## 70000 | Carbide burrs shape F Ball nosed tree

Art.-Group 70



Single packaging with hanger

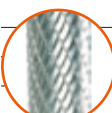

	Head-Ø mm	Shank-Ø mm	L mm	Head-Length mm	Toothing	Type	Art.-No.
	3.0	3	38	14.0	Double cut	solid	700 663 030
	6.0	6	50	18.0	Double cut	solid	700 666 060
	6.3	3	45	12.7	Double cut	brazed	700 663 063
	8.0	6	65	20.0	Double cut	brazed	700 666 080
	9.6	6	64	19.0	Double cut	brazed	700 666 096
	12.7	6	70	25.0	Double cut	brazed	700 666 127
	16.0	6	70	25.0	Double cut	brazed	700 666 160
	6.0	6	50	18.0	Fast mill	solid	700 636 060
	9.6	6	64	19.0	Fast mill	brazed	700 636 096
	12.7	6	70	25.0	Fast mill	brazed	700 636 127
	9.6	6	64	19.0	Foundry Cut	brazed	700 656 096

## 70000 | Carbide burrs shape G Pointed tree

Art.-Group 70

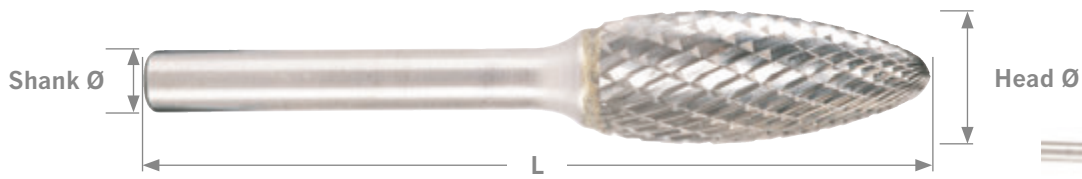


Single packaging with hanger

	Head-Ø mm	Shank-Ø mm	L mm	Head-Length mm	Toothing	Type	Art.-No.
	3.0	3	38	14.0	Double cut	solid	700 763 030
	6.0	6	50	18.0	Double cut	solid	700 766 060
	6.3	3	45	12.7	Double cut	brazed	700 763 063
	8.0	6	64	19.0	Double cut	brazed	700 766 080
	9.5	6	64	19.0	Double cut	brazed	700 766 096
	12.7	6	70	25.0	Double cut	brazed	700 766 127
	16.0	6	70	25.0	Double cut	brazed	700 766 160
	9.6	6	65	19.2	Foundry Cut	brazed	700 756 096

## 70000 | Carbide burrs shape H Flame

Art.-Group 70



Single packaging with hanger

	Head-Ø mm	Shank-Ø mm	L mm	Head-Length mm	Toothing	Type	Art.-No.
	3.0	3	38	6.0	Double cut	solid	700 863 030
	6.0	6	50	14.0	Double cut	solid	700 866 060
	8.0	6	64	19.0	Double cut	brazed	700 866 080
	10.0	6	65	19.0	Double cut	brazed	700 866 096
	12.7	6	77	32.0	Double cut	brazed	700 866 127
	16.0	6	80	36.0	Double cut	brazed	700 866 160

## 70000 | Carbide burrs shape J Cone 60°

Art.-Group 70

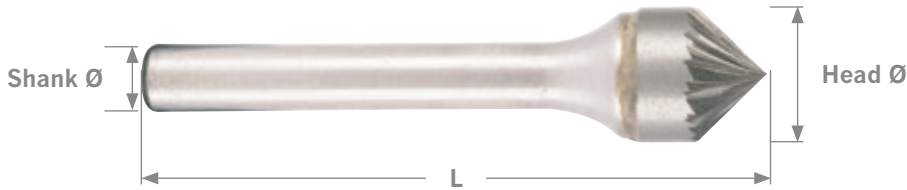


Single packaging with hanger

	Head-Ø mm	Shank-Ø mm	L mm	Head-Length mm	Toothing	Type	Art.-No.
	3.0	3	38	2.5	Double cut	solid	700 963 030
	6.0	6	50	4.0	Double cut	solid	700 966 060
	9.5	6	56	8.0	Double cut	brazed	700 966 096
	12.7	6	59	11.0	Double cut	brazed	700 966 127
	16.0	6	63	14.5	Double cut	brazed	700 966 160

## 70000 | Carbide burrs shape K Cone 90°

Art.-Group 70



Single packaging with hanger

Head-Ø mm	Shank-Ø mm	L mm	Head-Length mm	Toothing	Type	Art.-No.
3.0	3	38	1.5	Double cut	solid	701 063 030
6.0	6	50	3.0	Double cut	solid	701 066 060
9.5	6	53	4.7	Double cut	brazed	701 066 096
12.7	6	55	6.3	Double cut	brazed	701 066 127
16.0	6	57	8.0	Double cut	brazed	701 066 160

## 70000 | Carbide burrs shape L Ball nosed cone

Art.-Group 70



Single packaging with hanger

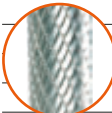
Head-Ø mm	Shank-Ø mm	L mm	Head-Length mm	Toothing	Type	Art.-No.
3.0	3	38	14.0	Double cut	solid	701 263 030
6.0	6	50	18.0	Double cut	solid	701 266 060
6.3	3	48	15.8	Double cut	brazed	701 263 063
8.0	6	70	25.4	Double cut	brazed	701 266 080
9.6	6	76	30.2	Double cut	brazed	701 266 096
12.7	6	77	32.0	Double cut	brazed	701 266 127
16.0	6	78	33.3	Double cut	brazed	701 266 160
6.0	6	50	18.0	Fast mill	solid	701 236 060
9.6	6	76	30.2	Fast mill	brazed	701 236 096
12.7	6	77	32.0	Fast mill	brazed	701 236 127
9.6	6	75	30.2	Foundry Cut	brazed	701 256 096

## 70000 | Carbide burrs shape M Conical with a pointed head

Art.-Group 70

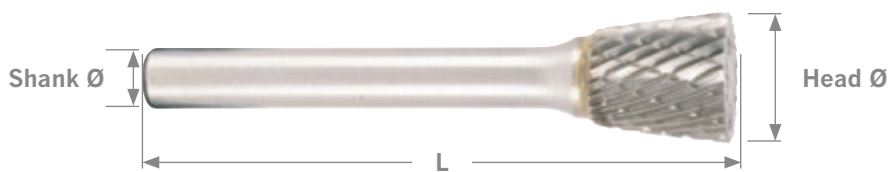


Single packaging with hanger

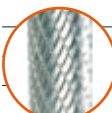
	Head-Ø mm	Shank-Ø mm	L mm	Head-Length mm	Toothing	Type	Art.-No.
	3.0	3	38	11.0	Double cut	solid	701 363 030
	6.0	6	50	20.0	Double cut	solid	701 366 060
	6.3	3	49	12.7	Double cut	brazed	701 363 063
	8.0	6	64	18.0	Double cut	brazed	701 366 080
	9.5	6	64	16.0	Double cut	brazed	701 366 096
	12.7	6	71	22.0	Double cut	brazed	701 366 127
	16.0	6	74	25.0	Double cut	brazed	701 366 160

## 70000 | Carbide burrs shape N Inverted cone

Art.-Group 70

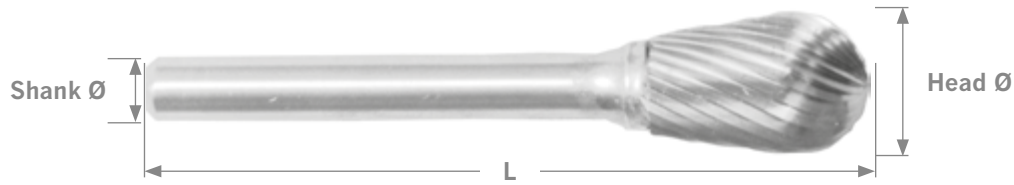


Single packaging with hanger

	Head-Ø mm	Shank-Ø mm	L mm	Head-Length mm	Toothing	Type	Art.-No.
	3.0	3	38	4.0	Double cut	solid	701 463 030
	6.0	6	50	8.0	Double cut	solid	701 466 060
	6.3	3	39	6.0	Double cut	brazed	701 463 063
	9.5	6	55	9.5	Double cut	brazed	701 466 096
	12.7	6	58	12.7	Double cut	brazed	701 466 127
	16.0	6	64	19.0	Double cut	brazed	701 466 160

## 70000 | Carbide burrs shape ND Combi burr

Art.-Group 70



Single packaging with hanger

Head-Ø mm	Shank-Ø mm	L mm	Head-Length mm	Toothing	Type	Art.-No.
12.7	6	65	20.0	Standard Cut	brazed	702 626 128

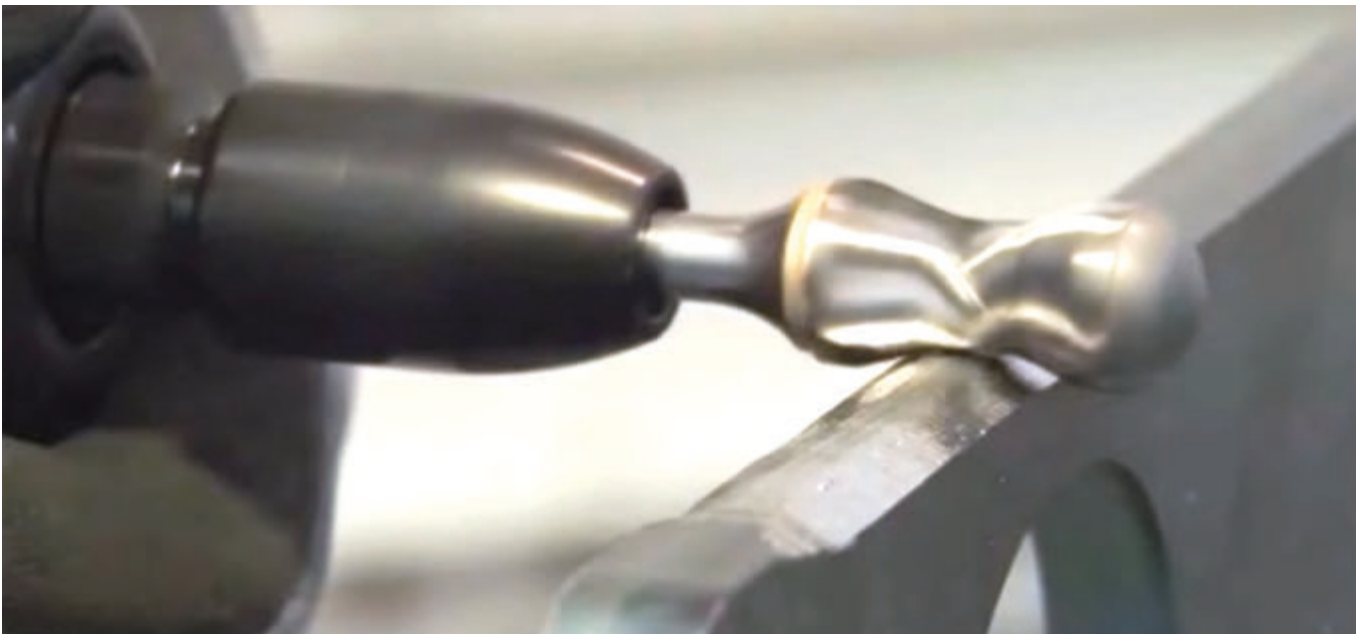
## 70000 | Carbide burrs shape X Multi-edge milling cutter

Art.-Gruppe 70



Single packaging with hanger

Head-Ø mm	Shank-Ø mm	L mm	Head-Length mm	Toothing	Type	Art.-No.
12.7	6	70	25.0	Double cut	brazed	702 226 126



# Sets

Art.-Group 16



70 292



70 291



70 294\*



70 295



70 297



70 290



70 298

Content	Toothing	Packaging	Art.-No.
Head Ø 9.6 mm - shank Ø 6.0 mm 1x shape B cylinder with endcut 1x shape C ball nosed cylinder 1x shape D ball shape 1x shape E oval shape 1x shape G pointed tree	Double cut AlTiN coated	5 pcs. in plastic box	70 292
Head Ø 9.6 mm - shank Ø 6.0 mm 1x shape B cylinder with endcut 1x shape C ball nosed cylinder 1x shape D ball shape 1x shape E oval shape 1x shape G pointed tree	Heavy-Duty cut	5 pcs. in plastic box	70 291
Head Ø 9.6 mm - shank Ø 6.0 mm 1x shape B cylinder with endcut 1x shape C ball nosed cylinder 1x shape D ball shape 1x shape F ball nosed tree 1x shape L ball nosed cone	Special toothing for cast iron	5 pcs. in plastic box	70 294*
Head Ø 9.6 mm - shank Ø 6.0 mm 1x shape B cylinder with endcut 1x shape C ball nosed cylinder 1x shape D ball shape 1x shape E oval shape 1x shape G pointed tree	Double cut	5 pcs. in plastic box	70 295
Head Ø 9.6 mm - shank Ø 6.0 mm 1x shape B cylinder with endcut 1x shape C ball nosed cylinder 1x shape E oval shape 1x shape G pointed tree Head Ø 12.6 mm - shank Ø 6.0 mm 1x shape X multi-edge carbide burr	Double cut	5 pcs. in plastic box	70 297
Head Ø 9.6 mm - shank Ø 6.0 mm 1x shape E oval shape Head Ø 9.6 + 12.7 mm - shank Ø 6.0 mm 1x shape B cylinder with endcut 1x shape C ball nosed cylinder 1x shape G pointed tree Head Ø 12.7 mm - shank Ø 6.0 mm 1x shape D ball shape 1x shape F ball nosed tree 1x shape L ball nosed cone	Double cut	10 pcs. in plastic box	70 290
Shank Ø 6.0 mm 2x each head Ø 6.0 - 8.0 - 9.6 - 12.7 mm 1x shape B cylinder with endcut 1x shape C ball nosed cylinder 1x shape F ball nosed tree 1x shape G pointed tree 1x shape L ball nosed cone	Double cut	40 pcs. in display, lockable	70 298

\* Delivery while stocks last



# Comparison list of carbide burrs

The table provides an overview of comparable products. The products are not absolutely identical.

PROJAHN Art.-No.	On page	LUKAS Description	LUKAS Art.-No.	PFERD Order designation	PFERD Code
700136060	P 133	HFA 0616.06	A10010616609	ZYA 0616/6	221044
700136096	P 133	HFA 1020.06			
700136127	P 133	HFA 1225.06	A11011225609	ZYA 1225/6	533314
700163030	P 133	HFA 0313.03	A10010313308	ZYA 0313/3	233801
700163063	P 133	HFA 0613.03	A10010613308	ZYA 0613/3	233849
700166060	P 133	HFA 0616.06	A10010616608	ZYA 0616/6	45480
700166080	P 133	HFA 0820.06	A10010820608	ZYA 0820/6	45541
700166096	P 133	HFA 1020.06	A10011020608	ZYA 1020/6	45879
700166127	P 133	HFA 1225.06	A10011225608	ZYA 1225/6	45695
700166160	P 133	HFA 1625.06	A10011625608	ZYA 1625/6	45800
700236060	P 133			ZYAS 0616/6	246986
700236096	P 133			ZYAS 1020/6	533321
700236127	P 133			ZYAS 1225/6	533345
700263030	P 133	HFAS 0313.03	A100103133080001	ZYAS 0313/3	49501
700263063	P 133	HFAS 0613.03	A100106133080001	ZYAS 0613/3	49563
700266060	P 133	HFAS 0616.06	A100106166080001	ZYAS 0616/6	44971
700266080	P 133	HFAS 0820.06	A100108206080001	ZYAS 0820/6	45022
700266096	P 133	HFAS 1020.06	A100110206080001	ZYAS 1020/6	45305
700266127	P 133	HFAS 1225.06	A100112256080001	ZYAS 1225/6	45176
700266160	P 133	HFAS 1625.06	A100116256080001	ZYAS 1625/6	45251
700336060	P 134	HFC 0616.06	A10020616609	WRC 0616/6	247006
700336096	P 134				
700336127	P 134	HFC 1225.06	A10021225609	WRC 1225/6	533260
700363030	P 134	HFC 0313.03	A10020313308	WRC 0313/3	49662
700363063	P 134	HFC 0613.03	A10020613308	WRC 0613/3	49693
700366060	P 134	HFC 0616.06	A10020616608	WRC 0616/6	46234
700366080	P 134	HFC 0820.06	A10020820608	WRC 0820/6	46302
700366096	P 134	HFC 1020.06	A10021020608	WRC 1020/6	46388
700366127	P 134	HFC 1225.06	A10021225608	WRC 1225/6	46500
700366160	P 134	HFC 1625.06	A10021625608	WRC 1625/6	46630
700436060	P 135			KUD 0605/6	803721
700436096	P 135				
700436127	P 135	HFD 1210.06	A10031212609	KUD 1210/6	533147
700463030	P 135	HFD 0302.03	A10030303308	KUD 0302/3	49778
700463040	P 135	HFD 0403.03	A100304043080001	KUD 0403/3	49792
700463063	P 135	HFD 0605.03	A10030606308	KUD 0605/3	49815
700466060	P 135	HFD 0605.06	A10030606608	KUD 0605/6	46821
700466080	P 135	HFD 0807.06	A10030808608	KUD 0807/6	46883
700466096	P 135	HFD 1009.06	A10031010608	KUD 1009/6	46951
700466127	P 135	HFD 1210.06	A10031212608	KUD 1210/6	47033
700466160	P 135	HFD 1614.06	A10031616608	KUD 1614/6	47132
700563030	P 135	HFE 0307.03	A10060307308	TRE 0307/3	49754
700563063	P 135	HFE 0610.03	A10060610308	TRE 0610/3	50040
700566060	P 135	HFE 0610.06	A10060610608	TRE 0610/6	48771
700566080	P 135	HFE 0813.06	A10060813608	TRE 0813/6	48894
700566096	P 135			TRE 1016/6	48832
700566127	P 135	HFE 1220.06	A10061220608	TRE 1220/6	48962
700566160	P 135	HFE 1625.06	A10061625608	TRE 1625/6	49099
700636060	P 136			RBF 0618/6	328071
700636096	P 136				
700636127	P 136	HFF 1225.06	A10101225609	RBF 1225/6	533208
700663030	P 136				

PROJAHN Art.-No.	On page	LUKAS Description	LUKAS Art.-No.	PFERD Order designation	PFERD Code
700663063	P 136	HFF 0613.03	A10100613308	RBF 0613/3	50019
700666060	P 136	HFF 0618.06	A10100618608	RBF 0618/6	47606
700666080	P 136	HFF 0820.06	A10100820608	RBF 0820/6	47651
700666096	P 136	HFF 1020.06	A10101020608	RBF 1020/6	47705
700666127	P 136	HFF 1225.06	A10101225608	RBF 1225/6	47781
700666160	P 136				
700763030	P 136	HFG 0313.03	A10040313308	SPG 0313/3	49952
700763063	P 136	HFG 0613.03	A10040613308	SPG 0613/3	49983
700766060	P 136	HFG 0618.06	A10040618608	SPG 0618/6	47941
700766080	P 136	HFG 0820.06	A10040820608		
700766096	P 136	HFG 1020.06	A10041020608	SPG1020/6	48023
700766127	P 136	HFG 1225.06	A10041225608	SPG 1225/6	48146
700766160	P 136				
700863030	P 137				
700866060	P 137				
700866080	P 137	HFH 0820.06	A10090820608	B 0820/6	46067
700866096	P 137				
700866127	P 137	HFH 1230.06	A10091230608	B 1230/6	46111
700866160	P 137	HFH 1635.06	A10091635608	B 1635/6	46142
700963030	P 137				
700966060	P 137				
700966096	P 137				
700966127	P 137				
700966160	P 137				
701063030	P 138				
701066060	P 138				
701066096	P 138				
701066127	P 138				
701066160	P 138				
701236060	P 138				
701236096	P 138				
701236127	P 138	HFL 1230.06		KEL 1230/6	533109
701263030	P 138				
701263063	P 138				
701266060	P 138				
701266080	P 138				
701266096	P 138				
701266127	P 138	HFL 1230.06		KEL 1230/6	48634
701266160	P 138	HFL 1630.06		KEL 1630/6	48719
701363030	P 139	HFM 0311.03		SKM 0311/3	49853
701363063	P 139	HFM 0613.03		SKM 0613/3	49877
701366060	P 139	HFM 0618.06		SKM 0618/6	47293
701366080	P 139	HFM 0820.06			
701366096	P 139	HFM 1020.06		SKM 1020/6	47354
701366127	P 139	HFM 1225.06		SKM 1225/6	47422
701366160	P 139				
701463030	P 139	HFN 0307.03		WKN 0307/3	233863
701466060	P 139				
701466096	P 139				
701466127	P 139				
701466160	P 139				

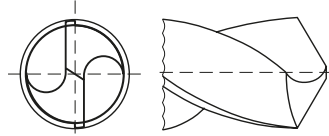




# Point grindings for twist drill bits according to DIN 1412

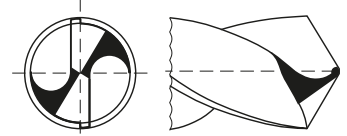
## Tapered finish Normal finish

For all regular drilling work in steel, non-ferrous metals and plastics. The point angles depend on the machinability of the materials. Powerful main cutting edges, insensitive to shocks and lateral forces. Simple grinding, can be done by hand.



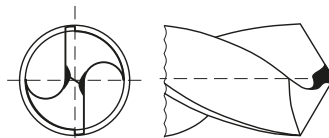
## Cross-ground finish to DIN 1412 C

For drill bits with a very thick core used with particularly feed, hard materials, and for deep drilling bits. Good centring, low feedforce. Better recycling of chips thanks to separation.



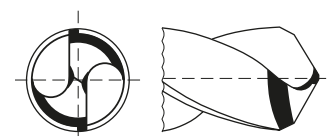
## Pointed chisel edge to DIN 1412 A

For all regular drilling work using drill bits with a thick core, large drill bit diameters for drilling in solid material. Good centring for pilot drilling thanks to shortening of chisel edge length to 1/10 of the drill bit diameter and reduction of feed force and torque force



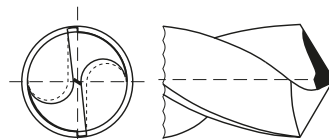
## Ground finish for gray cast iron to DIN 1412 D

For drilling gray cast iron, malleable cast iron. Protection of cutting corners thanks to extended main cutting edges, insensitive to shocks, good heat conduction – longer tool life.



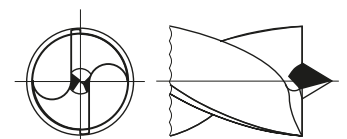
## Pointed chisel edge with cor- rected main cutting edge to DIN 1412 B

The sharpened transverse cutting edge with corrected main cutting edge is used for reaming and for drilling hard spring steels, for steels with high strength and for manganese steel with over 10% Mn. This cutting edge can withstand high impact forces, unilateral loads and lateral forces and in addition does not jam on thin-walled workpieces. Besides the additional grinding effort, it brings a tendency to run and requires high feed forces.



## Centre point according to DIN 1412 E

For drilling sheet metal and soft materials, for blind holes with an even bottom. Good centring, low burr formation during through drilling, accurate drill holes in thin sheet metal and pipes, no hooking.



## Pointing according to DIN 1412 U

For high performance drilling even in stainless and acid resistant steel.



# Twist drill bits recommendation for rotational speed and feed rates in various materials



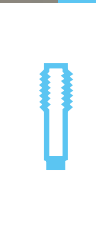
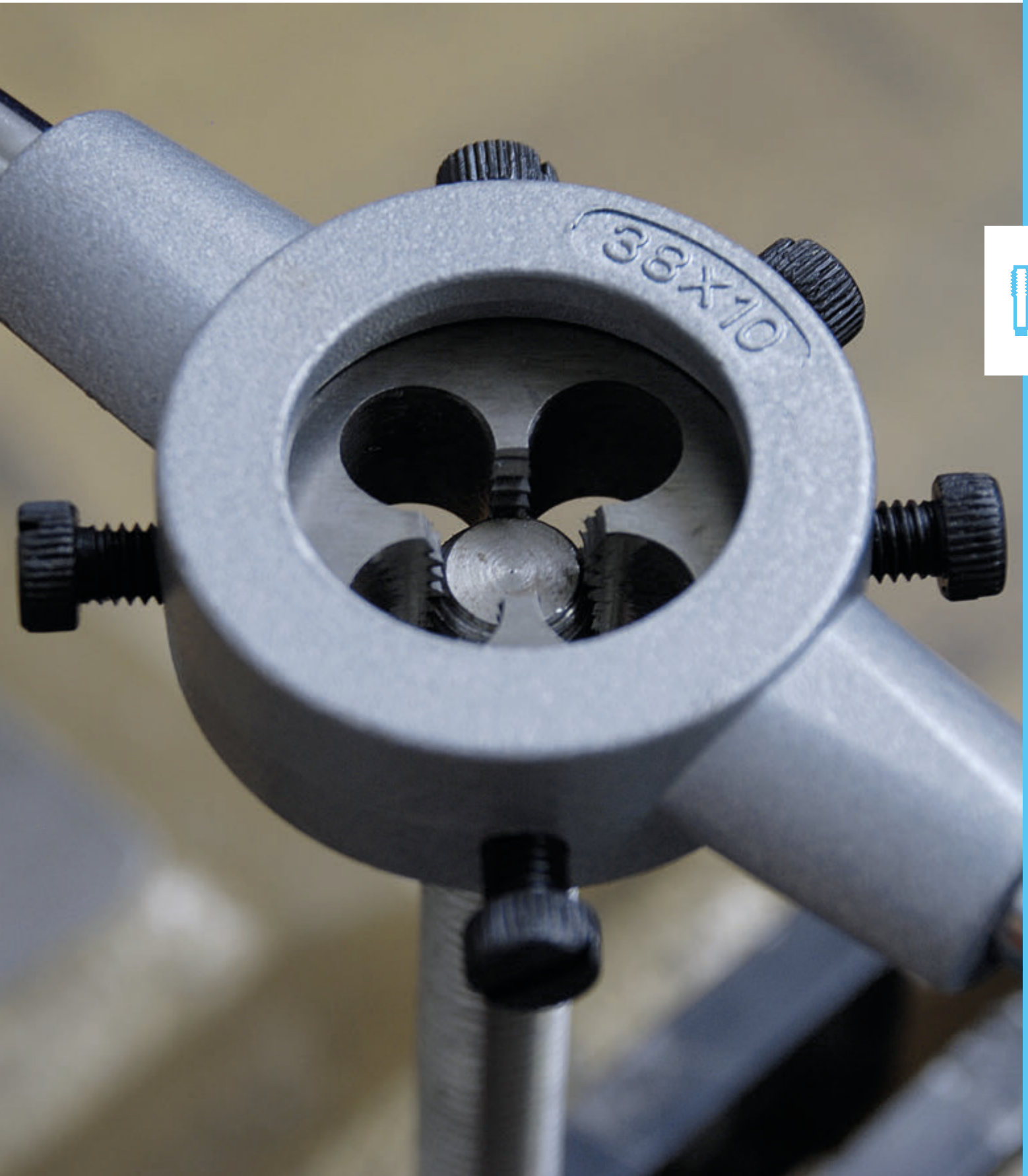
Material	Drill bit type / cutting material	Point angle	Cutting speed m/min.	Medium speeds (RPM) / feed motions s (mm/rev)							
				Ø 2	Ø 5	Ø 8	Ø 12	Ø 16	Ø 25	Ø 40	
Autom. steel up to 500 N/mm <sup>2</sup>	N / SN / Tip-W HSS (-TiN) / HSS-Co	118° 130°	30 - 50	5100 0.05	2200 0.12	1400 0.20	900 0.25	650 0.30	420 0.40	260 0.40	
Unalloyed structural steel up to 500 N/mm <sup>2</sup>	N / SN / Tip-W HSS (-TiN) / HSS-Co	118° 130°	30 - 40	5600 0.05	2200 0.12	1400 0.20	900 0.25	650 0.30	420 0.40	260 0.40	
Unalloyed structural steel up to 500 - 700 N/mm <sup>2</sup>	N / SN / Tip-W HSS (-TiN) / HSS-Co	118° 130°	25 - 35	4750 0.05	1850 0.12	1150 0.20	750 0.25	550 0.30	400 0.40	220 0.40	
Unalloyed structural steel up to 700 - 900 N/mm <sup>2</sup>	N / SN / S / N-HD / UF-L HSS (-TiN) / HSS-Co	118°	20 - 40	2100 0.03	850 0.07	550 0.10	350 0.16	250 0.20	160 0.25	100 0.25	
Unalloyed structural steel up to 700 N/mm <sup>2</sup>	N / SN / Tip-W / UF-L HSS (-TiN) / HSS-Co	118° 130° / 135°	20 - 30	3980 0.03	1550 0.07	1000 0.10	650 0.16	500 0.20	300 0.25	180 0.32	
Alloyed casting Steel	N / SN / UF-L HSS (-TiN) / HSS-Co	118° 130° / 135°	15 - 35	2350 0.02	1000 0.10	600 0.08	400 0.12	270 0.14	200 0.18	110 0.23	
Alloyed steel 700 - 900 N/mm <sup>2</sup>	N / SN / S / UF-L / N-HD HSS (-TiN) / HSS-Co	118° 130° / 135°	15 - 35	2050 0.02	850 0.05	550 0.08	350 0.12	270 0.14	160 0.18	100 0.23	
Alloyed Cr-Ni steel 900 - 1,100 N/mm <sup>2</sup>	N / SN / S / N-HD / UF-L HSS / HSS-Co	130° 135°	6 - 28	1550 0.02	500 0.05	400 0.08	250 0.12	200 0.14	130 0.18	80 0.23	
Alloyed Cr-Ni-Mo steel 1,100 - 1,400 N/mm <sup>2</sup>	(N) / S / N-HD / UF-L ATN HSS-Co	130°	6 - 10	1300 0.02	500 0.05	300 0.08	200 0.12	150 0.14	100 0.18	60 0.23	
Rust and acid resistant steel	N / S / UF-L HSS-Co	130°	10 - 30	1300 0.02	500 0.05	300 0.08	200 0.12	150 0.14	100 0.18	60 0.23	
Head resistant steel	N / S / N-HD / UF-L HSS-Co	130° 135°	6 - 10	1300 0.02	500 0.05	300 0.08	200 0.12	150 0.14	100 0.18	60 0.23	
Spring steel	N-HD HSS-Co 8%	130° 135°	3 - 5	620 0.02	250 0.05	150 0.08	100 0.12	80 0.14	40 0.16	30 0.23	
Spring steel	(N) / S / N-HD / UF-L HSS-Co	130° 135°	5 - 15	1600 0.02	600 0.05	400 0.08	250 0.12	200 0.14	120 0.18	70 0.23	
Titanium and titanium alloys	S / UF-L (ATN) HSS-Co	130°	5 - 15	700 0.02	250 0.05	160 0.08	120 0.12	80 0.14	60 0.18	40 0.23	
Cast iron up to 200 HB	N / SN / UF-L ATN / N-HD HSS-Co	118° 130° / 135°	20 - 35	3150 0.05	1250 0.12	800 0.20	500 0.25	400 0.30	250 0.40	150 0.40	
Cast iron up to 350 HB (hard cast iron)	(N) / SN / UF-L ATN / N-HD HSS (-TiN) / HSS-Co	118° 130° / 135°	20 - 40	1600 0.03	600 0.07	400 0.10	250 0.16	200 0.20	150 0.25	80 0.32	
Brass, brittle Ms 58	(SN) / UF-L ATN HSS / HSS-Co	118° 130° / 135°	60 - 80	12700 0.08	5050 0.16	3200 0.24	2100 0.25	1600 0.35	1000 0.32	650 0.50	
Brass, tough Ms 60, 63, 65	(N) / S / UF-L (ATN) / (SN) HSS (-TiN) / HSS-Co	118° 130° / 135°	30 - 50	4800 0.05	1900 0.12	1150 0.20	900 0.20	800 0.25	400 0.40	260 0.50	
Aluminum-Bronze (half hard, hard)	(N) / SN / Tip-W / S / UF-L (ATN) HSS (-TiN) / HSS-Co	118° 130°	15 - 35	2400 0.05	1550 0.08	1000 0.14	650 0.20	500 0.25	320 0.30	200 0.40	
Electrolytic copper	(N) / SN / UF-L (ATN) HSS / HSS-Co	118° 130°	25 - 50	5800 0.05	1600 0.12	1400 0.14	800 0.25	500 0.30	320 0.40	280 0.40	
Pure aluminum and alu wrought alloy	(SN) / UF-L HSS / HSS-Co	130°	20 - 40	4350 0.05	1700 0.14	1050 0.16	700 0.25	550 0.30	380 0.40	240 0.40	
Aluminium cast alloy 14 Si	(Tip-W) / (SN) / UF-L HSS / HSS-Co	118° 130°	40 - 80	6300 0.06	4900 0.16	1800 0.18	1600 0.30	1250 0.36	800 0.50	500 0.63	
Copper-nickel-zinc alloy	(Tip-W) / (SN) / UF-L HSS / HSS-Co	118° 130°	30 - 60	5100 0.05	2000 0.16	1300 0.20	850 0.30	700 0.36	400 0.50	250 0.63	
Aluminum alloy, short-chipping	(N) / (SN) / (Tip-W) / UF-L HSS (-TiN) / HSS-Co	118° 130° / 135°	30 - 60	4700 0.05	2900 0.14	1200 0.16	1200 0.22	900 0.30	550 0.40	350 0.45	
Zinc, zinc alloy	(SN) / (N) / UF-L (ATN) HSS / HSS-Co	118° 130°	30 - 60	6400 0.06	2550 0.14	2300 0.20	1700 0.18	1250 0.30	800 0.40	500 0.50	
Hard plastics (Duroplaste)	SN / UF-L (ATN) / Tip-W HSS / HSS-Co	118° 130°	15 - 35	2400 0.05	1000 0.12	600 0.16	400 0.20	300 0.25	250 0.31	160 0.40	
Soft plastics (Thermoplaste)	SN / UF-L (ATN) / Tip-W HSS / HSS-Co	118° 130°	25 - 40	3900 0.06	1600 0.12	1000 0.20	650 0.22	500 0.30	320 0.50	200 0.50	
Plexiglass	SN / UF-L (ATN) / Tip-W HSS / HSS-Co	118° 130°	20 - 40	3900 0.06	1600 0.12	1000 0.20	650 0.22	500 0.30	320 0.50	200 0.50	

Applies to drilling depths approx. 3 - 4x drill bit Ø. For drilling depths greater than 5x Ø, type UF-L is recommended instead of type N and W.

$$\text{Formula rotational speed} = \frac{\text{Cutting speed} \times 1,000}{\text{Diameter} \times \pi (3.14)} \quad n = \frac{V_c \times 1,000}{d \times \pi (3.14)} = \text{RPM}$$

$$\text{or } V_c = \frac{d \times \pi \times n}{1,000} = \text{m/min.} \quad \text{Formula: feed motion } f \text{ in mm/min.} = \text{feed motion account} \times \text{rotational speed}$$

# THREAD



# Overview of thread cutting tools with recommendation



## Thread



<b>Quality</b>	STANDARD	STANDARD	STANDARD	STANDARD	STANDARD	STANDARD	PROFESSIONAL	PROFESSIONAL	PROFESSIONAL	PROFESSIONAL	PROFESSIONAL	PROFESSIONAL	STANDARD	STANDARD	STANDARD	STANDARD	STANDARD	STANDARD
<b>DIN Norm</b>	352	2181	351	5157	352	2181	371/ 376	371/ 376	371	376	371	376	371	376	371	376	371	371
<b>Thread type</b>	M	MF	BSW	BSP	UNC	UNF	M	M	M	M	M	M	M	M	M	M	M	M
<b>Product material</b>	HSS	HSS	HSS	HSS	HSS	HSS	HSS-Co VAP	HSS-Co VAP	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS
<b>Tool type</b>	HT	HT	HT	HT	HT	HT	MT	MT	MT	MT	MT	MT	MT	MT	MT	MT	MT	MT
<b>Chamfer</b>	-	-	-	-	-	-	B	C	B	C	B	C	B	B	C	C	C	B
<b>Ø</b>	M2-M24	M3-M40	1/8"-1"	1/8"-1"	No. 2-12 1/4"-1"	No. 2-12 1/4"-1"	M3-M20	M3-M20	M3-M10	M12-M30	M3-M10	M12-M30	M3-M10	M3-M24	M3-M10	M12-M24	M2-M10	
<b>Series</b>	93000	93500	93700	93600	93300 93800	93400 93900	940006 950006	960006 970006	940002	950002	960002	970002	940001	950001	960001	970001	94000	
<b>Article-Group</b>	03	30	30	30	30	30	79	79	79	79	79	79	13	13	13	13	13	
<b>Page</b>	P 148	P 149	P 150	P 150	P 151	P 151	P 152	P 153	P 154	P 154	P 155	P 155	P 156	P 156	P 157	P 157	P 158	
Steel pipes, -profiles, solid metal	++	++	++	++	++	++	+++	+++	+++	+++	+++	+++	+++	++	++	++	++	++
Stainless steel							+++	+++	+++	+++	+++	+++	++	++	++	++	++	
Non-ferrous metal	++	++	++	++	++	++	+++	+++	+++	+++	+++	+++	+++	++	++	++	++	++
Cast Iron	+	+	+	+	+	+	++	++	++	++	++	++	++	+	+	+	+	+

+++ recommended

++ well-suited

+ suitable

## Overview of thread cutting tools with recommendation

STANDARD	STANDARD	STANDARD	PROFESSIONAL	PROFESSIONAL	STANDARD	STANDARD	STANDARD	STANDARD	PLUS	STANDARD	STANDARD	STANDARD	STANDARD	STANDARD	STANDARD	PLUS	STANDARD	STANDARD
376	371	376	374	374	352	-	377	357	-	EN 22568	EN 22568	EN 22568	EN 22568	EN 22568	EN 22568	EN 22568	225	1814
M	M	M	MF	MF	M	M	-	M	M	M	MF	BSW	BSP	UNC	UNF	M	-	-
HSS	HSS	HSS	HSS-Co VAP	HSS-Co VAP	HSS-G	HSS-G	-	HSS-G	HSS-G	HSS-G	HSS-G	HSS-G	HSS-G	HSS-G	HSS-G	HSS-G	-	-
MT	MT	MT	MT	MT	SMT	SMT	-	MNT	Combi taps	Circular die	Circular die	Circular die	Circular die	Circular die	Circular die	Circular die	Die stock	Tap holder
B	C	C	B	C	-	-	-	-	-	B	B	B	B	B	B	B	-	-
M3-M24	M3-M10	M12-M24	M6-M20	M6-M20	M3-M12	M3-M12	2.7-14.5	M4-M12	M3-M10	M2-M24	M3-M50	1/8"-2"	1/8"-1"	No. 2-12 1/4"-1"	No. 2-12 1/4"-1"	M3-M12	16 x 5 90 x 36	No. 0-8 1-2
95000	96000	97000	945002 955002	965002 975002	92000	91800	91300	99000	91900	98000	98500	98700	98600	98300 98800	98400 98900	98001	91000	91010 91301
13	13	13	79	79	13	13	30	13	31	23	30	30	30	30	30	23	30	30
P 158	P 159	P 159	P 160	P 160	P 161	P 161	P 161	P 162	P 162	P 163	P 163	P 164	P 164	P 165	P 165	P 166	P 166	P 167
+++	++	++	+++	+++	++	++		++	++	++	++	++	++	++	++	++		
			+++	+++														
++	++	++	+++	+++	++	++		++	++	++	++	++	++	++	++	++		
+	+	+	++	++	+	+		+	+	+	+	+	+	+	+	+		

+++ recommended

++ well-suited

+ suitable

# 93000 | Hand taps M HSS DIN 352 - 3 pcs.

Article Group 3



- ▶ For precise and true to gauge metric ISO threads according to DIN 13
- ▶ Easy, free cutting
- ▶ High cutting performance
- ▶ Thread will be cut in three work steps
- ▶ Designed to cut: Steel up to 800 N/mm<sup>2</sup>, cast iron and non-ferrous metals



<b>Norm</b>	DIN 352	<b>Chamfer</b>	Taper (4), plug (3) and bottoming (2) threads
<b>Tolerance</b>	6 H	<b>Thread</b>	With thread relief
<b>Material</b>	HSS	<b>Tensile strength</b>	800 N/mm <sup>2</sup>
<b>Shape of flute</b>	Straight	<b>Hole</b>	Through and blind hole thread

Set of 3 in plastic box



Ø	Pitch mm	Core Hole mm	Art.-No.
M2	0.40	1.6	93 020
M3	0.50	2.5	93 030
M4	0.70	3.3	93 040
M5	0.80	4.2	93 050
M6	1.00	5	93 060

Ø	Pitch mm	Core Hole mm	Art.-No.
M7	1.00	6	93 070
M8	1.25	6.8	93 080
M10	1.50	8.5	93 100
M12	1.75	10.2	93 120
M14	2.00	12	93 140

Ø	Pitch mm	Core Hole mm	Art.-No.
M16	2.00	14	93 160
M18	2.50	15.5	93 180
M20	2.50	17.5	93 200
M22	2.50	19.5	93 220
M24	3.00	21	93 240

## Single items

Article Group 3

### Taper taps

Ø	Pitch mm	Core Hole mm	Art.-No.
M2	0.40	1.6	930 201
M3	0.50	2.5	930 301
M4	0.70	3.3	930 401
M5	0.80	4.2	930 501
M6	1.00	5.0	930 601
M8	1.25	6.8	930 801
M10	1.50	8.5	931 001
M12	1.75	10.2	931 201
M14	2.00	12.0	931 401
M16	2.00	14.0	931 601
M18	2.50	15.5	931 801
M20	2.50	17.5	932 001
M22	2.50	19.5	932 201
M24	3.00	21.0	932 401

### Plug taps

Ø	Pitch mm	Core Hole mm	Art.-No.
M2	0.40	1.6	930 202
M3	0.50	2.5	930 302
M4	0.70	3.3	930 402
M5	0.80	4.2	930 502
M6	1.00	5.0	930 602
M8	1.25	6.8	930 802
M10	1.50	8.5	931 002
M12	1.75	10.2	931 202
M14	2.00	12.0	931 402
M16	2.00	14.0	931 602
M18	2.50	15.5	931 802
M20	2.50	17.5	932 002
M22	2.50	19.5	932 202
M24	3.00	21.0	932 402

### Bottoming taps

Ø	Pitch mm	Core Hole mm	Art.-No.
M2	0.40	1.6	930 203
M3	0.50	2.5	930 303
M4	0.70	3.3	930 403
M5	0.80	4.2	930 503
M6	1.00	5.0	930 603
M8	1.25	6.8	930 803
M10	1.50	8.5	931 003
M12	1.75	10.2	931 203
M14	2.00	12.0	931 403
M16	2.00	14.0	931 603
M18	2.50	15.5	931 803
M20	2.50	17.5	932 003
M22	2.50	19.5	932 203
M24	3.00	21.0	932 403

# 93500 | Hand taps MF HSS DIN 2181 - 2 pcs.



Article Group 30

- ▶ For exact and true to gauge metric fine threads according to DIN 13
- ▶ Easy, free cutting
- ▶ High cutting performance
- ▶ Thread will be cut in two work steps
- ▶ Designed to cut: Steel up to 800 N/mm<sup>2</sup>, cast iron and non-ferrous metals



<b>Norm</b>	DIN 2181	<b>Chamfer</b>	Taper (4), bottoming (2) threads
<b>Tolerance</b>	6 H	<b>Thread</b>	With thread relief
<b>Material</b>	HSS	<b>Tensile strength</b>	800 N/mm <sup>2</sup>
<b>Shape of flute</b>	Straight	<b>Hole</b>	Through and blind hole thread

Set of 2 in plastic box

Ø	Pitch mm	Core Hole mm	Art.-No.
M3	0.35	2.65	93 503 035
M4	0.35	3.65	93 504 035
M4	0.50	3.5	9 350 405
M5	0.75	4.2	93 505 075
M6	0.75	5.2	93 506 075
M8	0.75	7.2	93 508 075
M8	1.00	7	935 081
M10	1.00	9	935 101

Ø	Pitch mm	Core Hole mm	Art.-No.
M10	1.25	8.8	93 510 125
M12	1.00	11	935 121
M12	1.25	10.8	93 512 125
M12	1.50	10.5	9 351 215
M14	1.25	12.8	93 514 125
M14	1.50	12.5	9 351 415
M16	1.50	14.5	9 351 615
M18	1.50	16.5	9 351 815

Ø	Pitch mm	Core Hole mm	Art.-No.
M20	1.50	18.5	9 352 015
M22	1.50	20.5	9 352 215
M24	1.50	22.5	9 352 415
M25	1.50	23.5	9 352 515
M32	1.50	30.5	9 353 215
M40	1.50	38.5	9 354 015

## Single items

Article Group 30

### Taper taps

Ø	Pitch mm	Core Hole mm	Art.-No.
M3	0.35	2.65	93 503 035 1
M4	0.35	3.65	93 504 035 1
M4	0.50	3.50	93 50 405 1
M5	0.75	4.20	93 505 075 1
M6	0.75	5.20	93 506 075 1
M8	0.75	7.20	93 508 075 1
M8	1.00	7.00	935 081 1
M10	1.00	9.00	935 101 1
M10	1.25	8.80	93 510 125 1
M12	1.00	11.00	935 121 1
M12	1.25	10.80	93 512 125 1
M12	1.50	10.50	93 51 215 1
M14	1.25	12.80	93 514 125 1
M14	1.50	12.50	93 51 415 1
M16	1.50	14.50	93 51 615 1
M18	1.50	16.50	93 51 815 1
M20	1.50	18.50	93 52 015 1
M22	1.50	20.50	93 52 215 1
M24	1.50	22.50	93 52 415 1

### Bottoming taps

Ø	Pitch mm	Core Hole mm	Art.-No.
M3	0.35	2.65	93 503 035 3
M4	0.35	3.65	93 504 035 3
M4	0.50	3.50	93 50 405 3
M5	0.75	4.20	93 505 075 3
M6	0.75	5.20	93 506 075 3
M8	0.75	7.20	93 508 075 3
M8	1.00	7.00	935 081 3
M10	1.00	9.00	935 101 3
M10	1.25	8.80	93 510 125 3
M12	1.00	11.00	935 121 3
M12	1.25	10.80	93 512 125 3
M12	1.50	10.50	93 51 215 3
M14	1.25	12.80	93 514 125 3
M14	1.50	12.50	93 51 415 3
M16	1.50	14.50	93 51 615 3
M18	1.50	16.50	93 51 815 3
M20	1.50	18.50	93 52 015 3
M22	1.50	20.50	93 52 215 3
M24	1.50	22.50	93 52 415 3

## 93700 | Hand taps BSW HSS DIN 351 - 3 pcs.



Article Group 30

- ▶ For whitworth coarse threads, BS 84 BSW
- ▶ Easy, free cutting
- ▶ High cutting performance
- ▶ Thread will be cut in three work steps
- ▶ Designed to cut: Steel up to 800 N/mm<sup>2</sup>, cast iron and non-ferrous metals



<b>Norm</b>	DIN 351	<b>Chamfer</b>	Taper (4), plug (3) and bottoming (2) threads
<b>Tolerance</b>	6 H	<b>Thread</b>	With thread relief
<b>Material</b>	HSS	<b>Tensile strength</b>	800 N/mm <sup>2</sup>
<b>Shape of flute</b>	Straight	<b>Hole</b>	Through and blind hole thread

Set of 3 in plastic box



Ø	Pitch tpi	Core Hole mm	Art.-No.	Ø	Pitch tpi	Core Hole mm	Art.-No.	Ø	Pitch tpi	Core Hole mm	Art.-No.
1/8"	40	2.55	937 018	5/16"	18	6.5	937 516	5/8"	11	13.5	937 058
5/32"	32	3.1	937 532	3/8"	16	7.9	937 038	3/4"	10	16.5	937 034
3/16"	24	3.6	937 316	7/16"	14	9.2	937 716	7/8"	9	19.25	937 078
7/32"	24	4.4	937 732	1/2"	12	10.5	937 012	1"	8	22	937 100
1/4"	20	5.1	937 014	9/16"	12	12	937 916				

## 93600 | Hand taps BSP HSS DIN 5157 - 2 pcs.



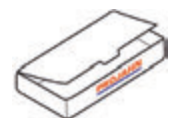
Article Group 30

- ▶ For whitworth thread BSP
- ▶ Easy, free cutting
- ▶ High cutting performance
- ▶ Thread will be cut in two work steps
- ▶ Designed to cut: Steel up to 800 N/mm<sup>2</sup>, cast iron and non-ferrous metals



<b>Norm</b>	DIN 5157	<b>Chamfer</b>	Taper (4), bottoming (2) threads
<b>Tolerance</b>	Class A	<b>Thread</b>	With thread relief
<b>Material</b>	HSS	<b>Tensile strength</b>	800 N/mm <sup>2</sup>
<b>Shape of flute</b>	Straight	<b>Hole</b>	Through and blind hole thread

Set of 2 in plastic box



Ø	Pitch tpi	Core Hole mm	Art.-No.	Ø	Pitch tpi	Core Hole mm	Art.-No.	Ø	Pitch tpi	Core Hole mm	Art.-No.
G1/8"	28	8.8	93 608	G3/8"	19	15.25	93 602	G3/4"	14	24.5	93 604
G1/4"	19	11.75	93 601	G1/2"	14	19	93 603	G1"	11	30.5	93 605



## 93300/93800 | Hand taps UNC HSS DIN 352 - 3 pcs.



UNC

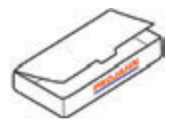
Article Group 30

- ▶ For American unified coarse thread UNC
- ▶ Easy, free cutting
- ▶ High cutting performance
- ▶ Thread will be cut in three work steps
- ▶ Designed to cut: Steel up to 800 N/mm<sup>2</sup>, cast iron and non-ferrous metals



<b>Norm</b>	DIN 352	<b>Chamfer</b>	Taper (4), plug (3) and bottoming (2) threads
<b>Tolerance</b>	2 B	<b>Thread</b>	With thread relief
<b>Material</b>	HSS	<b>Tensile strength</b>	800 N/mm <sup>2</sup>
<b>Shape of flute</b>	Straight	<b>Hole</b>	Through and blind hole thread

Set of 3 in plastic box



Ø	Pitch tpi	Core Hole mm	Art.-No.	Ø	Pitch tpi	Core Hole mm	Art.-No.	Ø	Pitch tpi	Core Hole mm	Art.-No.
No. 2	56	1.8	93 302*	5/16"	18	6.6	93 802	5/8"	11	13.5	93 807
No. 3	48	2	93 303*	3/8"	16	7.8	93 803	3/4"	10	16.5	93 808
No. 6	32	2.8	93 306*	7/16"	14	9.4	93 804	1"	8	22.25	93 810
No. 12	24	4.5	93 312*	1/2"	13	10.7	93 805				
1/4"	20	5.2	93 801	9/16"	12	12.25	93 806				

## 93400/93900 | Hand taps UNF HSS DIN 2181 - 2 pcs.



UNF

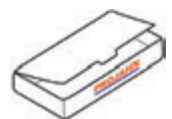
Article Group 30

- ▶ For American unified fine thread UNF
- ▶ Easy, free cutting
- ▶ High cutting performance
- ▶ Thread will be cut in three work steps
- ▶ Designed to cut: Steel up to 800 N/mm<sup>2</sup>, cast iron and non-ferrous metals



<b>Norm</b>	DIN 2181	<b>Chamfer</b>	Taper (4), bottoming (2) threads
<b>Tolerance</b>	2 B	<b>Thread</b>	With thread relief
<b>Material</b>	HSS	<b>Tensile strength</b>	800 N/mm <sup>2</sup>
<b>Shape of flute</b>	Straight	<b>Hole</b>	Through and blind hole thread

Set of 2 in plastic box



Ø	Pitch tpi	Core Hole mm	Art.-No.	Ø	Pitch tpi	Core Hole mm	Art.-No.
No. 8	36	3.5	93 408*	1/2"	20	11.5	93 905
No. 12	28	4.6	93 412*	9/16"	18	12.9	93 906
1/4"	28	5.5	93 901	5/8"	18	14.5	93 907
5/16"	24	6.9	93 902	3/4"	16	17.5	93 908
3/8"	24	8.5	93 903	7/8"	14	20.5	93 909
7/16"	20	9.9	93 904	1"	12	23.2	93 910

# 940006 | Machine taps HSS-Co steam treated DIN 371 through hole thread

Article Group 79



- ▶ Significantly longer lifetime since the coolant efficiency is increased through the steam treated surface
- ▶ Extremely high precision when tapping a thread, since cold welds (workpiece particles on the tap flank) are strongly reduced due to vaporization
- ▶ Optimal chip removal due to improved coolant flow
- ▶ For precise and true to gauge metric ISO threads according to DIN 13
- ▶ Easy initial cutting
- ▶ High cutting performance
- ▶ Ground from solid, profile-ground with thread relief
- ▶ Designed to cut: Unalloyed and low-alloyed steel, rust and acid resistant steel (V2A,V4A), malleable cast iron, non-ferrous metals, up to 1.200 N/mm<sup>2</sup>



<b>Norm</b>	DIN 371
<b>Tolerance</b>	ISO 2 (6 H)
<b>Material</b>	HSS-Co
<b>Coating</b>	Steam treated
<b>Shape of flute</b>	Straight

<b>Chamfer</b>	Spiral pointed form B 4 - 5 Pitch
<b>Thread</b>	Profile-ground with thread relief
<b>Tensile strength</b>	1.200 N/mm <sup>2</sup>
<b>Hole</b>	Through hole thread

Single packed

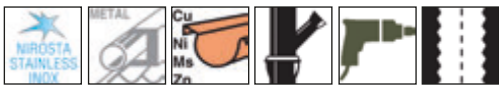


Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M3	0.50	56	9	2.5	940 306
M4	0.70	63	12	3.3	940 406
M5	0.80	70	13	4.2	940 506

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M6	1.00	80	15	5	940 606
M8	1.25	90	18	6.8	940 806
M10	1.50	100	20	8.5	941 006

# 950006 | Machine taps HSS-Co steam treated DIN 376 through hole thread

Article Group 79



- ▶ Significantly longer service life since the coolant efficiency is increased through the steam treated surface
- ▶ Extremely high precision when tapping a thread, since cold welds (workpiece particles on the tap flank) are strongly reduced due to vaporization
- ▶ Optimal chip removal due to improved coolant flow
- ▶ For precise and true to gauge metric ISO threads according to DIN 13
- ▶ Easy initial cutting
- ▶ High cutting performance
- ▶ Ground from solid, profile-ground with thread relief
- ▶ Designed to cut: Unalloyed and low-alloyed steel, rust and acid resistant steel (V2A,V4A), malleable cast iron, non-ferrous metals, up to 1.200 N/mm<sup>2</sup>



<b>Norm</b>	DIN 376
<b>Tolerance</b>	ISO 2 (6 H)
<b>Material</b>	HSS-Co
<b>Coating</b>	Steam treated
<b>Shape of flute</b>	Straight

<b>Chamfer</b>	Spiral pointed form B 4 - 5 Pitch
<b>Thread</b>	Profile-ground with thread relief
<b>Tensile strength</b>	1.200 N/mm <sup>2</sup>
<b>Hole</b>	Through hole thread

Single packed



Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M12	1.75	110	23	10.2	951 206
M16	2.00	110	25	14	951 606

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M20	2.50	140	30	17.5	952 006

# 960006 | Machine taps HSS-Co steam treated DIN 371 blind hole thread

Article Group 79



- ▶ Significantly longer service life since the coolant efficiency is increased through the steam treated surface
- ▶ Extremely high precision when tapping a thread, since cold welds (workpiece particles on the tap flank) are strongly reduced due to vaporization
- ▶ Optimal chip removal due to improved coolant flow
- ▶ For precise and true to gauge metric ISO threads according to DIN 13
- ▶ Easy initial cutting
- ▶ High cutting performance
- ▶ Ground from solid, profile-ground with thread relief
- ▶ Designed to cut: Unalloyed and low-alloyed steel, rust and acid resistant steel (V2A,V4A), malleable cast iron, non-ferrous metals, up to 1.200 N/mm<sup>2</sup>



<b>Norm</b>	DIN 371	<b>Chamfer</b>	Form C 2 - 3 pitch
<b>Tolerance</b>	ISO 2 (6 H)	<b>Thread</b>	Profile-ground with thread relief
<b>Material</b>	HSS-Co	<b>Tensile strength</b>	1.200 N/mm <sup>2</sup>
<b>Coating</b>	Steam treated	<b>Hole</b>	Blind hole thread
<b>Shape of flute</b>	Spiral fluted		

Single packed

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M3	0.50	56	5	2.5	960 306
M4	0.70	63	7	3.3	960 406
M5	0.80	70	8	4.2	960 506

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M6	1.00	80	10	5	960 606
M8	1.25	90	13	6.8	960 806
M10	1.50	100	15	8.5	961 006



# 970006 | Machine taps HSS-Co steam treated DIN 376 blind hole thread

Article Group 79



- ▶ Significantly longer service life since the coolant efficiency is increased through the steam treated surface
- ▶ Extremely high precision when tapping a thread, since cold welds (workpiece particles on the tap flank) are strongly reduced due to vaporization
- ▶ Optimal chip removal due to improved coolant flow
- ▶ For precise and true to gauge metric ISO threads according to DIN 13
- ▶ Easy initial cutting
- ▶ High cutting performance
- ▶ Ground from solid, profile-ground with thread relief
- ▶ Designed to cut: Unalloyed and low-alloyed steel, rust and acid resistant steel (V2A,V4A), malleable cast iron, non-ferrous metals, up to 1.200 N/mm<sup>2</sup>



<b>Norm</b>	DIN 376	<b>Chamfer</b>	Form C 2 - 3 pitch
<b>Tolerance</b>	ISO 2 (6 H)	<b>Thread</b>	Profile-ground with thread relief
<b>Material</b>	HSS-Co	<b>Tensile strength</b>	1.200 N/mm <sup>2</sup>
<b>Coating</b>	Steam treated	<b>Hole</b>	Blind hole thread
<b>Shape of flute</b>	Spiral fluted		

Single packed

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M12	1.75	110	18	10.2	971 206
M16	2.00	110	20	14	971 606

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M20	2.50	140	25	17.5	972 006



# 940002 | Machine taps HSS-Co DIN 371 through hole thread

Article Group 79



- ▶ For precise and true to gauge metric ISO threads according to DIN 13
- ▶ Easy initial cutting
- ▶ High cutting performance
- ▶ Optimal chip removal
- ▶ Ground from solid, profile-ground with thread relief
- ▶ Designed to cut: Unalloyed and low-alloyed steel, rust and acid resistant steel (V2A,V4A), malleable cast iron, non-ferrous metals, up to 1.200 N/mm<sup>2</sup>



<b>Norm</b>	DIN 371
<b>Tolerance</b>	ISO 2 (6 H)
<b>Material</b>	HSS-Co
<b>Coating</b>	Blank
<b>Shape of flute</b>	Straight

<b>Chamfer</b>	Spiral pointed form B 4 - 5 Pitch
<b>Thread</b>	Profile-ground with thread relief
<b>Tensile strength</b>	1.200 N/mm <sup>2</sup>
<b>Hole</b>	Through hole thread

Single packed



Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M3	0.50	56	9	2.5	940 302
M4	0.70	63	12	3.3	940 402
M5	0.80	70	13	4.2	940 502

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M6	1.00	80	15	5	940 602
M8	1.25	90	18	6.8	940 802
M10	1.50	100	20	8.5	941 002

# 950002 | Machine taps HSS-Co DIN 376 through hole thread

Article Group 79



- ▶ For precise and true to gauge metric ISO threads according to DIN 13
- ▶ Easy initial cutting
- ▶ High cutting performance
- ▶ Optimal chip removal
- ▶ Ground from solid, profile-ground with thread relief
- ▶ Designed to cut: Unalloyed and low-alloyed steel, rust and acid resistant steel (V2A,V4A), malleable cast iron, non-ferrous metals, up to 1.200 N/mm<sup>2</sup>



<b>Norm</b>	DIN 376
<b>Tolerance</b>	ISO 2 (6 H)
<b>Material</b>	HSS-Co
<b>Coating</b>	Blank
<b>Shape of flute</b>	Straight

<b>Chamfer</b>	Spiral pointed form B 4 - 5 Pitch
<b>Thread</b>	Profile-ground with thread relief
<b>Tensile strength</b>	1.200 N/mm <sup>2</sup>
<b>Hole</b>	Through hole thread

Single packed



Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M12	1.75	110	23	10.2	951 202
M16	2.00	110	25	14	951 602
M20	2.50	140	30	17.5	952 002
M22	2.50	140	30	19.5	952 202

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M24	3.00	160	36	21	952 402
M27	3.00	160	36	24	952 702
M30	3.50	160	40	26.5	953 002

# 960002 | Machine taps HSS-Co DIN 371 blind hole thread

Article Group 79



- ▶ For precise and true to gauge metric ISO threads according to DIN 13
- ▶ Easy initial cutting
- ▶ High cutting performance
- ▶ Optimal chip removal
- ▶ Ground from solid, profile-ground with thread relief
- ▶ Designed to cut: Unalloyed and low-alloyed steel, rust and acid resistant steel (V2A,V4A), malleable cast iron, non-ferrous metals, up to 1.200 N/mm<sup>2</sup>



**Norm** | DIN 371  
**Tolerance** | ISO 2 (6 H)  
**Material** | HSS-Co  
**Coating** | Blank  
**Shape of flute** | Spiral fluted

**Chamfer** | Form C 2 - 3 pitch  
**Thread** | Profile-ground with thread relief  
**Tensile strength** | 1.200 N/mm<sup>2</sup>  
**Hole** | Blind hole thread



Single packed

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M3	0.50	56	5	2.5	960 302
M4	0.70	63	7	3.3	960 402
M5	0.80	70	8	4.2	960 502

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M6	1.00	80	10	5	960 602
M8	1.25	90	13	6.8	960 802
M10	1.50	100	15	8.5	961 002

# 970002 | Machine taps HSS-Co DIN 376 blind hole thread

Article Group 79



- ▶ For precise and true to gauge metric ISO threads according to DIN 13
- ▶ Easy initial cutting
- ▶ High cutting performance
- ▶ Optimal chip removal
- ▶ Ground from solid, profile-ground with thread relief
- ▶ Designed to cut: Unalloyed and low-alloyed steel, rust and acid resistant steel (V2A,V4A), malleable cast iron, non-ferrous metals, up to 1.200 N/mm<sup>2</sup>



**Norm** | DIN 376  
**Tolerance** | ISO 2 (6 H)  
**Material** | HSS-Co  
**Coating** | Blank  
**Shape of flute** | Spiral fluted

**Chamfer** | Form C 2 - 3 pitch  
**Thread** | Profile-ground with thread relief  
**Tensile strength** | 1.200 N/mm<sup>2</sup>  
**Hole** | Blind hole thread

Single packed

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M12	1.75	110	18	10.2	971 202
M16	2.00	110	20	14	971 602
M20	2.50	140	25	17.5	972 002
M22	2.50	140	25	19.5	972 202

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M24	3.00	160	30	21	972 402
M27	3.00	160	30	24	972 702
M30	3.50	180	35	26.5	973 002



# 940001 | Machine taps HSS-Co DIN 371 through hole thread

Article Group 13



- ▶ For precise and true to gauge metric ISO threads according to DIN 13
- ▶ Easy initial cutting
- ▶ Without tips
- ▶ Designed to cut: Steels, cast iron, non-ferrous metals and stainless steels
- ▶ Reinforced shank



<b>Norm</b>	DIN 371
<b>Tolerance</b>	6 H
<b>Material</b>	HSS-Co
<b>Coating</b>	Blank

<b>Shape of flute</b>	Straight
<b>Chamfer</b>	Spiral pointed form B 4 - 5 Pitch
<b>Tensile strength</b>	1.100 N/mm <sup>2</sup>
<b>Hole</b>	Through hole thread

Single packaging with hanger

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M3	0.50	56	11	2.5	940 301
M4	0.70	63	13	3.3	940 401
M5	0.80	70	16	4.2	940 501

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M6	1.00	80	19	5	940 601
M8	1.25	90	22	6.8	940 801
M10	1.50	100	24	8.5	941 001

# 950001 | Machine taps HSS-Co DIN 376 through hole thread

Article Group 13



- ▶ For precise and true to gauge metric ISO threads according to DIN 13
- ▶ Easy initial cutting
- ▶ Without tips
- ▶ Designed to cut: Steels, cast iron, non-ferrous metals and stainless steels
- ▶ Overflow shank



<b>Norm</b>	DIN 376
<b>Tolerance</b>	6 H
<b>Material</b>	HSS-Co
<b>Coating</b>	Blank

<b>Shape of flute</b>	Straight
<b>Chamfer</b>	Spiral pointed form B 4 - 5 Pitch
<b>Tensile strength</b>	1.100 N/mm <sup>2</sup>
<b>Hole</b>	Through hole thread

Single packaging with hanger

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M3	0.50	56	11	2.5	950 301
M4	0.70	63	13	3.3	950 401
M5	0.80	70	16	4.2	950 501
M6	1.00	80	19	5	950 601
M8	1.25	90	22	6.8	950 801
M10	1.50	100	24	8.5	951 001

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M12	1.75	110	29	10.2	951 201
M14	2.00	110	30	12	951 401
M16	2.00	110	32	14	951 601
M18	2.50	125	34	15.5	951 801
M20	2.50	140	34	17.5	952 001
M24	3.00	160	38	21	952 401

## 960001 | Machine taps HSS-Co DIN 371 blind hole thread



Article Group 13

- ▶ For precise and true to gauge metric ISO threads according to DIN 13
- ▶ Easy initial cutting
- ▶ Without tips
- ▶ Designed to cut: Steels, cast iron, non-ferrous metals and stainless steels
- ▶ Reinforced shank



<b>Norm</b>	DIN 371
<b>Tolerance</b>	6 H
<b>Material</b>	HSS-Co
<b>Coating</b>	Blank

<b>Shape of flute</b>	35° spiral flute
<b>Chamfer</b>	Form C 2 - 3 pitch
<b>Tensile strength</b>	1.100 N/mm <sup>2</sup>
<b>Hole</b>	Blind hole thread

Single packaging with hanger

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M3	0.50	56	6	2.5	960 301
M4	0.70	63	7	3.3	960 401
M5	0.80	70	8	4.2	960 501

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M6	1.00	80	10	5	960 601
M8	1.25	90	14	6.8	960 801
M10	1.50	100	16	8.5	961 001

## 970001 | Machine taps HSS-Co DIN 376 blind hole thread



Article Group 13

- ▶ For precise and true to gauge metric ISO threads according to DIN 13
- ▶ Easy initial cutting
- ▶ Without tips
- ▶ Designed to cut: Steels, cast iron, non-ferrous metals and stainless steels
- ▶ Overflow shank



<b>Norm</b>	DIN 376
<b>Tolerance</b>	6 H
<b>Material</b>	HSS-Co
<b>Coating</b>	Blank

<b>Shape of flute</b>	35° spiral flute
<b>Chamfer</b>	Form C 2 - 3 pitch
<b>Tensile strength</b>	1.100 N/mm <sup>2</sup>
<b>Hole</b>	Blind hole thread

Single packaging with hanger

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M12	1.75	110	18	10.2	971 201
M14	2.00	110	20	12	971 401
M16	2.00	110	22	14	971 601

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M18	2.50	125	25	15.5	971 801
M20	2.50	140	25	17.5	972 001
M24	3.00	160	30	21	972 401

# 94000 | Machine taps HSS-G DIN 371 through hole thread

Article Group 13



- ▶ For precise and true to gauge metric ISO threads according to DIN 13
- ▶ Easy initial cutting
- ▶ Without tips
- ▶ Designed to cut: Steel up to 800 N/mm<sup>2</sup>, cast iron and non-ferrous metals
- ▶ Reinforced shank



<b>Norm</b>	DIN 371
<b>Tolerance</b>	6 H
<b>Material</b>	HSS
<b>Coating</b>	Blank

<b>Shape of flute</b>	Straight
<b>Chamfer</b>	Spiral pointed form B 4 - 5 Pitch
<b>Tensile strength</b>	800 N/mm <sup>2</sup>
<b>Hole</b>	Through hole thread

Single packaging with hanger

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M2	0.40	50	9	1.6	94 020
M3	0.50	56	11	2.5	94 030
M4	0.70	63	13	3.3	94 040
M5	0.80	70	16	4.2	94 050

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M6	1.00	80	19	5	94 060
M8	1.25	90	22	6.8	94 080
M10	1.50	100	24	8.5	94 100

# 95000 | Machine taps HSS-G DIN 376 through hole thread

Article Group 13



- ▶ For precise and true to gauge metric ISO threads according to DIN 13
- ▶ Easy initial cutting
- ▶ Without tips
- ▶ Designed to cut: Steel up to 800 N/mm<sup>2</sup>, cast iron and non-ferrous metals
- ▶ Overflow shank



<b>Norm</b>	DIN 376
<b>Tolerance</b>	6 H
<b>Material</b>	HSS
<b>Coating</b>	Blank

<b>Shape of flute</b>	Straight
<b>Chamfer</b>	Spiral pointed form B 4 - 5 Pitch
<b>Tensile strength</b>	800 N/mm <sup>2</sup>
<b>Hole</b>	Through hole thread

Single packaging with hanger

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M3	0.50	56	11	2.5	95 030
M4	0.70	63	13	3.3	95 040
M5	0.80	70	16	4.2	95 050
M6	1.00	80	19	5	95 060
M8	1.25	90	22	6.8	95 080
M10	1.50	100	24	8.5	95 100

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M12	1.75	110	29	10.2	95 120
M14	2.00	110	30	12	95 140
M16	2.00	110	32	14	95 160
M18	2.50	125	34	15.5	95 180
M20	2.50	140	34	17.5	95 200
M24	3.00	160	38	21	95 240



# 96000 | Machine taps HSS-G DIN 371 blind hole thread

Article Group 13



- ▶ For precise and true to gauge metric ISO threads according to DIN 13
- ▶ Easy initial cutting
- ▶ Without tips
- ▶ Designed to cut: Steel up to 800 N/mm<sup>2</sup>, cast iron and non-ferrous metals
- ▶ Reinforced shank



<b>Norm</b>	DIN 371
<b>Tolerance</b>	6 H
<b>Material</b>	HSS
<b>Coating</b>	Blank

<b>Shape of flute</b>	35° spiral flute
<b>Chamfer</b>	Form C 2 - 3 pitch
<b>Tensile strength</b>	800 N/mm <sup>2</sup>
<b>Hole</b>	Blind hole thread

Single packaging with hanger

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M3	0.50	56	6	2.5	96 030
M4	0.70	63	7	3.3	96 040
M5	0.80	70	8	4.2	96 050

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M6	1.00	80	10	5	96 060
M8	1.25	90	14	6.8	96 080
M10	1.50	100	16	8.5	96 100

# 97000 | Machine taps HSS-G DIN 376 blind hole thread

Article Group 13



- ▶ For precise and true to gauge metric ISO threads according to DIN 13
- ▶ Easy initial cutting
- ▶ Without tips
- ▶ Designed to cut: Steel up to 800 N/mm<sup>2</sup>, cast iron and non-ferrous metals
- ▶ Overflow shank



<b>Norm</b>	DIN 376
<b>Tolerance</b>	6 H
<b>Material</b>	HSS
<b>Coating</b>	Blank

<b>Shape of flute</b>	35° spiral flute
<b>Chamfer</b>	Form C 2 - 3 pitch
<b>Tensile strength</b>	800 N/mm <sup>2</sup>
<b>Hole</b>	Blind hole thread

Single packaging with hanger

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M12	1.75	110	18	10.2	97 120
M14	2.00	110	20	12	97 140
M16	2.00	110	22	14	97 160

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M18	2.50	125	25	15.5	97 180
M20	2.50	140	25	17.5	97 200
M24	3.00	160	30	21	97 240

# 945002/955002 | Machine taps HSS-Co steam treated DIN 374 through hole thread

Article Group 79



- ▶ Significantly longer service life since the coolant efficiency is increased through the steam treated surface
- ▶ Extremely high precision when tapping a thread, since cold welds (workpiece particles on the tap flank) are strongly reduced due to vaporization
- ▶ Optimal chip removal due to improved coolant flow
- ▶ For exact and true to gauge metric Fine threads according to DIN 13
- ▶ Easy initial cutting
- ▶ High cutting performance
- ▶ Ground from solid, profile-ground with thread relief
- ▶ Designed to cut: Unalloyed and low-alloyed steel, rust and acid resistant steel (V2A,V4A), malleable cast iron, non-ferrous metals, up to 1.200 N/mm<sup>2</sup>



<b>Norm</b>	DIN 374
<b>Tolerance</b>	ISO 2 (6 H)
<b>Material</b>	HSS-Co
<b>Coating</b>	Steam treated
<b>Shape of flute</b>	Straight

<b>Chamfer</b>	Spiral pointed form B 4 - 5 Pitch
<b>Thread</b>	Profile-ground with thread relief
<b>Tensile strength</b>	1.200 N/mm <sup>2</sup>
<b>Hole</b>	Through hole thread

Single packed

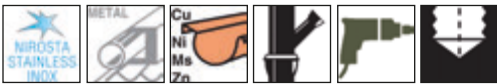
Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M6	0.75	80	15	5.2	94 506 075 2
M8	1.00	90	18	7	945 081 2
M10	1.00	90	20	9	945 101 2

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M12	1.50	100	21	10.5	95 51 215 2
M16	1.50	100	21	14.5	95 51 615 2
M20	1.50	125	24	18.5	95 52 015 2



# 965002/975002 | Machine taps HSS-Co steam treated DIN 374 blind hole thread

Article Group 79



- ▶ Significantly longer service life since the coolant efficiency is increased through the steam treated surface
- ▶ Extremely high precision when tapping a thread, since cold welds (workpiece particles on the tap flank) are strongly reduced due to vaporization
- ▶ Optimal chip removal due to improved coolant flow
- ▶ For exact and true to gauge metric Fine threads according to DIN 13
- ▶ Easy initial cutting
- ▶ High cutting performance
- ▶ Ground from solid, profile-ground with thread relief
- ▶ Designed to cut: Unalloyed and low-alloyed steel, rust and acid resistant steel (V2A,V4A), malleable cast iron, non-ferrous metals, up to 1.200 N/mm<sup>2</sup>



<b>Norm</b>	DIN 374
<b>Tolerance</b>	ISO 2 (6 H)
<b>Material</b>	HSS-Co
<b>Coating</b>	Steam treated
<b>Shape of flute</b>	Spiral fluted

<b>Chamfer</b>	Form C 2 - 3 pitch
<b>Thread</b>	Profile-ground with thread relief
<b>Tensile strength</b>	1.200 N/mm <sup>2</sup>
<b>Hole</b>	Blind hole thread

Single packed

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M6	0.75	80	10	5.2	96 506 075 2
M8	1.00	90	13	7	965 081 2
M10	1.00	90	12	9	965 101 2

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M12	1.50	100	14	10.5	97 51 215 2
M16	1.50	100	16	14.5	97 51 615 2
M20	1.50	125	20	18.5	97 52 015 2



## 92000 | Short machine taps HSS-G DIN 352

Article Group 13



- ▶ For precise and true to gauge metric ISO threads according to DIN 13
- ▶ For machine and manual use
- ▶ Designed to cut: Steel up to 800 N/mm<sup>2</sup>, cast iron and non-ferrous metals

**Norm** | DIN 352  
**Tolerance** | ISO 2 (6 H)  
**Material** | HSS  
**Shape of flute** | Straight

**Chamfer** | 4 - 6 pitch  
**Tensile strength** | 800 N/mm<sup>2</sup>  
**Hole** | Through hole thread



Single packed

Ø	Pitch mm	Core Hole mm	Art.-No.	Ø	Pitch mm	Core Hole mm	Art.-No.	Ø	Pitch mm	Core Hole mm	Art.-No.
M3	0.50	2.5	92 030	M6	1.00	5	92 060	M12	1.75	10.2	92 120
M4	0.70	3.3	92 040	M8	1.25	6.8	92 080				
M5	0.80	4.2	92 050	M10	1.50	8.5	92 100				

## 91800 | Short machine taps 6.35 mm [1/4"] hex shank

Article Group 13



- ▶ For precise and true to gauge metric ISO threads according to DIN 13
- ▶ For machine and manual use
- ▶ Designed to cut: Steel up to 800 N/mm<sup>2</sup>, cast iron and non-ferrous metals

**Norm** | PROJAHN standard  
**Tolerance** | ISO 2 (6 H)  
**Material** | HSS  
**Shape of flute** | Straight

**Chamfer** | 4 - 6 pitch  
**Tensile strength** | 800 N/mm<sup>2</sup>  
**Hole** | Through hole thread



Single packed

Ø	Pitch mm	Core Hole mm	Art.-No.	Ø	Pitch mm	Core Hole mm	Art.-No.	Ø	Pitch mm	Core Hole mm	Art.-No.
M3	0.50	2.5	91 803	M6	1.00	5	91 806	M12	1.75	10.2	91 812
M4	0.70	3.3	91 804	M8	1.25	6.8	91 808				
M5	0.80	4.2	91 805	M10	1.50	8.5	91 810				

## 91300 | Tap extensions DIN 377

Article Group 30

- ▶ For the extension of hand taps
- ▶ Ground and hardened
- ▶ Same sized external and internal square according to DIN 10



Single packaging with hanger

Ø Shank	For taps	L mm	Art.-No.	Ø Shank	For taps	L mm	Art.-No.	Ø Shank	For taps	L mm	Art.-No.
2.7	M3	80	91 327	5.5	M9 - 10	115	91 355	11	M18	150	913 110
3.4	M4	95	91 334	7	M12	125	91 370	12	M20	155	913 120
4.9	M5 - M8	110	91 349	9	M14 - 16	135	91 390	14.5	M22 - 24	175	913 145

## 99000 | Machine nut taps HSS-G DIN 357

Article Group 13



- ▶ For metric ISO threads according to DIN 13
- ▶ Long overflow shank for holding multiple cut nuts
- ▶ For through hole threads - Nut height 1 x Ø



<b>Norm</b>	DIN 357
<b>Tolerance</b>	ISO 2 (6 H)
<b>Material</b>	HSS
<b>Shape of flute</b>	Straight

<b>Chamfer</b>	approx. 2/3 of the thread length
<b>Thread</b>	Profile-ground with thread relief
<b>Tensile strength</b>	800 N/mm <sup>2</sup>
<b>Hole</b>	Through hole thread



Single packaging with hanger

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M4	0.70	90	25	3.3	99 040
M5	0.80	100	28	4.2	99 050
M6	1.00	110	32	5	99 060

Ø	Pitch mm	Length mm	Thread L mm	Core Hole mm	Art.-No.
M8	1.25	125	40	6.8	99 080
M10	1.50	140	45	8.5	99 100
M12	1.75	180	50	10.2	99 120

## 91900 | Combined tap bits HSS-G 6.35 mm [1/4"] hex shank

Article Group 31



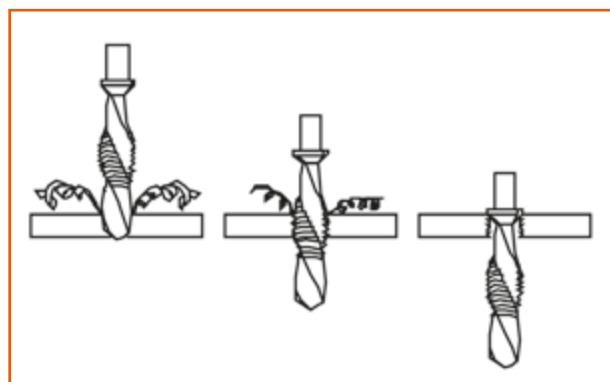
- ▶ Every working step within one application: Drilling core hole, cutting thread, deburring thread and cleaning the thread during return
- ▶ Optimal use in hand drills, cordless drills and stationary drills
- ▶ All machine types need to have clockwise/anticlockwise rotation
- ▶ The material thickness must not exceed the thread diameter
- ▶ Ideal areas of application: Assembly, repair and rework of damaged threads
- ▶ Designed to drill: non-ferrous metals, structural steel, CrNi-steel and plastics



Single packaging with hanger



Ø	Pitch mm	Length mm	Core Hole mm	Art.-No.
M3	0.50	36	2.5	91 903
M4	0.70	39	3.3	91 904
M5	0.80	41	4.2	91 905
M6	1.00	44	5	91 906
M8	1.25	50	6.8	91 908
M10	1.50	59	8.5	91 910



## 98000 | Circular dies HSS-G M DIN EN 22568

Article Group 23



- ▶ For gauge conform metric ISO-threads according to DIN 13
- ▶ High cutting performance
- ▶ The thread is cut in one operation
- ▶ Designed to cut: Steel up to 800 N/mm<sup>2</sup>, cast iron and non-ferrous metals

<b>Norm</b>	DIN EN 22568
<b>Tolerance</b>	6 g
<b>Material</b>	HSS
<b>Format</b>	Form B, pre-slotted and closed
<b>Tensile strength</b>	800 N/mm <sup>2</sup>



Single packaging with hanger

Ø	Pitch mm	Ø-Outside mm	Art.-No.
M2	0.40	16 x 5	98 020
M3	0.50	20 x 5	98 030
M4	0.70	20 x 5	98 040
M5	0.80	20 x 7	98 050
M6	1.00	20 x 7	98 060

Ø	Pitch mm	Ø-Outside mm	Art.-No.
M7	1.00	25 x 9	98 070
M8	1.25	25 x 9	98 080
M10	1.50	30 x 11	98 100
M12	1.75	38x14	98 120
M14	2.00	38x14	98 140

Ø	Pitch mm	Ø-Outside mm	Art.-No.
M16	2.00	45 x 18	98 160
M18	2.50	45 x 18	98 180
M20	2.50	45 x 18	98 200
M22	2.50	55 x 22	98 220
M24	3.00	55 x 22	98 240



## 98500 | Circular dies HSS-G MF DIN EN 22568

Article Group 30



- ▶ For gauge conform metric fine ISO-threads according to DIN 13
- ▶ High cutting performance
- ▶ The thread is cut in one operation
- ▶ Designed to cut: Steel up to 800 N/mm<sup>2</sup>, cast iron and non-ferrous metals

<b>Norm</b>	DIN EN 22568
<b>Tolerance</b>	6 g
<b>Material</b>	HSS
<b>Format</b>	Form B, pre-slotted and closed
<b>Tensile strength</b>	800 N/mm <sup>2</sup>



Single packaging with hanger

Ø	Pitch mm	Ø-Outside mm	Art.-No.
M3	0.35	20 x 5	98 503 035
M4	0.35	20 x 5	98 504 035
M4	0.50	20 x 5	9 850 405
M5	0.75	20 x 7	98 505 075
M6	0.75	20 x 7	98 506 075
M8	0.75	25 x 9	98 508 075
M8	1.00	25 x 9	985 081
M10	1.00	30 x 11	985 101

Ø	Pitch mm	Ø-Outside mm	Art.-No.
M10	1.25	30 x 11	98 510 125
M12	1.00	38x10	985 121
M12	1.25	38x10	98 512 125
M12	1.50	38x10	9 851 215
M14	1.25	38x10	98 514 125
M14	1.50	38x10	9 851 415
M16	1.50	45 x 14	9 851 615
M18	1.50	45 x 14	9 851 815

Ø	Pitch mm	Ø-Outside mm	Art.-No.
M20	1.50	45 x 14	9 852 015
M22	1.50	55 x 16	9 852 215
M24	1.50	55 x 16	9 852 415
M25	1.50	55 x 16	9 852 515
M32	1.50	65 x 18	9 853 215
M40	1.50	75 x 20	9 854 015

# 98700 | Circular dies HSS-G BSW DIN EN 22568

Article Group 30



- ▶ For whitworth coarse threads, BS 84 BSW
- ▶ High cutting performance
- ▶ The thread is cut in one operation
- ▶ Designed to cut: Steel up to 800 N/mm<sup>2</sup>, cast iron and non-ferrous metals



<b>Norm</b>	DIN EN 22568
<b>Tolerance</b>	Middle class
<b>Material</b>	HSS
<b>Format</b>	Form B, pre-slotted and closed
<b>Tensile strength</b>	800 N/mm <sup>2</sup>

Single packaging with hanger

Ø	Pitch tpi	Ø-Outside mm	Art.-No.	Ø	Pitch tpi	Ø-Outside mm	Art.-No.	Ø	Pitch tpi	Ø-Outside mm	Art.-No.
1/8"	40	20 x 5	987 018	3/8"	16	30 x 11	987 038	7/8"	9	55 x 22	987 078
5/32"	32	20 x 5	987 532	7/16"	14	30 x 11	987 716	1"	8	55 x 22	987 100
3/16"	24	20 x 7	987 316	1/2"	12	38 x 14	987 012	1 1/4"	7	65 x 25	987 114
7/32"	24	20 x 7	987 732	9/16"	12	38 x 14	987 916	1 1/2"	6	75 x 30	987 112*
1/4"	20	20 x 7	987 014	5/8"	11	45 x 18	987 058	2"	4.5	90 x 36	987 200*
5/16"	18	20 x 9	987 516	3/4"	10	45 x 18	987 034				

# 98600 | Circular dies HSS-G BSP DIN EN 24231

Article Group 30



- ▶ For whitworth pipe threads according to DIN ISO 228
- ▶ High cutting performance
- ▶ The thread is cut in one operation
- ▶ Designed to cut: Steel up to 800 N/mm<sup>2</sup>, cast iron and non-ferrous metals



<b>Norm</b>	DIN EN 24231
<b>Tolerance</b>	Class A
<b>Material</b>	HSS
<b>Format</b>	Form B, pre-slotted and closed
<b>Tensile strength</b>	800 N/mm <sup>2</sup>

Single packaging with hanger

Ø	Pitch tpi	Ø-Outside mm	Art.-No.	Ø	Pitch tpi	Ø-Outside mm	Art.-No.
G1/8"	28	30 x 11	98 608	G1/2"	14	45 x 14	98 603
G1/4"	19	38 x 10	98 601	G3/4"	14	55 x 16	98 604
G3/8"	19	45 x 14	98 602	G1"	11	65 x 18	98 605

## 98300 98800 | Circular dies HSS-G UNC DIN EN 22568

Article Group 30



- ▶ For American unified coarse thread UNC
- ▶ High cutting performance
- ▶ The thread is cut in one operation
- ▶ Designed to cut: Steel up to 800 N/mm<sup>2</sup>, cast iron and non-ferrous metals

<b>Norm</b>	DIN EN 22568
<b>Tolerance</b>	2 A
<b>Material</b>	HSS
<b>Format</b>	Form B, pre-slotted and closed
<b>Tensile strength</b>	800 N/mm <sup>2</sup>



Single packaging with hanger

Ø	Pitch tpi	Ø-Outside mm	Art.-No.	Ø	Pitch tpi	Ø-Outside mm	Art.-No.
No. 2	55	18 x 5	98 302*	1/4"	20	20 x 7	98 801
No. 3	48	16 x 5	98 303*	5/16"	18	25 x 9	98 802
No. 4	40	20 x 5	98 304*	3/8"	16	30 x 11	98 803
No. 5	40	20 x 5	98 305*	7/16"	14	30 x 11	98 804
No. 6	32	20 x 7	98 306*	1/2"	13	38 x 14	98 805
No. 8	32	20 x 7	98 308*	9/16"	12	38 x 14	98 806
No. 10	24	20 x 7	98 310*	5/8"	11	45 x 18	98 807
No. 12	24	20 x 7	98 312*	3/4"	10	45 x 18	98 808
				7/8"	9	55 x 22	98 809
				1"	8	55 x 22	98 810

## 98400 98900 | Circular dies HSS-G UNF DIN EN 22568

Article Group 30



- ▶ For American unified fine thread UNF
- ▶ High cutting performance
- ▶ The thread is cut in one operation
- ▶ Designed to cut: Steel up to 800 N/mm<sup>2</sup>, cast iron and non-ferrous metals

<b>Norm</b>	DIN EN 22568
<b>Tolerance</b>	2 A
<b>Material</b>	HSS
<b>Format</b>	Form B, pre-slotted and closed
<b>Tensile strength</b>	800 N/mm <sup>2</sup>



Single packaging with hanger

Ø	Pitch tpi	Ø-Outside mm	Art.-No.	Ø	Pitch tpi	Ø-Outside mm	Art.-No.
No. 2	64	16 x 5	98 402*	1/4"	28	20 x 7	98 901
No. 3	56	16 x 5	98 403*	5/16"	24	25 x 9	98 902
No. 5	44	20 x 5	98 405*	3/8"	24	30 x 11	98 903
No. 6	40	20 x 5	98 406*	7/16"	20	30 x 11	98 904
No. 8	36	20 x 7	98 408*	1/2"	20	38 x 10	98 905
No. 10	32	20 x 7	98 410*	9/16"	18	38 x 10	98 906
No. 12	28	20 x 7	98 412*	5/8"	16	45 x 11	98 907
				3/4"	16	45 x 14	98 908
				7/8"	14	55 x 16	98 909
				1"	12	55 x 16	98 910

\* Delivery while stocks last

# 98001 | Circular dies HSS-G M combi version Ø 25 mm

Article Group 23



- ▶ Only one die stock necessary for all thread sizes
- ▶ For true-to-gauge metric ISO threads, DIN 13
- ▶ High cutting performance
- ▶ The thread is cut in one operation
- ▶ Designed to cut: Steel up to 800 N/mm<sup>2</sup>, cast iron and non-ferrous metals



<b>Norm</b>	PROJAHN standard
<b>Tolerance</b>	6 g
<b>Material</b>	HSS
<b>Format</b>	Form B, pre-slotted and closed
<b>Tensile strength</b>	800 N/mm <sup>2</sup>



Single packaging with hanger

Ø	Pitch mm	Ø-Outside mm	Art.-No.	Ø	Pitch mm	Ø-Outside mm	Art.-No.	Ø	Pitch mm	Ø-Outside mm	Art.-No.
<b>M3</b>	0.50	25 x 9	980 301	<b>M6</b>	1.00	25 x 9	980 601	<b>M10</b>	1.50	25 x 9	981 001
<b>M4</b>	0.70	25 x 9	980 401	<b>M8</b>	1.25	25 x 9	980 801	<b>M12</b>	1.75	25 x 9	981 201
<b>M5</b>	0.80	25 x 9	980 501								

# 91000 | Die stocks DIN 225

Article Group 30

- ▶ For holding of closed and slotted dies according to DIN EN 22568 and DIN EN 24231
- ▶ With five mounting screws to fix the die
- ▶ Made of zinc pressure casting



Single packed

Die dimension	Die size	L mm	Art.-No.	Die dimension	Die size	L mm	Art.-No.
<b>16 x 5</b>	M1 - M2	160	91 510	<b>38 x 14</b>	M12 - M14	315	91 516
<b>20 x 5</b>	M3 - M4	180	91 511	<b>45 x 14</b>	MF16 - MF20	450	91 517
<b>20 x 7</b>	M5 - M6	180	91 512	<b>45 x 18</b>	M16 - M20	450	91 518
<b>25 x 9</b>	M7 - M9	210	91 513	<b>55 x 16</b>	MF22 - MF26	500	91 519
<b>30 x 11</b>	M10 - M11	270	91 514	<b>55 x 22</b>	M22 - M24	500	91 520
<b>38 x 10</b>	MF12 - MF15	315	91 515				



## 91010 | Adjustable tap wrench DIN 1814

Article Group 30

- ▶ For regular operational demands
- ▶ One handle can be unscrewed for use in narrow places
- ▶ Made of zinc pressure casting (size 6 made of steel)
- ▶ Hardened clamping jaws



Single packed

No.	For taps	BSW	BSP	Size of square	L mm	Art.-No.
0	M1 - 8	1/16" - 1/4"		2.0-5.0	130	91 500
1	M1-10	1/16" - 3/8"	G 1/8"	2.0-6.3	176	91 501
1.5	M1-12	1/16" - 1/2"	G 1/8"	2.1-8.0	176	91 502
2	M4 - 12	5/32" - 1/2"	G 1/8"	3.0-9.0	280	91 503
3	M5 - 20	7/32" - 3/4"	G 1/8" - 1/2"	4.9-12.0	375	91 505
4	M11 - 27	7/16" - 1"	G 1/4" - 3/4"	5.5-16.0	470	91 506
5L	M13 - 32	1/2" - 1 1/4"	G 1/4" - 1"	7.0-20.0	740	91 507
6	M18-42	3/4" - 1 1/2"	G 1/2" - 1 1/4"	11.0-24.0	770	91 606

## 91301 | Tool holder with ratchet DIN 1814

Article Group 30

- ▶ Adjustable ratchet - **normal version** (left-, right-handed, fixed)
- ▶ Two-jaw chuck for tensioning square shanks
- ▶ Adjustable cross handle with grooves on both sides (for engaging of the locking ball)
- ▶ Completely chromed
- ▶ Especially for thread cutting in hard-to-reach places



Single packaging with hanger

No.	For taps	L mm	Art.-No.
1	M3 - 10	85	913 011
2	M5 - 12	110	913 012

## 91302 | Tool holder with ratchet DIN 1814 - long version

Article Group 30

- ▶ Adjustable ratchet - **long version** (left-, right-handed, fixed)
- ▶ Two-jaw chuck for tensioning square shanks
- ▶ Adjustable cross handle with grooves on both sides (for engaging of the locking ball)
- ▶ Completely chromed
- ▶ Especially for thread cutting in hard-to-reach places



Single packaging with hanger

No.	For taps	L mm	Art.-No.
1	M3 - 10	250	913 021
2	M5 - 12	300	913 022

# Sets

Article Group 34



91 031 / 91 030 91 041 / 91 040 91 019 91 013 91 007 91 015 91 0135 99 980



91 012 91 009 91 024 91 008



91 006 91 011 91 004 91 005

Sizes	Material	Thread Type	Content	Packaging	Art.-No.
M3 - M12	HSS-Co 5%	Through hole thread	See page P 146	14 pcs. in plastic box	91 031
M3 - M12	HSS-Co 5%	Blind hole thread	See page P 274	14 pcs. in plastic box	91 041
M3 - M12	HSS	Through hole thread	See page P 274	14 pcs. in plastic box	91 030
M3 - M12	HSS	Blind hole thread	See page P 274	14 pcs. in plastic box	91 040
M3 - M10	HSS	Through hole thread	See page P 274	7 pcs. in metal box	91 019
M3 - M12	HSS	Through hole thread	See page P 275	15 pcs. in metal box	91 013
M3 - M12	HSS	Through and blind hole thread	See page P 275	29 pcs. in metal box	91 007
M3 - M12	HSS	External thread	See page P 275	8 pcs. in plastic box	91 015
M3 - M12	HSS	Through hole thread	See page P 275	15 pcs. in plastic box	91 0135
M3 - M12	HSS	Through and external threads	See page P 275	23 pcs. in plastic boxes	99 980
M3 - M12	HSS	Through and blind hole thread	See page P 276	24 pcs. in plastic case	91 012
M3 - M12	HSS	Through and blind hole thread	See page P 276	40 pcs. in plastic case	91 009
M3 - M12	HSS	Through and blind hole thread	See page P 277	37 pcs. in plastic case	91 024
M3 - M12	HSS	Through and blind hole thread	See page P 277	51 pcs. in plastic case	91 008
M3 - M20	HSS	Through and blind hole thread	See page P 278	55 pcs. in plastic case	91 006
M3 - M24	HSS	Through and blind hole thread	See page P 278	63 pcs. in plastic case	91 011
M3 - M12	HSS	Through and blind hole thread	See page P 279	44 pcs. in metal case	91 004
M3 - M20	HSS	Through and blind hole thread	See page P 279	55 pcs. in metal case	91 005

# WOOD



# Overview of wood tools with recommendation



Wood








										
Quality	PROFESSIONAL	PLUS	STANDARD	STANDARD	PLUS	STANDARD	STANDARD	PROFESSIONAL	PROFESSIONAL	PROFESSIONAL
Product	PrimeCut	V2	ECO	Wood twist drill bit	Speed	Shell drill countersink	Extension	Auger drill bit	Auger drill bit	Form work auger drill bit
Product material	HSS-G	CV-steel	CV-steel	CV-steel	TS-steel	TS-steel	TS-steel	CV-steel	CV-steel	HSS-G
Shank	Straight	Straight	Straight	Hex	Hex	-	Hex	Hex	SDS-plus	Straight
Ø mm	3 - 16	3 - 20	3 - 30	3 - 10	6 - 40	3 - 10	16	6 - 36	6 - 28	6 - 30
Series	19700	19400	19000	19300	19600	33600	19601	19500	19800	90000
Article-Group	61	61	63	63	65	62	65	66	67	64
Page	P 172	P 173	P 174	P 175	P 176	P 177	P 177	P 178	P 1796	P 180
 Wood	+++	+++	++	++	++	++		+++	+++	+++
 Hard wood	+++	+++	+	+				++	++	++
 Laminate coated, parquet	++	++	+	+						
 Ply-, soft-wood, chipboard	+++	+++	++	++	+	++		++	++	+++
 Gypsum board	+	+	+	+	+					
 Sandwich material										+++
 Steel pipes, -profiles, solid metal										++

+++ recommended

++ well-suited

+ suitable

## Overview of wood tools with recommendation

											
	PROFESSIONAL	PLUS	PROFESSIONAL	PROFESSIONAL	PROFESSIONAL						
Form work auger drill bit	Hole saw	TCT drill bit	Forstner drill bit	Router bit							
HSS-G	Carbide plates	Carbide plates	TS-steel	TS-steel							
SDS-plus	Divers	Straight	Straight	Straight							
10 - 24	16 - 127	10 - 50	10 - 60	-							
87000	79000	33500	33000	33200							
17	87	62	62	86							
P 181	P 182	P 186	P 187	P 188							
+++	+++	+++	+++	+++							
++	+++	++	+								
	+++	++	++	+++							
+++	+++	++	++	++							
	+++	+	+								
+++											
++											

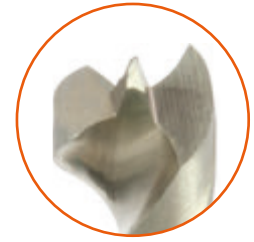
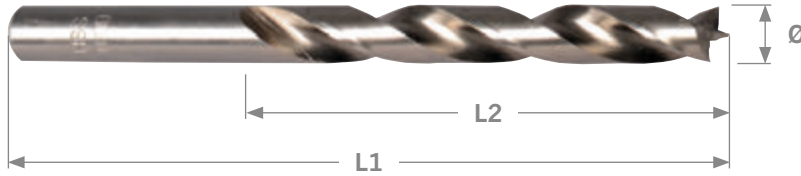
+++ recommended

++ well-suited

+ suitable

# 19700 | Wood twist drill bit HSS-G PrimeCut

Article Group 61



## High performance wood drill bit made of HSS

- ▶ Special flute design for optimal guidance of the drill bit
- ▶ Self cutting grinded center point
- ▶ Side blades for exact drill holes
- ▶ Designed to drill: All types of material from soft to the hardest woods such as Bangkirai, Australian Jarrah, Lignum Vitae, American Black Walnut, Rosewood, Sycamor Bongosi, coated wood
- ▶ Improved operation control because of self cutting center point
- ▶ Reduced chip burn through optimal flute design
- ▶ Cleaner exit holes for better work quality and time saving as the center tip cuts its own exit hole
- ▶ By using high quality materials, the drill bits are extremely sharp and also remain sharp longer compared to wood drill bits made of CV-steel

Single packaging with hanger

Ø mm	L1 mm	L2 mm	Ø Shank	Art.-No.	Ø mm	L1 mm	L2 mm	Ø Shank	Art.-No.	Ø mm	L1 mm	L2 mm	Ø Shank	Art.-No.
3.0	61	33	3	19 703	8.0	117	75	8	19 708	13.0	151	101	10	19 713
4.0	75	43	4	19 704	9.0	122	81	9	19 709	14.0	160	108	10	19 714
5.0	86	52	5	19 705	10.0	133	87	10	19 710	15.0	169	114	10	19 715
6.0	93	57	6	19 706	11.0	142	94	10	19 711	16.0	178	120	10	19 716
7.0	109	69	7	19 707	12.0	151	101	10	19 712					

## Sets

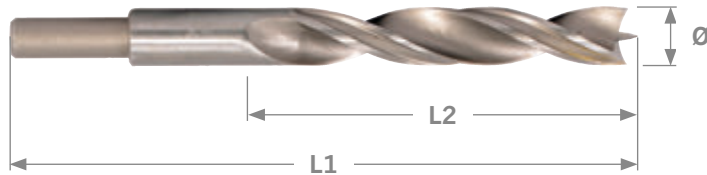
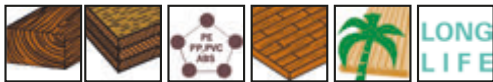
Article Group 19



Content	Packaging	Art.-No.
Ø 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 mm	8 pcs. in metal box	19 701

# 19400 | Wood twist drill bit CV steel with 2 spurs

Article Group 61



- ▶ Special wood drill bit made of wear resistant CV Steel
- ▶ Exact and splinter free spot drilling due to the center point and two side blades
- ▶ Accurate drill holes through grinded flute and guiding chamfres
- ▶ Ideal for dowel hole drilling in solid wood
- ▶ Designed to drill: Hardboard, coated chipboard, soft- and hardwood

Single packaging with hanger

Ø mm	L1 mm	L2 mm	Ø Shank	Art.-No.	Ø mm	L1 mm	L2 mm	Ø Shank	Art.-No.	Ø mm	L1 mm	L2 mm	Ø Shank	Art.-No.
3.0	61	33	3	19 403	9.0	123	80	9	19 409	14.0	151	93	10	19 414
4.0	75	43	4	19 404	10.0	133	84	10	19 410	15.0	151	93	10	19 415
5.0	86	52	5	19 405	11.0	142	89	10	19 411	16.0	151	93	10	19 416
6.0	93	53	6	19 406	12.0	151	93	10	19 412	18.0	180	120	10	19 418
7.0	109	69	7	19 407	13.0	151	93	10	19 413	20.0	200	130	10	19 420
8.0	117	75	8	19 408										

## Sets

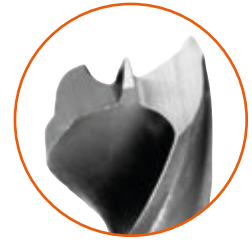
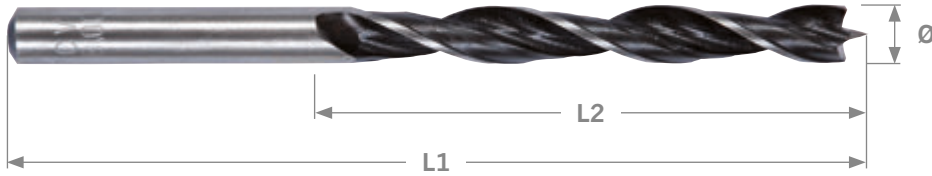
Article Group 19



Content	Packaging	Art.-No.
Ø 4 - 5 - 6 - 8 - 10 mm	5 pcs. in plastic box	67 042

# 19000 | Wood twist drill bit ECO

Article Group 63



- ▶ Center point and two shouldered cutting edges for exact drill holes
- ▶ Twist drill bits made of CV-steel and with straight shank
- ▶ Designed to drill: Soft wood, plywood, chipboards and plastics

Single packaging with hanger

Ø mm	L1 mm	L2 mm	Ø Shank	Art.-No.	Ø mm	L1 mm	L2 mm	Ø Shank	Art.-No.	Ø mm	L1 mm	L2 mm	Ø Shank	Art.-No.
3.0	61	33	3	19 030	11.0	142	89	10	19 110	18.0	180	120	10	19 180
4.0	75	43	4	19 040	12.0	151	96	10	19 120	18.0	250	190	10	1 918 250
5.0	86	52	5	19 050	12.0	250	200	10	1 912 250	18.0	400	340	10	1 918 400
6.0	97	60	6	19 060	12.0	400	340	10	1 912 400	20.0	200	130	10	19 200
6.0	250	200	6	1 906 250	13.0	151	96	10	19 130	20.0	250	190	10	1 920 250
7.0	109	69	7	19 070	14.0	151	97	10	19 140	20.0	400	340	10	1 920 400
8.0	117	75	8	19 080	14.0	250	195	10	1 914 250	22.0	200	130	13	19 220
8.0	250	200	8	1 908 250	14.0	400	340	10	1 914 400	24.0	200	130	13	19 240
9.0	125	80	9	19 090	15.0	151	97	10	19 150	26.0	200	150	13	19 260
10.0	133	87	10	19 100	16.0	151	97	10	19 160	28.0	220	150	13	19 280
10.0	250	200	10	1 910 250	16.0	250	195	10	1 916 250	30.0	220	150	13	19 300
10.0	400	340	10	1 910 400	16.0	400	340	10	1 916 400					

## Sets

Article Group 19

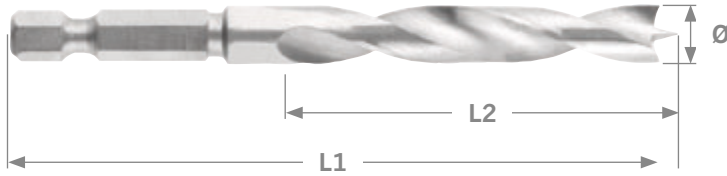


Content	Packaging	Art.-No.
Ø 3 - 4 - 5 - 6 - 8 mm	5 pcs. in plastic box	19 399
Ø 3 - 10 mm / 1 mm increasing	8 pcs. in plastic box	67 040
Wood drill bits: Ø 3 - 4 - 5 - 6 mm Bits: PZ 1 - 2 - 3, hexagon socket 4 - 5 and TX 10 - 15 - 20 - 25 - 30 incl. magnetic bit holder	15 pcs. in plastic box	19 398



# 19300 | Wood drill bits with 6.35 mm [1/4"] hexagonal shank

Article Group 63



- ▶ High quality wood drill bit, shank and flute are made of one solid body material, not connected!
- ▶ Optimal for cordless screwdrivers due to 6.35 mm [1/4"] hexagonal shank
- ▶ Sharp center point, therefore exact spot drilling
- ▶ Designed to drill: Softwood, chipboard, plywood and plastics
- ▶ Quick changing of the drill bits due to shape E 6.35 mm [1/4"] shank
- ▶ Material: CV-steel

Single packaging with hanger

Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.
3.0	65	35	19 303	5.0	85	50	19 305	8.0	90	55	19 308
4.0	75	40	19 304	6.0	90	55	19 306	10.0	100	60	19 310

## Sets

Article Group 19



Content	Packaging	Art.-No.
Ø 3 - 4 - 5 - 6 - 8 - 10 mm	6 pcs. in metal box	19 301

# 19600 | Flat wood drill bit SPEED with [1/4"] hexagonal shank

Article Group 65



- ▶ Machine flat drill bit with center point, two cutting edges and hex shank
- ▶ With ground basic and main cutting edges
- ▶ Flat drill bits made of wear resistant tool steel
- ▶ For very fast drilling in softwood and plasterboard

Single packaging with hanger

Ø mm	L mm	Art.-No.	Ø mm	L mm	Art.-No.	Ø mm	L mm	Art.-No.
6.0	152	19 606	18.0	152	19 618	28.0	152	19 628
6.0	400	19 606 400	18.0	400	19 618 400	28.0	400	19 628 400
8.0	152	19 608	19.0	152	19 619	30.0	152	19 630
8.0	400	19 608 400	20.0	152	19 620	30.0	400	19 630 400
10.0	152	19 610	20.0	400	19 620 400	32.0	152	19 632
10.0	400	19 610 400	22.0	152	19 622	32.0	400	19 632 400
12.0	152	19 612	22.0	400	19 622 400	34.0	152	19 634
12.0	400	19 612 400	24.0	152	19 624	35.0	152	19 635
13.0	152	19 613	24.0	400	19 624 400	36.0	152	19 636
14.0	152	19 614	25.0	152	19 625	38.0	152	19 638
14.0	400	19 614 400	25.0	400	19 625 400	40.0	152	19 640
16.0	152	19 616	26.0	152	19 626			
16.0	400	19 616 400						

## Sets

Article Group 19



Content	Packaging	Art.-No.
Ø 12 - 16 - 18 - 20 - 22 - 25 - 28 - 32 mm Length 152 mm	8 pcs. in wooden box	19 699

# 19601 | Extension for [1/4"] hexagon socket

Article Group 65



► For deep hole drilling from a diameter of 16 mm

Single packaging with hanger

Ø mm	L mm	Art.-No.
16.0	305	19 601



# 33600 | Shell drill countersink

Article Group 62



- Slip-on to a machine wood drill bit
- Drilling and countersinking in wood in one operation
- Can also be used as a drilling depth stop when the countersink is attached in the opposite direction to the drill bit

- 90° countersink angle with five cutting edges
- With hexagon screw and hex key
- Shell drill countersinks made of wear resistant tool steel

Single packaging with hanger

Ø mm	Ø-Outside mm	L mm	Art.-No.	Ø mm	Ø-Outside mm	L mm	Art.-No.	Ø mm	Ø-Outside mm	L mm	Art.-No.
3.0	16	25	33 603	5.0	16	25	33 605	8.0	20	25	33 608
4.0	16	25	33 604	6.0	16	25	33 606	10.0	20	25	33 610



## Sets

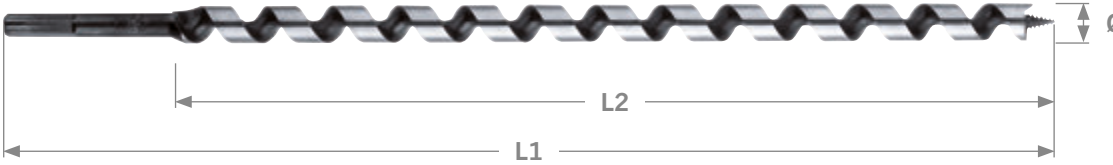
Article Group 19



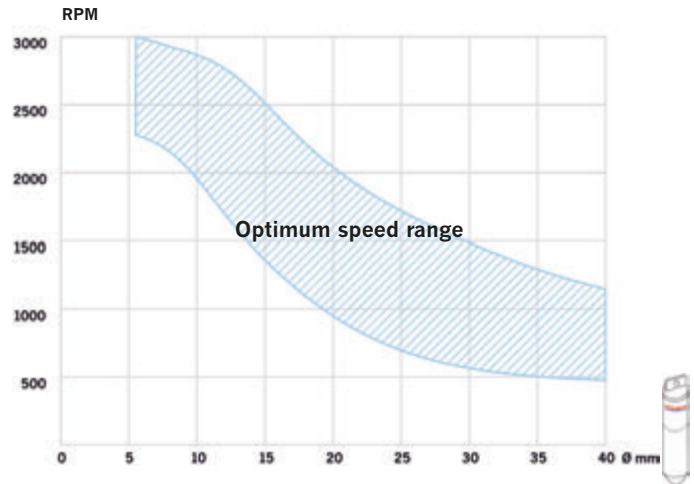
Content	Packaging	Art.-No.
4 countersinks with wood twist drill bits Ø 3 - 4 - 5 - 6 mm Including hexagon socket key	5 pcs. in wooden box	33 601

# 19500 | Wood auger drill bit LEWIS type

Article Group 66



- ▶ Threaded tip enables accurate drilling
- ▶ Precise and splinter-free drilling due to spur
- ▶ Special LEWIS helix for rapid chip removal
- ▶ Long tool life because of hardened drill bit head and cutting lip
- ▶ Hexagonal shank for a tight and secure fit of the drill bit in the drill chuck
- ▶ Material: CV-steel
- ▶ Designed to drill: Soft- and hardwood



Single packaging with hanger

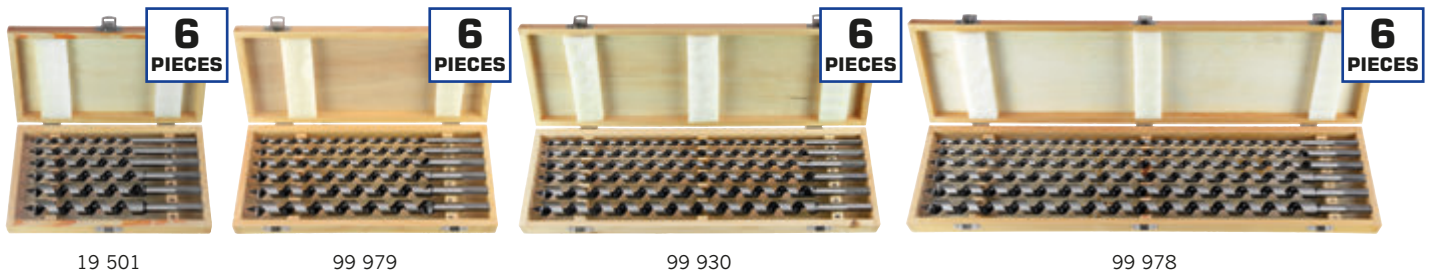
Ø mm	L1 mm	L2 mm	Ø Shank	Art.-No.
6.0	230	155	5	19 506 200
6.0	320	245	5	19 506 320
6.0	460	385	5	19 506 450
<hr/>				
7.0	230	155	5.7	19 507 200
7.0	460	385	5.7	19 507 450
<hr/>				
8.0	230	155	6.5	19 508 200
8.0	320	245	6.5	19 508 320
8.0	460	385	6.5	19 508 450
8.0	600	530	6.5	19 508 600
<hr/>				
9.0	230	155	7.5	19 509 200
9.0	460	385	7.5	19 509 450
<hr/>				
10.0	230	155	8.5	19 510 200
10.0	320	245	8.5	19 510 320
10.0	460	385	8.5	19 510 450
10.0	600	530	8.5	19 510 600
<hr/>				
12.0	230	155	10	19 512 200
12.0	320	245	10	19 512 320
12.0	460	385	10	19 512 450
12.0	600	530	10	19 512 600
<hr/>				
14.0	230	155	11	19 514 200
14.0	320	245	11	19 514 320
14.0	460	385	11	19 514 450
14.0	600	530	11	19 514 600

Ø mm	L1 mm	L2 mm	Ø Shank	Art.-No.
16.0	230	155	11	19 516 200
16.0	320	245	11	19 516 320
16.0	460	385	11	19 516 450
16.0	600	530	11	19 516 600
<hr/>				
18.0	230	155	11	19 518 200
18.0	320	245	11	19 518 320
18.0	460	385	11	19 518 450
18.0	600	530	11	19 518 600
<hr/>				
20.0	230	155	11	19 520 200
20.0	320	245	11	19 520 320
20.0	460	385	11	19 520 450
20.0	600	530	11	19 520 600
<hr/>				
22.0	230	155	11	19 522 200
22.0	320	245	11	19 522 320
22.0	460	385	11	19 522 450
22.0	600	530	11	19 522 600
<hr/>				
24.0	230	155	11	19 524 200
24.0	320	245	11	19 524 320
24.0	460	385	11	19 524 450
24.0	600	530	11	19 524 600
<hr/>				
26.0	230	155	11	19 526 200
26.0	320	245	11	19 526 320
26.0	460	485	11	19 526 450
26.0	600	530	11	19 526 600

Ø mm	L1 mm	L2 mm	Ø Shank	Art.-No.
28.0	230	155	11	19 528 200
28.0	320	245	11	19 528 320
28.0	460	385	11	19 528 450
28.0	600	530	11	19 528 600
<hr/>				
30.0	230	155	11	19 530 200
30.0	320	245	11	19 530 320
30.0	460	385	11	19 530 450
30.0	600	530	11	19 530 600
<hr/>				
32.0	230	155	11	19 532 200
32.0	320	245	11	19 532 320
32.0	460	385	11	19 532 450
32.0	600	530	11	19 532 600
<hr/>				
34.0	230	155	11	19 534 200
<hr/>				
36.0	230	155	11	19 536 200

# Sets

Article Group 19

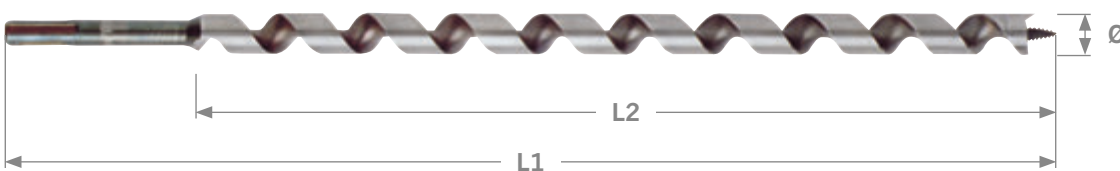


Content	L1 mm	L2 mm	Packaging	Art.-No.
Ø 10 - 12 - 14 - 16 - 18 - 20 mm	230	155	6 pcs. in wooden box	19 501
Ø 10 - 12 - 14 - 16 - 18 - 20 mm	320	245	6 pcs. in wooden box	99 979
Ø 10 - 12 - 14 - 16 - 18 - 20 mm	460	385	6 pcs. in wooden box	99 930
Ø 10 - 12 - 14 - 16 - 18 - 20 mm	600	530	6 pcs. in wooden box	99 978

PROFESSIONAL PLUS STANDARD

## 19800 | Wood auger drill bit with SDS-plus shank

Article Group 67



- ▶ Threaded tip enables accurate drilling
- ▶ Precise and splinter-free drilling due to spur
- ▶ Special LEWIS helix for rapid chip removal
- ▶ Long tool life because of hardened drill bit head and cutting lip

- ▶ To be used in hammer drills with SDS-plus shank
- ▶ For rotating use only: Always turn off the striking mechanism!
- ▶ Designed to drill: Soft- and hardwood
- ▶ Material: CV-steel

Single packaging with hanger

Ø mm	L1 mm	L2 mm	Art.-No.
6.0	235	160	19 806 200
8.0	235	160	19 808 200
10.0	235	160	19 810 200
10.0	460	385	19 810 450
12.0	235	160	19 812 200
12.0	460	385	19 812 450

Ø mm	L1 mm	L2 mm	Art.-No.
14.0	235	160	19 814 200
14.0	460	385	19 814 450
16.0	235	160	19 816 200
16.0	460	385	19 816 450
18.0	235	160	19 818 200
18.0	460	385	19 818 450

Ø mm	L1 mm	L2 mm	Art.-No.
20.0	235	160	19 820 200
20.0	460	385	19 820 450
22.0	235	160	19 822 200
22.0	460	385	19 822 450
24.0	235	160	19 824 200
24.0	460	385	19 824 450
28.0	460	385	19 828 450



# 90000 | Form work auger drill bit HSS

Article Group 64



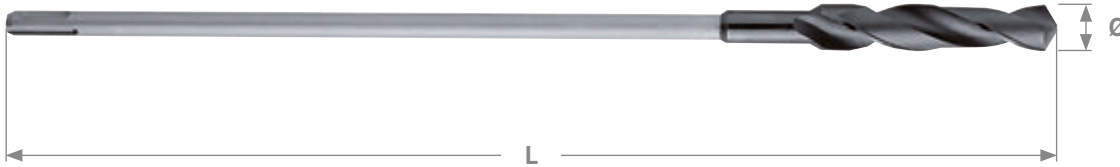
- ▶ Manufactured according to the German safety regulations of the employers' liability insurance association according to DIN draft 7490
- ▶ Fine thread connection between bit and shank, the two pieces are also glued to ensure concentricity accuracy
- ▶ High durability even under high strain
- ▶ Fast chip removal due to a big flute design
- ▶ Reduced shank avoids clamping in the drill hole
- ▶ With straight shank for hand drills
- ▶ Designed to drill: Formwork, metal sheets, boards, beams etc.
- ▶ Drilling holes for clamping bolts and wires in one operation

Single packaging with hanger

Ø mm	L mm	Ø Shank	Art.-No.	Ø mm	L mm	Ø Shank	Art.-No.	Ø mm	L mm	Ø Shank	Art.-No.
6.0	400	5	906 400	16.0	400	10	916 400	26.0	400	11	926 400
6.0	600	5	906 600	16.0	600	10	916 600	26.0	600	11	926 600
6.0	800	5	906 800	16.0	800	10	916 800	26.0	800	11	926 800
8.0	400	6	908 400	18.0	400	10	918 400	28.0	400	11	928 400
8.0	600	6	908 600	18.0	600	10	918 600	28.0	600	11	928 600
8.0	800	6	908 800	18.0	800	10	918 800	28.0	800	11	928 800
10.0	400	8	910 400	20.0	400	10	920 400	30.0	400	11	930 400
10.0	600	8	910 600	20.0	600	10	920 600	30.0	600	11	930 600
10.0	800	8	910 800	20.0	800	10	920 800	30.0	800	11	930 800
12.0	400	8	912 400	22.0	400	10	922 400				
12.0	600	8	912 600	22.0	600	10	922 600				
12.0	800	8	912 800	22.0	800	10	922 800				
14.0	400	8	914 400	24.0	400	11	924 400				
14.0	600	8	914 600	24.0	600	11	924 600				
14.0	800	8	914 800	24.0	800	11	924 800				

# 87000 | Form work auger drill bit HSS with SDS-plus shank

Article Group 17



- ▶ Manufactured according to the German safety regulations of the employers' liability insurance association according to DIN draft 7490
- ▶ Fine thread connection between bit and shank, the two pieces are also glued to ensure concentricity accuracy
- ▶ High durability even under high load
- ▶ Fast chip removal due to a big flute design
- ▶ Reduced shank avoids clamping in the drill hole
- ▶ To be used in hammer drills with SDS-plus shank
- ▶ For rotating use only: Always turn off the striking mechanism!
- ▶ Designed to drill: Formwork, metal sheets, boards, beams etc.
- ▶ Drilling holes for clamping bolts and wires in one operation

Single packaging with hanger

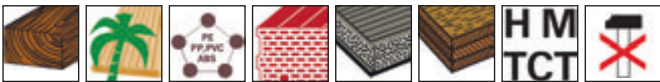
Ø mm	L mm	Art.-No.	Ø mm	L mm	Art.-No.	Ø mm	L mm	Art.-No.
10.0	400	8 710 400	16.0	400	8 716 400	22.0	400	8 722 400
10.0	600	8 710 600	16.0	600	8 716 600	22.0	600	8 722 600
12.0	400	8 712 400	18.0	400	8 718 400	24.0	400	8 724 400
12.0	600	8 712 600	18.0	600	8 718 600	24.0	600	8 724 600
14.0	400	8 714 400	20.0	400	8 720 400			
14.0	600	8 714 600	20.0	600	8 720 600			



Art.-No. 19699 Page P 176

# 79000 | Hole saw carbide tipped

Article Group 87



- ▶ Universal application and long service lifetime due to high-quality carbide tothing of the hole saws
- ▶ **55 mm cutting depth**
- ▶ Fast sawing progress which results in clean, circular and precise holes
- ▶ Recommended for soft and hard wood, tropical woods, MDF-boards, plywood, hardboard, coated wood boards, dry wall, plasterboard, aerated concrete and plastics
- ▶ Well suited for hollow bricks and soft tiles

Single packaging with hanger

Ø mm	Ø Inch	Art.-No.	Ø mm	Ø Inch	Art.-No.
16.0	5/8"	79 016	57.0	2 1/4"	79 057
19.0	3/4"	79 019	60.0	2 3/8"	79 060
20.0	25/32"	79 020	64.0	2 1/2"	79 064
22.0	7/8"	79 022	65.0	2 5/9"	79 065
25.0	1"	79 025	67.0	2 5/8"	79 067
27.0	1 1/9"	79 027	68.0	2 2/3"	79 068
30.0	1 1/5"	79 030	70.0	2 3/4"	79 070
32.0	1 1/4"	79 032	76.0	3"	79 076
35.0	1 3/8"	79 035	79.0	3 1/8"	79 079
38.0	1 1/2"	79 038	80.0	3 3/20"	79 080
40.0	1 5/9"	79 040	83.0	3 1/4"	79 083
41.0	1 5/8"	79 041	89.0	3 1/2"	79 089
43.0	1 1/9"	79 043	92.0	3 5/8"	79 092
44.0	1 3/4"	79 044	95.0	3 3/4"	79 095
48.0	1 7/8"	79 048	102.0	4"	79 102
51.0	2"	79 051	105.0	4 1/8"	79 105
54.0	2 1/8"	79 054	127.0	5"	79 127

## Sets

Article Group 19



60 592

60 591

Content	Packaging	Art.-No.
Ø 35 - 51 - 68 mm including Quick-Lock adapter 32 - 210 mm 1x TCT + 1x HSS center drill bit and hex key	7 pcs. in plastic box	60 592
Ø 19 - 22 - 25 - 32 - 35 - 40 - 44 - 51 - 57 - 64 - 68 - 76 mm including Quick-Lock adapter 14 - 30 mm and 32 - 210 mm 1x TCT + 2x HSS center drill bits and hex key	18 pcs. in plastic case	60 591



## 79000 | Quick-Lock adapter

- ▶ All adapters are including a HSS center drill bit 110 mm for wood and plastic applications

Article Group 87

Single packaging with hanger

Size mm	Description	Art.-No.
14-30	Hex Adapter with color contrasted Quick-Lock - wrench width 9	79 401
32-210	Hex Adapter with color contrasted Quick-Lock - wrench width 9	79 402
14-30	SDS-plus Adapter with color contrasted Quick-Lock	79 411
32-210	SDS-plus Adapter with color contrasted Quick-Lock	79 412



## 79000 | Center drill bits for Quick-Lock adapter

Single packaging with hanger

Length mm	Description	Art.-No.
110	HSS center drill bit for wood and plastic Ø 6.35 mm	79 302
110	Center drill bit carbide tipped Ø 6.35 mm	79 303
90	HSS center drill bit for bi-metal hole saws Ø 6.35 mm	79 301



## 79000 | Quick change adapter

- ▶ Hole saw change in seconds at the push of a button
- ▶ Only one adapter for all hole saw diameters
- ▶ Adapter with HSS center drill bit and two connection pieces 14-30 mm + 32-210 mm

Single packaging with hanger

Size mm	Description	Art.-No.
14-210	Quick change adapter hex shank - wrench width 8.5	79 421
14-210	Quick change adapter hex shank - wrench width 11.0	79 422
14-210	Quick change adapter SDS-plus	79 423
14-30	Connection piece for hole saws (1 piece)	79 426
14-30	Connection piece for hole saws (5 pieces)	79 427
32-210	Connection piece for hole saws (1 piece)	79 428
32-210	Connection piece for hole saws (5 pieces)	79 429



## 79000 | Center drill bit for quick change adapter

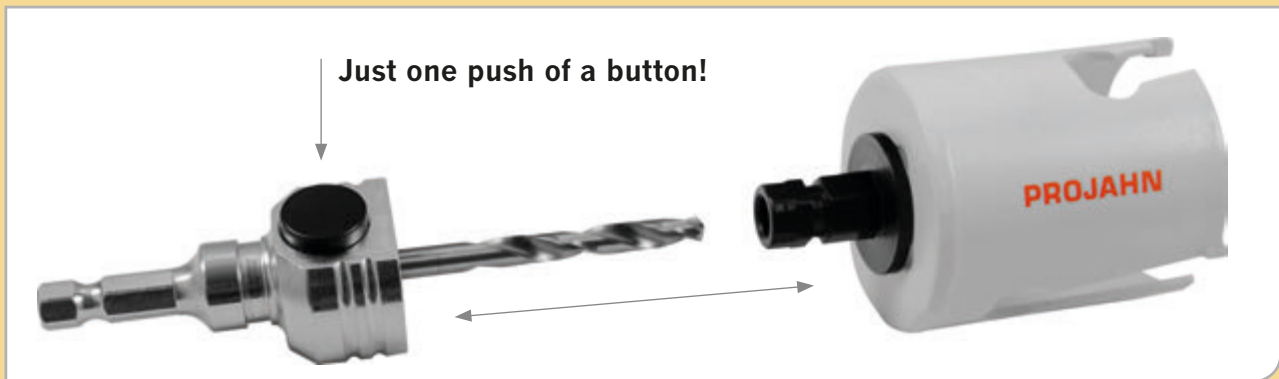
Single packaging with hanger

Length mm	Description	Art.-No.
125	Center drill bit carbide tipped Ø 6.35 mm	79 304
125	HSS center drill bit for wood and plastics Ø 6.35 mm	79 305



# Quick change adapter

- ▶ Hole saw change in seconds at the push of a button
- ▶ Easy removal of the drilling core
- ▶ Only one adapter for all hole saw diameters



## Recommended applications for hole saws

Ø mm	Ø inch	Possible applications
16	5/8"	Cable gland
19	3/4"	Pipes
20	25/32"	Cable gland
22	7/8"	Pipes
25	1"	Cable gland, Pipes
27	1 1/16"	
30	1 3/16"	
32	1 1/4"	Cable gland, Pipes
35	1 3/8"	Sanitary faucet, Pattress boxes
38	1 1/2"	Pipes
40	1 9/16"	Cable gland, Halogen
41	1 5/8"	
43	1 11/16"	
44	1 3/4"	Pipes
48	1 7/8"	
51	2"	Pipes
54	2 1/8"	Halogen
57	2 1/4"	Halogen
60	2 3/8"	Desk cable port
64	2 1/2"	Pipes
65	2 9/16"	Halogen, Pattress boxes
67	2 5/8"	
68	2 11/16"	Pattress boxes
70	2 3/4"	
74	2 14/16"	Device connection sockets as well as ceiling connection sockets for fire protection walls and ceilings
76	3"	Pipes
79	3 1/8"	Halogen, Desk cable port
83	3 1/4"	Pattress boxes
89	3 1/2"	
92	3 5/8"	Halogen
95	3 3/4"	
102	4"	Pipes
105	4 1/8"	
127	5"	Ventilation outlet

# Hole saws



HSS-Co 8% bi-metal  
hole saw with Vario toothing  
68000 | P 237



Hole saw MULTI  
carbide tipped  
79000 | P 182

Cutting depth	38 mm	55 mm
 Metal	+++	
 Sheet metals	+++	
 Stainless steel	+++	
 Ply-, hard-, soft- wood, chipboard	++	+++
 MDF-boards	+	+++
 Hard wood	+	+++
 Laminate coated, parquet	++	+++
 Gypsum boards	+	+++
 Aerated concrete		+++
 Plastics	++	+++
 Hollow bricks		++
 Masonry		+
 Soft tiles		++

+++ recommended

++ well-suited

+ suitable

# 33500 | Cylinder drill bits carbide tipped

Article Group 62



- ▶ For clean, exact and splinterfree drilling
- ▶ Drill bits with center point, two main cutting edges and peripheral cutting edges made of carbide (according to DIN 7483 G)
- ▶ Long service life due to high-quality carbide cutters
- ▶ Reduced straight shank

- ▶ Also to be used in hand drills
- ▶ Recommended drilling speed: 400 - 1500 rpm, depending on diameter and material
- ▶ For hardwood, tropical woods, glued and plastic-coated wooden panels, chipboard and veneered woods



Single packaging with hanger

Ø mm	L mm	Ø Shank	Art.-No.	Ø mm	L mm	Ø Shank	Art.-No.	Ø mm	L mm	Ø Shank	Art.-No.
10.0	90	8	33 510	22.0	90	8	33 522	35.0	90	10	33 535
15.0	90	8	33 515	24.0	90	8	33 524	40.0	90	10	33 540
16.0	90	8	33 516	25.0	90	8	33 525	45.0	90	10	33 545
18.0	90	8	33 518	26.0	90	8	33 526	50.0	90	10	33 550
20.0	90	8	33 520	30.0	90	8	33 530				

## Recommended speeds for cylinder drill bits

	Ø mm	RPM		Ø mm	RPM
Soft Wood	10 - 20	1500 - 1200	Hard Wood	10 - 20	1200 - 1000
	25 - 30	1200 - 1000		25 - 30	1000 - 800
	35 - 40	1000 - 800		35 - 40	800 - 600
	45 - 50	800 - 600		45 - 50	600 - 400

## Sets

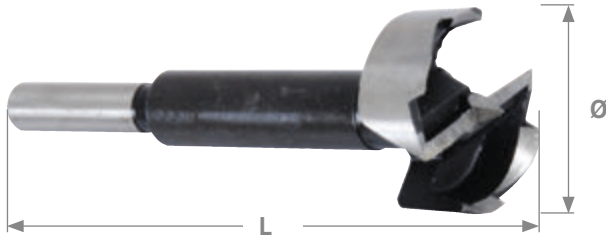
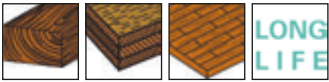
Art.-Group 19



Content	Packaging	Art.-No.
Ø 15 - 20 - 25 - 30 - 35 mm	5 pcs. in wooden box	33 501

# 33000 | Forstner drill bits

Article Group 62



- ▶ Precise and splinter-free drilling in wood
- ▶ Drill bits with center point, two main cutting edges and peripheral cutting edges
- ▶ Grinded for accurate drill holes
- ▶ Reduced straight shank
- ▶ To be used in hand drills
- ▶ Recommended drilling speed: 400 - 1500 rpm, depending on diameter and material
- ▶ Designed to drill: Hard wood, soft wood and veneered wooden board

Single packaging with hanger



Ø mm	L mm	Ø Shank	Art.-No.	Ø mm	L mm	Ø Shank	Art.-No.	Ø mm	L mm	Ø Shank	Art.-No.
10.0	90	8	33 010	24.0	90	8	33 024	36.0	90	10	33 036
12.0	90	8	33 012	25.0	90	8	33 025	38.0	90	10	33 038
14.0	90	8	33 014	26.0	90	8	33 026	40.0	90	10	33 040
15.0	90	8	33 015	28.0	90	8	33 028	45.0	90	10	33 045
16.0	90	8	33 016	30.0	90	8	33 030	50.0	90	10	33 050
18.0	90	8	33 018	32.0	90	10	33 032	55.0	90	10	33 055
20.0	90	8	33 020	34.0	90	10	33 034	60.0	90	10	33 060
22.0	90	8	33 022	35.0	90	10	33 035				

Recommended speeds for cylinder drill bits

	Ø mm	RPM	Ø mm	RPM	Ø mm	Toothing	
Soft Wood	10 - 20	1500 - 1200	Hard Wood	10 - 20	1200 - 1000	10 - 18	1
	25 - 30	1200 - 1000		25 - 30	1000 - 800	20 - 34	2
	35 - 40	1000 - 800		35 - 40	800 - 600	35 - 60	3
	45 - 50	800 - 600		45 - 50	600 - 400		

## Sets

Article Group 19



Content	Packaging	Art.-No.
Ø 15 - 20 - 25 - 30 - 35 mm	5 pcs. in wooden box	33 001

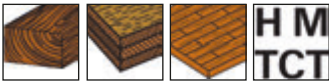
## 33200 | Router bits

Article Group 86

Router bits are the ideal tools for profiling, rounding, grooving or smoothing wooden surfaces

- ▶ High quality carbide tips
- ▶ Long lifetime
- ▶ Clean and precise cutting
- ▶ Non-stick coating
- ▶ Improved chip removal
- ▶ Minimizes effort during application
- ▶ Prevents adhesion of resin and glue onto the router bits
- ▶ Precise profile ground shanks, Ø 8 mm
- ▶ High true-running accuracy
- ▶ Prevents damage on the chuck of the router

## 33200 | Groove cutter

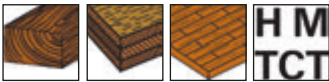


Single packaging with hanger

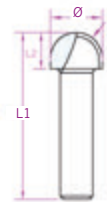


Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.	Ø mm	L1 mm	L2 mm	Art.-No.
3.0	51	13.7	33 201 030	10.0	51.1	19.1	33 201 100	20.0	50.8	19.1	33 201 200
4.0	51	13	33 201 040	12.0	51.1	19.1	33 201 120	22.0	57.2	25.4	33 201 220
5.0	48	13	33 201 050	14.0	51.1	19.1	33 201 140	24.0	42	10	33 201 240
6.0	51.1	19.1	33 201 060	16.0	50.8	19.1	33 201 160	25.4	50.8	9.5	33 201 254
8.0	51.1	19.1	33 201 080	18.0	50.8	19.1	33 201 180				

## 33200 | Core box cutter

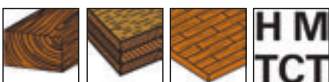


Single packaging with hanger

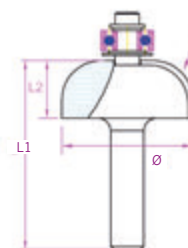
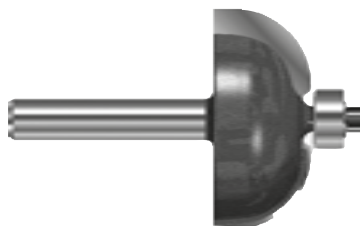


Ø mm	L1 mm	L2 mm	R mm	Art.-No.	Ø mm	L1 mm	L2 mm	R mm	Art.-No.
9.5	41.3	9.5	4.75	33 202 095	12.7	41.3	9.5	6.35	33 202 127

## 33200 | Cove bit with ball bearing



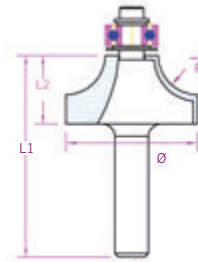
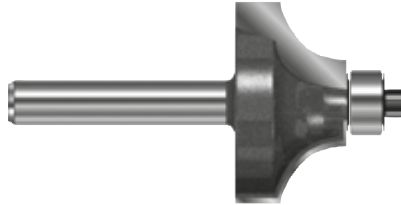
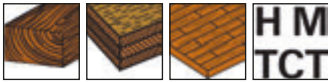
Single packaging with hanger



Ø mm	L1 mm	L2 mm	R mm	Art.-No.	Ø mm	L1 mm	L2 mm	R mm	Art.-No.
31.7	45.4	13.4	9.50	33 203 317	38.1	47.4	15.4	12.70	33 203 381

## 33200 | Beading bit with ball bearing

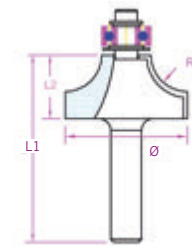
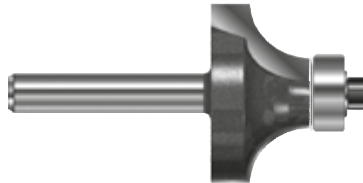
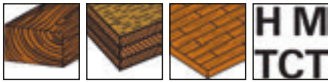
Article Group 86



Single packaging with hanger

Ø mm	L1 mm	L2 mm	R mm	Art.-No.	Ø mm	L1 mm	L2 mm	R mm	Art.-No.
25.4	45.5	13.5	6.35	33 204 254	31.7	48.7	16.7	9.50	33 204 317
28.7	46.5	14.5	8.00	33 204 287	38.1	51.0	19.0	12.70	33 204 381

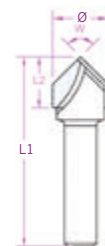
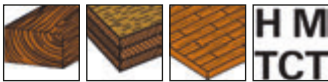
## 33200 | Round over bit with ball bearing



Single packaging with hanger

Ø mm	L1 mm	L2 mm	R mm	Art.-No.	Ø mm	L1 mm	L2 mm	R mm	Art.-No.
25.4	45.4	13.5	6.35	33 205 254	31.7	48.7	16.7	9.50	33 205 317
28.7	46.5	14.5	8.00	33 205 287	38.1	51.0	19.0	12.70	33 205 381

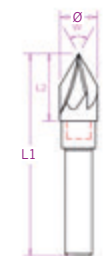
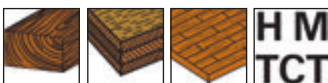
## 33200 | V-Groove cutter



Single packaging with hanger

Ø mm	L1 mm	L2 mm	W	Art.-No.
14.0	41	14	90 °	33 206 140

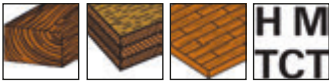
## 33200 | Engraving cutter



Single packaging with hanger

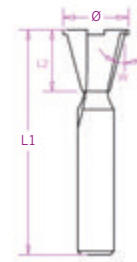
Ø mm	L1 mm	L2 mm	W	Art.-No.
11.0	52.7	15.9	60 °	33 207 110

## 33200 | Dovetail bit with pre-cutter



Single packaging with hanger

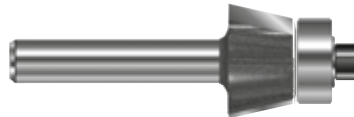
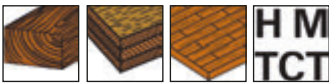
Ø mm	L1 mm	L2 mm	W	Art.-No.
14.3	49.5	13.5	15 °	33 208 143



Article Group 86

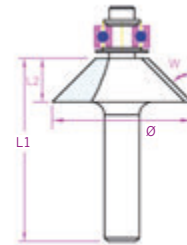


## 33200 | Bevel trim bit with ball bearing



Single packaging with hanger

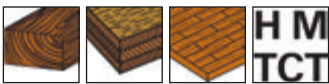
Ø mm	L1 mm	L2 mm	W	Art.-No.
31.7	44.8	13	45 °	33 209 320



Article Group 86



## 33200 | Flush trim bit with ball bearing



Single packaging with hanger

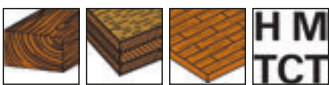
Ø mm	L1 mm	L2 mm	Art.-No.
12.7	58	26	33 210 127



Article Group 86

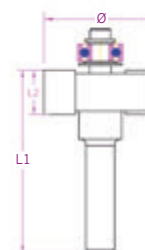


## 33200 | T-Slot bit with ball bearing



Single packaging with hanger

Ø mm	L1 mm	L2 mm	Art.-No.
31.5	44.5	12.7	33 211 317



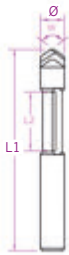
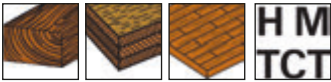
Article Group 86





### 33200 | Panel pilot bit

Article Group 86

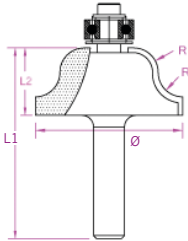
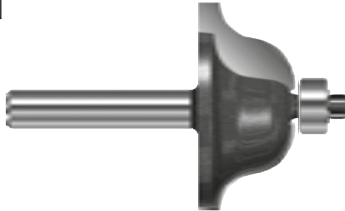
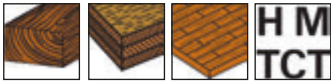


Single packaging with hanger

Ø mm	L1 mm	L2 mm	W	Art.-No.
8.0	67	19	110 °	33 212 080

### 33200 | Roman ogee bit with ball bearing

Article Group 86

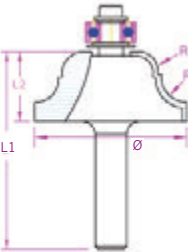
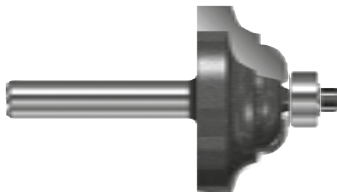
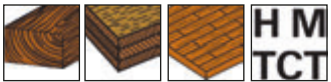


Ø mm	L1 mm	L2 mm	R mm	Art.-No.
31.7	44.8	13	4.00	33 213 317

Ø mm	L1 mm	L2 mm	R mm	Art.-No.
38.1	49.5	17.5	6.35	33 213 381

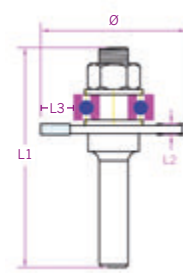
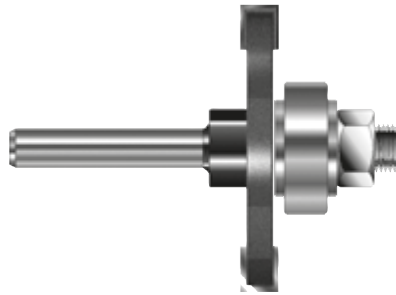
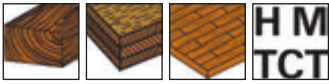
### 33200 | Classical roman ogee bit with ball bearing

Article Group 86



Ø mm	L1 mm	L2 mm	R mm	Art.-No.
38.1	49.3	17.5	6.35	33 214 381

# 33200 | Slot cutter



Article Group 86

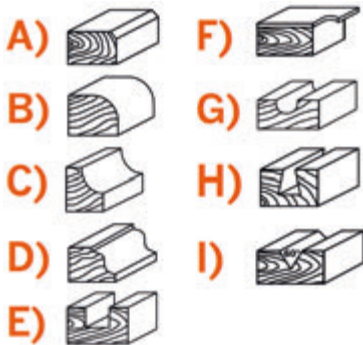


Single packaging with hanger

Ø mm	L1 mm	L2 mm	L3 mm	Art.-No.	Ø mm	L1 mm	L2 mm	L3 mm	Art.-No.
40.0	59	1.5	9	33 21 540 15	40.0	59	3.0	9	33 21 540 30
40.0	59	2.0	9	33 21 540 20	40.0	59	3.5	9	33 21 540 35
40.0	59	2.5	9	33 21 540 25	40.0	59	4.0	9	33 21 540 40

# Sets

Article Group 86



Content	Packaging	Art.-No.
A) 45° Bevel trim cutter Ø 28.6 mm B) Round over cutter Ø 24.7 mm + 32.7 mm C) Cove cutter Ø 22.0 mm + 28.5 mm D) Classical roman ogee cutter Ø 35.0 mm E) Groove cutter 8.0 mm + 16.0 mm F) Flush cutter Ø 12.7 mm G) Core box cutter Ø 12.0 mm H) Dovetail cutter Ø 14.3 mm I) 60° Engraving cutter Ø 11.0 mm	12 pcs. in wooden box	19 299

# SAWS



# Overview of jigsaw blades with recommendation



Saws																				
Article	63121	63122	63222	63114	63123	63223	63124	63125	63101	63225	63111	63224	63113	63112	63236	63120	63126	63127	63227	
Material	Bi-metal	CV-steel	Bi-metal	CV-steel	CV-steel	CV-steel	CV-steel	CV-steel	CV-steel	CV-steel	CV-steel	CV-steel	CV-steel	CV-steel	Bi-metal	HSS-steel	CV-steel	CV-steel	Bi-metal	
Toothed pitch (TP) mm	1.9	2.5	2.5	4.0	3.0	2.5	4.0	4.0	3.0	4.0	4.0	2.5	4.0	4.0	4.0	2.5	1.35	2.0	1.8-2.5	
Toothed length (TL) mm	60	75	75	155	105	75	75	75	75	75	75	75	105	75	75	91	50	50	107	
Series	63000	63000	63000	63000	63000	63000	63000	63000	63000	63000	63000	63000	63000	63000	63000	63000	63000	63000	63000	
Article-Group	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	
Page	P 200	P 200	P 200	P 200	P 201	P 201	P 201	P 201	P 202	P 202	P 202	P 202	P 203	P 203	P 203	P 203	P 204	P 204	P 205	
Wood	Wood	++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	++	++	
	Lamin. chipboard	++	++	++	+++	++	++	++	++	++	+++	+++	++	+++	+++	+++	+++	++		
	Ply-, hard-, soft-wood, chipboard	++	++	++	+++	++	++	++	++	++	+++	+++	++	+++	+++	+++	+++	++		
	Veneer	++	++	++	+++	++	+++	++	++	++	+++	+++	++	+++	+++	+++	+++	+++		
	Laminate coated, parquet	+++	++	++		++	++	++	++				++				++	++		
	Wood with metal residues																			+++
Plastics	Plastics		+++	+++		++	+++	+++	+++	++		+++			+++		+++	++		
	Acrylic glass																			
	Glass fiber reinforced plastics		++	++		++	++	++	++			++			+++		+++			
	Carbon fiber reinforced plastics		++	++		++	++	++	++			++			+++		+++			
Metal	Stainless steel																		++	
	Steel pipes, -profiles, solid metal																		+++	
	Sheet metals																		++	
	Nonferrous metals																		++	
	Aluminum																			
	Various materials	Cast iron																		
Sandwich materials																				
Gypsum board																				
Insulation material																		+++		
Rubber																				
Glass																				
Ceramics, tiles																				
Gas-formed concrete cemen asbestos																				
Type of cut		Clean cut		+++	+++	+++		+++	+++	+++				+++				+++	+++	
		Rough cut				+++					+++	+++	+++		+++	+++	+++			
	Curve section										+++			+++			+++	+++		
	Quick cut	+++	+++	+++	+++				+++	+++	+++	+++	+++	+++	+++	+++	+++	+++		
	Straight cut							+++				+++								
	Reverse teeth	+++					+++													
	Long lifetime	+++		+++											+++	+++			+++	

+++ recommended

++ well-suited

+ suitable

## Overview of jigsaw blades with recommendation

63201	63211	63229	63212	63213	63221	63215	63202	63204	63203	63226	63216	63218	63219	63235	63301	63306	63217
HSS-steel	Bi-metal	HSS-steel	Bi-metal	Bi-metal	Bi-metal	Bi-metal	HSS-steel	HSS-steel	HSS-steel	HSS-steel	Bi-metal	Bi-metal	Bi-metal	CV-steel	HM / TCT	HM / TCT	HM / TCT
1.2	1.2	3.0	1.0	1.0	1.8-2.5	2.5	2.0	1.0	1.2	3.0	3.0	1.3	1.7	Wavy cut	-	4.2	1.1
55	55	75	105	155	75	75	55	105	55	75	75	75	105	155	54	75	50
63000	63000	63000	63000	63000	63000	63000	63000	63000	63000	63000	63000	63000	63000	63000	63000	63000	63000
24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
P 205	P 205	P 205	P 206	P 206	P 206	P 206	P 207	P 207	P 207	P 207	P 208	P 209	P 209	P 209	P 210	P 210	P 210
																+++	
						+++							+++	+++			
		+++															
							+++										
															+++	++	
															+++	+++	
	++		++	++	++								++	++			+++
+++	+++	++	+++	+++	+++	++	+++	+++	+++	++	++	+++	+++				++
++	++			++	++	++		+++	+++				++	++			++
++	++	++	++	++	++	+++	++	++	++	+++	++	++	++				++
		+++				+++	+++	++		+++	+++						
															++		
			+++	+++				+++									
														+++			
														+++			
														+++			
															+++		
															+++		
		+++								+++							
		+++															
	+++									+++	+++	+++	+++				
	+++		+++	+++	+++	+++			+++	+++	+++	+++				+++	+++

+++ recommended                  ++ well-suited                  + suitable

# Overview of saber saw blades with recommendation

Saws																									
Article	64101	64111	64106	64201	64102	64108	64107	64239	64248	64241	64236	64237	64238	64235	64252	64253	64254	64211	64212	64213	64222	64223	64232	64233	
Material	CV-steel	CV-steel	CV-steel	Bi-metal	CV-steel	CV-steel	CV-steel	Bi-metal	Bi-metal	Bi-metal	Bi-metal	Bi-metal	Bi-metal	Bi-metal	Bi-metal	Bi-metal	Bi-metal	Bi-metal	Bi-metal	Bi-metal	Bi-metal	Bi-metal	Bi-metal	Bi-metal	
Toothed pitch (TP) mm	6	6	4/5	5/8	6	3	4/5	5/8	6	10	10/14	10/14	10/14	10/14	8/10	10/14	10/14	10/14	10/14	10/14	18	18	14	14	
Toothed length (TL) mm	130	280	220	130	130	220	280	280	205	205	130	205	280	130	180	180	260	150	225	260	130	180	130	180	
Series	64000	64000	64000	64000	64000	64000	64000	64000	64000	64000	64000	64000	64000	64000	64000	64000	64000	64000	64000	64000	64000	64000	64000	64000	
Article-Group	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	
Page	P 211	P 211	P 211	P 211	P 212	P 212	P 212	P 212	P 213	P 213	P 213	P 213	P 214	P 214	P 214	P 214	P 215	P 215	P 215	P 215	P 216	P 216	P 216	P 216	
Wood	Ply-, hard-, soft- wood, chipboard	+++	+++			+++		++		+++															
	Pallet repair				++				+++		+++	+++	+++	++	+++	+++	+++								
	Dismantling of window frames				++										+++	++	++	++							
	Wood with metal residues				++				+++	+++		+++	+++	+++	+++	++	++	++	++	++	++				
	Green wood			+++			+++	+++			+++														
	Veneer				++																				
Plastics	Plastics	+++	+++		+++	+++					++	++	++												
	Acrylic glass					+++																			
	Glass fiber reinforced plastics																								
	Carbon fiber reinforced plastics					+++																			
Metal	Stainless steel									+++	++	++	++								+++	+++	+	++	
	Steel pipes, -profiles, solid metal				++			++		+++	+++	+++	+++	+++	++	++	++	+++	+++	+++	+++	+++	+++	+++	
	Sheet metals																					++	++	++	++
	Nonferrous metals									++									++	++	++	++	++	+++	+++
	Aluminum										++	++	++						++	++	++			++	++
	Cast iron																								
Various materials	Sandwich materials																								
	Gypsum board	+++																							
	Insulation material		+++																						
	Ceramics, tiles																								
	Aerated concrete																								
	Insulation material																								
	Frozen food																								
	Ice																								
	Type of cut	Clean cut																				+++	+++	+++	+++
		Rough cut	+++	+++		+++	+++		+++	+++	+++	+++			+++										
Curve section						+++																			
Quick cut				+++	+++	+++	+++		+++	+++	+++	+++	+++		+++	+++	+++	+++	+++	+++	+++				
Straight cut		+++	+++			+++						+++	+++	+++	+++										
Long lifetime				+++			+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	

+++ recommended

++ well-suited

+ suitable

## Overview of saber saw blades with recommendation

64234	64242	64243	64313	64307	64306	64303	64308 64309	64315 64316	64311 64312	64262	64272	64273	64410	64296	64401	64402	64403	64321 64322	64991	651001	651002	651003	651004	651005	
Bi-metal	Bi-metal	Bi-metal	HM / TCT	CV-steel	CV-steel	HM / TCT	Stainless steel	HM / TCT	HM / TCT	Bi-metal	Bi-metal	Bi-metal	Bi-metal	Bi-metal	Bi-metal	Bi-metal	CV-steel	HM / TCT		Bi-metal	Bi-metal	Bi-metal	Bi-metal	Bi-metal	
14	10	10	3	Wavy cut	Wavy cut	-	4	2.5	2	8	5	5	5	6	18	14	4	8	-	8	8	10-14	10-14	10-14	
230	130	180	280	280	470	210	280 380	280 430	280 430	130	130	180	200	245	205	205	205	130 205	-	120	180	180	280	130	
64000	64000	64000	64000	64000	64000	64000	64000	64000	64000	64000	64000	64000	64000	64000	64000	64000	64000	64000	64000	64000	65000	65000	65000	65000	65000
25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	25	26	26	26	26	26
P 217	P 217	P 217	P 218	P 218	P 218	P 218	P 219	P 219	P 219	P 220	P 220	P 220	P 221	P 221	P 221	P 221	P 222	P 222	P 223	P 224	P 224	P 224	P 224	P 224	
			++				++				++	++	++	++			++					+	+	+	
										+++	+++	+++	+++				+++								
										+++	+++	+++	+++									+++	+++	+++	
														+++			+++								
										++	++	++	++									++	++	++	
			++		+++			++																	
			++		+++		+++																		
++	+++	+++								++	++	++			+++	+++		+++		++	++				
+++	+++	+++					+++			+++	+++	+++	++		+++	+++		+++		+++	+++	++	++	++	
++	++	++								++	++	++	++												
+++	++	++					+++			+++	+++	+++	++			+++		++							
++	+++	+++																++							
						+++				++	++	++	++					+++		++	++				
				+++	+++								+++												
			+++	+++	+++								+++												
			+++	+++	+++					+++	+++	+++		+++											
						+++																			
+++			+++	+++	+++					+++	+++	+++	+++	+++	+++			+++							
	+++	+++					+++										+++								
				+++	+++		+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++	+++						
+++	+++	+++	+++			+++		+++		+++	+++	+++	+++					+++							

+++ recommended

++ well-suited

+ suitable

# Overview of compressed air saw blades / accessories oscillating multitools with recommendation

Saws																				
Article	650014	650001	650002	650004	650005	650006	6530024	66302	663075	663125	663135	663285	66301	663145	663085	663055	663115	66310	66317	
Material	Bi-metal	Bi-metal	Bi-metal	Bi-metal	Bi-metal	Bi-metal	Bi-metal	HCS-steel	HCS-steel	HCS-steel	Bi-metal	HCS-steel	Bi-metal	Bi-metal	Bi-metal	Bi-metal	HM / TCT	HCS-steel	HCS-steel	
Toothed pitch (TP) mm	14	24	32	18	24	32	24	-	-	-	-	-	-	-	-	-	-	-	-	
Toothed length (TL) mm	75	75	75	75	75	75	300	85	24	32	32	32	85	32	65	32	32	52	24/11	
Series	65000	65000	65000	65000	65000	65000	65000	66300	66300	66300	66300	66300	66300	66300	66300	66300	66300	66300	66300	
Article-Group	26	26	26	26	26	26	26	93	93	93	93	93	93	93	93	93	93	93	93	
Page	P 225	P 225	P 225	P 225	P 225	P 225	P 225	P 227	P 227	P 227	P 228	P 228	P 229	P 229	P 229	P 229	P 230	P 230	P 231	P 231
Wood	Ply-, Hard-, Soft- Wood, Chipboard	+						+++	+++	+++	+++	+++	+++	+++	+++	+++				
	Pallet repairs				++			+++			+++	+++	+++	++	+++	+++	+++			
	Window disassembly				++									+++	++	++	++			
	Wood with metal residues															++				
	Green Wood								++	++	++	++	++	++	++	++				
	Veneer								+++	+++	+++	+++	+++	+++	+++	+++				
	Plywood																			
Plastics	Plastics	+		+++				+	+	+	+	+	+	+	+			++	++	
	Acrylic glass																			
	Glass fiber reinforced plastics																			
	Carbon fiber reinforced plastics																			
Metal	Stainless steel						+										+	+++		
	Steel pipes, -profiles, solid metal		++	++		++	++	++									++	++		
	Sheet metals	+	+++	+++		+++	+++	++					++	++	++	+++	+++			
	Nonferrous metals																++	++		
	Aluminum				++															
Various materials	Cast iron																			
	Sandwich materials	+++																		
	Gypsum board																			
	Insulation material																			
	Ceramics, tiles																			
	Aerated concrete																			
	Insulation material																			
	Frozen food																			
	Ice																			
	Clean cut											+++			+++			+++		
	Rough cut																			
Type of cut	Curve section																			
	Quick cut													+++					+++	
	Straight cut																			
	Long lifetime												+++	+++						
	Long lifetime																			

+++ recommended

++ well-suited

+ suitable



## Overview of accessories oscillating multitools / hole saws with recommendation

66318	66309	66412	66415	66419	66405	66516	66511	66505	66520	66523	68000							
HM / TCT	HM / TCT	HCS-steel	Bi-metal	Bi-metal	HM / TCT	HCS-steel	Bi-metal	HM / TCT	HCS-steel	HM / TCT	HSS-Co 8% bi-metal							
-	-	-	-	-	-	-	-	-	-	-	4 - 6							
85	70	32	32	65	32	32	32	32	-	-	Ø 14 - 210							
66300	66300	66400	66400	66400	66400	66500	66500	66500	66500	66500	68000							
93	93	93	93	93	93	93	93	93	93	93	22							
P 232	P 232	P 233	P 234	P 234	P 234	P 235	P 235	P 235	P 236	P 236	P 237							
		+++	+++	+++		+++	+++	+++			++							
											+							
		++	++	++		++	++	++										
		+++	+++	+++		+++	+++	+++										
		+	+	+		+	+	+			++							
											+							
											+							
					+++			+++			+++							
					++			++			+++							
		++	++	+++		++	+++	+++			+++							
				++				++			+++							
											+							
+++	+++																	
											++							
	+++										+++							

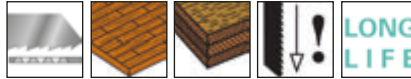
+++ recommended      ++ well-suited      + suitable

# 63000 | Jigsaw blades wood/plastics

Art.-Group 24



- ▶ Conically ground blade
- ▶ Reversed teeth and cross ground
- ▶ For **clean and splinterfree surface cuts** in all wood types from **2 mm to 20 mm** as well as laminate and parquet
- ▶ Perfect for kitchen countertops because of the reverse teeth, splintered surface occurs on the bottom



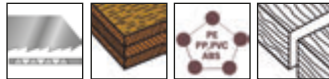
Similar to Bosch: T101AIF



Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PW6019Bi	Bi-metal	1.9	55	80 x 7.9 x 1.27	5	63 121



- ▶ Conically ground blade
- ▶ Teeth cross ground
- ▶ **Clean cuts** in plastics and all types of wood from **3 mm to 30 mm**



Similar to Bosch: T101B



Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PW7525	CV-steel	2.5	75	100 x 7.8 x 1.45	5	63 122
PW7525	CV-steel	2.5	75	100 x 7.8 x 1.45	25	6 312 225



- ▶ Conically ground blade
- ▶ Teeth cross ground
- ▶ **Clean cuts** in plastics and all types of wood from **3 mm to 30 mm**
- ▶ Extra long lifetime



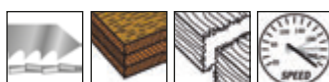
Similar to Bosch: T101BF



Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PW7525Bi	Bi-metal	2.5	75	100 x 7.8 x 1.27	5	63 222



- ▶ Side set and diagonally sharpened teeth
- ▶ Extra long universal saw blade
- ▶ **Quick cuts** in all wood types from **5 mm to 120 mm**



Similar to Bosch: T744D



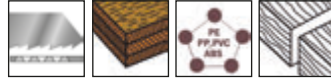
Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PW15540S	CV-steel	4	155	180 x 7.8 x 1.27	5	63 114

# 63000 | Jigsaw blades wood/plastics

Art.-Group 24



- ▶ Conically ground blade
- ▶ Teeth cross ground
- ▶ Extra long saw blade
- ▶ **Clean cuts** in plastics and all wood types from **8 mm to 65 mm**



Similar to Bosch:  
T301CD



Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PW10530	CV-steel	3	105	132 x 7.8 x 1.45	5	63 123



- ▶ Conically ground blade
- ▶ Reversed teeth and cross ground
- ▶ **Clean and splinterfree surface cuts** in plastics and all wood types from **3 mm to 30 mm**



Similar to Bosch:  
T101BR



Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PW7525R	CV-steel	2.5	75	100 x 7.8 x 1.45	5	63 223



- ▶ Conically ground blade
- ▶ Teeth cross ground
- ▶ **Clean and quick cuts** in plastics and all wood types from **10 mm to 45 mm**



Similar to Bosch:  
T101D



Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PW7540	CV-steel	4	75	100 x 7.8 x 1.45	5	63 124
PW7540	CV-steel	4	75	100 x 7.8 x 1.45	25	6 312 425



- ▶ Conically ground blade
- ▶ Teeth cross ground
- ▶ Extra wide saw blade
- ▶ **Clean and straight cuts** in plastics and all wood types from **10 mm to 45 mm**



Similar to Bosch:  
T101DP



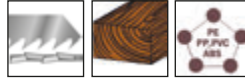
Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PW7540T	CV-steel	4	75	100 x 7.8 x 1.68	5	63 125

# 63000 | Jigsaw blades wood/plastics

Art.-Group 24



- ▶ Teeth ground and set
- ▶ **Quick cuts** in wood and plastics from 4 mm to 50 mm



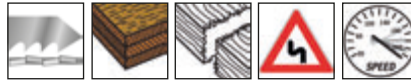
Similar to Bosch: T111C



Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PW7530	CV-steel	3	75	100 x 9.4 x 1.27	5	63 101
PW7530	CV-steel	3	75	100 x 9.4 x 1.27	25	6 310 125



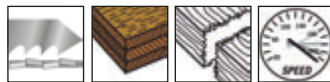
- ▶ Side set and diagonally sharpened teeth
- ▶ Double-teethed blade
- ▶ **Quick curvy cuts** in all types of wood from 5 mm to 50 mm



Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PW7540DC	CV-steel	4	75	100 x 6.5 x 1.27	5	63 225



- ▶ Side set and diagonally sharpened teeth
- ▶ **Quick cuts** in all types of wood from 5 mm to 50 mm



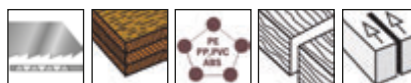
Similar to Bosch: T144D



Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PW7540S	CV-steel	4	75	100 x 7.8 x 1.27	5	63 111
PW7540S	CV-steel	4	75	100 x 7.8 x 1.27	25	6 311 125



- ▶ Conically ground blade
- ▶ Teeth cross ground
- ▶ Extra wide saw blade
- ▶ **Clean and straight cuts** in wood and plastics from 3 mm to 30 mm



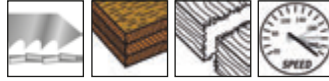
Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PW7525T	CV-steel	2.5	75	100 x 7.8 x 1.68	5	63 224

# 63000 | Jigsaw blades wood/plastics

Art.-Group 24



- ▶ Side set and diagonally sharpened teeth
- ▶ Extra long saw blade
- ▶ **Quick cuts** in all types of wood from 5 mm to 80 mm

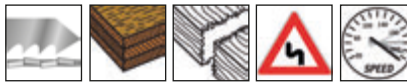


Similar to Bosch:  
T344D

Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PW10540S	CV-steel	4	105	132 x 7.8 x 1.27	5	63 113



- ▶ Side set and diagonally sharpened teeth
- ▶ **Quick curvy cuts** in all types of wood from 5 mm to 50 mm



Similar to Bosch:  
T244D

Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PW7540CS	CV-steel	4	75	100 x 6.5 x 1.27	5	63 112



- ▶ Side set and diagonally sharpened teeth
- ▶ **Quick cuts** in all types of wood from 5 mm to 50 mm
- ▶ Extra long lifetime



Similar to Bosch:  
T144DF

Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PW7540Bi	Bi-metal	4	75	100 x 7.8 x 1.27	5	63 236



- ▶ Conically ground blade
- ▶ Triple diagonally sharpened teeth
- ▶ **Clean and extra quick** cuts in all types of wood as well as plastics from 3 mm to 60 mm



Similar to Bosch:  
T234X

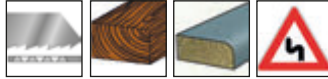
Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PW9025	HCS-steel	2.5	91	117 x 10 x 1.45	5	63 120

# 63000 | Jigsaw blades wood/plastics

Art.-Group 24



- ▶ Conically ground blade
- ▶ Teeth cross ground and tapered toothing
- ▶ **Clean curvy cuts** in softwood, plywood and coated panels from **1.5 mm to 15 mm**



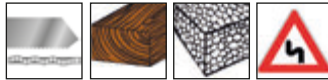
Similar to Bosch: T101A0



Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PW5013C	CV-steel	1.35	50	76,5 x 4,5 x 1,25	5	63 126



- ▶ Milled and wavy set teeth
- ▶ **Curvy cuts** in softwood from **2 mm to 15 mm**



Similar to Bosch: T119B0



Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PW5020C	CV-steel	2	50	76 x 5 x 1	5	63 127



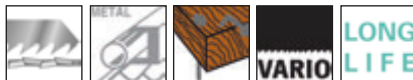
Art.-No. 63120 Page P 203

# 63000 | Jigsaw blades metal

Art.-Group 24



- ▶ Milled, side set teeth
- ▶ Extra long and flexible saw blade
- ▶ For **wood with metal residues up to 80 mm** as well as **steel pipes and profiles from 2.5 mm to 10 mm**
- ▶ Extra long lifetime



Similar to Bosch: T345XF



Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM105VBi	Bi-metal	1.8-2.5	107	132 x 9.8 x 1	5	63 227



- ▶ Milled and wavy set teeth
- ▶ For steel and **thin sheet metals from 1.2 mm to 2 mm**



Similar to Bosch: T118A



Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM5512	HSS	1.2	55	76.5 x 7.8 x 1	5	63 201
PM5512	HSS	1.2	55	76.5 x 7.8 x 1	25	6 320 125



- ▶ Milled and wavy set teeth
- ▶ **Flexible saw blade** for steel and stainless steel from **1.2 mm to 3 mm**
- ▶ Extra long lifetime



Similar to Bosch: T118AF



Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM5512Bi	Bi-metal	1.2	55	76.5 x 7.8 x 1	5	63 211



- ▶ Milled, side set teeth
- ▶ **Curvy cuts** in non-ferous metal and aluminium from **3 mm to 15 mm**
- ▶ For steel and plastics from **3 mm to 30 mm**



Similar to Bosch: T227D



Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM7530C	HSS	3	75	100 x 6.5 x 1	5	63 229

# 63000 | Jigsaw blades metal

Art.-Group 24

## PM10510Bi PROJAHN Made in Germany

- ▶ Milled and wavy set teeth
- ▶ Extra long and flexible saw blade
- ▶ For steel from **1 mm to 3 mm**, pipes, profiles and sandwich-materials up to 80 mm
- ▶ Extra long lifetime



Similar to Bosch: T318AF



Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM10510Bi	Bi-metal	1	105	132 x 9.8 x 1	5	63 212

## PM15510Bi PROJAHN Made in Germany

- ▶ Milled and wavy set teeth
- ▶ Extra long and flexible saw blade
- ▶ Special saw blade for **facade construction** - cutting sandwich-materials from **1.5 mm to 120.0 mm**
- ▶ Extra long lifetime



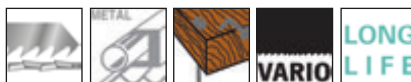
Similar to Bosch: T718AF



Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM15510Bi	Bi-metal	1	155	180 x 9.8 x 1	5	63 213

## PM75VBi PROJAHN Made in Germany

- ▶ Milled, side set teeth
- ▶ Especially for **wood with metal residues up to 50 mm**
- ▶ For steel pipes and profiles from **2.5 mm to 10.0 mm**
- ▶ Extra long lifetime



Similar to Bosch: T111HF



Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM75VBi	Bi-metal	1.8-2.5	75	100 x 9.8 x 1	5	63 221

## PM7525Bi PROJAHN Made in Germany

- ▶ Conically ground blade
- ▶ Teeth milled
- ▶ For plexiglass, polycarbonate, non-ferrous metals, aluminium, varicor and corian from **2 mm to 20 mm**
- ▶ Extra long lifetime



Similar to Bosch: T101A



Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM7525Bi	Bi-metal	2.5	75	100 x 7.8 x 1.27	5	63 215



# 63000 | Jigsaw blades metal

Art.-Group 24



- ▶ Milled and wavy set teeth
- ▶ For steel, aluminium and non-ferrous metals from 2.5 mm to 6.0 mm



Similar to Bosch:  
T118B



Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM5520	HSS	2	55	76.5 x 7.8 x 1	5	63 202



- ▶ Milled and wavy set teeth
- ▶ Extra long saw blade
- ▶ For steel from 1 mm to 3 mm, pipes, profiles and sandwich-materials up to 80 mm



Similar to Bosch:  
T318A



Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM10510	HSS	1	105	132 x 9.8 x 1	5	63 204



- ▶ Milled and wavy set teeth
- ▶ Curvy cuts in thin metal sheets and steel from 1.2 mm to 3.0 mm



Similar to Bosch:  
T218A



Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM5512C	HSS	1.2	55	76.5 x 7.8 x 1	5	63 203



- ▶ Milled, side set teeth
- ▶ Especially for non-ferous metals and aluminum
- ▶ For steel from 3 mm to 15 mm and plastics from 3 mm to 30 mm



Similar to Bosch:  
T127D



Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM7530	HSS	3	75	100 x 7.8 x 1	5	63 226

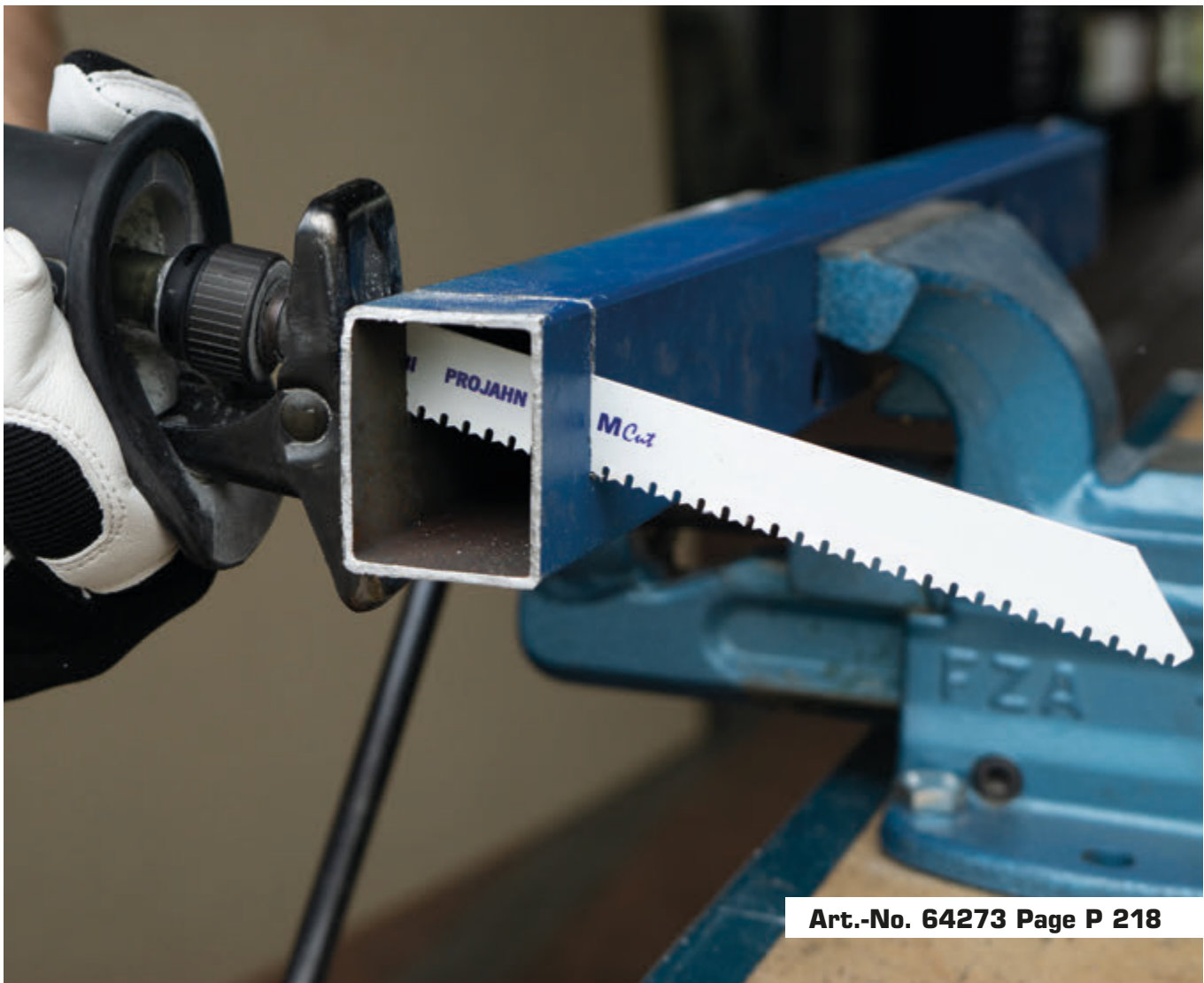
## 64000 | Cooling paste for stainless steel

Art.-Group 24

- ▶ Coolant and lubricant for cutting and sawing stainless steel
- ▶ For a significantly longer tool life with better sawing progress at the same time, especially when the material is difficult to cut
- ▶ UFI: PG6Q-UYQC-AE18-2E3U



Type	Volume ml	Art.-No.
Cooling paste for stainless steel	60	64 999



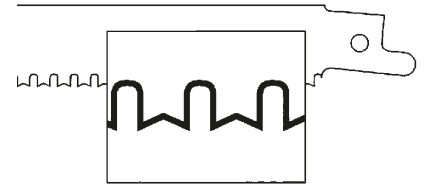
Art.-No. 64273 Page P 218

# 63000 | Jigsaw blades various materials

Art.-Group 24

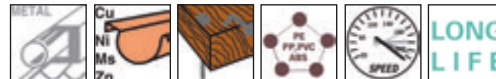
## Revolutionary MCut tothing

- ▶ Unique, robust and patented M-tothing for highest performance
- ▶ Optimized blade geometry
- ▶ High flexibility and long lifetime due to bi-metal saw blades
- ▶ Robust saw blade for fast and precise cuts in forward and return stroke
- ▶ Up to 2x faster than conventional tothing especially at high speed
- ▶ Best results with pendulum stroke switched on
- ▶ Extremely sharp tothing for jigsaw and saber saw blades



**MCut**

- ▶ Unique, robust and patented M-tothing for highest performance
- ▶ Very quick saw blade since **material will be cut in both directions**
- ▶ Precise cut in all materials especially in metal **over 1.5 mm**
- ▶ Extra long lifetime

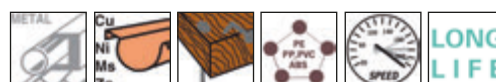


Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PS7515Bi MCut	Bi-metal	1.3	75	100 x 9.8 x 1	5	63 218



**MCut**

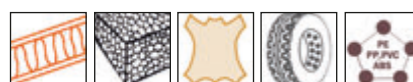
- ▶ Unique, robust and patented M-tothing for highest performance
- ▶ Very quick saw blade since **material will be cut in both directions**
- ▶ Precise cut in all materials especially in metal **over 2.0 mm**
- ▶ Extra long lifetime



Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PS10525Bi MCut	Bi-metal	1.7	105	133 x 96 x 1.27	5	63 219



- ▶ Special saw blade with wavy set
- ▶ Extra long saw blade
- ▶ For soft rubber, leather, paper, styrofoam, carpet, plastics and insulation materials from **1 mm to 120 mm**



Similar to Bosch: T318AW

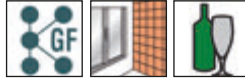
Type	Material	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PU155W	CV-steel	155	180 x 9.7 x 1.27	5	63 235

# 63000 | Jigsaw blades various materials

Art.-Group 24



- ▶ Special **carbide coated** saw blade, coarse-grained
- ▶ For glass, ceramics and glass-fibre reinforced products from **5 mm to 15 mm**



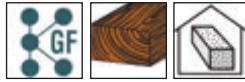
Similar to Bosch: T130Riff



Type	Material	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PU54	Carbide coating	54	79 x 8,8 x 2,3	1	63 301



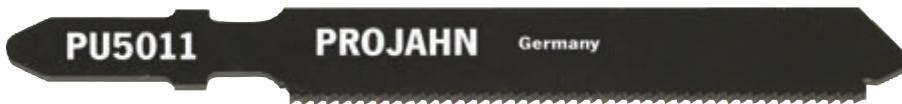
- ▶ Special saw blade with **tungsten carbide teeth**
- ▶ For glass-fibre reinforced products, hard wood and gas formed concrete from **5 mm to 20 mm**



Similar to Bosch: T141HM



Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PU7542	Carbide teeth	4.2	75	100 x 7,8 x 1,9	1	63 306



- ▶ Special saw blade with ground **carbide strip**
- ▶ For steel, sheet metals and stainless steel from **1.5 mm to 3.0 mm**



Similar to Bosch: T118AHM



Type	Material	Tooth Pitch mm	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PU5011	Carbide strip	1.1	50	79 x 8,8 x 2,3	1	63 217

## Sets

Art.-Group 33



63 001



63 002



63 008

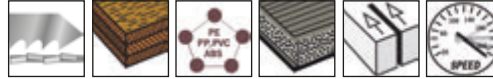
Content	Material	Packaging	Art.-No.
2 blades each of art. no. 63101, 63111, 63112, 63122 and 63124	For wood	10 pcs. in plastic box	63 001
3 blades each of art. no. 63201 and 63202	For metal	10 pcs. in plastic box	63 002
2 blades each of art. no. 63221 and 63226	For metal	10 pcs. in plastic box	63 002
1 blade each of art. no. 63101, 63122, 63124, 63201 and 63202	For wood and metal	5 pcs. in paper card	63 008

# 64000 | Saber saw blades wood/metal

Art.-Group 25



- ▶ Teeth milled and cross ground
- ▶ **Fast and straight cuts** in all types of wood, plastics and gypsum board from **6 mm to 100 mm**



Similar to Bosch: S644D



Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PW15060	CV-steel	6	130	150 x 19 x 1.27	5	64 101
PW15060	CV-steel	6	130	150 x 19 x 1.27	20	6 410 120



- ▶ Milled, side set teeth
- ▶ **Fast and straight cuts** in all types of wood, plastics and gypsum board from **6 mm to 250 mm**



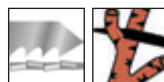
Similar to Bosch: S1344D



Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PW30060	CV-steel	6	280	300 x 19 x 1.27	5	64 111
PW30060	CV-steel	6	280	300 x 19 x 1.27	20	6 411 120



- ▶ Teeth milled, cross ground and hard pointed
- ▶ Special saw blade for green wood from **8 mm to 190 mm**



Similar to Bosch: S1531L



Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PW24050	CV-steel	4-5	220	240 x 19 x 1.27	5	64 106



- ▶ Milled, side set teeth
- ▶ Vario-toothed saw blade for all types of wood with little mental residues from **6 mm to 100 mm**
- ▶ Extra long lifetime



S611VF



Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PW150VBi	Bi-metal	5-8	130	150 x 19 x 1.27	5	64 201

# 64000 | Saber saw blades wood/metal

Art.-Group 25



- ▶ Conically ground blade
- ▶ Teeth triply ground
- ▶ Special saw blade for **clean cuts** in all types of wood and plastics from **5 mm to 100 mm**



Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PW15060C	CV-steel	7.3	130	150 x 19 x 1.27	5	64 102



- ▶ Teeth side set, ground and hard pointed
- ▶ Very rough toothed saw blade
- ▶ Aggressive and **fast cuts** in wet wood from **20 mm to 190 mm**

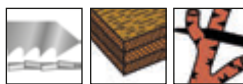


Similar to Bosch: S1542K

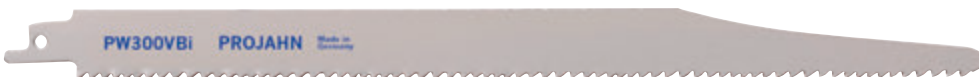
Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PW24030	CV-steel	3	220	240 x 19 x 1.27	5	64 108



- ▶ Milled, side set teeth
- ▶ Extra long saw blade especially for green wood
- ▶ For cutting **green wood** with large diameters **up to 250 mm**



Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PW30050	CV-steel	4-5	280	300 x 19 x 1.27	5	64 107



**PROJAHN**  
rescue

- ▶ Milled, side set teeth
- ▶ Extra thick saw blade
- ▶ Especially for dismantling, rescue and salvage
- ▶ Thick and robust blade for **fast and straight cuts** in all types of wood with metal residues from **6 mm to 250 mm**
- ▶ Extra long lifetime



Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PW300VBI	Bi-metal	5-8	280	300 x 22 x 1.57	3	64 239

# 64000 | Saber saw blades wood/metal

Art.-Group 25

**PROJAHN**  
rescue



- ▶ Milled, side set teeth
- ▶ Extra thick saw blade
- ▶ Especially for dismantling, rescue and salvage
- ▶ Thick and robust blade for **fast and straight cuts** in all types of wood with metal residues from **6 mm to 190 mm**
- ▶ Extra long lifetime



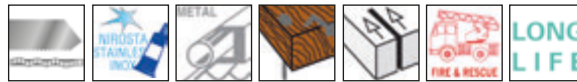
Similar to Bosch:  
S1110DF

Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PW22560Bi	Bi-metal	6	205	225 x 22 x 1.57	3	64 248

**PROJAHN**  
rescue



- ▶ Milled and wavy set teeth
- ▶ Extra thick saw blade
- ▶ Extra strong and robust saw blade for **straight cuts in steel thicker than 3 mm** and all types of **wood with metal residues up to 190 mm**
- ▶ Especially for dismantling, rescue and salvage
- ▶ Extra long lifetime



Similar to Bosch:  
S1120CF

Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM22510Bi	Bi-metal	10	205	225 x 22 x 1.57	3	64 241

**PROJAHN**  
rescue



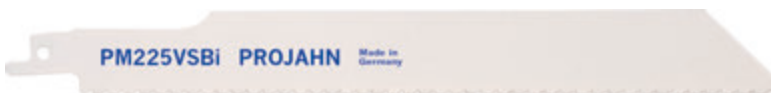
- ▶ Milled, side set teeth
- ▶ Universal, extra wide high-performance blade with Vario toothing for longer service life
- ▶ Especially for dismantling, rescue and salvage
- ▶ For fast and **straight cuts** in **metal from 2.5 mm** and wood with metal residues **up to 100 mm**



Similar to Bosch:  
S936BEF

Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM150 VSBi	Bi-metal	10/14	130	150 x 25 x 0.9	5	64 236

**PROJAHN**  
rescue



- ▶ Milled, side set teeth
- ▶ Universal, extra wide high-performance blade with Vario toothing for longer service life
- ▶ Especially for dismantling, rescue and salvage
- ▶ For **fast and straight cuts** in metal **from 2.5 mm** and wood with metal residues **up to 170 mm**



Similar to Bosch:  
S1136BEF

Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM225 VSBi	Bi-metal	10/14	205	225 x 25 x 0.9	5	64 237

# 64000 | Saber saw blades wood/metal

Art.-Group 25

**PROJAHN**  
rescue



- ▶ Milled, side set teeth
- ▶ Universal, extra wide high-performance blade with Vario toothing for longer service life
- ▶ Especially for dismantling, rescue and salvage
- ▶ For **fast and straight cuts** in metal from **2.5 mm** and wood with metal residues **up to 250 mm**



Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM300 VSBi	Bi-metal	10/14	280	300 x 25 x 0.9	5	64 238



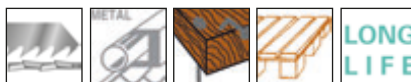
- ▶ Milled, side set teeth
- ▶ For **straight cuts** in steel thicker than **3 mm** and all types of wood with metal residues **up to 190 mm**
- ▶ Especially for dismantling of window-frames
- ▶ Extra long lifetime



Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM150 VTBi	Bi-metal	8/10	130	150 x 19 x 1.27	5	64 235



- ▶ Milled, side set teeth
- ▶ Saw blade with Vario-toothing
- ▶ For all wood types with metal residues from **2.5 mm to 100 mm**
- ▶ Especially for **pallet repair**
- ▶ Extra long lifetime



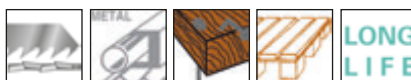
Similar to Bosch: S922VF



Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM150VBi	Bi-metal	10/14	130	150 x 19 x 0.9	5	64 252
PM150VBi	Bi-metal	10/14	130	150 x 19 x 0.9	20	6 425 220



- ▶ Milled, side set teeth
- ▶ Saw blade with Vario-toothing
- ▶ For all wood types with metal residues from **2.5 mm to 150 mm**
- ▶ Especially for **pallet repair**
- ▶ Extra long lifetime



Similar to Bosch: S1122VF



Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM200VBi	Bi-metal	10/14	180	200 x 19 x 0.9	5	64 253
PM200VBi	Bi-metal	10/14	180	200 x 19 x 0.9	20	6 425 320

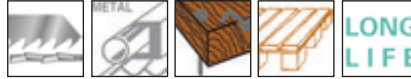


# 64000 | Saber saw blades wood/metal

Art.-Group 25



- ▶ Milled, side set teeth
- ▶ Saw blade with Vario-toothing
- ▶ For all wood types with metal residues from **2.5 mm to 230 mm**
- ▶ Especially for **pallet repair**
- ▶ Extra long lifetime



Similar to Bosch: S1222VF

Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM280VBi	Bi-metal	10/14	260	280 x 19 x 0.9	5	64 254



- ▶ Milled, side set teeth
- ▶ Flexible saw blade with TwinCut-toothing
- ▶ For **quick cuts** in metal **from 2.5 mm** and in all types of wood with residues **up to 100 mm**
- ▶ Up to 20% faster than blades with standard toothing



Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM15014TBi	Bi-metal	10/14	130	150 x 19 x 0.9	5	64 211



- ▶ Milled, side set teeth
- ▶ Flexible saw blade with TwinCut-toothing
- ▶ For **quick cuts** in metal **from 2.5 mm** and in all types of wood with residues **up to 170 mm**
- ▶ Up to 20% faster than blades with standard toothing



Similar to Bosch: S123XF

Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM22514TBi	Bi-metal	10/14	205	225 x 19 x 0.9	5	64 212



- ▶ Milled, side set teeth
- ▶ Flexible saw blade with TwinCut-toothing
- ▶ For **quick cuts** in metal **from 2.5 mm** and in all types of wood with residues **up to 230 mm**
- ▶ Up to 20% faster than blades with standard toothing



Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM28014TBi	Bi-metal	10/14	260	280 x 19 x 0.9	5	64 213

# 64000 | Saber saw blades metal

Art.-Group 25



- ▶ Milled and wavy set teeth
- ▶ Flexible universal blade for steel and stainless steel from **1.5 to 4.0 mm**



Similar to Bosch:  
S922EF



Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM15018Bi	Bi-metal	18	130	150 x 19 x 0.9	5	64 222



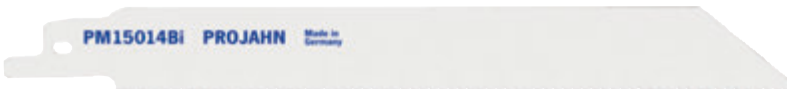
- ▶ Milled and wavy set teeth
- ▶ Flexible universal blade for steel and stainless steel from **1.5 to 4.0 mm**



Similar to Bosch:  
S1122BF



Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM20018Bi	Bi-metal	18	180	200 x 19 x 0.9	5	64 223



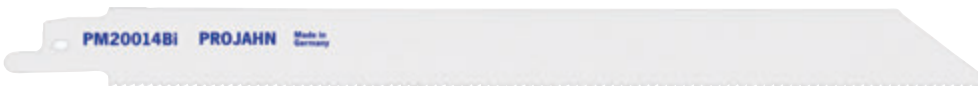
- ▶ Milled and wavy set teeth
- ▶ Flexible universal saw blade for steel, non-ferrous metals and stainless steel from **2 to 8 mm**



Similar to Bosch:  
S922BF



Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM15014Bi	Bi-metal	14	130	150 x 19 x 0.9	5	64 232
PM15014Bi	Bi-metal	14	130	150 x 19 x 0.9	20	6 423 220



- ▶ Milled and wavy set teeth
- ▶ Flexible universal saw blade for steel, non-ferrous metals and stainless steel from **2 to 8 mm**



Similar to Bosch:  
S1122BF



Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM20014Bi	Bi-metal	14	180	200 x 19 x 0.9	5	64 233
PM20014Bi	Bi-metal	14	180	200 x 19 x 0.9	20	6 423 320

## 64000 | Saber saw blades metal

Art.-Group 25



- ▶ Milled and wavy set teeth
- ▶ Flexible universal saw blade for steel, non-ferrous metals and stainless steel from **2 to 8 mm**



Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM25014Bi	Bi-metal	14	230	250 x 19 x 0.9	5	64 234
PM25014Bi	Bi-metal	14	230	250 x 19 x 0.9	20	6 423 420



- ▶ Milled, side set teeth
- ▶ Flexible universal saw blade for steel, non-ferrous metals and stainless steel from **3 to 12 mm**



Similar to Bosch: S922HF



Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM15010Bi	Bi-metal	10	130	150 x 19 x 0.9	5	64 242



- ▶ Milled, side set teeth
- ▶ Flexible universal saw blade for steel, non-ferrous metals and stainless steel from **3 to 12 mm**



Similar to Bosch: S1022HF



Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM20010Bi	Bi-metal	10	180	200 x 19 x 0.9	5	64 243

## 64000 | Cooling paste for stainless steel

Art.-Group 24

- ▶ Coolant and lubricant for cutting and sawing stainless steel
- ▶ For a significantly longer tool life with better sawing progress at the same time, especially when the material is difficult to cut
- ▶ UFI: PG6Q-UYQC-AE18-2E3U



Type	Volume ml	Art.-No.
Cooling paste for stainless steel	60	64 999

# 64000 | Saber saw blades various materials

Art.-Group 25



- ▶ Saw blade with **tungsten carbide teeth**
- ▶ Special saw blade for hard wood, gas-formed concrete, glass-fibre reinforced products and cement asbestos

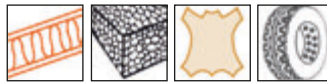


Similar to Bosch: S1241HM

Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PU30030	Carbide	3	280	300 x 19 x 1.3	1	64 313



- ▶ Extra sharp and double grinded blade with wavy cut
- ▶ **Fast, precise and almost tear-free cutting**
- ▶ For mineral rock wool, foams, polystyrene, leather, rubber, paper and carpets **up to a material strength of 250 mm**

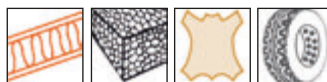


Similar to Bosch: S1213AWP

Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PU300W	CV-steel	Wavy cut	280	300 x 19 x 1.27	3	64 307



- ▶ Special saw blade for cutting insulating materials
- ▶ Double grinded wavy cut ensures **fast and clean cuts up to 450 mm**
- ▶ The fine-toothed side of the blade works perfectly in soft and flexible materials such as mineral wool, rock wool and foams



- ▶ The coarsed-toothed side of the blade works perfectly in rigid and unflexible materials such as foam boards and polystyrene
- ▶ Also suited in combination with the PROJAHN Multi-handle (Art.-No. 64991) on Page P 223

Type	Material	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PU500 W	CV-steel	470	500 x 29 x 1.4	1	64 306



- ▶ **Tungsten carbide gritted saw blade**
- ▶ For cast iron, ceramics, glass-fibre reinforced products and bricks
- ▶ Extra long lifetime



Type	Material	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PU23012	Carbide coating	210	230 x 19 x 1,05	1	64 303

# 64000 | Saber saw blades various materials

Art.-Group 25



- ▶ Milled, side set teeth
- ▶ Special blade for frozen food, ice up to 250 mm / 350 mm and wood
- ▶ Food-safe



Similar to Bosch:  
S1241HM  
S1211K

Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PU300 INOX	Stainless steel	4	280	300 x 25 x 1.25	1	64 308
PU400 INOX	Stainless steel	4	380	400 x 25 x 1.25	1	64 309



- ▶ **Tungsten carbide teeth** with positive tooth angle
- ▶ Special wide blade, height 50 mm (64315), height 20 mm (64315)
- ▶ **Fast cuts** in gas-formed concrete, purnice, brick, fibre-cement, planting stones, heraklith

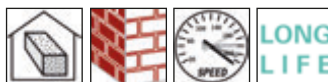


Similar to Bosch:  
S1213AWP

Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PU30020S	Carbide	2.5	280	300 x 20 x 1.2	1	64 315
PU45020S	Carbide	2.5	430	450 x 50 x 1.2	1	64 316



- ▶ Carbide tipped teeth, for **rapid cuts** in highly abrasive special materials such as Poroton, aerated concrete etc.
- ▶ Extra wide blade for straight cuts **up to 215 mm**
- ▶ Suitable for machines from 1.000 W

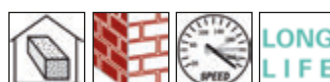


Similar to Bosch:  
S1243HM

Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PU30520	Carbide	2	280	305 x 50 x 1.5	1	64 311



- ▶ Carbide tipped teeth, for **rapid cuts** in highly abrasive special materials such as Poroton, aerated concrete etc.
- ▶ Extra wide blade for straight cuts **up to 365 mm**
- ▶ Suitable for machines from 1.000 W



Similar to Bosch:  
S2243HM

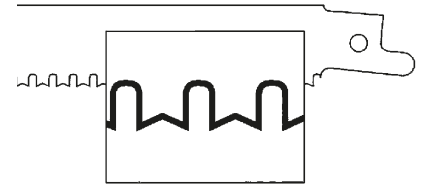
Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PU45520	Carbide	2	430	455 x 50 x 1.5	1	64 312

# 64000 | Special saber saw blades with M-toothing, ultra-sharp

Art.-Group 25

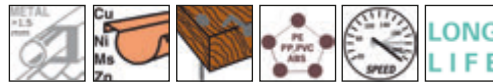
## Revolutionary MCut tooting

- ▶ Unique, robust and patented M-toothing for highest performance
- ▶ Optimized blade geometry
- ▶ High flexibility and long lifetime due to bi-metal saw blades
- ▶ Robust saw blade for fast and precise cuts in forward and return stroke
- ▶ Up to 2x faster than conventional tooting especially at high speed
- ▶ Best results with pendulum stroke switched on
- ▶ Extremely sharp tooting for jigsaw and saber saw blades



**MCut**

- ▶ Unique, robust and patented M-toothing for highest performance
- ▶ **Very quick saw blade** since material will be cut in both directions
- ▶ Precise cut in all materials especially in metal **over 1.5 mm**
- ▶ Extra long lifetime

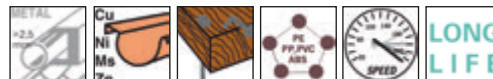


Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PS15015Bi	Bi-metal	8	130	150 x 19 x 0.9	5	64 262
PS15014Bi	Bi-metal	8	130	150 x 19 x 0.9	20	6426220



**MCut**

- ▶ Unique, robust and patented M-toothing for highest performance
- ▶ **Very quick saw blade** since material will be cut in both directions
- ▶ Precise cut in all materials especially in metal **over 2.5 mm**
- ▶ Extra long lifetime



Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PS15025Bi	Bi-metal	5	130	150 x 19 x 0.9	5	64 272
PS15025Bi	Bi-metal	5	130	150 x 19 x 0.9	20	6427220



**MCut**

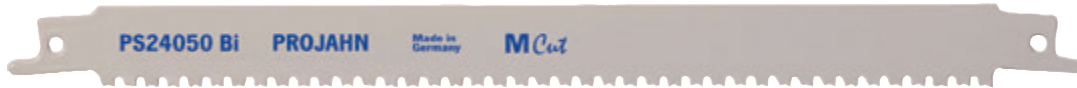
- ▶ Unique, robust and patented M-toothing for highest performance
- ▶ **Very quick saw blade** since material will be cut in both directions
- ▶ Precise cut in all materials especially in metal **over 2.5 mm**
- ▶ Extra long lifetime



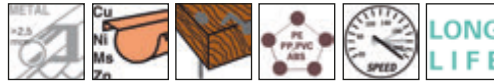
Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PS20025Bi	Bi-metal	5	180	200 x 19 x 0.9	5	64 273
PS20025Bi	Bi-metal	5	180	200 x 19 x 0.9	20	6427320

# 64000 | Special saber saw blades

Art.-Group 25



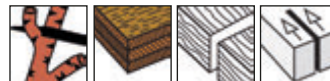
- ▶ For significantly longer lifetime: After using the front half of the blade, rotate the saw blade and re-clip it with the second shank. 100% utilization of the entire blade length, for **twice the lifetime** and half the cost per cut



Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PS24050 Bi	Bi-metal	5	200	240 x 19 x 0.9	5	64 410



- ▶ Triple ground, extremely sharp toothing with inductively hardened tooth tips
- ▶ Extra wide saw blade (1.6 mm) for **quick and precise cuts** in **green wood**
- ▶ Suitable for all types of wood
- ▶ Ideal in combination with the PROJAHN multi-handle (article 64 991) on page P 223



Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PW27560	HCS / CV	6	245	275 x 34 x 1.6	2	64 296



- ▶ Curved blade for **faster cuts**
- ▶ More teeth on the saw blade due to the curved geometry
- ▶ Flexible universal blade for steel and stainless steel from **1.5 to 4.0 mm**
- ▶ Extra long lifetime
- ▶ Milled and wavy set teeth



Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM22518Bi	Bi-metal	18	205	225 x 19 x 0.9	5	64 401



- ▶ Curved blade for **faster cuts**
- ▶ More teeth on the saw blade due to the curved geometry
- ▶ Flexible universal blade for steel and stainless steels from **2.0 to 3.5 mm** as well as non-ferrous metal
- ▶ Extra long lifetime
- ▶ Milled and wavy set teeth



Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PM22514Bi	Bi-metal	14	205	225 x 19 x 0.9	5	64 402

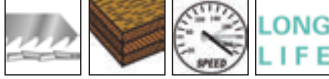
# 64000 | Special saber saw blades

Art.-Group 25

**PROJAHN**  
Powercurve



- ▶ More teeth on the saw blade due to the curved geometry
- ▶ Curved blade for **faster cuts**
- ▶ Universal saw blade for all types of wood **up to 175 mm**
- ▶ Extra long lifetime
- ▶ Milled, side set teeth



Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PW22540	CV-steel	4	205	225 x 19 x 1.05	5	64 403

Art.-Group 25



- ▶ Saber saw blade with carbide toothing for stainless steel, **very hard metal** and non-ferrous metals
- ▶ Perfectly suited for SML casting, reinforcement as well as metal reinforced rubber
- ▶ Precise and straight cuts for tubes and profiles from **4 mm to 12 mm**
- ▶ Extremely long service life due to carbide toothing



Similar to Bosch:  
S 955 CHM  
S 1155 CHM



Type	Material	Teeth/Inch	Cutting length mm	Dimensions mm	Pc./PU	Art.-No.
PU15080	Carbide	8	130	150 x 25 x 1.5	1	64 321
PU22880	Carbide	8	205	228 x 25 x 1.5	1	64 322

## Sets

Art.-Group 25



Content	Material	Packaging	Art.-No.
1 blade each of art. no. 64232, 64253 and 64111	For wood and metal	Single packaging with hanger	64 001



## 64000 | Multi-handle for saber saw blades and bits

Art.-Group 25



Suitable for reciprocating saw blades



Adjustable angle for better power transmission



Suitable for standard bits



**Incl. bit compartment for up to 6 bits, bits are not included**

### Description

Multi-handle for saber saw blades and bits

### Art.-No.

64 991

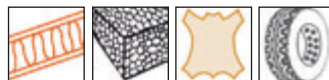
- ▶ Handle is suitable for saw blades with 1/2" standard shank as well as standard bits with 1/4" shank
- ▶ Use also in hard to reach places where working with a machine is not possible
- ▶ Adjustable angle for better power transmission
- ▶ Simple tool change due to rotating mounting ring
- ▶ In combination with the right saw blade also suitable for working in wood, insulating materials and metal
- ▶ Handle can be filled with 6 bits (not included)

## 64000 | Multi-handle and saber saw blade PU300W for insulation materials

Art.-Group 25



**2  
PIECES**



- ▶ In combination with saber saw blades with wavy cut perfectly suitable for cutting insulation materials, soft materials, cardboard, polystyrene and foams
- ▶ Use also in hard to reach places where working with a machine is not possible
- ▶ Handle is suitable for saw blades with 1/2" standard shank as well as standard bits with 1/4" shank

### Description

Multi-handle and saber saw blade PU300W for insulation materials

### Art.-No.

64 992

# 65000 | Saber saw blades with U-shank for Rems, Roller, Ridgid, Flex

Art.-Group 26



- ▶ Bi-metal saw blade with tooth pitch of 3.2 mm
- ▶ Universal saw blade for stainless steel pipes **up to 2"**, hard cast iron pipes and heavy duty materials



Type	Material	Teeth/Inch	Cutting length mm	Pc./PU	Art.-No.
PMR14008Bi	Bi-metal	8	120	5	651 001



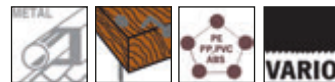
- ▶ Bi-metal saw blade with tooth pitch of 3.2 mm
- ▶ Universal saw blade for stainless steel pipes **up to 4"**, hard cast iron pipes and heavy duty materials



Type	Material	Teeth/Inch	Cutting length mm	Pc./PU	Art.-No.
PMR20008Bi	Bi-metal	8	180	5	651 002



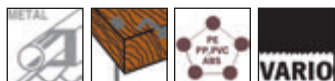
- ▶ Bi-metal saw blade with tooth pitch 1.8/2.5 mm - Vario toothing
- ▶ Universal saw blade for steel pipes, metal profiles, wood with nails, pallets and plastics



Type	Material	Teeth/Inch	Cutting length mm	Pc./PU	Art.-No.
PMR150VBi	Bi-metal	10/14	130	5	651 005



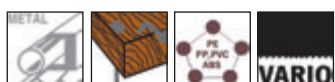
- ▶ Bi-metal saw blade with tooth pitch 1.8/2.5 mm - Vario toothing
- ▶ Universal saw blade for steel pipes, metal profiles, wood with nails, pallets and plastics



Type	Material	Teeth/Inch	Cutting length mm	Pc./PU	Art.-No.
PMR200VBi	Bi-metal	10/14	180	5	651 003



- ▶ Bi-metal saw blade with tooth pitch 1.8/2.5 mm - Vario toothing
- ▶ Universal saw blade for steel pipes, metal profiles, wood with nails, pallets and plastics



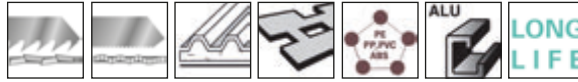
Type	Material	Teeth/Inch	Cutting length mm	Pc./PU	Art.-No.
PMR300VBi	Bi-metal	10/14	280	5	651 004

## 65000 | Compressed-air saw blades for pneumatic and electric car-body saws

Art.-Group 26



- ▶ Saw blades made of bi-metal for increased service life
- ▶ Ideally suited for sandwich materials (Article 650014) as well as for steel and sheet metal (Article 650001 and 650002)
- ▶ Suitable for: Pneutec, Ober, Shinano and Rodcraft



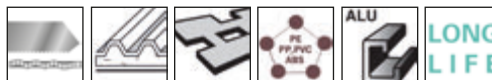
Type	Material	Teeth/Inch	Cutting length mm	Blade Version	Dimensions mm	Pc./PU	Art.-No.
PD14A	Bi-metal	14	75	Side set	95 x 12.3 x 0.63	10	650 014
PD24A	Bi-metal	24	75	Wavy set	95 x 12.3 x 0.63	10	650 001
PD32A	Bi-metal	32	75	Wavy set	95 x 12.3 x 0.63	10	650 002

## 65000 | Compressed-air saw blades for pneumatic and electric car-body saws

Art.-Group 26



- ▶ Saw blades made of bi-metal for increased service life
- ▶ Ideally suited for plastic and aluminum (Article 650004) as well as for steel and sheet metal (Article 650005 and 650006)
- ▶ Suitable for: SIG and Flex



Type	Material	Teeth/Inch	Cutting length mm	Blade Version	Dimensions mm	Pc./PU	Art.-No.
PD18S	Bi-metal	18	75	Wavy set	95 x 12.3 x 0.63	5	650 004
PD24S	Bi-metal	24	75	Wavy set	95 x 12.3 x 0.63	10	650 005
PD32S	Bi-metal	32	75	Wavy set	95 x 12.3 x 0.63	10	650 006

## 65000 | Hacksaw blade

Art.-Group 26



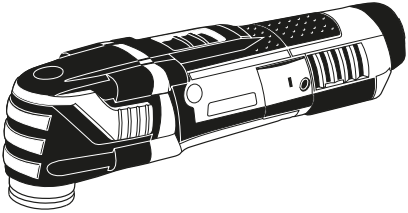



- ▶ High quality saw blade for hacksaws with a length of 300 mm
- ▶ Saw blades made of bi-metal for increased service life
- ▶ Suitable for metal, wood and plastics



Type	Material	Teeth/Inch	Cutting length mm	Blade Version	Pc./PU	Art.-No.
PM24 Bi	Bi-metal	24	300	Wavy set	1	6 530 024

# Accessories for oscillating multitools

## Compatibility


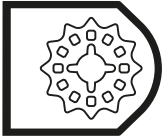
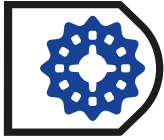
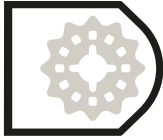
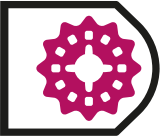





Power tool	STARLOCK	STARLOCK PLUS	STARLOCK MAX
			
Starlock	●		
Starlock Plus	●	●	
Starlock Max	●	●	●
OIS	●		

## Tool holder types

### Starlock

- ▶ Starlock tool holders: Starlock, StarlockPlus and StarlockMax
- ▶ Quick one handed tool change in only three seconds
- ▶ New holder system for maximum power transmission
- ▶ Compatible for old OIS power tools
- ▶ Tool can be mounted in 30° steps - for flexible and efficient use

## Color Guide System

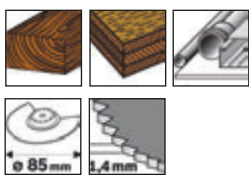
				
 Wood	 Wood and Metal	 Metal	 Mortar	 Multi Material

# 66300 | Starlock tool holder wood

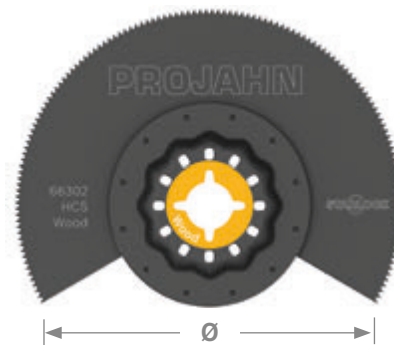
Art.-Group 93

## Oscillating multi tools

- ▶ The versatile multi-tools are particularly suitable for working in places that are hard to reach
- ▶ U-Shape saw blades with a rounded cutting edge ensure an optimal plunging behavior as well as clean and precise cuts
- ▶ Find the right tool for the material with the help of the color guide mark
- ▶ Quick one handed tool change in only three seconds

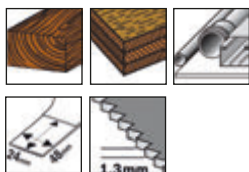


**HCS**

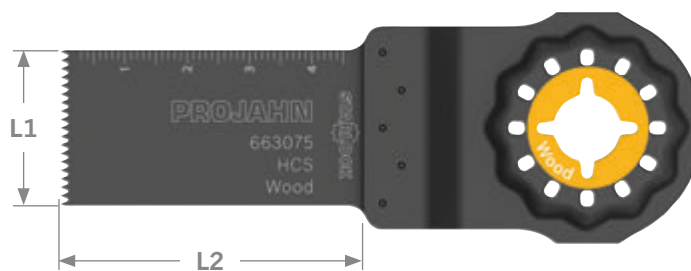


Single packaging with hanger

Saw type	Material	Ø mm	Tooth Pitch mm	Pc./PU	Art.-No.
Segment saw blade	HCS	85.0	1.4	1	66 302

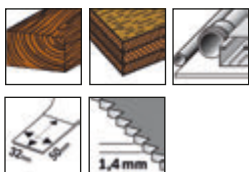


**HCS**

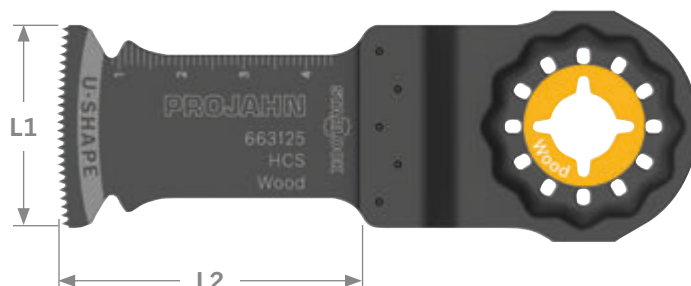


Pack of 5 with hanger

Saw type	Material	L1 mm	L2 mm	Tooth Pitch mm	Pc./PU	Art.-No.
Plunge saw blade	HCS	24	48	1.3	5	663 075



**HCS U-Shape**

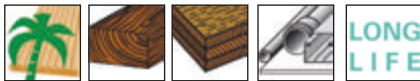


Pack of 5 with hanger  
Pack of 20 not hangable

Saw type	Material	L1 mm	L2 mm	Tooth Pitch mm	Pc./PU	Art.-No.
Plunge saw blade	HCS	32	50	1.4	5	663 125
Plunge saw blade	HCS	32	50	1.4	20	6 631 220

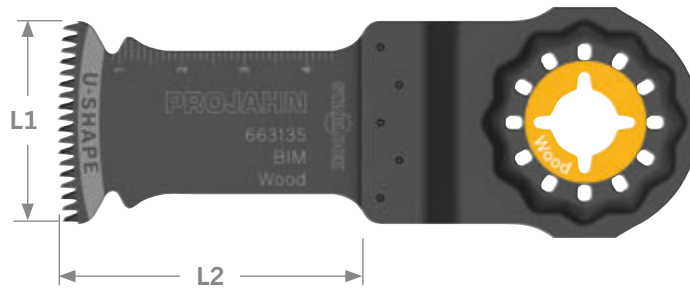
# 66300 | Starlock tool holder wood

Art.-Group 93



## BIM U-Shape

Pack of 5 with hanger  
Pack of 20 not hangable

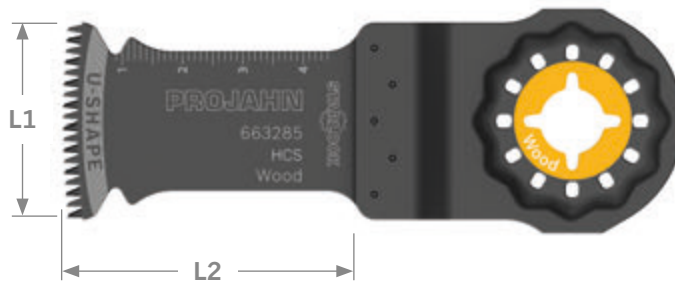


Saw type	Material	L1 mm	L2 mm	Tooth Pitch mm	Pc./PU	Art.-No.
Plunge saw blade	BIM	32	50	1.8	5	663 135
Plunge saw blade	BIM	32	50	1.8	20	6 631 320



## HCS U-Shape

Pack of 5 with hanger  
Pack of 20 not hangable

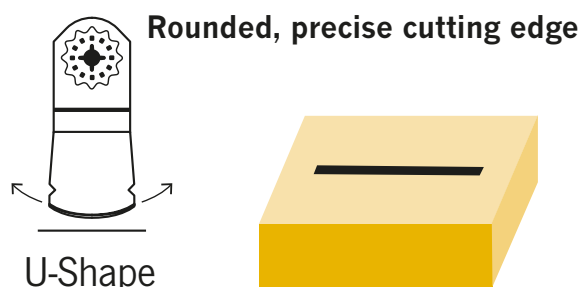
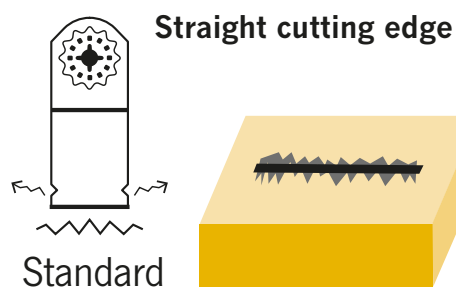
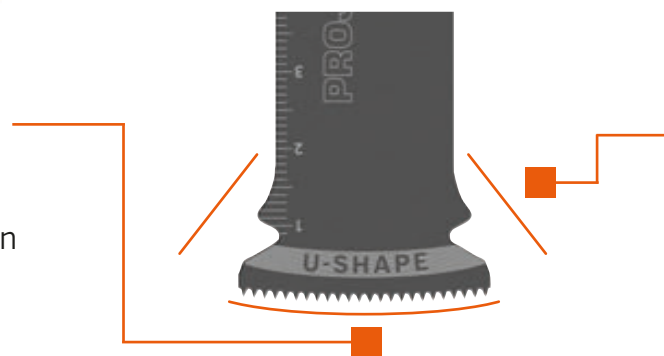


Saw type	Material	L1 mm	L2 mm	Tooth Pitch mm	Pc./PU	Art.-No.
Plunge saw blade	HCS	32	50	1.8	5	663 285
Plunge saw blade	HCS	32	50	1.8	20	6 632 820

# U-Shape

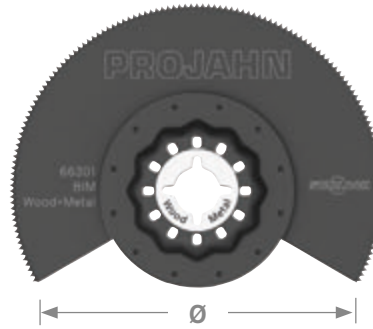
**Convex (rounded) cutting edges** for precise plunging into the material and a clean work result

**Tapered blade shape** reduces jamming during deep cuts



# 66300 | Starlock tool holder wood/metal

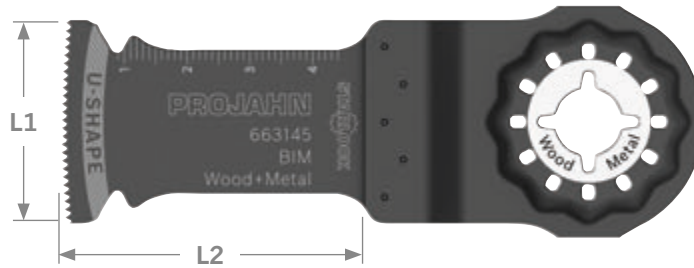
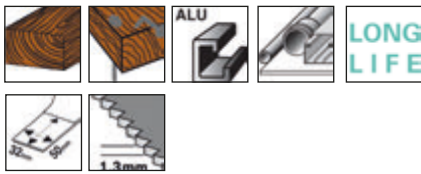
Art.-Group 93



**BIM**

Single packaging with hanger

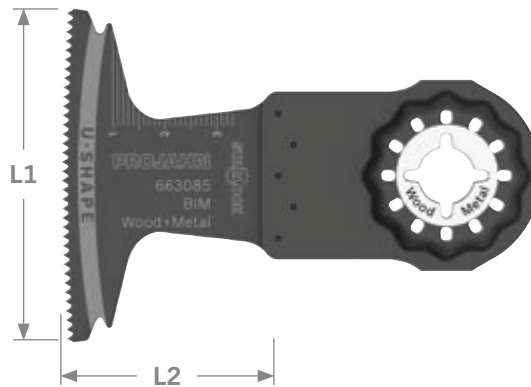
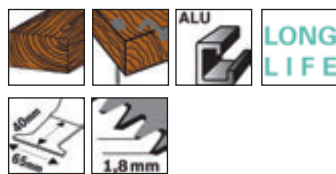
Saw type	Material	Ø mm	Tooth Pitch mm	Pc./PU	Art.-No.
Segment saw blade	BIM	85.0	1.4	1	66 301



**BIM U-Shape**

Pack of 5 with hanger  
Pack of 20 not hangable

Saw type	Material	L1 mm	L2 mm	Tooth Pitch mm	Pc./PU	Art.-No.
Plunge saw blade	BIM	32	50	1.3	5	663 145
Plunge saw blade	BIM	32	50	1.3	20	6 631 420



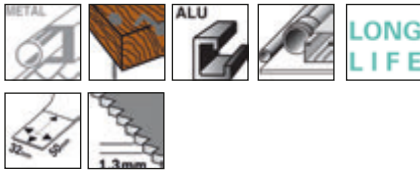
**BIM U-Shape**

Pack of 5 with hanger  
Pack of 20 not hangable

Saw type	Material	L1 mm	L2 mm	Tooth Pitch mm	Pc./PU	Art.-No.
Plunge saw blade	BIM	65	40	1.8	5	663 085
Plunge saw blade	BIM	65	40	1.8	20	6630820

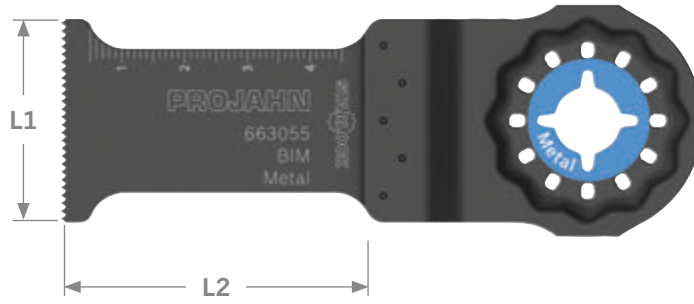
# 66300 | Starlock tool holder metal

Art.-Group 93

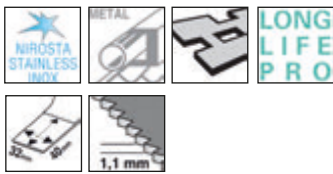


**BIM**

Pack of 5 with hanger  
Pack of 20 not hangable

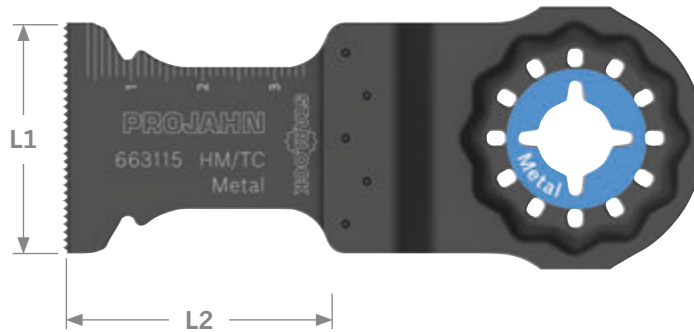


Saw type	Material	L1 mm	L2 mm	Tooth Pitch mm	Pc./PU	Art.-No.
Plunge saw blade	BIM	32	50	1.3	5	663 055
Plunge saw blade	BIM	32	50	1.3	20	6 630 520



**TC/HM**

Pack of 5 with hanger



Saw type	Material	L1 mm	L2 mm	Tooth Pitch mm	Pc./PU	Art.-No.
Plunge saw blade	TC / HM	32	40	1.1	5	663 115



**Art.-No. 663115 Page P 230**

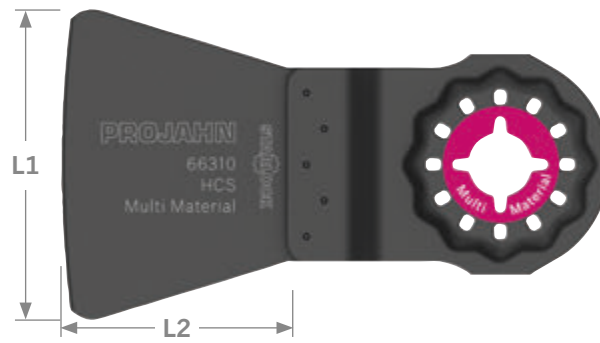


# 66300 | Starlock tool holder multi-material

Art.-Group 93

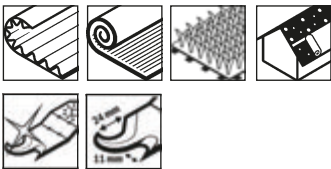


**HCS**

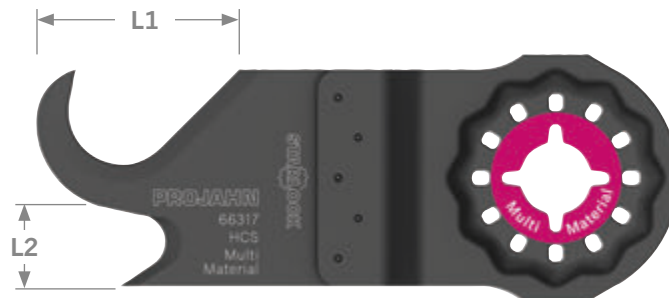


Single packaging with hanger

Saw type	Material	L1 mm	L2 mm	Pc./PU	Art.-No.
Scraper	HCS	52	38	1	66 310



**HCS**



Single packaging with hanger

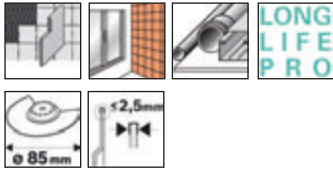
Saw type	Material	L1 mm	L2 mm	Pc./PU	Art.-No.
Universal knife	HCS	24	11	1	66 317



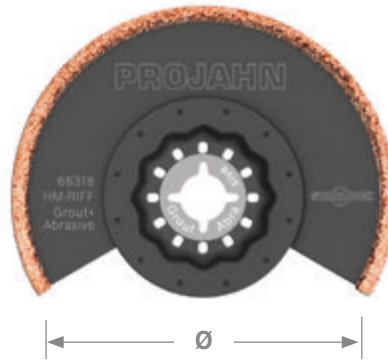
Art.-No. 66317 Page P 231

## 66300 | Starlock tool holder mortar

Art.-Group 93

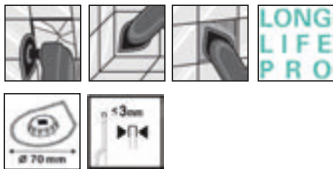


HM RIFF

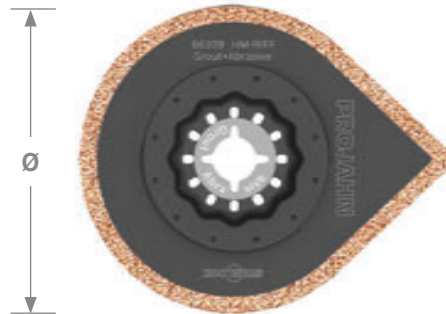


Single packaging with hanger

Saw type	Material	Ø mm	Pc./PU	Art.-No.
Grout remover	HM RIFF	85.0	1	66 318



HM RIFF



Single packaging with hanger

Saw type	Material	Ø mm	Pc./PU	Art.-No.
Grout remover	HM RIFF	70.0	1	66 309

## Accessory set for oscillating multitools

Art.-Group 93



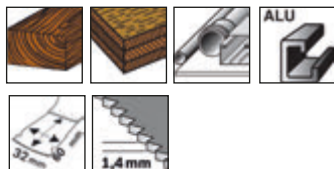
Content	Packaging	Art.-No.
1x Segment saw blade (66301) for wood & metal Ø 85 mm 2x Plunge saw blade (663145) for wood & metal U-Shape 32 mm 2x Plunge saw blade (663085) for wood & metal U-Shape 65 mm	5 pcs. in plastic box	66 399

# 66400 | Starlock Plus tool holder wood

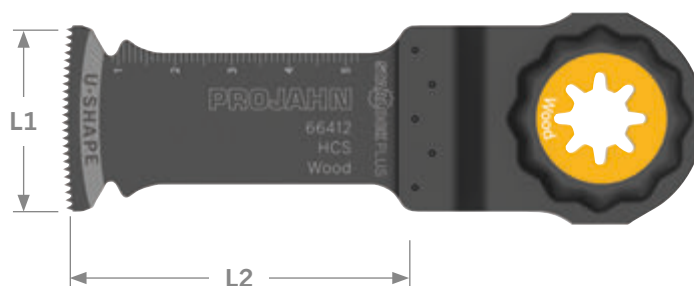
Art.-Group 93

## Oscillating multi tools

- ▶ The versatile multi-tools are particularly suitable for working in places that are hard to reach
- ▶ U-Shape saw blades with a rounded cutting edge ensure an optimal plunging behavior as well as clean and precise cuts
- ▶ Find the right tool for the material with the help of the color guide mark
- ▶ Quick one handed tool change in only three seconds



**HCS U-Shape**



Single packaging with hanger

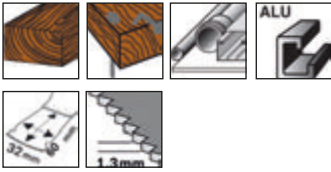
Saw type	Material	L1 mm	L2 mm	Tooth Pitch mm	Pc./PU	Art.-No.
Plunge saw blade	HCS	32	60	1.4	1	66 412



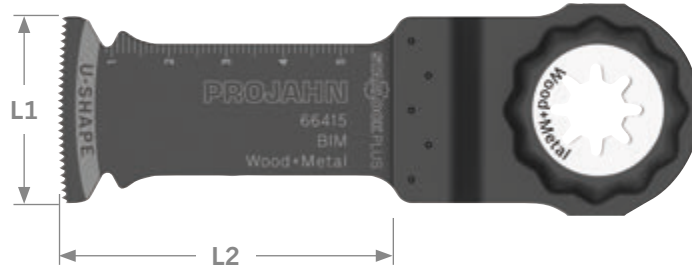
Art.-No. 663125 Page P 227

## 66400 | Starlock Plus tool holder wood/metal

Art.-Group 93



**BIM** U-Shape

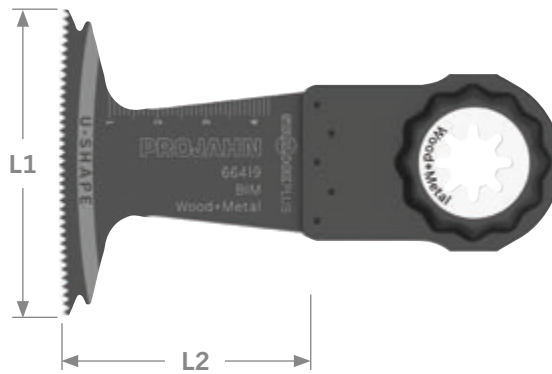


Single packaging with hanger

Saw type	Material	L1 mm	L2 mm	Tooth Pitch mm	Pc./PU	Art.-No.
Plunge saw blade	BIM	32	60	1.3	1	66 415



**BIM** U-Shape

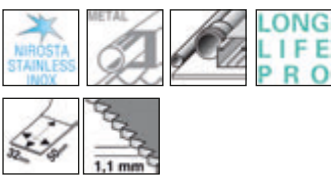


Single packaging with hanger

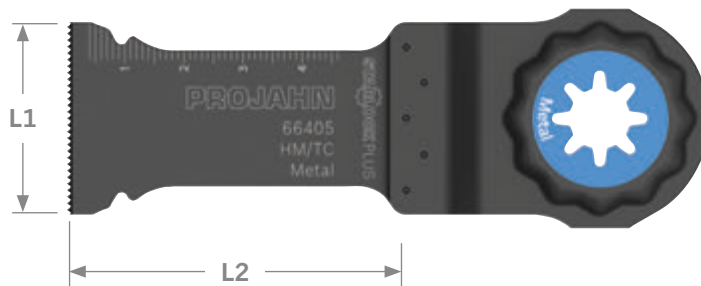
Saw type	Material	L1 mm	L2 mm	Tooth Pitch mm	Pc./PU	Art.-No.
Plunge saw blade	BIM	65	50	1.8	1	66 419

## 66400 | Starlock Plus tool holder metal

Art.-Group 93



**TC/HM**



Single packaging with hanger

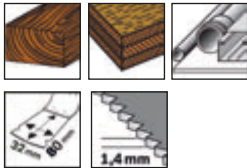
Saw type	Material	L1 mm	L2 mm	Tooth Pitch mm	Pc./PU	Art.-No.
Plunge saw blade	TC / HM	32	50	1.1	1	66 405

## 66500 | Starlock Max tool holder wood

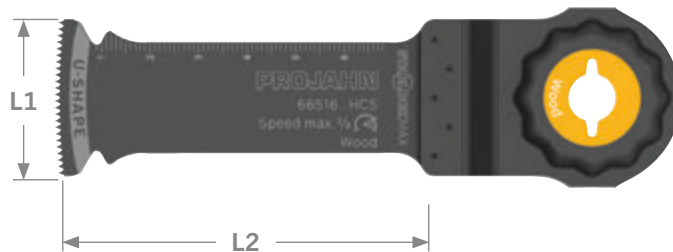
Art.-Group 93

### Oscillating multi tools

- ▶ The versatile multi-tools are particularly suitable for working in places that are hard to reach
- ▶ U-Shape saw blades with a rounded cutting edge ensure an optimal plunging behavior as well as clean and precise cuts
- ▶ Find the right tool for the material with the help of the color guide mark
- ▶ Quick one handed tool change in only three seconds



**HCS** U-Shape

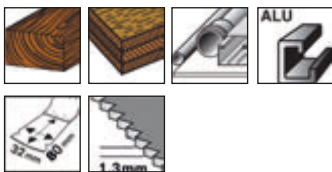


Single packaging with hanger

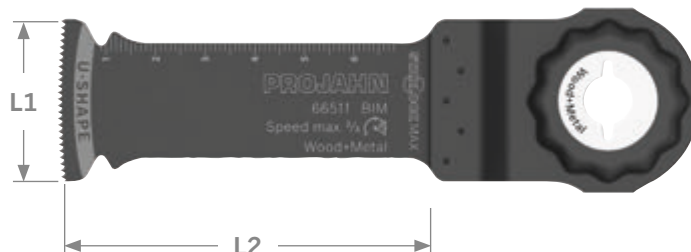
Saw type	Material	L1 mm	L2 mm	Tooth Pitch mm	Pc./PU	Art.-No.
Plunge saw blade	HCS	32	80	1.4	1	66 516*

## 66500 | Starlock Max tool holder wood/metal

Art.-Group 93



**BIM** U-Shape

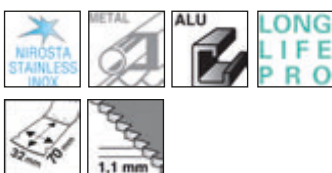


Single packaging with hanger

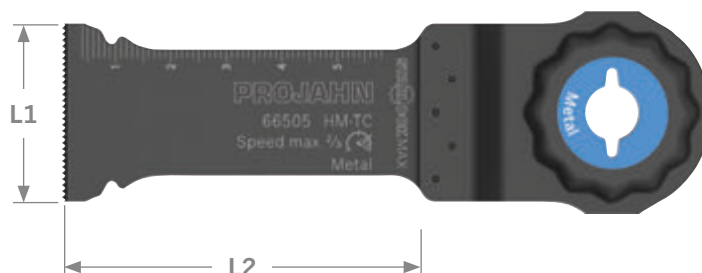
Saw type	Material	L1 mm	L2 mm	Tooth Pitch mm	Pc./PU	Art.-No.
Plunge saw blade	BIM	32	80	1.3	1	66 511*

## 66500 | Starlock Max tool holder metal

Art.-Group 93



**TC/HM**



Single packaging with hanger

Saw type	Material	L1 mm	L2 mm	Tooth Pitch mm	Pc./PU	Art.-No.
Plunge saw blade	TC / HM	32	70	1.1	1	66 505*

\* Delivery while stocks last

## 66500 | Starlock Max tool holder multi material

Art.-Group 93



**HCS**



Single packaging with hanger

Saw type	Material	Pc./PU	Art.-No.
Joint cutter	HCS	1	66 520*

## 66500 | Starlock Max tool holder mortar

Art.-Group 93



**HM RIFF**



Single packaging with hanger

Saw type	Material	Pc./PU	Art.-No.
Joint cutter	HM RIFF	1	66 523*

### Plunge saw blade with carbide teeth

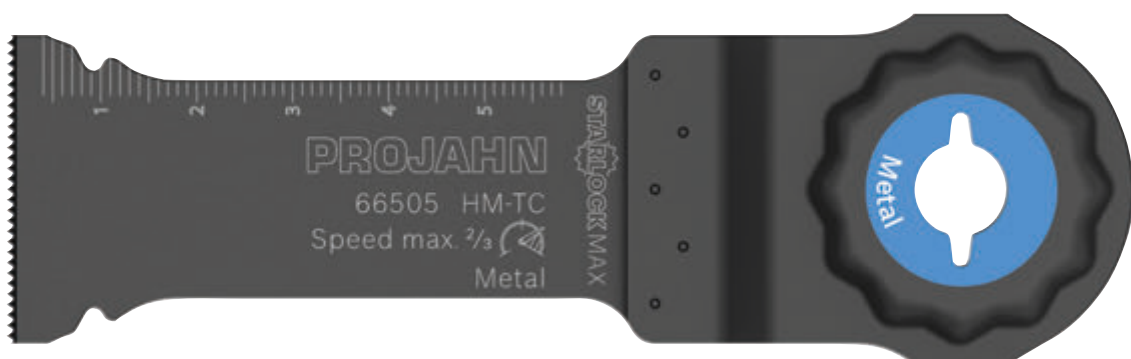
- ▶ 30x longer service life than bi-metal blades
- ▶ Suitable for stainless steel, sheet metal, abrasive materials such as fiberglass (GRP) and epoxy resin, hardened nails and screws

### Long Life Pro

- Carbide teeth for extra long life time
- Ideal for metalworking

### New Starlock tool holder

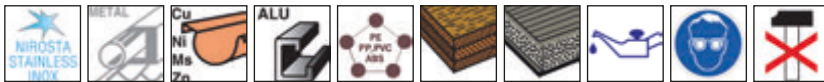
- For maximum power transmission and best work results
- Tool can be mounted in 30° steps - for flexible and efficient use



**Art.-No. 66505 Page P 235**

# 68000 | HSS-Co 8% bi-metal hole saw with Vario toothing

Art.-Group 22



- ▶ Bi-metal hole saws with 8% cobalt alloyed **Vario toothing**
- ▶ Vario toothing 4-6 tpi (teeth per inch), for rapid sawing progress
- ▶ Positive tooth angle
- ▶ **38 mm cutting depth**
- ▶ Specially alloyed tool steel body with solid ground
- ▶ Sawing with low vibration
- ▶ High durability
- ▶ Designed to drill: clean, circular and precise holes in wood, gypsum board, plastics, non-ferrous metals, aluminum, steel and stainless steel (V2A and V4A) thicker than 1 mm

Single packaging with hanger

Ø mm	Ø Inch	Art.-No.
14.0	9/16"	68 014
16.0	5/8"	68 016
17.0	11/16"	68 017
19.0	3/4"	68 019
20.0	25/32"	68 020
21.0	13/16"	68 021
22.0	7/8"	68 022
23.0	7/8"	68 023
24.0	15/16"	68 024
25.0	1"	68 025
27.0	1 1/9"	68 027
29.0	1 1/8"	68 029
30.0	1 1/5"	68 030
32.0	1 1/4"	68 032
33.0	1 1/3"	68 033
35.0	1 3/8"	68 035
37.0	1 4/9"	68 037
38.0	1 1/2"	68 038
40.0	1 5/9"	68 040
41.0	1 5/8"	68 041
43.0	1 1/9"	68 043
44.0	1 3/4"	68 044
46.0	1 4/5"	68 046
48.0	1 7/8"	68 048
51.0	2"	68 051
52.0	2 1/9"	68 052
54.0	2 1/8"	68 054
57.0	2 1/4"	68 057
58.0	2 2/7"	68 058
59.0	2 1/3"	68 059
60.0	2 3/8"	68 060
64.0	2 1/2"	68 064

Ø mm	Ø Inch	Art.-No.
65.0	2 5/9"	68 065
67.0	2 5/8"	68 067
68.0	2 2/3"	68 068
70.0	2 3/4"	68 070
73.0	2 7/8"	68 073
74.0	2 7/8"	68 074
76.0	3"	68 076
79.0	3 1/8"	68 079
80.0	3 3/20"	68 080
83.0	3 1/4"	68 083
86.0	3 3/8"	68 086
89.0	3 1/2"	68 089
92.0	3 5/8"	68 092
95.0	3 3/4"	68 095
98.0	3 7/8"	68 098
102.0	4"	68 102
105.0	4 1/8"	68 105
108.0	4 1/4"	68 108
111.0	4 3/8"	68 111
114.0	4 1/2"	68 114
121.0	4 3/4"	68 121
127.0	5"	68 127
133.0	5 1/4"	68 133
140.0	5 1/2"	68 140
146.0	5 3/4"	68 146
152.0	6"	68 152
160.0	6 1/3"	68 160
168.0	6 2/3"	68 168
178.0	7"	68 178
200.0	7 7/8"	68 200
210.0	8 1/4"	68 210

# Sets

Art.-Group 22



68 902



68 903



68 904



68 905



68 907



68 911



68 912



68 914



68 913

Content	Packaging	Art.-No.
Ø 22 - 35 - 51 - 57 - 68 - 76 mm including Quick-Lock adapter 14 - 30 mm and 32 - 210 mm 2x HSS centering drill bits and 1x hex key	8 pcs. in plastic case	68 902
Ø 16 - 20 - 25 - 32 - 40 - 51 - 64 mm including Quick-Lock adapter 14 - 30 mm and 32 - 210 mm 2x HSS centering drill bits and 1x hex key	9 pcs. in plastic case	68 903
Ø 19 - 25 - 32 - 38 - 44 - 57 - 68 mm 2 x hexagonal adapter including Quick-Lock adapter 14 - 30 mm and 32 - 210 mm 2x HSS centering drill bits and 1x hex key	9 pcs. in plastic case	68 904
Ø 19 - 22 - 29 - 32 - 35 - 44 - 54 - 68 mm 2 x hexagonal adapter including Quick-Lock adapter 14 - 30 mm and 32 - 210 mm 2x HSS centering drill bits and 1x hex key	10 pcs. in plastic case	68 905
Ø 22 - 29 - 35 - 44 - 51 - 64 - 73 - 76 mm including Quick-Lock adapter 14 - 30 mm and 32 - 210 mm 2x HSS centering drill bits and 1x hex key	10 pcs. in plastic case	68 907
Ø 19 - 22 - 25 - 29 - 32 - 35 - 43 - 51 - 54 - 60 - 64 - 74 mm including Quick-Lock adapter 14 - 30 mm and 32 - 210 mm 2x HSS centering drill bits and 1x hex key	14 pcs. in plastic case	68 911
Ø 19 - 22 - 25 - 29 - 32 - 35 - 44 - 51 - 57 - 60 - 68 - 76 mm including Quick-Lock adapter 14 - 30 mm and 32 - 210 mm 2x HSS centering drill bits and 1x hex key	14 pcs. in plastic case	68 912
Ø 19 - 20 - 22 - 25 - 27 - 30 - 32 - 35 - 40 - 44 - 51 - 60 - 68 mm 1x Quick change adapter and 1x HSS centering drill bit including 13 connecting pieces	14 pcs. in plastic case	68 914
Ø 19 - 20 - 22 - 25 - 27 - 29 - 30 - 32 - 35 - 40 - 44 - 51 - 54 - 60 - 68 - 76 - 83 mm 1x Quick change adapter and 1x HSS centering drill bit including 17 connecting pieces	18 pcs. in plastic case	68 913



## 68000 | Quick-Lock adapter

► All adapters including HSS-G centering drill bit 90 mm

Art.-Group 22

Single packaging with hanger

Size mm	Description	Art.-No.
14-30	Hexagonal adapter - AF 9	68 401
32-210	Hexagonal quick release adapter - AF 9	68 402
32-210	Hexagon quick release adapter - AF 11	68 403
14-30	SDS-plus Adapter	68 411
32-210	SDS-plus quick release adapter	68 412



## 68000 | Centering drill bits and extensions

Single packaging with hanger

Art.-Group 22

Length mm	Description	Art.-No.
90	HSS centering drill bit for bi-metal hole saws Ø 6.35 mm	68 008
300	Extension AF 11 (drill chuck) to AF 9 (adapter)	68 305
305	Extension AF 9 to AF 9	68 306
305	Extension AF 11 to AF 11	68 307



## 68000 | Quick change adapter and connection pieces

► Hole saw change in seconds by pushing the button  
► Only one adapter for all hole saw diameters

► Adapter with centering drill bit HSS and two connection pieces  
14-30 mm + 32-210 mm

Art.-Group 22

Single packaging with hanger

Size mm	Description	Art.-No.
14-210	Quick change adapter hexagon AF 8.5	68 301
14-210	Quick change adapter hexagon AF 11	68 302
14-210	Quick change adapter SDS-plus	68 303
14-30	Connection piece for hole saws (1 piece)	79 426
14-30	Connection piece for hole saws (5 pieces)	79 427
32-210	Connection piece for hole saws (1 piece)	79 428
32-210	Connection piece for hole saws (5 pieces)	79 429



79427  
79429



## 68000 | Centering drill bit for quick change adapter

Single packaging with hanger

Art.-Group 22

Length mm	Description	Art.-No.
105	Centering drill bit HSS for quick change adapter Ø 6.35 mm	68 304



# Application instructions for HSS-Co 8% bi-metal hole saws



- ▶ Please always use the hole saw at the specified speed. Sawing too fast heats up the hole saw and reduces the service life (tooth breakage or grinding of the teeth)
- ▶ Please do not use the hole saws with too high contact pressure
- ▶ Please note that the center drill bit always protrudes approx. 3 mm above the tooth tips - but not more than the thickness of the material to be sawn
- ▶ Please always use sufficient cutting oil (except for cast steel), this will extend the tool life enormously and will lead to a clean cut
- ▶ Please connect the hole saw firmly with the pick-up tool and the drilling machine
- ▶ Always hold the hole saw straight on the surface of the material. Never use it at an angle!
- ▶ Screw the centering drill bit tightly into the holding tool
- ▶ Always use eye protection and a hair protection if you have long hairs

## Rotation speed specifications for HSS-Co 8% bi-metal hole saws

Ø mm	Mild steel	VA Steel	Cast steel	Brass	Aluminum
14	550	300	400	790	900
16	530	275	365	730	825
17	500	250	330	665	750
19	460	230	300	600	690
20	445	220	290	580	660
21	425	210	280	560	630
22	390	195	260	520	585
23	380	190	250	510	560
24	370	185	245	495	545
25	350	175	235	470	525
27	325	160	215	435	480
29	300	150	200	400	450
30	285	145	190	380	425
32	275	140	180	360	410
33	260	135	175	345	390
35	250	125	165	330	375
37	240	120	160	315	360
38	230	115	150	300	345
40	220	110	145	290	330
41	210	105	140	280	315
43	205	100	135	270	305
44	195	95	130	260	295
46	190	95	125	250	285
48	180	90	120	240	270
51	170	85	115	230	255
52	165	80	110	220	245
54	160	80	105	210	240
57	150	75	100	200	230
58	150	75	100	200	230
59	145	75	100	195	225
60	140	70	95	190	220
64	135	70	90	180	205

Ø mm	Mild steel	VA Steel	Cast steel	Brass	Aluminum
65	130	65	85	175	200
67	130	65	85	170	195
68	130	65	85	165	190
70	125	60	80	160	185
73	120	60	80	160	180
74	120	60	80	160	180
76	115	55	75	150	170
79	110	55	70	145	165
80	110	55	70	145	165
83	105	50	70	140	155
86	100	50	65	130	150
89	95	45	65	125	145
92	95	45	60	120	140
95	90	45	60	120	135
98	90	45	60	115	130
102	85	40	55	115	125
105	85	40	55	110	120
108	80	40	55	110	115
111	80	40	50	100	110
114	75	35	50	100	105
121	70	35	45	90	95
127	65	30	40	85	90
133	60	30	35	80	85
140	60	30	35	80	85
146	55	25	35	75	80
152	55	25	35	75	80
160	50	25	35	70	75
168	50	25	35	70	70
178	45	20	30	65	65
200	40	20	30	55	60
210	40	20	30	55	60



# Manufacturer comparisons of jigsaw blades

<b>PROJAHN</b>		<b>AEG</b>	<b>BOSCH</b>	<b>FESTOOL</b>	<b>LENOX</b>	<b>MAKITA</b>	<b>METABO</b>	<b>MILWAUKEE</b>	<b>WILPU</b>	<b>DEWALT</b>
Art.-No.	Page									
63101	P 202	254071	T111C		410S	B13/A85656	23632	48-42-5220	HG 13	
63204	P 207	399307	T318A				23629		MG 31	DT2085
63222	P 200	373390	T101BF	S75/2.5 bi		P31594	23975	48-42-5311	HC 12 bi	DT2080
63227	P 205		T345XF			P49638	23677		MGL 1014 bi	DT2059
63111	P 202	213116	T144D	S75/4	406S	B16/A85684	23633	48-42-5421	HGS 14	DT2166
63112	P 203	346078	T244D	S75/4K	416SC	B17/A85690	23649	48-42-5512	HGS 24	DT2077
63113	P 203	311633	T344D	S105/4		L2/P06454	23678		HGS 34	
63114	P 200	354745	T744D		686S	A86315	23603		HGS 54	DT2169
63120	P 203		T234X			B50/B-06460	23675	430141	HC 123	
63121	P 200	373083	T101AIF			P31566	23948		HC 19 R BI	
63122	P 200	254061	T101B	S75/2.5	450S	B11/A85634	23634	48-42-5240	HC 12	DT2165
63123	P 201	399306	T301CD			B10/A85628	23654		HC 33	
63124	P 201	274351	T101D		456S	B12/A85640	23635	48-42-5500	HC 14	DT2164
63125	P 201	373080	T101DP	S75/4FS			23655		HC 14 D	DT2049
63126	P 204	373392	T101AO	S50K/1.4	320SC		23695	48-42-5385	HC 12 K	
63127	P 204	274650	T119BO		BT 318 SC	B18/A85709	23646	48-42-5640	HW 12 K	DT2050
63201	P 205	254063	T118A			B22/A85737	23637		MG 11	
63202	P 207	254064	T118B			B23/A85743	23638	48-42-5101	MG 12	DT2161
63203	P 207	346082	T218A			B27/A85787	23647		MG 21	
63211	P 205	340011	T118AF	HS60/1.2BI	318S/324S	P47226	23971	48-42-5161	MG 11 bi	DT2150
63212	P 206	274654	T318AF	HS105/1.2BI	518S	P47204	23978	48-42-5166	MG 31 bi	
63213	P 206	373086		HS155/1.2BI		P49644	23604		MG 51 bi	
63215	P 206	274651	T101A			B21/A85721	23640		MC 12 bi	
63216	P 208	340014	T345XF	HS75/3bi			23974	48-42-5850	K 14 bi	
63217	P 210	373393	T118AHM			P-05929	23662		HM 11	DT2101
63218	P 209					P45733			ST 006 bi	
63219	P 209					P45749			STL 007 bi	
63221	P 206		T111HF		340SV	P49622	23949	48-42-5310	MG 1014 bi	
63223	P 201	346079	T101BR		450SR	B19/A85715	23650	48-42-5540	HC 12 R	DT2053
63224	P 202	373389							HC 12 D	
63225	P 202	265312				P31572			HGS 24 DV	
63226	P 207	274315	T127D			B25/A85765	23639		K 14	
63229	P 205	346081	T227D			B26/A85771	23648		K 24	
63235	P 209		T313AW	S155/W			23684		HWL 54	
63236	P 203	373391	T144DF	S75/4BI		P31588	23976	48-42-5300	HGS 14 bi	DT2166
63301	P 210	213231	T130Riff		300SG	P38788	23657	48-42-5801	D 1	DT2102
63306	P 210	399308	T141HM	HM75/4.5		P38766	23652		HM 100	DT2103

Technical data may deviate

# Manufacturer comparisons of saber saw blades



PROJAHN		AEG	BOSCH	FESTOOL	LENOX	MAKITA	METABO	MILWAUKEE	WILPU	DEWALT
Art.-No.	Page									
64101	P 211	323800	S644D		656R	P47086	31470	48-00-1075	3021/150	DT2351
64102	P 212		S2345X	SR 130/6F		P47101			3023/150	
64106	P 211	323803	S1531L	SR 220/45		P47117	31488	48-00-1077	3029/240	
64107	P 212								3039/300	
64108	P 212	323804	S1542K			P47123	31490	48-00-1078	3035/240	
64111	P 211	323802	S1344D		156R	P05016	31472	48-00-1079	3021/300	DW4804
64201	P 211	354776	S611VF	HSR 130/58 bi	656R	P47139	31984	48-00-5031	58 C/150	
64211	P 215								3016/150	
64212	P 215		S 123 XF						3016/225	
64213	P 215								3016/280	
64222	P 216	354792	S922EF	HSR 130/18bi	618R	P04880	31454	48-00-5184	3014/150	DT2346/DT2384
64223	P 216	354793	S1122EF	HSR 180/18bi	818R	P04933	31493		3014/200	DT2354
64232	P 216	354789	S922BF	HSR 130/14bi	614R	P04911	31491	48-00-5182	3013/150	DW4808
64233	P 216	361345	S1122BF	HSR 180/14bi	814R	P04927	31494		3013/200	DT2353
64234	P 217	354790						48-00-5187	3013/250	DW4838
64235	P 214					P47064			810 F/150	
64236	P 213		S936BEF		6114R/6110R			48-00-5782	3056/150	DW4864
64237	P 213		S1136BEF		9114R/9110R			48-00-5787	3056/225	DW4865
64238	P 214				12114R/1210R			48-00-5789	3056/300	DW4870
64239	P 212		S1110VF					48-00-5027	3058/300	
64241	P 213		S1120CF	HSR 205/10bi	960R	P46975	31993	48-00-5705	3050/225	
64242	P 217	318127	S922HF	HSR 130/10bi	610R	P46997		48-00-5092	3018/150	DW4806
64243	P 217		S1122HF	HSR 180/10bi	810R	P47008	31932		3018/200	
64248	P 213	373244	S1110DF	HSR 205/6bi	966R	P47042	31926	48-00-5026	3055/225	DW4863
64252	P 214		S922VF	HSR 130/1014bi	650R	P47014	31492	48-00-5081	1014 C/150	DW4845
64253	P 214	361224			850R	P47020		48-00-5083	1014 C/200	DW4846
64254	P 215		S1222VF		110R		31407		1014 C/280	
64262	P 220								006/150 bi	
64272	P 220								007/150 bi	
64273	P 220								007/200 bi	
64296	P 221							49-32-471693	3026/275	
64303	P 218	373386	S1130Riff	HMR 210G	100RG		31818	48-00-1430	D12/230	
64306	P 218								RWM 500 DS	
64307	P 218								RWM 300	
64308	P 219	373027	S1211K			P45680		48-00-1082	INOX 300	
64309	P 219	373028				P45705		48-00-1083	INOX 400	
64311	P 219		S1243HM			B-10394	31917		3048/305 HM	
64312	P 219		S2243HM			B-10403	31918		3048/455 HM	
64313	P 218		S1241HM			P47167	31146		3041/300 HM	
64315	P 219		S1243HM			P46648	31917		3043/300 HM	
64316	P 219		S2243HM			P46654	31918		3043/450H HM	
64321	P 222		S955CHM			B-49834		48-00-5201	3049/150 HM	
64322	P 222		S1155CHM			B-49840		48-00-5202	3049/225 HM	
64401	P 221								3014/150 PC	
64402	P 221								3014/225 PC	
64403	P 222								3019/225 PC	
64410	P 221								007 DS/240 bi	

Technical data may deviate

# MEASURING TOOLS



# 2976-000 | Spirit level with vertical mirror vial



- ▶ Two solid UV-resistant vials, incl. one patented „Plumb Site Dual View“ vertical vial
- ▶ Easy frontal reading of the vertical vial, even at narrow spaces
- ▶ Accurate measurement results even with long lengths
- ▶ Tolerance: 0.5 mm/m
- ▶ Robust tool
- ▶ 1.5 mm profile strength
- ▶ Shock-absorbing end caps prevent damage when falling down
- ▶ Long lifetime

Single packaging for hanging

Length cm	Art.-No.	Length cm	Art.-No.	Length cm	Art.-No.
30	2976-030	80	2976-080	150	2976-150
40	2976-040	100	2976-100	180	2976-180
60	2976-060	120	2976-120	200	2976-200



„Plumb Site Dual View“  
vertical vial

Easy to read even at narrow  
places

# 2976-001 | Spirit level with vertical mirror vial and magnets

Art.-Group 94



- ▶ Easy to work with because spirit level holds magnetically on metallic surfaces
- ▶ Two solid UV-resistant vials, incl. one patented „Plumb Site Dual View“ vertical vial
- ▶ Easy frontal reading of the vertical vial, even at narrow spaces
- ▶ Accurate measurement results even with long lengths
- ▶ Tolerance: 0.5 mm/m
- ▶ Robust tool
- ▶ 1.5 mm profile strength
- ▶ Shock-absorbing end caps prevent damage when falling down
- ▶ Long lifetime

Single packaging for hanging

Length cm	Art.-No.	Length cm	Art.-No.	Length cm	Art.-No.
30	2976-031	60	2976-061	100	2976-101
40	2976-041	80	2976-081		



Magnets



## 2975-000 | Spirit level

Art.-Group 94



- ▶ Two solid UV-resistant vials for horizontal and vertical measurement
- ▶ Tolerance: 0.5 mm/m for accurate measurement results
- ▶ Accurate measurement results even with long lengths
- ▶ 1.0 mm profile strength
- ▶ Shock-absorbing end caps prevent damage when falling down

Single packaging for hanging

Length cm	Art.-No.	Length cm	Art.-No.	Length cm	Art.-No.
30	2975-030	80	2975-080	150	2975-150
40	2975-040	100	2975-100	180	2975-180
60	2975-060	120	2975-120	200	2975-200

## 2975-010 | Mini spirit level 10 cm

Art.-Group 94



2975-011

- ▶ 10 cm Mini spirit level - perfect size for pockets
- ▶ Ideal for switch and socket inserts
- ▶ Shock-absorbing end caps prevent damage when falling down
- ▶ Tolerance: 0.5 mm/m for accurate measurement results

Single

Description	Length cm	Pc./PU	Art.-No.
Mini spirit level	10	1	2975-010
Display with 10x 2975-010	10	10	2975-011

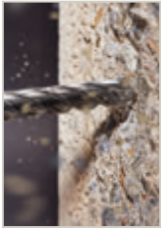


# SETS



# Sets

---



## Sets from our range stone

P 249 – P 255



Art.-Group 47



## Sets from our range steel

P 256 – P 273



Art.-Group 16



## Sets from our range thread

P 274 – P 279



Art.-Group 34

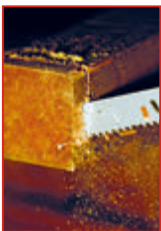


## Sets from our range wood

P 280 – P 283



Art.-Group 19



## Sets from our range saws

P 284 – P 287

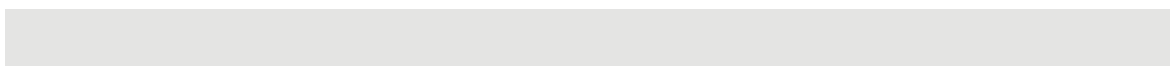


Art.-Group 33



## Empty boxes, sales cabinets and tools with hexagonal shank

P 288 – P 291



Art.-Group 16/69

## ROCKET 5 hammer drill bit set SDS-plus 7-pcs.



Art-Group 47

Ø 5 - 6 - 8 x 110/50 mm  
 Ø 6 - 8 - 10 x 160/100 mm  
 Ø 12 x 160/110 mm



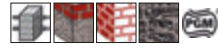
Packaging

Art.-No.

7 pcs. in plastic box

83 744

## ROCKET 5 hammer drill bit set SDS-plus 7-pcs.



Art-Group 47

Ø 5 - 6 - 8 x 110/50 mm  
 Ø 6 - 8 - 10 x 160/100 mm  
 Ø 12 x 160/110 mm



Packaging

Art.-No.

7 pcs. in metal box

83 044

## ROCKET 5 hammer drill bit set SDS-plus 5-pcs.



Art-Group 47

Ø 6 x 110/50 mm  
 Ø 6 - 8 - 10 x 160/100 mm  
 Ø 12 x 160/110 mm



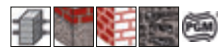
Packaging

Art.-No.

5 pcs. in plastic box

99 953

## ROCKET 5 hammer drill bit set SDS-plus 3-pcs.



Art-Group 47

Ø 6 - 8 - 10 x 160/100 mm



Packaging

Art.-No.

3 pcs. in plastic box

99\_954

## ROCKET 5 hammer drill bit set SDS-plus 40-pcs.



Art-Group 47

5x each  
 Ø 6 x 110/50 mm  
 Ø 6 - 8 - 10 x 160/100 mm  
 Ø 12 x 160/110 mm  
 Ø 8 - 10 x 210/150 mm  
 Ø 12 x 210/160 mm



Packaging

Art.-No.

40 pcs. in metal case

83 040

## ROCKET 5 hammer drill bit set SDS-plus 5-pcs.



Art-Group 47

Ø 6 x 110/50 mm  
 Ø 6 - 8 - 10 x 160/100 mm  
 Ø 12 x 160/110 mm



Packaging

Art.-No.

5 pcs. in plastic box

83 046

## ROCKET 3 hammer drill bit set SDS-plus 7-pcs.



Art.-Group 47

Ø 5 - 6 - 8 x 110/50 mm  
 Ø 6 - 8 - 10 x 160/100 mm  
 Ø 12 x 160/110 mm


**7**  
PIECES

P 22



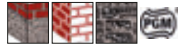
## Packaging

7 pcs. in plastic box

## Art.-No.

83 730

## ROCKET 3 hammer drill bit set SDS-plus 7-pcs.



Art.-Group 47

Ø 5 - 6 - 8 x 110/50 mm  
 Ø 6 - 8 - 10 x 160/100 mm  
 Ø 12 x 160/110 mm


**7**  
PIECES

P 22



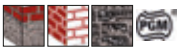
## Packaging

7 pcs. in metal box

## Art.-No.

83 300

## ROCKET 3 hammer drill bit set SDS-plus 5-pcs.



Art.-Group 47

Ø 6 x 110/50 mm  
 Ø 6 - 8 - 10 x 160/100 mm  
 Ø 12 x 160/110 mm


**5**  
PIECES

P 22



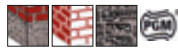
## Packaging

5 pcs. in plastic box

## Art.-No.

83 045

## ROCKET 3 hammer drill bit set SDS-plus 50-pcs.



Art.-Group 47

5x each  
 Ø 6 x 110/50 mm  
 Ø 10 x 160/100 mm  
 Ø 12 x 160/110 mm  
 Ø 8 - 10 x 210/150 mm  
 Ø 12 x 210/160 mm

10x each  
 Ø 6 - 8 x 160/100 mm


**50**  
PIECES

P 22



## Packaging

50 pcs. in metal case

## Art.-No.

83 041

## ECO hammer drill bit and chisel set SDS-plus 6-pcs.



Art.-Group 47

Rotary hammer drill bit SDS-plus  
 Ø 6 - 8 - 10 x 160/100 mm  
 Ø 12 x 160/110 mm

Pointed chisel SDS-plus  
 Length 140 mm

Flat chisel SDS-plus  
 140 mm x 20 mm


**6**  
PIECES

P 24



## Packaging

6 pcs. in metal box

## Art.-No.

83 841

## ECO hammer drill bit set SDS-plus 50-pcs.



Art.-Group 47

5x each  
 Ø 6 x 110/50 mm  
 Ø 10 - 12 x 160/100 mm  
 Ø 8 - 10 - 12 x 210/150 mm

10x each  
 Ø 6 - 8 x 160/100 mm


**50**  
PIECES

P 24



## Packaging

50 pcs. in metal case

## Art.-No.

83 042

## ECO hammer drill bit and chisel set 17-pcs.



Rotary hammer drill bit SDS-plus  
 Ø 5 - 6 - 8 - 10 x 110/50 mm  
 Ø 6 - 8 - 10 - 12 x 160/100 mm  
 Ø 8 - 10 x 210/150 mm  
 Ø 12-14 x 260/200 mm

Pointed chisel SDS-plus  
 Length 250 mm  
 Length 140 mm  
 Flat chisel SDS-plus  
 250 mm x 20 mm  
 140 mm x 20 mm  
 Spade chisel SDS-plus  
 250 mm x 40 mm

**17**  
PIECES

P 24 + P 61



**Packaging**

17 pcs. in metal case

Art.-Group 47



Art.-No.

99 982

## ECO hammer drill bit set SDS-plus 5-pcs.



Ø 5 - 6 x 110/50 mm  
 Ø 6 - 8 - 10 x 160/100 mm

Art.-Group 47



**5**  
PIECES

P 24



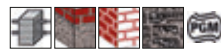
**Packaging**

5 pcs. in plastic box

Art.-No.

830 452

## ROCKET 5 hammer drill bit set SDS-max 3-pcs.



Ø 20 x 520/400 mm  
 Ø 25 x 520/400 mm  
 Ø 35 x 570/450 mm

Art.-Group 47



**3**  
PIECES

P 19



**Packaging**

3 pcs. in plastic box

Art.-No.

99 960

## ECO hammer drill bit set SDS-max 3-pcs.



Ø 16 x 540/400 mm  
 Ø 20 x 540/400 mm  
 Ø 25 x 540/400 mm

Art.-Group 47



**3**  
PIECES

P 25



**Packaging**

3 pcs. in plastic box

Art.-No.

80 002

## Hollow core bit set with SDS-plus shank 3-pcs.



1x hollow core bit  
 1x SDS-plus to M16 shank length 105 mm  
 1x center drill bit - length 110 mm

Art.-Group 47



**3**  
PIECES

P 34



**Packaging**

3 pcs. in plastic box

Ø mm

Art.-No.

3 pcs. in plastic box

68.0

81\_501

3 pcs. in plastic box

82.0

81\_502



## Hollow core bit set with SDS-plus shank 3-pcs.



Art.-Group 47

- 1x hollow core drill bit
- 1x shank SDS-plus to M22 length 110 mm
- 1x center drill bit - length 110 mm



Packaging	Ø mm	Art.-No.
3 pcs. on clip	68.0	54 166
3 pcs. on clip	82.0	54 180

## Hollow core bit set with SDS-plus shank 6-pcs.



Art.-Group 47

- Hollow core drill bits Ø 68 mm and Ø 82 mm
- SDS-plus shank to M22 length 110 mm
- Hexagonal shank to M22 length 110 mm
- 2x center drill bit - length 110 mm



Packaging	Art.-No.
6-pcs. in plastic case	54 100

## Diamond drill bit set hex shank 3-pcs.



Art.-Group 47

- Diamond drill bits with self-cooling
- Ø 6 - 8 - 10 mm



Packaging	Art.-No.
3 pcs. in plastic box	59 801

## Diamond drill bit set M14 threaded shank 4-pcs.



Art.-Group 47

- Diamond drill bits with self-cooling
- Ø 6 - 8 - 10 - 12 mm



Packaging	Art.-No.
4 pcs. in plastic box	59 802

## Diamond drill bit set 3-in-1 hex shank 7-pcs.



Art.-Group 47

- Diamond drill bits with self-cooling
- Ø 6 - 8 - 10 mm
- Concrete drill bits
- Ø 6 - 8 - 10 mm
- Centering aid
- for Ø 4 - 6 - 8 - 10 - 12 mm



Packaging	Art.-No.
7 pcs. in plastic box	59 803

## Diamond drill bit set 2-in-1 M14 threaded shank 9-pcs.



Art.-Group 47

- Diamond drill bits with self-cooling
- Ø 6 - 8 - 10 - 14 mm
- Concrete drill bits
- Ø 6 - 8 - 10 - 14 mm
- Adapter from hex shank to M14 threaded shank



Packaging	Art.-No.
9 pcs. in plastic box	59 401

PROFESSIONAL PLUS STANDARD

SuperSchlag

# SuperSchlag drill bit set straight shank 6-pcs.



Art.-Group 47

Masonry and concrete drill bits  
1x Ø 5 - 8 - 10 - 12 mm  
2x Ø 6 mm



Packaging Art.-No.  
6 pcs. in plastic box 57 501

PROFESSIONAL PLUS STANDARD

SuperSchlag

# SuperSchlag drill bit set straight shank 4-pcs.



Art.-Group 47

Masonry and concrete drill bits  
Ø 5 - 6 - 8 - 10 mm



Packaging Art.-No.  
4 pcs. in plastic box 57 502

PROFESSIONAL PLUS STANDARD

PRODUR

# PRODUR concrete drill bit set straight shank 4-pcs.



Art.-Group 47

Ø 5 - 6 - 8 - 10 mm



Packaging Art.-No.  
4 pcs. in plastic box 55 001

PROFESSIONAL PLUS STANDARD

ECO

# ECO masonry drill bit set straight shank 8-pcs.



Art.-Group 47

Ø 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 mm



Packaging Art.-No.  
8 pcs. in plastic box 67 045

PROFESSIONAL PLUS STANDARD

# Masonry drill bit set hexagonal shank 8-pcs.



Art.-Group 47

Ø 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 mm



Packaging Art.-No.  
8 pcs. in metal box 50 301

PROFESSIONAL PLUS STANDARD

MULTI-STAR

# MULTI-STAR multi-purpose drill bit set 4-pcs.



Art.-Group 47

Multi-purpose drill bits  
with straight shank  
Ø 6 - 8 - 10 - 12 x 400/300 mm



Packaging Art.-No.  
4 pcs. in plastic box 57 003

## MULTI-STAR multi-purpose drill bit set 3-pcs.



Art.-Group 47

Multi-purpose drill bits with straight shank  
Ø 5 - 6 - 8 mm


**3**  
PIECES

P 42



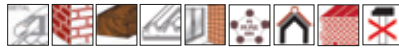
Packaging

3 pcs. in plastic box

Art.-No.

57 001

## MULTI-STAR multi-purpose drill bit set 5-pcs.



Art.-Group 47

Multi-purpose drill bits with straight shank  
Ø 4 - 5 - 6 - 8 - 10 mm


**5**  
PIECES

P 42



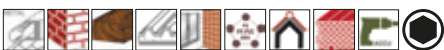
Packaging

5 pcs. in plastic box

Art.-No.

57 002

## MULTI-STAR multi-purpose drill bit set 3-pcs.



Art.-Group 47

Multipurpose drill bit with hexagonal shank  
Ø 5 - 6 - 8 mm


**3**  
PIECES

P 43



Packaging

3 pcs. in plastic box

Art.-No.

57 004

## MULTI-STAR multi-purpose drill bit set 5-pcs.



Art.-Group 47

Multipurpose drill bit with hexagonal shank  
Ø 4 - 5 - 6 - 8 - 10 mm


**5**  
PIECES

P 43



Packaging

5 pcs. in plastic box

Art.-No.

57 005

## Multi material drill bit set straight shank 5-pcs.



Art.-Group 47

Ø 4 - 5 - 6 - 8 - 10 mm


**5**  
PIECES

P 44



Packaging

5 pcs. in plastic box

Art.-No.

57 601

## Multi material drill bit set straight shank 4-pcs.



Art.-Group 47

Ø 6.0 x 200/150 mm  
Ø 6.0 x 300/220 mm  
Ø 6.5 x 200/150 mm  
Ø 6.5 x 300/220 mm


**4**  
PIECES

P 44



Packaging

4 pcs. in plastic box

Art.-No.

57 603



PROFESSIONAL PLUS STANDARD

## Glass drill bit set hexagonal shank 4-pcs.



Art.-Group 47

Ø 5 - 6 - 8 - 10 mm



Packaging

4 pcs. in plastic box

Art.-No.

59 201

PROFESSIONAL PLUS STANDARD

## CRYSTAL glass drill bit set straight shank 5-pcs.



Art.-Group 47

Ø 6 - 6 - 8 - 8 - 10 mm



Packaging

5 pcs. in plastic box

Art.-No.

59 001

PROFESSIONAL PLUS STANDARD

extreme  
explosive

## Extreme universal drill bit set straight shank 4-pcs.



Art.-Group 47

Ø 4 - 5 - 6 - 8 mm



Packaging

4 pcs. in plastic box

Art.-No.

59 701

PROFESSIONAL PLUS STANDARD

## Short chisel set SDS-plus 3-pcs.



Art.-Group 47

Pointed chisel SDS-plus  
Length 140 mm  
Flat chisel SDS-plus  
140 mm x 20 mm  
Spade chisel SDS-plus  
140mm x 30mm



Packaging

3 pcs. in plastic box

Art.-No.

841 401

PROFESSIONAL PLUS STANDARD

ECO

## ECO chisel set SDS-plus 3-pcs.



Art.-Group 47

Pointed chisel SDS-plus  
Length 250 mm  
Flat chisel SDS-plus  
250 mm x 20 mm  
Spade chisel SDS-plus  
250 mm x 40 mm



Packaging

3 pcs. in plastic box

Art.-No.

99 956

PROFESSIONAL PLUS STANDARD

ECO

## ECO chisel set SDS-max 3-pcs.



Art.-Group 47

Pointed chisel SDS-max  
Length 400 mm  
Flat chisel SDS-max  
400 mm x 25 mm  
Spade chisel SDS-max  
400 mm x 50 mm



Packaging

3 pcs. in plastic box

Art.-No.

844 002

PROFESSIONAL PLUS STANDARD

## Twist drill bit set DIN 338 HSS-Co 8% type Heavy Duty



Art.-Group 16

19 short high-performance twist drill bits  
Ø 1 - 10 / 0.5 mm increasing



Packaging

19 pcs. in plastic box

Art.-No.

60 023

PROFESSIONAL PLUS STANDARD

## Twist drill bit set DIN 338 HSS-Co 8% type Heavy Duty



Art.-Group 16

25 short high-performance twist drill bits  
Ø 1 - 13 / 0.5 mm increasing



Packaging

25 pcs. in plastic box

Art.-No.

60 024

PROFESSIONAL PLUS STANDARD

## Twist drill bit set DIN 338 HSS-Co 5% AlTiN type UF-L



Art.-Group 16

19 short multi-purpose twist drill bits  
Ø 1 - 10 / 0.5 mm increasing



Packaging

19 pcs. in metal box

Art.-No.

60 321

PROFESSIONAL PLUS STANDARD

## Twist drill bit set DIN 338 HSS-Co 5% type UF-L



Art.-Group 16

19 short multi-purpose twist drill bits  
Ø 1 - 10 / 0.5 mm increasing



Packaging

19 pcs. in metal box

Art.-No.

60 340

PROFESSIONAL PLUS STANDARD

## Twist drill bit set DIN 338 HSS-Co 5% type UF-L



Art.-Group 16

25 short multi-purpose twist drill bits  
Ø 1 - 13 / 0.5 mm increasing



Packaging

25 pcs. in metal box

Art.-No.

60 345

PROFESSIONAL PLUS STANDARD

## Twist drill bit set DIN 338 HSS-Co 5% type UF-L



Art.-Group 16

24 short multi-purpose twist drill bits  
Ø 1 - 10.5 / 0.5 mm increasing  
Core hole dimensions  
Ø 3.3 - 4.2 - 6.8 - 10.2 mm



Packaging

24 pcs. in metal box

Art.-No.

60 343

PROFESSIONAL PLUS STANDARD

## Twist drill bit set DIN 338 HSS-Co 5% type UF-L



Art.-Group 16

41 short multi-purpose twist drill bits  
Ø 6 - 10 / 0.1 mm increasing



Packaging

41 pcs. in metal box

Art.-No.

60 342

PROFESSIONAL PLUS STANDARD

## Twist drill bit set DIN 338 HSS-Co 5% type UF-L



Art.-Group 16

50 short multi-purpose twist drill bits  
Ø 1 - 5.9 / 0.1 mm increasing



Packaging

50 pcs. in metal box

Art.-No.

60 341

PROFESSIONAL PLUS STANDARD

SPEED

## Twist drill bit set DIN 338 HSS-Co 5% type S SPEED



Art.-Group 16

19 short twist drill bits  
Ø 1 - 10 / 0.5 mm increasing



Packaging

19 pcs. in plastic box

Art.-No.

67 380

PROFESSIONAL PLUS STANDARD

SPEED

## Twist drill bit set DIN 338 HSS-Co 5% type S SPEED



Art.-Group 16

25 short twist drill bits  
Ø 1 - 13 / 0.5 mm increasing



Packaging

25 pcs. in plastic box

Art.-No.

67 385

PROFESSIONAL PLUS STANDARD

SPEED

## Twist drill bit set DIN 338 HSS-Co 5% type S SPEED



Art.-Group 16

19 short twist drill bits  
Ø 1 - 10 / 0.5 mm increasing



Packaging

19 pcs. in metal box

Art.-No.

60 380

PROFESSIONAL PLUS STANDARD

SPEED

## Twist drill bit set DIN 338 HSS-Co 5% type S SPEED



Art.-Group 16

25 short twist drill bits  
Ø 1 - 13 / 0.5 mm increasing



Packaging

25 pcs. in metal box

Art.-No.

60 385



PROFESSIONAL PLUS STANDARD

SPEED

## Twist drill bit set DIN 338 HSS-Co 5% type S SPEED



Art.-Group 16

41 short twist drill bits  
Ø 6 - 10 / 0.1 mm increasing

**41**  
PIECES

P 74



Packaging

41 pcs. in metal box

Art.-No.

60 545

PROFESSIONAL PLUS STANDARD

SPEED

## Twist drill bit set DIN 338 HSS-Co 5% type S SPEED



Art.-Group 16

50 short twist drill bits  
Ø 1 - 5.9 / 0.1 mm increasing

**50**  
PIECES

P 74



Packaging

50 pcs. in metal box

Art.-No.

60 540

PROFESSIONAL PLUS STANDARD

PROGRESSO

## Twist drill bit set DIN 338 HSS-G type SN PROGRESSO



Art.-Group 16

19 short twist drill bits  
Ø 1 - 10 / 0.5 mm increasing

**19**  
PIECES

P 76



Packaging

19 pcs. in plastic box

Art.-No.

60 021

PROFESSIONAL PLUS STANDARD

PROGRESSO

## Twist drill bit set DIN 338 HSS-G type SN PROGRESSO



Art.-Group 16

25 short twist drill bits  
Ø 1 - 13 / 0.5 mm increasing

**25**  
PIECES

P 76



Packaging

25 pcs. in plastic box

Art.-No.

60 022

PROFESSIONAL PLUS STANDARD

ECO

## Twist drill bit set DIN 338 HSS-Co 5% type VA ECO



Art.-Group 16

19 short twist drill bits  
Ø 1 - 10 / 0.5 mm increasing

**19**  
PIECES

P 78



Packaging

19 pcs. in plastic box

Art.-No.

67 381

PROFESSIONAL PLUS STANDARD

ECO

## Twist drill bit set DIN 338 HSS-Co 5% type VA ECO



Art.-Group 16

25 short twist drill bits  
Ø 1 - 13 / 0.5 mm increasing

**25**  
PIECES

P 78



Packaging

25 pcs. in plastic box

Art.-No.

67 386

## Twist drill bit set DIN 338 HSS-Co 5% type VA ECO



Art-Group 16

19 short twist drill bits  
Ø 1 - 10 / 0.5 mm increasing



## Packaging

19 pcs. in metal box

## Art.-No.

60 381



## Twist drill bit set DIN 338 HSS-Co 5% type VA ECO



Art-Group 16

25 short twist drill bits  
Ø 1 - 13 / 0.5 mm increasing



## Packaging

25 pcs. in metal box

## Art.-No.

60 386



## Twist drill bit set DIN 338 HSS-Co 5% type VA ECO



Art-Group 16

24 short twist drills  
Ø 1 - 10.5 / 0.5 mm increasing  
Core hole dimensions  
Ø 3.3 - 4.2 - 6.8 - 10.2 mm



## Packaging

24 pcs. in metal box

## Art.-No.

60 383



## Twist drill bit set DIN 338 HSS-Co 5% type VA ECO



Art-Group 16

36 short twist drill bits  
5x Ø 2 - 2.5 - 3 - 3.5 mm  
3x Ø 4 - 4.5 - 5 - 5.5 mm  
2x Ø 6 - 6.5 mm



## Packaging

36 pcs. in metal box

## Art.-No.

60 668\*



## Twist drill bit set DIN 338 HSS-Co 5% type N BASIC



Art-Group 16

19 short twist drill bits  
Ø 1 - 10 / 0.5 mm increasing



## Packaging

19 pcs. in metal box

## Art.-No.

60 319



## Twist drill bit set DIN 338 HSS-Co 5% type N BASIC



Art-Group 16

25 short twist drill bits  
Ø 1 - 13 / 0.5 mm increasing



## Packaging

25 pcs. in metal box

## Art.-No.

60 379



PROFESSIONAL PLUS STANDARD

TURBO

## Twist drill bit set DIN 338 HSS-G type N TURBO



Art.-Group 16

19 short twist drill bits  
Ø 1 - 10 / 0.5 mm increasing

19  
PIECES

P 82



Packaging

19 pcs. in plastic box

Art.-No.

67 314

PROFESSIONAL PLUS STANDARD

TURBO

## Twist drill bit set DIN 338 HSS-G type N TURBO



Art.-Group 16

25 short twist drill bits  
Ø 1 - 13 / 0.5 mm increasing

25  
PIECES

P 82



Packaging

25 pcs. in plastic box

Art.-No.

67 374

PROFESSIONAL PLUS STANDARD

TURBO

## Twist drill bit set DIN 338 HSS-G type N TURBO



Art.-Group 16

19 short twist drill bits  
Ø 1 - 10 / 0.5 mm increasing

19  
PIECES

P 82



Packaging

19 pcs. in metal box

Art.-No.

60 314

PROFESSIONAL PLUS STANDARD

TURBO

## Twist drill bit set DIN 338 HSS-G type N TURBO



Art.-Group 16

25 short twist drill bits  
Ø 1 - 13 / 0.5 mm increasing

25  
PIECES

P 82



Packaging

25 pcs. in metal box

Art.-No.

60 374

PROFESSIONAL PLUS STANDARD

TURBO

## Twist drill bit set DIN 338 HSS-G type N TURBO



Art.-Group 16

24 short twist drills  
Ø 1 - 10.5 / 0.5 mm increasing  
Core hole dimensions  
Ø 3.3 - 4.2 - 6.8 - 10.2 mm

24  
PIECES

P 82



Packaging

24 pcs. in metal box

Art.-No.

60 424

PROFESSIONAL PLUS STANDARD

TURBO

## Twist drill bit set DIN 338 HSS-G type N TURBO



Art.-Group 16

41 short twist drill bits  
Ø 6 - 10 / 0.1 mm increasing

41  
PIECES

P 82



Packaging

41 pcs. in metal box

Art.-No.

60 445

PROFESSIONAL PLUS STANDARD

TURBO

PROFESSIONAL PLUS STANDARD

PROGRESSO

### Twist drill bit set DIN 338 HSS-G type N TURBO



Art.-Group 16



50 short twist drill bits  
Ø 1 - 5.9 / 0.1 mm increasing



Packaging

50 pcs. in metal box

Art.-No.

60 440

### Twist drill bit set DIN 338 HSS-G TiN type SN



Art.-Group 16



19 short twist drill bits  
Ø 1 - 10 / 0.5 mm increasing



Packaging

19 pcs. in plastic box

Art.-No.

67 391

PROFESSIONAL PLUS STANDARD

PROGRESSO

PROFESSIONAL PLUS STANDARD

ECO

### Twist drill bit set DIN 338 HSS-G TiN type SN



Art.-Group 16



25 short twist drill bits  
Ø 1 - 13 / 0.5 mm increasing



Packaging

25 pcs. in plastic box

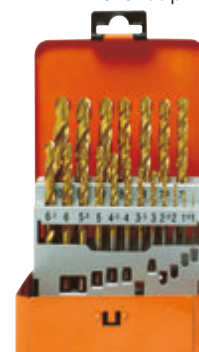
Art.-No.

67 396

### Twist drill bit set DIN 338 HSS-G TiN type N ECO



Art.-Group 16



19 short twist drill bits  
Ø 1 - 10 / 0.5 mm increasing



Packaging

19 pcs. in metal box

Art.-No.

60 390

PROFESSIONAL PLUS STANDARD

ECO

PROFESSIONAL PLUS STANDARD

ECO

### Twist drill bit set DIN 338 HSS-G TiN type N ECO



Art.-Group 16



25 short twist drill bits  
Ø 1 - 13 / 0.5 mm increasing



Packaging

25 pcs. in metal box

Art.-No.

60 395

### Twist drill bit set DIN 338 HSS-G TiN type N ECO



Art.-Group 16



13 short twist drill bits  
Ø 1.5 - 2 - 2.5 - 3 - 3.2 - 3.5 - 4 -  
4.5 - 4.8 - 5 - 5.5 - 6 - 6.5 mm



Packaging

13 pcs. in plastic box

Art.-No.

67 029

PROFESSIONAL PLUS STANDARD

ECO

## Twist drill bit set DIN 338 HSS-G type N ECO



Art.-Group 16

19 short twist drill bits  
Ø 1 - 10 / 0.5 mm increasing



Packaging

19 pcs. in plastic box

Art.-No.

67 315

PROFESSIONAL PLUS STANDARD

ECO

## Twist drill bit set DIN 338 HSS-G type N ECO



Art.-Group 16

25 short twist drill bits  
Ø 1 - 13 / 0.5 mm increasing



Packaging

25 pcs. in plastic box

Art.-No.

67 375

PROFESSIONAL PLUS STANDARD

ECO

## Twist drill bit set DIN 338 HSS-G type N ECO



Art.-Group 16

19 short twist drill bits  
Ø 1 - 10 / 0.5 mm increasing



Packaging

19 pcs. in metal box

Art.-No.

60 315

PROFESSIONAL PLUS STANDARD

ECO

## Twist drill bit set DIN 338 HSS-G type N ECO



Art.-Group 16

25 short twist drill bits  
Ø 1 - 13 / 0.5 mm increasing



Packaging

25 pcs. in metal box

Art.-No.

60 375

PROFESSIONAL PLUS STANDARD

ECO

## Twist drill bit set DIN 338 HSS-G type N ECO



Art.-Group 16

91 short twist drill bits  
Ø 1 - 10 / 0.1 mm increasing



Packaging

91 pcs. in metal box

Art.-No.

60 436

PROFESSIONAL PLUS STANDARD

ECO

## Twist drill bit set DIN 338 HSS-G type N ECO



Art.-Group 16

13 short twist drill bits  
Ø 1.5 - 6.5 / 0.5 mm increasing

Core hole dimensions  
Ø 3.3 - 4.8 mm



Packaging

13 pcs. in metal box

Art.-No.

60 413



## Twist drill bit set DIN 338 HSS-G type N ECO



Art.-Group 16

24 short twist drills  
 Ø 1 - 10.5 / 0.5 mm increasing  
 Core hole dimensions  
 Ø 3.3 - 4.2 - 6.8 - 10.2 mm



## Packaging

24 pcs. in metal box

## Art.-No.

60 425

## Twist drill bit set HSS-G type N left-hand cutting



Art.-Group 16

19 short twist drill bits  
 Ø 1 - 10 / 0.5 mm increasing



## Packaging

19 pcs. in plastic box

## Art.-No.

603 15L

## Twist drill bit set HSS-G type N left-hand cutting



Art.-Group 16

25 short twist drill bits  
 Ø 1 - 13 / 0.5 mm increasing



## Packaging

25 pcs. in plastic box

## Art.-No.

603 75L

## Twist drill bit set DIN 338 HSS-G type N BASIC



Art.-Group 16

19 short twist drill bits  
 Ø 1 - 10 / 0.5 mm increasing



## Packaging

19 pcs. in metal box

## Art.-No.

60 318

## Twist drill bit set DIN 338 HSS-G type N BASIC



Art.-Group 16

25 short twist drill bits  
 Ø 1 - 13 / 0.5 mm increasing



## Packaging

25 pcs. in metal box

## Art.-No.

60 378

## Twist drill bit set DIN 338 HSS-G type N BASIC



Art.-Group 16

13 short twist drill bits  
 Ø 1.5 - 2 - 2.5 - 3 - 3.2 - 3.5 - 4 -  
 4.5 - 4.8 - 5 - 5.5 - 6 - 6.5 mm



## Packaging

13 pcs. in plastic box

## Art.-No.

67 018

PROFESSIONAL PLUS STANDARD

## Twist drill bit set HSS-G 6.35 mm [1/4"] hex shank



Art.-Group 16

6 twist drill bits with hexagonal shank  
Ø 3 - 4 - 5 - 6 - 8 - 10 mm



Packaging

6 pcs. in metal box

Art.-No.

13 302

PROFESSIONAL PLUS STANDARD

## Twist drill bit set HSS-G 6.35 mm [1/4"] hex shank



Art.-Group 16

5 twist drill bits with hexagonal shank  
Ø 2 - 3 - 4 - 5 - 6 mm



Packaging

5 pcs. in plastic box

Art.-No.

13 399

PROFESSIONAL PLUS STANDARD

**ECO**

## Twist drill bit set DIN 338 HSS-R type N ECO



Art.-Group 16

19 short twist drill bits  
Ø 1 - 10 / 0.5 mm increasing



Packaging

19 pcs. in plastic box

Art.-No.

67 003

PROFESSIONAL PLUS STANDARD

**ECO**

## Twist drill bit set DIN 338 HSS-R type N ECO



Art.-Group 16

25 short twist drill bits  
Ø 1 - 13 / 0.5 mm increasing



Packaging

25 pcs. in plastic box

Art.-No.

67 007

PROFESSIONAL PLUS STANDARD

**ECO**

## Twist drill bit set DIN 338 HSS-R type N ECO



Art.-Group 16

19 short twist drill bits  
Ø 1 - 10 / 0.5 mm increasing



Packaging

19 pcs. in metal box

Art.-No.

60 001

PROFESSIONAL PLUS STANDARD

**ECO**

## Twist drill bit set DIN 338 HSS-R type N ECO



Art.-Group 16

25 short twist drill bits  
Ø 1 - 13 / 0.5 mm increasing



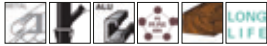
Packaging

25 pcs. in metal box

Art.-No.

60 005

## Twist drill bit set DIN 338 HSS-R type N ECO



Art.-Group 16

13 short twist drill bits  
Ø 1.5 - 6.5 / 0.5 mm increasing  
Core hole dimensions  
Ø 3.3 - 4.8 mm



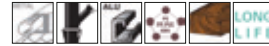
Packaging

13 pcs. in metal box

Art.-No.

60 313

## Twist drill bit set DIN 338 HSS-R type N ECO



Art.-Group 16

24 short twist drills  
Ø 1 - 10.5 / 0.5 mm increasing  
Core hole dimensions  
Ø 3.3 - 4.2 - 6.8 - 10.2 mm



Packaging

24 pcs. in metal box

Art.-No.

60 325

## Twist drill bit set DIN 338 HSS-R type N ECO



Art.-Group 16

36 short twist drill bits  
5x Ø 2 - 2.5 - 3 - 3.5 mm  
3x Ø 4 - 4.5 - 5 - 5.5 mm  
2x Ø 6 - 6.5 mm



Packaging

36 pcs. in metal box

Art.-No.

60 666\*

## Twist drill bit set DIN 338 HSS-R type N ECO



Art.-Group 16

91 short twist drill bits  
Ø 1 - 10 / 0.1 mm increasing



Packaging

91 pcs. in metal box

Art.-No.

60 336

## Twist drill bit set DIN 338 HSS-R type N ECO



Art.-Group 16

41 short twist drill bits  
Ø 6 - 10 / 0.1 mm increasing



Packaging

41 pcs. in metal box

Art.-No.

60 335

## Twist drill bit set DIN 338 HSS-R type N ECO



Art.-Group 16

50 short twist drill bits  
Ø 1 - 5.9 / 0.1 mm increasing



Packaging

50 pcs. in metal box

Art.-No.

60 330

## Twist drill bit set DIN 338 HSS-R type N ECO



Art.-Group 16

13 short twist drill bits  
Ø 2.0 - 8.0 / 0.5 mm increasing



Packaging

13 pcs. in plastic box

Art.-No.

67 005

## Twist drill bit set DIN 338 HSS-R type N ECO



Art.-Group 16

13 short twist drill bits  
Ø 1.5 - 6.5 / 0.5 mm increasing  
3.2 - 4.8mm



Packaging

13 pcs. in plastic box

Art.-No.

67 000

## Twist drill bit set DIN 338 HSS-R type N BASIC



Art.-Group 16

19 short twist drill bits  
Ø 1 - 10 / 0.5 mm increasing

19  
PIECES



Packaging

19 pcs. in metal box

Art.-No.

60 003

## Twist drill bit set DIN 338 HSS-R type N BASIC



Art.-Group 16

25 short twist drill bits  
Ø 1 - 10 / 0.5 mm increasing

25  
PIECES



Packaging

25 pcs. in metal box

Art.-No.

60 007

## Twist drill bit set DIN 1897 HSS-Co 5% AlTiN type UF-L



Art.-Group 16

21 extra short multi-purpose twist  
drill bits  
Ø 2.0 - 10.2 / 0.5 mm increasing  
Core hole dimensions  
Ø 3.3 - 4.2 - 6.8 mm

21  
PIECES



Packaging

21 pcs. in metal box

Art.-No.

60 846

## Twist drill bit set DIN 1897 HSS-Co 5% type UF-L



Art.-Group 16

21 extra short multi-purpose twist  
drill bits  
Ø 2.0 - 10.2 / 0.5 mm increasing  
Core hole dimensions

21  
PIECES



Packaging

21 pcs. in metal box

Art.-No.

60 844

## Twist drill bit set DIN 1897 HSS-G type N



Art.-Group 16

21 extra short twist drills  
Ø 2 - 10.2 / 0.5 mm increasing  
Core hole dimensions



Packaging

21 pcs. in metal box

Art.-No.

60 840

## Twist drill bit set DIN 340 HSS-G type N



Art.-Group 16

19 long twist drill bits  
Ø 1 - 10 / 0.5 mm increasing



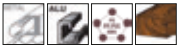
Packaging

19 pcs. in metal box

Art.-No.

60 830

## Twist drill bit set DIN 340 HSS-G vaporized type N



Art.-Group 16

19 long twist drill bits  
Ø 1 - 10 / 0.5 mm increasing



Packaging

19 pcs. in metal box

Art.-No.

60 831

**ECO**

## Twist drill bit set DIN 338 HSS-Co 5% type VA ECO



Art.-Group 16

70 short twist drill bits  
5x Ø 1.0 - 5.0 / 0.5 mm increasing  
3x Ø 5.5 - 7.5 / 0.5 mm increasing  
2x Ø 8.0 - 10.0 / 0.5 mm increasing



Packaging

70 pcs. in metal case

Art.-No.

60 643

**ECO**

## Twist drill bit set DIN 338 HSS-Co 5% type VA ECO



Art.-Group 16

170 short twist drill bits  
10x Ø 1 - 8 / 0.5 mm increasing  
5x Ø 8.5 - 10 / 0.5 mm increasing



Packaging

170 pcs. in metal case

Art.-No.

60 613

**ECO**

## Twist drill bit set DIN 338 HSS-Co 5% type VA ECO



Art.-Group 16

170 short twist drill bits  
10x Ø 1 - 8 / 0.5 mm increasing  
5x Ø 8.5 - 10 / 0.5 mm increasing



Packaging

170 pcs. in plastic case

Art.-No.

67 613

## Twist drill bit set DIN 338 HSS-Co 5% type N BASIC



Art.-Group 16

170 short twist drill bits  
10x Ø 1 - 8 / 0.5 mm increasing  
5x Ø 8.5 - 10 / 0.5 mm increasing



**170**  
PIECES

P 80

Packaging

170 pcs. in metal case

Art.-No.

60 617

## Twist drill bit set DIN 338 HSS-G type N TURBO



Art.-Group 16

170 short twist drill bits  
10x Ø 1 - 8 / 0.5 mm increasing  
5x Ø 8.5 - 10 / 0.5 mm increasing



**170**  
PIECES

P 82

Packaging

170 pcs. in metal case

Art.-No.

60 614

## Twist drill bit set DIN 338 HSS-G TiN type N ECO



Art.-Group 16

170 short twist drill bits  
10x Ø 1 - 8 / 0.5 mm increasing  
5x Ø 8.5 - 10 / 0.5 mm increasing



**170**  
PIECES

P 86

Packaging

170 pcs. in metal case

Art.-No.

6061\_TIN

## Twist drill bit set DIN 338 HSS-G type N ECO



Art.-Group 16

70 short twist drill bits  
5x Ø 1.0 - 5.0 / 0.5 mm increasing  
3x Ø 5.5 - 7.5 / 0.5 mm increasing  
2x Ø 8.0 - 10.0 / 0.5 mm increasing



**70**  
PIECES

P 88

Packaging

70 pcs. in metal case

Art.-No.

60 645

## Twist drill bit set DIN 338 HSS-G type N ECO



Art.-Group 16

170 short twist drill bits  
10x Ø 1 - 8 / 0.5 mm increasing  
5x Ø 8.5 - 10 / 0.5 mm increasing



**170**  
PIECES

P 88

Packaging

170 pcs. in metal case

Art.-No.

60 615

## Twist drill bit set DIN 338 HSS-G type N ECO



Art.-Group 16

170 short twist drill bits  
10x Ø 1 - 8 / 0.5 mm increasing  
5x Ø 8.5 - 10 / 0.5 mm increasing



**170**  
PIECES

P 88

Packaging

170 pcs. in plastic case

Art.-No.

67 615

## Twist drill bit set DIN 338 HSS-G type N ECO



Art.-Group 16

220 short twist drill bits  
10x Ø 1 - 8 / 0.5 mm increasing  
10x Ø 3.3 - 4.2 mm  
5x Ø 8.5 - 13.0 / 0.5 mm increasing



Packaging

220 pcs. in metal case

Art.-No.

60 715

## Twist drill bit set DIN 338 HSS-G type N BASIC



Art.-Group 16

170 short twist drill bits  
10x Ø 1 - 8 / 0.5 mm increasing  
5x Ø 8.5 - 10 / 0.5 mm increasing



Packaging

170 pcs. in metal case

Art.-No.

60 616

## Twist drill bit set DIN 338 HSS-R type N ECO



Art.-Group 16

170 short twist drill bits  
10x Ø 1 - 8 / 0.5 mm increasing  
5x Ø 8.5 - 10 / 0.5 mm increasing



Packaging

170 pcs. in metal case

Art.-No.

60 600

## Twist drill bit set DIN 338 HSS-R type N ECO



Art.-Group 16

170 short twist drill bits  
10x Ø 1 - 8 / 0.5 mm increasing  
5x Ø 8.5 - 10 / 0.5 mm increasing



Packaging

170 pcs. in plastic case

Art.-No.

67 600

## Twist drill bit set DIN 338 HSS-R type N ECO



Art.-Group 16

220 short twist drill bits  
10x Ø 1 - 8 / 0.5 mm increasing  
10x Ø 3.3 - 4.2 mm  
5x Ø 8.5 - 13.0/0.5 mm increasing



Packaging

220 pcs. in metal case

Art.-No.

60 700

## Twist drill bit set HSS-G type N with reduced shank



Art.-Group 16

10 twist drill bits  
Ø 10.0 - 26.0/2 mm increasing  
+ Ø 25.0 mm

With 3-surface shank  
Length 152/76 mm



Packaging

10 pcs. in metal case

Art.-No.

60 749

## Twist drill bit set DIN 345 HSS-R type N with morse taper



Art.-Group 16

10 twist drill bits with morse taper  
 Ø 14.0 - 30.0 / 2 mm increasing  
 + Ø 25.0 mm



**10**  
PIECES

P 110

Packaging

10 pcs. in metal case

Art.-No.

60 720

## Mixed twist drill bit set for stone, steel and wood



Art.-Group 16

3 masonry drill bits with hex shank  
 Ø 5 - 6 - 8 mm  
 3 twist drill bits HSS-G with hex shank  
 Ø 5 - 6 - 8 mm  
 3 wood twist drill bits with hex shank  
 Ø 5 - 6 - 8 mm



**9**  
PIECES

P 45 + P 101 + P 175

Packaging

9 pcs. in metal box

Art.-No.

67 300

## Mixed twist drill bit set for stone, steel and wood



Art.-Group 16

6 masonry drill bits  
 Ø 3 - 4 - 5 - 6 - 8 - 10 mm  
 6 twist drill bits DIN 338 HSS-R type N  
 Ø 3 - 4 - 5 - 6 - 8 - 10 mm  
 6 wood twist drill bits  
 Ø 3 - 4 - 5 - 6 - 8 - 10 mm



**18**  
PIECES

P 41 + P 92 + P 174

Packaging

18 pcs. in metal box

Art.-No.

60 530

## Mixed twist drill bit set for stone, steel and wood



Art.-Group 16

3 masonry drill bits  
 Ø 5 - 6 - 8 mm  
 3 twist drill bits DIN 338 HSS-R type N  
 Ø 5 - 6 - 8 mm  
 3 wood twist drill bits  
 Ø 5 - 6 - 8 mm



**9**  
PIECES

P 41 + P 92 + P 174

Packaging

9 pcs. in plastic box

Art.-No.

67 035

## Sheet metal drill bit set HSS-G



Art.-Group 16

Universal milling drill bit Ø 6 mm  
 Sheet metal drill bit 4 - 22.5 mm  
 Sheet metal drill bit 4 - 30.5 mm  
 Cutting paste



**4**  
PIECES

P 117

Packaging

4 pcs. in plastic box

Art.-No.

75 060

## Sheet metal drill bit set HSS-G



Art.-Group 16

Sheet metal drill bit 3 - 14.0 mm  
 Sheet metal drill bit 8 - 20.0 mm  
 Sheet metal drill bit 16 - 30.5 mm  
 Cutting paste



**4**  
PIECES

P 117

Packaging

4 pcs. in plastic box

Art.-No.

75 055



## Step drill bits with spiral flute



Art-Group 16

Size 1 step drill bit 4 - 12.0 mm  
 Size 2 step drill bit 6 - 20.0 mm  
 Size 3 step drill bit 6 - 30.0 mm  
 Cutting paste



Packaging	Material	Art.-No.
4 pcs. in plastic box	HSS-Co 5%	76 911
4 pcs. in plastic box	HSS-G	76 811

## Countersink set 90° DIN 335 C HSS-Co 5%



Art-Group 16

Ø 6.3 - 8.3 - 10.4 - 12.4 -  
 16.5 - 20.5 mm



Packaging	Art.-No.
6 pcs. in metal box	35 701

## Countersink set 90° HSS-G 6.35 mm [1/4"] hexagonal shank



Art-Group 16

6 countersinks with  
 hexagonal shank  
 Ø 6.3 - 8.3 - 10.4 - 12.4 -  
 16.5 - 20.5 mm  
 1x universal bit holder



Packaging	Art.-No.
7 pcs. in metal box	35 003

## Countersink set 90° DIN 335 C HSS-Co 5% AlTiN



Art-Group 16

Ø 6.3 - 8.3 - 10.4 - 12.4 -  
 16.5 - 20.5 mm



Packaging	Art.-No.
6 pcs. in metal box	35 901

## Countersink set 90° HSS-G



Art-Group 16

Ø 6.3 - 8.0 - 10.0 - 12.0 -  
 16.0 - 20.0 mm  
 Cutting paste



Packaging	Art.-No.
7 pcs. in plastic box	35 006

## Deburring countersink set with cross hole 90° HSS-Co 5%



Art-Group 16

Size 1 countersink for Ø 2 - 5 mm  
 Size 2 countersink for Ø 5 - 10 mm  
 Size 3 countersink for Ø 10 - 15 mm  
 Size 4 countersink for Ø 15 - 20 mm  
 Cutting paste



Packaging	Art.-No.
5 pcs. in plastic box	36 055



PROFESSIONAL PLUS STANDARD

## Core drill bit set HSS-Co 8% cutting depth 30 mm



Art.-Group 16

7 core drill bits with 19 mm 3/4" WELDON shank  
Ø 12 - 14 - 16 - 18 - 20 - 22 mm including guide pin



Packaging

7 pcs. in metal box

Art.-No.

60 039

PROFESSIONAL PLUS STANDARD

## Core drill bit set HSS-G cutting depth 30 mm



Art.-Group 16

7 core drill bits with 19 mm 3/4" WELDON shank  
Ø 12 - 14 - 16 - 18 - 20 - 22 mm including guide pin



Packaging

7 pcs. in metal box

Art.-No.

60 038

PROFESSIONAL PLUS STANDARD

**ECO**

## Core drill bit set HSS-G cutting depth 30 mm ECO



Art.-Group 16

7 core drill bits with 19 mm 3/4" WELDON shank  
Ø 12 - 14 - 16 - 18 - 20 - 22 mm including guide pin



Packaging

7 pcs. in metal box

Art.-No.

60 038-1

PROFESSIONAL PLUS STANDARD

## Carbide burr set AlTiN with double cut



Art.-Group 16

Head Ø 9.6 mm - shank Ø 6.0 mm  
1x shape B cylinder with endcut  
1x shape C ball nosed cylinder  
1x shape D ball shape  
1x shape E oval shape  
1x shape G pointed tree



Packaging

5 pcs. in plastic box

Art.-No.

70 292

PROFESSIONAL PLUS STANDARD

## Carbide burr set HD with double cut



Art.-Group 16

Head Ø 9.6 mm - shaft Ø 6.0 mm  
1x form B cylinder with spur teeth  
1x Form C cylinder roller  
1x shape D spherical shape  
1x shape E oval shape  
1x form G pointed arch



Packaging

5 pcs. in plastic box

Art.-No.

70 291

PROFESSIONAL PLUS STANDARD

## Carbide burr set for cast iron



Art.-Group 16

Head Ø 9.6 mm - shaft Ø 6.0 mm  
1x form B cylinder with spur teeth  
1x Form C cylinder roller  
1x shape D spherical shape  
1x Form F round arch  
1x Form L conical round cone



Packaging

5 pcs. in plastic box

Art.-No.

70 294\*

## Carbide burr set with double cut



Art.-Group 16

Head Ø 9.6 mm - shank Ø 6.0 mm  
 1x shape B cylinder with endcut  
 1x shape C ball nosed cylinder  
 1x shape D ball shape  
 1x shape E oval shape  
 1x shape G pointed tree



**5**  
PIECES

P 131

**Packaging**

5 pcs. in plastic box

**Art.-No.**

70 295

## Carbide burr set with double cut



Art.-Group 16

Head Ø 9.6 mm - shank Ø 6.0 mm  
 1x shape B cylinder with endcut  
 1x shape C ball nosed cylinder  
 1x shape E oval shape  
 1x shape G pointed tree  
 Head Ø 12.6 mm - shank Ø 6.0 mm  
 1x shape X multi-edge carbide burr



**5**  
PIECES

P 131

**Packaging**

5 pcs. in plastic box

**Art.-No.**

70 297

## Carbide burr set with double cut



Art.-Group 16

Head Ø 9.6 mm - shank Ø 6.0 mm  
 1x shape E oval shape  
 Head Ø 9.6 + 12.7 mm - shank Ø 6.0 mm  
 1x shape B cylinder with endcut  
 1x shape C ball nosed cylinder  
 1x shape G pointed tree

Head Ø 12.7 mm - shank Ø 6.0 mm  
 1x shape D ball shape  
 1x shape F ball nosed tree  
 1x shape L ball nose cone



**10**  
PIECES

P 131

**Packaging**

10 pcs. in plastic box

**Art.-No.**

70 290

## Carbide burr display with double cut



Art.-Group 16

Shank Ø 6.0 mm  
 2x each head Ø 6.0 - 8.0 - 9.6 - 12.7 mm  
 Form B cylinder with spur teeth  
 Form C cylinder roller  
 Form F round arch  
 Form G pointed arch  
 Form L conical round cone



**40**  
PIECES

P 131

**Packaging**

40 pcs. in display, lockable

**Art.-No.**

70 298

PROFESSIONAL PLUS STANDARD

## Machine tap set HSS-Co 5% DIN 371/376



Art.-Group 34

7 machine taps HSS-Co 5% metric, for through holes  
M3 - M4 - M5 - M6 - M8 - M10 - M12  
7 core hole drill bits HSS-Co 5% DIN 338  
Ø 2.5 - 3.3 - 4.2 - 5 - 6.8 - 8.5 - 10.2 mm



**14**  
PIECES

P 156

Packaging

14 pcs. in plastic box

Art.-No.

91 031

PROFESSIONAL PLUS STANDARD

## Machine tap set HSS-Co 5% DIN 371/376 35°



Art.-Group 34

7 machine taps HSS-Co 5% metric, for blind holes  
M3 - M4 - M5 - M6 - M8 - M10 - M12  
7 core hole drill bits HSS-Co 5% DIN 338  
Ø 2.5 - 3.3 - 4.2 - 5 - 6.8 - 8.5 - 10.2 mm



**14**  
PIECES

P 157

Packaging

14 pcs. in plastic box

Art.-No.

91 041

PROFESSIONAL PLUS STANDARD

## Machine tap set HSS DIN 371/376



Art.-Group 34

7 machine taps HSS metric, for through holes  
M3 - M4 - M5 - M6 - M8 - M10 - M12  
7 core hole drill bits HSS-G DIN 338  
Ø 2.5 - 3.3 - 4.2 - 5 - 6.8 - 8.5 - 10.2 mm



**14**  
PIECES

P 158

Packaging

14 pcs. in plastic box

Art.-No.

91 030

PROFESSIONAL PLUS STANDARD

## Machine tap set HSS DIN 371/376 35°



Art.-Group 34

7 machine taps HSS metric, for blind holes  
M3 - M4 - M5 - M6 - M8 - M10 - M12  
7 core hole drill bits HSS-G DIN 338  
Ø 2.5 - 3.3 - 4.2 - 5 - 6.8 - 8.5 - 10.2 mm



**14**  
PIECES

P 159

Packaging

14 pcs. in plastic box

Art.-No.

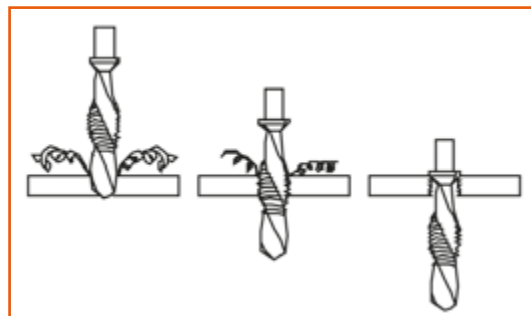
91 040

PROFESSIONAL PLUS STANDARD

## Combined machine drill tap set HSS-G 6.35 mm [1/4"] hex shank



Drilling core hole, cutting thread and deburring in one operation  
6 combination machine drill taps HSS-G  
Ø 3 - 4 - 5 - 6 - 8 - 10 mm  
M3 - M4 - M5 - M6 - M8 - M10  
1 bit holder



Art.-Group 34



**7**  
PIECES

P 162

Packaging

7 pcs. in metal box

Art.-No.

91 019

## Single-cut tap set HSS DIN 352



7 short machine taps HSS-G DIN 352 for machine and hand use  
M3 - M4 - M5 - M6 - M8 - M10 - M12

7 core hole drill bits HSS-G DIN 338  
Ø 2.5 - 3.3 - 4.2 - 5 - 6.8 - 8.5 - 10.2 mm  
1 tap wrench no. 1 1/2

**15**  
PIECES

P 161



Art.-Group 34

### Packaging

15 pcs. in metal box

### Art.-No.

91 013

## Hand tap set HSS DIN 352



21 hand taps HSS DIN 352  
1 set each (taper, plug and bottoming tap)  
M3 - M4 - M5 - M6 - M8 - M10 - M12

7 core hole drill bits HSS-G DIN 338  
Ø 2.5 - 3.3 - 4.2 - 5 - 6.8 - 8.5 - 10.2 mm  
1 tap wrench no. 1 1/2

**29**  
PIECES

P 148



Art.-Group 34

### Packaging

29 pcs. in metal box

### Art.-No.

91 007

## Circular die set HSS-G DIN 13



7 circular dies HSS-G DIN 13  
M3 - M4 - M5 - M6 - M8 - M10 - M12

1 die holder

**8**  
PIECES

P 166



Art.-Group 34

### Packaging

8 pcs. in plastic box

### Art.-No.

91 015

## Single-cut tap set HSS DIN 352



7 single-cut taps HSS for machine and manual use  
M3 - M4 - M5 - M6 - M8 - M10 - M12  
7 core hole drill bits HSS-G DIN 338  
Ø 2.5 - 3.3 - 4.2 - 5 - 6.8 - 8.5 - 10.2 mm  
1 tap wrench no. 1 1/2

**15**  
PIECES

P 161



Art.-Group 34

### Packaging

15 pcs. in plastic box

### Art.-No.

910 135

## Thread-Bundle HSS-G DIN 352/13



7 circular dies HSS-G DIN 13  
M3 - M4 - M5 - M6 - M8 - M10 - M12  
1 die holder

7 single-cut taps HSS for machine and manual use  
M3 - M4 - M5 - M6 - M8 - M10 - M12

7 core hole drill bits HSS-G DIN 338  
Ø 2.5 - 3.3 - 4.2 - 5 - 6.8 - 8.5 - 10.2 mm  
1 tap wrench no. 1 1/2

**23**  
PIECES

P 161 + P 166



Art.-Group 34

### Packaging

23 pcs. in plastic boxes

### Art.-No.

99 980

## Hand tap set HSS DIN 352



Art-Group 34

- 21 hand tap HSS DIN 352
- 1 set each (taper, plug and bottoming tap)
- M3 - M4 - M5 - M6 - M8 - M10 - M12
- 1 tap wrench No. 1 1/2
- 1 tool holder No. 1
- 1 screw pitch gauge (Art-No. 915091)


**24**  
PIECES

P 148

**Packaging**

24 pcs. in plastic case

Art-No.

91 012

## Thread cutting tool set HSS-G DIN 352



Art-Group 34

- 21 hand taps HSS DIN 352
- 1 set each (taper, plug and bottoming tap)
- M3 - M4 - M5 - M6 - M8 - M10 - M12
- 7 circular dies HSS-G DIN 13
- M3 - M4 - M5 - M6 - M8 - M10 - M12
- 7 core hole drill bits HSS-G DIN 338
- Ø 2.5 - 3.3 - 4.2 - 5 - 6.8 - 8.5 - 10.2 mm
- 1 die holder
- 1 tap wrench No. 1 1/2
- 1 tool holder No. 1
- 1 screwdriver (Art-no. 91508)
- 1 screw pitch gauge (Art-No. 915091)


**40**  
PIECES

P 148+P166

**Packaging**

40 pcs. in plastic case

Art-No.

91 009

## Thread cutting tool set HSS-G DIN 352

Art.-Group 34



- 21 hand taps HSS DIN 352
- 1 set each (taper, plug and bottoming tap)
- M3 - M4 - M5 - M6 - M8 - M10 - M12
- 7 circular dies DIN EN 22568
- M3 - M4 - M5 - M6 - M8 - M10 - M12
- 5 die stocks
- 20x5 - 20x7 - 25x9 - 30x11 - 38x14 mm
- 2 tap wrenches No. 1 + 2
- 1 screwdriver (Art.-no. 91508)
- 1 screw pitch gauge (Art.-No. 915091)


**37**  
PIECES

P 148 + P 163 + P 166 + P 167

**Packaging**

37 pcs. in plastic case

Art.-No.

91 024

## Thread cutting tool set HSS-G DIN 352

Art.-Group 34



- 21 hand taps HSS DIN 352
- 1 set each (taper, plug and bottoming tap)
- M3 - M4 - M5 - M6 - M8 - M10 - M12
- 7 circular dies DIN EN 22568
- M3 - M4 - M5 - M6 - M8 - M10 - M12
- 7 core hole drill bits HSS-G DIN 338
- Ø 2.5 - 3.3 - 4.2 - 5 - 6.8 - 8.5 - 10.2 mm
- 5 die stocks
- 5 extensions
- 20x5 - 20x7 - 25x9 - 30x11 - 38x14 mm
- 2.7 (M3) - 3.4 (M4) - 4.9 (M5-8) - 5.5 (M9-10) - 7.0 (M12)
- 2 tap wrenches No. 1 + 2
- 2 tool holders size 1 + 2
- 1 screwdriver (Art.-no. 91508)
- 1 screw pitch gauge (Art.-No. 915091)


**51**  
PIECES

P 148 + P 161 + P 163 + P 166 + P 167

**Packaging**

51 pcs. in plastic case

Art.-No.

91 008

## Thread cutting tool set HSS-G DIN 352



Art-Group 34

- 33 hand taps HSS DIN 352  
 1 set each (taper, plug and bottoming tap)  
 M3 - M4 - M5 - M6 - M8 - M10 - M12 -  
 M14 - M16 - M18 - M20
- 11 circular dies HSS-G DIN EN 22568  
 M3 - M4 - M5 - M6 - M8 - M10 - M12 -  
 M14 - M16 - M18 - M20
- 6 die holders  
 20x5 - 20x7 - 25x9 - 30x11 - 38x14 - 45x18 mm
- 3 tap wrenches No. 0 + 1 1/2 + 4
- 1 screwdriver (Art.-no. 91508)
- 1 screw pitch gauge (Art.-No. 915091)


**55**  
 PIECES

P 148 + P 163 + P 166 + P 167

**Packaging**

55 pcs. in plastic case

Art.-No.

91 006

## Thread cutting tool set HSS-G DIN 352



Art-Group 34

- 39 hand taps HSS DIN 352  
 1 set each (taper, plug and bottoming tap)  
 M3 - M4 - M5 - M6 - M8 - M10 - M12 -  
 M14 - M16 - M18 - M20 - M22 - M24
- 13 circular dies HSS-G DIN EN 22568  
 M3 - M4 - M5 - M6 - M8 - M10 - M12 -  
 M14 - M16 - M18 - M20 - M22 - M24
- 6 die holders  
 20x5 - 20x7 - 25x9 - 30x11 - 38x14 - 45x18 mm
- 3 tap wrenches No. 0 + 1 1/2 + 4
- 1 screwdriver (Art.-no. 91508)
- 1 screw pitch gauge (Art.-No. 915091)


**63**  
 PIECES

P 148 + P 163 + P 166 + P 167

**Packaging**

63 pcs. in plastic case

Art.-No.

91 011



## Thread cutting tool set HSS-G DIN 352

Art.-Group 34



- 21 hand taps HSS DIN 352
- 1 set each (taper, plug and bottoming tap)
- M3 - M4 - M5 - M6 - M8 - M10 - M12
- 7 circular dies DIN EN 22568
- M3 - M4 - M5 - M6 - M8 - M10 - M12
- 7 core hole drill bits HSS-G DIN 338
- Ø 2.5 - 3.3 - 4.2 - 5 - 6.8 - 8.5 - 10.2 mm
- 5 die stocks
- 20x5 - 20x7 - 25x9 - 30x11 - 38x14 mm
- 2 tap wrenches No. 1 + 2
- 1 screwdriver (Art.-no. 91508)
- 1 screw pitch gauge (Art.-No. 915091)


**44**  
PIECES

P 148 + P 163 + P 166 + P 167

**Packaging**

44 pcs. in metal case

Art.-No.

91 004

## Thread cutting tool set HSS-G DIN 352

Art.-Group 34



- 33 hand taps HSS DIN 352
- 1 set each (taper, plug and bottoming tap)
- M3 - M4 - M5 - M6 - M8 - M10 - M12 -
- M14 - M16 - M18 - M20
- 11 circular dies HSS-G DIN EN 22568
- M3 - M4 - M5 - M6 - M8 - M10 - M12 -
- M14 - M16 - M18 - M20
- 6 die holders
- 20x5 - 20x7 - 25x9 - 30x11 - 38x14 - 45x18 mm
- 2 tap wrenches No. 1 1/2 + 3
- 1 screwdriver (Art.-no. 91508)
- 1 screw pitch gauge (Art.-No. 915091)
- 1 tool holder with ratchet (Art.-No. 913011)


**55**  
PIECES

P 148 + P 163 + P 166 + P 167

**Packaging**

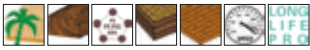
55 pcs. in metal case

Art.-No.

91 005

PROFESSIONAL PLUS STANDARD

## Wood twist drill bit set HSS PrimeCut



Art.-Group 19

8 twist drill bits for wood  
Ø 3 - 4 - 5 - 6 - 7 - 8 - 9 - 10 mm



**8**  
PIECES

P 172

Packaging

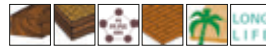
8 pcs. in metal box

Art.-No.

19 701

PROFESSIONAL PLUS STANDARD

## Wood twist drill bit set CV steel V2



Art.-Group 19

5 twist drill bits for wood  
Ø 4 - 5 - 6 - 8 - 10 mm



**5**  
PIECES

P 173

Packaging

5 pcs. in plastic box

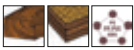
Art.-No.

67 042

PROFESSIONAL PLUS STANDARD

# ECO

## Wood twist drill bit set CV steel ECO



Art.-Group 19

8 twist drill bits for wood  
Ø 3 - 10 mm / 1 mm increasing



**8**  
PIECES

P 172

Packaging

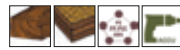
8 pcs. in plastic box

Art.-No.

67 040

PROFESSIONAL PLUS STANDARD

## Wood twist drill bit set CV steel 6.5 mm [1/4"] hexagonal shank



Art.-Group 19

6 wood twist drill bits with hexagonal shank  
Ø 3 - 4 - 5 - 6 - 8 - 10 mm



**6**  
PIECES

P 175

Packaging

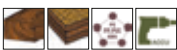
6 pcs. in metal box

Art.-No.

19 301

PROFESSIONAL PLUS STANDARD

## Wood twist drill bit set CV steel 6.5 mm [1/4"] hexagonal shank



Art.-Group 19

5 wood twist drill bits with hexagonal shank  
Ø 3 - 4 - 5 - 6 - 8 mm



**5**  
PIECES

P 172

Packaging

5 pcs. in plastic box

Art.-No.

19 399

PROFESSIONAL PLUS STANDARD

## Wood twist drill bit set CV steel with 10 bits



Art.-Group 19

4 wood twist drill bits with hexagonal shank  
Ø 3 - 4 - 5 - 6 mm

10 bits  
PZ 1 - 2 - 3, hexagonal socket 4 - 5  
and TX 10 - 15 - 20 - 25 - 30

Bit magnet holder



**15**  
PIECES

P 172

Packaging

15 pcs. in plastic box

Art.-No.

19 398

## Wood twist drill bit with countersink set



Art.-Group 19

4 countersinks with wood twist drill bits  
3 - 4 - 5 - 6 mm



**5**  
PIECES

P 177

Packaging

5 pcs. in wooden box

Art.-No.

33 601

## Wood auger drill bit set type LEWIS



Art.-Group 19

6 auger drill bits with straight shank and 6 milled clamping surfaces  
Ø 10 - 12 - 14 - 16 - 18 - 20 mm  
Length 230 mm



**6**  
PIECES

P 178

Packaging

6 pcs. in wooden box

Art.-No.

19 501

## Wood auger drill bit set type LEWIS



Art.-Group 19

6 auger drill bits with straight shank and 6 milled clamping surfaces  
Ø 10 - 12 - 14 - 16 - 18 - 20 mm  
Length 460 mm



**6**  
PIECES

P 178

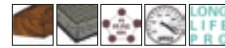
Packaging

6 pcs. in wooden box

Art.-No.

99 930

## Flat wood drill bit set SPEED



Art.-Group 19

8 flat wood drill bits with 6.35 mm [1/4"] hexagon socket  
Ø 12 - 16 - 18 - 20 - 22 - 25 - 28 - 32 mm



**8**  
PIECES

P 176

Packaging

8 pcs. in wooden box

Art.-No.

19 699

## Wood auger drill bit set type LEWIS



Art.-Group 19

6 auger drill bits with straight shank and 6 milled clamping surfaces  
Ø 10 - 12 - 14 - 16 - 18 - 20 mm  
Length - 320 mm



**6**  
PIECES

P 178

Packaging

6 pcs. in wooden box

Art.-No.

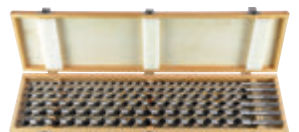
99 979

## Wood auger drill bit set type LEWIS



Art.-Group 19

6 auger drill bits with straight shank and 6 milled clamping surfaces  
Ø 10 - 12 - 14 - 16 - 18 - 20 mm  
Length 600 mm



**6**  
PIECES

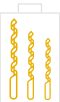
P 178

Packaging

6 pcs. in wooden box

Art.-No.

99 978



PROFESSIONAL PLUS STANDARD

## Cylinder drill bits carbide tipped



Art.-Group 19

5 cylinder drill bits  
Ø 15 - 20 - 25 - 30 - 35 mm



Packaging

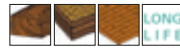
5 pcs. in wooden box

Art.-No.

33 501

PROFESSIONAL PLUS STANDARD

## Machines forstner bit set



Art.-Group 19

5 forstner drill bits  
Ø 15 - 20 - 25 - 30 - 35 mm



Packaging

5 pcs. in wooden box

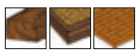
Art.-No.

33 001

PROFESSIONAL PLUS STANDARD

**ECO**

## Machine Forstner bit set ECO



Art.-Group 19

5 forstner drill bits  
Ø 15 - 20 - 25 - 30 - 35 mm



Packaging

5 pcs. in wooden box

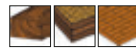
Art.-No.

33 001-1

PROFESSIONAL PLUS STANDARD

**ECO**

## Machine Forstner bit set ECO



Art.-Group 19

15 forstner drill bits  
Ø 10 - 12 - 15 - 16 - 18 - 20 -  
22 - 25 - 26 - 28 - 30 - 35 - 40 -  
45 - 50 mm



Packaging

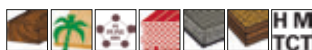
15 pcs. in wooden box

Art.-No.

33 002-1

PROFESSIONAL PLUS STANDARD

## Hole saw set multi-carbide tipped cutting depth 55 mm



Art.-Group 19

Ø 35 - 51 - 68 mm including Quick-Lock adapter 32 - 210 mm

1x TCT + 1x HSS center drill and hex key



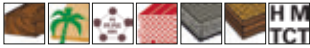
Packaging

7 pcs. in plastic box

Art.-No.

60 592

## Hole saw set carbide tipped cutting depth 55 mm



Ø 19 - 22 - 25 - 32 - 35 - 40 - 44 - 51 - 57 - 64 - 68 - 76 mm  
including Quick-Lock adapter 14 - 30 mm and 32 - 210 mm

1x TCT + 2x HSS center drills and hex key

**18**  
PIECES

P182+P183

### Packaging

18 pcs. in plastic case

Art.-Group 19



Art.-No.

60 591

## Router bit set with Ø 8 mm straight shank



- A) 45° bevel trim bit Ø 28.6 mm
- B) Round over bit Ø 24.7 + 32.7 mm
- C) Cove bit Ø 22.0 + 28.5 mm
- D) Classical roman ogee cutter Ø 35.0 mm
- E) Straight bit Ø 8.0 + 16.0 mm
- F) Flush trim bit Ø 12.7 mm
- G) Core box bit Ø 12.0 mm
- H) Dovetail bit Ø 14.3 mm
- I) 60° Singmarking bit Ø 11.0 mm



Art.-Group 86



**12**  
PIECES

P188-P191

### Packaging

12 pcs. in wooden box

Art.-No.

19 299

PROFESSIONAL PLUS STANDARD

## Jigsaw blade set for wood and plastics



Art.-Group 33

### WoodPRO

2 blades each of art. no. 63101, 63111, 63112, 63122 and 63124



10  
PIECES

P200-P203



#### Packaging

10 pcs. in plastic box

#### Art.-No.

63 001

PROFESSIONAL PLUS STANDARD

## Jigsaw blade set for wood, plastic and metal



Art.-Group 33

1 blade each of art. no. 63101, 63122, 63124, 63201 and 63202



5  
PIECES

P200-P207



#### Packaging

5 pcs. in paper card

#### Art.-No.

63 008

PROFESSIONAL PLUS STANDARD

## Multitool accessories set for wood and metal



Art.-Group 93

1x segment saw blade (66301) for wood & metal Ø 85 mm

2x plunge saw blade (663145) for wood & metal U-Shape 32 mm

2x plunge saw blade (663085) for wood & metal U-Shape 65 mm

5  
PIECES

P 229



#### Packaging

5 pcs. in plastic box

#### Art.-No.

66 399



PROFESSIONAL PLUS STANDARD

## Jigsaw blade set for metal



Art.-Group 33

### MetalPRO

3 blades each of art. no. 63201 and 63202

2 blades each of art. no. 63221 and 63226



10  
PIECES

P205-P207



#### Packaging

10 pcs. in plastic box

#### Art.-No.

63 002

PROFESSIONAL PLUS STANDARD

## Saber saw blade set for wood, plastic and metal



Art.-Group 33

1 blade each of art. no. 64232, 64253 and 64111



3  
PIECES

P211-P216



#### Packaging

3 pcs. in paper card

#### Art.-No.

64 001

STARLOCK

PROFESSIONAL PLUS STANDARD

## Bi-metal hole saw set HSS-Co 8%



### ELECTRIC 1

Ø 22 - 35 - 51 - 57 - 68 - 76 mm  
including Quick-Lock adapter 14 - 30 mm and 32 - 210 mm  
2x HSS center drill bits and 1x hex key

**8**  
PIECES

P237+P239

#### Packaging

8 pcs. in plastic case

Art.-Group 33



Art.-No.

68 902

PROFESSIONAL PLUS STANDARD

## Bi-metal hole saw set HSS-Co 8%



### ELECTRIC 2

Ø 16 - 20 - 25 - 32 - 40 - 51 - 64 mm  
including Quick-Lock adapter 14 - 30 mm and 32 - 210 mm  
2x HSS center drill bits and 1x hex key

**9**  
PIECES

P237+P239

#### Packaging

9 pcs. in plastic case

Art.-Group 33



Art.-No.

68 903

PROFESSIONAL PLUS STANDARD

## Bi-metal hole saw set HSS-Co 8%



### SANITARY

Ø 19 - 25 - 32 - 38 - 44 - 57 - 68 mm 2 x hexagon adapter  
including Quick-Lock adapter 14 - 30 mm and 32 - 210 mm  
2x HSS center drill bits and 1x hex key

**9**  
PIECES

P237+P239

#### Packaging

9 pcs. in plastic case

Art.-Group 33



Art.-No.

68 904



PROFESSIONAL PLUS STANDARD

## Bi-metal hole saw set HSS-Co 8%



### ALLROUND

Ø 19 - 22 - 29 - 32 - 35 - 44 - 54 - 68 mm 2 x hexagon adapter  
including Quick-Lock adapter 14 - 30 mm and 32 - 210 mm  
2x HSS center drill bits and 1x hex key

10  
PIECES

P237+P239

#### Packaging

10 pcs. in plastic case

Art.-Group 33



Art.-No.

68 905

PROFESSIONAL PLUS STANDARD

## Bi-metal hole saw set HSS-Co 8%



### ELECTRIC N

Ø 22 - 29 - 35 - 44 - 51 - 64 - 73 - 76 mm  
including Quick-Lock adapter 14 - 30 mm and 32 - 210 mm  
2x HSS center drill bits and 1x hex key

10  
PIECES

P237+P239

#### Packaging

10 pcs. in plastic case

Art.-Group 33



Art.-No.

68 907

PROFESSIONAL PLUS STANDARD

## Bi-metal hole saw set HSS-Co 8%



### ALLROUND PLUS

Ø 19 - 22 - 25 - 29 - 32 - 35 - 44 - 51 - 57 - 60 - 68 - 76 mm  
including Quick-Lock adapter 14 - 30 mm and 32 - 210 mm  
2x HSS center drill bits and 1x hex key

14  
PIECES

P237+P239

#### Packaging

14 pcs. in plastic case

Art.-Group 33



Art.-No.

68 912



PROFESSIONAL PLUS STANDARD

# Bi-metal hole saw set HSS-Co 8%



## SPECIAL 2

Ø 19 - 22 - 25 - 29 - 32 - 35 - 43 - 51 - 54 - 60 - 64 - 74 mm  
including Quick-Lock adapter 14 - 30 mm and 32 - 210 mm  
2x HSS center drill bits and 1x hex key

**14**  
PIECES

P237+P239

### Packaging

14 pcs. in plastic case



Art.-Group 33

Art.-No.

68 911

PROFESSIONAL PLUS STANDARD

# Bi-metal hole saw set HSS-Co 8%



## UNIVERSAL FLEXIBLE

Ø 19 - 20 - 22 - 25 - 27 - 30 - 32 - 35 - 40 - 44 - 51 - 60 - 68 mm  
1x fast change adapter and 1x HSS center drill bit  
including 13 connecting pieces

**14**  
PIECES

P237+P239

### Packaging

14 pcs. in plastic case



Art.-Group 33

Art.-No.

68 914

PROFESSIONAL PLUS STANDARD

# Bi-metal hole saw set HSS-Co 8%



## UNIVERSAL

Ø 19 - 20 - 22 - 25 - 27 - 29 - 30 - 32 - 35 - 40 - 44 - 51 - 54 - 60 - 68 - 76 - 83 mm  
1x fast change adapter and 1x HSS center drill bit  
including 17 connecting pieces

**18**  
PIECES

P237+P239

### Packaging

18 pcs. in plastic case



Art.-Group 33

Art.-No.

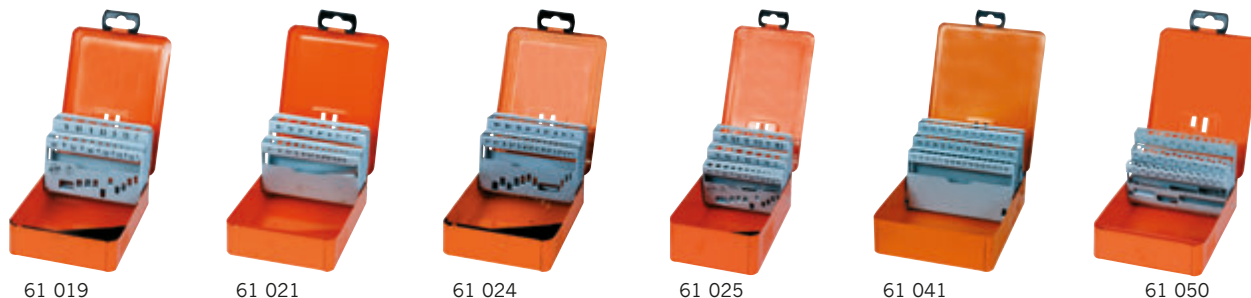
68 913



# Empty boxes and cases for twist drill bits DIN 338

Art.-Group 69

## Metal boxes



61 019

61 021

61 024

61 025

61 041

61 050

## Metal cases



61 600

61 700

## Plastic boxes



670 191

670 251

67 023

67 024

Designation	For ... pcs	Content	Art.-No.
Metal box	19	Ø 1 - 10 / 0.5 mm increasing	61 019
Metal box	21	Ø 2 - 10.2 / 0.5 mm increasing Ø 3.3 - 4.2 - 6.8	61 021
Metal box	24	Ø 1 - 10.5 / 0.5 mm increasing Ø 3.3 - 4.2 - 6.8 - 10.2	61 024
Metal box	25	Ø 1 - 13 / 0.5 mm increasing	61 025
Metal box	41	Ø 6 - 10 / 0.1 mm increasing	61 041
Metal box	50	Ø 1 - 5.9 / 0.1 mm increasing	61 050
Metal case	170	Ø 1 - 10 / 0.5 mm increasing	61 600
Metal case	220	Ø 1 - 13 / 0.5 mm increasing	61 700
Plastic box	19	Ø 1 - 10 / 0.5 mm increasing	670 191
Plastic box	25	Ø 1 - 13 / 0.5 mm increasing	670 251
Plastic box	19	Ø 1 - 10 / 0.5 mm increasing	67 023
Plastic box	25	Ø 1 - 13 / 0.5 mm increasing	67 024

# Sales cabinets for twist drill bits DIN 338

Art.-Group 16

Art.-Group 69

- ▶ For 970 short twist drill bits with cylindrical shank
- ▶ Dimensions: H 460 x W 380 x D 220
- ▶ 10x Ø 1 - 10 / 0.1 mm increasing
- ▶ 10x Ø 10.5 - 13 / 0.5 mm increasing



**970**  
PIECES

Designation	Material	Quality level	information	Art.-Group	Art.-No.
SPEED	HSS-Co 5%	Professional	Page P 74	16	11 026
ECO	HSS-Co 5%	Plus	Page P 78	16	11 025
TURBO	HSS-G	Professional	Page P 82	16	11 014
ECO	HSS-G	Plus	Page P 88	16	11 018
ECO	HSS-R	Plus	Page P 92	16	11 005
Empty cabinet				69	11 105

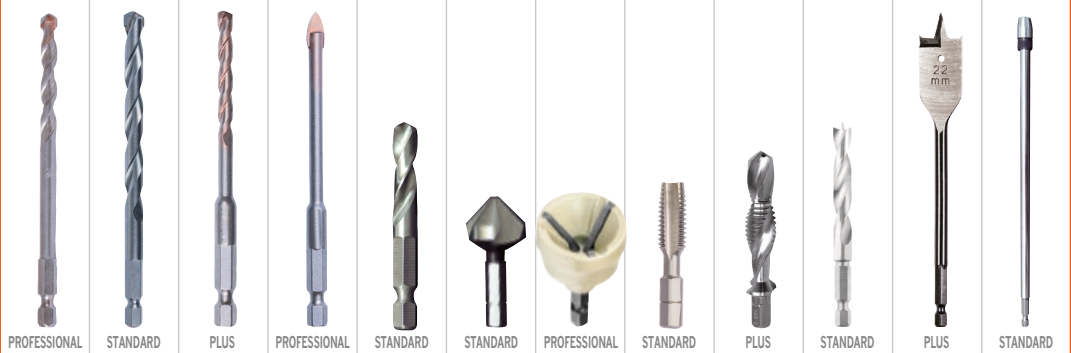
- ▶ For 220 short twist drill bits with cylindrical shank
- ▶ Dimensions: H 235 x W 375 x D 205
- ▶ 10x Ø 1 - 10 / 0.5 mm increasing
- ▶ 5x Ø 10.5 - 13 mm / 0.5 mm increasing



**220**  
PIECES

Designation	Material	Quality level	information	Art.-Group	Art.-No.
SPEED	HSS-Co 5%	Professional	Page P 74	16	11 007
ECO	HSS-Co 5%	Plus	Page P 78	16	11 008
TURBO	HSS-G	Professional	Page P 82	16	11 006
ECO	HSS-G	Plus	Page P 88	16	11 011
ECO	HSS-R	Plus	Page P 92	16	11 004
Empty cabinet				69	11 104

# Overview of tools with 6.35 mm [1/4"] hexagon socket



Quality	PROFESSIONAL	STANDARD	PLUS	PROFESSIONAL	STANDARD	STANDARD	PROFESSIONAL	STANDARD	PLUS	STANDARD	PLUS	STANDARD
Product	MULTI-STAR	Stone drill bit	Roof tile drill bit	Glass drill bit	Twist drill bit	Countersink	Outer reamer	Single cut tap	Combi tap	Wood twist drill bit	SPEED	Extension
Area	Stone				Steel			Thread		Wood		
Ø mm	4 - 10	3 - 10	3.5 - 6	3 - 10	3 - 10	6.3 - 20.5	3 - 54	M3 - M12	M3 - M10	3 - 10	6 - 40	16
Series	570006	50300	53200	59200	13300	35300	35401	91800	91900	19300	19600	19601
Art.-Group	89	57	59	51	06	15	15	13	31	63	65	65
Page	P 43	P 45	P 46	P 47	P 101	P 124	P 125	P 161	P 162	P 175	P 176	P 177
material	+	+	+	+	++	++	++	++	++	++	++	++
Masonry	+++	++	+	+	++	+	+++	++	++	+	+	
Natural stone	+	+	+++	+++	++	++	++	++	++	+	+	
Hollow bricks	+	+	+++	+++	++	++	++	++	++	+	+	
Roofing tile	+++	++	++		++	++	++			++		
Aerated concrete	+	+			++	++	++			+		
Ceramics, tiles	+	+	++		++	++	++			+		
Glass	++	+	+		++	+	++					
Steel pipes, -profiles, solid metal	+	+	++		++	++	++					
Cast iron	++	+++	+		+	++	+					
Nonferrous metals	++	++			++	++	+					
Sheet metals	+	+			++	+						
Aluminum	+	+			++	+						
Plastics	+	+			+							
Perspex	+	+			+							
Wood	+++											
Hard wood	+++											
Laminate coated, parquet	++											
Ply-, soft -wood, chipboard	++											
Gypsum board	+++											

+++ recommended

++ well-suited

+ suitable



# Overview of sets with 6.35 mm [1/4"] hexagonal shank

## Stone



50 301



57 004



57 005



59 201

## Steel



13 302



13 399



35 003

## Wood



19 301



19 399



19 398



19 699

## Thread



91 019

## Stone, Steel and Wood



67 300

Designation	Quality level	Packaging	Art.-Group	Art.-No.
Masonry drill bit set	Standard	8 pcs. in metal box	47	50 301
MULTI-STAR set	Professional	3 pcs. in plastic box	47	57 004
MULTI-STAR set	Professional	5 pcs. in plastic box	47	57 005
Glass drill bit set	Professional	4 pcs. in plastic box	47	59 201
Twist drill bit set	Standard	6 pcs. in metal box	16	13 302
Twist drill bit set	Standard	5 pcs. in plastic box	16	13 399
Countersink sets	Standard	7 pcs. in metal box	16	35 003
Wood drill bit set	Standard	6 pcs. in metal box	19	19 301
Wood drill bit set	Standard	5 pcs. in plastic box	19	19 399
Wood drill bit set with 10 bits	Plus	15 pcs. in plastic box	19	19 398
Flat drill bit set	Plus	8 pcs. in wooden box	19	19 699
Combined machine drill tap set	Plus	7 pcs. in metal box	34	91 019
Mixed set of twist drill bits	Plus	9 pcs. in metal box	16	67 300

Valid since April 1, 2017. All foregoing general terms and conditions herewith lose their validity. Please be advised that general terms and conditions below are a translation of the German general terms and conditions. The German general terms and conditions are also valid for international business.

## 1. General

- 1.1 Our deliveries, services and offers are made exclusively on the basis of these terms and conditions, which will also apply to all future business relations even if they are not expressly agreed anew. These terms and conditions are considered agreed upon receipt of the goods or services at the latest. Counter-confirmations on the part of the purchaser with reference to the purchaser's own terms of business or purchase are hereby rejected.
- 1.2 All agreements made between the purchaser and ourselves for the purpose of performance of this contract must be recorded in writing.

## 2. Place of Performance, Passing of Risk, Insurance

- 2.1 The place of performance for delivery and payment is Dietzenbach.
- 2.2 The risk passes to the purchaser as soon as the consignment has been transferred to the person carrying out the transportation or as soon as it has left our warehouse for the purpose of dispatch. If the dispatch is delayed at the purchaser's request, the risk passes to the purchaser on notification that the consignment is ready for dispatch.

## 3. Offers and Prices

- 3.1 The presentation of our goods on the internet or in the catalogue does not constitute an offer to which we are bound. It is an invitation to our customers to make us a binding offer.
- 3.2 The order placed by our customer represents a binding offer to conclude a contract of sale relating to the ordered goods. Insofar as we acknowledge receipt of the order, this does not represent binding acceptance of the order.
- 3.3 The contract of sale is brought about only when we forward a binding order confirmation to the purchaser or send the ordered goods to the purchaser.
- 3.4 If we submit an offer, it is non-binding and without engagement. Declarations of acceptance and all orders require our confirmation by letter or by written telecommunication to attain legal validity.
- 3.5 We reserve the right to change prices and to make technical modifications. The images of our products in the catalogue and on the internet are not binding. Furthermore, no liability for printing errors is accepted.
- 3.6 The price list valid on the order date applies.
- 3.7 The prices are subject to VAT at the respective statutory rate.
- 3.8 The catalogue indicates the packaging units corresponding to the respective products. The packaging units are the minimum purchase quantity. If an order for a reduced quantity is placed, we increase the order automatically to the relevant packing unit. This procedure does not require the orderer's express consent.

## 4. Shipping Costs

Unless agreed otherwise, the following applies:

- 4.1 Our prices are "ex works", excluding packaging.
- 4.2 From a net order value of Euro 250.- upwards, we deliver free domicile within Germany, including packaging.
- 4.3 A mark-up of Euro 5.00 is charged for orders from domestic customers with a net order value of less than Euro 50.-.

## 5. Delivery and Performance Time

- 5.1 Delivery dates or delivery periods, which may be agreed on a binding or non-binding basis, have to be stated in writing.
- 5.2 We cannot be held responsible for delays in delivery and performance due to force majeure and events which significantly impede or render delivery by us impossible, not merely on a temporary basis – including, in particular, strikes, lockouts, official rulings etc., and inclusive of such events affecting our suppliers and sub-suppliers, even in case of bindingly agreed dates and deadlines. They entitle us to postpone delivery or performance for the duration of the hindrance plus a reasonable lead time, or to withdraw from the contract in whole or in part on account of the part not fulfilled. If the hindrance lasts longer than three months, the purchaser is entitled to withdraw from the unfulfilled part of the contract after having granted a reasonable extension of time. If the delivery period is prolonged or if we are released from our obligations, the purchaser cannot derive any claims for damages from this. We will only have the right to plead the aforementioned circumstances if we have notified the purchaser promptly.
- 5.3 We are entitled to make partial deliveries and render partial performance at any time unless the purchaser excluded partial delivery or partial performance when the contract was concluded.
- 5.4 The adherence to the delivery and performance duties on our part presupposes the punctual and orderly fulfilment of the purchaser's obligations.
- 5.5 If the purchaser defaults on acceptance, we are entitled to claim compensation for the damage or loss we incur. We are entitled to claim liquidated damages for non-fulfilment to the amount of 15% of the agreed purchase price unless the purchaser proves that the damage or loss we incurred is lower or we prove that the damage or loss is higher.
- 5.6 Upon default of acceptance the risk of accidental deterioration and accidental loss passes to the purchaser.

## 6. Special Tools

If we accept an order for special tools and confirm it in writing, we are entitled to deliver a reasonably higher or lower number of units.

## 7. Warranty, Notification of Defects

- 7.1 Immediately after the goods we deliver have arrived at their destination, they have to be inspected and handled with the due care and diligence of a prudent businessman. If the goods are not inspected, we cannot be held liable for any defects. This applies analogously if defects identifiable at a later stage are not promptly notified. We are to be notified of any defects in writing, at the latest within 8 days from receipt of the goods.
- 7.2 Defects of quality are constituted only if the defects exist at the time of delivery. Therefore defects of quality are not constituted if the complaints can be put down to unsuitable or improper use of our tools, natural wear, faulty or negligent handling, excessive workloads, the use of unsuitable operating resources, as well as chemical, electrochemical or electrical influences, insofar as the usability under corresponding special conditions was not agreed.
- 7.3 If defects of quality are constituted, we have the right to choose whether the supplementary performance takes the form of rectification or replacement. We also have the right to issue a commensurate credit note for the article supplied.
- 7.4 The buyer is not entitled to base a rescission claim on defects of quality which only insignificantly reduce the value or fitness for use of the goods.

## 8. Terms of Payment, Default in Payment

- 8.1 The billing amount is due immediately without deductions after receipt of invoice.
- 8.2 Payment will be deemed to have been made only when the sum is at our disposal. In the case of cheques, payment will be deemed to have been made only when the cheque has been cashed.
- 8.3 We are entitled, notwithstanding any purchaser's stipulations to the contrary, to post payments first against the purchaser's older debts. We will inform the purchaser of the nature of this settlement. If costs and interest have accrued, we are entitled to post the payment first against the costs, then against the interest and finally against the principal debt.
- 8.4 The purchaser will be in default on the 30th day after the date of invoice, without a separate notice of default having to be served. In case of default in payment, the unsettled claim bears interest at the rate of 8 percentage points above the respective base rate. The interest is to be set at a lower rate if the purchaser provides evidence of a lower burden. It is admissible for us to produce evidence of higher loss.
- 8.5 The purchaser does not have the right to offset, retain or reduce payments, even in the event of complaints or counterclaims, unless we expressly agree to such or the counterclaims have been res judicata or are undisputed. The buyer has a right of retention only due to counterclaims under the same contractual relationship.

## 9. Reservation of Title

- 9.1 The goods supplied remain our property until settlement of all claims (including all current account balance claims) to which we are entitled from the purchaser on any legal grounds, now or in future.
- 9.2 The goods subject to retention of title may be sold by the purchaser in the ordinary course of business as long as the purchaser is not in default. Pledging or transfer of ownership by way of security is inadmissible. The claims (including all current account balance claims) accruing from the resale or on any other legal grounds (insurance, tort) with respect to the goods subject to retention of title are herewith assigned to us in their entirety by the buyer by way of security. We revocably authorize the purchaser to collect the claims assigned to us, for his account and in his name. This authorization for collection can be revoked only if the purchaser does not duly fulfil his payment obligations.
- 9.3 If a third party attempts to seize the goods subject to retention of title, in particular in case of attachment, the purchaser will draw attention to our ownership and notify us without delay so that we are in a position to enforce our title. If the third party is not in a position to reimburse us for the court and out-of-court costs incurred in this connection, the purchaser will be liable for them.
- 9.4 In case of breach of contract by the purchaser – in particular, default in payment – we are entitled to withdraw from the contract and to demand the return of the goods.

## 10. Limitation of Liability

- 10.1 Claims for damages are excluded, irrespective of the nature of the breach of obligations, including tort, unless deliberate or grossly negligent acts are involved.
- 10.2 In case of breach of fundamental contractual obligations, we are liable for every act of negligence, but only to the extent of the foreseeable damage or loss. Claims for loss of profit, saved expenditure, third-party claims for damages, and other indirect and consequential damage cannot be made unless a quality feature we guarantee has the express purpose of protecting the purchaser from such damage or loss.
- 10.3 The limitations and exclusions of liability set forth in paragraphs 10.1 and 10.2 do not apply to claims arising as a result of fraudulent conduct on our part, nor to liability for guaranteed quality features, claims under product liability law or damage resulting from injury to life, body and health.
- 10.4 To the extent that our liability is excluded or limited, this also applies to our employees, representatives and persons we engage for fulfilling our obligations.

## 11. Protection of Data Privacy

We store and process personal and company-related data as far as is necessary for executing the orders and as far as is admissible under the German Federal Data Protection Act (BDSG).

## 12. Applicable Law, Legal Venue, Severability

- 12.1 All legal relations between the purchaser and ourselves are governed by the laws of the Federal Republic of Germany to the exclusion of the provisions of the United Nations Convention on Contracts for the International Sale of Goods.
- 12.2 The legal venue for all disputes arising directly or indirectly from the contractual relationship is our principal place of business. We have the right to also assert claims at another place of jurisdiction.
- 12.3. Should any one of the above provisions be inoperative, the validity of the other provisions will remain unaffected. The provision concerned is to be replaced by an operative one that most closely resembles the economic intent of the original provision.

# Keyword Index

Keyword	Page	Keyword	Page	Keyword	Page	Keyword	Page
<b>A</b>		<b>E</b>		<b>R</b>			
Accessories for oscillating multitools	226-236	Ejector	112	ROCKET 3	20-23		
Adapter	50	Empty boxes	288	ROCKET 5	14-19		
Adaptor Sleeves	112	Empty cases	288	Roof tile drill bit	46		
Adjustable tap wrench	167	Extension	177	Router bits	188		
ALLRO	46	EXTREME	49				
<b>B</b>		<b>F</b>		<b>S</b>			
Bi-metal hole saws	237-240	Flat chisel	52-62	Saber saw blades	211-224		
Breaker	28-30	Flat counterbore	125	Saber saw blades metal	216-217		
Burrs	131-142	Flat wood drill bit	176	Saber saw blades various materials	218-219		
<b>C</b>		Floor cleaning tool	55	Saber saw blades with U-shank	224		
Canal chisel	56	Form work auger drill bit	180-181	Saber saw blades wood/metal	211-215		
Carbide burrs	131-142	Forstner drill bits	187	Sales cabinets for twist drill bits	289		
Certering drill bit	115	Four-cutter	14-19	Saws	193-242		
Chisel	51-62	<b>G</b>		Scraping chisel	52		
Cleaner	26-27	Glass drill bit	47-48	Scriber carbide tipped	116		
Combined tap bits	162	<b>H</b>		Sets	247-291		
Compressed-air saw blades	225	Hacksaw blade	225	Sets hexagonal shank	290-291		
Concrete core cutter	28, 32	Hammer drill bit	13-25	Sets saws	284-287		
Concrete drill bit	39-40	Hammer drill bit ECO	24-25	Sets steel	256-273		
Connection pieces for hole saws	239	Hammer hollow core bit	29-30	Sets stone	249-255		
Core cutter	28, 32	Hand taps	148-151	Sets thread	274-279		
Core drill bit	126-130	Heavy-Duty	68-69	Sets wood	280-283		
Core drill bit adapter	129	Hole saw TCT	182-185	Shell drill countersink	177		
Countersinks	120-124	Hollow chisel	54-57	Short machine taps	161		
Cylinder drill bits	186	Hollow core bit	29-35	Short twist drill bit	68-94		
<b>D</b>		Hollow saws	182-185, 237-240	Slotting chisel	56		
Diamond drill bit	36-38	Hollow section twist drill bit	111	Spade chisel	52-62		
Diamond drill bit self-cooling	36-37	<b>J</b>		Special saber saw blades	220-222		
Die stocks	166	Jigsaw blades	200-210	SPEED	74-75		
Dies	163-166	Jigsaw blades metal	205-208	Spirit levels	244-246		
DIN 1869	106-107	Jigsaw blades various materials	209-210	Spotle drill	114		
DIN 1869 HSS-Co Typ UF-L	106	Jigsaw blades wood/plastics	200-204	Starlock	226-232		
DIN 1869 HSS-G Typ N	107	<b>L</b>		Starlock Max	235-236		
DIN 1897	97-100	LEWIS	178	Starlock Plus	233-234		
DIN 1897 HSS-Co AlTiN Typ UF-L	97	<b>M</b>		Step drill bit	118-119		
DIN 1897 HSS-Co Typ N	99	Machine nut tap	162	Stop drill bit	18		
DIN 1897 HSS-Co Typ UF-L	98	Machine taps	152-160	SuperSchlag	39		
DIN 1897 HSS-G Typ N	100	Magnetic stick	129	Tap extensions	161		
DIN 338	68-94	Masonry drill bit	9-45	Thread	145-168		
DIN 338 HSS-Co 8% Typ HD	68-69	Masonry drill bit ECO	41	Tile chisel	52-56		
DIN 338 HSS-Co AlTiN Typ UF-L	70-71	Measuring tools	243-246	Tile drill bit	46		
DIN 338 HSS-Co Typ N BASIC	80-81	Metal drill bits	63-144	Tool holder	167		
DIN 338 HSS-Co Typ S SPEED	74-75	Milling drill bit	116	Tube and sheet drill bits	117		
DIN 338 HSS-Co Typ UF-L	72-73	Mortar chisel	56	TURBO	82-83		
DIN 338 HSS-Co Typ VA ECO	78-79	Multi-handle	223	Twist drill bit	68-111, 143-145		
DIN 338 HSS-G TiN Typ N ECO	86	Multi-purpose drill bit	42-44	Twist drill bit hexagonal shank	101		
DIN 338 HSS-G TiN Typ SN	84-85	MULTI-STAR	42-43	Twist drill bits with reduced shank	95-96		
DIN 338 HSS-G Typ N BASIC	90-91	<b>O</b>		Two-cutter	20-25, 39-46		
DIN 338 HSS-G Typ N ECO	88-89	Outer reamer	125	<b>U</b>			
DIN 338 HSS-G Typ N left-hand cutting	87	<b>P</b>		UF-L	70-73, 97-98, 102, 106		
DIN 338 HSS-G Typ N TURBO	82-83	Pointed chisel	52-62	Universal drill bit	49		
DIN 338 HSS-G Typ SN	76-77	PROConnect	31	<b>V</b>			
DIN 338 HSS-R Typ N ECO	92-94	PRODUR	40	V2	173		
DIN 340	102-106	PROgresso	76-77	Versio	32-33		
DIN 340 HSS Typ N	105	<b>Q</b>		<b>W</b>			
DIN 340 HSS-Co Typ UF-L	102			Weld spot cutter	115		
DIN 340 HSS-G Typ N	103-104			Weld spot drill bit	114		
DIN 345	108-110			Wood auger drill bit	178-179		
DIN 345 HSS Typ N	110			Wood drill bit	169-187		
DIN 345 HSS-Co Typ RN	108			Wood twist drill bit	172-174		
DIN 345 HSS-G Typ N	109			Wood twist drill bit ECO	174		
Double end drill bit	113						
Drilling aid	38						
Dust extraction drill bit	26-27						

# Articlenumber List

Art.-No.	Page	Art.-No.	Page	Art.-No.	Page	Art.-No.	Page
10030	92	10980	93	125049	76	140120	82
10040	92	10990	93	125050	76	140130	82
10050	92	11000	93	12505001	77	140140	82
10060	92	11004	289	125051	76	140150	82
10070	92	11005	289	125052	76	140160	82
10075	92	11006	289	125053	76	140170	82
10080	92	11007	289	125054	76	140180	82
10090	92	11008	289	125055	76	140190	82
10100	92	11010	93	12505501	77	140200	82
10110	92	11011	289	125056	76	140210	82
10120	92	11014	289	125057	76	140220	82
10125	92	11018	289	125058	76	140230	82
10130	92	11020	93	125059	76	140240	82
10140	92	11025	289	125060	76	140250	82
10150	92	11026	289	12506001	77	140260	82
10160	92	11030	93	125061	76	140270	82
10170	92	11040	93	125062	76	140280	82
10175	92	11050	93	125063	76	140290	82
10180	92	11060	93	125064	76	140300	82
10190	92	11070	93	125065	76	140310	82
10200	92	11080	93	12506501	77	140320	82
10210	92	11100	93	125066	76	140330	82
10220	92	11104	289	125067	76	140340	82
10225	92	11105	289	125068	76	140350	82
10230	92	11110	93	12506801	77	140360	82
10240	92	11120	93	125069	76	140370	82
10250	92	11130	93	125070	76	140380	82
10260	92	11140	93	12507001	77	140390	82
10270	92	11150	93	125071	76	140400	82
10275	92	11160	93	125072	76	140410	82
10280	92	11170	93	125073	76	140420	82
10290	92	11180	93	125074	76	140430	82
10300	92	11190	93	125075	76	140440	82
10310	92	11200	93	12507501	77	140450	82
10320	92	11210	93	125076	76	140460	82
10325	92	11220	93	125077	76	140470	82
10330	92	11230	93	125078	76	140480	82
10340	92	11240	93	125079	76	140490	82
10350	92	11250	93	125080	76	140500	82
10360	92	11260	93	12508001	77	140510	82
10370	92	11270	93	125081	76	140520	82
10375	92	11280	93	125082	76	140530	82
10380	92	11290	93	125083	76	140540	82
10390	92	11300	93	125084	76	140550	82
10400	92	11350	93	125085	76	140560	82
10410	92	11400	93	12508501	77	140570	82
10420	92	11450	93	125086	76	140580	82
10425	92	11500	93	125087	76	140590	82
10430	92	11550	93	125088	76	140600	82
10440	92	11600	93	125089	76	140610	82
10450	92	11650	93	125090	76	140620	82
10460	92	11700	93	12509001	77	140630	82
10470	92	11750	93	125091	76	140640	82
10475	92	11800	93	125092	76	140650	82
10480	92	11850	93	125093	76	140660	82
10490	92	11900	93	125094	76	140670	82
10500	92	11950	93	125095	76	140680	82
10510	92	12000	93	12509501	77	140690	82
10520	92	125010	76	125096	76	140700	82
10525	92	12501001	77	125097	76	140710	82
10530	92	125011	76	125098	76	140720	82
10540	92	125012	76	125099	76	140730	82
10550	92	125013	76	125100	77	140740	82
10560	92	125014	76	12510001	77	140750	82
10570	92	125015	76	125102	77	140760	82
10575	92	12501501	77	12510201	77	140770	82
10580	92	125016	76	125105	77	140780	82
10590	92	125017	76	12510501	77	140790	82
10600	92	125018	76	125110	77	140800	82
10610	92	125019	76	12511001	77	140810	82
10620	92	125020	76	125115	77	140820	82
10625	92	12502001	77	12511501	77	140830	82
10630	92	125021	76	125120	77	140840	82
10640	92	125022	76	12512001	77	140850	82
10650	92	125023	76	125125	77	140860	82
10660	92	125024	76	12512501	77	140870	82
10670	92	125025	76	125130	77	140880	82
10675	92	12502501	77	12513001	77	140890	82
10680	92	125026	76	125135	77	140900	82
10690	92	125027	76	125140	77	140910	82
10700	92	125028	76	125145	77	140920	82
10710	92	125029	76	125150	77	140930	82
10720	92	125030	76	125160	77	140940	82
10725	92	12503001	77	125170	77	140950	82
10730	92	125031	76	125180	77	140960	82
10740	92	12503101	77	125190	77	140970	82
10750	92	125032	76	125200	77	140980	82
10760	92	12503201	77	13302	101	140990	82
10770	92	125033	76	133030	101	141000	82
10780	92	12503301	77	133032	101	141010	82
10790	92	125034	76	133035	101	141020	82
10800	92	125035	76	133040	101	141030	82
10810	92	12503501	76	133042	101	141040	83
10820	92	125036	76	133045	101	141050	83
10825	92	125037	76	133048	101	141060	83
10830	92	125038	76	133050	101	141070	83
10840	92	125039	76	133060	101	141080	83
10850	92	125040	76	133070	101	141090	83
10860	92	12504001	76	133080	101	141100	83
10870	92	125041	76	133090	101	141110	83
10875	92	12504101	77	133100	101	141120	83
10880	92	125042	76	13399	101	141130	83
10890	92	12504201	77	140030	82	141140	83
10900	93	125043	76	140040	82	141150	83
10910	93	125044	76	140050	82	141160	83
10920	93	125045	76	140060	82	141170	83
10930	93	12504501	77	140070	82	141180	83
10940	93	125046	76	140080	82	141190	83
10950	93	125047	76	140090	82	141200	83
10960	93	125048	76	140100	82	141210	83
10970	93	12504801	77	140110	82	141220	83



# Articlenumber List

Art.-No.	Page	Art.-No.	Page	Art.-No.	Page	Art.-No.	Page
141230	83	16130-10	83	18088	88	185091	90
141240	83	170301	107	18089	88	185092	90
141250	83	170331	107	18090	88	185093	90
141260	83	170401	107	18090L	87	185094	90
141270	83	170421	107	18091	88	185095	90
141280	83	170451	107	18092	88	185096	90
141290	83	170501	107	18093	88	185097	90
141300	83	170601	107	18094	88	185098	90
141350	83	170681	107	18095	88	185099	90
141400	83	170701	107	18095L	87	185100	90
141450	83	170801	107	18096	88	185102	90
141500	83	170851	107	18097	88	185105	90
141550	83	170901	107	18098	88	185110	90
141600	83	171001	107	18099	88	185115	90
15010	93	18010	88	18100	88	185120	90
15015	93	18010L	87	18100L	87	185125	90
15020	93	18011	88	18102	88	185130	90
15025	93	18012	88	18102L	87	19030	174
15030	93	18013	88	18105	88	19040	174
15031	93	18014	88	18105L	87	19050	174
15032	93	18015	88	18110	88	19060	174
15033	93	18015L	87	18110L	87	1906250	174
15035	93	18016	88	18115	88	19070	174
15040	93	18017	88	18115L	87	19080	174
15041	93	18018	88	18120	88	1908250	174
15042	93	18019	88	18120L	87	19090	174
15045	93	18020	88	18125	88	19100	174
15048	93	18020L	87	18125L	87	1910250	174
15050	93	18021	88	18130	88	1910400	174
15055	93	18022	88	18130L	87	19110	174
15060	93	18023	88	185010	90	19120	174
15065	93	18024	88	185011	90	1912250	174
15068	93	18025	88	185012	90	1912400	174
15070	93	18025L	87	185013	90	19130	174
15075	93	18026	88	185014	90	19140	174
15080	93	18027	88	185015	90	1914250	174
15085	93	18028	88	185016	90	1914400	174
15090	93	18029	88	185017	90	19150	174
15095	93	18030	88	185018	90	19160	174
15100	93	18030L	87	185019	90	1916250	174
15102	93	18031	88	185020	90	1916400	174
15105	93	18032	88	185021	90	19180	174
15110	93	18032L	87	185022	90	1918250	174
15115	93	18033	88	185023	90	1918400	174
15120	93	18034	88	185024	90	19200	174
15125	93	18035	88	185025	90	1920250	174
15130	93	18035L	87	185026	90	1920400	174
16010	89	18036	88	185027	90	19220	174
16010-10	83	18037	88	185028	90	19240	174
16015	89	18038	88	185029	90	19260	174
16015-10	83	18039	88	185030	90	19280	174
16020	89	18040	88	185031	90	19299	192
16020-10	83	18040L	87	185032	90	19300	174
16025	89	18041	88	185033	90	19301	175
16025-10	83	18042	88	185034	90	19303	175
16030	89	18042L	87	185035	90	19304	175
16030-10	83	18043	88	185036	90	19305	175
16031	89	18044	88	185037	90	19306	175
16031-10	83	18045	88	185038	90	19308	175
16032	89	18045L	87	185039	90	19310	175
16032-10	83	18046	88	185040	90	19398	174
16033	89	18047	88	185041	90	19399	174
16035	89	18048	88	185042	90	19403	173
16035-10	83	18049	88	185043	90	19404	173
16040	89	18050	88	185044	90	19405	173
16040-10	83	18050L	87	185045	90	19406	173
16041	89	18051	88	185046	90	19407	173
16041-10	83	18052	88	185047	90	19408	173
16042	89	18053	88	185048	90	19409	173
16042-10	83	18054	88	185049	90	19410	173
16045	89	18055	88	185050	90	19411	173
16045-10	83	18055L	87	185051	90	19412	173
16048	89	18056	88	185052	90	19413	173
16048-10	83	18057	88	185053	90	19414	173
16050	89	18058	88	185054	90	19415	173
16050-10	83	18059	88	185055	90	19416	173
16055	89	18060	88	185056	90	19418	173
16055-10	83	18060L	87	185057	90	19420	173
16060	89	18061	88	185058	90	19501	178
16060-10	83	18062	88	185059	90	19506200	178
16065	89	18063	88	185060	90	19506320	178
16065-10	83	18064	88	185061	90	19506450	178
16068	89	18065	88	185062	90	19507200	178
16068-10	83	18065L	87	185063	90	19507450	178
16070	89	18066	88	185064	90	19508200	178
16070-10	83	18067	88	185065	90	19508320	178
16075	89	18068	88	185066	90	19508450	178
16075-10	83	18068L	87	185067	90	19508600	178
16080	89	18069	88	185068	90	19509200	178
16080-10	83	18070	88	185069	90	19509450	178
16085	89	18070L	87	185070	90	19510200	178
16085-10	83	18071	88	185071	90	19510320	178
16090	89	18072	88	185072	90	19510450	178
16090-10	83	18073	88	185073	90	19510600	178
16095	89	18074	88	185074	90	19512200	178
16095-10	83	18075	88	185075	90	19512320	178
16100	89	18075L	87	185076	90	19512450	178
16100-10	83	18076	88	185077	90	19512600	178
16102	89	18077	88	185078	90	19514200	178
16102-10	83	18078	88	185079	90	19514320	178
16105	89	18079	88	185080	90	19514450	178
16105-10	83	18080	88	185081	90	19514600	178
16110	89	18080L	87	185082	90	19516200	178
16110-10	83	18081	88	185083	90	19516320	178
16115	89	18082	88	185084	90	19516450	178
16115-10	83	18083	88	185085	90	19516600	178
16120	89	18084	88	185086	90	19518200	178
16120-10	83	18085	88	185087	90	19518320	178
16125	89	18085L	87	185088	90	19518450	178
16125-10	83	18086	88	185089	90	19518600	178
16130	89	18087	88	185090	90	19520200	178

# Articlenumber List

Art.-No.	Page	Art.-No.	Page	Art.-No.	Page	Art.-No.	Page
19520320	178	21350	110	22750	110	23090001	69
19520450	178	21400	110	22800	110	230910	68
19520600	178	21450	110	22850	110	230920	68
19522200	178	21500	110	22900	110	230930	68
19522320	178	21550	110	22950	110	230940	68
19522450	178	21600	110	23000	110	230950	68
19522600	178	21650	110	230100	68	23095001	69
19524200	178	21700	110	23010001	69	230960	68
19524320	178	21750	110	230110	68	230970	68
19524450	178	21800	110	230120	68	230980	68
19524600	178	21850	110	230130	68	230990	68
19526200	178	21900	110	230140	68	23100	110
19526320	178	21950	110	230150	68	231000	68
19526450	178	22000	110	23015001	69	23100001	69
19526600	178	220100	109	230160	68	231020	68
19528200	178	220105	109	230170	68	231050	68
19528320	178	220110	109	230180	68	231100	68
19528450	178	220115	109	230190	68	231150	68
19528600	178	220120	109	230200	68	231200	68
19530200	178	220125	109	23020001	69	231250	68
19530320	178	220130	109	230210	68	231300	68
19530450	178	220135	109	230220	68	23150	110
19530600	178	220140	109	230230	68	23200	110
19532200	178	220145	109	230240	68	23250	110
19532320	178	220150	109	230250	68	23300	110
19532450	178	220155	109	23025001	69	23350	110
19532600	178	220160	109	230260	68	23400	110
19534200	178	220165	109	230270	68	23450	110
19536200	178	220170	109	230280	68	23500	110
19601	177	220175	109	230290	68	23550	110
19606	176	220180	109	230300	68	23600	110
19606400	176	220185	109	23030001	69	23650	110
19608	176	220190	109	230310	68	23700	110
19608400	176	220195	109	23031001	69	23750	110
19610	176	220200	109	230320	68	23800	110
19610400	176	220205	109	23032001	69	23850	110
19612	176	220210	109	230330	68	23900	110
19612400	176	220215	109	23033001	69	23950	110
19613	176	220220	109	230340	68	24000	110
19614	176	220225	109	230350	68	240070	108
19614400	176	220230	109	23035001	69	240075	108
19616	176	220235	109	230360	68	240080	108
19616400	176	220240	109	230370	68	240090	108
19618	176	220245	109	230380	68	240095	108
19618400	176	220250	109	230390	68	240100	108
19619	176	220255	109	230400	68	240105	108
19620	176	220260	109	23040001	69	240110	108
19620400	176	220265	109	230410	68	240115	108
19622	176	220270	109	23041001	69	240120	108
19622400	176	220275	109	230420	68	240125	108
19624	176	220280	109	23042001	69	240130	108
19624400	176	220285	109	230430	68	240135	108
19625	176	220290	109	230440	68	240140	108
19625400	176	220295	109	230450	68	240145	108
19626	176	220300	109	23045001	69	240150	108
19628	176	220305	109	230460	68	240155	108
19628400	176	220310	109	230470	68	240160	108
19630	176	220315	109	230480	68	240165	108
19630400	176	220320	109	23048001	69	240170	108
19632	176	220325	109	230490	68	240175	108
19632400	176	220330	109	23050	110	240180	108
19634	176	220335	109	230500	68	240185	108
19635	176	220340	109	23050001	69	240190	108
19636	176	220345	109	230510	68	240195	108
19638	176	220350	109	230520	68	240200	108
19640	176	220355	109	230530	68	240205	108
19699	176	220360	109	230540	68	240210	108
19701	172	220365	109	230550	68	240215	108
19703	172	220370	109	23055001	69	240220	108
19704	172	220375	109	230560	68	240225	108
19705	172	220380	109	230570	68	240230	108
19706	172	220385	109	230580	68	240235	108
19707	172	220390	109	230590	68	240240	108
19708	172	220395	109	230600	68	240245	108
19709	172	220400	109	23060001	69	240250	108
19710	172	220405	109	230610	68	240255	108
19711	172	220410	109	230620	68	240260	108
19712	172	220415	109	230630	68	240265	108
19713	172	220420	109	230640	68	240270	108
19714	172	220425	109	230650	68	240275	108
19715	172	220430	109	23065001	69	240280	108
19716	172	220435	109	230660	68	240285	108
19806200	179	220440	109	230670	68	240290	108
19808200	179	220445	109	230680	68	240295	108
19810200	179	220450	109	23068001	69	240300	108
19810450	179	220455	109	230690	68	240310	108
19812200	179	220460	109	230700	68	240320	108
19812450	179	220465	109	23070001	69	240330	108
19814200	179	220470	109	230710	68	240340	108
19814450	179	220475	109	230720	68	240350	108
19816200	179	220480	109	230730	68	240360	108
19816450	179	220485	109	230740	68	240370	108
19818200	179	220490	109	230750	68	240380	108
19818450	179	220495	109	23075001	69	240390	108
19820200	179	220500	110	230760	68	240400	108
19820450	179	220505	109	230770	68	240410	108
19822200	179	220510	109	230780	68	240420	108
19822450	179	220515	109	230790	68	240430	108
19824200	179	220520	109	23079001	69	240440	108
19824450	179	220525	109	230800	68	240450	108
20800	110	22100	110	23080001	69	240460	108
20850	110	22200	110	230810	68	240470	108
20900	110	22250	110	230820	68	240480	108
20950	110	22300	110	230830	68	240490	108
21000	110	22350	110	230840	68	24050	110
21050	110	22400	110	230850	68	240500	108
21100	110	22450	110	23085001	69	24100	110
21150	110	22500	110	230860	68	24150	110
21200	110	22550	110	230870	68	24200	110
21250	110	22600	110	230880	68	24250	110
21300	110	22650	110	230890	68	24300	110
		22700	110	230900	68	24350	110

# Articlenumber List

Art.-No.	Page	Art.-No.	Page	Art.-No.	Page	Art.-No.	Page
24400	110	25500	110	260590	74	28068	79
24450	110	255010	80	260600	74	28070	79
24500	110	255015	80	26060001	75	28075	79
24550	110	255020	80	260610	74	28080	79
24600	110	255025	80	260620	74	28085	79
24650	110	255030	80	260630	74	28090	79
24700	110	255031	80	260640	74	28095	79
24750	110	255032	80	260650	74	28100	79
24800	110	255033	80	26065001	75	28102	79
24850	110	255035	80	260660	74	28105	79
24900	110	255038	80	260670	74	28110	79
24950	110	255040	80	260680	74	28115	79
25000	110	255041	80	26068001	75	28120	79
250100	78	255042	80	260690	74	28125	79
250110	78	255045	80	260700	74	28130	79
250120	78	255048	80	26070001	75	29010	84
250130	78	255050	80	260710	74	29015	84
250140	78	255051	80	260720	74	29020	84
250150	78	255052	80	260730	74	29021	84
250160	78	255055	80	260740	74	29022	84
250170	78	255060	80	260750	74	29023	84
250180	78	255062	80	26075001	75	29024	84
250190	78	255065	80	260760	74	29025	84
250200	78	255068	80	260770	74	29026	84
250210	78	255070	80	260780	74	29027	84
250220	78	255075	80	260790	74	29028	84
250230	78	255080	80	260800	74	29029	84
250240	78	255082	80	26080001	75	29030	84
250250	78	255085	80	260810	74	29031	84
250260	78	255090	80	260820	74	29032	84
250270	78	255095	80	260830	74	29033	84
250280	78	255100	80	260840	74	29034	84
250290	78	255102	80	260850	74	29035	84
250300	78	255105	80	26085001	75	29036	84
250310	78	255110	80	260860	74	29037	84
250320	78	255115	80	260870	74	29038	84
250330	78	255120	80	260880	74	29039	84
250340	78	255125	80	260890	74	29040	84
250350	78	255130	80	260900	74	29041	84
250360	78	25600	110	26090001	75	29042	84
250370	78	260040	74	260910	74	29043	84
250380	78	260050	74	260920	74	29044	84
250390	78	260060	74	260930	74	29045	84
250400	78	260070	74	260940	74	29046	84
250410	78	260080	74	260950	74	29047	84
250420	78	260090	74	26095001	75	29048	84
250430	78	260100	74	260960	74	29049	84
250440	78	26010001	75	260970	75	29050	84
250450	78	260110	74	260980	75	29051	84
250460	78	260120	74	260990	75	29052	84
250470	78	260130	74	261000	75	29053	84
250480	78	260140	74	26100001	75	29054	84
250490	78	260150	74	261010	75	29055	84
250500	78	26015001	75	261020	75	29056	84
250510	78	260160	74	26102001	75	29057	84
250520	78	260170	74	261030	75	29058	84
250530	78	260180	74	261050	75	29059	84
250540	78	260190	74	26105001	75	29060	84
250550	78	260200	74	261060	75	29061	84
250560	78	26020001	75	261070	75	29062	84
250570	78	260210	74	261080	75	29063	84
250580	78	260220	74	261100	75	29064	84
250590	78	260230	74	26110001	75	29065	84
250600	78	260240	74	261110	75	29066	84
250610	78	260250	74	261120	75	29067	84
250620	78	26025001	75	261130	75	29068	84
250630	78	260260	74	261150	75	29069	84
250640	78	260270	74	26115001	75	29070	84
250650	78	260280	74	261160	75	29071	84
250660	78	260290	74	261170	75	29072	84
250670	78	260300	74	261180	75	29073	84
250680	78	26030001	75	261200	75	29074	84
250690	78	260310	74	26120001	75	29075	84
250700	78	26031001	75	261210	75	29076	84
250710	78	260320	74	261220	75	29077	84
250720	78	26032001	75	261230	75	29078	84
250730	78	260330	74	261250	75	29079	84
250740	78	26033001	75	26125001	75	29080	84
250750	78	260340	74	261280	75	29085	84
250760	78	260350	74	261300	75	29090	84
250770	78	26035001	75	26130001	75	29095	84
250780	78	260360	74	27021	112	29100	84
250790	78	260370	74	27031	112	29102	84
250800	78	260380	74	27032	112	29105	84
250810	78	260390	74	27041	112	29110	84
250820	78	260400	74	27042	112	29115	84
250830	78	26040001	75	27043	112	29120	84
250840	78	260410	74	27053	112	29125	84
250850	78	26041001	75	27054	112	29130	84
250860	78	260420	74	28003	112	295010	86
250870	78	26042001	75	28004	112	295015	86
250880	78	260430	74	28010	79	295020	86
250890	78	260440	74	28012	112	295025	86
250900	78	260450	74	28015	79	295030	86
250910	78	26045001	75	28020	79	295032	86
250920	78	260460	74	28025	79	295035	86
250930	78	260470	74	28030	79	295040	86
250940	78	260480	74	28031	79	295042	86
250950	78	26048001	75	28032	79	295045	86
250960	78	260490	74	28033	79	295050	86
250970	78	260500	74	28035	79	295052	86
250980	78	26050001	75	28040	79	295055	86
250990	78	260510	74	28041	79	295060	86
251000	78	260520	74	28042	79	295065	86
251020	78	260530	74	28045	79	295068	86
251050	78	260540	74	28048	79	295070	86
251100	78	260550	74	28050	79	295075	86
251150	78	26055001	75	28055	79	295080	86
251200	78	260560	74	28056	112	295085	86
251250	78	260570	74	28060	79	295090	86
251300	78	260580	74	28065	79	295095	86

# Articlenumber List

Art.-No.	Page	Art.-No.	Page	Art.-No.	Page	Art.-No.	Page
295100	86	310260	105	32059	70	33210127	190
295102	86	310270	105	32060	70	33211317	190
295105	86	310280	105	32061	70	33212080	191
295110	86	310290	105	32062	70	33213317	191
295115	86	310300	105	32063	70	33213381	191
295120	86	310310	105	32064	70	33214381	191
295125	86	310320	105	32065	70	332154015	192
295130	86	310330	105	32066	70	332154020	192
2975-010	246	310340	105	32067	70	332154025	192
2975-011	246	310350	105	32068	70	332154030	192
2975-030	246	310360	105	32069	70	332154035	192
2975-040	246	310370	105	32070	70	332154040	192
2975-060	246	310380	105	32071	70	33510	186
2975-080	246	310390	105	32072	70	33515	186
2975-100	246	310400	105	32073	70	33516	186
2975-120	246	310410	105	32074	70	33518	186
2975-150	246	310420	105	32075	70	33520	186
2975-180	246	310430	105	32076	70	33522	186
2975-200	246	310440	105	32077	70	33524	186
2976-030	244	310450	105	32078	70	33525	186
2976-031	245	310460	105	32079	70	33526	186
2976-040	244	310470	105	32080	70	33530	186
2976-041	245	310480	105	32081	70	33535	186
2976-060	244	310490	105	32082	70	33540	186
2976-061	245	31050	103	32083	70	33545	186
2976-080	244	310500	105	32084	70	33550	186
2976-081	245	310505	104	32085	70	33601	177
2976-100	244	310510	105	32086	70	33603	177
2976-101	245	310520	105	32087	70	33604	177
2976-120	244	310530	105	32088	70	33605	177
2976-150	244	310540	105	32089	70	33606	177
2976-180	244	310550	105	32090	70	33608	177
2976-200	244	310560	105	32091	70	33610	177
30100	103	310570	105	32092	70	34015	72
30150	103	310580	105	32093	70	34016	72
30200	103	310590	105	32094	70	34017	72
302005	104	310600	105	32095	70	34018	72
30250	103	310610	105	32096	70	34019	72
302505	104	310620	105	32097	70	34020	72
30280	103	310630	105	32098	70	34021	72
30300	103	310640	105	32099	70	34022	72
303005	104	310650	105	32100	70	34023	72
30310	103	310680	105	32102	70	34024	72
30320	103	310700	105	32105	71	34025	72
303205	104	310750	105	32110	71	34026	72
30330	103	310800	105	32115	71	34027	72
30340	103	310850	105	32120	71	34028	72
30350	103	310900	105	32125	71	34029	72
303505	104	310950	105	32130	71	34030	72
30360	103	31100	103	32135	71	34031	72
30370	103	311000	105	32140	71	34032	72
30380	103	311005	104	32145	71	34033	72
30390	103	311020	105	32150	71	34034	72
30400	103	311050	105	32155	71	34035	72
304005	104	311100	105	32160	71	34036	72
30410	103	311150	105	33001	187	34037	72
30420	103	311200	105	33001-1	282	34038	72
304205	104	311250	105	33002-1	282	34039	72
30430	103	311300	105	33010	187	34040	72
30440	103	31150	103	33012	187	34041	72
30450	103	311505	104	33014	187	34042	72
304505	104	31200	103	33015	187	34043	72
30460	103	312005	104	33016	187	34044	72
30470	103	31250	103	33018	187	34045	72
30480	103	312505	104	33020	187	34046	72
304805	104	31300	103	33022	187	34047	72
30490	103	313005	104	33024	187	34048	72
30500	103	32015	70	33025	187	34049	72
305005	104	32016	70	33026	187	34050	72
30510	103	32017	70	33028	187	34051	72
30520	103	32018	70	33030	187	34052	72
30530	103	32019	70	33032	187	34053	72
30540	103	32020	70	33034	187	34054	72
30550	103	32021	70	33035	187	34055	72
305505	104	32022	70	33036	187	34056	72
30560	103	32023	70	33038	187	34057	72
30570	103	32024	70	33040	187	34058	72
30580	103	32025	70	33045	187	34059	72
30590	103	32026	70	33050	187	34060	72
30600	103	32027	70	33055	187	34061	72
306005	104	32028	70	33060	187	34062	72
30610	103	32029	70	33201030	188	34063	72
30620	103	32030	70	33201040	188	34064	72
30630	103	32031	70	33201050	188	34065	72
30640	103	32032	70	33201060	188	34066	72
30650	103	32033	70	33201080	188	34067	72
306505	104	32034	70	33201100	188	34068	72
30680	103	32035	70	33201120	188	34069	72
306805	104	32036	70	33201140	188	34070	72
30700	103	32037	70	33201160	188	34071	72
307005	104	32038	70	33201180	188	34072	72
30750	103	32039	70	33201200	188	34073	72
307505	104	32040	70	33201220	188	34074	72
30800	103	32041	70	33201240	188	34075	72
308005	104	32042	70	33201254	188	34076	72
30850	103	32043	70	33202095	188	34077	72
308505	104	32044	70	33202127	188	34078	72
30900	103	32045	70	33203317	188	34079	72
309005	104	32046	70	33203381	188	34080	72
30950	103	32047	70	33204254	189	34081	72
309505	104	32048	70	33204287	189	34082	72
31000	103	32049	70	33204317	189	34083	72
310005	104	32050	70	33204381	189	34084	72
31020	103	32051	70	33205254	189	34085	72
310200	105	32052	70	33205287	189	34086	72
310205	104	32053	70	33205317	189	34087	72
310210	105	32054	70	33205381	189	34088	72
310220	105	32055	70	33206140	189	34089	72
310230	105	32056	70	33207110	189	34090	72
310240	105	32057	70	33208143	190	34091	72
310250	105	32058	70	33209320	190	34092	72

# Articlenumber List

Art.-No.	Page	Art.-No.	Page	Art.-No.	Page	Art.-No.	Page
34093	72	36912	125	38720030	126	410600	99
34094	72	38312035	128	38720055	126	410650	99
34095	72	38313035	128	38721030	126	410680	99
34096	72	38314035	128	38721055	126	410700	99
34097	72	38315035	128	38722030	126	410750	99
34098	72	38316035	128	38722055	126	410800	99
34099	72	38317035	128	38723030	126	410850	99
34100	72	38318035	128	38723055	126	410900	99
34102	72	38319035	128	38724030	126	410950	99
34105	72	38320035	128	38724055	126	411000	99
34110	72	38321035	128	38725030	126	411020	99
34115	72	38322035	128	38725055	126	42020	102
34120	72	38323035	128	38726030	126	42025	102
34125	72	38324035	128	38726055	126	42030	102
34130	72	38325035	128	38727030	126	42032	102
34135	73	38326035	128	38727055	126	42033	102
34140	73	38327035	128	38728030	126	42035	102
34145	73	38328035	128	38728055	126	42040	102
34150	73	38329035	128	38729030	126	42042	102
34155	73	38330035	128	38729055	126	42045	102
34160	73	38331035	128	38730030	126	42050	102
35003	124	38332035	128	38730055	126	42052	102
35006	122	38335035	128	38731030	126	42055	102
35063	122	38340035	128	38731055	126	42060	102
35080	122	38345035	128	38732030	126	42065	102
35083	122	38350035	128	38732055	126	42068	102
35100	122	38355035	128	38735030	126	42070	102
35104	122	38360035	128	38735055	126	42075	102
35120	122	38500002	129	38740030	126	42080	102
35124	122	38500003	129	38740055	126	42085	102
35160	122	38501002	129	38745030	126	42090	102
35165	122	38501003	129	38745055	126	42095	102
35200	122	38502002	129	38750030	126	42100	102
35205	122	38502003	129	38750055	126	42102	102
35250	122	38503001	129	38755030	126	42105	102
35280	122	38503002	129	38755055	126	42110	102
35300	122	38504001	129	38760030	126	42115	102
353063	124	38505001	129	38760055	126	42120	102
353083	124	38505002	129	39100	115	42125	102
353104	124	38509001	129	39160	115	42130	102
353124	124	38509003	129	39200	115	430201	106
353165	124	38512030	127	39250	115	430251	106
353205	124	38512055	127	39315	115	430301	106
35401	125	38513030	127	39400	115	430302	106
35402	125	38513055	127	39500	115	430331	106
35403	125	38514030	127	39630	115	430332	106
356063	122	38514055	127	40200	100	430351	106
356080	122	38515030	127	40250	100	430352	106
356083	122	38515055	127	40280	100	430353	106
356100	122	38516030	127	40300	100	430401	106
356104	122	38516055	127	40310	100	430402	106
356120	122	38517030	127	40320	100	430403	106
356124	122	38517055	127	40325	100	430421	106
356160	122	38518030	127	40330	100	430422	106
356165	122	38518055	127	40340	100	430423	106
356200	122	38519030	127	40350	100	430451	106
356205	122	38519055	127	40360	100	430452	106
356250	122	38520030	127	40370	100	430453	106
356280	122	38520055	127	40380	100	430501	106
356300	122	38521030	127	40390	100	430502	106
35701	121	38521055	127	40400	100	430503	106
357063	121	38522030	127	40410	100	430551	106
357083	121	38522055	127	40420	100	430552	106
357104	121	38523030	127	40430	100	430553	106
357124	121	38523055	127	40440	100	430601	106
357165	121	38524030	127	40450	100	430602	106
357205	121	38524055	127	40480	100	430603	106
357250	121	38525030	127	40490	100	430651	106
357300	121	38525055	127	40500	100	430652	106
358063	121	38526030	127	40510	100	430653	106
358083	121	38526055	127	40520	100	430681	106
358104	121	38527030	127	40550	100	430682	106
358124	121	38527055	127	40570	100	430683	106
358165	121	38528030	127	40600	100	430701	106
358205	121	38528055	127	40650	100	430702	106
358250	121	38529030	127	40680	100	430703	106
358300	121	38529055	127	40700	100	430751	106
35901	120	38530030	127	40750	100	430752	106
359063	120	38530055	127	40800	100	430753	106
359083	120	38531030	127	40850	100	430801	106
359104	120	38531055	127	40900	100	430802	106
359124	120	38532030	127	40950	100	430803	106
359165	120	38532055	127	41000	100	430851	106
359205	120	38535030	127	41020	100	430852	106
359250	120	38535055	127	410200	99	430853	106
359300	120	38540030	127	410250	99	430901	106
36055	123	38540055	127	410280	99	430902	106
36601	123	38545030	127	410300	99	430903	106
36602	123	38545055	127	410310	99	430951	106
36603	123	38550030	127	410320	99	430952	106
36604	123	38550055	127	410325	99	430953	106
36703	125	38555030	127	410330	99	431001	106
36704	125	38555055	127	410340	99	431002	106
36705	125	38560030	127	410350	99	431003	106
36706	125	38560055	127	410360	99	431021	106
36708	125	38712030	126	410370	99	431022	106
36710	125	38712055	126	410380	99	431023	106
36712	125	38713030	126	410390	99	431051	106
36803	125	38713055	126	410400	99	431052	106
36804	125	38714030	126	410410	99	431053	106
36805	125	38714055	126	410420	99	431101	106
36806	125	38715030	126	410430	99	431102	106
36808	125	38715055	126	410440	99	431103	106
36810	125	38716030	126	410450	99	431151	106
36812	125	38716055	126	410480	99	431152	106
36903	125	38717030	126	410490	99	431153	106
36904	125	38717055	126	410500	99	431201	106
36905	125	38718030	126	410510	99	431202	106
36906	125	38718055	126	410520	99	431203	106
36908	125	38719030	126	410550	99	431251	106
36910	125	38719055	126	410570	99	431252	106

# Articlenumber List

Art.-No.	Page	Art.-No.	Page	Art.-No.	Page	Art.-No.	Page
431253	106	45600	113	49140	96	52000	41
431301	106	46020	97	49145	96	520400	41
431302	106	46021	97	49150	96	52200	41
431303	106	46022	97	49155	96	522400	41
431351	106	46023	97	49160	96	524400	41
431352	106	46024	97	49165	96	52500	41
431401	106	46025	97	49170	96	525400	41
431402	106	46026	97	49175	96	532035	46
431451	106	46027	97	49180	96	53203510	46
431452	106	46028	97	49185	96	532040	46
431501	106	46029	97	49190	96	53204010	46
431502	106	46030	97	49195	96	532050	46
431551	106	46031	97	49200	96	53205010	46
431552	106	46032	97	49205	96	532060	46
431601	106	46033	97	49210	96	53206010	46
431602	106	46034	97	49215	96	54100	35
44020	98	46035	97	49220	96	54166	35
44021	98	46036	97	49225	96	54180	35
44022	98	46037	97	49230	96	55001	40
44023	98	46038	97	49235	96	55030	40
44024	98	46039	97	49240	96	55040	40
44025	98	46040	97	49245	96	55050	40
44026	98	46041	97	49250	96	5505150	40
44027	98	46042	97	495100	95	55055	40
44028	98	46043	97	495105	95	55055150	40
44029	98	46044	97	495110	95	55060	40
44030	98	46045	97	495115	95	5506150	40
44031	98	46046	97	495120	95	5506200	40
44032	98	46047	97	495125	95	55065	40
44033	98	46048	97	495130	95	55065150	40
44034	98	46049	97	495135	95	55070	40
44035	98	46050	97	495140	95	5507150	40
44036	98	46051	97	495145	95	55080	40
44037	98	46052	97	495150	95	5508200	40
44038	98	46053	97	495155	95	55090	40
44039	98	46054	97	495160	95	55100	40
44040	98	46055	97	495165	95	5510200	40
44041	98	46056	97	495170	95	55110	40
44042	98	46057	97	495175	95	55120	40
44043	98	46058	97	495180	95	5512200	40
44044	98	46059	97	495185	95	55130	40
44045	98	46060	97	495190	95	55140	40
44046	98	46065	97	495195	95	55160	40
44047	98	46068	97	495200	95	57001	42
44048	98	46070	97	495205	95	57002	42
44049	98	46075	97	495210	95	57003	42
44050	98	46080	97	495215	95	57004	43
44051	98	46085	97	495220	95	57005	43
44052	98	46090	97	495225	95	57040	42
44053	98	46095	97	495230	95	570406	43
44054	98	46100	97	495235	95	57050	42
44055	98	46102	97	495240	95	57050150	42
44056	98	46105	97	495245	95	570506	43
44057	98	46110	97	495250	95	57055	42
44058	98	46115	97	495255	95	57055150	42
44059	98	46120	97	495260	95	570556	43
44060	98	46125	97	495265	95	57060	42
44065	98	46130	97	495270	95	57060200	42
44068	98	46135	97	495275	95	57060400	42
44070	98	46140	97	495280	95	570606	43
44075	98	46145	97	495285	95	57065	42
44080	98	46150	97	495290	95	57065200	42
44085	98	46155	97	495295	95	57065400	42
44090	98	46160	97	495300	95	57070	42
44095	98	46165	97	50101	35	57070200	42
44100	98	46170	97	50102	35	57080	42
44102	98	46175	97	50104	35	57080200	42
44105	98	46180	97	50108	35	57080400	42
44110	98	46185	97	50300	41	570806	43
44115	98	46190	97	50301	45	57100	42
44120	98	46195	97	50303	45	57100200	42
44125	98	46200	97	50304	45	57100400	42
44130	98	4830100	111	50305	45	571006	43
44135	98	4849100	111	50306	45	57120220	42
44140	98	4849150	111	50307	45	57120400	42
44145	98	4850070	111	50308	45	57140220	42
44150	98	4850100	111	50309	45	57140400	42
44155	98	4850150	111	50310	45	57160400	42
44160	98	4850210	111	50350	41	57501	39
451300	113	4851070	111	50400	41	57502	39
451310	113	4851100	111	50500	41	57503	39
451320	113	4851150	111	50550	41	57504	39
451325	113	4851210	111	50600	41	575041	39
451330	113	4853070	111	506200	41	57505	39
451350	113	4853100	111	506400	41	575051	39
451400	113	4853150	111	50650	41	57505150	39
451410	113	4853210	111	50700	41	57506	39
451420	113	4855070	111	50800	41	575061	39
451450	113	4855100	111	508200	41	57506150	39
451480	113	4855150	111	508400	41	575065	39
451490	113	4855210	111	508600	41	575065150	39
451500	113	4857070	111	50900	41	57507	39
451510	113	4857100	111	51000	41	57507150	39
451520	113	4857120	111	510200	41	57508	39
451550	113	4857150	111	510400	41	575081	39
45300	113	4857180	111	510600	41	57508200	39
45310	113	4857210	111	51200	41	57508400	39
45320	113	4858070	111	512200	41	57509	39
45325	113	4858100	111	512400	41	57510	39
45330	113	4858120	111	512600	41	575101	39
45350	113	4858150	111	51400	41	57510200	39
45400	113	4858180	111	514200	41	57510400	39
45410	113	4858210	111	514400	41	57512	39
45420	113	49100	96	514600	41	575121	39
45450	113	49105	96	51500	41	57512200	39
45480	113	49110	96	51600	41	57512400	39
45490	113	49115	96	516400	41	57514	39
45500	113	49120	96	516600	41	57516	39
45510	113	49125	96	51800	41	57520600	39
45520	113	49130	96	518400	41	57601	44
45550	113	49135	96	518600	41	57603	44

# Articlenumber List

Art.-No.	Page	Art.-No.	Page	Art.-No.	Page	Art.-No.	Page
576030070	44	60335	94	64212	215	67386	79
576040085	44	60336	94	64213	215	67391	85
576050085	44	60340	73	64222	216	67396	85
576055085	44	60341	73	64223	216	67600	94
576060100	44	60342	73	64232	216	67613	79
576060200	44	60343	73	6423220	216	67615	89
576060300	44	60345	73	64233	216	68008	239
576065200	44	60374	83	6423320	216	68014	237
576065300	44	60375	89	64234	217	68016	237
576080120	44	60375L	87	6423420	217	68017	237
576080200	44	60378	91	64235	214	68019	237
576100120	44	60379	81	64236	213	68020	237
576100200	44	60380	75	64237	213	68021	237
576120150	44	60381	79	64238	214	68022	237
58050	46	60383	79	64239	212	68023	237
58060	46	60385	75	64241	213	68024	237
58080	46	60386	79	64242	217	68025	237
58100	46	60390	86	64243	217	68027	237
58120	46	60395	86	64248	213	68029	237
59001	48	60413	89	64252	214	68030	237
59030	48	60424	83	6425220	214	68032	237
59040	48	60425	89	64253	214	68033	237
59050	48	60436	89	6425320	214	68035	237
59060	48	60440	83	64254	215	68037	237
59080	48	60445	83	64262	220	68038	237
59100	48	60530	270	6426220	220	68040	237
59120	48	60540	75	64272	220	68041	237
59201	47	60545	75	6427220	220	68043	237
59203	47	60591	182	64273	220	68044	237
59204	47	60592	182	6427320	220	68046	237
59205	47	60600	94	64296	221	68048	237
59206	47	60613	79	64303	218	68051	237
59208	47	60614	83	64306	218	68052	237
59210	47	60615	89	64307	218	68054	237
59401	37	60615 TIN	86	64308	219	68057	237
59406	37	60616	91	64309	219	68058	237
59408	37	60617	81	64311	219	68059	237
59410	37	60643	79	64312	219	68060	237
59412	37	60645	89	64313	218	68064	237
59414	37	60666	94	64315	219	68065	237
59416	37	60668	79	64316	219	68067	237
59420	37	60700	94	64401	221	68068	237
59422	37	60715	89	64402	221	68070	237
59425	37	60720	111	64403	222	68073	237
59435	37	60749	95	64410	221	68074	237
59468	37	60830	104	64991	223	68076	237
59499	37	60831	105	64992	223	68079	237
59701	49	60840	100	64999	208, 217	68080	237
597035	49	60844	98	650001	225	68083	237
597040	49	60846	97	650002	225	68086	237
597045	49	61019	288	650004	225	68089	237
597050	49	61021	288	650005	225	68092	237
597060	49	61024	288	650006	225	68095	237
597070	49	61041	288	650014	225	68098	237
597080	49	61600	288	651001	224	68102	237
597090	49	61700	288	651002	224	68105	237
597100	49	63001	210	651003	224	68108	237
597110	49	63002	210	651004	224	68111	237
59801	36	63008	210	651005	224	68114	237
59802	37	63101	202	6530024	225	68121	237
59803	36	6310125	202	66301	229	68127	237
59805	36	63111	202	66302	227	68133	237
59806	36	6311125	202	6630520	230	68140	237
59808	36	63112	203	663055	230	68146	237
59810	36	63113	203	663075	227	68152	237
59812	36	63114	200	6630820	229	68160	237
59814	36	63120	203	663085	229	68168	237
59816	36	63121	200	66309	232	68178	237
59899	38	63122	200	66310	231	68200	237
59901	38	6312225	200	663115	230	68210	237
59903	38	63123	201	6631220	227	68301	239
59904	38	63124	201	663125	227	68302	239
59905	38	6312425	201	6631320	228	68303	239
59906	38	63125	201	663135	228	68304	239
59908	38	63126	204	6631420	229	68305	239
59910	38	63127	204	663145	229	68306	239
59912	38	63201	205	66317	231	68307	239
59916	38	6320125	205	66318	232	68401	239
59918	38	63202	207	663285	228	68402	239
59922	38	63203	207	66399	284	68403	239
59925	38	63204	207	66405	234	68411	239
59927	38	63211	205	66412	233	68412	239
59932	38	63212	206	66415	234	68902	238
59935	38	63213	206	66419	234	68903	238
59938	38	63215	206	66505	235	68904	238
59950	38	63216	208	66511	235	68905	238
59960	38	63217	210	66516	235	68907	238
59965	38	63218	209	66520	236	68911	238
59970	38	63219	209	66523	236	68912	238
59975	38	63221	206	67000	94	68913	238
59983	38	63222	200	67003	94	68914	238
60001	94	63223	201	67005	94	70001	116
60003	266	63224	202	67007	94	70002	115
60005	94	63225	202	67018	91	70003	115
60007	266	63226	207	670191	288	70004	115
60021	77	63227	205	67023	288	70005	116
60022	258	63229	205	67024	288	700136060	133
60023	69	63235	209	670251	288	700136096	133
60024	69	63236	203	67029	86	700136127	133
60038	127	63301	210	67035	270	700163030	133
60038-1	272	63306	210	67040	280	700163063	133
60039	126	64101	211	67042	280	700166060	133
60313	94	6410120	211	67045	41	700166080	133
60314	83	64102	212	67300	270	700166096	133
60315	89	64106	211	67314	83	700166127	133
60315L	87	64107	212	67315	89	700166160	133
60318	91	64108	212	67374	83	700236060	133
60319	81	64111	211	67375	89	700236096	133
60321	71	6411120	211	67380	75	700236127	133
60325	94	64201	211	67381	79	700256096	133
60330	94	64211	215	67385	75	700263030	133

# Articlenumber List

Art.-No.	Page	Art.-No.	Page	Art.-No.	Page	Art.-No.	Page
700263063	133	70298	141	8125402	25	83045	23
700266060	133	70600	114	812740	19	830452	24
700266080	133	70800	114	813100290	29	83046	17
700266096	133	70840	114	813100550	29	8305110	22
700266127	133	70844	114	813125550	29	830511010	23
700266160	133	71000	114	813150550	29	83051102	24
700336060	134	75001	117	81350290	29	83051104	16
700336096	134	75002	117	81350550	29	830511045	17
700336127	134	75003	117	81366290	29	83051105	23
700356096	134	75004	117	81366550	29	8305160	22
700363030	134	75005	117	81380290	29	830516010	23
700363063	134	75006	117	81380550	29	83051602	24
700366060	134	75009	117	81390290	29	83051604	16
700366080	134	75010	117	81390550	29	830516045	17
700366096	134	75011	117	814340	19	8305210	22
700366127	134	75052	117	8143402	25	8305260	22
700366160	134	75055	117	814540	19	83052604	16
700366190	134	75060	117	8145402	25	8305310	22
700436060	135	75601	117	8146206	27	8305360	22
700436096	135	75602	117	81501	34	8305450	22
700436127	135	75603	117	81502	34	83055110	22
700456096	135	75604	117	815100	34	830551104	16
700463030	135	75605	117	81520	34	83055160	22
700463040	135	75606	117	81521	34	83055160210	24
700463063	135	75609	117	81522	34	830551604	16
700466060	135	76001	119	81523	34	83055210	22
700466080	135	76002	119	81529	34	83055260	22
700466096	135	76003	119	81530	34	83055310	22
700466127	135	760032	119	815340	19	83055410	22
700466160	135	76601	119	81535	34	830570	19
700556096	135	76602	119	81540	34	8305702	25
700563030	135	76603	119	81545	34	8306110	22
700563063	135	766032	119	81550	34	830611010	23
700566060	135	76801	118	81565	34	83061102	24
700566080	135	76802	118	81568	34	83061104	16
700566096	135	76803	118	81580	34	8306110410	17
700566127	135	76804	118	81582	34	830611045	17
700566160	135	76811	118	81590	34	83061105	23
700636060	136	76901	118	8161320	19	8306160	22
700636096	136	76902	118	816340	19	830616010	23
700636127	136	76903	118	8163402	25	83061602	24
700656096	136	76904	118	816540	19	83061604	16
700663030	136	76911	118	8165402	25	8306160410	17
700663063	136	79016	182	8166206	27	830616045	17
700666060	136	79019	182	816920	19	83061605	23
700666080	136	79020	182	818045280	28	8306210	22
700666096	136	79022	182	818045550	28	830621010	23
700666127	136	79025	182	818045990	28	83062102	24
700666160	136	79027	182	818055280	28	83062104	16
700756096	136	79030	182	818055550	28	830621045	17
700763030	136	79032	182	818055990	28	8306260	22
700763063	136	79035	182	818065280	28	830626010	23
700766060	136	79038	182	818065550	28	83062604	16
700766080	136	79040	182	818065990	28	8306310	22
700766096	136	79041	182	818080280	28	83063104	16
700766127	136	79043	182	818080550	28	8306450	22
700766160	136	79044	182	818080990	28	83065110	22
700863030	137	79048	182	8181320	19	83065160	22
700866060	137	79051	182	818340	19	830651602	24
700866080	137	79054	182	8183402	25	830651604	16
700866096	137	79057	182	818540	19	83065210	22
700866127	137	79060	182	8185402	25	8306521005	23
700866160	137	79064	182	8186206	27	830652102	24
700963030	137	79065	182	818920	19	830652104	16
700966060	137	79067	182	8201320	19	8306521045	17
700966096	137	79068	182	8202000	19	83065260	22
700966127	137	79070	182	820320	19	8306526005	23
700966160	137	79076	182	8203402	25	830652604	16
70101	116	79079	182	820520	19	8306526045	17
701063030	138	79080	182	8205402	25	83065310	22
701066060	138	79083	182	8206206	27	8306531005	23
701066096	138	79089	182	820920	19	830653104	16
701066127	138	79092	182	8221320	19	8306531045	17
701066160	138	79095	182	8222000	19	83065450	22
701236060	138	79102	182	822320	19	8307110	22
701236096	138	79105	182	8223402	25	83071104	16
701236127	138	79127	182	822520	19	8307160	22
701256096	138	79301	183	8225402	25	83071604	16
701263030	138	79302	183	8226206	27	8307210	22
701263063	138	79303	183	822920	19	8307250	22
701266060	138	79304	183	824320	19	83081000	22
701266080	138	79305	183	8243402	25	8308110	22
701266096	138	79401	183	824520	19	830811010	23
701266127	138	79402	183	8245402	25	83081102	24
701266160	138	79411	183	8246206	27	83081104	16
701363030	139	79412	183	8251320	19	8308160	22
701363063	139	79421	183	8252000	19	830816010	23
701366060	139	79422	183	825320	19	83081602	24
701366080	139	79423	183	8253402	25	83081604	16
701366096	139	79426	183	825520	19	8308160410	17
701366127	139	79427	183	8255402	25	830816045	17
701366160	139	79428	183	8257206	27	83081605	23
701463030	139	79429	183	825920	19	8308206	27
701463063	139	80002	25	826520	19	8308210	22
701466060	139	81005	30	828370	19	830821010	23
701466096	139	81006	29	8283702	25	83082102	24
701466127	139	81050	30	828570	19	83082104	16
701466160	139	81068	30	8285702	25	830821045	17
702226126	140	81080	30	828670	19	8308260	22
702563030	134	81090	30	8288206	27	830826010	23
702566060	134	81100	30	828920	19	83082602	24
702566080	134	81111	30	8303110	22	83082604	16
702566100	134	81113	30	830370	19	8308260410	17
702566120	134	81116	30	8303702	25	8308277	18
702626128	140	81119	30	83040	17	830827710	18
70290	141	81121	50	83041	23	8308310	22
70291	141	81126	50	8304110	22	83083104	16
70292	141	81130	50	83041102	24	8308337	18
70294	141	812340	19	8304160	22	83083604	16
70295	141	8123402	25	83042	24	8308400	22
70297	141	812540	19	83044	17	8308460	22



# Articlenumber List

Art.-No.	Page	Art.-No.	Page	Art.-No.	Page	Art.-No.	Page
83084604	16	83152604	16	84106250	54	852100	33
8308600	22	8315266	22	841062502	61	85212	33
83086004	16	8315277	18	84106250210	61	852125	33
8309160	22	83153806	27	841062504	53	852570	19
8309210	22	83154504	16	841062505	54	85500	31
83101000	22	8315557	18	84108400	58	85501	31
831010004	16	831555710	18	84110400	60	85502	31
8310110	22	83161000	22	84112450	60	85503	31
831011010	23	831610004	26	841303505	57	85508	31
83101104	16	83161602	24	841401	255	85513	31
8310160	22	83161604	16	84170280	55	85515	31
831016010	23	8316166	22	841702805	55	8710400	181
83101602	24	83162102	24	84170400	55	8710600	181
83101604	16	83162104	16	841704002	62	8712400	181
8310160410	17	8316216	22	84170400210	62	8712600	181
831016045	17	8316260	22	841704004	53	8714400	181
83101605	23	83162604	16	841704005	55	8714600	181
8310210	22	831626045	17	84170600	55	8716400	181
831021010	23	8316300	22	841706005	55	8716600	181
83102102	24	83163102	24	84181360	59	8718400	181
83102104	16	83163104	16	84190380	59	8718600	181
831021045	17	83163806	27	84190460	59	8720400	181
8310260	22	8316450	22	84201400	57	8720600	181
831026010	23	83164514	16	84202300	58	8722400	181
83102602	24	8316600	22	84202400	58	8722600	181
83102604	16	83166004	16	84202600	58	8724400	181
8310260410	17	8316800	22	84206140	54	8724600	181
8310277	18	8317200	22	842061405	54	906400	180
8310310	22	8317310	22	84206250	54	906600	180
831031010	23	83181000	22	842062502	61	906800	180
83103104	16	8318200	22	84206250210	61	908400	180
8310337	18	83182504	16	842062504	52	908600	180
831033710	18	8318300	22	842062505	54	908800	180
8310350	22	8318450	22	84208400	58	91004	168
83103604	16	83184504	16	84210400	60	91005	168
8310447	18	83184506	27	84212450	60	91006	168
8310450	22	8318600	22	84270280	55	91007	168
83104504	16	8319200	22	842702805	55	91008	168
8310600	22	8319450	22	84270400	55	91009	168
83106004	16	83201000	22	842704002	62	91011	168
8310800	22	8320200	22	84270400210	62	91012	168
8311160	22	83202504	16	842704004	53	91013	168
83111604	16	8320300	22	842704005	55	910135	168
83112104	16	8320450	22	84270600	55	91015	168
8311260	22	83204504	16	842706005	55	91019	168
83113104	16	83204506	27	84281360	59	91024	168
83121000	22	8320600	22	84290460	59	91030	168
831210004	16	8321320	19	84370320	56	91031	168
83121602	24	8322000	19	843703205	56	91040	168
83121604	16	83221000	22	844002	62	910400	180
8312160410	36	8322250	22	84401500	57	91041	168
831216045	41	83222504	16	84401800	57	910600	180
8312166	22	8322450	22	84402500	58	910800	180
831216610	23	83224504	16	84406140	54	912400	180
83122102	24	83224506	27	844061405	54	912600	180
83122104	19	8322600	22	84406250	54	912800	180
831221045	41	832370	19	844062502	61	913011	167
8312216	22	8323702	25	84406250210	61	913012	167
831221610	23	8324250	22	844062504	52	913021	167
83122602	24	83242504	16	844062505	54	913022	167
83122604	19	8324450	22	84408125	58	913110	161
8312260410	36	83244504	16	84408800	58	913120	161
831226045	41	83244506	27	84410100	60	913145	161
8312266	22	83251000	22	84412800	60	91327	161
831226610	23	8325250	22	84421075	60	91334	161
8312277	18	83252504	16	84470115	55	91349	161
8312310	22	8325450	22	844701155	55	91355	161
831231010	23	83254504	16	844703504	53	91370	161
83123104	16	8325600	22	844704002	62	91390	161
83123306	27	832570	19	84470400210	62	914400	180
8312360	22	8325702	25	84470500	55	914600	180
8312447	18	8326250	22	844705005	55	914800	180
831244710	18	8326450	22	84470800	55	91500	167
8312450	22	8328206	27	844708005	55	91501	167
83124504	16	83282504	16	84490500	59	91502	167
8312600	22	83284504	16	84490800	59	91503	167
83126004	16	832920	19	84501250	57	91505	167
8313166	22	83300	23	84506250	54	91506	167
8313266	22	83302504	16	845062505	54	91507	167
8313310	22	83304504	16	845302505	57	91510	166
8313450	22	83324504	16	845570	19	91511	166
83141000	22	8352000	19	84570300	56	91512	166
831410004	16	835370	19	845703005	56	91513	166
83141602	24	8353702	25	845920	19	91514	166
83141604	16	835570	19	84670300	56	91515	166
8314160410	36	8355702	25	846703005	56	91516	166
831416045	41	835670	19	84770300	56	91517	166
8314166	22	8358706	27	847703005	56	91518	166
831416610	23	835920	19	84806250	54	91519	166
83142102	24	83730	23	848062504	52	91520	166
83142104	16	837370	19	848062505	54	91606	167
831421045	41	83744	17	848062604	52	916400	180
8314216	22	837570	19	848703004	53	916600	180
831421610	23	837920	19	84870400	56	916800	180
83142602	24	838370	19	848704005	56	91803	161
83142604	16	8383702	25	84970001	55	91804	161
831426045	41	83841	24	84970630	55	91805	161
8314266	22	838570	19	85005	33	91806	161
831426610	23	8385702	25	85008	33	91808	161
8314310	22	8401320	19	85010	33	91810	161
831431010	23	8402000	19	85025	33	91812	161
83143104	16	840370	19	85045	32	918400	180
83143806	27	8403702	25	85050	32	918600	180
8314450	22	840570	19	85055	32	918800	180
83144504	16	8405702	25	85060	32	91903	162
8314600	22	840920	19	85068	32	91904	162
83146004	16	84101400	57	85080	32	91905	162
83151604	16	84101600	57	852050	33	91906	162
8315166	22	84102400	58	852065	33	91908	162
8315210	22	84106140	54	852080	33	91910	162
83152104	16	841061405	54	852090	33	92030	161

# Articlenumber List

Art.-No.	Page	Art.-No.	Page	Art.-No.	Page	Art.-No.	Page
92040	161	935060753	149	9450812	160	98220	163
920400	180	93508075	149	9451012	160	98240	163
92050	161	935080751	149	95030	158	98302	165
92060	161	935080753	149	950301	156	98303	165
920600	180	935081	149	95040	158	98304	165
92080	161	9350811	149	950401	156	98305	165
920800	180	9350813	149	95050	158	98306	165
92100	161	935101	149	950501	156	98308	165
92120	161	9351011	149	95060	158	98310	165
922400	180	93510125	149	950601	156	98312	165
922600	180	935101251	149	95080	158	98402	165
922800	180	935101253	149	950801	156	98403	165
924400	180	9351013	149	95100	158	98404	165
924600	180	935121	149	951001	156	98405	165
924800	180	9351211	149	95120	158	98406	165
926400	180	93512125	149	951201	156	98408	165
926600	180	935121251	149	951202	154	98410	165
926800	180	935121253	149	951206	152	98412	165
928400	180	9351213	149	95140	158	98503035	163
928600	180	9351215	149	951401	156	98504035	163
928800	180	93512151	149	95160	158	9850405	163
93020	148	93512153	149	951601	156	98505075	163
930201	148	93514125	149	951602	154	98506075	163
930202	148	935141251	149	951606	152	98508075	163
930203	148	935141253	149	95180	158	985081	163
93030	148	9351415	149	951801	156	985101	163
930301	148	93514151	149	95200	158	98510125	163
930302	148	93514153	149	952001	156	985121	163
930303	148	9351615	149	952002	154	98512125	163
93040	148	93516151	149	952006	152	9851215	163
930400	180	93516153	149	952202	154	98514125	163
930401	148	9351815	149	95240	158	9851415	163
930402	148	93518151	149	952401	156	9851615	163
930403	148	93518153	149	952402	154	9851815	163
93050	148	9352015	149	952702	154	9852015	163
930501	148	93520151	149	953002	154	9852215	163
930502	148	93520153	149	95512152	160	9852415	163
930503	148	9352215	149	95516152	160	9852515	163
93060	148	93522151	149	95520152	160	9853215	163
930600	180	93522153	149	96030	159	9854015	163
930601	148	9352415	149	960301	157	98601	164
930602	148	93524151	149	960302	155	98602	164
930603	148	93524153	149	960306	153	98603	164
93070	148	9352515	149	96040	159	98604	164
93080	148	9353215	149	960401	157	98605	164
930800	180	9354015	149	960402	155	98608	164
930801	148	93601	150	960406	153	987012	164
930802	148	93602	150	96050	159	987014	164
930803	148	93603	150	960501	157	987018	164
93100	148	93604	150	960502	155	987034	164
931001	148	93605	150	960506	153	987038	164
931002	148	93608	150	96060	159	987058	164
931003	148	937012	150	960601	157	987078	164
93120	148	937014	150	960602	155	987100	164
931201	148	937018	150	960606	153	987112	164
931202	148	937034	150	96080	159	987114	164
931203	148	937038	150	960801	157	987200	164
93140	148	937058	150	960802	155	987316	164
931401	148	937078	150	960806	153	987516	164
931402	148	937100	150	96100	159	987532	164
931403	148	937316	150	961001	157	987716	164
93160	148	937516	150	961002	155	987732	164
931601	148	937532	150	961006	153	987916	164
931602	148	937716	150	965060752	160	98801	165
931603	148	937732	150	9650812	160	98802	165
93180	148	937916	150	9651012	160	98803	165
931801	148	93801	151	97120	159	98804	165
931802	148	93802	151	971201	157	98805	165
931803	148	93803	151	971202	155	98806	165
93200	148	93804	151	971206	152	98807	165
932001	148	93805	151	97140	159	98808	165
932002	148	93806	151	971401	157	98809	165
932003	148	93807	151	97160	159	98810	165
93220	148	93808	151	971601	157	98901	165
932201	148	93810	151	971602	155	98902	165
932202	148	93901	151	971606	152	98903	165
932203	148	93902	151	97180	159	98904	165
93240	148	93903	151	971801	157	98905	165
932401	148	93904	151	97200	159	98906	165
932402	148	93905	151	972001	157	98907	165
932403	148	93906	151	972002	155	98908	165
93302	151	93907	151	972006	152	98909	165
93303	151	93908	151	972202	155	98910	165
93304	151	93909	151	97240	159	99040	162
93305	151	93910	151	972401	157	99050	162
93306	151	94020	158	972402	155	99060	162
93308	151	94030	158	972702	155	99080	162
93310	151	940301	156	973002	155	99100	162
93312	151	940302	154	97512152	160	99120	162
93402	151	940306	152	97516152	160	99930	179
93403	151	94040	158	97520152	160	99953	17
93404	151	940401	156	98020	163	99954	17
93405	151	940402	154	98030	163	99956	61
93406	151	940406	152	980301	166	99960	19
93408	151	94050	158	98040	163	99962	56
93410	151	940501	156	980401	166	99963	55
93412	151	940502	154	98050	163	99964	55
93503035	149	940506	152	980501	166	99965	62
935030351	149	94060	158	98060	163	99966	55
935030353	149	940601	156	980601	166	99967	54
93504035	149	940602	154	98070	163	99978	179
935040351	149	940606	152	98080	163	99979	179
935040353	149	94080	158	980801	166	99980	168
9350405	149	940801	156	98100	163	99982	61
93504051	149	940802	154	981001	166		
93504053	149	940806	152	98120	163		
93505075	149	94100	158	981201	166		
935050751	149	941001	156	98140	163		
935050753	149	941002	154	98160	163		
93506075	149	941006	152	98180	163		
935060751	149	945060752	160	98200	163		

Your PROJAHN Retailer

302203PKATOP\_UK

**PROJAHN**

Precision Tools