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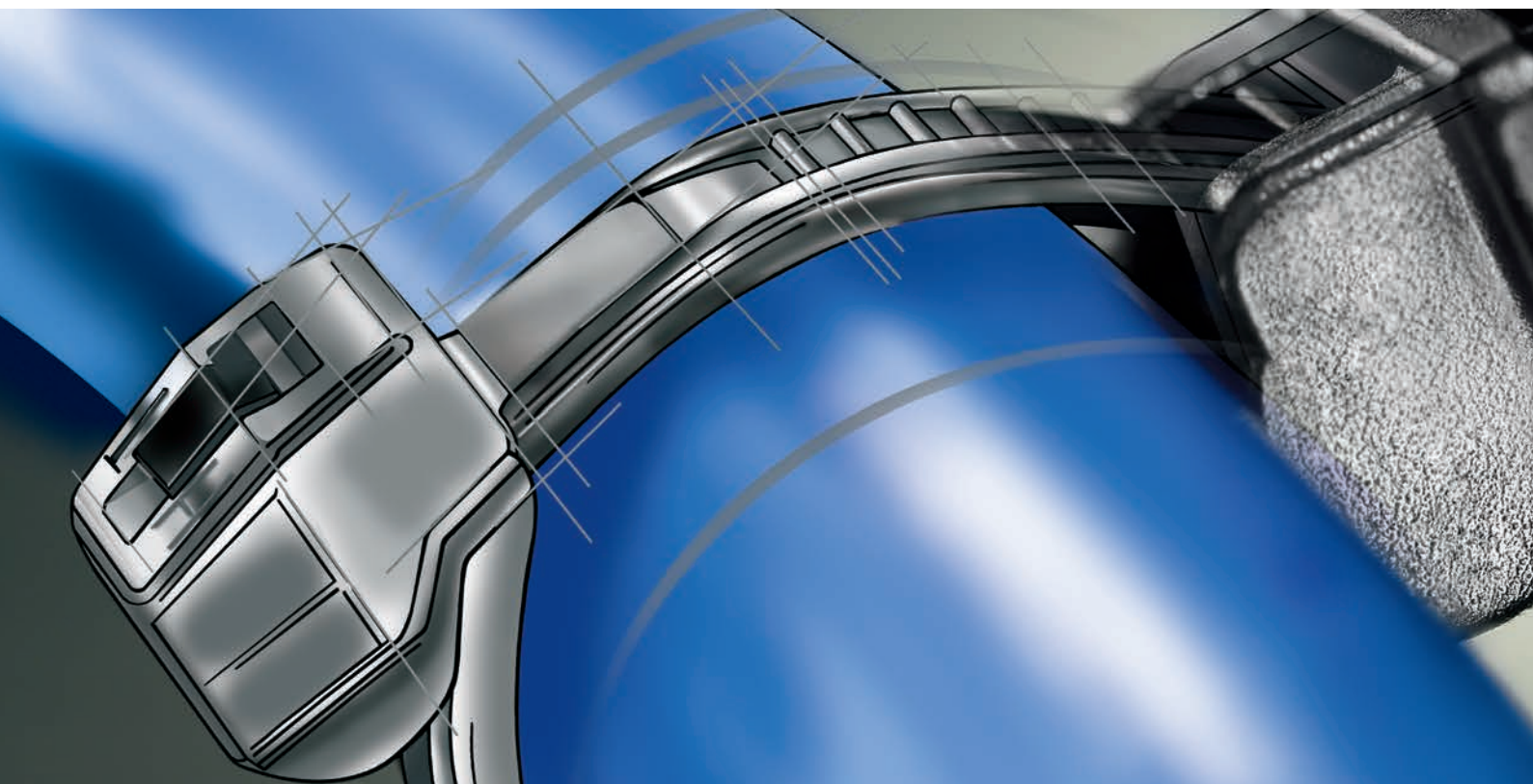
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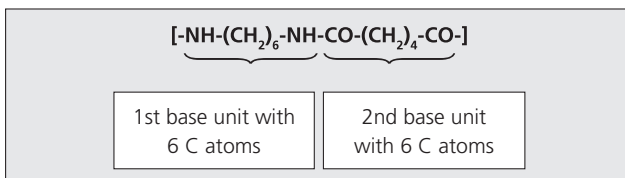
Properties of polyamide PA66

Polyamides are among the most important thermoplastic synthetic materials. Thermoplastics can be reshaped by heating as often as required without undergoing chemical decomposition or other negative changes. This makes polyamide ideal for processing via injection moulding into high quality products. About 90% of cable ties and fixings from HellermannTyton are made from this material.

Polyamide is also known under the brand name of Nylon®, which was introduced by the Dupont company.

The inner structure of polyamide displays a partial order of polymer chains, i.e. polyamides are partially crystalline. Due to the tighter packing of the individual molecular chains polyamide only has limited transparency to light. The plastic is therefore described as translucent

The molecular chains of PA66 are made from two base units:



Each base unit contains 6 carbon atoms (C). Hence the name PA66.

The polyamide PA66 has many properties which are highly advantageous for HellermannTyton cable ties and fixings, such as:

- High strength, rigidity and hardness
- High dimensional stability, even under the effect of heat
- High abrasion resistance

Having a wide range of polyamides and additives allows for an optimum adaptation of the properties of the finished product to suit the respective requirements.

The following PA66 variants are used for HellermannTyton products:

- Polyamide 6.6 standard (PA66) for temperature conditions of up to +85 °C
- Polyamide 6.6 Heat Stabilised (PA66HS) for temperature conditions of up to +105 °C
- Polyamide 6.6 UV Stabilised (PA66W) for exterior use
- Polyamide 6.6 Heat Stabilised and UV Stabilised (PA66HSW) for exterior use up to +105 °C
- Polyamide 6.6 Impact Resistant (PA66HIR) for high elasticity requirements
- Polyamide 6.6 Impact Resistant and Heat Stabilised (PA66HIRHS) for high elasticity requirements and temperatures up to +105 °C
- Polyamide 6.6 V0 for high standards of fire protection

Water content in polyamide

Polyamide is a hygroscopic material - this means that it absorbs and releases water. The mechanical properties are significantly affected by the water content – especially flexibility and minimum tensile strength.

In a standard atmosphere of 23 °C and 50% relative humidity, the degree of water saturation of polyamide is around 2.5%. For optimal processing of cable ties it is therefore important that the polyamide has a water content of approximately 2.5% in a state of equilibrium.

The quality and functionality of the products are thus affected by the water content, therefore the correct storage of our products is crucial. Please read our separate instructions on storage.

Since humidity is so critical to the quality of the tie, the question arises: What happens if the tie is installed and the water content in the tie alters?

The water content determines the flexibility and strength of a tie. At a water content of approximately 2.5% the tie has the ideal flexibility for installation. When the strap is being threaded through the head of the tie, the pawl must be flexible enough to 'see-saw' over the serration of the strap without breaking. On the other hand, there must also be adequate material rigidity for the serrations of the pawl to engage with the serrations of the strap during the tying process so that a 'positive locking' action is achieved. After achieving the positive locking action the tie is in a static condition. Changes in the mechanical properties of the tie as a function of water content are insignificant during this status.

Properties of UV-stabilised polyamide (PA66W)

The question constantly arises as to whether a black cable tie is suitable for use outside. This is dependant on the application of the tie, but in general the following statements can be made:

A black cable tie made of polyamide 6.6 standard (PA66) is only coloured black with a low proportion of carbon black. This is not sufficient to protect the material from damage caused by UV-radiation in the long term.

Products made from UV-stabilised polyamide PA66W are produced in accordance with ASTM standard D6779 with a higher carbon black percentage of approx. 2%. So they resist UV-radiation in the European area for a considerably longer period than standard PA66.

This is clearly illustrated by the comparison of the two images:

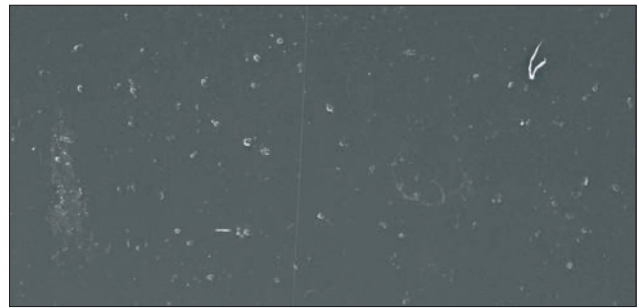
After 500 hours of UV- radiation exposure

Polyamide 6.6 standard (PA66) dyed black:



The joint has been damaged throughout by UV-radiation.

Polyamide 6.6 UV-stabilised (PA66W) with approx. 2% carbon black:

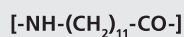


The joint has only been altered at isolated points by the UV-radiation.

For outdoor use, therefore, we recommend our range of products made from UV-stabilised polyamide (PA66W).

Properties of polyamide PA12

Apart from PA66, there are polyamides which are less hygroscopic. These include PA12, which has a molecular chain made of a base unit with 12 carbon atoms:



PA12 has the following advantages over PA66:

- Less hygroscopic - saturation at 23 °C and 50% relative humidity is approximately 1%
- Better impact performance
- Good weather resistance, even without a special additive

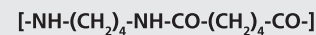
These three properties make PA12 ideal for use outdoors, in particular when requirements may include impact resistance.

The water absorption of PA12 is not only less than that of PA66 but also slower. This is the requirement where the mechanical properties need to remain relatively unaffected by changing environmental conditions

Properties of polyamide PA46

Polyamide PA66, despite the use of additives, is not suitable for long-term use in temperatures of +105 °C. Due to considerably better heat resistance, polyamide PA46 is more suitable for temperatures of up to and exceeding 150 °C (depending on the length of time of operation).

The molecular chain of PA46 is composed of two base units:



1st base unit with
4 C atoms

2nd base unit
with 6 C atoms

Advantages of PA46 over PA66:

- Greater rigidity, even at higher temperatures
- Higher operating temperature ranges of up to +150 °C (5,000 hours)
- Greater form stability at higher temperatures
- Excellent chemical resistance

A simple practical test: 'the hammer test'

You can quickly determine whether or not a cable tie is UV stabilised. Strike with a hammer the tail of the strap on the tie. Hold up this flattened end to the light. Cable ties with a carbon black content of about 2% allow no light through and look black throughout. Standard black ties, however, are transparent on the flattened end.

Properties of Polyetheretherketone PEEK

PEEK, a linear aromatic polymer is semi-crystalline and is widely regarded as the highest performance thermoplastic material currently available. A summary of key physical properties is as follows:

High temperature performance

- Melting temperature of 343 °C (649 °F)
- Continuous Use Temperature of 240 °C (464 °F) (UL 746B)

Wear resistance

- Outstanding wear resistance over wide ranges of pressure, velocity, temperature and counter facial roughness

Chemical resistance

- Excellent resistance to a wide range of chemical environments, even at elevated temperatures
- The only common environment that dissolves it is concentrated sulfuric acid

Fire, smoke and toxicity

- Highly stable and requires no flame-retardant additives to achieve a V-0 rating at 1.45 mm thickness
- The composition and inherent purity of the material results in extremely low smoke and toxic gas emission in fire situations

Hydrolysis resistance

- PEEK is not attacked by water or pressurized steam
- Components that are constructed from these materials retain a high level of mechanical properties when continuously conditioned in water at elevated temperatures and pressures

Radiation Resistance

- Excellent Radiation Resistance due to the energetically stable chemical structure of PEEK

Purity

- PEEK materials are inherently pure with exceptionally low levels of ionic extractables
- Excellent out gassing characteristics

This makes PEEK the right choice for any high performance application in any industry with a clearly outstanding continuous use temperature of 240 °C.

Properties of Ethyltertrafluorineethylen (E/TFE) - Tefzel®

E/TFE can be best described as a rugged thermoplastic with an outstanding balance of properties.

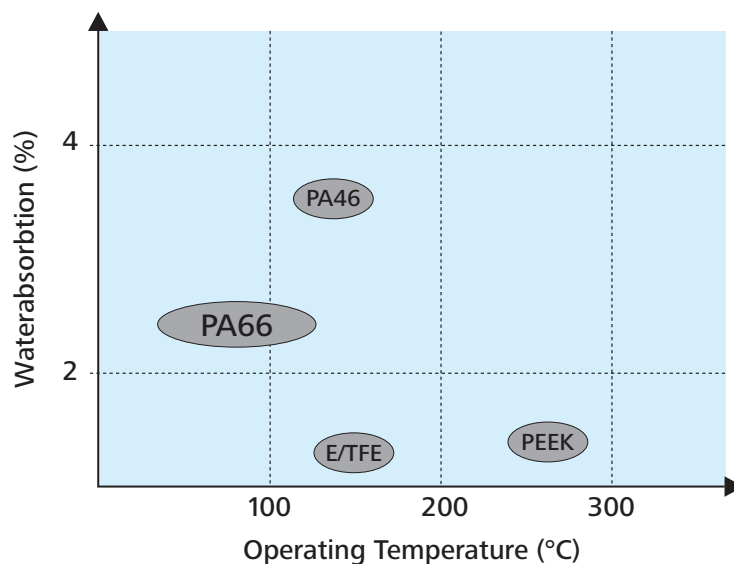
Mechanically, it is tough, has medium stiffness, impact and abrasion resistance.

E/TFE can perform successfully in applications where other materials are lacking in mechanical toughness, broad thermal capability, ability to meet severe environmental conditions.

Tefzel® is a registered trademark of DuPont.

Summary of key properties:

- No load continuous use temperature of 170 °C
- Weather resistant
- Inert to most solvents and chemicals
- Hydrolytically stable
- Substantially better resistance to radiation than other plastic materials

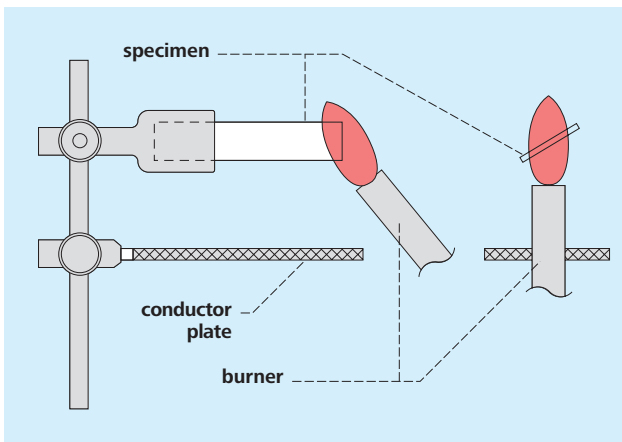


What does Flammability UL94 mean?

UL is the shortcut for Underwriters Laboratories. This is an independent organisation in the United States to control and certificate product safety.

Beside a lot of product standards UL also specified the flammability test UL94 for plastic materials. UL94 is a material burning test done on defined specimen of the raw material but not a test on final products.

UL94 differs between a horizontal burning test UL94 HB (picture 1) and a vertical burning test UL94 V (picture 2). For the vertical test UL94 V there are three flame ratings defined: UL94 V0, UL94 V1 and UL94 V2.



UL94 HB:

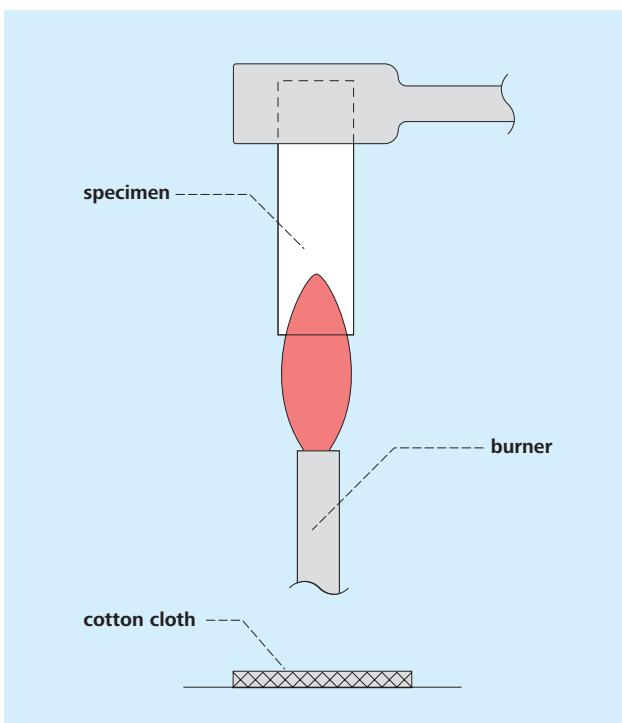
horizontal burning test

Test criteria:

- burning rate of specimen in mm/min.

Classification:

- according to HB



UL94 V:

Vertical burning test

Test criteria:

- afterflame time of specimen
- drip of flaming particles

Classification:

- according to V0, V1 or V2

In all these burning tests an open flame is applied for a certain time to the specimen. As the burning behaviour also depends on the thickness of the material it is important to classify the material not only according to HB, V0, V1 or V2 but also to mention the thickness of specimen.

Following table is a summary of test procedures and requirements of the UL94 classification.

Classification	Horizontal Test UL94		Vertical Test UL94		
	HB		V0	V1	V2
Number of specimen	3	3	5	5	5
Thickness of specimen	< 3 mm	3 to 13 mm	up to max. 13 mm		
1st flame application	30 sec.	30 sec.	10 sec.	10 sec.	10 sec.
2nd flame application	-	-	10 sec.	10 sec.	10 sec.
Burning rate	max. 75 mm/min	max. 40 mm/min	-	-	-
Afterflame time after 1st flame application for each individual specimen	-	-	max. 10 sec.	max. 30 sec.	max. 30 sec.
Afterflame time after 2nd flame application for each individual specimen	-	-	max. 30 sec.	max. 60 sec.	max. 60 sec.
Total afterflame time for all 5 specimen after 1st and 2nd flame application	-	-	max. 50 sec.	max. 250 sec.	max. 250 sec.
Afterflame or afterglow of any specimen up to its end allowed	yes	yes	no	no	no
Cotton indicator ignited by flaming particles or drops allowed	-	-	no	no	yes

Flammability behaviour on the following product pages are always related to the raw material burning rate according to UL94. Most commonly used raw materials for cable ties and fixing elements are Polyamide 6.6 standard, Polyamide 6.6 weather resistant and Polyamide 6.6 heat stabilised. These materials normally fulfill UL94 V2 requirement.

Chemical resistance of various plastics

▲ = resistant
 △ = partly resistant
 ○ = not resistant

These values are only rough guides. They should be regarded as a material specification and are no substitute for a suitability test. Please see our technical datasheets for further details.

	Conc. (%)	Temp. (°C)	PA66	PA46	PA12	POM	PP	E/TFE (Tefzel®)	TPU	PEEK
Acetaldehyde, liquid	100	23 °C	▲	○		▲	△	▲	○	▲
Acetowne	100	23 °C	▲	▲	▲	▲	▲	▲	○	▲
Allyl chloride	100	23 °C					▲		○	
Aniline	100	23 °C	▲	△	△	△	▲	▲	○	▲
Aromatic compounds						▲	○	▲	△	▲
Benzaldehyde		23 °C	▲	△		▲	▲	▲	○	▲
Benzine/Benzol mix		23 °C	▲	▲	▲	▲	△	▲	△	▲
Benzol	100	23 °C	▲		▲	△	△	▲	△	▲
Bromine		23 °C		○	○		○		○	
Carbon bisulphide	100	23 °C	▲	○	▲	▲	○	▲	○	▲
Carbon tetrachloride	100	23 °C	▲	▲	△	▲	△	▲	○	▲
CFC							△			
Chlorine, gaeous	100	23 °C	○				○	▲	△	
Chlorine, liquefied	100	23 °C	○	○			○			
Chlorobenzene	100	23 °C			○	△	▲			
Chloroform	100	23 °C		○	○	○	△		○	
Chromic acid 10%	20	23 °C	○	○		○	▲	▲	○	▲
Chromic acid 20%	10	20 °C	△	○		△	▲	▲		▲
Chromic acid 50%	50	20 °C	○	○		○	▲	▲	○	
Cyclohexane	100	23 °C	▲			▲	▲	▲	▲	▲
Cyclohexanone	100	23 °C	▲			▲	▲	▲		▲
Decahydronaphthlene	100	23 °C	▲			▲	△	▲	▲	▲
Diethyl ether	100	23 °C	▲			▲	△	▲		▲
Di-isopropyl ether	100	23 °C					△			
Dimethyl formamide	100	23 °C	▲	▲		▲	▲	▲		▲
Diocyl phthalate		23 °C	▲	▲		▲	▲	▲	○	▲
Engine oil	100	23 °C			▲	▲	▲		▲	▲
Ethanonic acid 10%	10	20 °C	○	△	△	▲	▲	▲		
Ethanonic acid 100%	100	23 °C	○	○		△	▲	▲		
Ethanonic acid 25%	25	20 °C	○			△	▲	▲		
Ethanonic acid 50%	50	20 °C	○			△	▲	▲		
Ethyl acetate	100	23 °C		▲	▲	△	△		△	▲
Formic acid	98	23 °C	○		○	○	▲	▲	○	△
Freon		23 °C					▲			▲
Heptane	100	23 °C	▲	▲	▲	▲	▲	▲	▲	▲
Hydrogen peroxide 10%	10	20 °C	△			▲	▲	▲	△	
Hydrogen peroxide 30%	30	23 °C	○	○		▲	▲	▲	△	
Ketone			▲	▲		▲	▲	▲		▲
Medium										
Methisobutylketone	100	23 °C	▲			▲	▲	▲		▲
Methylethylketone	100	23 °C	▲	▲		△	▲	▲	○	▲
Nitric acid 10%	10	20 °C	○		○	○	▲	▲	○	▲
Nitric acid 50%	50	23 °C	○		○	○	○	▲	○	○
Nitrobenzene	100	23 °C	▲	△		▲	▲	▲	○	▲
Ordinary petrol		23 °C		▲		▲	▲			▲
Paraffin oil		23 °C	▲	▲	▲	▲	▲	▲	▲	▲
Perchloroethylene		23 °C	▲		▲	▲	△	▲	○	▲
Petroleum		23 °C	▲	▲	▲	▲	▲	▲	▲	▲
Phenol	65	23 °C	○	○	○	○	▲	▲	○	
Potass. Permanganate	6	23 °C	○	○	○	▲	▲	▲	△	▲
Salad oil		23 °C		△			▲			▲
Silicon oil		23 °C	▲	▲	▲	▲	▲	▲	▲	▲
Sulphuric acid 10%	10	20 °C	○		△	○	▲	▲	○	△
Sulphuric acid 50%	50	20 °C	○			○	▲	▲	○	○
Sulphuric acid 96%	96	23 °C	○	○		○	○	▲	○	○
Toluol	100	23 °C	▲		▲	▲	△	▲	○	▲
Trichlorethylene	100	23 °C	▲	△	△	△	△	▲	○	▲
Water, cold			▲		▲	▲			▲	▲
Water, hot							▲		△	▲
Xylene	100	23 °C	▲	▲	▲	▲	△	▲	○	▲

Tefzel® is a registered trademark of DuPont.

General linguistic usage for cable ties made from raw material E/TFE is Tefzel®-Tie. In addition to Tefzel® from DuPont HellermannTyton is also using equivalent E/TFE raw material from other suppliers.

Determination of minimum tensile strength

The minimum tensile strength is a critical selection criterion for cable ties. It expresses how much loading a cable tie can bear. This minimum tensile strength is determined in accordance with the

Military Specification and Standards of the USA. Test conditions being laid down precisely in MIL-S-23190E:

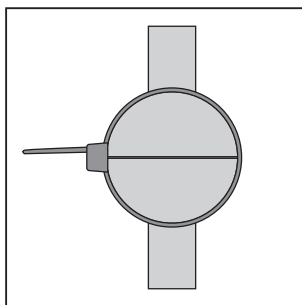
The test procedure to determine minimum tensile strength:

- Conditioning of the test pieces
- Construction of the test apparatus
- Application of the tie on a split test probe
- Test speed

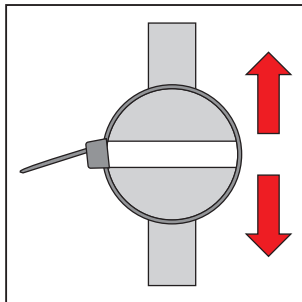
Explanation of minimum tensile strengths

What does a minimum tensile strength of 225 N (50LBS) mean?

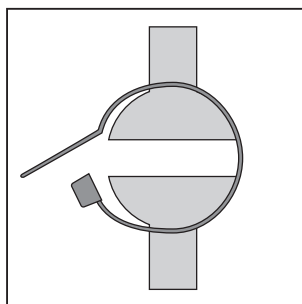
To explain what this value means, the mass with which the tie can be loaded is calculated. The unit of measurement of the mass is stated in kg. To do so, the unit Newton (N) is shown in the following way:



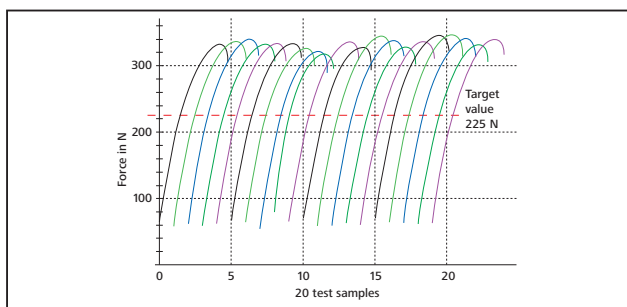
The cable tie is fixed onto a split mandrel test probe with the suitable cable tie application tool.



The mandril is opened at a defined speed.



The loading at which the cable tie fails is determined. This value is stated in Newtons (N) and is recorded through a computer programme reading the tests. This programme produces graphs as outlined below.



Typical measurement protocol of a T50R made of PA66 with a minimum tensile strength of 225 N.

$$[N] = [kg * m/s^2]$$

The formula for calculating the mass is:

$$\text{Mass} = \text{minimum tensile strength} / \text{acceleration due to gravity}$$

The acceleration due to gravity is 9.81 m/s²

$$\text{Mass} = \text{minimum tensile strength} / [kg * m/s^2] / 9.81 [m/s^2]$$

At a minimum tensile strength of 225 N (50LBS) the mass is:

$$\text{Mass} = 225 [kg * m/s^2] / 9.81 [m/s^2]$$

The units m/s² cancel each other out, leaving the unit [kg] for the mass. Thus:

$$\text{Mass} = 225 / 9.81 \text{ kg} = 22.9 \text{ kg}$$

Therefore, a T50R cable tie with a minimum tensile strength of 225 N (50LBS) can be loaded with 22.9 kg.

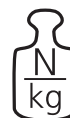
Conversely, with the required loading capacity the minimum tensile strength can be calculated by a mass:

$$\text{Min. tensile strength} = \text{mass} * 9.81 [m/s^2]$$

If the tie is to be loaded with, for example, 53 kg this produces:

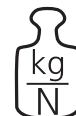
$$\text{Minimum tensile strength} = [53 \text{ kg}] * 9.81 [m/s^2] = 520 \text{ N}$$

In order to withstand a load of 53 kg, the tie must therefore have a minimum tensile strength of 520 N. In this case, select our T120R with a minimum tensile strength of 535 N (120LBS).



$$225 \text{ N} / 9.81 = 22.9 \text{ kg}$$

$$53 \text{ kg} * 9.81 = 520 \text{ N}$$



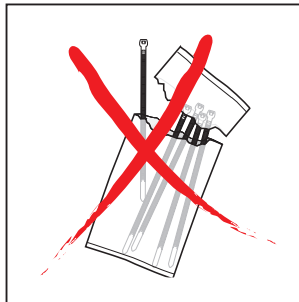
Optimum storage conditions for cable ties made of polyamide (PA)

HellermannTyton cable ties, fastenings and fixings are manufactured from high-quality polyamide (PA). This industrial synthetic material is mainly processed using injection moulding, but can also be extruded.

Polyamide is a hygroscopic material. This means that the material absorbs and loses moisture. For optimum handling of cable ties it is important that the material is in a condition of equilibrium with a water content of approximately 2.5%.

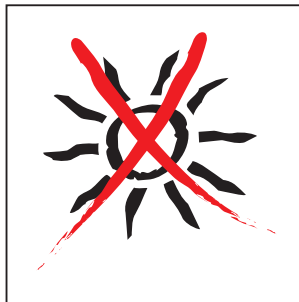
The packaging used by HellermannTyton ensures that the water content in the material remains constant. Therefore, it is important to store the products in their original packaging to preserve the quality of the ties.

1. Once opened you should use the ties as quickly as possible.



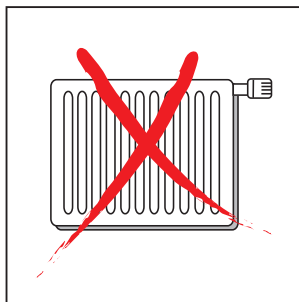
2. Always store ties in the sealed plastic bag made of polyethylene!

3. Do not expose the product to direct sunlight!



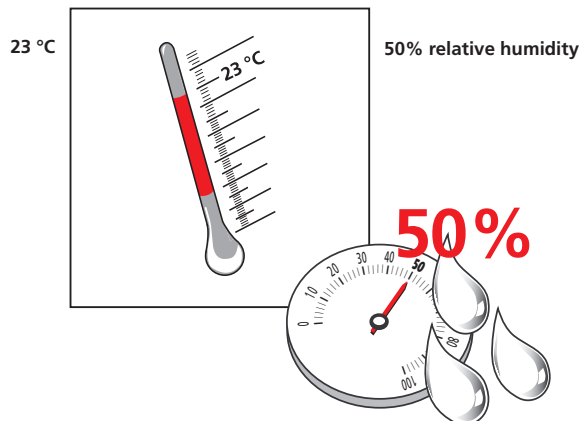
4. Do not store the product in sunlight; for example, on the windowsill.

5. Store the product away from direct sources of heat.



6. Avoid contact with heat: for example, do not place on the radiators.

7. The ideal storage conditions are those of the central European standard climate:



Material Specification Overview

Material	Shortcut	Operating Temperature	Colour**	Flammability	Material Properties*	
Aluminium-alloy	AL	-40 °C to +180 °C	Natural (NA)		<ul style="list-style-type: none"> Corrosion resistant Antimagnetic 	RoHS
Chloroprene	CR	-20 °C to +80 °C	Black (BK)		<ul style="list-style-type: none"> Weather-resistant High yield strength 	RoHS
Ethylenterafluorineethylen	E/TFE	-80 °C to +170 °C	Blue (BU)	UL94 V0	<ul style="list-style-type: none"> Resistance to radioactivity UV-resistant, not moisture sensitive Good chemical resistance to: acids, bases, oxidizing agents 	RoHS
Polyacetal	POM	-40 °C to +90 °C, (+110 °C, 500 h)	Natural (NA)	UL94 HB	<ul style="list-style-type: none"> Limited brittleness sensitivity Flexible at low temperature Not moisture sensitive Robust on impacts 	RoHS
Polyamide 11	PA11	-40 °C to +85 °C, (+105 °C, 500 h)	Black (BK)	UL94 HB	<ul style="list-style-type: none"> Bio-plastic, derived from vegetable oil Strong impact resistance at low temperature Very low moisture absorption Weather-resistant Good chemical resistance 	RoHS HF
Polyamide 12	PA12	-40 °C to +85 °C, (+105 °C, 500 h)	Black (BK)	UL94 HB	<ul style="list-style-type: none"> Good chemical resistance to: acids, bases, oxidizing agents UV-resistant 	RoHS HF
Polyamide 4.6	PA46	-40 °C to +150 °C (5000 h), +195 °C (500 h)	Natural (NA), Grey (GY)	UL94 V2	<ul style="list-style-type: none"> Resistance to high temperatures Very moisture sensitive Low smoke sensitive 	RoHS HF LFH
Polyamide 6	PA6	-40 °C to +80 °C	Black (BK)	UL94 V2	<ul style="list-style-type: none"> High yield strength 	RoHS
Polyamide 6.6	PA66	-40 °C to +85 °C, (+105 °C, 500 h)	Black (BK), Natural (NA)	UL94 V2	<ul style="list-style-type: none"> High yield strength 	RoHS HF
Polyamide 6.6, Glassfibre reinforced	PA66GF13, PA66GF15	-40 °C to +105 °C	Black (BK)	UL94 HB	<ul style="list-style-type: none"> Good resistance to: lubricants, vehicle fuel, salt water and many solvents 	RoHS HF
Polyamide 6.6 heat and UV stabilised	PA66HSW	-40 °C to +105 °C	Black (BK)	UL94 V2	<ul style="list-style-type: none"> High yield strength Modified elevated max. temperature UV-resistant 	RoHS HF
Polyamide 6.6 Heat Stabilised	PA66HS	-40 °C to +105 °C	Black (BK), Natural (NA)	UL94 V2	<ul style="list-style-type: none"> High yield strength Modified elevated max. temperature 	RoHS HF
Polyamide 6.6 High Imp. Mod., Heat Stab.	PA66HIRHS	-40 °C to +105 °C	Black (BK)	UL94 HB	<ul style="list-style-type: none"> Limited brittleness sensitivity Higher flexibility at low temperature Modified elevated max. temperature 	RoHS
Polyamide 6.6 High Imp. Mod. scan black	PA66HIR(S)	-40 °C to +80 °C, (+105 °C, 500 h)	Black (BK)	UL94 HB	<ul style="list-style-type: none"> Limited brittleness sensitivity Higher flexibility at low temperature 	RoHS HF
Polyamide 6.6 High Impact Modified	PA66HIR	-40 °C to +80 °C, (+105 °C, 500 h)	Black (BK)	UL94 HB	<ul style="list-style-type: none"> Limited brittleness sensitivity Higher flexibility at low temperature 	RoHS
Polyamide 6.6 high impact modified, heat and UV stabilised	PA66-HIRHSW	-40 °C to +110 °C	Black (BK)	UL94 HB	<ul style="list-style-type: none"> Limited brittleness sensitivity Higher flexibility at low temperature Modified elevated max. temperature High yield strength, UV-resistant 	RoHS HF

Tefzel® is a registered trademark of DuPont.
General linguistic usage for cable ties made from raw material E/TFE is Tefzel®-Tie. In addition to Tefzel® from DuPont HellermannTyton is also using equivalent E/TFE raw material from other suppliers.

*These details are only rough guide values. They should be regarded as a material specification and are no substitute for a suitability test. Please see our datasheets for further details.

**More colours on request.

 = Minimum Tensile Strength

Material Specification Overview

Material	Shortcut	Operating Temperature	Colour**	Flammability	Material Properties*	
Polyamide 6.6 UV Resistant	PA66W	-40 °C to +85 °C, (+105 °C, 500 h)	Black (BK)	UL94 V2	<ul style="list-style-type: none"> High yield strength UV-resistant 	RoHS HF
Polyamide 6.6 V0	PA66V0	-40 °C to +85 °C	White (WH)	UL94 V0	<ul style="list-style-type: none"> High yield strength Low smoke emission 	RoHS HF LFH
Polyamide 6.6 V0 High Oxygen Index	PA66V0-HOI	-40 °C to +85 °C, (+105 °C, 500 h)	White (WH)	UL94 V0	<ul style="list-style-type: none"> High yield strength Low smoke emissions 	RoHS HF LFH
Polyamide 6.6 with metal particles	PA66MP	-40 °C to +85 °C, (+105 °C, 500 h)	Blue (BU)	UL94 HB	<ul style="list-style-type: none"> High yield strength 	RoHS HF
Polyamide 6 high impact modified	PA6HIR	-40 °C to +80 °C	Black (BK)	UL94 HB	<ul style="list-style-type: none"> Limited brittleness sensitivity Higher flexibility at low temperature 	RoHS
Polyester	SP	-50 °C to +150 °C	Black (BK)		<ul style="list-style-type: none"> UV-resistant Good chemical resistance to: most acids, alkalis and oils 	RoHS HF LFH
Polyetheretherketone	PEEK	-55 °C to +240 °C	Beige (BGE)	UL94 V0	<ul style="list-style-type: none"> Resistance to radioactivity Not moisture sensitive Good chemical resistance to: acids, bases, oxidizing agents 	RoHS HF LFH
Polyethylene	PE	-40 °C to +50 °C	Black (BK), Grey (GY)	UL94 HB	<ul style="list-style-type: none"> Low moisture absorption Good chemical resistance to: most acids, alcohol and oils 	RoHS HF
Polyolefin	PO	-40 °C to +90 °C	Black (BK)	UL94 V0	<ul style="list-style-type: none"> Low smoke emissions 	RoHS HF LFH
Polypropylene	PP	-40 °C to +115 °C	Black (BK), Natural (NA)	UL94 HB	<ul style="list-style-type: none"> Floats in water Moderate yield strength Good chemical resistance to: organic acids 	RoHS HF
Polypropylene, Ethylene-Propylene-Dien-Terpolymer-rubber free of Nitrosamine	PP, EPDM	-20 °C to +95 °C	Black (BK)	UL94 HB	<ul style="list-style-type: none"> Good resistance to high temperatures Good chemical and abrasion resistance 	RoHS HF
Polyvinylchloride	PVC	-10 °C to +70 °C	Black (BK), Natural (NA)	UL94 V0	<ul style="list-style-type: none"> Low moisture absorption Good chemical resistance to: acids, ethanol, oil 	RoHS
Stainless Steel	SS304, SS316	-80 °C to +538 °C	Natural (NA)		<ul style="list-style-type: none"> Corrosion resistant Antimagnetic 	RoHS HF LFH
Thermoplastic Polyurethane	TPU	-40 °C to +85 °C	Black (BK)	UL94 HB	<ul style="list-style-type: none"> High elastic Good chemical resistance to: acids, bases, oxidizing agents 	RoHS HF

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General linguistic usage for cable ties made from raw material E/TFE is Tefzel®-Tie. In addition to Tefzel® from DuPont HellermannTyton is also using equivalent E/TFE raw material from other suppliers.

**More colours on request.

*These details are only rough guide values. They should be regarded as a material specification and are no substitute for a suitability test. Please see our datasheets for further details.

= Minimum Tensile Strength

Discover the HellermannTyton product world on the web!

The image displays a collage of screenshots from the HellermannTyton website. At the top, the main website header is visible, featuring the HellermannTyton logo, navigation menus (About Us, Products, Competences, Career, News & Events, Downloads), and utility links (Advanced Search, United, Global Home, Newsletter, Contact). Below this, a banner for 'Cable Ties and Fixings' is shown.

Several product pages are overlaid, each with a title and a table of contents:

- Cable Ties and fixing elements for your applications!** (Main page)
- Cable ties and fixing elements from HellermannTyton – for a good reason.** (Introductory page)
- Cable Ties and fixing elements tailored to your application.** (Introductory page)
- The new cable tie system Q-Series offers intelligent, innovative fixing solutions with tailor-made** (Introductory page)
- Cable Ties SOFTFIX** (Product page)
- Cable Ties KR-Series** (Product page)
- Stainless Steel Cable Ties MBT-FC-Series** (Product page)
- Cable Ties OS-Series** (Product page)
- Cable Ties MCT-Series** (Product page)
- Cable Ties Inside serrated** (Product page)
- Cable Ties outside serrated** (Product page)
- Releasable cable ties** (Product page)
- Cable Ties without serrations** (Product page)
- Cable Ties for direct fixation** (Product page)
- Stainless Steel Cable Ties** (Product page)
- Cable Ties with fixing elements** (Product page)
- Cable Tie Mounts** (Product page)
- Fixing Elements** (Product page)

Each product page includes a table with columns for 'Intro', 'Product range', 'Selected products', 'Technical information', and 'Storage conditions'. The pages also feature images of various cable tie types and descriptive text about their features and applications.



One Step to the Web!

Introduction to the main locking technologies used for cable ties

HellermannTyton offers a wide range of cable ties for use in different applications. By constantly refining our products and satisfying the ever-changing demands of the market, various locking technologies

have been developed. Below you will find a brief overview of three most common locking technologies and their characteristics.

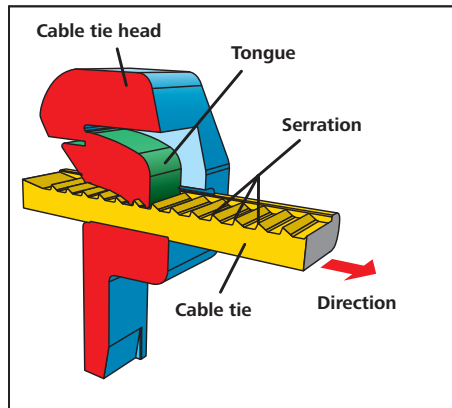
Cable ties with plastic pawls

This technology is used in 90% of all polyamide (PA) cable ties applied by HellermannTyton. In order to cover a variety of applications, there are different variants of this system, for example: releasable versions, in-line versions, open head versions.

These are one-piece cable ties, the pawl is moulded as an integral part of the cable tie, thereby building in inherent strengths.

Locking technology

Positive locking is achieved by engaging the pawl with the strap serrations. This allows the cable tie to perform to the published minimum tensile strength, that is the loading that the cable tie can hold under application.

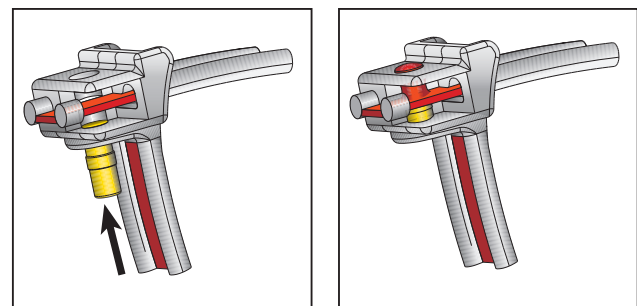


KR series cable ties

This cable tie is distinguished by its smooth strap and unique locking mechanism. With the KR series the chamfered head achieves an especially firm fit around the bundled material.

Locking technology

This patented lock technology takes advantage of the excellent deformation properties of polyamide (PA). Here, the glass fibre-reinforced (GRP) locking pin (yellow) is forced into the strap by the use of an application tool - either the KR6/8 or KR8PNSE. The strap is deformed into the head of the tie by the application of the pin, thereby locking the cable tie in position and allowing for the bundling of heavy loads.



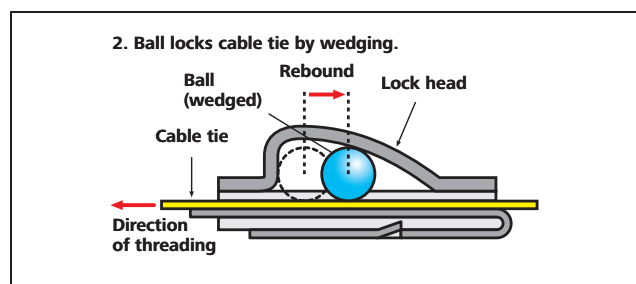
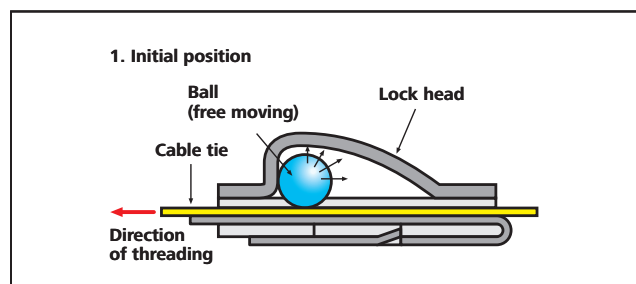
MBT series of cable ties

Made of stainless steel grade 304 or 316, the MBT range of cable ties have no serrations on the strap and are threaded parallel through the head, gliding under a metal ball-bearing locking mechanism. By using the MK9SST application tool the cable tie is tensioned and the strap cut to a flush finish.

Locking technology

The strap is locked into the head by means of the small ball-bearing. The ball locks into the small end of the wedged shaped housing, forming a positive locking with the strap.

This cable tie is not suitable for rigid objects. Retraction of the ball-bearing (see drawing) is required into the small end of the wedged shaped housing to allow for a positive locking of the strap and also to make a flush cut of the end of the strap. Retraction, therefore, cannot take place with the bundling of inflexible materials. To bundle rigid objects LFPC channel should be laid as buffer between strap and bundled material to compensate for this retraction. This locking technology allows for minimum tensile strengths of up to 7,000 Newton.



Processing Tools for Cable Ties



MK10-SB
see page 340.



MK20, MK21
see page 340.



MK3SP
see page 341.



MK3PNSP2
see page 341



EVO7 / EVO7SP
see page 342.



MK7
see page 343.



MK7HT
see page 343.



MK7P
see page 344.



MK6
see page 345.



MK9
see page 345.



MK9HT
see page 346.



MK9P
see page 347.

Processing Tools for Cable Ties KR-Series



KR6/8
see page 348.



KR8PNSE
see page 348.



MK9SST
see page 349.



MK9PSST
see page 349.

Processing Tools for Metal Ties



HDT16
see page 350.



KST-STG200.
see page 350.

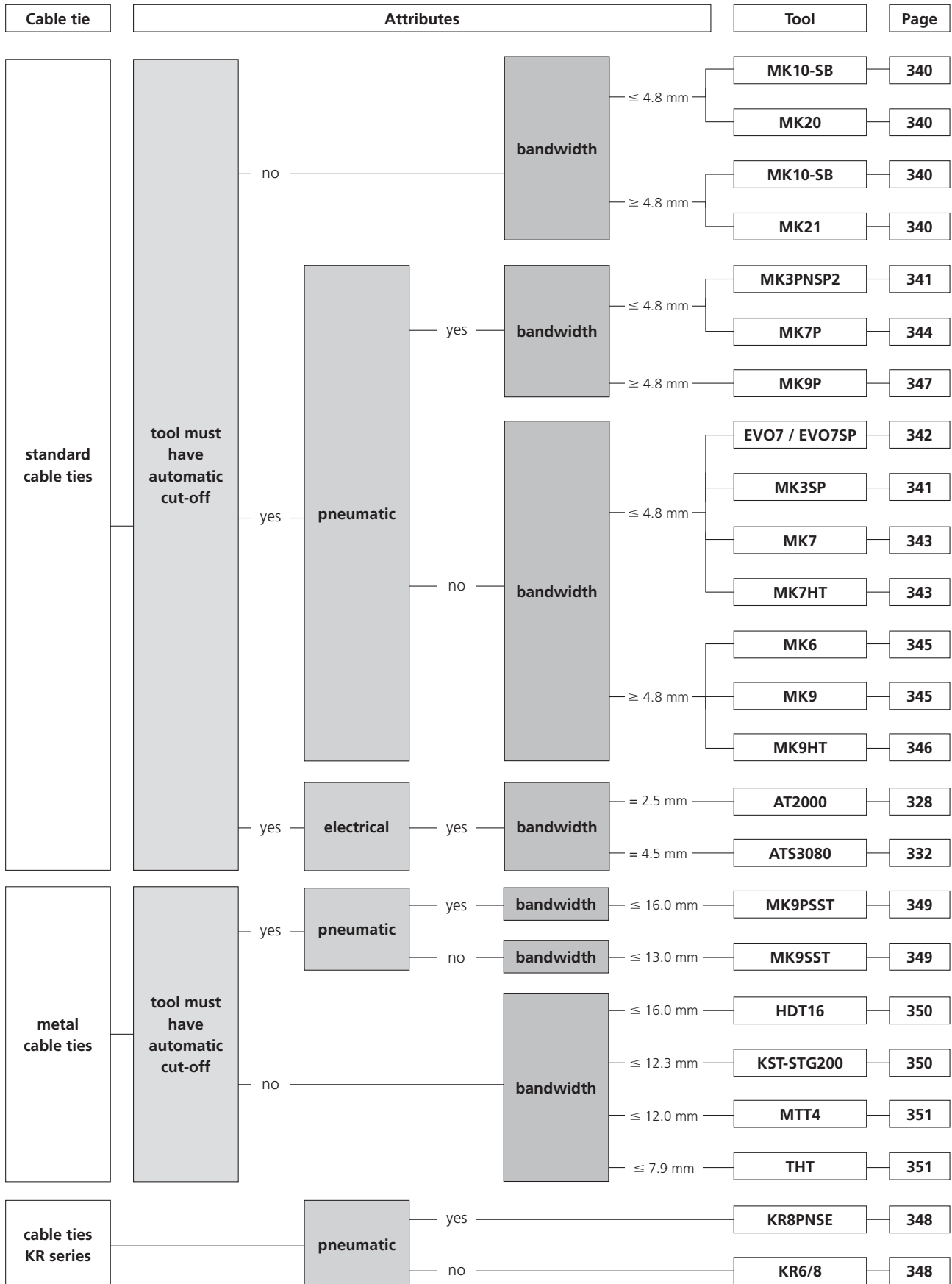


MTT4
see page 351.



THT
see page 351.

Product Selection





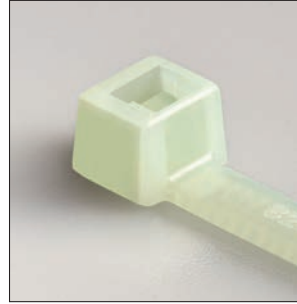
Cable Ties Polyamide 6.6 standard

- T-Series in PA66 natural

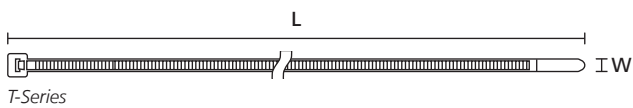
These cable ties are used for routing, bundling and securing cables, pipes and hoses.

Features and Benefits

- Standard natural cable tie available in a wide range of sizes
- Made from 100% high quality plastic, allows for good recycling
- Inside serration for a strong hold around bundles
- Easy application either manually or with a processing tool
- Simple to insert due to the ergonomically bent tail



T-Series.



Application tools
please see page 338.

TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Colour	Pack Cont.	Article-No.
T18S	2.3	83.0	16.0	80	PA66	Natural (NA)	1000	111-02809
T18R	2.5	100.0	22.0	80	PA66	Natural (NA)	100	111-01919
	2.5	100.0	22.0	80	PA66	Natural (NA)	1000	111-01929
T18I	2.5	145.0	35.0	80	PA66	Natural (NA)	100	111-02319
	2.5	145.0	35.0	80	PA66	Natural (NA)	1000	111-02320
T18L	2.5	205.0	55.0	80	PA66	Natural (NA)	100	111-02119
	2.5	205.0	55.0	80	PA66	Natural (NA)	1000	111-02129
T25L	2.8	240.0	65.0	110	PA66	Natural (NA)	100	111-02519
T25LL	2.8	330.0	95.0	110	PA66	Natural (NA)	100	111-02619
T30R	3.5	150.0	35.0	135	PA66	Natural (NA)	100	111-03219
	3.5	150.0	35.0	135	PA66	Natural (NA)	1000	111-03039
T30L	3.5	198.0	50.0	135	PA66	Natural (NA)	100	111-00946
	3.5	198.0	50.0	135	PA66	Natural (NA)	1000	111-00949
T30LL	3.5	290.0	80.0	135	PA66	Natural (NA)	100	111-03549
T40R	4.0	175.0	40.0	180	PA66	Natural (NA)	100	111-03819
	4.0	175.0	40.0	180	PA66	Natural (NA)	1000	111-03800
T50S	4.6	150.0	35.0	225	PA66	Natural (NA)	100	111-05819
T50R	4.6	200.0	50.0	225	PA66	Natural (NA)	100	111-04819
	4.6	200.0	50.0	225	PA66	Natural (NA)	1000	111-01153
T50M	4.6	245.0	65.0	225	PA66	Natural (NA)	100	111-00956
T50I	4.6	300.0	85.0	225	PA66	Natural (NA)	100	111-00951
T50L	4.6	390.0	110.0	225	PA66	Natural (NA)	100	111-05619
T80R	4.7	210.0	55.0	355	PA66	Natural (NA)	100	111-05019
	4.7	210.0	55.0	355	PA66	Natural (NA)	1000	111-05139
T80I	4.7	300.0	85.0	355	PA66	Natural (NA)	100	111-08229
T80L	4.7	390.0	110.0	355	PA66	Natural (NA)	100	111-05419
T120S	7.6	225.0	55.0	535	PA66	Natural (NA)	50	111-12829

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



For product specific approvals and specifications please refer to the Appendix.



Cable Ties Polyamide 6.6 standard

- T-Series in PA66 natural

TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Colour	Pack Cont.	Article-No.
T120I	7.6	300.0	75.0	535	PA66	Natural (NA)	50	111-00926
	7.6	300.0	75.0	535	PA66	Natural (NA)	100	111-12119
T150R	7.6	365.0	100.0	670	PA66	Natural (NA)	100	111-14819
T120R(E)	7.6	387.0	100.0	535	PA66	Natural (NA)	100	111-12019
T120M	7.6	460.0	125.0	535	PA66	Natural (NA)	100	111-12619
T120XM	7.6	600.0	175.0	535	PA66	Natural (NA)	50	111-12704
T120L	7.6	760.0	225.0	535	PA66	Natural (NA)	50	111-12429
T150L	8.8	820.0	245.0	780	PA66	Natural (NA)	25	111-15419
T150M	8.9	530.0	150.0	780	PA66	Natural (NA)	25	111-15619
T150XL	8.9	1095.0	330.0	780	PA66	Natural (NA)	25	111-15519
T150XLL	8.9	1325.0	405.0	780	PA66	Natural (NA)	25	111-15304
T250S	12.5	225.0	55.0	1115	PA66	Natural (NA)	100	111-24705
T250R	12.5	515.0	125.0	1115	PA66	Natural (NA)	25	111-24803
T250M	12.5	565.3	150.0	1115	PA66	Natural (NA)	25	111-25002
T250I	12.5	730.0	203.0	1115	PA66	Natural (NA)	25	111-25219
T250XL	12.5	1030.0	305.0	1115	PA66	Natural (NA)	25	111-00466

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



For product specific approvals and specifications please refer to the Appendix.

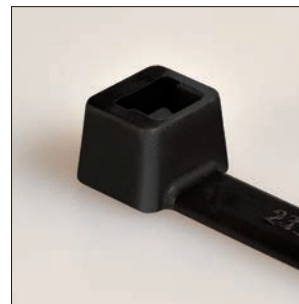
Cable Ties for outdoor use (UV-resistant)

- T-Series in PA66W black

These cable ties are used for routing, bundling and securing of cables, pipes and hoses.

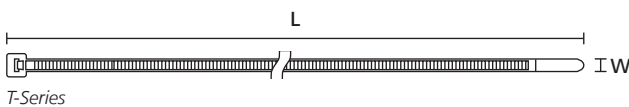
Features and Benefits

- Weather-resistant black cable tie available in a wide range of sizes
- Made from 100% high quality plastic, allows for good recycling
- Inside serration for a strong hold onto bundles
- Easy application either manually or with a processing tool
- Simple to insert due to the ergonomically bent tail
- UV-resistant

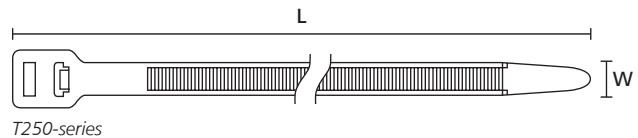


T-Series.

Material specification please see page 30.



T-Series



T250-series

TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Colour	Pack Cont.	Article-No.
T18S	2.3	83.0	16.0	80	PA66W	Black (BK)	1000	111-02860
T18R	2.5	100.0	22.0	80	PA66W	Black (BK)	100	111-01960
	2.5	100.0	22.0	80	PA66W	Black (BK)	1000	111-01867

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.




For product specific approvals and specifications please refer to the Appendix.



Cable Ties for outdoor use (UV-resistant)

- T-Series in PA66W black

Application tools
please see page 338.

TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Colour	Pack Cont.	Article-No.
T18I	2.5	145.0	35.0	80	PA66W	Black (BK)	100	111-02360
	2.5	145.0	35.0	80	PA66W	Black (BK)	1000	111-02361
T18L	2.5	205.0	55.0	80	PA66W	Black (BK)	100	111-02160
	2.5	205.0	55.0	80	PA66W	Black (BK)	1000	111-00972
T25L	2.8	240.0	65.0	110	PA66W	Black (BK)	100	111-02560
T25LL	2.8	330.0	95.0	110	PA66W	Black (BK)	100	111-02660
T30R	3.5	150.0	35.0	135	PA66W	Black (BK)	100	111-03260
	3.5	150.0	35.0	135	PA66W	Black (BK)	1000	111-03280
T30L	3.5	198.0	50.0	135	PA66W	Black (BK)	100	111-00947
T30LL	3.5	290.0	80.0	135	PA66W	Black (BK)	100	111-03580
T40R	4.0	175.0	40.0	180	PA66W	Black (BK)	100	111-03860
T50S	4.6	150.0	35.0	225	PA66W	Black (BK)	100	111-05860
T50R	4.6	200.0	50.0	225	PA66W	Black (BK)	100	111-04860
	4.6	200.0	50.0	225	PA66W	Black (BK)	1000	111-00984
T50M	4.6	245.0	65.0	225	PA66W	Black (BK)	100	111-00957
T50I	4.6	300.0	85.0	225	PA66W	Black (BK)	100	111-00952
T50L	4.6	390.0	110.0	225	PA66W	Black (BK)	100	111-05710
	4.6	390.0	110.0	225	PA66W	Black (BK)	1000	111-01610
T50LL	4.6	445.0	130.0	225	PA66W	Black (BK)	100	111-06000
T80R	4.7	210.0	55.0	355	PA66W	Black (BK)	100	111-05060
T80I	4.7	300.0	85.0	355	PA66W	Black (BK)	100	111-08290
T80L	4.7	390.0	110.0	355	PA66W	Black (BK)	100	111-05460
T120S	7.6	225.0	55.0	535	PA66W	Black (BK)	50	111-12830
T120I	7.6	300.0	75.0	535	PA66W	Black (BK)	50	111-00927
	7.6	300.0	75.0	535	PA66W	Black (BK)	100	111-12160
T150R(H)	7.6	365.0	100.0	670	PA66W	Black (BK)	100	111-14860
T120R(E)	7.6	387.0	100.0	535	PA66W	Black (BK)	100	111-12060
T120M	7.6	460.0	125.0	535	PA66W	Black (BK)	100	111-12660
T120L	7.6	760.0	225.0	535	PA66W	Black (BK)	50	111-12430
T150L	8.8	820.0	245.0	780	PA66UV	Black (BK)	25	111-15460
T150M	8.9	530.0	150.0	780	PA66UV	Black (BK)	25	111-15660
T150XL	8.9	1095.0	330.0	780	PA66UV	Black (BK)	25	111-15502
T150XLL	8.9	1325.0	405.0	780	PA66UV	Black (BK)	25	111-15305
T250X	12.5	370.0	100.0	1115	PA66W	Black (BK)	25	111-25100
T250R	12.5	515.0	125.0	1115	PA66HIRHSUV	Black (BK)	25	111-24805

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



For product specific approvals and specifications please refer to the Appendix.



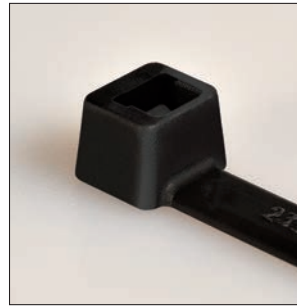
Cable Ties Polyamide 6.6 standard

- T-Series in PA66 black

These cable ties are used for routing, bundling and securing cables, pipes and hoses.

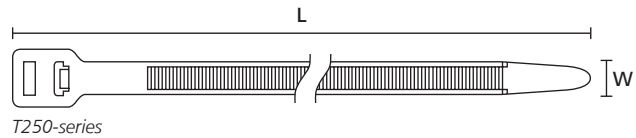
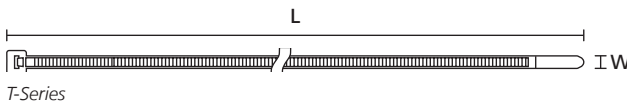
Features and Benefits

- Standard black cable tie available in a wide range of sizes
- Made from 100% high quality plastic, allows for good recycling
- Inside serration for a strong hold around bundles
- Easy application either manually or with a processing tool
- Simple to insert due to the ergonomically bent tail



T-Series.

Material specification please see page 30.



TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Article-No.
T18S	2.3	83.0	16.0	80	PA66	Black (BK)	100	111-02810
	2.3	83.0	16.0	80	PA66	Black (BK)	1000	111-02811
T18R	2.5	100.0	22.0	80	PA66	Black (BK)	100	111-01910
	2.5	100.0	22.0	80	PA66	Black (BK)	1000	111-01980
T18I	2.5	145.0	35.0	80	PA66	Black (BK)	100	111-02370
	2.5	145.0	35.0	80	PA66	Black (BK)	1000	111-01087
T18L	2.5	205.0	55.0	80	PA66	Black (BK)	100	111-02110
	2.5	205.0	55.0	80	PA66	Black (BK)	1000	111-01393
T25L	2.8	240.0	65.0	110	PA66	Black (BK)	100	111-02500
T25LL	2.8	330.0	95.0	110	PA66	Black (BK)	100	111-02601
T30R	3.5	150.0	35.0	135	PA66	Black (BK)	100	111-03210
	3.5	150.0	35.0	135	PA66	Black (BK)	1000	111-01155
T30L	3.5	198.0	50.0	135	PA66	Black (BK)	100	111-00945
	3.5	198.0	50.0	135	PA66	Black (BK)	1000	111-00948
T30LL	3.5	290.0	80.0	135	PA66	Black (BK)	100	111-00982
T40R	4.0	175.0	40.0	180	PA66	Black (BK)	100	111-03801
T50S	4.6	150.0	35.0	225	PA66	Black (BK)	100	111-05810
T50R	4.6	200.0	50.0	225	PA66	Black (BK)	100	111-04810
	4.6	200.0	50.0	225	PA66	Black (BK)	1000	111-01154
T50I	4.6	300.0	85.0	225	PA66	Black (BK)	100	111-00950
T50L	4.6	390.0	110.0	225	PA66	Black (BK)	100	111-00985
T50LL	4.6	445.0	130.0	225	PA66	Black (BK)	500	111-06002
T80R	4.7	210.0	55.0	355	PA66	Black (BK)	100	111-08010
T80I	4.7	300.0	85.0	355	PA66	Black (BK)	100	111-08210
T80L	4.7	390.0	110.0	355	PA66	Black (BK)	100	111-05410
T120I	7.6	300.0	75.0	535	PA66	Black (BK)	100	111-00958
T150R	7.6	365.0	100.0	670	PA66	Black (BK)	100	111-14810
T120R(E)	7.6	387.0	100.0	535	PA66	Black (BK)	100	111-12010
T120M	7.6	460.0	125.0	535	PA66	Black (BK)	100	111-12610

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.




For product specific approvals and specifications please refer to the Appendix.



Cable Ties Polyamide 6.6 standard

• T-Series in PA66 black

TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Colour	Pack Cont.	Article-No.
T120XM	7.6	600.0	175.0	535	PA66	Black (BK)	50	111-12701
T120L	7.6	760.0	225.0	535	PA66	Black (BK)	50	111-12403
T150L	8.8	820.0	245.0	780	PA66	Black (BK)	25	111-15405
T150XL	8.9	1095.0	330.0	780	PA66	Black (BK)	25	111-15500
T150XLL	8.9	1325.0	405.0	780	PA66	Black (BK)	25	111-15300
T250X	12.5	370.0	100.0	1115	PA66	Black (BK)	100	111-25102
T250M	12.5	565.3	150.0	1115	PA66	Black (BK)	25	111-25001
	12.5	565.3	150.0	1115	PA66	Black (BK)	25	111-02501
T250L	12.5	880.0	254.0	1115	PA66	Black (BK)	25	111-24601
T250XL	12.5	1030.0	305.0	1115	PA66	Black (BK)	25	111-25200

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



For product specific approvals and specifications please refer to the Appendix.

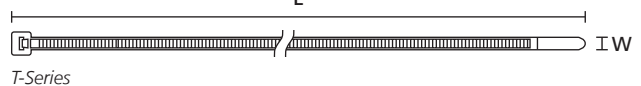
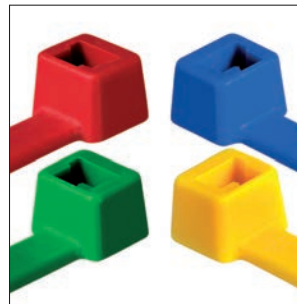
Cable Ties Polyamide 6.6 standard

• T-Series in PA66 coloured

These cable ties are used for routing, bundling and securing cables, pipes and hoses.

Features and Benefits

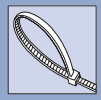
- Coloured cable ties available in a wide range of sizes
- Made from 100% high quality plastic, allows for good recycling
- Inside serration for a strong hold around bundles
- Easy application either manually or with a processing tool
- Simple to insert due to the ergonomically bent tail



TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Colour	Pack Cont.	Article-No.
T30R	3.5	150.0	35.0	135	PA66	Blue (BU)	100	111-03008
	3.5	150.0	35.0	135	PA66	Green (GN)	100	111-03014
	3.5	150.0	35.0	135	PA66	Red (RD)	100	111-03004
	3.5	150.0	35.0	135	PA66	Yellow (YE)	100	111-03006
T50R	4.6	200.0	50.0	225	PA66	Blue (BU)	100	111-04800
	4.6	200.0	50.0	225	PA66	Green (GN)	100	111-04801
	4.6	200.0	50.0	225	PA66	Red (RD)	100	111-04804
	4.6	200.0	50.0	225	PA66	Yellow (YE)	100	111-04805
T50L	4.6	390.0	110.0	225	PA66	Blue (BU)	100	111-05404
	4.6	390.0	110.0	225	PA66	Green (GN)	100	111-05402
	4.6	390.0	110.0	225	PA66	Red (RD)	100	111-05406
	4.6	390.0	110.0	225	PA66	Yellow (YE)	100	111-05428
T120R(E)	7.6	387.0	100.0	535	PA66	Green (GN)	100	111-12001
	7.6	387.0	100.0	535	PA66	Red (RD)	100	111-12002

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



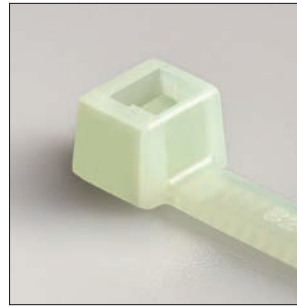
Cable Ties for temperatures up to + 105°C (heat stabilised)

- T-Series in PA66HS natural

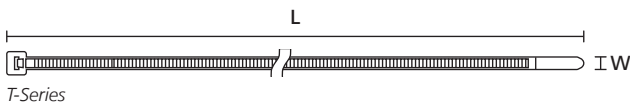
These cable ties are used for routing, bundling and securing cables, pipes and hoses.

Features and Benefits

- Heat stabilised cable tie available in a wide range of sizes
- Made from 100% high quality plastic, allows for good recycling
- Inside serration for a strong hold around bundles
- Easy application either manually or with a processing tool
- Simple to insert due to the ergonomically bent tail
- Higher temperature resistance up to +105 °C



T-Series.



T-Series

Material specification please see page 30.

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Article-No.
T18S	2.3	83.0	16.0	80	PA66HS	Natural (NA)	1000	111-00962
T18R	2.5	100.0	22.0	80	PA66HS	Natural (NA)	100	111-01959
	2.5	100.0	22.0	80	PA66HS	Natural (NA)	1000	111-01866
T18I	2.5	145.0	35.0	80	PA66HS	Natural (NA)	1000	111-02359
T18L	2.5	205.0	55.0	80	PA66HS	Natural (NA)	100	111-02159
	2.5	205.0	55.0	80	PA66HS	Natural (NA)	1000	111-02069
T25LL	2.8	330.0	95.0	110	PA66HS	Natural (NA)	100	111-02602
T30R	3.5	150.0	35.0	135	PA66HS	Natural (NA)	100	111-03259
T30L	3.5	198.0	50.0	135	PA66HS	Natural (NA)	100	111-03459
T30LL	3.5	290.0	80.0	135	PA66HS	Natural (NA)	100	111-01555
T40R	4.0	175.0	40.0	180	PA66HS	Natural (NA)	100	111-03859
T50S	4.6	150.0	35.0	225	PA66HS	Natural (NA)	100	111-05859
T50R	4.6	202.0	50.0	225	PA66HS	Natural (NA)	100	111-04855
T50M	4.6	245.0	65.0	225	PA66	Natural (NA)	100	111-00956
T50I	4.6	300.0	85.0	225	PA66HS	Natural (NA)	100	111-00953
T50L	4.6	390.0	110.0	225	PA66HS	Natural (NA)	100	111-05655
T80R	4.7	210.0	55.0	355	PA66HS	Natural (NA)	100	111-05059
T80I	4.7	300.0	85.0	355	PA66HS	Natural (NA)	100	111-08259
T80L	4.7	390.0	110.0	355	PA66HS	Natural (NA)	100	111-05459
T120S	7.6	225.0	55.0	535	PA66HS	Natural (NA)	50	111-12824
T120I	7.6	300.0	75.0	535	PA66HS	Natural (NA)	100	111-00959
T150R(H)	7.6	365.0	100.0	670	PA66HS	Natural (NA)	100	111-15069
T120R(E)	7.6	387.0	100.0	535	PA66HS	Natural (NA)	100	111-12059
T120XM	7.6	600.0	175.0	535	PA66HS	Natural (NA)	50	111-12719
T120L	7.6	760.0	225.0	535	PA66HS	Natural (NA)	50	111-12449

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



For product specific approvals and specifications please refer to the Appendix.



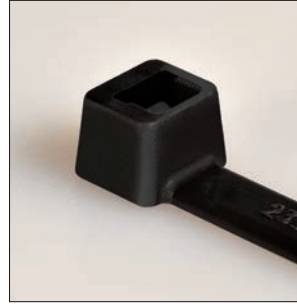
Cable Ties for temperatures up to + 105°C (heat stabilised)

- T-Series in PA66HS black

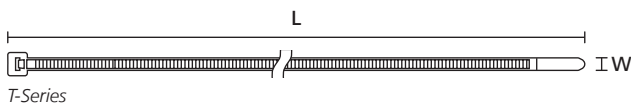
These cable ties are used for routing, bundling and securing cables, pipes and hoses.

Features and Benefits

- Heat stabilised black cable tie available in a wide range of sizes
- Made from 100% high quality plastic, allows for good recycling
- Inside serration for a strong hold around bundles
- Easy application either manually or with a processing tool
- Simple to insert due to the ergonomically bent tail
- Higher temperature resistance up to +105 °C



T-Series.



T-Series

**Application tools
please see page 338.**

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Article-No.
T18S	2.3	83.0	16.0	80	PA66HS	Black (BK)	1000	111-00977
T18R	2.5	100.0	22.0	80	PA66HS	Black (BK)	100	111-01950
	2.5	100.0	22.0	80	PA66HSW	Black (BK)	1000	111-01199
	2.5	100.0	22.0	80	PA66HS	Black (BK)	1000	111-01940
T18I	2.5	145.0	35.0	80	PA66HS	Black (BK)	100	111-02358
T18L	2.5	205.0	55.0	80	PA66HS	Black (BK)	100	111-02049
	2.5	205.0	55.0	80	PA66HS	Black (BK)	1000	111-01183
T30R	3.5	150.0	35.0	135	PA66HS	Black (BK)	100	111-03250
	3.5	150.0	35.0	135	PA66HSW	Black (BK)	100	111-01211
T30L	3.5	198.0	50.0	135	PA66HS	Black (BK)	100	111-03450
T30LL	3.5	290.0	80.0	135	PA66HS	Black (BK)	1000	111-03640
T40R	4.0	175.0	40.0	180	PA66HS	Black (BK)	100	111-01618
T50S	4.6	150.0	35.0	225	PA66HS	Black (BK)	100	111-05850
T50R	4.6	200.0	50.0	225	PA66HSW	Black (BK)	100	111-01278
	4.6	200.0	50.0	225	PA66HS	Black (BK)	100	111-04940
T50I	4.6	300.0	85.0	225	PA66HS	Black (BK)	100	111-05250
	4.6	300.0	85.0	225	PA66HSW	Black (BK)	100	111-00954
T50L	4.6	390.0	110.0	225	PA66HS	Black (BK)	100	111-05450
	4.6	390.0	110.0	225	PA66HSW	Black (BK)	100	111-01226
T80R	4.7	210.0	55.0	355	PA66HS	Black (BK)	100	111-08005
T80I	4.7	300.0	85.0	355	PA66HS	Black (BK)	100	111-08250
	4.7	300.0	85.0	355	PA66HS	Black (BK)	1000	111-08280
T80L	4.7	390.0	110.0	355	PA66HS	Black (BK)	100	111-00388
T120S	7.6	225.0	55.0	535	PA66HS	Black (BK)	50	111-12850
T120I	7.6	300.0	75.0	535	PA66HS	Black (BK)	100	111-01547

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



DIN

MIL



VG

For product specific approvals and specifications please refer to the Appendix.



• T-Series in PA66HS black

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Article-No.
T150R	7.6	365.0	100.0	670	PA66HSW	Black (BK)	100	111-01636
T150R(H)	7.6	365.0	100.0	670	PA66HS	Black (BK)	100	111-01156
T120R(E)	7.6	387.0	100.0	535	PA66HS	Black (BK)	100	111-12050
T120M	7.6	460.0	125.0	535	PA66HS	Black (BK)	100	111-00153
T120XM	7.6	600.0	175.0	535	PA66HS	Black (BK)	50	111-12700
T120L	7.6	760.0	225.0	535	PA66HS	Black (BK)	50	111-12440
T150L	8.8	820.0	245.0	780	PA66HS	Black (BK)	100	111-15410
T150M	8.9	530.0	150.0	780	PA66HS	Black (BK)	25	111-15609
T150XL	8.9	1095.0	330.0	780	PA66HS	Black (BK)	25	111-15510

All dimensions in mm. Subject to technical changes.
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



For product specific approvals and specifications please refer to the Appendix.

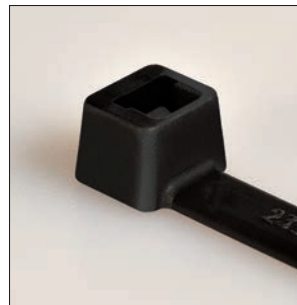
Cable Ties for higher impact resistant Polyamide 6.6 ScanBlack

• T-Series in PA66HIR(S)

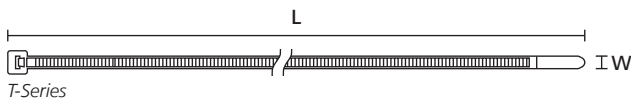
These cable ties are used for routing, bundling and securing cables, pipes and hoses.

Features and Benefits

- Impact resistant black cable tie available in a wide range of sizes
- Made from 100% high quality plastic, allows for good recycling
- Inside serration for a strong hold around bundles
- Easy application either manually or with a processing tool
- Simple to insert due to the ergonomically bent tail
- Higher flexibility in cold environments



T-Series.



Material specification please see page 30.

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Article-No.
T50R	4.6	200.0	50.0	225	PA66HIR(S)	Black (BK)	100	111-04890
T50I	4.6	300.0	85.0	225	PA66HIR(S)	Black (BK)	100	111-00222
T50L	4.6	390.0	110.0	225	PA66HIR(S)	Black (BK)	100	111-05441
T120I	7.6	300.0	80.0	535	PA66HIR(S)	Black (BK)	100	111-12203
T120R(E)	7.6	387.0	100.0	535	PA66HIR(S)	Black (BK)	100	111-12032
T120L	7.6	760.0	225.0	535	PA66HIR(S)	Black (BK)	50	111-12402

All dimensions in mm. Subject to technical changes.
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



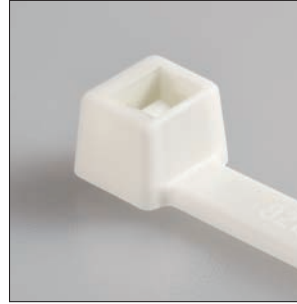
Cable Ties for higher fire-protection

• T-Series in PA66V0

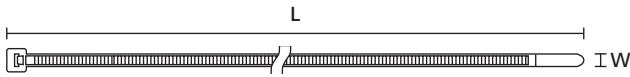
T-Series cable ties for bundling and securing of cables, pipes and hoses. These cable ties can be used for nearly all kinds of applications, especially where safety regulations are high, e.g. the reduction of smoke and dangerous gases.

Features and Benefits

- White cable tie for higher fire-protection, available in a wide range of sizes
- Made from 100% high quality plastic, allows for good recycling
- Inside serration for a strong hold around bundles
- Easy application either manually or with a processing tool
- Simple to insert due to the ergonomically bent tail
- High safety rating due to low fire hazard



T-Series.



T-Series

Application tools
please see page 338.

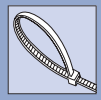
TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Article-No.
T18R	2.5	100.0	22.0	80	PA66V0	Natural (NA)	1000	111-00961
T18L	2.5	205.0	55.0	80	PA66V0	White (WH)	1000	111-02043
T30R	3.5	150.0	35.0	135	PA66V0	Natural (NA)	100	111-00980
T50R	4.6	200.0	50.0	225	PA66V0	White (WH)	100	111-95019
T50I	4.6	300.0	85.0	225	PA66V0	White (WH)	100	111-00317
T120R(E)	7.6	387.0	100.0	535	PA66V0	White (WH)	100	111-91210

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



For product specific approvals and specifications please refer to the Appendix.



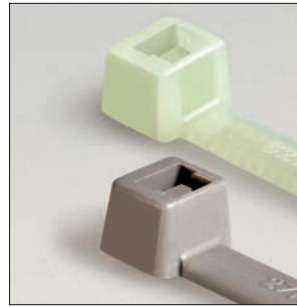
Cable Ties for temperatures up to + 150°C in Polyamide 4.6

- T-Series in PA46

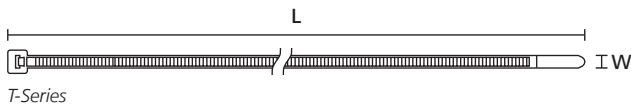
These cable ties are used for routing, bundling and securing cables, pipes and hoses.

Features and Benefits

- Higher temperature cable tie available in a wide range sizes
- Made from 100% high quality plastic, allows for good recycling
- Inside serration for a strong hold around bundles
- Easy application either manually or with a processing tool
- Simple to insert due to the ergonomically bent tail
- Higher temperature resistance up to +150 °C



T-Series.



Material specification please see page 30.

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Article-No.
T18S	2.3	83.0	16.0	80	PA46	Natural (NA)	1000	111-02802
T18R	2.5	100.0	22.0	80	PA46	Grey (GY)	1000	111-01617
	2.5	100.0	22.0	80	PA46	Natural (NA)	1000	111-00960
T18I	2.5	145.0	35.0	80	PA46	Natural (NA)	1000	111-01182
T30R	3.5	150.0	35.0	135	PA46	Grey (GY)	100	111-00968
T30L	3.5	198.0	50.0	135	PA46	Grey (GY)	1000	111-01581
T50R	4.6	200.0	50.0	225	PA46	Black (BK)	100	111-00969
	4.6	200.0	50.0	225	PA46	Grey (GY)	100	111-00824
	4.6	200.0	50.0	225	PA46	Grey (GY)	1000	111-00983
	4.6	200.0	50.0	225	PA46	Natural (NA)	100	111-00525
T50I	4.6	300.0	85.0	225	PA46	Grey (GY)	100	111-01472
T50L	4.6	390.0	110.0	225	PA46	Natural (NA)	100	111-00526
T150R(H)	7.6	365.0	100.0	670	PA46	Grey (GY)	100	111-01415

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



For product specific approvals and specifications please refer to the Appendix.



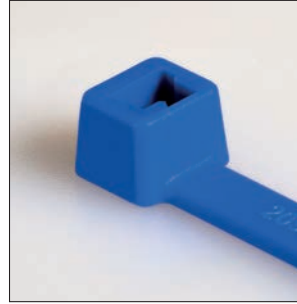
Cable Ties for higher chemical resistance and for temperatures up to +170°C in Ethylentetrafluorineethylene

- T-Series in E/TFE

T-Series cable ties for bundling and securing cables, pipes and hoses. These cable ties can be used for nearly all kinds of applications, especially when a high chemical resistance is required.

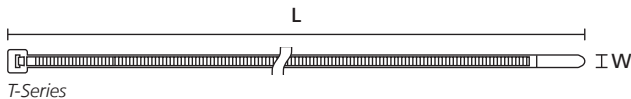
Features and Benefits

- Blue higher chemical resistance cable tie available in a wide range sizes
- Made from 100% high quality plastic, allows for good recycling
- Inside serration for a strong hold onto bundles
- Easy application either manually or with a processing tool
- Simple to insert due to bent tail
- High temperature resistance
- No moisture absorption



T-Series.

**Application tools
please see page 338.**



T-Series

**For more information on E/TFE sockets
please refer to KR-Series on page 123.**

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Article-No.
T18R	2.5	100.0	22.0	80	E/TFE	Blue (BU)	100	111-00659
T30R	3.5	150.0	36.0	133	E/TFE	Blue (BU)	100	111-00698
T50R	4.7	201.0	50.0	222	E/TFE	Blue (BU)	100	111-00732
T50L	4.7	382.0	105.0	222	E/TFE	Blue (BU)	100	111-00718
T120R	7.4	387.0	105.0	535	E/TFE	Blue (BU)	50	111-01125

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

Please note! Not all products listed on this page may have this approval. For product specific approvals please refer to the Appendix. General linguistic usage for cable ties made from raw material E/TFE is Tefzel®-Tie. In addition to Tefzel® from DuPont HellermannTyton is also using equivalent E/TFE raw material from other suppliers. Tefzel® is a registered trademark of DuPont.



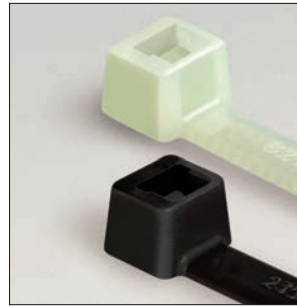
Cable Ties for higher chemical resistance for temperatures up to +115°C in Polypropylene

- T-Series in PP

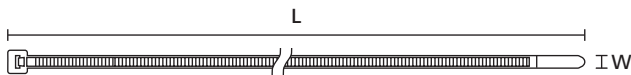
These cable ties are used for routing, bundling and securing cables, pipes and hoses.

Features and Benefits

- Higher chemical resistant cable tie available in a wide range sizes
- Made from 100% high quality plastic, allows for good recycling
- Inside serration for a strong hold around bundles
- Easy application either manually or with a processing tool
- Simple to insert due to the ergonomically bent tail
- Floats in water
- High chemical resistance




T-Series.



T-Series

Material specification please see page 30.

TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Colour	Pack Cont.	Article-No.
T18R	2.5	100.0	22.0	36	PP	Black (BK)	100	111-01917
	2.5	100.0	22.0	36	PP	Natural (NA)	1000	111-01922
T30R	3.6	148.0	32.0	89	PP	Natural (NA)	100	111-03017
T50R	4.8	202.0	44.5	111	PP	Black (BK)	100	111-04928
	4.8	202.0	44.5	111	PP	Natural (NA)	100	111-04931
T120S	7.6	225.0	55.0	267	PP	Black (BK)	500	111-12827
T120R	7.6	390.0	105.0	267	PP	Black (BK)	500	111-12066

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



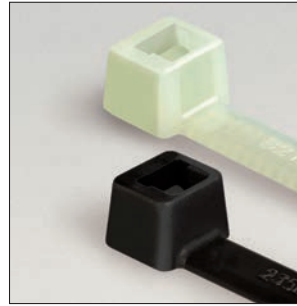
Cable Ties in-between size to T-Series

- LK-Series

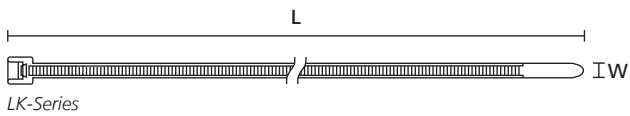
For routing, bundling and securing of cables, pipes and hoses.

Features and Benefits

- Wide range of materials and sizes
- Inside serrated ties for a strong hold around bundles
- High tensile strength with very low insertion force
- Simple and quick to install
- Easy application either manually or with a processing tool



LK-Series.



LK-Series

Application tools
please see page 338.

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Article-No.
LK2A	4.6	270.0	73.0	225	PA66	Black (BK)	100	111-60110
	4.6	270.0	73.0	225	PA66	Natural (NA)	100	111-60119
	4.6	270.0	73.0	225	PA66HIR(S)	Black (BK)	100	111-00127
	4.6	270.0	73.0	225	PA66HS	Black (BK)	100	111-60150
	4.6	270.0	73.0	225	PA66HS	Natural (NA)	100	111-60159
	4.6	270.0	73.0	225	PA66W	Black (BK)	100	111-60160
LK2	4.8	120.0	28.0	135	PA66	Natural (NA)	200	111-60219
LK5	13.2	535.0	150.0	1115	PA66	Black (BK)	50	111-60510
	13.2	535.0	150.0	1115	PA66	Natural (NA)	50	111-60519
	13.2	535.0	150.0	1115	PA66HIR(S)	Black (BK)	50	111-60501
	13.2	535.0	150.0	1115	PA66HS	Natural (NA)	50	111-60559
	13.2	535.0	150.0	1115	PA66W	Black (BK)	50	111-60560

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



For product specific approvals and specifications please refer to the Appendix.



Cable Ties for food industry, detectable

• MCT-Series

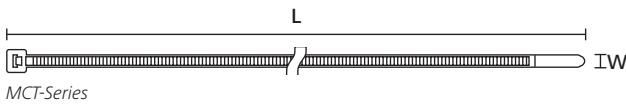
The Metal Content Tie is a cable tie specifically designed for use in the food and pharmaceutical processing industries. A unique manufacturing process, involving the inclusion of a metallic pigment, enables even small 'cut-off' sections of the tie to be detected by standard metal-detecting equipment. Ideally suited for the installation of cabling in and around the manufacturing process.

Features and Benefits

- Total metal dispersion throughout the tie
- Available in a wide range of sizes
- Usable as part of HACCP process*
- Unique blue colour for easy visual detection
- Greatly reduces risk of contamination
- Magnetic detectable



One Step to the Web!




The MCT with metal content.



A safe and contamination free production process with MCT.


• MCT-Series

TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Colour	Pack Cont.	Article-No.
MCT18R	2.5	100.0	22.0	80	PA66MP	Blue (BU)	100	111-01225
MCT30R	3.5	150.0	35.0	135	PA66MP	Blue (BU)	100	111-00829
MCT50R	4.6	202.0	50.0	225	PA66MP	Blue (BU)	100	111-00830
MCT50L	4.7	380.0	110.0	225	PA66MP	Blue (BU)	100	111-00831
MCT120R	7.6	387.0	100.0	535	PA66MP	Blue (BU)	100	111-01136

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

• MCT-Series releasable

TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Colour	Pack Cont.	Article-No.
MCTRELK2M	4.6	250.0	65.0	225	PA66MP	Blue (BU)	100	111-00937

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

*HACCP stands for Hazard Analysis Critical Control Points. It is a method of identifying and eliminating potential hazards in food production. Those hazards that cannot be eliminated are controlled in such a way that the consumer is protected. These controls are known as Critical Control Points (CCPs). They are CRITICAL because if they fail or are not carried out, the risk of the product harming the customer increases.

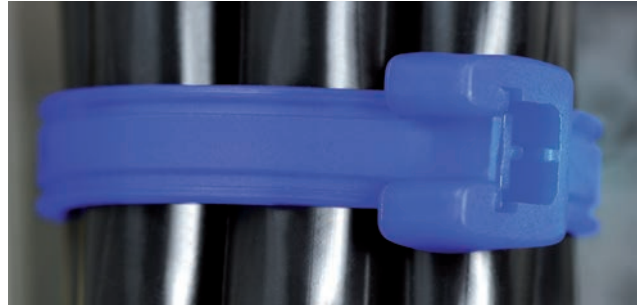


Cable Ties, Q-tie

Innovative – Effective – Safe!

The new Q-tie has not only an innovative but also a revolutionary design. The open head of the cable tie enables a simple and quick installation. Just insert the ergonomically bent tail into the open side of the head and tighten the cable tie.

With Q-ties you can save time and money!



Q-ties in different colours are ideal for marking and bundling in one step.

Easy application for every situation!

Q-tie is the perfect product solution for applications under difficult working conditions. It is designed for use in applications where working with gloves is necessary or for blind applications with a limited view of the work.

The new Q-tie allows a quick and simple installation even with work gloves and restricted view.

Features for quick and easy application:

- Curved and large ribbed tail
- Open head with easily detectable slot

This saves time and trouble!

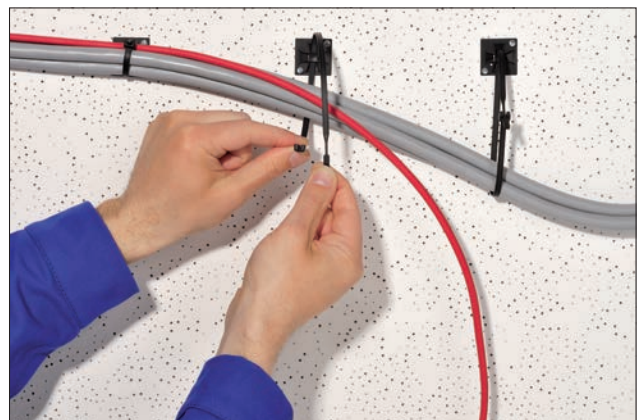


Even under difficult circumstances the Q-tie cable tie is very fast and easy to apply.

Integrated Pre-Locking Functionality!

Due to several simultaneous working processes, it is not always possible to install all cables and conduits in one single step. Thus, working with standard cable ties means either destroying the cable tie of the first installation or applying additional cable ties. The integrated pre-locking function of the Q-tie offers both temporary and final cable fastening solution.

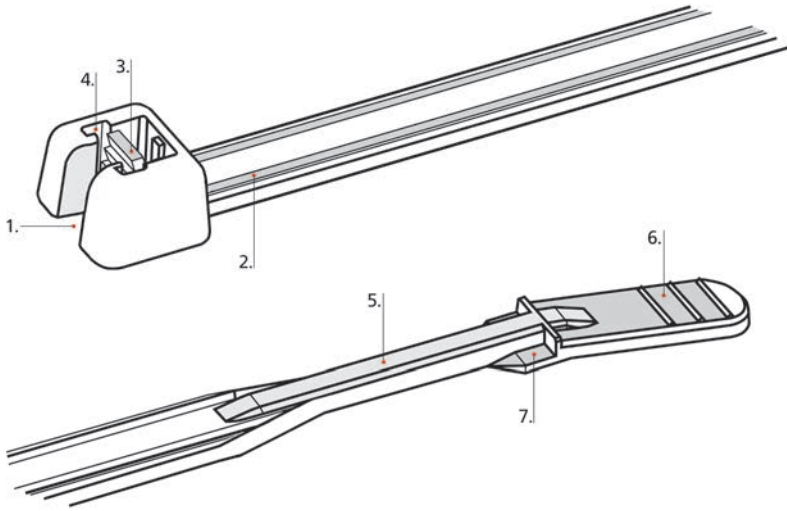
This saves material and time!



Without additional effort only Q-ties can be used for temporary and final cable bundling.



One Step to the Web!



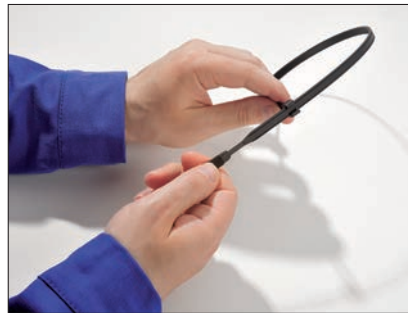
Features of Q-ties:

1. Open lock head for quick and easy insertion.
2. Two rails on the strap ensure perfect guidance for the tracks in the head.
3. The locking device interacts safely with the serration of the cable tie.
4. The tracks prevent a deformation of the head under load.
5. The thin part of the cable tie can be simply placed into the open lock head.
6. The large ribbed tail allows a safe and ergonomic installation.
7. Integrated pre locking feature (starts with type Q30).

Application Method:



1. Insert the thin part of the cable tie into the open lock head.



2. Pull the tie through the head until the bundle is fixed.

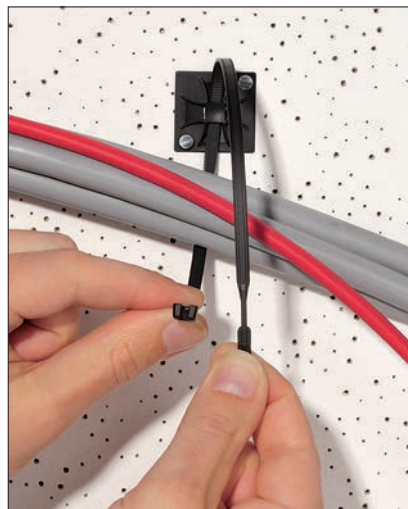
3. Cut off the remaining part of the tie with an application tool.

Please find more Q-Series products for your system solution on page 121 and 300.

Pre-locking Function of the Q-tie:



1. Insert tail into the open head and push the tail partly into the head.



2. To release the tie push tail end slightly out of head.



3. When the installation is complete, the Q-tie can be tightened and cut off - either manually or with an application tool.



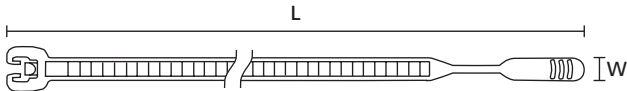
Cable Ties with open head

- Q-ties, Polyamide 6.6 (PA66), natural and black

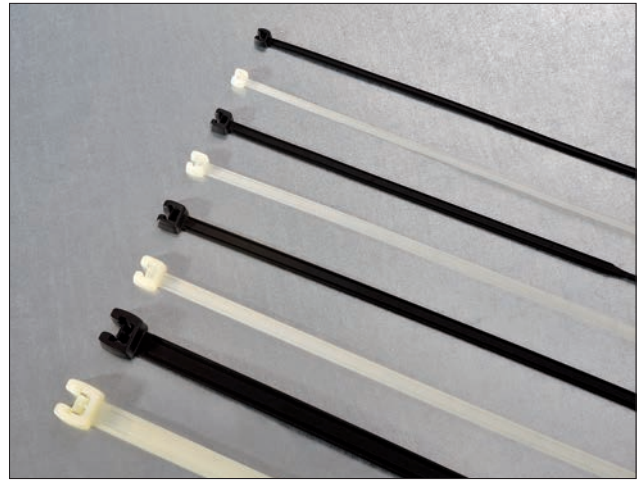


Material specification
please see page 30.


One Step to the Web!



Q-tie cable tie



Q-tie cable ties: choose from a wide product range in different materials.

TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Colour	Pack Cont.	Article-No.
Q18R	2.6	105.0	24.0	80	PA66	Black (BK)	100	109-00030
	2.6	105.0	24.0	80	PA66	Natural (NA)	100	109-00001
Q18I	2.6	155.0	40.0	80	PA66	Black (BK)	100	109-00033
	2.6	155.0	40.0	80	PA66	Natural (NA)	100	109-00004
Q18L	2.6	195.0	50.0	80	PA66	Black (BK)	100	109-00036
	2.6	195.0	50.0	80	PA66	Natural (NA)	100	109-00007
Q30R	3.6	160.0	38.0	130	PA66	Black (BK)	100	109-00039
	3.6	160.0	38.0	130	PA66	Natural (NA)	100	109-00010
Q30L	3.6	200.0	50.0	130	PA66	Black (BK)	100	109-00041
	3.6	200.0	50.0	130	PA66	Natural (NA)	100	109-00012
Q30LR	3.6	250.0	65.0	130	PA66	Black (BK)	100	109-00043
	3.6	250.0	65.0	130	PA66	Natural (NA)	100	109-00014
Q50R	4.7	210.0	50.0	220	PA66	Black (BK)	100	109-00047
	4.7	210.0	50.0	220	PA66	Natural (NA)	100	109-00018
Q50I	4.7	290.0	75.0	220	PA66	Black (BK)	100	109-00049
	4.7	290.0	75.0	220	PA66	Natural (NA)	100	109-00020
Q50L	4.7	410.0	110.0	220	PA66	Black (BK)	100	109-00051
	4.7	410.0	110.0	220	PA66	Natural (NA)	100	109-00022
Q120I	7.7	300.0	70.0	530	PA66	Black (BK)	100	109-00053
	7.7	300.0	70.0	530	PA66	Natural (NA)	100	109-00024
Q120R	7.7	420.0	110.0	530	PA66	Black (BK)	100	109-00055
	7.7	420.0	110.0	530	PA66	Natural (NA)	100	109-00026
Q120M	7.7	520.0	130.0	530	PA66	Black (BK)	100	109-00057
	7.7	520.0	130.0	530	PA66	Natural (NA)	100	109-00028

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

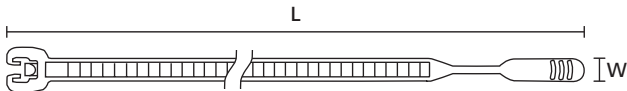


Cable Ties with open head

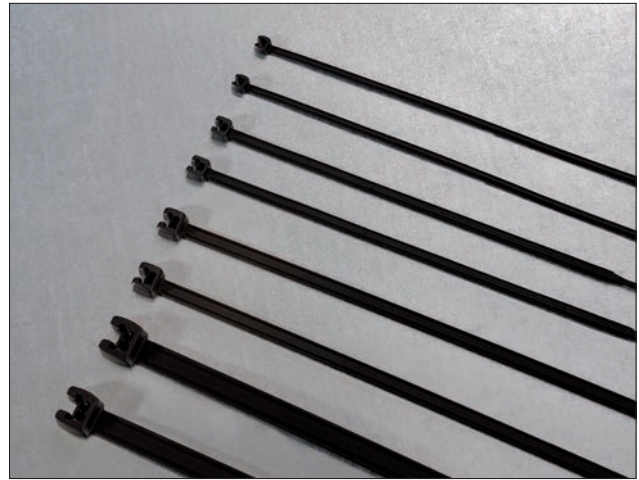
- Q-ties, Polyamide 6.6 UV-resistant (PA66W), black

Application tools
please see page 338.


Please find more Q-Series products for your
system solution on page 50, 121 and 300.



Q-tie cable tie



Q-tie cable ties: choose from a wide product range in different sizes.

TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Colour	Pack Cont.	Article-No.
Q18R	2.6	105.0	24.0	80	PA66W	Black (BK)	100	109-00059
Q18I	2.6	155.0	40.0	80	PA66W	Black (BK)	100	109-00062
Q18L	2.6	195.0	50.0	80	PA66W	Black (BK)	100	109-00065
Q30R	3.6	160.0	38.0	130	PA66W	Black (BK)	100	109-00068
Q30L	3.6	200.0	50.0	130	PA66W	Black (BK)	100	109-00070
Q30LR	3.6	250.0	65.0	130	PA66W	Black (BK)	100	109-00072
Q50R	4.7	210.0	50.0	220	PA66W	Black (BK)	100	109-00076
Q50I	4.7	290.0	75.0	220	PA66W	Black (BK)	100	109-00078
Q50L	4.7	410.0	110.0	220	PA66W	Black (BK)	100	109-00080
Q120I	7.7	300.0	70.0	530	PA66W	Black (BK)	100	109-00082
Q120R	7.7	420.0	110.0	530	PA66W	Black (BK)	100	109-00084
Q120M	7.7	520.0	130.0	530	PA66W	Black (BK)	100	109-00086

All dimensions in mm. Subject to technical changes.

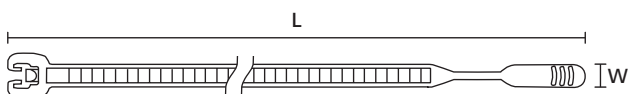
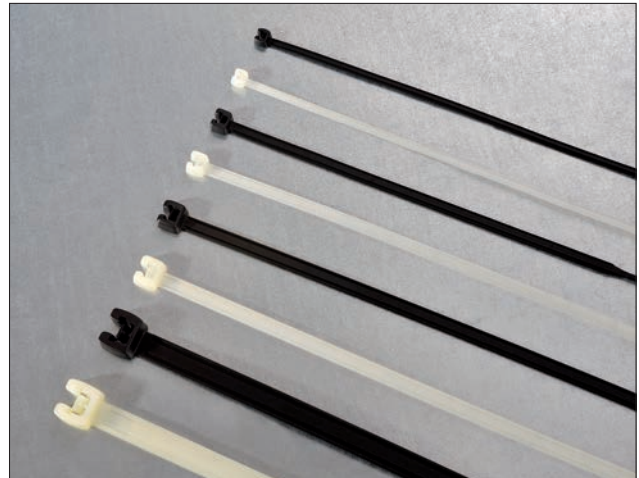
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



Cable Ties with open head


- Q-ties, Polyamide 6.6 heat stabilised (PA66HS), natural and black

Material specification
please see page 30.



Q-tie cable tie

Q-tie cable ties: choose from a wide product range in different materials.

TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Colour	Pack Cont.	Article-No.
Q18R	2.6	105.0	24.0	80	PA66HS	Black (BK)	100	109-00088
	2.6	105.0	24.0	80	PA66HS	Natural (NA)	100	109-00117
Q18I	2.6	155.0	40.0	80	PA66HS	Black (BK)	100	109-00091
	2.6	155.0	40.0	80	PA66HS	Natural (NA)	100	109-00120
Q18L	2.6	195.0	50.0	80	PA66HS	Black (BK)	100	109-00094
	2.6	195.0	50.0	80	PA66HS	Natural (NA)	100	109-00123
Q30R	3.6	160.0	38.0	130	PA66HS	Black (BK)	100	109-00097
	3.6	160.0	38.0	130	PA66HS	Natural (NA)	100	109-00126
Q30L	3.6	200.0	50.0	130	PA66HS	Black (BK)	100	109-00099
	3.6	200.0	50.0	130	PA66HS	Natural (NA)	100	109-00128
Q30LR	3.6	250.0	65.0	130	PA66HS	Black (BK)	100	109-00101
	3.6	250.0	65.0	130	PA66HS	Natural (NA)	100	109-00130
Q50R	4.7	210.0	50.0	220	PA66HS	Black (BK)	100	109-00105
	4.7	210.0	50.0	220	PA66HS	Natural (NA)	100	109-00134
Q50I	4.7	290.0	75.0	220	PA66HS	Black (BK)	100	109-00107
	4.7	290.0	75.0	220	PA66HS	Natural (NA)	100	109-00136
Q50L	4.7	410.0	110.0	220	PA66HS	Black (BK)	100	109-00109
	4.7	410.0	110.0	220	PA66HS	Natural (NA)	100	109-00138
Q120I	7.7	300.0	70.0	530	PA66HS	Black (BK)	100	109-00111
	7.7	300.0	70.0	530	PA66HS	Natural (NA)	100	109-00140
Q120R	7.7	420.0	110.0	530	PA66HS	Black (BK)	100	109-00113
	7.7	420.0	110.0	530	PA66HS	Natural (NA)	100	109-00142
Q120M	7.7	520.0	130.0	530	PA66HS	Black (BK)	100	109-00115
	7.7	520.0	130.0	530	PA66HS	Natural (NA)	100	109-00144

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

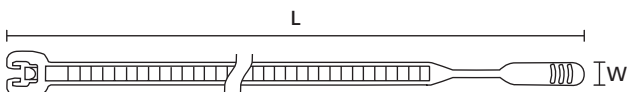


Cable Ties with open head

- Q-ties, Polyamide 6.6 (PA66), coloured

Application tools
please see page 338.

Please find more Q-Series products for your
system solution on page 50, 121 and 300.



Q-tie cable tie

Q-ties in different colours are ideal for marking and bundling in one step.

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Article-No.
Q18R	2.6	105.0	24.0	80	PA66	Blue (BU)	100	109-00147
	2.6	105.0	24.0	80	PA66	Green (GN)	100	109-00148
	2.6	105.0	24.0	80	PA66	Red (RD)	100	109-00149
	2.6	105.0	24.0	80	PA66	Yellow (YE)	100	109-00150
Q18I	2.6	155.0	40.0	80	PA66	Blue (BU)	100	109-00152
	2.6	155.0	40.0	80	PA66	Green (GN)	100	109-00153
	2.6	155.0	40.0	80	PA66	Red (RD)	100	109-00154
	2.6	155.0	40.0	80	PA66	Yellow (YE)	100	109-00155
Q18L	2.6	195.0	50.0	80	PA66	Blue (BU)	100	109-00157
	2.6	195.0	50.0	80	PA66	Green (GN)	100	109-00158
	2.6	195.0	50.0	80	PA66	Red (RD)	100	109-00159
	2.6	195.0	50.0	80	PA66	Yellow (YE)	100	109-00160
Q30R	3.6	160.0	38.0	130	PA66	Blue (BU)	100	109-00162
	3.6	160.0	38.0	130	PA66	Green (GN)	100	109-00163
	3.6	160.0	38.0	130	PA66	Red (RD)	100	109-00164
	3.6	160.0	38.0	130	PA66	Yellow (YE)	100	109-00165
Q30L	3.6	200.0	50.0	130	PA66	Blue (BU)	100	109-00167
	3.6	200.0	50.0	130	PA66	Green (GN)	100	109-00168
	3.6	200.0	50.0	130	PA66	Red (RD)	100	109-00169
	3.6	200.0	50.0	130	PA66	Yellow (YE)	100	109-00170
Q30LR	3.6	250.0	65.0	130	PA66	Blue (BU)	100	109-00172
	3.6	250.0	65.0	130	PA66	Green (GN)	100	109-00173
	3.6	250.0	65.0	130	PA66	Red (RD)	100	109-00174
	3.6	250.0	65.0	130	PA66	Yellow (YE)	100	109-00175
Q50R	4.7	210.0	50.0	220	PA66	Blue (BU)	100	109-00182
	4.7	210.0	50.0	220	PA66	Green (GN)	100	109-00183
	4.7	210.0	50.0	220	PA66	Red (RD)	100	109-00184
	4.7	210.0	50.0	220	PA66	Yellow (YE)	100	109-00185

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



Cable Ties with open head

- Q-ties, Polyamide 6.6 (PA66), coloured

Material specification
please see page 30.

TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Colour	Pack Cont.	Article-No.
Q50I	4.7	290.0	75.0	220	PA66	Blue (BU)	100	109-00187
	4.7	290.0	75.0	220	PA66	Green (GN)	100	109-00188
	4.7	290.0	75.0	220	PA66	Red (RD)	100	109-00189
	4.7	290.0	75.0	220	PA66	Yellow (YE)	100	109-00190
Q50L	4.7	410.0	110.0	220	PA66	Blue (BU)	100	109-00192
	4.7	410.0	110.0	220	PA66	Green (GN)	100	109-00193
	4.7	410.0	110.0	220	PA66	Red (RD)	100	109-00194
	4.7	410.0	110.0	220	PA66	Yellow (YE)	100	109-00195
Q120I	7.7	300.0	70.0	530	PA66	Blue (BU)	100	109-00197
	7.7	300.0	70.0	530	PA66	Green (GN)	100	109-00198
	7.7	300.0	70.0	530	PA66	Red (RD)	100	109-00199
	7.7	300.0	70.0	530	PA66	Yellow (YE)	100	109-00200
Q120R	7.7	420.0	110.0	530	PA66	Blue (BU)	100	109-00202
	7.7	420.0	110.0	530	PA66	Green (GN)	100	109-00203
	7.7	420.0	110.0	530	PA66	Red (RD)	100	109-00204
	7.7	420.0	110.0	530	PA66	Yellow (YE)	100	109-00205
Q120M	7.7	520.0	130.0	530	PA66	Blue (BU)	100	109-00207
	7.7	520.0	130.0	530	PA66	Green (GN)	100	109-00208
	7.7	520.0	130.0	530	PA66	Red (RD)	100	109-00209
	7.7	520.0	130.0	530	PA66	Yellow (YE)	100	109-00210

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



Cable Ties for hose and gaiter

- CTT-Series up to 265 N loop tensile strength

Designed to secure pipes, hoses and gaiters, where low pressures are being secured. These ties can be used in many industries, including: automotive, white goods manufacturers and construction.

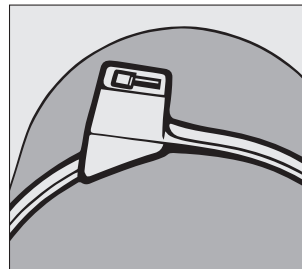
Features and Benefits

- Curved design of head offers a good fit to the bundle
- Inside serration for a positive hold onto bundles
- Easy application either manually or with a processing tool

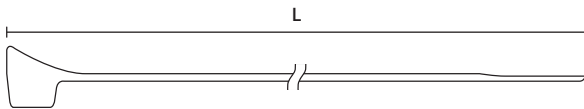


CTT ties installed on flexible gaiters.

**Application tools
please see page 338.**



For secure fixing of round and solid shapes.



CTT Hose Ties

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Pack Cont.	Article-No.
CTT20R	2.5	101.6	13.0	90	PA66	Natural (NA)	100	112-51919
	2.5	101.6	13.0	90	PA66HS	Black (BK)	1000	112-51960
CTT60R	4.7	205.0	45.0	265	PA66	Natural (NA)	100	112-56019
	4.7	205.0	45.0	265	PA66HS	Black (BK)	100	112-52112

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



For product specific approvals and specifications please refer to the Appendix.



Cable Ties for parallel routing

• DH-Series

Ideal for running two cables in parallel, that need to be separated. These ties allow for installation of a second cable run without the need for additional cable ties.

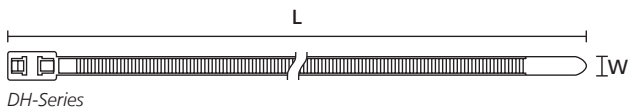
The DH ties are also widely used within the packaging industry - the first loop closes and secures the bag, whilst the second loop can be made into a carrying handle (subject to weight).

Features and Benefits

- Available in a wide range of materials
- Cable tie designed with two heads which creates an inside and outside serrated loop
- For parallel routing of two bundles with only one cable tie
- Bundles can be of different diameter
- Easy application either manually or with a processing tool




Parallel routing of two cable bundles using DH-Series. The double head creates an inside and an outside serrated loop.



DH-Series

**Material specification
please see page 30.**

TYPE	Width (W)	Length (L)	Ø max. side loops		Min. Tensile Strength 2nd loop (N)	Material	Colour	Pack Cont.	Article-No.
T50RDH	4.7	210.0	19.0	225	180 N	PA46	Grey (GY)	100	117-05168
	4.7	210.0	19.0	225	180 N	PA66	Black (BK)	100	117-05000
	4.7	210.0	19.0	225	180 N	PA66	Natural (NA)	100	117-05002
	4.7	210.0	19.0	225	180 N	PA66HS	Black (BK)	100	117-05050
	4.7	210.0	19.0	225	180 N	PA66W	Black (BK)	500	117-05060
T50IDH	4.7	305.0	38.1	225	180 N	PA66	Natural (NA)	1000	117-05303
	4.7	305.0	38.1	225	180 N	PA66HS	Black (BK)	1000	117-05350
	4.7	305.0	38.1	225	180 N	PA66UV	Black (BK)	100	117-05360
T50LDH	4.7	395.0	50.8	225	180 N	PA66	Natural (NA)	1000	117-05461
	4.7	395.0	50.8	225	180 N	PA66HS	Black (BK)	100	117-00008

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



For product specific approvals and specifications please refer to the Appendix.

HellermannTyton's extensive product range provides full end to end solutions for cabling project of any size to all types of business.

the sky is the limit

AlphaSnap RapidNet Deca¹⁰ EcoBand Global
GigaBand FibreBand iD iD Active MegaBand

Better Technology through Innovation



Find more information in our Connectivity Catalogue.

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HellermannTyton



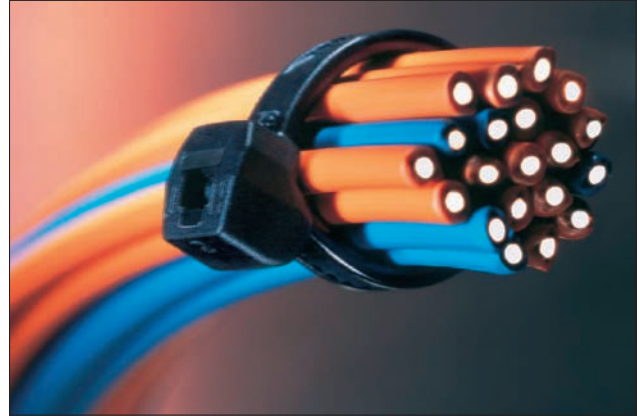
Cable Ties for thin-walled bundles

• OS-Series

OS-Series cable ties are used in many areas where thin-walled or soft insulation wires and cable are being installed, e. g. automotive and aircraft industry. OS ties made from PA66V0 material are suitable for applications where safety regulations are required, e.g. reduction of smoke and dangerous gases.

Features and Benefits

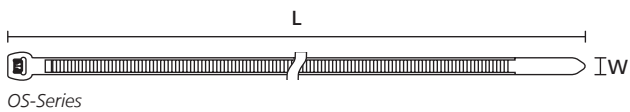
- Outside serrated cable tie with smooth surface to the bundle
- Tie follows the contours of the cable bundle perfectly
- Takes up less space due to curved head
- Easy insertion and high tensile strength
- For higher temperature or Limited Fire Hazard demand: Material PA46 or PA66V0
- Easy application either manually or with a processing tool



The contoured head needs less installation space, provides low insertion force and offers high strength.



The new head design of the OS Series



Application tools
please see page 338.

TYPE	Width (W)	Length (L)	Bundle Ø min.	Bundle Ø max.		Material	Colour	Pack Cont.	Article-No.
T18ROS	2.5	100.0	1.6	20.0	80	PA66HS	Black (BK)	500	118-04701
	2.5	100.0	1.6	20.0	80	PA66HS	Natural (NA)	1,000	118-00035
	2.5	100.0	1.6	20.0	80	PA66V0-HOI	White (WH)	100	118-00079
T30ROS	3.4	145.0	1.6	35.0	135	PA66HS	Natural (NA)	100	118-00064
	3.4	145.0	1.6	35.0	135	PA66HS	Black (BK)	100	118-04800
T30LOS	3.4	200.0	1.6	50.0	135	PA66HS	Natural (NA)	100	118-00044
	3.4	200.0	1.6	50.0	135	PA66V0-HOI	White (WH)	100	118-00080
	3.4	200.0	1.6	50.0	135	PA66HS	Black (BK)	100	118-04900
T50SOS	4.6	150.0	1.6	35.0	225	PA66HS	Black (BK)	100	118-05850
T50ROS	4.6	200.0	1.6	50.0	225	PA46	Grey (GY)	500	118-05078
	4.6	200.0	1.6	50.0	225	PA66	Natural (NA)	1000	118-00096
	4.6	200.0	1.6	50.0	225	PA66HS	Black (BK)	500	118-05040
	4.6	200.0	1.6	50.0	225	PA66HS	Black (BK)	1000	118-00093
	4.6	200.0	1.6	50.0	225	PA66HS	Natural (NA)	1000	118-00097
	4.6	200.0	1.6	50.0	225	PA66HS	Natural (NA)	100	118-05059
T50MOS	4.6	245.0	1.6	66.0	225	PA66HS	Black (BK)	100	118-00018
	4.6	245.0	1.6	66.0	225	PA66HS	Natural (NA)	100	118-00055
	4.6	245.0	1.6	66.0	225	PA66V0-HOI	White (WH)	100	118-00081
T50LOS	4.6	384.0	1.6	110.0	225	PA66HS	Black (BK)	100	118-05900
T120ROS	7.6	385.0	5.0	105.0	535	PA66HS	Black (BK)	100	118-00066
	7.6	385.0	5.0	105.0	535	PA66HS	Natural (NA)	100	118-00067
	7.6	385.0	5.0	105.0	535	PA66V0-HOI	White (WH)	100	118-00082

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



Cable Ties for high temperature application up to +240°C

PEEK ties have been designed for the use in hazardous environments. Their suitability for high temperature applications makes them ideal for use in the drilling industry, railway, offshore or automotive industry. The excellent chemical and radiation resistance is predestined for applications in medical engineering, chemical industry and power stations. With regard to the aerospace industry, PEEK ties are suitable due to their good weight to tensile strength ratio. Because of this combination of different properties, PEEK ties can replace metal solutions.

Features and Benefits

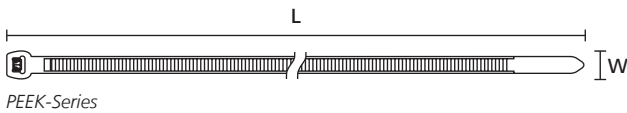
- For high temperature applications from -55° C up to +240° C
- Outside serrated cable tie with smooth surface to the bundle
- Close fit to the cable bundle due to the deepening head shape
- Easy insertion combined with high tensile strength
- Takes up less space due to the curved head
- Combines the performance of a metal tie with the ease of use of a polyamide cable tie
- Easy application either manually or with a processing tool



The contoured head takes up less space, gives a low insertion force and offers high strength.



Please find more PEEK products for your system solutions:
Foot Part P1SFT65, see page 90.
Screw Mount CTAM, see page 124.



Material specification please see page 30.



One Step to the Web!

• PEEK Ties, outside serrated

TYPE	Width (W)	Length (L)	Bundle Ø min.	Bundle Ø max.	N	Material	Colour	Pack Cont.	Article-No.
PT2A	3.4	145.0	4.0	35.0	230	PEEK	Beige (BGE)	100	118-00032

All dimensions in mm. Subject to technical changes.
 Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

• PEEK Ties, inside serrated

TYPE	Width (W)	Length (L)	Bundle Ø min.	Bundle Ø max.	N	Material	Colour	Pack Cont.	Article-No.
PT220	4.7	220.0	8.0	56.0	380	PEEK	Beige (BGE)	100	111-01235

All dimensions in mm. Subject to technical changes.
 Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



For product specific approvals and specifications please refer to the Appendix.



Cable tie with 90° angled head

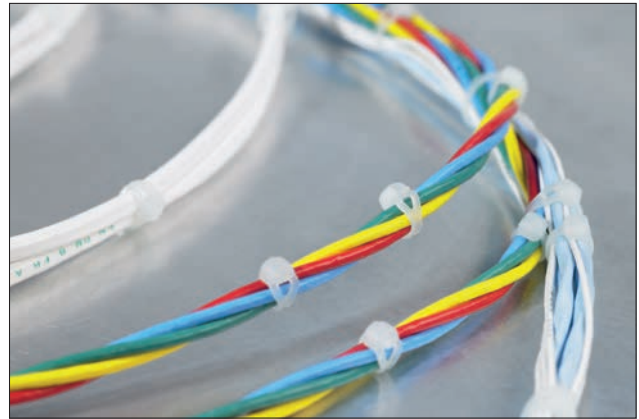
- V-Series

Due to its low profile head, V-Series outside serrated cable ties are perfectly suited for applications with restricted space, such as camera and alarm systems and automation systems (Remote I/O Systems)

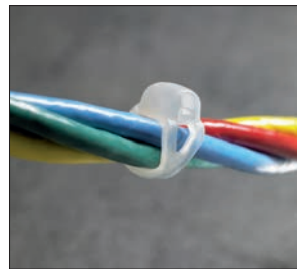
Where bundles are fed through a grommet or ductwork, V-Series provides a practical solution due to its unique rounded design.

Features and Benefits

- Outside serrated cable tie with smooth surface to the bundle
- Lentiform, 90° angled head
- Rounded head design minimises the risk of damage to insulation, especially for parallel routed bundles
- Low profile head takes up less space above the bundle
- Close fit to the cable bundle
- Easy insertion and high tensile strength
- Easy application either manually or with a processing tool



V-Series is perfect for parallel bundles.

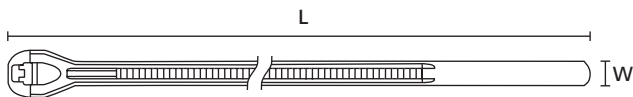


V-Series - less height above the bundle.




Outside serration means no damage of insulation.

**Application tools
please see page 338.**



V-Series

TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Colour	Pack Cont.	Article-No.
V100R	2.5	102.5	20.0	100	PA46	Grey (GY)	100	118-00109
	2.5	102.5	20.0	100	PA66HS	Natural (NA)	1000	118-00074
V150R	3.3	150.0	35.0	150	PA46	Grey (GY)	100	118-00107
	3.3	150.0	35.0	150	PA66HS	Natural (NA)	100	118-00089

All dimensions in mm. Subject to technical changes.
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



Cable ties with low profile head

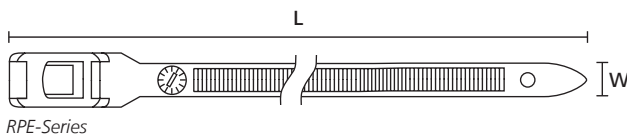
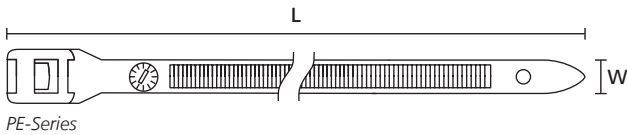
Designed primarily for use within the electrical supply industry these ties are particularly useful in areas with limited space. Due to their low profile head the coloured cable ties are ideal for securing foam padding to playground equipment. This ensures that there are no sharp edges and ultimate safety.

Features and Benefits

- Outside serrated cable tie with a smooth surface to the bundle
- Protects against damage to insulation
- Broad contact area with cable, minimising risk of damage
- PE/RPE-range partly approved by E.R.D.F. (French Electricity Board)
- Low profile head for use in restricted areas
- Parallel bundling for secure applications



RPE, PE Series.



**Material specification
please see page 30.**

• PE-Series

TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Colour	Article-No.
PE400	9.0	400.0	116.0	445	PA66	Blue (BU)	112-18101
	9.0	400.0	116.0	445	PA66	Green (GN)	112-18100
	9.0	400.0	116.0	445	PA66	Red (RD)	112-18102
	9.0	400.0	116.0	445	PA66	Yellow (YE)	112-18103

All dimensions in mm. Subject to technical changes.

• PE-Series E.R.D.F. approved

TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Colour	Article-No.
PE180	9.0	180.0	42.0	445	PA66HSW	Black (BK)	112-18060
PE530	9.0	535.0	146.0	445	PA66HSW	Black (BK)	112-53060

All dimensions in mm. Subject to technical changes.

• RPE-Series releasable E.R.D.F. approved

TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Colour	Article-No.
RPE275	9.0	275.0	69.0	445	PA66HSW	Black (BK)	112-27560
RPE350	9.0	350.0	92.0	445	PA66HSW	Black (BK)	112-35060

All dimensions in mm. Subject to technical changes.



E.R.D.F.

For product specific approvals and specifications please refer to the Appendix.



Cable ties with low profile head

- LPH-Series

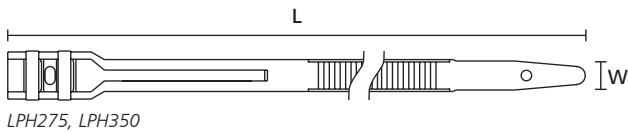
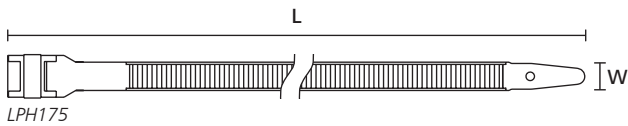
Designed primarily for use within the electrical supply industry, these ties are particularly useful in areas with limited space due to their low profile head.

Features and Benefits


- Outside serrated cable tie with a smooth surface to the bundle
- Protects against damage to insulation
- Broad contact area with cable, minimising risk of damage
- Low profile head for use in restricted areas
- Parallel bundling for secure applications



LPH-Series.



Application tools
please see page 338.

TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Colour	Article-No.
LPH175	9.0	175.0	40.0	310	PA66	Black (BK)	112-00203
LPH275	9.0	265.0	62.0	480	PA66HIR(S)	Black (BK)	112-00303
LPH350	9.0	355.0	92.0	480	PA66HIR(S)	Black (BK)	112-00403

All dimensions in mm. Subject to technical changes.



For product specific approvals and specifications please refer to the Appendix.



Cable ties with low profile head

- **Robusto-Series**

Robusto cable ties have many technical features which make them suitable for use in many applications for fixing and supporting cables, pipes and other elements. The polyamide 11 used to manufacture these ties offers excellent resistance to chemicals in even the most challenging environments such as offshore, oil rigs, construction vehicles, trucks and trailers.

These cable ties have excellent UV resistance as well as being highly resistant to chemicals like chlorides: recommended for use on galvanised steel, especially on solar panel installations.

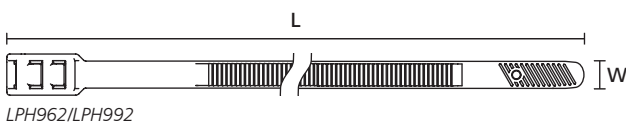
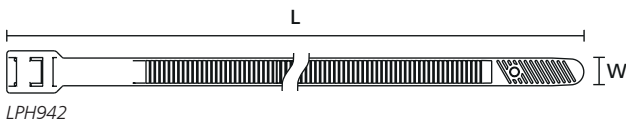
In addition, the material has a high impact resistance to low temperatures which enables Robusto ties to be used in areas where it is cold, for example at high altitudes or Nordic countries.



Low profile head cable tie, Robusto-Series.

Features and Benefits

- Made of polyamide 11, a completely sustainable bioplastic derived from vegetable oil
- Outside serrated with a round, innovative head and one or two flexible stop pawls
- Low insertion force for manual, tool-free application
- High tensile strength
- Soft material for easy handling without damaging cables
- High UV resistance for long-term outdoor application
- Stable technical performance even at very low temperatures
- High resistance to chemicals, including chlorides
- Low water absorption rate for consistent technical performance and high durability
- Pre-locking feature



Material specification please see page 30.



One Step to the Web!

TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Colour	Article-No.
LPH942	9.0	180.0	42.0	360	PA11	Black (BK)	112-00011
LPH962	9.0	260.0	62.0	530	PA11	Black (BK)	112-00012
LPH992	9.0	355.0	92.0	530	PA11	Black (BK)	112-00013

All dimensions in mm. Subject to technical changes.

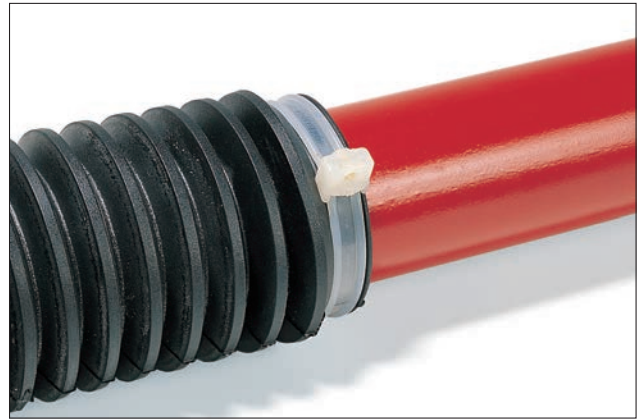


Cable Tie locked by glass fibre pin

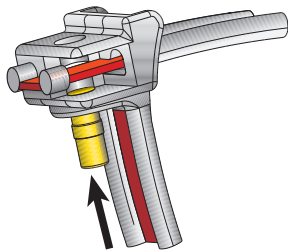
In addition to offering a secure method of bundling cables, the design of the KR ties makes them ideal for use as a method of securing bellows on steering racks, water hoses and vacuum lines.

Features and Benefits

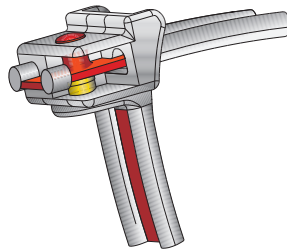
- Patented cable tie system
- Smooth strap which is locked into place with a glass-fibre reinforced pin
- For assembly a special KR-tool is needed
- Very secure and vibration resistant fixing
- KR-ties up to 426 mm are made as one piece
- Available in various materials, including PA12 which is less hygroscopic



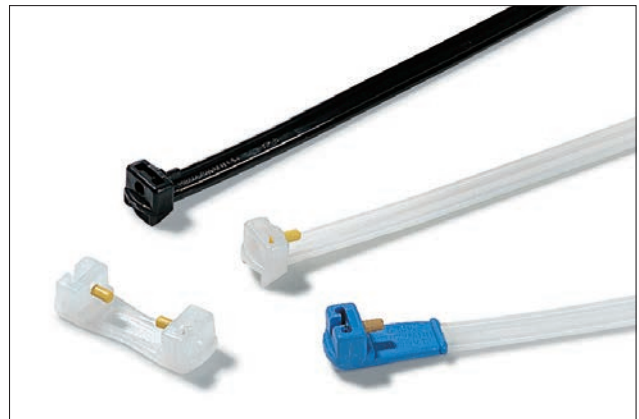
The KR8/33 has been repeatedly proven in High Vibration applications.



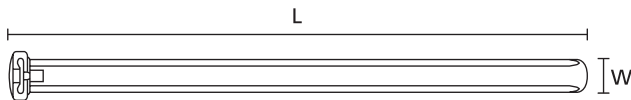
The unlocked head of a KR-tie.



The cable tie (red) is locked into place with the pin.



KR Series is available in different sizes.



KR-Series

**Application tools
please see page 338.**

• KR-Series, 1-Piece

TYPE	Width (W)	Length (L)	N	Material	Colour	Pack Cont.	Article-No.
KR6/35	6.0	360.0	490	PA66	Natural (NA)	50	121-63519
	6.0	360.0	490	PA66HS	Natural (NA)	50	121-63555
	6.0	360.0	490	PA66W	Black (BK)	50	121-63560
KR8/21	8.0	210.0	785	PA66HS	Natural (NA)	50	121-82155
	8.0	210.0	785	PA66	Natural (NA)	50	121-82119
	8.0	210.0	785	PA66W	Black (BK)	50	121-82160

All dimensions in mm. Subject to technical changes.

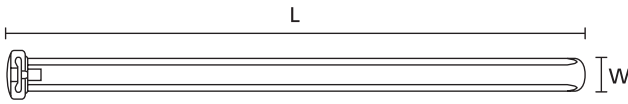
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



For product specific approvals and specifications please refer to the Appendix.



Cable Tie locked by glass fibre pin



KR-Series

**Material specification
please see page 30.**

• KR-Series, 1-Piece

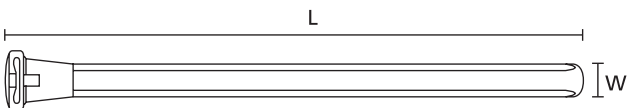
TYPE	Width (W)	Length (L)		Material	Colour	Pack Cont.	Article-No.
KR8/33	8.0	337.0	390	PA12	Black (BK)	50	121-83380
	8.0	337.0	785	PA66	Natural (NA)	50	121-83319
	8.0	337.0	785	PA46	Grey (GY)	50	121-83378
	8.0	337.0	785	PA66HS	Natural (NA)	50	121-83355
	8.0	337.0	785	PA66W	Black (BK)	50	121-83360
KR8/43	8.0	426.0	785	PA66HS	Black (BK)	50	121-74360
	8.0	426.0	785	PA66HS	Natural (NA)	50	121-74359

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



For product specific approvals and specifications please refer to the Appendix.



KR-Series, ultrasonic welded

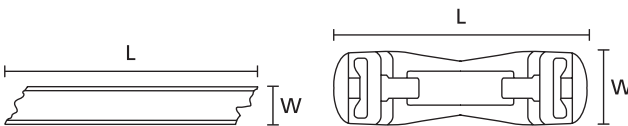
**Other dimensions are
available on request.**

• KR-Series, ultrasonic welded

TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Colour	Pack Cont.	Article-No.
KR8/50	8.0	500.0	152.0	785	PA66	Natural (NA)	50	121-05019
KR8/60	8.0	600.0	184.0	785	PA66W	Black (BK)	50	121-06060

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



Cable ties KR8S1

Double-head KR8C5

• KR-Series, endless

TYPE	Width (W)	Length (L)		Material	Colour	Pack Cont.	Article-No.
KR8/S1	8.0	50.0 m	785	PA66HS	Natural (NA)	50.0 m	121-98151
	8.0	50.0 m	785	PA66W	Black (BK)	50.0 m	121-98160
KR8/C5	11.7	38.0	-	PA66HS	Natural (NA)	200	121-58551
	11.7	38.0	-	PA66W	Black (BK)	200	121-58560

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



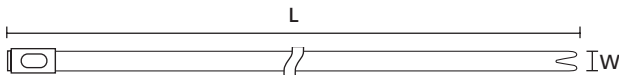
Cable Ties with Ball-Lock

• MBT-Series

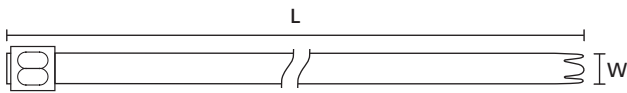
Metal ties are ideal for all applications that require high strength, reliability and fire resistance. The MBT range of stainless steel cable ties can be used in chemical industries and on oil platforms as well as in mass transit, shipbuilding and mining industries. MBT ties are also suitable for machine building, apparatus construction and in the outside area of radio technology. Additionally, MBT ties are ideal for securing lighting in theatres and exhibition halls.

Features and Benefits

- MBT cable ties made from stainless steel 304
- Patented non-releasable locking feature
- Corrosion resistant
- Weather resistant
- Outstanding chemical resistance
- Antimagnetic
- High temperature resistance
- Non-burning



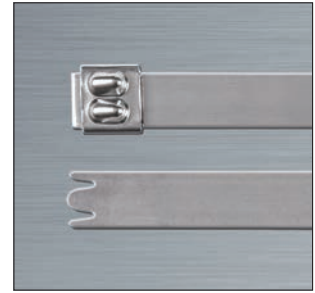
MBT_SS, MBT_HS



MBT_XHS



MBT_SS, MBT_HS.



MBT_XHS.

**Application tools
please see page 338.**

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Pack Cont.	Article-No.
MBT5SS	4.6	127.0	25.0	900	SS304	100	111-93058
MBT8SS	4.6	201.0	50.0	900	SS304	100	111-93088
MBT14SS	4.6	362.0	102.0	900	SS304	100	111-93148
MBT20SS	4.6	521.0	152.0	900	SS304	100	111-93208
MBT27SS	4.6	685.0	203.0	900	SS304	100	111-93278
MBT33SS	4.6	838.0	254.0	900	SS304	100	111-93338
MBT8HS	7.9	201.0	50.0	2000	SS304	50	111-94088
MBT14HS	7.9	362.0	102.0	2000	SS304	50	111-94148
MBT20HS	7.9	521.0	152.0	2000	SS304	50	111-94208
MBT27HS	7.9	685.0	203.0	2000	SS304	50	111-94278
MBT33HS	7.9	838.0	254.0	2000	SS304	50	111-94338
MBT14XHS	12.3	362.0	102.0	2700	SS304	50	111-95148
MBT20XHS	12.3	521.0	152.0	2700	SS304	50	111-95208
MBT27XHS	12.3	681.0	203.0	2700	SS304	50	111-95278
MBT33XHS	12.3	838.0	254.0	2700	SS304	50	111-95338

All dimensions in mm. Subject to technical changes. The MBT-Series (up to 7.9 mm) can be used in combination with the stainless steel P-Mount. The mount is simple to install with a screw or bolt and ensures a durable fixing solution.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



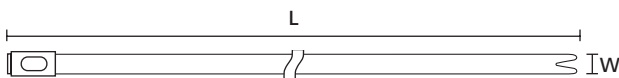
Cable Ties with Ball-Lock

- **MBT-Series**

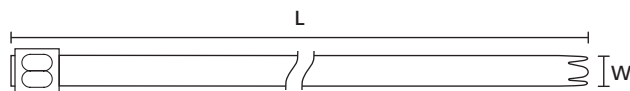
Metal ties are ideal for all applications that require high strength, reliability and fire resistance. The MBT range of stainless steel cable ties can be used in chemical industries and on oil platforms as well as in mass transit, shipbuilding and mining industries. MBT ties are also suitable for machine building, apparatus construction and in the outside area of radio technology. Additionally, MBT ties are ideal for securing lighting in theatres and exhibition halls.

Features and Benefits

- MBT cable ties made from stainless steel 316
- Patented non-releasable locking feature
- Corrosion resistant
- Weather resistant
- Outstanding chemical resistance
- Antimagnetic
- High temperature resistance
- Non-burning



MBT_S, MBT_H



MBT_XH




MBT_S, MBT_H.



MBT_XH.



MBTUH.

TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Pack Cont.	Article-No.
MBT5S	4.6	127.0	25.0	900	SS316	100	111-93059
MBT8S	4.6	201.0	50.0	900	SS316	100	111-93089
MBT14S	4.6	362.0	102.0	900	SS316	100	111-93149
MBT20S	4.6	521.0	152.0	900	SS316	100	111-93209
MBT27S	4.6	685.0	203.0	900	SS316	100	111-93279
MBT33S	4.6	838.0	254.0	900	SS316	100	111-93339
MBT8H	7.9	201.0	50.0	2000	SS316	50	111-94089
MBT14H	7.9	362.0	102.0	2000	SS316	50	111-94149
MBT20H	7.9	521.0	152.0	2000	SS316	50	111-94209
MBT27H	7.9	685.0	203.0	2000	SS316	50	111-94279
MBT33H	7.9	838.0	254.0	2000	SS316	50	111-94339

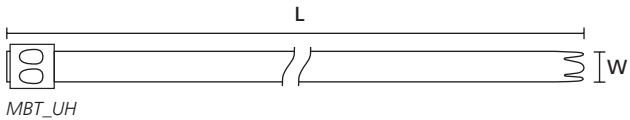
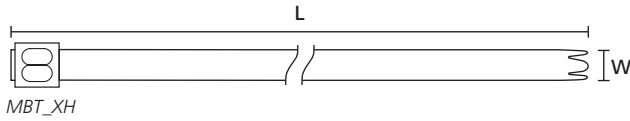
All dimensions in mm. Subject to technical changes. The MBT-Series (up to 7.9 mm) can be used in combination with the stainless steel P-Mount. The mount is simple to install with a screw or bolt and ensures a durable fixing solution.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



Cable Ties with Ball-Lock

• MBT-Series



TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Pack Cont.	Article-No.
MBT14XH	12.3	362.0	102.0	2700	SS316	50	111-95149
MBT20XH	12.3	521.0	152.0	2700	SS316	50	111-95209
MBT27XH	12.3	681.0	203.0	2700	SS316	50	111-95279
MBT33XH	12.3	838.0	254.0	2700	SS316	50	111-95339
MBT14UH	16.0	362.0	102.0	4100	SS316	50	111-01301
MBT20UH	16.0	521.0	152.0	4100	SS316	50	111-01302
MBT27UH	16.0	681.0	203.0	4100	SS316	50	111-01303
MBT33UH	16.0	838.0	254.0	4100	SS316	50	111-01304
MBT43UH	16.0	1092.0	330.0	4100	SS316	25	111-01305
MBT49UH	16.0	1245.0	380.0	4100	SS316	25	111-01306

All dimensions in mm. Subject to technical changes. The MBT-Series (up to 7.9 mm) can be used in combination with the stainless steel P-Mount. The mount is simple to install with a screw or bolt and ensures a durable fixing solution.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



For product specific approvals and specifications please refer to the Appendix.



Double Wrap Cable Ties with Ball-Lock

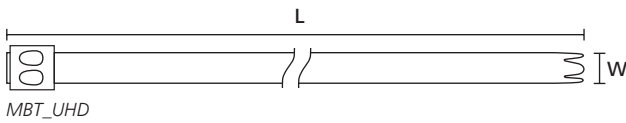
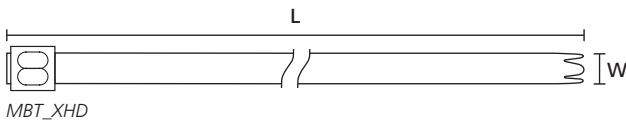
- MBTXHD- / MBTUHD-Series

The double wrap ties of the MBT-series are used in applications where a fixing requires an extraordinary high tensile strength.

Features and Benefits

- Stainless steel MBT ties with double wrap operation
- Wraps around the bundle and passes through the head twice
- Very high tensile strength to carry enormous applied loads
- Head with two locking balls
- Resistant to arduous conditions and environments

Material specification please see page 30.



MBT_UHD.



MBT_UHD Double Band.

TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Pack Cont.	Article-No.
MBT27XHD	12.3	681.0	100.0	5000	SS316	50	111-01307
MBT33XHD	12.3	838.0	120.0	5000	SS316	50	111-01308
MBT43XHD	12.3	1092.0	160.0	5000	SS316	25	111-01309
MBT49XHD	12.3	1245.0	180.0	5000	SS316	25	111-01310
MBT60XHD	12.3	1524.0	230.0	5000	SS316	25	111-01311
MBT27UHD	16.0	681.0	100.0	7000	SS316	50	111-01312
MBT33UHD	16.0	838.0	120.0	7000	SS316	50	111-01313
MBT43UHD	16.0	1092.0	160.0	7000	SS316	25	111-01314
MBT49UHD	16.0	1245.0	180.0	7000	SS316	25	111-01315
MBT60UHD	16.0	1524.0	230.0	7000	SS316	25	111-01316

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

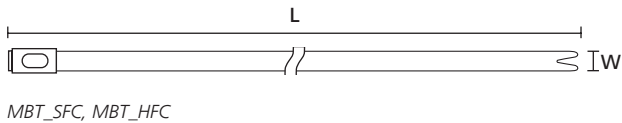
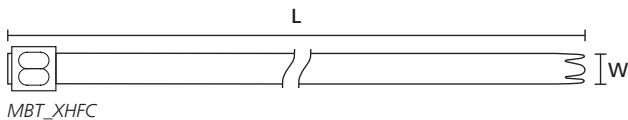


Cable Ties with Ball-Lock and Coating

- MBT-FC-Series

Features and Benefits

- Fully coated MBT, made from type 316 stainless steel with polyester coating
- Patented non-releasable locking feature
- Coated cable tie with smooth edges
- Comfortable handling and installation
- Eliminates contact corrosion between dissimilar materials during application



MBT_SFC, MBT_HFC.



MBT_XHFC.

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Material	Pack Cont.	Article-No.
MBT5SFC	4.6	127.0	25.0	540	SS316, SP	100	111-00288
MBT8SFC	4.6	201.0	50.0	540	SS316, SP	100	111-00289
MBT14SFC	4.6	362.0	102.0	540	SS316, SP	100	111-00290
MBT20SFC	4.6	521.0	152.0	540	SS316, SP	100	111-00291
MBT27SFC	4.6	681.0	203.0	540	SS316, SP	100	111-00292
MBT33SFC	4.6	838.0	254.0	540	SS316, SP	100	111-00293
MBT8HFC	7.9	201.0	50.0	1020	SS316, SP	50	111-00294
MBT14HFC	7.9	362.0	102.0	1020	SS316, SP	50	111-00295
MBT20HFC	7.9	521.0	152.0	1020	SS316, SP	50	111-00296
MBT27HFC	7.9	681.0	203.0	1020	SS316, SP	50	111-00297
MBT33HFC	7.9	838.0	254.0	1020	SS316, SP	50	111-00298
MBT14XHFC	12.3	362.0	102.0	1620	SS316, SP	50	111-00299
MBT17XHFC	12.3	434.0	125.0	1620	SS316, SP	50	111-01500
MBT20XHFC	12.3	521.0	152.0	1620	SS316, SP	50	111-00300
MBT23XHFC	12.3	575.0	168.0	1620	SS316, SP	50	111-01501
MBT27XHFC	12.3	681.0	203.0	1620	SS316, SP	50	111-00301
MBT30XHFC	12.3	754.0	225.0	1620	SS316, SP	50	111-01502
MBT33XHFC	12.3	838.0	254.0	1620	SS316, SP	50	111-00302
MBT43XHFC	12.3	1092.0	330.0	1620	SS316, SP	25	111-01503

All dimensions in mm. Subject to technical changes.

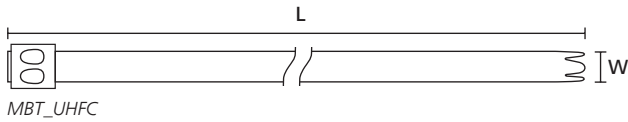
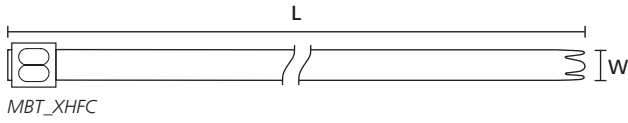
Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.




Cable Ties with Ball-Lock and Coating

- MBT-FC-Series

Material specification please see page 30.



TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Pack Cont.	Article-No.
MBT49XHFC	12.3	1245.0	380.0	1620	SS316, SP	25	111-01504
MBT14UHFC	16.0	362.0	102.0	2500	SS316, SP	50	111-01512
MBT17UHFC	16.0	434.0	125.0	2500	SS316, SP	50	111-01513
MBT20UHFC	16.0	521.0	152.0	2500	SS316, SP	50	111-01514
MBT23UHFC	16.0	575.0	168.0	2500	SS316, SP	50	111-01515
MBT27UHFC	16.0	681.0	203.0	2500	SS316, SP	50	111-01516
MBT30UHFC	16.0	754.0	225.0	2500	SS316, SP	50	111-01517
MBT33UHFC	16.0	838.0	254.0	2500	SS316, SP	50	111-01518
MBT43UHFC	16.0	1092.0	330.0	2500	SS316, SP	25	111-01519
MBT49UHFC	16.0	1245.0	380.0	2500	SS316, SP	25	111-01520

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



Double Wrap Cable Ties with Ball-Lock and Coating

- MBTXHDFC- / MBTUHDFC-Series

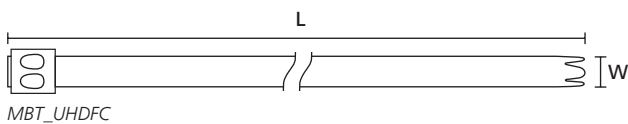
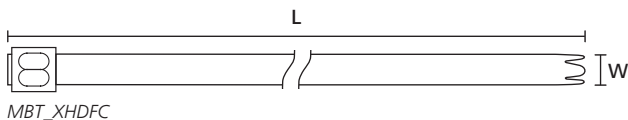
The MBT range of stainless steel cable ties can be used in the most arduous of conditions or where the additional security, strength and fire resistance of a metal fixing is required. Used in all industries from mass transit, ship building, oil rigs, mining and chemical industry, theatres and exhibition halls. In the event of a fire, cables will remain securely held in place and will not fall to block emergency exits.

Features and Benefits


- MBT cable ties, made from stainless steel SS316 with a polyester coating
- Patented non-releasable locking feature
- Double wrap operation
- Corrosion resistant
- Weather resistant
- Outstanding chemical resistance
- Antimagnetic
- High temperature resistant
- Non-burning



MBT_UHDFC.



Material specification please see page 30.

TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Pack Cont.	Article-No.
MBT27XHDFC	12.3	681.0	100.0	2500	SS316, SP	50	111-01505
MBT33XHDFC	12.3	838.0	120.0	2500	SS316, SP	50	111-01506
MBT43XHDFC	12.3	1092.0	160.0	2500	SS316, SP	25	111-01507
MBT49XHDFC	12.3	1245.0	180.0	2500	SS316, SP	25	111-01508
MBT60XHDFC	12.3	1524.0	230.0	2500	SS316, SP	25	111-01509
MBT27UHDFC	16.0	681.0	100.0	5000	SS316, SP	50	111-01521
MBT33UHDFC	16.0	838.0	120.0	5000	SS316, SP	50	111-01522
MBT43UHDFC	16.0	1092.0	160.0	5000	SS316, SP	25	111-01523
MBT49UHDFC	16.0	1245.0	180.0	5000	SS316, SP	25	111-01524
MBT60UHDFC	16.0	1,524.0	230.0	5000	SS316, SP	25	111-01525

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



Metal Banding for Heavy Duty Application

- **AMT-Series**

The AMT tie is designed for heavy duty applications. The folding mechanism ensures that the tie will not become loose under vibration. Therefore in all safety relevant areas where vibration is normal, such as in the rail, ship or construction industry, this product is ideal.

Features and Benefits

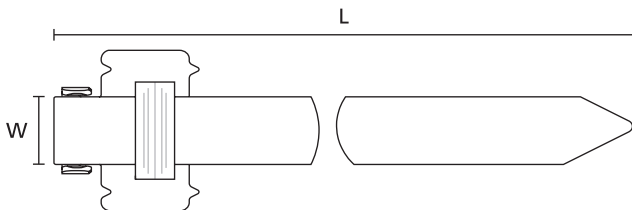
- AMT ties for heavy-duty application
- Available in type 316 stainless steel
- Suitable for applications with high vibrations




AMT Ties with and without protective profile.



The high strength banding system - AMT Ties.



AMT-Series

TYPE	Width (W)	Length (L)	Thickness (T)		Material	Pack Cont.	Article-No.
AMT5L16SB	16.0	500.0	0.40	2500	SS316	10	111-00327
AMT5H16SB	16.0	500.0	0.75	2500	SS316	10	111-00338
AMT6L16SB	16.0	600.0	0.40	2500	SS316	10	111-00328
AMT6H16SB	16.0	600.0	0.75	2500	SS316	10	111-00339
AMT8L16SB	16.0	800.0	0.40	2500	SS316	10	111-00329
AMT8H16SB	16.0	800.0	0.75	2500	SS316	10	111-00340
AMT10L16SB	16.0	1000.0	0.40	2500	SS316	10	111-00330
AMT10H16SB	16.0	1000.0	0.75	2500	SS316	10	111-00341
AMT15L16SB	16.0	1500.0	0.40	2500	SS316	10	111-00331
AMT15H16SB	16.0	1500.0	0.75	2500	SS316	10	111-00342

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

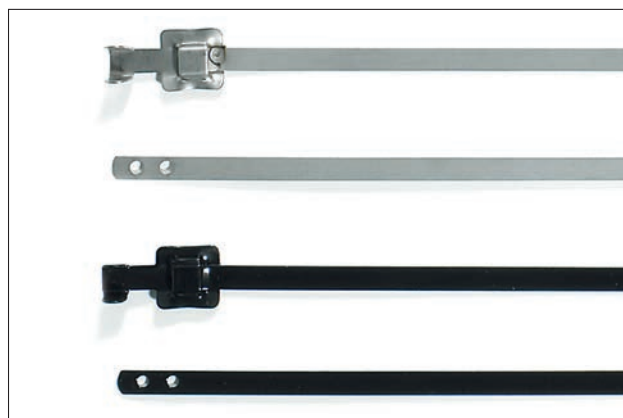
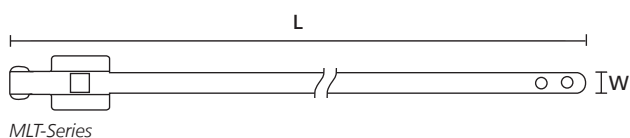


Cable Ties with Fold Locking

The MLT range of stainless steel cable ties can be used in the most arduous of conditions or where the additional security, strength and fire resistance of a metal fixing is required. Used in all industries from mass transit, ship building, oil rigs, mining and chemical industry, theatres and exhibition halls. In the event of a fire, cables will remain securely held in place and will not fall to block emergency exits.

Features and Benefits

- Releasable stainless steel buckle tie, MLT-series
- Heavy-duty type 316 stainless steel
- Can be re-opened and re-used
- Available also with polyester coating which prevents corrosion between dissimilar materials



These Metal ties are available with and without coating.

**Material specification
please see page 30.**

• MLT-Series

TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Pack Cont.	Article-No.
MLT8SS5	5.0	230.0	60.0	420	SS316	100	111-94080
MLT12SS5	5.0	330.0	90.0	420	SS316	100	111-94120
MLT16SS5	5.0	430.0	120.0	420	SS316	100	111-94161
MLT24SS5	5.0	630.0	180.0	420	SS316	100	111-91400
MLT8SS10	10.0	230.0	60.0	850	SS316	100	111-95080
MLT12SS10	10.0	330.0	90.0	850	SS316	100	111-95120
MLT16SS10	10.0	430.0	120.0	850	SS316	100	111-91300
MLT24SS10	10.0	630.0	180.0	850	SS316	100	111-95241

All dimensions in mm. Subject to technical changes. The MLT-Series (up to 10 mm) can be used in combination with the stainless steel P-Mount. The mount is simple to install with a screw or bolt and ensures a durable fixing solution. Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

• MLT-C-Series coated

TYPE	Width (W)	Length (L)	Bundle Ø max.		Material	Pack Cont.	Article-No.
MLT8SSC5	5.3	230.0	60.0	420	SS316, SP	100	111-91000
MLT12SSC5	5.3	330.0	90.0	420	SS316, SP	100	111-91121
MLT16SSC5	5.3	430.0	120.0	420	SS316, SP	100	111-91161
MLT24SSC5	5.3	630.0	180.0	420	SS316, SP	100	111-91180
MLT8SSC10	10.3	230.0	60.0	850	SS316, SP	100	111-91001
MLT12SSC10	10.3	330.0	90.0	850	SS316, SP	100	111-91123
MLT16SSC10	10.3	430.0	120.0	850	SS316, SP	100	111-91163
MLT24SSC10	10.3	630.0	180.0	850	SS316, SP	100	111-91181

All dimensions in mm. Subject to technical changes. The MLT-Series (up to 10.3 mm) can be used in combination with the stainless steel P-Mount. The mount is simple to install with a screw or bolt and ensures a durable fixing solution. Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



For product specific approvals and specifications please refer to the Appendix.



Protective Channel for Stainless Steel Ties

- LFPC

When used in conjunction with the MBT range of stainless steel cable ties this channel gives the cable protection against chafing, vibration and shock. Ideal for use in arduous conditions such as those found on board ships, oil rigs or in nuclear power stations.

Features and Benefits

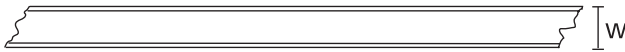
- LFPC channel, manufactured from Polyolefin
- Works with MBT- and AMT-Series
- Smooth surface protects bundle against chafing caused by vibrations and shocks
- Can be cut from roll (50 m) to any length
- Halogenfree
- Flame retardant



Cable tie MBTXH with LFPC Protective Channel.

The fire protection properties of the material relate to the test performed on defined test samples. This is a test under laboratory conditions and not directly transferable to the product made from this material.

Material specification please see page 30.



LFPC

TYPE	Width (W)	For Ties	Material	Pack Cont.	Article-No.
LFPC70	7.0	MBTS	PO	25 m	111-93000
LFPC83	8.3	MBTH	PO	25 m	111-00257
LFPC103	10.3	MBTH	PO	25 m	111-94000
LFPC129	12.9	MBTXH	PO	50 m	111-00253
LFPC132	13.2	MBTXH	PO	25 m	111-00254
LFPC150	15.0	MBTXH	PO	25 m	111-95000
LFPC163	16.3	AMT, MBTUH	PO	50 m	111-00255

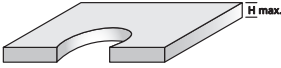
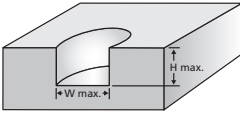
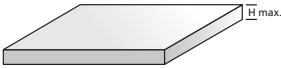
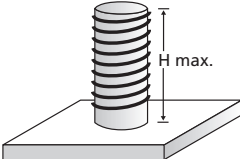
All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



For product specific approvals and specifications please refer to the Appendix.

User guide for fixing ties

Application	Arrowhead	Fir Tree Mount	Rivet Wall Plug	Screw Mount	EdgeClip	Weld Stud Mount
	●	●		●		
		●	●	●		
					●	
						●



Arrowhead

This fixing tie is based on an arrowhead offering high extraction forces. The arrowhead is securely in place when a click can be heard and felt by the user.



Arrowhead with disc

The disc minimises the ingress of dust, dirt and water. Furthermore a safe fixation inside the drill hole is assured that withstands pressure from various directions.



Arrowhead with supporting legs

Arrowhead fixings with supporting legs offer good and stable fixation in drilled holes. The supporting legs generate additional pressure to assure a firm and secure fixing while taking up any variation in panel thickness. These ties are also suitable in high vibration applications.



Arrowhead without supporting legs

The arrowhead design assures good fixation while utilising lowest possible space.



Fir Tree Mount

Fir Tree Mounts can be pushed into pre-punched holes easily in panels or threaded, blind holes based on the low insertion forces. The design is ideally suited for a wide range of sheet thicknesses. The disc on top of the fir tree covers the hole and minimises the ingress of dust, dirt and water.



Weld Stud Mount

Various HellermannTyton weld stud mounts can easily be attached by hand ('soft push') - the design offers very low insertion forces that require no tools. The mounts can be removed by twisting to the left. SB9 and SB14 are based on 'hard push' technology and require a hammer to be applied.



Weld Stud Fixings with lateral adjustment

The special oval shape of these mounts provides a 5-6 mm lateral adjustment to cater for any misalignment of the stud or incorrect positioning of ties on the cables. The bundle can therefore be moved when mounted.



EdgeClip

The EdgeClips are specifically designed to bundle and guide cable and wires on edges. Cost intensive drill holes for fixing are no longer required. EdgeClips are easily mounted by hand, the integrated metal clamp, securely keeping the clips on the edge.



EdgeClip twistable

Ideally suited for fixations where bundles need to be flexibly guided. These EdgeClips are available with facilities for 90° or 360° rotation.



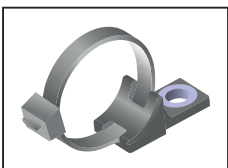
EdgeClip without metal clamp

These EdgeClips are easily attached. The holding tap snaps into the drill hole securely.



Cable and Hose Attachment

Excellent solution for subsequent attachment of pipes and wires to installed tubes.



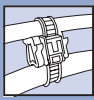
Heavy Duty Application

These sturdy fixing ties can withstand vibrations. They are easy to apply and give a secure alignment to the bundle. There will be High tightening torque through metal bushing.



Two Piece Fixing Ties with Clip Coupler

The Coupler is an article to connect two cable ties maximum for parallel bundling of tubes, harnesses or cables. Its design enables the cable ties to rotate up to 90° and allows flexible installations.



1-Piece Fixing Tie with Arrowhead, with Disc

- 1-Piece Fixing Tie with Arrowhead, with Disc, for round holes

With a diverse range of fixing possibilities these ties are ideal for use in many different industries, including automotive, aerospace, white goods manufacture and panel building.

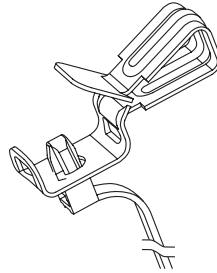
Features and Benefits

- Easy to install without the need for a tool
- Arrowhead simply locks into place
- Disc adjusts tie for pressures from various directions and minimises access of dust, dirt and water
- Cable tie head always situated in a defined position
- KSFT-types with specially rounded arrowhead minimise the assembly height

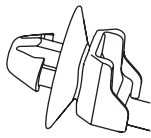
Application tools please see page 338.



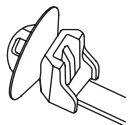
The flexible disc adjusts to take up variations in panel thickness - ensuring a firm fixing at all times.



T50MD7, example of an application with metal clamp



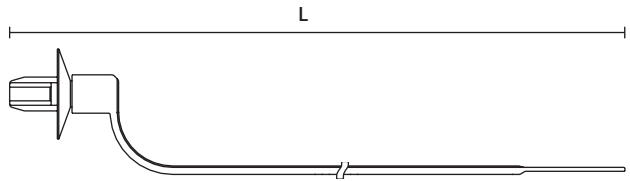
Common head/ fixing design



T50SOSKSFT65E



T50SOSKSFT62x122PT0.7-1.3



Special design without a gap between head and bundle; T50MD7

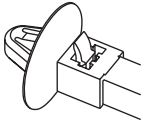
TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Disc Ø	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
T50SOSKSFT5.4E-MD	4.6	156.0	35.0	180	16.0	5.4	0.7 - 1.3	PA66HS	Black (BK)	126-00180
T50SOSKSFT5SE	4.6	156.0	35.0	180	16.0	4.8 - 5.2	0.7 - 1.3	PA66HS	Natural (NA)	126-00111
	4.6	156.0	35.0	180	16.0	4.8 - 5.2	0.7 - 1.3	PA66HS	Black (BK)	126-00099
T50SOSKSFT65E	4.6	156.0	35.0	180	16.0	6.3 - 6.7	0.7 - 1.3	PA66HS	Black (BK)	126-00081
T50SOSKSFT6.5S2-E	4.6	157.0	35.0	225	16.0	6.3 - 6.7	1.7 - 2.3	PA66HS	Black (BK)	126-00086
T50SOSSFT6.5E-MD	4.6	158.8	30.0	180	16	6.3 - 6.7	0.6 - 1.8	PA66HS	Green (GN)	126-00216
T50SOSSFT6.5E	4.6	158.8	30.0	200	16.0	6.3 - 6.7	1.9 - 2.5	PA66HS	Black (BK)	126-03102
T50SST5	4.6	170.0	31.0	225	16.2	6.1 - 6.5	0.7 - 1.5	PA66HS	Black (BK)	126-00017
	4.6	170.0	31.0	225	16.2	6.1 - 6.5	0.7 - 1.5	PA66	Natural (NA)	126-02300
T50SD6	5.0	160.0	31.0	225	18.0	6.3 - 7.5	0.6 - 1.8	PA66HS	Black (BK)	111-85350
T50MD7	5.0	225.0	59.0	225	16.0	6.8 - 7.2	0.8 - 2.0	PA66HS	Black (BK)	111-85850
	5.0	225.0	59.0	225	16.0	6.8 - 7.2	0.8 - 2.0	PA66	Black (BK)	126-00181
	5.0	225.0	59.0	225	16.0	6.8 - 7.2	0.8 - 2.0	PA66	Black (BK)	111-85890

All dimensions in mm. Subject to technical changes.




1-Piece Fixing Tie with Arrowhead, with Disc

- 1-Piece Fixing Tie with Arrowhead, with Disc, releasable



RT50SD6

TYPE	Width (W)	Length (L)	Bundle Ø max.		Disc Ø	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
RT50SD6	5.0	160.0	31.0	180	18.0	6.3 - 7.5	0.6 - 1.8	PA66HS	Black (BK)	111-85480

All dimensions in mm. Subject to technical changes.

- 1-Piece Fixing Tie with Arrowhead, with Disc, for oval holes


Features and Benefits

- For oval holes 6.2 x 12.2 mm



T50SOSKSFT62x122PT0.7-1.3

Material specification please see page 30.

TYPE	Width (W)	Length (L)	Bundle Ø max.		Disc Ø	Panel Thickness	Material	Colour	Article-No.
T50SOSKSFT62x122PT0.7-1.3	4.6	153.5	35.0	225	16.0 x 21.0	0.7 - 1.3	PA66HS	Black (BK)	126-00141
T50SOSKSFT62x122PT0.7-1.3 90°	4.6	158.0	35.0	225	16.0 x 21.0	0.7 - 1.3	PA66HS	Black (BK)	126-00143
T50SOSKSFT62x122PT1.7-2.3 90°	4.6	159.0	35.0	225	16.0 x 21.0	1.5 - 2.3	PA66HS	Black (BK)	126-00144
T50SOSKSFT62x122PT1.7-2.3	4.6	159.0	35.0	225	16.0 x 21.0	1.7 - 2.3	PA66HS	Black (BK)	126-00142
T50SDOR	5.0	160.0	30.0	225	22.0	0.5 - 1.5	PA66HS	Black (BK)	126-01600
T50SDOP	5.0	160.0	30.0	225	22.0	1.0 - 1.9	PA66HS	Black (BK)	126-00015
T60SOSSFT65x130-E	5.5	157.6	30.0	300	16.0 x 22.0	2.4 - 3.3	PA66HS	Natural (NA)	126-00157
T60SOSSFT70X120-E	5.5	157.7	30.0	300	16 X 22	2.4 - 3.3	PA66HS	Black (BK)	126-00210
T60SOSSFT712S-E	5.5	158.0	30.0	300	16 X 22	0.6 - 3.2	PA66HS	Black (BK)	126-00207
T60SOSSFT62x122-E	5.5	158.0	30.0	300	16 X 22	2.4 - 3.3	PA66HS	Black (BK)	126-00191

All dimensions in mm. Subject to technical changes.



1-Piece Fixing Ties with Arrowhead, with disc, sealed

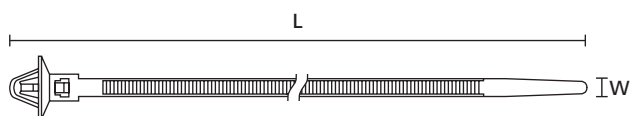
The parts are mainly used in the automotive industry, e.g. for door harnesses.

Features and Benefits

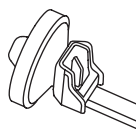
- One-piece fixing ties with cellular rubber disc
- Especially suitable for door and tailgate harnesses used for car body applications
- T50SOSSFT6.5E-MD with lasered seal and T60SOSSFT6,5E-MD made from PA6.6 HS are tested acc. IEC60529 and fulfill IP67
- Made from PA66 heat-stabilised material
- Welded cellular rubber disc minimises access of dust, dirt and water



The additional seal protects against the ingress of moisture or dirt.



One piece fixing tie with arrowhead and disc, standard design

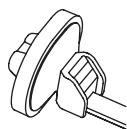


T50SOSSFT65E-MDL

• Fixing Ties, sealed, round holes

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Disc Ø	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
T50SOSSFT6.5E-MDL	4.6	158.8	30.0	200	16.0	-	0.6 - 1.8	PA66HS	Black (BK)	156-00264
T50SOSSFT6.5-E-MDL	4.6	158.8	30.0	200	16.0	6.3 - 6.7	0.6 - 1.8	PA66HS	Natural (NA)	156-00271
T50SOSSFT6.5E-MS-MD	4.6	163.0	35.0	-	16	6.35 - 6.5	0.7 - 1.6	PA66HS	Natural (NA)	126-00217
T50XCROSSFT6.5EMDL	4.6	200.0	45.0	200	16.0	6.25 - 6.75	1.2 - 2.1	PA66HS	Black (BK)	156-00379

All dimensions in mm. Subject to technical changes.



T60SOSSFT65x130E-MD

**Application tools
please see page 338.**

• Fixing Ties, sealed, oval holes

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Disc Ø	Hole Ø (FH)	Material	Colour	Article-No.
T60SOSSFT62x122-E-MD	5.5	157.5	30.0	300	16.0 x 22.0	6.2 x 12.2	PA66HS	Black (BK)	126-00080
T60SOSSFT70x120-E-MD	5.5	157.5	30.0	300	16.0 x 22.0	7.0 x 12.0	PA66HS	Black (BK)	126-00079
T60SOSSFT65x130-E-MD	5.5	157.6	30.0	300	16.0 x 22.0	6.5 x 13.0	PA66HS	Natural (NA)	126-00076
T60SOSSFT65x130-E-MS-MD	5.5	158.0	30.0	300	16.0 x 22.0	6.5 x 13.0	PA66HS	Black (BK)	126-00186

All dimensions in mm. Subject to technical changes.



1-Piece Fixing Ties with Arrowhead, with Disc in the strap

These fixing ties are ideal for use in many different industries, including automotive, aerospace, rail and panel building.

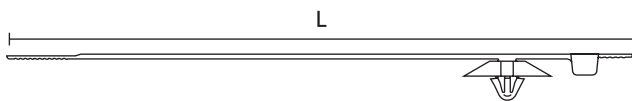
Features and Benefits

- Easy to assemble without the need for a tool
- Arrowhead simply locks into place
- Disc adjusts tie for pressures from various directions and minimises access of dust, dirt and water
- Cable tie head always situated in defined position
- Bundle runs directly across fixing point
- Simple assembly due to tab at the end of the head

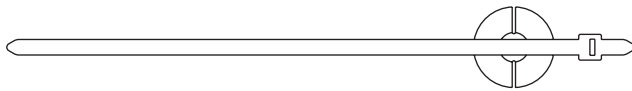


The 'tab' on the head of the tie makes it easy to locate and lift the head for assembly.

Material specification please see page 30.



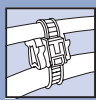
T80RSFT



T80RSFT with flexible disc

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Disc Ø	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
T50SSP	4.6	120.0	24.0	225	18.0	6.0 - 6.5	0.7 - 1.3	PA66	Black (BK)	126-00021
T80RSFT	4.6	190.0	45.0	355	24.4	5.7 - 6.3	1.0 - 3.5	PA46	Grey (GY)	150-15498
	4.6	190.0	45.0	355	24.4	5.7 - 6.3	1.0 - 3.5	PA66HS	Black (BK)	150-15493

All dimensions in mm. Subject to technical changes.



1-Piece Fixing Ties with Arrowhead, with wings

- 1-Piece Fixing Ties with Arrowhead, with wings, for round holes

For bundling and fixing of cable harnesses, pipes and hoses in many different industries, including automotive, aerospace, white goods manufacturing and panel building.

Features and Benefits

- Easy to assemble without the need for a tool
- Cable tie head always situated in defined position
- Arrowhead simply locks into place
- Supporting legs provide a secure and firm fixing in areas where space is limited



A wide range of arrowhead fixing ties which are suitable for different panel thicknesses and hole diameters.

Application tools
please see page 338.

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.	N	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
T18RWPM		2.5	113.0	22.0	80	4.8 - 5.6	1.5 - 2.2	PA66	Black (BK)	126-00077
		2.5	113.0	22.0	80	4.8 - 5.6	1.5 - 2.2	PA66	Natural (NA)	126-00078
		2.5	113.0	22.0	80	4.8 - 5.6	1.5 - 2.2	PA66HS	Black (BK)	126-00232
T18RSF		2.5	100.0	16.0	80	4.6 - 4.8	0.8 - 3.0	PA66HS	Natural (NA)	111-85519
		2.5	100.0	16.0	80	4.6 - 4.8	0.8 - 3.0	PA66W	Black (BK)	111-85560
T50SSL5		4.6	135.0	27.0	200	6.1 - 6.5	0.5 - 2.7	PA66HS	Black (BK)	126-02204
		4.6	135.0	27.0	225	6.1 - 6.5	0.5 - 2.7	PA46	Grey (GY)	111-85395
		4.6	135.0	27.0	225	6.1 - 6.5	0.5 - 2.7	PA66	Natural (NA)	111-85339
T50SL5		4.6	163.0	34.0	222	6.1 - 6.5	0.8 - 2.7	PA66HIRHS	Black (BK)	126-00005
		4.6	165.0	34.0	222	6.1 - 6.5	0.8 - 2.7	PA66	Natural (NA)	111-85369
T50SL6		4.6	165.0	34.0	225	6.3 - 7.5	0.5 - 2.5	PA66	Black (BK)	111-85460
T50SL7		4.6	165.0	34.0	225	6.9 - 7.1	0.8 - 2.5	PA66	Natural (NA)	111-85479
T50SL5		4.7	165.0	34.0	222	6.1 - 6.5	0.8 - 2.5	PA66HS	Black (BK)	126-00001
T50SSFMM		4.6	160.0	35.0	225	6.0 - 6.6	0.7 - 3.0	PA66	Natural (NA)	111-85739
		4.6	160.0	35.0	225	6.0 - 6.6	0.7 - 3.0	PA66HS	Natural (NA)	126-01104
		4.6	160.0	35.0	225	6.0 - 6.6	0.7 - 3.0	PA66HS	Black (BK)	126-00032
T50RSFM		4.7	205.0	45.0	225	6.0 - 6.6	0.7 - 3.0	PA66	Natural (NA)	111-85729
T50SAH		4.6	160.0	25.0	225	6.0 - 6.6	0.7 - 3.0	PA66HS	Natural (NA)	155-41102


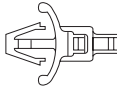
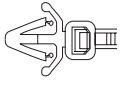
All dimensions in mm. Subject to technical changes.



1-Piece Fixing Ties with Arrowhead, with wings


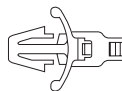
- 1-Piece Fixing Ties with Arrowhead, with wings, releasable

Material specification please see page 30.

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.		Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
RT50RSF		4.6	215.0	50.0	225	7.8 - 8.2	0.8 - 2.5	PA66	Black (BK)	115-07010
RT50SFK		5.0	225.0	50.0	225	6.4 - 7.0	0.8 - 3.0	PA66	Black (BK)	115-06960

All dimensions in mm. Subject to technical changes.

- 1-Piece Fixing Ties with Arrowhead, with wings, for oval holes

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.		Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
T80RFT6X12		4.6	228.0	45.0	222	6.3 x 12.3	0.6 - 3.0	PA46	Grey (GY)	150-48397
		4.6	228.0	45.0	222	6.3 x 12.3	0.6 - 3.0	PA66	Black (BK)	150-48396

All dimensions in mm. Subject to technical changes.



1-Piece Fixing Ties with Arrowhead, with wings in the strap

This range of fixing ties is ideal for use in many different industries, including automotive, aerospace and panel building. The T80RSF6.5FW features a detent that fits securely into the profile of the tubing which prevents from lateral movement and slipping.

Features and Benefits

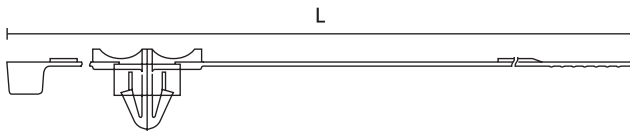
- Easy to assemble without the need for a tool
- Arrowhead simply locks into place
- Supporting legs provide a secure and firm fixing in areas where space is limited
- Bundle runs central across fixing point
- Cable tie head always situated in defined position
- For parallel routing of two bundles

Bundle runs central across fixing point

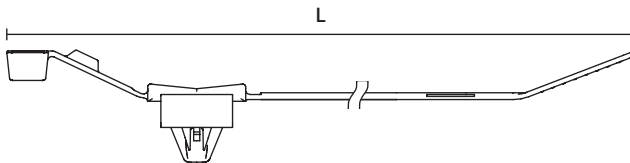


Designed to secure battery cables the T80RSF6.5F offers a simple and secure fixing.

**Application tools
please see page 338.**



T80RSF6.5F



T80RSF6.5FW

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
T80RSF6.5F	4.7	209.0	50.0	355	6.3 - 6.5	0.6 - 3.0	PA46	Grey (GY)	150-39395
T80RSF6.5FW	4.7	209.0	50.0	355	6.3 - 6.5	0.6 - 3.0	PA66HS	Black (BK)	150-39385
T80RSF6.5F	4.7	209.0	50.0	355	6.3 - 6.5	0.6 - 3.0	PA66HS	Black (BK)	126-02600

All dimensions in mm. Subject to technical changes.

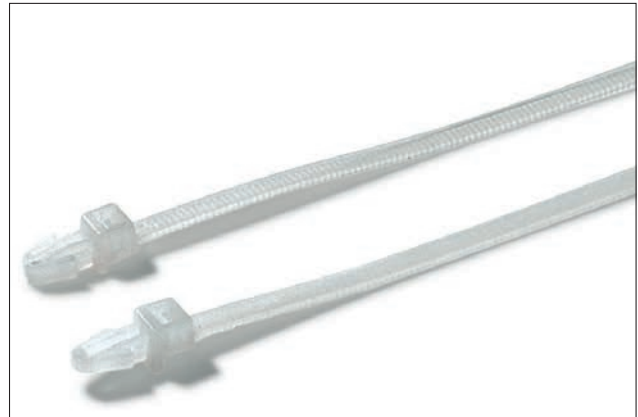


1-Piece Fixing Ties with Arrowhead

The arrowhead design allows these ties to be used in areas with limited space.

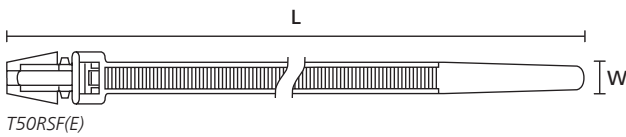
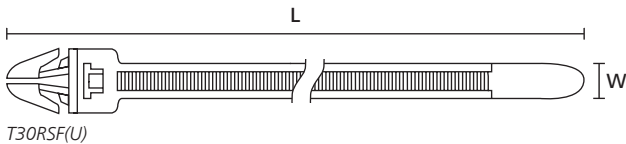
Features and Benefits


- Easy to assemble without the need for a tool
- Fixing tie with arrowhead without legs
- Arrowhead simply locks into place
- Cable tie head always situated in defined position



The arrowhead design allows these ties to be used in areas with limited space.

Material specification please see page 30.

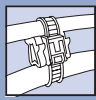


TYPE	Width (W)	Length (L)	Bundle Ø max.		Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
T30RSF(U)	3.6	158.0	31.0	136	4.7 - 5.5	0.8 - 2.1	PA66HS	Black (BK)	111-85610
	3.6	158.0	32.0	136	4.7 - 5.5	0.8 - 2.1	PA66	Natural (NA)	111-85603
T50RSF(E)	4.6	210.0	50.0	225	6.2 - 6.4	2.9 - 3.0	PA66	Natural (NA)	111-85799
	4.6	210.0	50.0	225	6.2 - 6.4	2.9 - 3.0	PA66	Black (BK)	126-01001

All dimensions in mm. Subject to technical changes.



For product specific approvals and specifications please refer to the Appendix.



2-Piece Fixing Ties with Arrowhead, with Disc

Primarily designed for fixing cable harnesses in the automotive industry, their simplicity and ease of use has resulted in these parts being used in other industries, for example aviation, switch gear and white goods manufacturing.

Features and Benefits

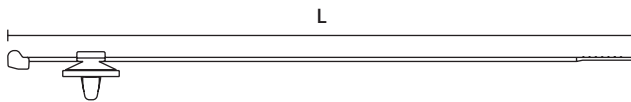
- Pre-assembled 2-piece fixing tie with arrowhead foot part
- Cable tie head can be moved after bundling
- Easy to assemble without the need for a tool
- Arrowhead simply locks into place
- Disc adjusts tie for pressure from various directions

Application tools
please see page 338.



Being a two piece assembly allows the tie head to be located in the most convenient position.

• 2-Piece Fixing Ties with Arrowhead, with Disc, sealed



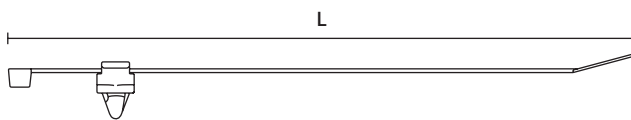
TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Disc Ø	Hole Ø (FH)	Panel Thickness	Material Cable Tie	Material Foot Part	Article-No.
T30RAHD6-MD	3.5	150.0	35.0	135	18	6.5 - 7.0	0.7 - 1.2	PA66HS	PA66HS	156-01186
	3.5	150.0	35.0	135	18	6.5 - 7.0	7.0 - 1.2	PA66HS	PA66HS	156-01187
T50ROSSFT6.5-16-2-MD	4.6	200.0	45.0	225	16.0	6.3 - 6.7	0.7 - 1.2	PA66HS	PA66HIRHS	155-42002
T50ROSSFT6.5 16-3MD	4.6	200.0	45.0	225	16.0	6.1 - 7.0	2.5 - 3.5	PA66HS	PA66HIRHS	150-37799
T50ROSSFT6.5ZD16-2	4.6	200.0	45.0	225	16.0	6.3 - 6.7	0.7 - 1.8	PA66HS	PA66HIRHS	156-01221
T50ROSAHD6-MS-MD	4.6	200.0	50.0	225	-	6.5 - 7.0	0.7 - 1.2	PA66HS	PA66	156-01302
T50ROSAHD6-MD	4.6	200.0	50.0	225	18	6.5 - 7.0	0.7 - 1.2	PA66HS	PA66	156-01298
	4.6	200.0	50.0	225	18	6.5 - 7.0	0.7 - 1.2	PA66HS	PA66	156-01297
T50ROSAHD6-MS-MD	4.6	200.0	50.0	225	18	6.5 - 7.0	0.7 - 1.2	PA66HS	PA66	156-01299
T50RAHD6-MD	4.6	202.0	50.0	225	-	6.5 - 7.0	0.7 - 1.2	PA66HS	PA66HS	156-01188
	4.6	202.0	50.0	225	18.0	6.5 - 7.0	0.7 - 1.2	PA66HS	PA66HS	156-01189

All dimensions in mm. Subject to technical changes.

TYPE	Length (L)	Bundle Ø max.	N	Disc Ø	Hole Ø (FH)	Panel Thickness	Article-No.
T50ROSSFT6.5 16-2 MOD	200.0	45.0	225	16	6.3 - 6.7	0.7 - 1.8	156-01220

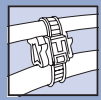
All dimensions in mm. Subject to technical changes.

• 2-Piece Fixing Ties with Arrowhead, for oval holes



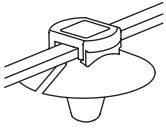
TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Hole Ø (FH)	Panel Thickness	Material Cable Tie	Material Foot Part	Article-No.
T50RFT62x122HR	4.6	202.0	45.0	225	6.3 x 12.2	0.6 - 3.0	PA46	PA46	156-00446
T50RFT6OVAL	4.6	202.0	45.0	355	6.3 x 12.2	0.6 - 3.0	PA66HS	PA66HIRHS	150-37591

All dimensions in mm. Subject to technical changes.

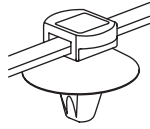


2-Piece Fixing Ties with Arrowhead, with Disc

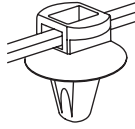
- 2-Piece Fixing Ties with Arrowhead, with Disc



T50SSFT6.5




T50RSFT6.5D18



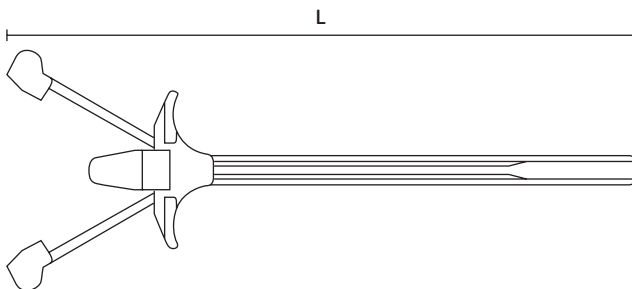
T50ROSSFT6.5 16-3

Material specification please see page 30.

TYPE	Width (W)	Length (L)	Bundle Ø max.		Disc Ø	Hole Ø (FH)	Panel Thickness	Material Cable Tie	Material Foot Part	Article-No.
T50SOSSFT65162OD	4.6	150.0	35.0	225	16.0	6.3 - 6.7	1.5 - 2.2	PA66HS	PA66HIRHS	150-93130
T50SSFT6.5	4.6	150.0	35.0	225	22.4	6.3 - 6.7	0.7 - 2.0	PA66HS	PA66HS	150-13593
T50RSFT6.5D18	4.6	200.0	45.0	200	18.0	6.5 - 6.8	0.4 - 1.6	PA66HS	PA66HIRHS	150-37691
T50ROS-SFT6.5 16-3	4.6	200.0	45.0	225	16.0	6.3 - 6.7	2.5 - 3.5	PA66HS	PA66HIRHS	150-37791
T50RSFT6.5	4.6	200.0	45.0	225	22.4	6.3 - 6.7	0.7 - 2.0	PA66HS	PA66HS	150-13591
T50RSFT6.5 16-3	4.6	200.0	49.0	222	16.0	6.3 - 6.7	2.5 - 3.5	PA66HS	PA66HIRHS	150-37792
T80ISFT6.5	4.6	300.0	81.0	355	22.4	6.3 - 6.7	0.7 - 2.0	PA66HS	PA66HS	150-13596
T50RDHSFT6.5	4.7	210.0	38.0	178	22.4	6.4 - 6.8	0.7 - 2.0	PA66HS	PA66HS	117-05160


All dimensions in mm. Subject to technical changes.

- 2-Piece Fixing Ties with Arrowhead, for parallel routing



Other dimensions are available on request.

Being a two piece assembly allows the tie head to be located in the most convenient position

TYPE	Width (W)	Length (L)	Bundle Ø max.		Hole Ø (FH)	Panel Thickness	Material Cable Tie	Material Foot Part	Article-No.
T50SOSDSFT6.5	4.6	150.0	35.0	225	6.3 - 6.7	0.7 - 1.5	PA66HS	PA66HIRHS	156-00133

All dimensions in mm. Subject to technical changes.



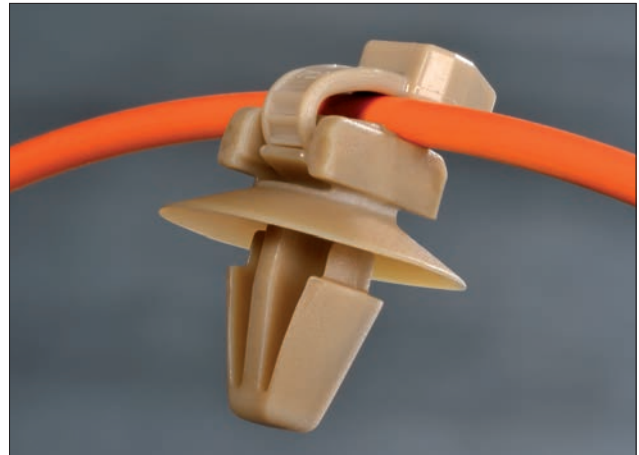
2-Piece Fixing Ties with Arrowhead, with Disc

- for temperatures up to +240 °C

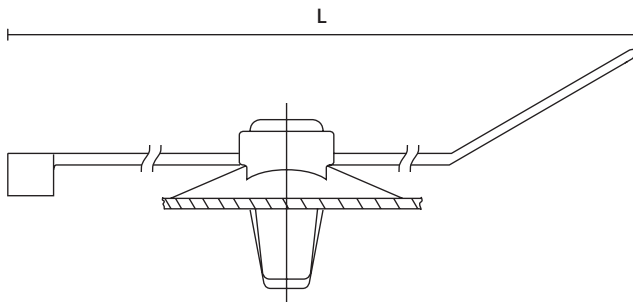
Primarily designed for fixing cable harnesses in the automotive industry their simplicity and ease of use has seen these parts used in everything from aircraft, to switch-gear, to washing machines.

Features and Benefits

- Pre-assembled 2-piece fixing tie with arrowhead foot part
- Cable tie head can be moved after bundling
- Easy to assemble without the need for a tool
- Arrowhead simply locks into place
- Disc adjusts for pressure from various directions and minimises access of dust, dirt and water
- Manufactured in PEEK material
- -55 °C to +240 °C operating temperature
- Excellent resistance against chemicals and gamma radiation



Peek FixingTies can be used for small diameters from 1.0 mm.



Please find more PEEK products for your system solutions:
PEEK Ties, see page 61.
Screw Mount CTAM, see page 124.

Application tools
 please see page 338.

TYPE	Width (W)	Length (L)	Bundle Ø max.		Disc Ø	Hole Ø (FH)	Panel Thickness	Material	Article-No.
PT2AP1SFT6.5	3.4	145.0	35.0	230	16.0	6.3 - 6.7	0.7 - 1.3	PEEK	156-01090
PT2AP2SFT6.5	3.4	145.0	35.0	230	16.0	6.3 - 6.7	1.7 - 2.3	PEEK	156-01091

All dimensions in mm. Subject to technical changes.



1-Piece Fixing Ties with Fir Tree, with Disc

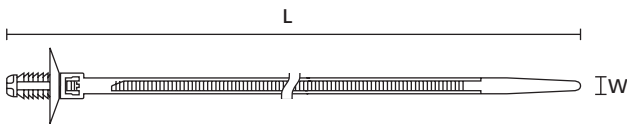
Primarily designed for fixing cable harnesses in the automotive industry their simplicity, and ease of use, has seen these parts used in everything from aircraft, to switch-gear, to washing machines.

Features and Benefits

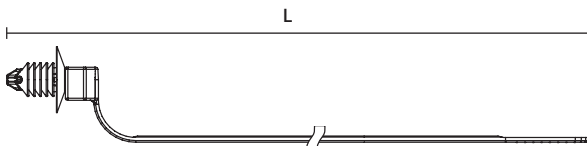
- Cable tie head always situated in defined position
- Easy to assemble without the need for a tool
- Disc adjusts tie for pressure from various directions and minimises access of dust, dirt and water
- Fir tree foot part can be used for a variety of panel thicknesses
- Suitable for use within threaded holes



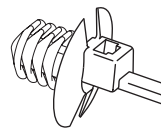
T50SOSFT6LG-E.



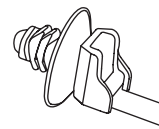
One piece fixing tie with fir tree mount. standard design



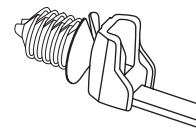
Special design without a gap between head and bundle; FT220DP7



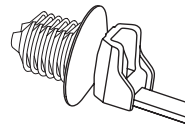
T18RDP5



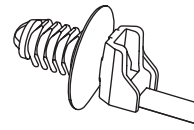
T50SOSFT6-E2




T50SOSFT6D10E



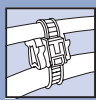
T50SOSFT8E



T50SOSFT6LGE

TYPE	Width (W)	Length (L)	Bundle Ø max.	 N	Disc Ø	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
T18RDP5	2.5	110.0	20.0	80	13.0	4.9 - 5.1	3.0 - 4.0	PA66	Black (BK)	150-55610
T50SOSFT6E2	4.6	161.0	35.0	180	16	6.3 - 7.0	0.6 - 4.2	PA66HS	Black (BK)	157-00136
T50SOSFT6D10E	4.6	163.0	32.0	180	9.8	5.8 - 6.2	0.8 - 5.5	PA46	Grey (GY)	157-00028
T50SOSFT8E	4.6	163.0	35.0	225	16.0	8.0 - 8.5	0.6 - 6.0	PA46	Grey (GY)	157-00115
	4.6	163.0	35.0	225	16.0	8.0 - 8.5	0.6 - 6.0	PA66HS	Black (BK)	157-00072
T50SOSFT6LGE	4.6	165.0	35.0	180	16	6.3 - 7.0	0.7 - 7.0	PA46	Grey (GY)	157-00166
	4.6	165.0	35.0	180	16	6.3 - 7.0	0.7 - 7.0	PA66HS	Black (BK)	157-00137
T50SOSFT6LG-E2	4.6	167.0	35.0	180	16.0	6.1-7.0 Round Hole 6.35	0.6 - 8.3	PA66HS	Black (BK)	157-00182
T50ROSFT6LG-E2	4.6	217.0	50.0	180	16.0	6.1-7.0 Round Hole 6.35	0.6 - 8.3	PA66HS	Black (BK)	157-00190
T50SOSFT6E1	4.7	161.4	35.0	150	16	6.3 - 7.0	0.7 - 3.0	PA66HS	Black (BK)	157-00126
	4.7	161.4	35.0	150	16	6.3 - 7.0	0.7 - 3.0	PA66	Natural (NA)	157-00147
FT220DP7	4.7	232.0	40.0	225	16.0	6.8 - 7.2	0.8 - 5.0	PA66	Black (BK)	150-01700
OS180FT62122	5.1	180.0	33.0	225	21 x 16	6.2 x 12.2	0.7 - 5.2	PA46	Grey (GY)	157-00194
OS180FT6513	5.1	180.0	33.0	225	21 x 16	6.5 x 13.0	0.7 - 5.2	PA66HS	Grey (GY)	157-00162
OS180FT62122A	5.1	180.0	33.0	225	16 x 26	6.2 - 12.2	0.7 - 3.0	PA66	Black (BK)	157-00103
	5.1	180.0	33.0	225	16 x 26	6.2 - 12.2	0.7 - 3.0	PA46	Grey (GY)	157-00193
	5.1	180.0	33.0	225	16 x 26	6.2 x 12.2	0.7 - 3.0	PA66HS	Black (BK)	157-00104
OS180FT62122	5.1	180.0	33.0	225	21 x 16	6.2 x 12.2	0.7 - 5.2	PA66	Black (BK)	157-00092
	5.1	180.0	33.0	225	21 x 16	6.2 x 12.2	0.7 - 5.2	PA66HS	Black (BK)	157-00088
OS180FT6513	5.1	180.0	33.0	225	21 x 16	6.5 x 13.0	0.7 - 5.2	PA66HS	Black (BK)	157-00087
	5.1	180.0	33.0	225	21 x 16	6.5 x 13.0	0.7 - 5.2	PA66	Black (BK)	157-00091

All dimensions in mm. Subject to technical changes.

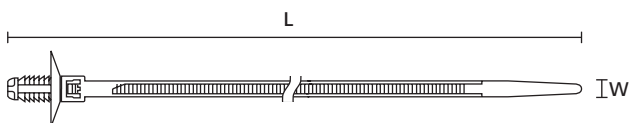


1-Piece Fixing Ties with Fir Tree, with Disc

TYPE	Width (W)	Length (L)	Bundle Ø max.		Disc Ø	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
OS160FT6	5.3	170.0	30.0	200	16.0	6.3 - 6.7	0.7 - 5.0	PA66HS	Black (BK)	157-00096
	5.3	170.0	30.0	200	16.0	6.3 - 6.7	0.7 - 5.0	PA66	Black (BK)	157-00095
OS160FT6HEX	5.3	170.0	30.0	200	16.0	6.35	0.7 - 5.0	PA66	Grey (GY)	157-00098
	5.3	170.0	30.0	200	16.0	6.35	0.7 - 5.0	PA66HS	Black (BK)	157-00081
OS160FT6HEX	5.3	170.0	30.0	200	16.0	6.35	0.7 - 5.0	PA66HS	Grey (GY)	157-00111
	5.3	170.0	30.0	200	16.0	6.35	0.7 - 5.0	PA66	Black (BK)	157-00080
	5.3	170.0	30.0	200	16.0	6.35	0.7 - 5.0	PA46	Grey (GY)	157-00159
OS180FT7LH	5.3	180.0	30.0	200	16.0	6.5 - 7.0. 6.35	0.6 - 4.5	PA66	Black (BK)	157-00070
	5.3	180.0	30.0	200	16.0	6.5 - 7.0. 6.35	0.6 - 4.5	PA66	Grey (GY)	157-00068
	5.3	180.0	30.0	200	16.0	6.5 - 7.0. 6.35	0.6 - 4.5	PA46	Natural (NA)	157-00071
	5.3	180.0	30.0	200	16.0	6.5 x 7.0. 6.35	0.6 - 4.5	PA66HS	Black (BK)	157-00079

All dimensions in mm. Subject to technical changes.

- 1-Piece Fixing Ties with Fir Tree, with Disc, releasable



One piece fixing tie with fir tree mount. standard design

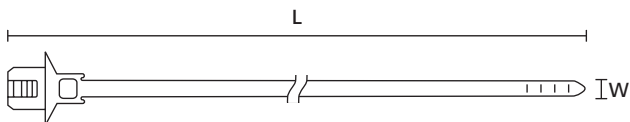
Application tools
please see page 338.

Material specification
please see page 30.

TYPE	Width (W)	Length (L)	Bundle Ø max.		Disc Ø	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
REL30SDP6	5.0	170.0	31.0	135	22.0	6.3 - 7.1	3.0 - 7.0	PA66	Black (BK)	150-55500

All dimensions in mm. Subject to technical changes.

- 1-Piece Fixing Ties with Fir Tree, with Disc, releasable



T50SOS2DOP

TYPE	Width (W)	Length (L)	Bundle Ø max.		Hole Ø (FH)	Material	Colour	Article-No.
T50SOS2DOP62x122-E	4.6	164.0	35.0	225	6.2 x 12.2	PA66HS	Black (BK)	157-00183
T50SOS2DOP	4.6	164.0	35.0	200	6.2 - 12.2	PA46	Grey (GY)	157-00069
	4.6	164.0	35.0	200	6.2 x 12.2	PA66HS	Black (BK)	157-00014
T50SOS3DOP65130E	4.6	165.0	35.0	180	6.5 x 13.0	PA66HS	Black (BK)	157-00184
T50SOSFT7X12U	5.1	165.0	35.0	225	7.0 x 12.0	PA66HS	Black (BK)	157-00053
OS180FT712A	5.1	180.0	33.0	225	7.0 x 12.0	PA66HS	Black (BK)	157-00174
T50ROSFT7X12U	5.1	216.0	50.0	225	7.0 x 12.0	PA66HS	Black (BK)	157-00054

All dimensions in mm. Subject to technical changes.



2-Piece Fixing Ties with Fir Tree, with Disc

- Fir Tree Parts FT5**

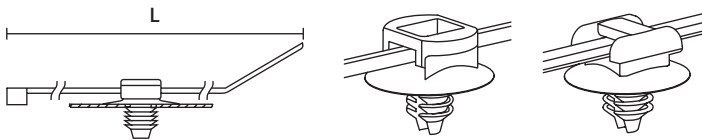
Primarily designed for fixing cable harnesses in the automotive industry their simplicity, and ease of use, has seen these parts used in everything from aircraft, to switch-gear, to washing machines.

Features and Benefits

- Pre-assembled 2-piece fixing tie with fir tree foot part
- Cable tie head can be moved after bundling
- Easy to assemble without the need for a tool
- Disc adjusts tie for pressure from various directions and minimises access of dust, dirt and water
- Fir tree foot part can be used for a variety of panel thicknesses
- Suitable for use within threaded holes



These Fir Tree fixings can also be used in threaded, blind holes.




One piece fixing tie with fir tree mount

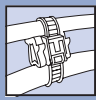
T30RFT5

T50SOSFT5SD

Other dimensions are available on request.

TYPE	Width (W)	Length (L)	Bundle Ø max.		Disc Ø	Hole Ø (FH)	Panel Thickness	Material Cable Tie	Material Foot Part	Article-No.
T30RFT5	3.5	150.0	34.0	135	16.0	4.5 - 5.0	0.7 - 3.0	PA66HS	PA66HIRHS	156-00460
	3.5	150.0	34.0	135	16.0	4.5 - 5.0	0.7 - 3.0	PA46	PA46	156-01019
T40RFT5	4.0	180.0	40.0	180	16.0	4.5 - 5.0	0.7 - 3.0	PA66HS	PA66HIRHS	156-00518
T50SOSFT5	4.6	150.0	31.0	225	16.0	4.5 - 5.0	0.7 - 3.0	PA66HS	PA66HIRHS	156-06200
T50SOSFT5SD	4.6	150.0	35.0	225	16.0	4.5 - 5.0	0.7 - 3.0	PA66HS	PA66HIRHS	156-00432
T50RFT5	4.6	202.0	45.0	225	16.0	4.5 - 5.0	0.7 - 3.0	PA66HS	PA66HIRHS	156-00569
	4.6	202.0	45.0	225	16.0	4.5 - 5.0	0.7 - 3.0	PA66HS	PA66	156-00571
	4.6	202.0	45.0	225	16.0	4.5 - 5.0	0.7 - 3.0	PA66HS	PA46	156-00535

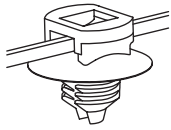
All dimensions in mm. Subject to technical changes.



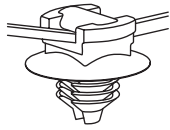
2-Piece Fixing Ties with Fir Tree, with Disc

- Fir Tree Parts FT6

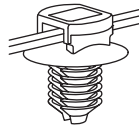
Application tools
please see page 338.



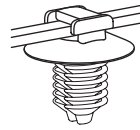
T18RFT6



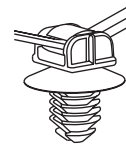
T30RFT6SD



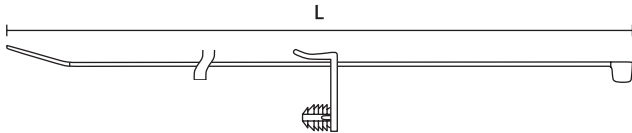
T30RFT6LG



T50SFT6LG1SD



T50RFT6LGSD-HEX



T50RTC40FT635/ T50RTC40FT6.35


TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Disc Ø	Hole Ø (FH)	Panel Thickness	Material Cable Tie	Material Foot Part	Article-No.
T18RFT6	2.5	100.0	20.0	80	16.0	6.4 - 7.1	0.8 - 3.0	PA66UV	PA66	150-77935
T18RFT6LG1SD	2.5	100.0	18.0	80	16.0	6.5 - 7.0	0.6 - 6.0	PA66HS	PA66HIRHS	156-01256
T18RFT6SD	2.5	100.0	20.0	80	16.0	6.4 - 7.1	0.8 - 3.0	PA66HS	PA66HIRHS	156-00517
T30RFT6	3.5	150.0	34.0	135	16.0	6.4 - 7.1	0.8 - 3.0	PA66HS	PA66HIRHS	150-77950
T30RFT6LG	3.5	150.0	35.0	133	16.0	6.4 - 7.1	0.8 - 6.0	PA66HS	PA66HIRHS	150-31090
T30RFT6LG1SD	3.5	150.0	30.0	135	16.0	6.5 - 7.0	0.6 - 6.0	PA66HS	PA66HIRHS	156-01257
T30RFT6	3.5	150.0	34.0	135	16.0	6.5 - 7.0	0.8 - 3.0	PA46	PA46	156-01068
T30RFT6SD	3.6	148.0	35.0	135	16.0	6.4 - 7.1	0.8 - 3.0	PA66HS	PA66HIRHS	150-52690
T50SFT6LG1SD	4.6	160.0	30.0	225	16.0	6.5 - 7.0	0.6 - 6.0	PA66HS	PA66HIRHS	156-00154
T50SFT6	4.6	160.0	35.0	225	16.0	6.5 - 7.0	0.8 - 3.0	PA66HS	PA66HIRHS	156-00156
T50SFT6LG	4.6	160.0	36.0	225	16.0	6.5 - 7.0	0.8 - 6.0	PA66HS	PA66HS	156-00053
T50ROSSOC3FT6LG	4.6	200.0	45.0	225	16.0	6.4 - 7.1	0.8 - 6.0	PA66HS	PA66HIRHS	156-01228
T50ROSFT6	4.6	200.0	45.0	225	16.0	6.4 - 7.1	0.8 - 3.0	PA66HS	PA66HIRHS	156-00076
T50ROSFT6LG	4.6	200.0	45.0	225	16.0	6.4 - 7.1	0.8 - 6.0	PA66HS	PA66HIRHS	150-31099
T50ROSFT6SD	4.6	200.0	46.0	225	16.0	6.4 - 7.1	0.8 - 3.0	PA66HS	PA66HIR	156-05902
T50RFT6	4.6	202.0	45.0	225	16.0	6.4 - 7.1	0.8 - 3.0	PA66HS	PA66	150-77941
T50RFT6LG1SD	4.6	202.0	45.0	225	16.0	6.5 - 7.0	0.6 - 6.0	PA66HS	PA66HIRHS	156-01391
T50RFT6LG	4.6	202.0	44.0	225	16.0	6.4 - 7.1	0.8 - 6.0	PA66HS	PA66HIRHS	150-31091
T50RFT6	4.6	202.0	44.5	225	16.0	6.5 - 7.0	0.8 - 3.0	PA66HS	PA66HIRHS	156-00157
T50RFT6LG	4.6	202.0	45.0	225	16	6.5 - 7.0	0.8 - 6.0	PA66	PA66	156-01278
T50RTC40FT635	4.6	202.0	45.0	225	-	6.35 - 6.5	0.7 - 4.0	PA66HS	PA66HIRHS	156-00969
T50RFT6LGSDHEX	4.6	202.0	45.0	225	16.0	6.35 - 6.5	0.7 - 5.0	PA66HS	PA66HIRHS	156-00892
T50RFT6SD	4.6	202.0	45.0	225	16.0	6.4 - 7.1	0.8 - 3.0	PA66HS	PA66HIRHS	156-01246
T50RFT6	4.6	202.0	45.0	225	16.0	6.5 - 7.0	0.8 - 3.0	PA46	PA46	156-00466
T50RTC40FT6.35	4.6	202.0	45.0	225	-	6.35 - 6.5	0.7 - 4.0	PA66	PA66	156-00516
T80IFT6LG	4.6	300.0	81.0	356	16.0	6.4 - 7.1	0.8 - 6.0	PA66HS	PA66HIRHS	150-31096
T50IFT6LG	4.6	305.0	85.0	225	16.0	6.5 - 7.0	0.8 - 6.0	PA66HS	PA66HIR	156-00054
T50LFT6	4.6	390.0	110.0	225	16.0	6.5 - 7.0	0.8 - 3.0	PA66HS	PA66HIRHS	156-00066
T50RDHFT6	4.7	210.0	19.0	180	16.0	6.4 - 7.1	0.8 - 3.0	PA66HS	PA66HIRHS	150-77936
T80LFT6	5.0	390.0	108.0	355	16.0	6.4 - 7.1	0.8 - 3.0	PA66HS	PA66HIRHS	150-77934

All dimensions in mm. Subject to technical changes.




2-Piece Fixing Ties with Fir Tree, unassembled


- With Fir Tree FT6

TYPE	Width (W)	Length (L)		Material	Colour	Article-No.
T30RFT6LG1SDSET	3.5	150.0	135	PA66HS, PA66HIRHS	Black (BK)	156-01265


All dimensions in mm. Subject to technical changes.

TYPE	Width (W)	Length (L)		Material	Colour	Article-No.
T18RFT6LG1SDSET	2.5	100.0	80	PA66HS, PA66HIRHS	Black (BK)	156-01263

All dimensions in mm. Subject to technical changes.

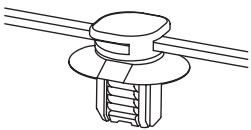
TYPE	Width (W)	Length (L)		Material	Colour	Article-No.
T18RFT6SDSET	2.5	100.0	80	PA66HS, PA66HIRHS	Black (BK)	156-01260

All dimensions in mm. Subject to technical changes.


TYPE	Width (W)	Length (L)		Material	Colour	Article-No.
T50RFT6LG1SDSET	4.6	202.0	225	PA66HS, PA66HIRHS	Black (BK)	156-00924

All dimensions in mm. Subject to technical changes.

- 2-Piece Fixing Ties with Fir Tree, with disc, for oval holes



T50ROS1DOP

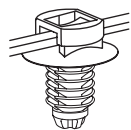
TYPE	Width (W)	Length (L)	Bundle Ø max.		Disc Ø	Hole Ø (FH)	Panel Thickness	Article-No.
T50SOS1DOP62X122	4.6	150.0	35.0	225	21	6.2 - 12.2	0.6 - 6.0	156-01306

All dimensions in mm. Subject to technical changes.

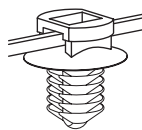


2-Piece Fixing Ties with Fir Tree, with Disc, for Round Holes

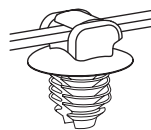
• Fir Tree Parts FT7 - FT10



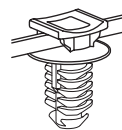
T50IFT7



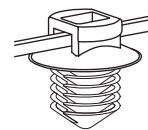
T50RFT8



T50RFT8GSD



T120IFT9



T50RFT10

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Disc Ø	Hole Ø (FH)	Panel Thickness	Material Cable Tie	Material Foot Part	Article-No.
T30RFT10	3.5	150.0	31.0	135	18.0	9.7 - 10.0	0.8 - 5.0	PA66HS	PA66HS	156-00062
T30RFT7	3.5	150.0	35.0	135	16.0	6.5 - 7.0	0.8 - 7.0	PA66HS	PA66HS	156-00057
T30RFT8	3.5	150.0	35.0	135	16.0	7.7 - 8.0	0.8 - 6.0	PA66HS	PA66HS	156-00058
T30RFT7	3.5	148.0	35.0	135	16.0	6.5 - 7.0	0.8 - 7.0	PA66	PA66	156-00608
T40RFT8GSD	4.0	180.0	40.0	180	16.0	8.0 - 8.5	1.5 - 4.0	PA66HS	PA66HIRHS	156-00104
T50SFT10	4.6	160.0	31.0	225	18.0	9.7 - 10.0	0.8 - 5.0	PA66HS	PA66HS	156-00063
T50SFT7	4.6	160.0	35.0	225	16.0	6.5 - 7.0	0.8 - 7.0	PA66HS	PA66HS	156-00056
T50RFT7	4.6	200.0	44.0	225	16.0	6.5 - 7.0	0.8 - 7.0	PA66HS	PA66HS	111-85871
T50ROSFT10	4.6	200.0	45.0	225	18.0	9.7 - 10.0	0.8 - 5.0	PA66HS	PA66HS	156-00120
T50ROSFT7	4.6	200.0	45.0	225	16	6.5 - 7.0	0.8 - 7.0	PA66HS	PA66HS	156-01056
T50RFT8GSD	4.6	202.0	45.0	225	16.0	8.0 - 8.5	1.5 - 4.0	PA66HS	PA66HIRHS	133-00034
	4.6	202.0	45.0	225	16.0	8.0 - 8.5	1.5 - 4.0	PA46	PA46	156-00235
T50RFT7	4.6	202.0	45.0	225	16.0	6.5 - 7.0	0.8 - 7.0	PA66HSUV	PA66HS	156-00587
	4.6	202.0	45.0	225	16.0	6.5 - 7.0	0.8 - 7.0	PA46	PA66HS	156-00465
T50IFT8	4.6	305.0	81.0	225	16.0	7.7 - 8.0	0.8 - 6.0	PA66HS	PA66HS	156-00060
T50IFT10	4.6	305.0	81.0	225	18.0	9.7 - 10.0	0.8 - 5.0	PA66HS	PA66HS	156-00064
T50LFT10	4.6	390.0	106.0	225	18.0	9.7 - 10.0	0.8 - 5.0	PA66HS	PA66HS	156-00065
T50LFT7	4.6	390.0	110.0	225	16.0	6.5 - 7.0	0.8 - 7.0	PA66HS	PA66HS	156-00055
T50LFT8	4.6	390.0	110.0	225	16.0	7.7 - 8.0	0.8 - 6.0	PA66HS	PA66HS	156-00061
T150RFT9	7.6	365.0	100.0	670	20	8.8 - 9.4	4.0 - 8.0	PA66HS	PA66HIRHS	156-00845
T150RFT9B	7.6	365.0	100.0	670	21.6	8.8 - 9.2	1.0 - 15.8	PA66HS	PA66HIRHS	156-00985

All dimensions in mm. Subject to technical changes.

**Material specification
please see page 30.**

2-Piece Fixing Ties with Fir Tree, unassembled

• With Fir Tree FT9

TYPE	Width (W)	Length (L)	N	Material	Colour	Article-No.
T150RFT9SET	7.6	365.0	670	PA66, PA66HIRHS	Black (BK)	156-00917

All dimensions in mm. Subject to technical changes.



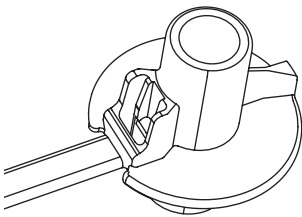
1-Piece Fixing Ties for Weld Studs

- With plate to fix isolation material

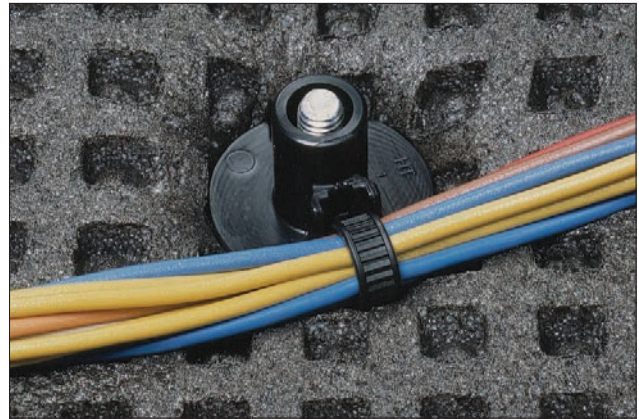
Features and Benefits

- Cable tie head always situated in defined position
- Easy to assemble without the need for a tool
- Can retain insulation materials while fixing a cable bundle


Application tools
please see page 338.



T50S0SSBH5E



The new head design offers additional fixing of soft materials.

TYPE	Width (W)	Length (L)	Bundle Ø max.		Stud Ø	Material	Colour	Article-No.
T50S0SSBH5E	4.6	166.4	35.0	225	5.0	PA66HS	Black (BK)	155-05701

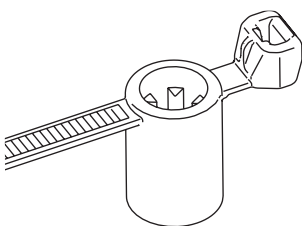
All dimensions in mm. Subject to technical changes.

1-Piece Fixing Ties for Weld Studs

- For cable routing above the stud

Features and Benefits


- Cable tie head always situated in defined position
- Easy to assemble without the need for a tool
- Bundle runs directly above weld stud with defined stand-off from the panel



T50SSBS50TE

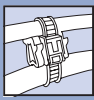


The T50SSBS50TE allows very precise routing of cable bundles.

TYPE	Width (W)	Length (L)	Bundle Ø max.		Stud Ø	Material	Colour	Article-No.
T50SSBS50TE	4.0	160.0	35.0	200	5.0	PA66HS	Black (BK)	155-30602
T50SSBS60T-E	4.6	160.0	35.0	200	6.0	PA66HS	Black (BK)	157-00083

All dimensions in mm. Subject to technical changes.

Since the bundled cables lie directly above or on the weld stud, care must be taken to ensure that the length of the weld stud does not exceed the height of the sheath. To avoid damage, we recommend a maximum weld stud length of 16.5 mm.



1-Piece Fixing Ties for Weld Studs

- For cable routing alongside the stud

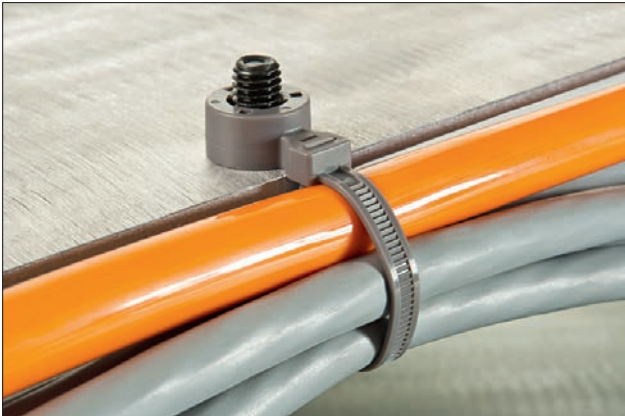
Features and Benefits

- Cable tie head always situated in defined position
- Easy to install without the need for a tool
- Bundles are routed very close to stud

Material specification please see page 30.




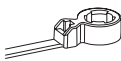
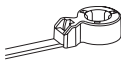
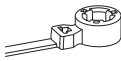
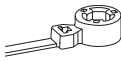
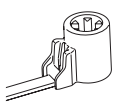
T50SOSSBD-M8/10.



T50SOSSBU-M8/10 for bundles which run below the stud.



This outside serrated cable tie with weld stud mounting keeps the cables close to the fixing stud.

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.		Stud Ø	Material	Colour	Article-No.
T50SOSSBD-M10		5.7	175.0	30.0	150	10.0	PA66HSW	Black (BK)	157-00040
T50SOSSBD-M8		5.7	175.0	30.0	150	8.0	PA66HSW	Black (BK)	157-00039
T50SOSSBU-M10		5.7	175.0	30.0	150	10.0	PA66HSW	Grey (GY)	157-00067
T50SOSSBU-M8		5.7	175.0	30.0	150	8.0	PA66HSW	Grey (GY)	157-00066
T50SOSSBS5E		4.7	160.0	35.0	225	5.0	PA66HS	Black (BK)	155-12300

All dimensions in mm. Subject to technical changes.



1-Piece Fixing Ties for Weld Studs, moveable

- T50SOSWSP5E-2 for 5 mm studs, retainer height 3.5 mm

Features and Benefits


- Cable tie head always situated in defined position
- Easy to install without the need for a tool
- Provides a 5 – 6 mm lateral adjustment possibility
- Very low profile, stackable design
- For parallel routing of several bundles



T50SOSWSP5E-2



T50SOSWSP5E, parallel installation using two fixing ties.

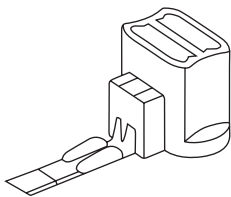
TYPE	Width (W)	Length (L)	Bundle Ø max.		Stud Ø	Material	Colour	Article-No.
T50SOSWSP5E-2	4.6	162.6	35.0	225	5.0	PA66HS	Black (BK)	133-00391

All dimensions in mm. Subject to technical changes.

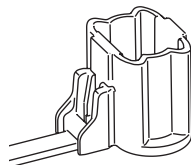
- T50SOSSB5-High-E-C-CC for 5 and 6 mm studs

Features and Benefits

- Cable tie head always situated in defined position
- Easy to install without the need for a tool
- Provides a 5 – 6 mm lateral adjustment possibility



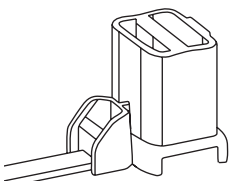
T50SOSSB5HEC



T50SOSSB6HE




T50SOSSB5-High-E-C-CC.



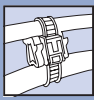
T60ROSSB6HEC

Application tools
please see page 338.

Material specification
please see page 30.

TYPE	Width (W)	Length (L)	Bundle Ø max.		Stud Ø	Material	Colour	Article-No.
T50SOSSB6HE	4.7	160.0	35.0	170	6.0	PA66HS	Black (BK)	155-46302
HT160SB6HE	5.0	167.0	35.0	200	6.0	PA66	Black (BK)	157-00094
	5.0	167.0	35.0	200	6.0	PA66HS	Black (BK)	157-00090
HT160SB5HE	5.0	167.0	35.0	200	5.0	PA66	Black (BK)	157-00093
	5.0	167.0	35.0	200	5.0	PA66HS	Black (BK)	157-00089
T50SOSSB5-High-E-C-CC	5.0	167.0	35.0	225	5.0, 6.0	PA66HS	Black (BK)	157-00037
T60ROSSB6HEC	5.5	227.4	55.0	300	6.0	PA66HS	Black (BK)	157-00101

All dimensions in mm. Subject to technical changes.

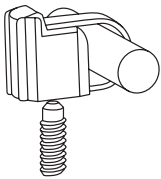


1-Piece Fixing Ties for Weld Studs

- LFC-Series for routing close to the stud

Features and Benefits

- 1-piece fixing tie for 5 mm studs
- Cable tie head always situated in defined position
- Easy to install without the need for a tool
- Bundle runs very close next to stud
- Closed stud retainer protects the bundle against damage
- Contact surface allows secure bundling with tensioning tool



LFC165-2 can be put on by hand



LFC165-2 for bundle diameters up to 35.0 mm.

TYPE	Width (W)	Length (L)	Bundle Ø max.		Stud Ø	Material	Colour	Article-No.
LFC155	4.6	163.0	26.0	160	5.0	PA66	Black (BK)	131-60070
LFC165(PSA)	4.7	165.0	35.0	90	5.0	PA66HS	Black (BK)	155-34202
LFC165-2	4.7	165.0	35.0	150	5.0	PA66HS	Black (BK)	157-00047

All dimensions in mm. Subject to technical changes.

1-Piece Fixing Ties for Weld Studs, for Heavy Duty Applications

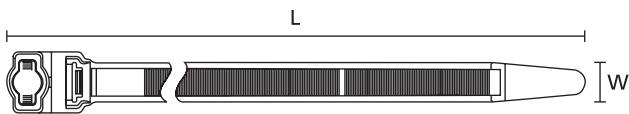
- WS-Series for threaded studs

Features and Benefits

- Very flexible strap and minimum pinching of soft hoses and convoluted tubing
- Low profile head for compact bundling
- Clamping rails to increase grip on round bundles
- Flexible hinge



The wide strap stud mount cable tie minimizes pinching on soft bundles.



Wide Strap Heavy Duty Stud Mount Cable Ties

TYPE	Width (W)	Length (L)	Bundle Ø max.		Stud Ø	Material	Colour	Article-No.
WSS250	12.7	236.0	57.0	534	6.35	PA66HIRHSUV	Black (BK)	157-00400
WSI250	12.7	322.6	82.5	534	6.35	PA66HIRHSUV	Black (BK)	157-00401
WSI380	12.7	322.6	82.5	534	9.52	PA66HIRHSUV	Black (BK)	157-00404
WSR250	12.7	389.0	104.0	534	6.35	PA66HIRHSUV	Black (BK)	157-00402

All dimensions in mm. Subject to technical changes.



1-Piece Fixing Ties for Weld Studs in the strap

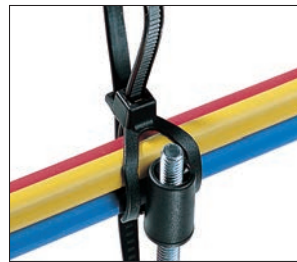
Features and Benefits

- For 5 mm studs or 5 mm ISO threaded studs
- Soft-push versions for easy assembly, without tool
- Eyelet allows excess tail to be tucked neatly away



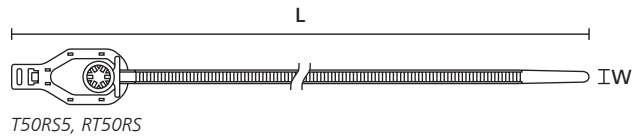
With the RT50RS5 and the SB14/172 you can mount pipes or cables to a weld stud.

**Application tools
please see page 338.**



Simple fixing to a weld stud or 5mm ISO bolt.

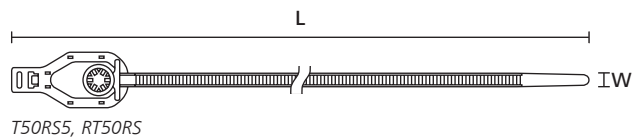
• 1-Piece Fixing Ties for Weld Studs (Softpush) in the strap



TYPE	Width (W)	Length (L)	Height (H2)	Bundle Ø max.	N	Material	Colour	Article-No.
T50RS5	4.6	190.0	14.5	40.0	222	PA66	Black (BK)	111-07110

All dimensions in mm. Subject to technical changes.

• 1-Piece Fixing Ties for Weld Studs (Softpush) in the strap, releasable



TYPE	Width (W)	Length (L)	Height (H2)	Bundle Ø max.	N	Material	Colour	Article-No.
RT50RS5	4.6	190.0	14.5	40.0	225	PA66	Black (BK)	115-07110

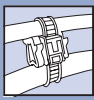
All dimensions in mm. Subject to technical changes.

• 1-Piece Fixing Ties for Weld Studs (Hardpush) in the strap, releasable



TYPE	Width (W)	Length (L)	Height (H2)	Bundle Ø max.	N	Material	Colour	Article-No.
SB14/172	5.0	172.0	15.5	40.0	245	PA66	Black (BK)	150-10690
SB9/230	5.0	230.0	10.0	65.0	245	PA66HS	Black (BK)	150-10900
SB14/230	5.0	230.0	15.5	60.0	245	PA66	Black (BK)	150-11400

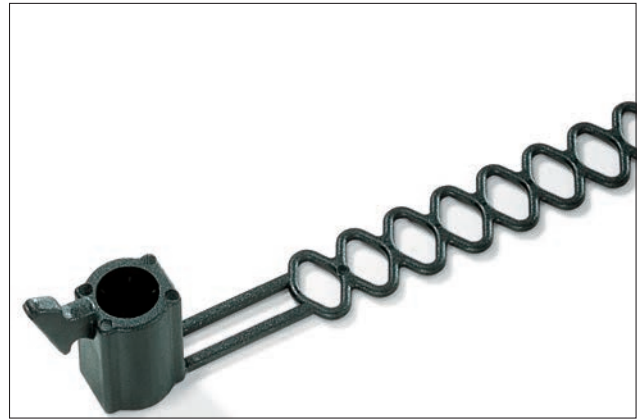
All dimensions in mm. Subject to technical changes.



1-Piece Fixing Ties for Weld Studs, releasable, with flexible strap

Features and Benefits

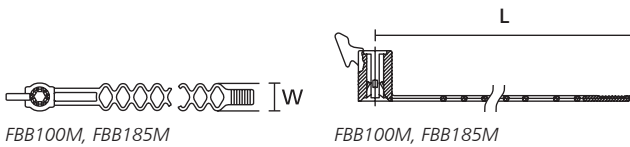
- Releasable fixing
- Soft-push versions for easy assembly without the need for a tool
- FBB_M-types have a small recess for eventually welding burrs on the substructure
- Hard-push versions for special firm fit are hammered onto the stud
- SBR8S for M8 threaded studs



FBB one piece fixing ties for weld studs, can be easily removed by unscrewing in an anti-clockwise direction.

Material specification please see page 30.

• 1-Piece Fixing Ties for Weld Studs (Softpush), releasable, with flexible strap



FBB100M, FBB185M

FBB100M, FBB185M


TYPE	Width (W)	Length (L)	Bundle Ø max.	Stud Ø	Material	Colour	Article-No.
FBB100M	10.0	110.0	23.0	5.0	PA66	Black (BK)	150-29100
FBB185M	10.0	200.0	50.0	5.0	PA66	Black (BK)	150-29180

All dimensions in mm. Subject to technical changes.

• 1-Piece Fixing Ties for Weld Studs (Hardpush), releasable



SBR

TYPE	Width (W)	Length (L)	Bundle Ø max.		Stud Ø	Material	Colour	Article-No.
SBR8S	6.0	216.5	40.0	300	8.0	PA46	Grey (GY)	131-60058
SBR5	6.0	220.0	40.0	300	5.0	PA66HS	Black (BK)	131-60060

All dimensions in mm. Subject to technical changes.



2-Piece Fixing Ties for Weld Studs

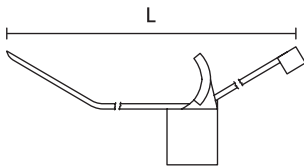
Series SBH5 and SBH5SD are used mainly in the automotive industry. The SD variant is for the smallest bundle diameters from 1.0 mm. Series SB5 and SBS5 are suitable for bundling and fastening cable looms and pipes in switch cabinet construction and automotive and construction machine industry.

Features and Benefits

- Pre-assembled 2-piece fixing tie with stud retainer
- Cable tie head can be moved after bundling
- Easy to install without the need for a tool
- SB5-types for 5 mm studs or 5 mm ISO threaded studs
- Types with discs can retain insulation materials while fixing a cable bundle
- Oval shape can be adjusted in a lateral position
- GB58C for 8 mm retainer enables parallel routing



Cable ties illustrating the variety of application methods for weld stud fixing.



Application tools
please see page 338.

• 2-Piece Fixing Ties for Weld Studs, moveable, oval hole

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.	N	Material Cable Tie	Material Foot Part	Article-No.
T30RSB5		3.5	150.0	32.0	135	PA66HS	POM	150-10140
T50SSB5		4.6	150.0	32.0	225	PA6HS	PA66HS	150-10144
T50SOSSB5		4.6	150.0	35.0	225	PA66HS	POM	156-00080
T50RSB5		4.6	200.0	45.0	225	PA66HS	POM	150-10141
T50ROSSB5		4.6	200.0	45.0	225	PA66HS	POM	156-00916
T50RSB5		4.6	202.0	45.0	225	PA46	PA46	156-00084
T50RSB5CSD		4.6	200.0	45.0	225	PA66HS	PA66HS	156-00083
T50ROSSB5CSD		4.6	200.0	45.0	225	PA66HS	PA66HS	156-05906

All dimensions in mm. Subject to technical changes.

• 2-Piece Fixing Ties for Weld Studs, moveable, round hole

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.	N	Material Cable Tie	Material Foot Part	Article-No.
T30RSBS5		3.5	150.0	35.0	135	PA66HS	PA66HS	150-21290
T50SOSSBS5		4.6	150.0	31.0	225	PA66HS	PA66	156-00079
T50SSBS5		4.6	150.0	35.0	225	PA66HS	PA66HS	150-21293
T50RSBS5		4.6	200.0	45.0	225	PA66HS	PA66HS	150-21291
T50ROSSBS5		4.6	200.0	45.0	225	PA66HS	PA66HS	150-21299
T80ISBS5		4.7	305.0	80.0	355	PA66HS	PA66HS	150-21297
T50ROSGBS8CA		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	156-00251
T50ROSGBS8CB		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	156-00252
T50ROSGBS8CC		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	156-00116

All dimensions in mm. Subject to technical changes.



2-Piece Fixing Ties for Weld Studs

- M2-Piece Fixing Ties for Weld Studs, with disc

Material specification please see page 30.

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.	N	Material Cable Tie	Material Foot Part	Article-No.
T50RSBH5-10		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	156-00536
T50RSBH5		4.6	202.0	45.0	225	PA66HS	PA66HS	150-16943
T80ISBH5		5.0	300.0	80.0	355	PA66HS	PA66HS	150-16945
T50RSBH5SD		4.6	200.0	45.0	222	PA66HS	PA66HS	156-00522
T50ROSSBH5SD		4.6	200.0	45.0	225	PA66HS	PA66HS	156-05905
T80ISBH5SD		4.6	300.0	78.0	356	PA66HS	PA66HS	150-92905
T50R-SBH5SD-14		4.6	200.0	45.0	222	PA66HS	PA66HS	150-77591
T50RSBH6SD		4.6	200.0	45.0	225	PA66HS	PA66HS	156-00819

All dimensions in mm. Subject to technical changes.

2-Piece Fixing Ties for Weld Studs, for parallel routing

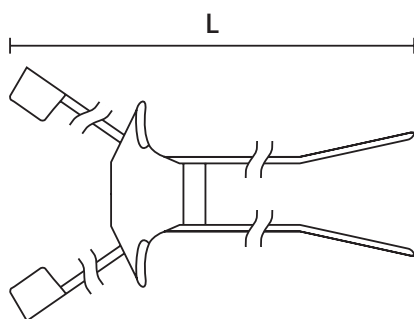
Many applications require cables to be run parallel to each other but separated to avoid abrasion. The double mounting base, when used with two cable ties, allow this to be achieved simply and quickly. Widely used for securing cables, pipes and hoses in the automotive and truck building industries, the mounting base is simply pushed onto a 5mm diameter weld stud or bolt.

Features and Benefits

- Pre-assembled 2-piece fixing tie with stud retainer
- For parallel routing of cables, hoses or harnesses
- Cable tie head can be moved after bundling
- Easy to install without the need for a tool
- For 5 mm studs or 5 mm ISO threaded studs



Parallel fixation of two cables.



T50SDSBS5, T50ROSDSBS5

Other dimensions are available on request.

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Stud Ø	Material Cable Tie	Material Foot Part	Article-No.
T50SDSBS5	4.6	150.0	35.0	225	5.0	PA66HS	PA66HIRHS	150-56193
T50ROSDSBS5	4.6	200.0	45.0	222	5.0	PA66HS	PA66HIRHS	150-56199

All dimensions in mm. Subject to technical changes.



1-Piece Fixing Ties for Edges

- **EdgeClip-Family**

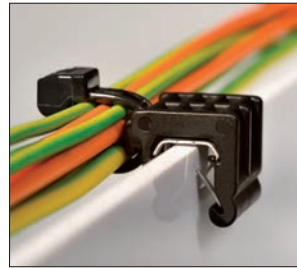
These cable ties and EdgeClip assemblies are ideal for use where holes are not acceptable or where, due to temperature problems, adhesives will fail. Once the cable tie is fastened around the cables the EdgeClip is presented ready for attaching to the panel. Widely used within the automotive and panel building industries these cable ties and EdgeClips save time and money.

Features and Benefits

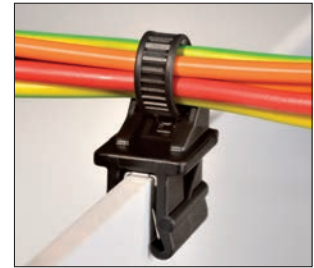
- Easy assembly by hand
- For edges of 1 – 3 mm or 3 – 6 mm
- Integrated metal clamp holds clip firmly in place
- Clamp consists of double tempered steel spring
- Ideal for applications where holes or adhesives are not suitable



T50ROSEC10 fitted onto a plastic panel to hold a Ø 6mm harness.



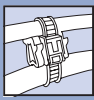
T50ROSEC23 - the cable bundle runs parallel with the edge.



1-Piece-Fixing Tie T50SOSEC12 can be pushed easily on edges.

The silver-grey clamp, the heart of our EdgeClips, consists of double-tempered spring steel in accordance with DIN EN 10132-4 C75S. The spring steel gives the clamp both the necessary rigidity to provide high pull-off forces and also sufficient flexibility for various possible applications. The double coating is applied initially with a zinc plate system followed by inorganic surface sealing. Naturally, no chromium (VI) is used in this process. The clamp therefore complies with the current EU

Directive 200/53/EC on end of life vehicles and the prohibition on heavy metals. The refined spring-steel clamp also fulfils the requirements for resistance to salt spray stipulated in DIN EN ISO 9227 NSS (min. 840 h without corrosion of base metal) and DIN EN ISO 6270-Z-CH (min. 720 h without corrosion of base material). This solution has therefore been approved by many OEMs for exposed installation locations, e.g. in engine compartments and the running-gear area.

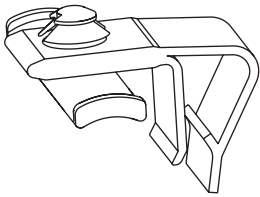


1-Piece Fixing Ties for Edges

- EdgeClip-Family

Features and Benefits

- Cable tie head always situated in defined position
- Suitable for minimum bundle diameters of 1 mm
- Outside serrated tie prevents bundle from being damaged
- For edges of 1 – 3 mm

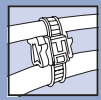


EdgeClips are also available on request for panel thickness from 4-7mm.

Material specification please see page 30.

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.		Material	Colour	Article-No.
T50SOSEC12E		4.6	160.0	35.0	180	PA66HS	Black (BK)	148-00200
T50SOSEC13E		4.6	160.0	35.0	180	PA66HS	Black (BK)	126-00000
T40XEC5SP-E		4.0	85.0	15.0	178	PA66HS	Black (BK)	133-00059
T50SOSEC34E		4.6	155.0	35.0	180	PA66HS	Black (BK)	126-00036

All dimensions in mm. Subject to technical changes.



2-Piece Fixing Ties for Edges, 1.0 - 3.0 mm, Top Fixing

• EdgeClip-Family

Features and Benefits

- Pre-assembled 2-piece fixing tie with EdgeClip
- Cable tie head can be moved after bundling
- EC9, EC10, EC21 and EC22 are for minimum bundle diameters of 1 mm
- For edges of 1 – 3 mm

Application tools
please see page 338.

Material specification
please see page 30.

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.		Material Cable Tie	Material Foot Part	Article-No.
T30REC4A		3.6	150.0	32.0	135	PA66HS	PA66HIRHS	156-00811
T50SOSEC4A		4.6	150.0	35.0	225	PA66HS	PA66HIRHS	150-76093
T50ROSEC4A		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	156-00461
T50ROSEC4A-W		4.6	200.0	45.0	225	PA66W	PA66W	156-00570
T50REC4		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	156-01114
T30REC4B		3.6	150.0	32.0	135	PA66HS	PA66HIRHS	156-00893
T50SOSEC4B		4.6	150.0	35.0	225	PA66HS	PA66HIRHS	156-00109
T50ROSEC4B		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	156-00462
T18REC10SD		2.5	100.0	20.0	80	PA66HS	PA66HIRHS	156-01253
T50SOSEC10		4.6	150.0	31.0	225	PA66HS	PA66HIRHS	156-00015
T50ROSEC10		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	156-05904
T18REC9SD		2.5	100.0	20.0	80	PA66HS	PA66HIRHS	156-01255
T50SOSEC9SD		4.6	150.0	31.0	225	PA66HS	PA66HIRHS	156-00019
T50ROSEC9		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	156-05903

All dimensions in mm. Subject to technical changes.

2-Piece Fixing Ties for Edges, 1.0 - 3.0 mm, Side Fixing

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.		Material Cable Tie	Material Foot Part	Article-No.
T40REC5A		4.0	175.0	45.0	180	PA66HS	PA66HIRHS	156-00559
T30REC5A		3.6	148.0	33.0	135	PA66HS	PA66HIRHS	156-00003
T50SOSEC5A		4.6	150.0	35.0	225	PA66HS	PA66HIRHS	156-00788
T50ROSEC5A		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	156-00463
T50REC5A		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	156-01037
T50SOSEC5B		4.6	150.0	31.0	225	PA66HS	PA66HIRHS	156-00789
T50REC5B		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	150-40582
T50ROSEC5B		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	156-00464
T18REC21		2.5	100.0	20.0	80	PA66HS	PA66HIRHS	156-01258
T50SOSEC21		4.6	150.0	35.0	225	PA66HS	PA66HIRHS	156-00017
T50ROSEC21		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	156-00951
T18REC22		2.5	100.0	20.0	80	PA66HS	PA66HIRHS	156-01254
T50ROSEC22		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	156-00011
		4.6	200.0	45.0	225	PA66W	PA66HIRHS	156-00576

All dimensions in mm. Subject to technical changes.



2-Piece Fixing Ties for Edges, 3.0 - 6.0 mm, Top Fixing

• EdgeClip-Family

Features and Benefits

- Pre-assembled 2-piece fixing tie with EdgeClip
- Cable tie head can be moved after bundling
- For minimum bundle diameters of 1 mm
- For edges of 3 – 6 mm

**Other combinations
between cable tie and foot
part available on request.**

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.	N	Material Cable Tie	Material Foot Part	Article-No.
T18ROSEC19		2.5	100.0	20.0	80	PA66HS	PA66HIRHS	156-04600
T50SOSEC19		4.6	150.0	31.0	225	PA66HS	PA66HIRHS	156-01309
T50REC19		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	156-00907
T50ROSEC19		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	156-01038
T50SOSEC20		4.6	150.0	35.0	225	PA66HS	PA66HIRHS	156-00016
T50ROSEC20		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	156-00834

All dimensions in mm. Subject to technical changes.

2-Piece Fixing Ties for Edges, 3.0 - 6.0 mm, Side Fixing

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.	N	Material Cable Tie	Material Foot Part	Article-No.
T50ROSEC23		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	156-00774
T50ROSEC24		4.6	200.0	45.0	225	PA66HS	PA66HIRHS	156-00775

All dimensions in mm. Subject to technical changes.

2-Piece Edge Clips, unassembled

TYPE	Drawing	Width (W)	Length (L)	N	Material	Colour	Article-No.
T18REC10SDSET		2.5	100.0	80	PA66HS, PA66HIRHS	Black (BK)	156-01259
T18REC21SET		2.5	100.0	80	PA66HS, PA66HIRHS	Black (BK)	156-01264
T18REC22SET		2.5	100.0	80	PA66HS, PA66HIRHS	Black (BK)	156-01261
T18REC9SDSET		2.5	100.0	80	PA66HS, PA66HIRHS	Black (BK)	156-01262
T30REC9SD SET		3.6	150.0	135	PA66HS, PA66HIRHS	Black (BK)	156-01286

All dimensions in mm. Subject to technical changes.

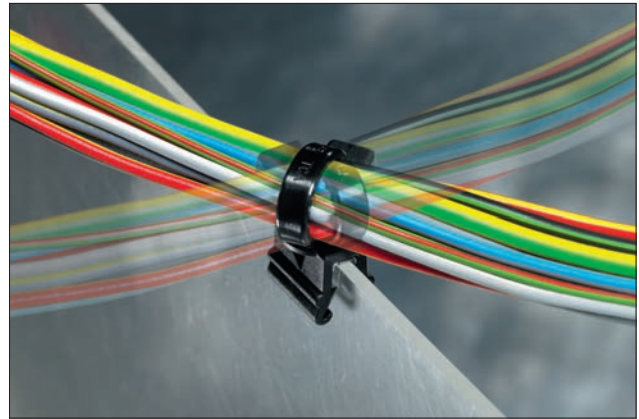


2-Piece Fixing Ties for Edges, twistable

- EdgeClip-Family

Features and Benefits

- Pre-assembled 2-piece fixing tie with EdgeClip
- Easy to assemble by hand
- Cable tie head can be moved after bundling
- For edges of 1 – 2.5 mm or 1 – 3 mm
- Can be rotated to the desired position during mounting

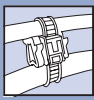


EdgeClip CBTO50R, rotatable 90°.

**Application tools
please see page 338.**

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.	N	Panel Thickness	Material Cable Tie	Material Foot Part	Article-No.
CBT30MR		3.5	160.0	32.0	135	2.5	PA66HS	POM	156-00049
CBTO50R		4.6	202.0	47.0	225	3.0	PA66HS	PA66HIRHS	156-01601
CBTO50RSTUD5		4.6	200.0	47.0	225	3.0	PA66HS	PA66HIRHS	156-00380

All dimensions in mm. Subject to technical changes.



2-Piece Fixing Ties for Edges, for Holes

- EdgeClip-Family

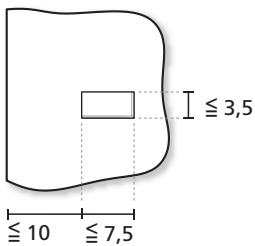
Due to the tie's reduced installation height it is ideal for use wherever space is at a premium.

Features and Benefits

- Pre-assembled 2-piece fixing tie with EdgeClip
- Easy to assemble by hand
- Cable tie head can be moved after bundling
- For edges of 1.0 - 3.0 mm
- Secure fixing of the EdgeClip into drill hole
- Ideal for use wherever space is at its premium



The holding tab increases the tensile strength additionally.

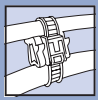


Position of the drill hole for the holding tab

**Material specification
please see page 30.**

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.		Material Cable Tie	Material Foot Part	Article-No.
T50REC2.5B		4.6	202.0	40.0	225	PA66HS	PA66HIRHS	150-45292
T50ROS-EC2,5		4.6	200.0	50.0	225	PA66HS	PA66HIRHS	150-45299

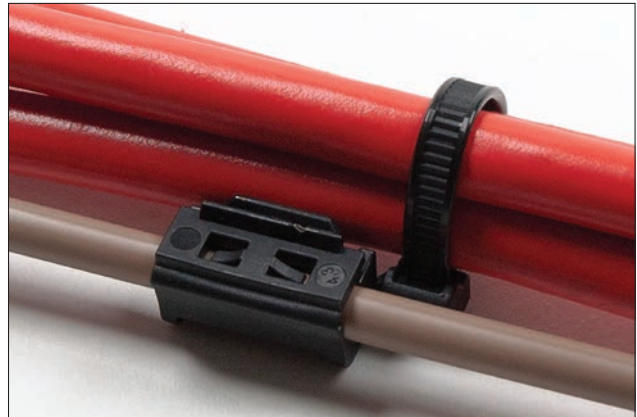
All dimensions in mm. Subject to technical changes.



1-Piece Fixing Ties with Wire Clip

Features and Benefits

- Cable tie head always in defined position
- Easy to close by simply pressing the cover
- Firm fit around wires
- Suitable for post-installation of bundles
- Available in a range of sizes



T50SOSWA - The easy way for parallel guidance of cables next to a wire.

**Application tools
please see page 338.**

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Article-No.
T50SOSWA1.8E		4.6	150.0	35.0	225	PA66HS	Black (BK)	148-00089
T50SOSWA2.0E		4.6	150.0	35.0	225	PA66HS	Black (BK)	148-00088
T50SOSWA3.4E		4.6	150.0	35.0	225	PA66HS	Black (BK)	148-00095
T50SOSWA4.3E		4.6	150.0	35.0	225	PA66HS	Black (BK)	148-00092
T50SOSWB1.8E		4.6	150.0	35.0	225	PA66HS	Black (BK)	148-00090
T50SOSWB3.4E		4.6	150.0	35.0	225	PA66HS	Black (BK)	148-00096
T50SOSWB2.0E		4.6	150.0	35.0	225	PA66HS	Black (BK)	148-00093
T50SOSWB4.3E		4.6	150.0	35.0	225	PA66HS	Black (BK)	148-00091

All dimensions in mm. Subject to technical changes.



2-Piece Fixing Ties with Pipe Clip, twistable 360°

Features and Benefits

- Simply clip onto a wire or hose
- Fixing clip offers full 360° rotation
- Routed cable can move in any direction in relation to the fixing point
- Inside serrated cable tie
- Ideally used in the Automotive Industry



T50SVC5 rotates in any direction.

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.	N	Attach to Ø	Material	Colour (short)	Article-No.
T50SVC3.5		4.7	155.0	35.0	225	3.45 - 3.55	PA66HS, PA66HIRHS	BK	156-00791
T50SVC4S		4.7	155.0	35.0	225	3.8 - 4.2	PA66HS, PP	BK, NA	156-00318
T50SVC4		4.7	155.0	35.0	222	3.8 - 4.2	PA66HS, PA66HIRHS	BK	156-00447
T50SVCOC10-14		4.7	155.0	35.0	222	10.0 - 14.0	PA66HS, PA66HIRHS	BK	156-00134
T50SVCOC15-18		4.7	155.0	35.0	222	15.0 - 18.0	PA66HS, PA66HIRHS	BK	156-00135
T50SVCOC19-24.5		4.7	155.0	35.0	222	19.0 - 24.5	PA66HS, PA66HIRHS	BK	156-00136
T50SVCOC31-39		4.7	155.0	35.0	222	31.0 - 39.0	PA66HS, PA66HIRHS	BK	156-00273
T50SVCOC39-45		4.7	155.0	35.0	222	39.0 - 45.0	PA66HS, PA66HIRHS	BK	156-00137
T50SMVCOC1014		4.7	210.0	50.0	222	10.0 - 14.0	PA66HS, PA66HIRHS	BK	156-00128
T50SMVCOC15-18		4.7	210.0	50.0	222	15.0 - 18.0	PA66HS, PA66HIRHS	BK	156-00129
T50SMVCOC1924.5		4.7	210.0	50.0	222	19.0 - 24.5	PA66HS, PA66HIRHS	BK	156-00130
T50SMVCOC19-24,5		4.7	210.0	50.0	222	19.0 - 24.5	PA46	GY	156-00577
T50SMVCOC31-39		4.7	210.0	50.0	222	31.0 - 39.0	PA66HS, PA66HIRHS	BK	156-00304
T50SMVCOC39-45SET		4.7	210.0	50.0	222	39.0 - 45.0	PA66HS, PA66HIRHS	BK	156-00131

All dimensions in mm. Subject to technical changes.



2-Piece Fixing Ties with Pipe Clip

Features and Benefits

- For post-installation of additional cables for pre-assembled cable looms
- Variety of twist angles and even different loop directions provide flexibility for cable routing
- For OC1 and 2A additional cable tie dimensions are available
- CBTO-series for cable ties up to 5 mm



EdgeClip CBTO50R, verdrehbar um 90°.

Material specification please see page 30.

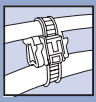
TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.	Attach to Ø	Material	Colour	Article-No.
T30ROC2A		3.6	148.0	31.0	6.5 - 7.5	PA46	Grey (GY)	156-00014
		3.6	148.0	31.0	6.5 - 7.5	PA66HS, PA66HIRHS	Black (BK)	156-00013

All dimensions in mm. Subject to technical changes.

• 2-Piece Fixing Ties with Pipe Clip, twistable 90°

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.	Attach to Ø	Material	Colour	Article-No.
T50ROC15-18CBTO-SD-SET		4.6	202.0	45.0	15.0 - 18.0	PA66HS, PA66HIRHS	Black (BK)	156-00419

All dimensions in mm. Subject to technical changes.



2-Piece Fixing Ties for Heavy Duty Applications, for Screws

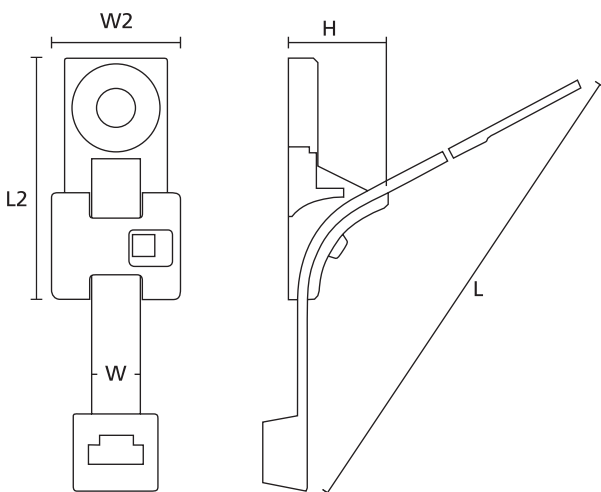
Used in the Automotive and Truck Industry for harness fixing in the engine body, these parts offer solutions in many other industrial applications within difficult environments.

Features and Benefits

- Pre-assembled 2-piece fixing tie
- Cable tie head can be moved after bundling
- Secure alignment to the bundle due to H-design
- A suitable alternative for metal clamps
- Withstands vibrations and displacement forces
- High tightening torque through metal bushing



These HDM can be assembled on either screw or stud.



HDM with cable tie (L = length of the tie 'flat')

**Application tools
please see page 338.**

TYPE	Width (W)	Width (W2)	Length (L)	Length (L2)	Height (H)	Bundle Ø max.	Mounting Screw Type	Material	Colour	Article-No.
T50RHDM6	4.6	20.0	200.0	-	16.0	50.0	M6	PA66HS, PA66HIRHS	Black (BK)	156-00918
	4.6	20.0	200.0	-	16.0	50.0	M6	PA46	Grey (GY)	156-00919
T50RHDM8	4.6	20.0	200.0	-	16.0	50.0	M8	PA66HS, PA66HIRHS	Black (BK)	156-00920
	4.6	20.0	200.0	-	16.0	50.0	M8	PA46	Grey (GY)	156-01251
T120RHDM6	7.6	20.0	390.0	37.5	16.0	105.0	M6	PA66HIRHS	Black (BK)	156-00406
	7.6	20.0	390.0	37.5	16.0	105.0	M6	PA46	Grey (GY)	156-00407
T120RHDM8	7.6	20.0	390.0	37.5	16.0	105.0	M8	PA66HIRHS	Black (BK)	156-00408
	7.6	20.0	390.0	37.5	16.0	105.0	M8	PA46	Grey (GY)	156-00409

All dimensions in mm. Subject to technical changes.



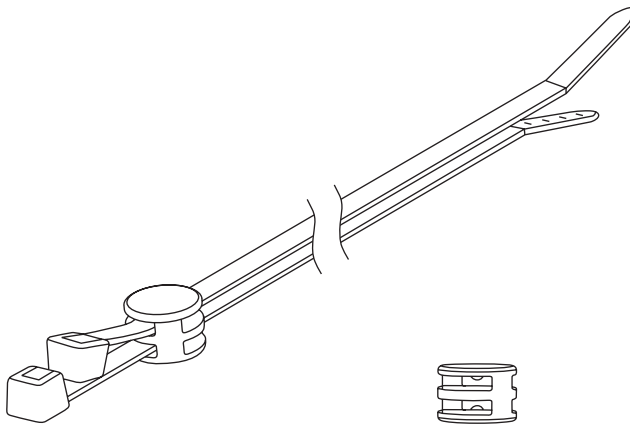
2-Piece Fixing Ties for parallel separation

Features and Benefits

- Pre-assembled 2-piece fixing tie with coupler
- Cable tie head can be moved after bundling
- Easy addition of cables after assembly
- For parallel routing of bundles that can be twisted 90° even after setting



T120RCoupler with two ties



T120RCoupler

Fixing Element - Coupler



T120RCoupler can be used for parallel routing of two cable ties.



The second tie can be used for post-installations.

Material specification please see page 30.

TYPE	Width (W)	Length (L)	Bundle Ø max.	N	Article-No.
T50RCOUPLER	4.6	200.0	47.0	225	156-00276
	4.6	202.0	47.0	225	156-00382
T120RSINGLECOUPLER	7.6	390.0	105.0	535	156-00550
T120RCOUPLER	7.6	390.0	105.0	535	156-00275

All dimensions in mm. Subject to technical changes.



Cable Ties for single hole application (Chassis Tie)

Using a single hole these 'chassis ties' are widely used in the automotive, truck and heavy equipment markets. Ideal for applications which have access to both sides of the hole - for example truck frames.

Features and Benefits

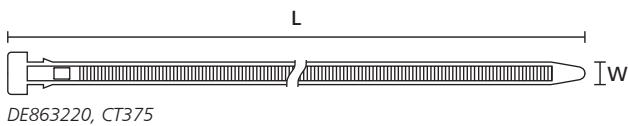
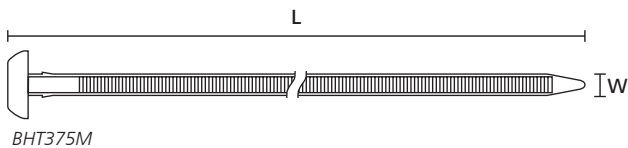
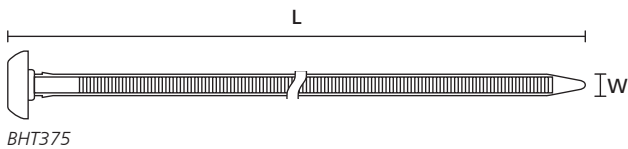
- Both sides of the cable tie serrated
- BHT-Series with round head for larger bearing area
- BHT375 for centred position
- CT- and DE-Series with small squared head for restricted space areas
- Tensioning with application tool

Application tools
please see page 338.

Material specification
please see page 30.



BHT375 - used for mounting cables via a single hole.



TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.	N	Material	Colour	Article-No.
BHT375		7.6	375.0	100.0	700	PA66HS	Black (BK)	150-37595
BHT375M		7.6	375.0	100.0	700	PA66HS	Black (BK)	150-47595
DE863220		6.0	300.0	80.0	135	PA66HS	Black (BK)	132-00200
CT375		7.6	375.0	100.0	700	PA66HS	Black (BK)	132-37540

All dimensions in mm. Subject to technical changes.



1-Piece Fixing Ties with rivet, releasable

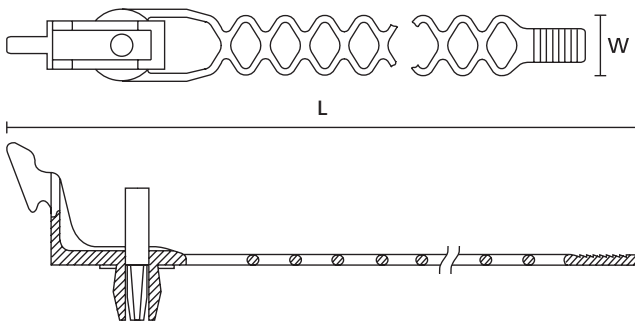
Offering a very secure fixing, particularly in applications suffering from vibration these rivet fixing ties are simple and quick to install. Designed originally for the automotive industry they are now widely used in many industries as diverse as Agriculture and Ship building.

Features and Benefits

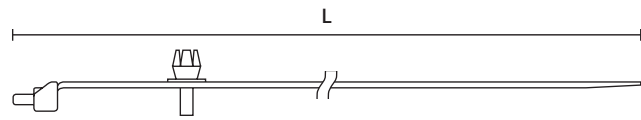
- Simple to install with wings to lock ties firmly in place
- Releasable and reusable
- RELF and RI ranges are conventional 'serrated' cable ties
- FBR range has a 'ladder-type' design for a very flexible strap



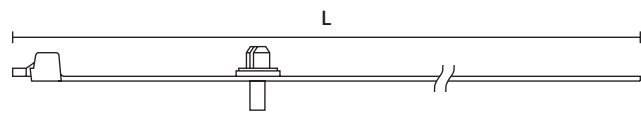
Fixing ties with rivet for especially safe fixing.



Fixing ties type FBR



Fixing ties type RI



Fixing ties type RELF

TYPE	Width (W)	Length (L)	Height (H)	Bundle Ø max.	N	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
RI 80	7.0	80.0	-	16.0	265	6.9 - 7.1	0.8 - 2.2	PA12	Black (BK)	131-14080
RELF170	8.0	180.0	18.0	44.0	225	6.3	2.5 - 2.5	PA66HIR	Black (BK)	115-40902
RI 120	9.0	120.0	-	28.0	265	6.9 - 7.1	0.8 - 2.2	PA12	Black (BK)	131-14120
RI 160	9.0	160.0	-	41.0	265	6.9 - 7.1	0.8 - 2.2	PA12	Black (BK)	131-14160
FBR6/140	12.0	158.0	26.0	42.0	-	6.2 - 6.5	0.8 - 2.5	PA66	Black (BK)	150-27140

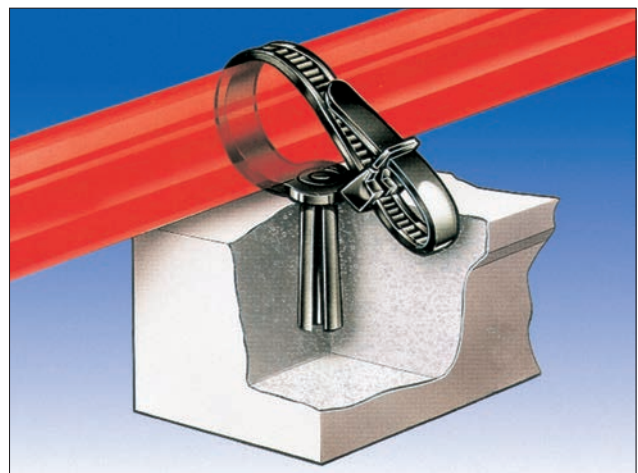
All dimensions in mm. Subject to technical changes.

1-Piece Fixing Ties with rivet, releasable

Simply drill an 8 mm hole and knock in the peg. Used to fasten cables, pipes or hoses in place.

Features and Benefits

- One-piece for fixing to brick, cement or wood
- Practical for the construction industry
- Time saving and versatile
- Depth of drill hole: 13.0 mm



Wall plug tie in application.

TYPE	Width (W)	Length (L)	Bundle Ø max.	Hole Ø (FH)	Material	Colour	Article-No.
WPT230	8.0	230.0	59.0	8.0	PA66HIR	Black (BK)	126-00020

All dimensions in mm. Subject to technical changes.

Information and installation instructions for self-adhesive mounting bases

HellermannTyton uses two different types of adhesives for self-adhesive bases: acrylate and synthetic rubber. These differ in the operating temperature range and the 'pull off' force of the adhesive. Synthetic rubber has an excellent initial grip, allowing for almost immediate use. Acrylate adhesive has less initial grip, so there is a need to wait for a few hours before use, but has a higher 'pull off' force than synthetic rubber. This enables a permanent fixing lasting months

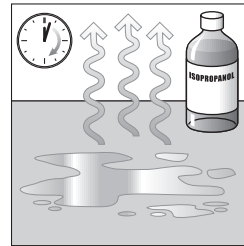
or even years. To use these adhesives the surface must be dry, and free of dust, oil, oxides, parting agents and other impurities. For this the use of isopropane/water (50/50) is recommended. After cleaning allow the surface to dry completely. Peel off the protective backing on the self-adhesive base, ensuring the adhesive is not touched. Apply the part to the surface and press down firmly for several seconds.

ADHESIVE		Adhesive Operating Temperature
Synthetic rubber with base of polyethylene foam	Synthetic rubber	-20 °C to +50 °C
		-40 °C to +60 °C
Acrylate with base of polyurethane foam	Acrylate	to +105 °C
Acrylate with base of acrylic foam	mod. Acrylate	-40 °C to +90 °C

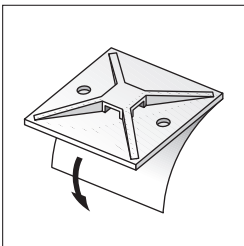
Instructions for use



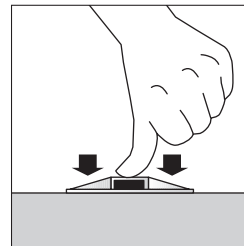
1. The surface must be dry, free from dust, oil, oxides, parting agents and other impurities. The surface to be glued should be cleaned using a clean cloth and isopropanol /water (50/50). When using other appropriate cleaning agents, ensure that they do not attack the surface nor leave any residues.



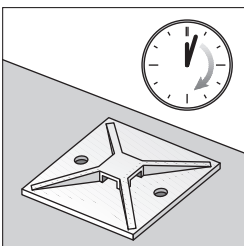
2. After cleaning allow the surface to air-dry completely.



3. Peel off protective backing and ensure the adhesive area is not touched.

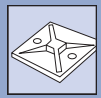


4. Press down firmly on the base with the thumbs for several seconds.



5. Depending on the type of adhesive, wait for several minutes (synthetic rubber) or hours (acrylate) so that the adhesive can bond completely with the surface.

We will be happy to send you on request an up-to-date technical datasheet for whichever adhesive you are using.



Fixing Parts with Special Adhesive

- **SolidTack-Series**

These products work on varnished and powder coated surfaces as used in the railway, aviation or automotive industry. They can also be used on plastic covers, cases and parts as used in a variety of other industries.

Features and Benefits

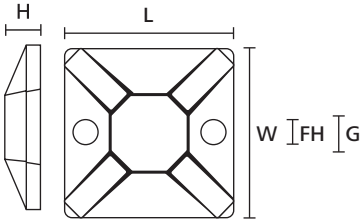
- MB mounts with homogeneous system of acrylic adhesive
- Very good initial adhesion, increases with time
- High cohesive strength combined with good weathering resistance
- Innovative fixing solution for low energy surfaces like PP, PE or painted / varnished surfaces
- Protective, easy peel backing



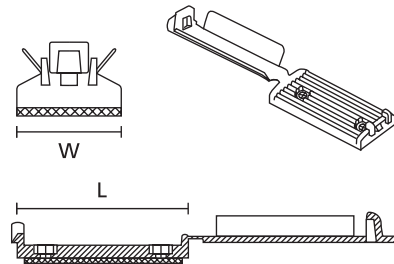
SolidTack products work on varnished and powder coated surfaces.

Material specification please see page 30.

For more information on the types of adhesive please see page 118.



Cable Tie Mounts MB3, MB4, MB5



Flat Ribbon Cables FKH Series

TYPE	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	For Cable Width max.	Material	Colour	Adhesive	Pack Cont.	Article-No.
MB3APT	19.0	19.0	3.8	3.1	4.1	-	PA66	Black (BK)	mod. Acrylate	100	151-00432
	19.0	19.0	3.8	3.1	4.4	-	PA66	Natural (NA)	mod. Acrylate	100	151-00514
MB4APT	28.0	28.0	4.7	4.0	5.4	-	PA66	Black (BK)	mod. Acrylate	100	151-00433
	28.0	28.0	4.7	4.0	5.6	-	PA66	Natural (NA)	mod. Acrylate	100	151-00587
MB5APT	38.0	38.0	6.3	4.7	10.0	-	PA66	Black (BK)	mod. Acrylate	100	151-00434
FKH50AVHB	25.0	56.5	-	3.1	-	50.0	PA66HIR	Black (BK)	mod. Acrylate	100	151-00312
FKH80AVHB	25.0	86.0	-	3.1	-	80.0	PA66HIR	Black (BK)	mod. Acrylate	100	151-00313

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



Self Adhesive, Screw Fixing Cable Tie Mounts

- MB-Series Square-Cut, self adhesive, screwable

Where speed, simplicity and a firm fixing base are required these self adhesive clips are ideal. Particularly suitable for use in control cabinets, telecoms equipment or domestic appliances where the use of holes, screws or nuts and bolts are impractical or undesirable.

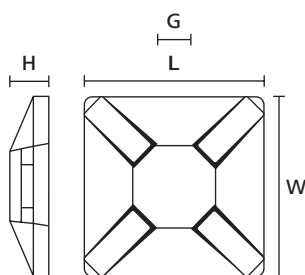
Features and Benefits

- Screw or self-adhesive versions
- Simple to install with a screw or bolt
- Excellent security, particularly in areas of high vibration
- Maximum adhesive surface area to achieve high pull-off force
- 4-way entry for cable tie for quicker and more flexible installation

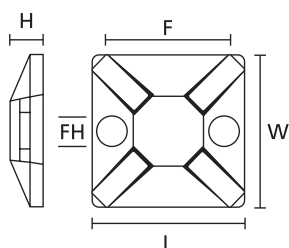


Cable Tie Mounts MB and TY.

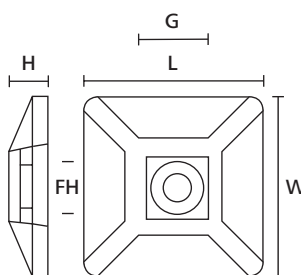
For more information on the types of adhesive please see page 118.



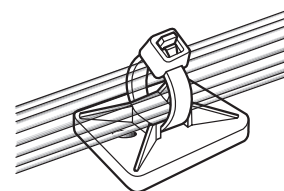
Cable Tie Mounts MB2A



Cable Tie Mounts MB3-5(A)



Cable Tie Mounts MB4CA



Cable Tie Mounts MB3A

TYPE	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Adhesive	Pack Cont.	Article-No.
MB2A	13.0	13.0	4.1	-	2.7	PA66	Natural (NA)	Synthetic rubber	100	151-01802
MB3A	19.0	19.0	3.8	3.1	4.1	PA66	Black (BK)	Synthetic rubber	100	151-28320
	19.0	19.0	3.8	3.1	4.1	PA66	Natural (NA)	Synthetic rubber	100	151-28349
MB4A3	28.0	28.0	4.7	4.0	5.4	PA66	Black (BK)	Acrylate	100	151-28430
MB4A	28.0	28.0	4.7	4.0	5.4	PA66	Black (BK)	Synthetic rubber	100	151-28412
	28.0	28.0	4.7	4.0	5.4	PA66	Natural (NA)	Synthetic rubber	100	151-28469
MB4CAS	29.0	29.0	5.7	4.2	5.4	PA66	Natural (NA)	Synthetic rubber	100	151-28449
MB4CA	29.0	29.0	5.7	4.2	5.4	PA66	Natural (NA)	Synthetic rubber	100	151-28459
MB5A	37.7	37.7	7.1	4.8	8.9	PA66	White (WH)	Synthetic rubber	100	151-28529
MB5A3	38.0	38.0	6.4	4.7	10.0	PA66	Black (BK)	Acrylate	100	151-28530

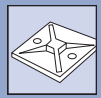
All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

- 2-Piece Fixing Tie with Cable Tie Mount

TYPE	Description	Material	Colour	Article-No.
T30ROSMB3A	T30ROS Cable Tie with Cable Tie Mount MB3A	PA66HS, PA66	Black (BK)	156-00317

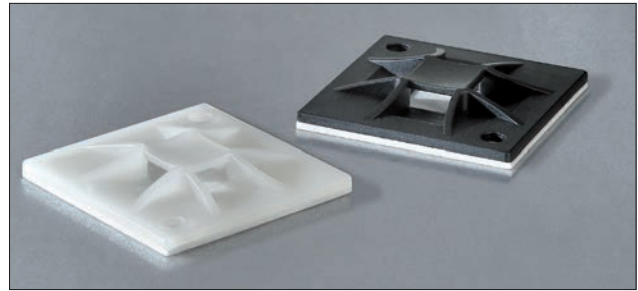
All dimensions in mm. Subject to technical changes.



Q-Series

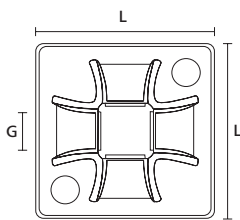
Features and Benefits

- Screw or self adhesive versions
- Perfect for combination with Q-ties
- 4-way entry for Q-tie
- Adhesive with high pull-off force
- Q-Mount base secures the Q-tie in a vertical position, leaving the hands free to apply cables



Q-mount QM, 4-way entry, adhesive, screwable.

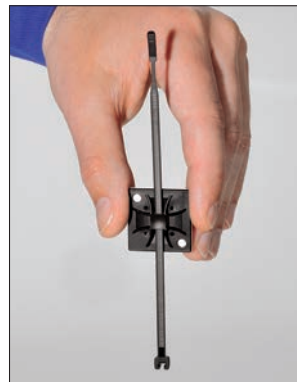
Please find more Q-Series products for your system solution on page 50 and 300.



Mounting Base Q-mount



Mounting Base Q-mount



The Q-mount base locks the Q-tie in vertical position, leaving the hands free to apply the cables.



One Step to the Web!

• Q-mount Series QMA, self adhesive, screwable

TYPE	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Adhesive	Pack Cont.	Article-No.
QM20A	20.0	20.0	3.7	3.1	4.0	PA66	Black (BK)	Synthetic rubber	100	151-10914
	20.0	20.0	3.7	3.1	4.0	PA66	Natural (NA)	Synthetic rubber	100	151-10904
QM30A	30.0	30.0	4.5	4.1	5.1	PA66	Black (BK)	Synthetic rubber	100	151-10915
	30.0	30.0	4.5	4.1	5.1	PA66	Natural (NA)	Synthetic rubber	100	151-10905
QM40A	40.0	40.0	5.5	4.1	8.4	PA66	Black (BK)	Synthetic rubber	50	151-10916
	40.0	40.0	5.5	4.1	8.4	PA66	Natural (NA)	Synthetic rubber	50	151-10906

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.

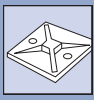
Material specification please see page 30.

• Q-mount Series QM, screwable

TYPE	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
QM20	20.0	20.0	3.7	3.1	4.0	PA66	Natural (NA)	100	151-10901
	20.0	20.0	3.7	3.1	4.0	PA66	Black (BK)	100	151-10911
QM30	30.0	30.0	4.5	4.1	5.1	PA66	Natural (NA)	100	151-10902
	30.0	30.0	4.5	4.1	5.1	PA66	Black (BK)	100	151-10912
QM40	40.0	40.0	5.5	4.1	8.4	PA66	Natural (NA)	50	151-10903
	40.0	40.0	5.5	4.1	8.4	PA66	Black (BK)	50	151-10913

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



Paste Adhesive Mount

- PMB5

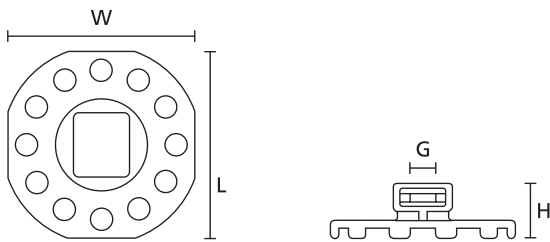
The PMB5 mount offers a fixing solution for applications where a screw fixing is not possible. Due to a larger diameter the mount can even be installed onto uneven surfaces. PMB5 mounts are used in the railway industry as well as in the renewable energy industry. Further applications can be seen in the ship building and electrical industries and the production of switching cabinets.

Features and Benefits

- PMB5 paste adhesive mount for fixings with paste / liquid adhesive
- Mount geometry offers a good form closure with cured adhesive
- Can even be installed onto uneven surfaces due to large diameter
- Can also be applied in combination with hot-melt adhesive, as mount is made of heat resistant PA66



PMB5 mount with paste adhesive.

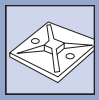


PMB5

TYPE	Width (W)	Length (L)	Height (H)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
PMB5	36.0	36.0	10.7	4.8	PA66HS	Black (BK)	100	151-00498

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



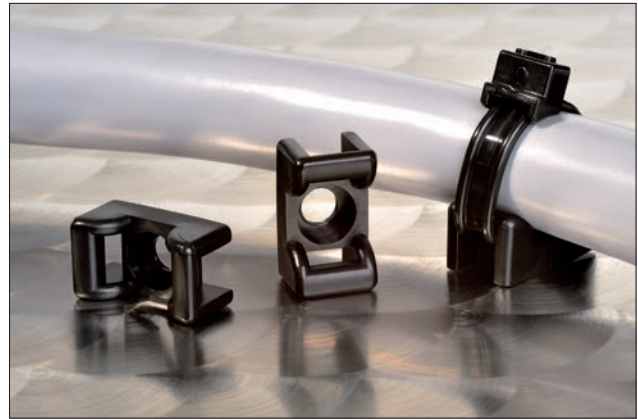
Screw Fixing Mounts

- with curved design

Designed specifically for holding heavier cable bundles these mounting bases can be used in many industries from agriculture to truck manufacture. They offer a very secure fixing and can be used with a wide variety of heavy duty cable ties up to 7.6mm wide.

Features and Benefits

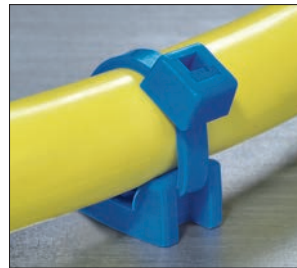
- Curved design for additional cable support
- Simple to install with a screw or bolt
- Excellent security, particularly in areas of high vibration



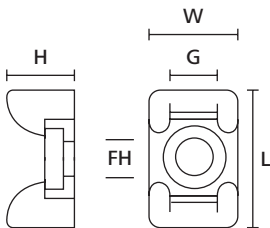
Cable Tie Mounts KR6G5, KR8G5 and CTM.

Material specification please see page 30.

The KR-E/TFE mounts can ideally be combined with the E/TFE-cable ties on page 40.



Fixing Tie Mount KR6G5-E/TFE.



Cable Tie Mounts KR6G5, KR8G5 and CTM

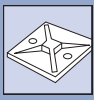
TYPE	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
KR6G5	11.8	17.8	8.8	4.5	6.4	E/TFE	Blue (BU)	100	151-00653
	12.0	18.0	9.0	4.5	6.0	PA66	Natural (NA)	100	151-24619
	12.0	18.0	9.0	4.5	6.0	PA66W	Black (BK)	100	151-24660
KR8G5	14.3	24.8	12.1	6.5	8.3	E/TFE	Blue (BU)	100	151-00654
	14.5	25.0	12.0	6.5	8.0	PA66	Natural (NA)	100	151-24819
	14.5	25.0	12.0	6.5	8.0	PA66HS	Black (BK)	100	151-24850
CTM3	15.5	21.8	9.4	5.1	7.9	PA66	Black (BK)	100	151-30600
	15.5	21.8	9.4	5.1	7.9	PA66	White (WH)	100	151-30605

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



For product specific approvals and specifications please refer to the Appendix.



Screw Fixing Mounts

- For applications where space is limited

Each of these products offer particular benefits, but all are designed for simple, yet robust, installation in a wide variety of applications. Particularly used in telecoms equipment, switchgear and control cabinets.

Features and Benefits

- Suitable for applications with minimal space
- Mounted before cable installation and in line with cable
- CTAM has 4-way entry design for use in line or at 90° angle to cable run



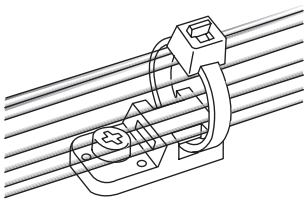
Peek Fixing solution PEEK containing of CTAM und PT2A.

Material specification please see page 30.

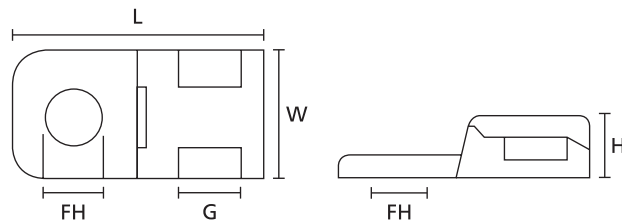
The CTAM mounts made of PEEK are the ideal complement for the PEEK tie on page 61.



One Step to the Web!



Cable Tie Mounts CTAM1/CTAM2



TYPE	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
CTAM1	10.2	20.5	5.5	4.3	4.6	PEEK	Beige (BGE)	100	151-00757
CTAM2	10.2	20.5	5.5	5.2	4.6	PEEK	Beige (BGE)	100	151-00758

All dimensions in mm. Subject to technical changes.
 Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



Harness Clip for Heavy Duty Applications, for Screws or Studs

Primarily designed for use in the automotive / truck industry, these parts can be used in a wide variety of industries and applications where bundles need mounting.

Features and Benefits

- Secure alignment to the bundle due to H-design
- Pre-fixing of clip with integrated nose (standard types)
- For cable ties up to 12.7 mm wide
- High tightening torque through metal bushing
- Easy maintenance of bundle by simply changing the cable tie



U.S. Patent Number 5,820,083.

• Standard Torque Mounts

TYPE	Drawing	Width (W)	Length (L)	Material	Colour	Article-No.
HDM25		19.0	35.8	PA66HIRHSUV	Black (BK)	151-00437
HDM19		19.3	36.3	PA66HIRHS	Black (BK)	151-00134
HDM312		19.3	36.3	PA66HIRHSUV	Black (BK)	151-00439

All dimensions in mm. Subject to technical changes.

• Medium Torque Mounts

TYPE	Drawing	Width (W)	Length (L)	Material	Colour	Article-No.
HDM501		24.0	46.0	PA66HIRHSUV	Black (BK)	151-07500
HDM321		24.0	46.0	PA66HSW	Black (BK)	151-07100

All dimensions in mm. Subject to technical changes.



Harness Clip for Heavy Duty Applications, for Screws or Studs

• High Torque Mounts (metal bushing)

TYPE	Drawing	Width (W)	Length (L)	Material	Colour	Article-No.
HDM320		25.0	47.0	PA66HIRHSUV	Black (BK)	151-07000
HDM400		25.0	47.0	PA66HIRHSUV	Black (BK)	151-07200
HDM500		25.0	47.0	PA66HIRHSW	Black (BK)	151-07400

All dimensions in mm. Subject to technical changes.

• High Torque Double Mounts (metal bushing)

TYPE	Drawing	Width (W)	Material	Colour	Article-No.
HDM375BDM4W		34.5	PA66HIRHSW	Black (BK)	151-00756

All dimensions in mm. Subject to technical changes.

Screw Fixing Mounts

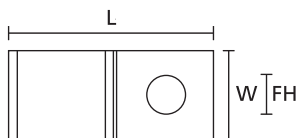
• Stainless Steel 316 mounts for MBT Ties

Features and Benefits

- 2-way fixing for MBT-S and MBT-H ties
- High performance stainless steel 316 material
- 10mm slot width
- Single 4mm, 5mm or 6mm fixing hole
- Heavy duty design
- Robust and durable solution
- Resistant to a range of materials and conditions
- Quick and easy to install
- Safe and secure solution for cables, tubing, conduits and pipes
- Ideal for a range of industries and applications



Stainless Steel P-mount SSPC.



SSPC-Series

The SSPC-Mounts can ideally be combined with the MBT cable ties on page 68.



One Step to the Web!

TYPE	Length (L)	Width (W)	Height (H)	Hole Ø (FH)	Strap Width max. (G)	Material	Colour	Pack Cont.	Article-No.
SSPC4	23.0	10.2	4.5	4.2	10.0	SS316	Metal (ML)	100	151-00837
SSPC5	23.0	10.2	4.5	5.3	10.0	SS316	Metal (ML)	100	151-00838
SSPC6	23.0	10.2	4.5	6.3	10.0	SS316	Metal (ML)	100	151-00839

All dimensions in mm. Subject to technical changes.

Minimum Order Quantity (MOQ) may differ from package content. Other packaging options may also be available.



Harness Clip for Heavy Duty Applications, for Screws or Studs, for parallel separation

This heavy duty harness clip helps to fix and secure cable and wires in railway, truck and agriculture vehicle construction as well as in ship building.

Features and Benefits

- For parallel routing of bundles
- Secure alignment to the bundle due to H-design
- Cable tie head can be moved after bundling
- For cable ties up to 12.7 mm wide
- Easy maintenance of bundle by simply changing the cable tie



This saddle mount is installed between two bundles to separate them and prevent chafing and wear.

Material specification please see page 30.

TYPE	Width (W)	Length (L)	Bundle Ø max.	Material	Colour	Article-No.
S2CM25	30.0	45.0	89.0	PA66HIRHS	Grey (GY)	151-29400
S2HM25	30.0	45.0	89.0	PA66HIRHSUV	Black (BK)	151-29403

All dimensions in mm. Subject to technical changes.

Harness Clip for Heavy Duty Applications, for Screws or Studs for Edges

This heavy duty harness clip helps to fix and secure cable and wires in railway, truck and agriculture vehicle construction as well as in ship building.

Features and Benefits

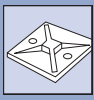
- Guides bundles securely above sharp edges
- For bolts or screws of D = 8 mm
- Cable tie head can be moved after bundling
- Secure alignment to the bundle due to H-design
- For cable ties up to 12.7 mm wide



Axial oval mounts stand off bundles from frame rails and cross members to prevent them from rubbing and chafing.

TYPE	Width (W)	Length (L)	Material	Colour	Article-No.
SAM83	26.0	34.0	PA66HIRHS	Grey (GY)	151-29600
SAOM82	26.0	34.3	PA66HIRHSUV	Black (BK)	151-29701

All dimensions in mm. Subject to technical changes.

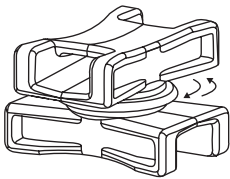


Fixing elements for Parallel Routing, twistable

These fixing element for parallel routing can be used where bundles need separation from each other combined with the necessary functionality to support moving harnesses.

Features and Benefits

- For parallel routing of bundles that can be twisted 360° even after setting
- Secure alignment to the bundle due to H-design
- Cable tie head can be moved after bundling
- For cable ties up to 12.7 mm wide
- For post-installation of bundles



swivels

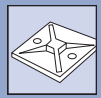


The spacers can be easily rotated by hand, allowing the bundles to be crossed and rotated at any angle.

**Material specification
please see page 30.**

TYPE	Width (W)	Length (L)	Bundle Ø min.	Bundle Ø max.	Material	Colour	Pack Cont.	Article-No.
DSWS4	20.3	23.6	6.0	76.0	PA66HS, POM	Black (BK)	2200	151-06500
DSWS5	25.4	40.6	16.0	152.0	PA66HS	Black (BK)	50	151-06502

All dimensions in mm. Subject to technical changes.

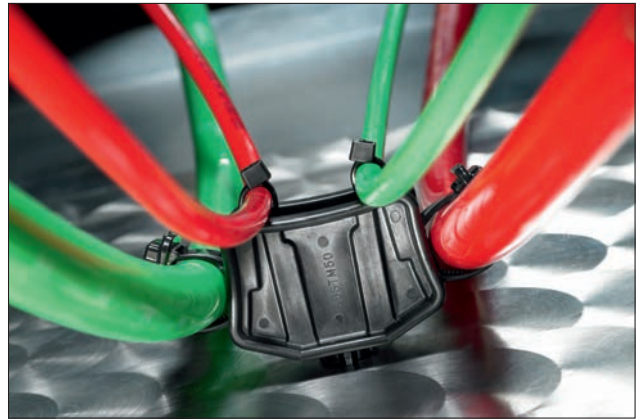


Fixing Elements with Fir Tree, for Distance Routing

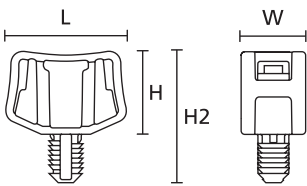
With its heavy duty fixing ability this product offers excellent performance for the truck, ship and construction vehicle industries.

Features and Benefits

- For parallel routing of four bundles
- Secure alignment to the bundle due to H-design
- For cable ties up to 12.7 mm wide
- Pre-fixing of tie with integrated nose



The mount can secure up to 4 separate bundles, providing parallel spacing between the frame rail and adjacent bundles.



Fir Tree Saddle Mounts

TYPE	Width (W)	Length (L)	Bundle Ø max.	Height (H)	Height (H2)	Hole Ø (FH)	Material	Colour	Pack Cont.	Article-No.
S3STM50	22.0	50.0	127.0	35.0	55.0	12.7	PA66HIRHS	Black (BK)	100	151-29500

All dimensions in mm. Subject to technical changes.

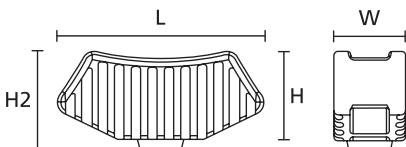
Fixing Elements for BHT-Ties for Distance Routing

Features and Benefits

- For parallel routing of three bundles
- Retainer is fixed in the hole with BHT-tie
- Socket centres retainer in the hole and can protect tie from sharp edges



Saddle Mount MSBT120.



MSBT120

TYPE	Width (W)	Length (L)	Height (H2)	Panel Thickness	Material	Colour	Pack Cont.	Article-No.
MSBT120	16.5	48.3	22.2	4.1	PA66HIRHSUV	Black (BK)	500	151-29301

All dimensions in mm. Subject to technical changes.



Arrowhead Cradle

- SFC

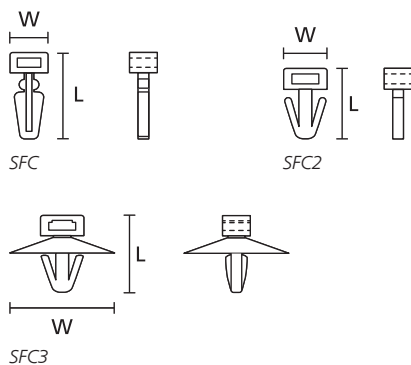
Offering simple and easy methods of securing cables or pipes these fixing accessories have many applications within a wide range of industries.

Features and Benefits

- Arrowhead fixing for use in pre-drilled or punched holes
- SFC and SFC2 for ties up to 5.3 mm wide
- SFC3 for ties up to 8.6 mm wide



Securely fix and route cables and pipes with SFC3.



**Material specification
please see page 30.**

TYPE	Width (W)	Length (L)	Hole Ø (FH)	Panel Thickness	Strap Width max. (G)	Material	Colour	Article-No.
SFC2	6.0	14.5	6.0	0.8 - 1.0	5.3	PA66	Natural (NA)	151-02000
SFC	11.0	18.0	6.0	3.0 - 3.2	5.3	PA66	Natural (NA)	151-01600
SFC3	22.0	15.5	6.3	0.8 - 1.8	8.6	PA66	Black (BK)	151-01906
	22.0	15.5	6.3	0.8 - 1.8	8.6	PA66	Natural (NA)	151-01909

All dimensions in mm. Subject to technical changes.

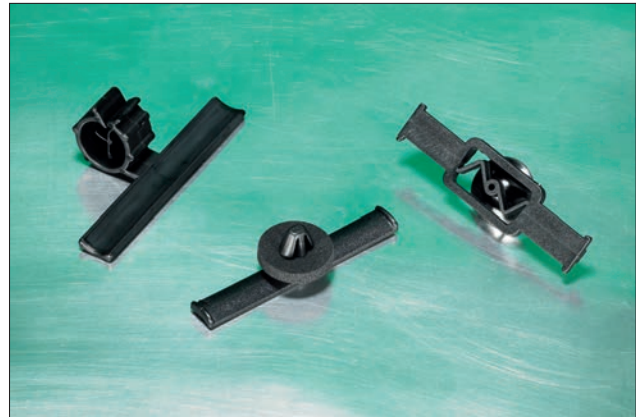


Bundling Clips with Arrowhead

Originally designed for the Automotive industry, these clips offer simple and easy methods of securing cable hoses or pipes. They have many applications within a wide range of industries.

Features and Benefits

- Easy to install without the need for a tool
- Cable tie head always situated in defined position
- Arrowhead simply locks into place
- Disc adjusts tie for pressure from various directions and minimises access of dust, dirt and water
- ATS fixing elements can be tied automatically with the ATS3080 tool
- Variants with pipe clips allow the addition of cables after installation



BundlingClip with OmegaClip, BundlingClip with foam, BundlingClip LRJ1.

• Bundling Clips with Arrowhead

TYPE	Drawing	Length (L)	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
LRJ1		55.0	6.2 - 6.7	0.7 - 2.0	PA6	Black (BK)	151-08101
BCSFT6.5 16-3		55.0	6.3 - 6.7	2.3 - 3.5	PA66HIRHS	Black (BK)	151-00431
ATSBCSFT6.5		39.0	6.3 - 6.7	2.3 - 3.3	PA66HIRHS	Black (BK)	102-69066

All dimensions in mm. Subject to technical changes.

• Bundling Clips with Arrowhead, sealed

TYPE	Drawing	Length (L)	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
BCSFT6.5 16-3MD		55.0	6.5	1.5 - 3.0	PA66HIRHS	Black (BK)	155-11601
ATSBCSFT6.5-MD		39.0	6.3 - 6.7	2.0 - 3.0	PA66HIRHS	Black (BK)	102-69065

All dimensions in mm. Subject to technical changes.

• Bundling Clips with additional Harness Clip

TYPE	Drawing	Length (L)	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
OCTC1		60.0	-	-	PA66HIRHS	Black (BK)	151-00447
Halter SFT6.5		60.0	6.3 - 6.7	0.6 - 1.5	PA66HIRHS	Black (BK)	133-00067

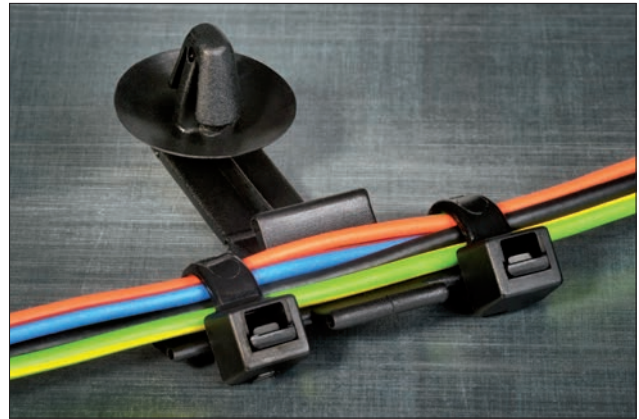
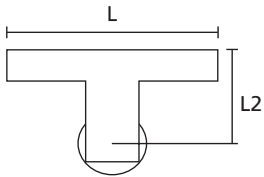
All dimensions in mm. Subject to technical changes.



Bundling Clips with Arrowhead for Distance Routing

Features and Benefits

- Easy to install without the need for a tool
- Arrowhead simply locks into place
- Disc adjusts tie for pressure from various directions and minimises access of dust, dirt and water
- Versions for oval holes feature anti-twist protection



StandOff Clips allow cable looms to be routed at a set distance from the punched holes.

TYPE	Drawing	Length (L)	Length (L2)	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
SOC30D6MD		50.0	36.0	6.4- 7.0	0.7 - 1.2	PA66	Natural (NA)	151-01159
CH20D6		50.0	20.0	6.4 - 7.0	0.6 - 1.4	PA66HS	Black (BK)	151-00077
CH20D7		50.0	20.0	7.0	0.8 - 1.6	PA66	Black (BK)	151-02600
SOC10D6		36.0	17.7	6.2-7.0	0.7 - 1.8	PA66	Grey (GY)	151-01220
STAND-OFF-CLIP-2		36.0	17.7	6.2-7.0	0.7 - 1.8	PA66	Natural (NA)	151-01221
STAND OFF CLIP		40.0	25.0	6.5 - 6.8	0.4 - 1.6	PA66HIR	Black (BK)	155-01600
		40.0	31.0	6.5 - 6.8	0.4 - 1.6	PA46	Grey (GY)	150-45398
		40.0	31.0	6.5 - 6.8	0.4 - 1.6	PA66HIRHS	Black (BK)	150-45397

All dimensions in mm. Subject to technical changes.

Bundling clips moveable, with fixing

Features and Benefits

- Easy to install without the need for a tool
- Horizontal length tolerance compensation
- Ideal if holes do not fit registration or bundles need to be routed around corners



The CHA2 with fir tree base and length tolerance compensation for precise cable routing even in difficult conditions.

• CHA1 with arrowhead

TYPE	Drawing	Width (W)	Length (L)	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
CHA1		6.0	54.0	6.3 - 7.0	0.5 - 1.2	PA66HS	Black (BK)	150-08110

All dimensions in mm. Subject to technical changes.

• CHA2 with fir tree

TYPE	Drawing	Width (W)	Length (L)	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
CHA2		6.0	54.0	6.5 - 7.0	0.8 - 2.0	PA66	Black (BK)	151-02901

All dimensions in mm. Subject to technical changes.



Bundling Clips with Fir Tree

Widespread use in cable harness production; a quick and easy means of fixing cables and lines securely in various parts of cars.

Features and Benefits

- Easy to install without the need for a tool
- One fir tree foot part can be used for a variety of panel thicknesses
- Suitable for use within threaded holes
- Holding tabs prevent the tie slipping sideways
- Versions for oval holes feature anti-twist protection

Material specification please see page 30.



BundlingClips with fir tree bases for a variety of applications with a wide range of metal thicknesses and drill holes.

TYPE	Drawing	Length (L)	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
TC5FT6S		37.0	6.4 - 7.1	0.8 - 1.5	PA66HIRHS	Black (BK)	150-95500
TC3FT6S		37.0	6.5 - 7.0	0.8 - 1.5	PA66HIRHS	Black (BK)	151-00028
TC30FT6LG		36.0	6.3 - 7.0	0.7 - 5.1	PA66	Black (BK)	151-00884
TC4FT6LG		37.0	6.3 - 7.0	0.6 - 5.1	PA66HIRHS	Black (BK)	151-00215
TC4FT6LGD		37.0	6.3 - 7.0	0.6 - 5.1	PA66HIRHS	Black (BK)	151-00487
TC4FT6LG-A		37.0	6.3 - 7.0	0.6 - 5.1	PA66HIRHS	Natural (NA)	151-00467
TC2FT6LG		55.0	6.3 - 7.0	0.6 - 5.1	PA66HIRHS	Black (BK)	155-30802
		55.0	6.3 - 7.0	0.6 - 5.1	PA66HIRHS	Natural (NA)	151-00020
TCDSFT6-HEX		40.0	6.3	0.8 - 4.5	PA66HIRHS	Black (BK)	155-39002
CHDP66		40.0	6.6	0.8 - 4.5	PA66	Black (BK)	150-07010
BCFT6XL56		56.0	6.3 - 7.0	0.7 - 9.0	PA66HIRHS	Black (BK)	151-00662
ATSBCFT6LG		39.0	6.3 - 7.0	0.6 - 5.1	PA66HIRHS	Black (BK)	102-67065
BCOWFT6M		27.3	-	0.6 - 3.5	PA66HIRHS	Natural (NA)	151-00790
BCOWFT5		24.9	4.9 - 5.1	2.9 - 3.1	PA66HIRHS	Black (BK)	151-00904

All dimensions in mm. Subject to technical changes.

Bundling Clips with Fir Tree, for Oval Holes

TYPE	Drawing	Length (L)	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
TC50FT62122		50.0	6.2 x 12.2	0.7 - 3.0	PA66	Black (BK)	151-00883
TCOP62x122		55.0	6.2 x 12.2	0.6 - 6.0	PA66HIRHS	Black (BK)	151-00605
TCOP70x120		55.0	7.0 x 12.0	0.6 - 6.0	PA66HIRHS	Black (BK)	151-00029
WICKELCLIP-VDS		40.0	6.3 x 9.0	0.6 - 2.5	PA66HIRHS	Black (BK)	155-16301
BCFT63x100S		40.0	6.5 x 10.2	0.6 - 2.5	PA66HIRHS	Black (BK)	151-00759

All dimensions in mm. Subject to technical changes.



Bundling Clips with Fir Tree, for Distance Routing

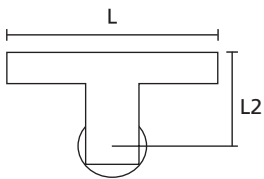
Originally designed for the Automotive industry, these clips offer simple and easy methods of securing cables or pipes and have many applications within a wide range of industries.

Features and Benefits

- Easy to install without the need for a tool
- One fir tree foot part can be used for a variety of panel thicknesses
- Suitable for use within threaded holes
- Disc covers the hole to prevent dirt and water gaining access
- Bundle runs in a set distance to the hole



COW Clip used as tape-on clip.



TYPE	Drawing	Length (L)	Length (L2)	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
COW20DP7		42.0	20.0	6.3 - 7.0	0.8 - 4.5	PA66HS	Brown (BN)	151-03100
COW20T50R		202.0	20.0	6.3 - 7.0	0.8 - 4.5	PA66HS	Black (BK)	156-00581
COW30DP7		42.0	30.0	6.3 - 7.0	0.8 - 4.5	PA66	Black (BK)	151-03200
COW30T50R		202.0	30.0	6.3 - 7.0	0.8 - 4.5	PA66, PA66HS	Black (BK)	156-00641
SOC4 M.FT6		55.0	20.0	6.5 - 7.0	0.7 - 5.1	PA66HIRHS	Black (BK)	155-30902
SOC5FT6LG		55.0	13.0	6.5 - 7.0	0.7 - 5.1	PA66HIRHS	Black (BK)	151-00074
SOC6		55.0	22.0	6.3 - 7.0	0.8 - 3.5	PA66HIRHS	Black (BK)	151-00023
SOC10405		55.0	20.0	6.3 - 6.7	0.7 - 3.5	PA66HIRHS	Black (BK)	151-00282
SOC3-FT6-LG.		12.0	30.0	6.4 - 7.1	0.8 - 6.0	PA66HIRHS	Black (BK)	155-19001
SOC7FT6		56.0	42.5	6.35 - 7.0	0.7 - 5.7	PA66HIRHSUV	Black (BK)	151-00629
SOC8FT6LG		40.0	30.0	6.5 - 7.0	0.7 - 5.8	PA66HIRHS	Black (BK)	151-00665

All dimensions in mm. Subject to technical changes.



Bundling Clips for Weld Studs, moveable

Originally designed for the Automotive industry, these clips offer simple and easy methods of securing cable hoses or pipes. They have many applications within a wide range of industries.

Features and Benefits

- Easy assembly without the need for a tool
- Horizontal length tolerance compensation up to 4.0 mm
- BCUWS5-D5-25: for coarse thread studs
- If connector retainer is a request: TCSB5CYCC
- If post-installation of cables is needed: Bundling clip SB5
- For defined distance of bundles to surface: BCOS variants



TCSB5CYCC: Tapebar, Stud Retainer and ConnectorClip in just one article.

**Material specification
please see page 30.**

• Bundling Clips for Weld Studs, moveable

TYPE	Drawing	Stud Ø	Length (L)	Material	Colour	Article-No.
WICKELCLIP-SB5		5.0	60.0	POM	Black (BK)	155-23701
TC-SB5C		5.0	55.0	PA66HS	Black (BK)	151-26101
TCSB5CYCC		5.0	55.0	PA66HIRHS	Black (BK)	151-00484
BCUWS5-D5-25		5.0	50.0	PA66HIRHS	Natural (NA)	151-00851

All dimensions in mm. Subject to technical changes.

• Bundling Clips for Weld Studs

TYPE	Drawing	Stud Ø	Length (L)	Material	Colour	Article-No.
BCO55		5.0	59.0	PA66HIRHS	Black (BK)	151-00664
BCOS10305		6.0	59.0	PA66HIRHS	Black (BK)	151-00281

All dimensions in mm. Subject to technical changes.

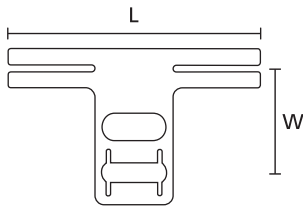


Bundling Clips, Flat, for Weld Studs, moveable

The BC series is proving very popular in the automotive industry as a means of installing cable sets easily in various areas of the vehicle.

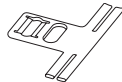
Features and Benefits

- Very flat bundling clip for 5.0 mm weld stud
- Horizontal length tolerance compensation
- Suitable for cables of reduced weight and diameter




The slim line BC series is particularly compact and flexible.

• BC2212 for distance routing 12.0 and 22.0 mm

TYPE	Drawing	Width (W)	Length (L)	Stud Ø	Material	Colour	Article-No.
BC2212		22.0	55.0	5.0	PA66HIRHS	Black (BK)	151-00017

All dimensions in mm. Subject to technical changes.

• BC30 for distance 30.0 mm

TYPE	Drawing	Width (W)	Length (L)	Stud Ø	Material	Colour	Article-No.
BC30		30.0	55.0	5.0	PA66HIRHS	Black (BK)	151-00016

All dimensions in mm. Subject to technical changes.



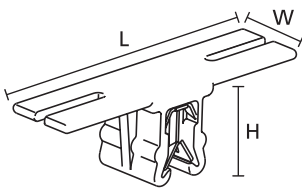
Bundling Clips for Edges

- **EdgeClip-Family**

EdgeClips are used in the automotive and electrical industries and are ideal when it is impossible to drill holes or no other fixing points are available.

Features and Benefits

- Easy assembly without the need for a tool
- Designed for edges of 1 - 3 resp. 1.5 - 4.5 mm
- Integrated metal clamp holds clip firmly in place
- Clamp consists of double tempered steel spring
- ATS fixing elements can be tied automatically with tools ATS3080 and AT2000



EC15



Cables and leads can be fastened with a cable tie or adhesive tape to the bars of the mounting element.

**Material specification
please see page 30.**

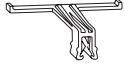
TYPE	Drawing	Width (W)	Length (L)	Height (H)	Panel Thickness	Material	Colour	Article-No.
EC14		10.0	40.0	12.4	1.0 - 3.0	PA66HIRHS	Black (BK)	151-03404
EC15		10.0	40.0	12.4	1.0 - 3.0	PA66HIRHS	Black (BK)	151-03401
EC16		10.0	40.0	13.0	1.0 - 3.0	PA66HIRHS	Black (BK)	151-03402
EC17		10.0	46.5	13.0	1.0 - 3.0	PA46	Grey (GY)	151-00819
		10.0	46.5	13.0	1.0 - 3.0	PA66HIRHS	Black (BK)	151-03403
ATSBCEC35		9.0	39.0	13.2	1.5 - 4.0	PA66HIRHS	Black (BK)	102-68355
ATSBCEC36		9.0	39.0	16.0	1.5 - 4.0	PA66HIRHS	Black (BK)	102-68365
ATSBCEC37		9.0	39.0	14.2	1.5 - 4.0	PA66HIRHS	Black (BK)	102-68375

All dimensions in mm. Subject to technical changes.



Bundling Clips for Edges

- Bundling Clips for Edges, 1.0 - 3.0 mm, for Distance Routing

TYPE	Drawing	Width (W)	Length (L)	Height (H)	Panel Thickness	Material	Article-No.
EC30		9.0	50.0	13.5	1.0 - 3.0	PA66HIRHS	151-00022

All dimensions in mm. Subject to technical changes.

Bundling Clips for Connectors

Originally designed for the Automotive industry, these clips offer simple and easy methods of securing cable hoses or pipes. They have many applications within a wide range of industries.

Features and Benefits


- Bundles are guided above connector plug
- Secure fixing of connector
- For horizontal length tolerance compensation up to 5.0 mm: CONNECTOR CLIP



ConnectorClips designed for cables and cable sets used in the automotive industry.

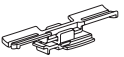
Material specification please see page 30.

- Bundling Clips for Connectors

TYPE	Drawing	Length (L)	Material	Colour	Article-No.
YAZ-CONN-TAPE-CLIP		55.0	PA66HS	Black (BK)	155-31102

All dimensions in mm. Subject to technical changes.

- Bundling Clips for Connectors, moveable

TYPE	Drawing	Length (L)	Material	Colour	Article-No.
CONNECTOR CLIP		55.0	PA66HIRHS	Black (BK)	150-41397

All dimensions in mm. Subject to technical changes.



Connector Clips for round holes

The connector clips used here have been designed for electronic cables and cable sets used in the automotive industry.

Features and Benefits

- Connector easily installed by simply pushing into place
- Connection can be released (non-destructive)
- One fir tree foot part can be used for a variety of panel thicknesses
- Arrowhead simply locks into place
- Disc covers the hole to prevent dirt and water gaining access
- For twist protection: Variants with additional stick or for oval holes



ConnectorClips are available for many different connector types and fixing varieties.

TYPE	Drawing	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
Big YCC TS		6.4 - 7.1	0.7 - 5.1	PA66HIRHS	Black (BK)	151-00235
FT6LG m. AMP-Aufnahme		6.5 - 7.0	0.7 - 6.0	PA66HIRHS	Black (BK)	155-03800
FT6LG.JAE.CONNECT.TS		6.5 - 7.0	0.7 - 5.1	PA66HIRHS	Black (BK)	151-00459
FT6LG.M.St.Aufn.II		6.5 - 7.0	0.8 - 5.0	PA66HIRHS	Black (BK)	155-32602
FT6LG.M.STECKERAUFN.		6.4 - 7.1	0.8 - 6.0	PA66HIRHS	Black (BK)	155-18901
FT6LG.YAZ.Connect.TS		6.4 - 7.1	0.7 - 5.1	PA66HIRHS	Black (BK)	155-30702
FT6S-Y-CONN-TS		6.5 - 7.0	0.8 - 1.5	PA66HIRHS	Black (BK)	155-43702
STECKERHALTER SITZ		6.5 - 7.0	0.6 - 3.0	PA66HIRHS	Black (BK)	155-36002
YCC-FT6-S		6.5 - 7.0	0.8 - 1.5	PA66HIRHS	Black (BK)	155-38102

All dimensions in mm. Subject to technical changes.



Connector Clips for round holes

TYPE	Drawing	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
YCCFT6S-2		6.5 - 7.0	0.8 - 1.5	PA66HIRHS	Black (BK)	151-00606
BIG CONNECTOR CLIP		6.3 - 6.7	0.7 - 2.7	PA66HIRHS	Black (BK)	150-54498
CCFT6LG		6.0 - 6.7	0.7 - 4.0	PA66HIRHS	Black (BK)	151-00785
CCSFT6.5		6.3 - 6.7	1.7 - 2.3	PA66HIRHS	Black (BK)	151-00775
CP6FT6		6.2 - 6.5	0.7 - 5.0	PA6HIR	Black (BK)	151-00162
CP2FT6		6.2 - 6.5	0.7 - 5.0	PA66HIRHS	Black (BK)	151-00216
CP3FT6		6.2 - 6.5	0.7 - 5.0	PA66HIRHS	Black (BK)	151-00163
YCKKSFT6.5		6.3 - 6.7	0.7 - 1.3	PA66HIRHS	Black (BK)	151-00675
CC-PAEKSFT6.5PT1.7-2.3		6.3 - 6.7	1.7 - 2.3	PA66HIRHS	Black (BK)	151-00840
YCKKSFT6.5-PT1.7-2.3		6.5	1.7 - 2.3	PA66HIRHS	Black (BK)	151-00792

All dimensions in mm. Subject to technical changes.



Connector Clips for oval holes

Features and Benefits

- Connector easily installed by simply pushing into place
- Connection can be released (non-destructive)
- Easy to assemble without the need for a tool
- Oval connectors offer twist protection

**Material specification
please see page 30.**



*For a secure fixing simply push the connector by hand
(ConnectorClip YCCFT62x122).*

TYPE	Drawing	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
CCSFT7x12		7.0 x 12.0	0.8 - 2.0	PA66HIRHS	Black (BK)	151-00194
		7.0 x 12.0	0.8 - 2.0	PA66HIRHS	Blue (BU)	151-00595
		7.0 x 12.0	0.8 - 2.0	PA66HIRHS	Grey (GY)	151-00222
CCAMPSFT7.0x12.0		7.0 x 12.0	1.2 - 2.0	PA66HIRHS	Black (BK)	155-43802
YCCSFT62122		6.2 x 12.2	0.6 - 1.0	PA66HIRHS	Black (BK)	151-00513
YCCFT62x122		6.2 x 12.2	0.6 - 6.0	PA66HIRHS	Black (BK)	151-00180
CP21DOP		6.2 x 12.2	0.6 - 5.0	PA66HIRHS	Black (BK)	151-00465
CP31DOP		6.2 x 12.2	0.6 - 5.0	PA66HIRHS	Black (BK)	151-00214
CP61DOP		6.2 x 12.2	0.6 - 5.0	PA66HIRHS	Black (BK)	151-00466
CCII5FT6.5x13		6.5 x 13.0	0.7 - 3.0	PA66HIRHS	Black (BK)	151-00620
CCIVSFT6.5x130		6.5 x 13.0	0.7 - 3.0	PA66HIRHS	Black (BK)	133-00392
YCKSFT62x122PT0.7-1.3 90°		6.2 x 12.2	0.7 - 1.3	PA66HIRHS	Black (BK)	151-00833
YCKSFT62x122PT0.7-1.3		6.2 x 12.2	0.7 - 1.3	PA66HIRHS	Black (BK)	151-00835
YCKSFT62x122PT1.7-2.3 90°		6.2 x 12.2	1.7 - 2.3	PA66HIRHS	Black (BK)	151-00834
YCKSFT62x122PT1.7-2.3		6.2 x 12.2	1.7 - 2.3	PA66HIRHS	Black (BK)	151-00836

All dimensions in mm. Subject to technical changes.



Connector Clips for Edges

• EdgeClip-Family

Edge Clips are used in the automotive and electrical industries for applications where it is impossible to drill holes or no other fixing points are available.

Features and Benefits

- Connectors are mounted simply by pushing them into retainer
- Connector can be removed without damage
- Fastened to an edge, the EdgeClip ensures a snug fit on almost all types of connector



EdgeClip EC6mod.

TYPE	Drawing	Panel Thickness	Material	Colour	Article-No.
Edge-Clip25		1.0 - 3.0	PA66HIRHS	Black (BK)	133-00075
EC28		1.0 - 3.0	PA66HIRHS	Black (BK)	151-00151
EC32		1.0 - 3.0	PA66HIRHS	Black (BK)	151-00173
EC33		1.0 - 3.0	PA66HIRHS	Black (BK)	151-00192
EC42		1.5 - 4.0	PA66HIRHS	Black (BK)	151-00429
EC43		1.5 - 4.0	PA66HIRHS	Black (BK)	151-00430
EC45		1.0 - 3.0	PA66HIRHS	Black (BK)	151-00460

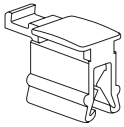
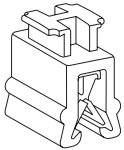
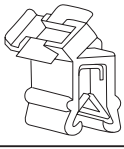
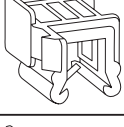
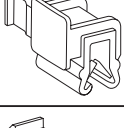
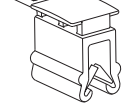
All dimensions in mm. Subject to technical changes.



Connector Clips for Edges

- EdgeClip-Family

Material specification
please see page 30.

TYPE	Drawing	Panel Thickness	Material	Colour	Article-No.
EC6mod		1.0 - 3.0	PA66HIRHS	Black (BK)	151-00464
EC JAE CC		1.0 - 3.0	PA66HIRHS	Black (BK)	151-00472
CCEC3.0TP		1.0 - 3.0	PA66HIRHS	Black (BK)	151-00611
ECC1CPT		3.0 - 6.0	PA66HIRHS	Black (BK)	151-00499
EC11		1.0 - 3.0	PA66HIRHS	Black (BK)	155-40602
CONNECTOR-CLIP EC6		1.0 - 3.0	PA66HIRHS	Black (BK)	150-92600

All dimensions in mm. Subject to technical changes.



Fixing Elements with Arrowhead



These fixing elements can be used in a wide range of applications where space saving work is necessary.

Features and Benefits

- Fixing part with rounded arrowhead to minimise assembly height
- Ideal for applications where space is limited
- Simply clip on a wire or hose
- Bundle diameter is defined
- Suitable for post-installation of bundles



The very low arrowhead is specially designed for narrow installation spaces.


TYPE	Drawing	Height (H)	Attach to Ø	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
KSFT6.5OC1-3		14.4	1.0 - 3.0	6.3 - 6.7	2.3 - 2.7	PA66HIRHS	Black (BK)	151-00673
KSFT6.5 OC 7-9		21.6	7.0 - 9.0	6.3 - 6.7	2.3 - 2.7	PA66HIRHS	Black (BK)	151-00674

All dimensions in mm. Subject to technical changes.

Fixing Elements with Fir Tree

Features and Benefits

- Easy to install without the need for a tool
- Disc covers the hole to prevent dirt and water gaining access
- Bundle diameter is defined
- Clips to be attached into bore hole
- Suitable for post-installation of bundles

TYPE	Drawing	Height (H)	Attach to Ø	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
HC48FT6		20.8	4.3 - 5.2	6.5 - 7.0	0.7 - 2.8	PA66HIRHS	Black (BK)	151-00680

All dimensions in mm. Subject to technical changes.



Fixing Elements for Tubes and Harnesses with Automatic Locking Feature

- AHC-Serie

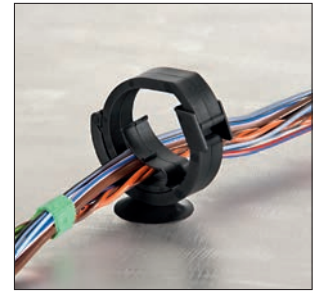
Offering a simple and secure method of attaching cables to panels. Originally designed for the automotive industry they are finding a wide variety of applications in all industries using sheet metal panels.

Features and Benefits

- Push and click closure for fixation of wires
- Clip is clicked into a specific hole
- AHC_SS und AHC_SB can be pushed onto a 5.0 mm stud



Automatic Harness Clip open.



Automatic Harness Clip closed.

**Material specification
please see page 30.**

TYPE	Drawing	Width (W)	Length (L2)	Length (L)	Disc Ø	Bundle Ø max.	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
AHC2SS		10.0	-	29.0	-	20.0	-	-	PA66HIRHS	Black (BK)	151-00368
AHC1AH		10.0	7.0	25.0	20.0	13.0	6.2 - 6.7	0.5 - 2.0	PA66HIRHS	Black (BK)	151-00366
AHC2AH		10.0	7.0	29.5	20.0	20.0	6.2 - 6.7	0.5 - 2.0	PA66HIRHS	Black (BK)	151-00367
AHC4AH		13.5	7.5	58.0	24.0	36.0	6.2 - 6.7	0.7 - 3.0	PA66HIRHS	Black (BK)	151-00374
AHC2BH		10.0	7.0	29.0	20.0	20.0	6.2 x 12.2	0.7 - 3.0	PA66HIRHS	Black (BK)	151-00208
AHC3BHR		10.0	7.0	40.0	24.0	28.0	6.2 x 12.2	0.7 - 3.0	PA66HIRHS	Black (BK)	151-00370
AHC3SB		10.0	-	41.0	27.0	28.0	-	-	PA66HIRHS	Black (BK)	151-00373
AHC3DH		10.0	-	66.0	-	28.0	6.2 x 12.2	0.5 - 2.0	PA66HIRHS	Black (BK)	151-00181
AHC3EH2		11.0	5.2	44.2	24.0	28.0	6.2 x 12.2	1.8 - 4.8	PA66HIRHS	Black (BK)	151-00928
AHC3CHR		10.0	7.0	40.0	24.0	28.0	6.2 x 12.2	0.7 - 3.0	PA6HIR	Black (BK)	151-00371

All dimensions in mm. Subject to technical changes.

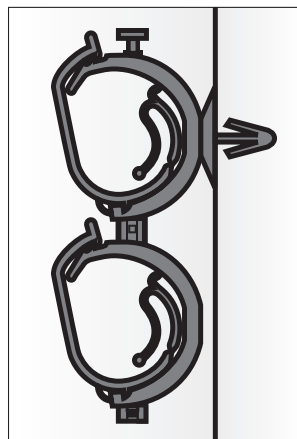


Fixing Elements for Tubes and Harnesses with Automatic Locking Feature, interconnectable

Offering a simple and secure method of attaching cables to panels. Originally designed for the automotive industry they are finding a wide variety of applications in all industries using sheet metal panels.

Features and Benefits

- Push and click closure
- Coupling elements of the IAHC variants allow parts to interconnect
- Clip is clicked into a specific hole
- IAHC_T can only be connected with another (I)AHC element



IAHC elements can be connected.

• IAHC-Series, Connectable

TYPE	Drawing	Width (W)	Length (L)	Bundle Ø max.	Material	Colour	Article-No.
IAHC1T		10.0	23.0	13.0	PA66HIRHS	Black (BK)	151-00223
IAHC2T		10.0	30.0	20.0	PA66HIRHS	Black (BK)	151-00199
IAHC3T		10.0	40.0	28.0	PA66HIRHS	Black (BK)	151-00213
IAHC4T		13.5	47.0	36.0	PA66HIRHS	Black (BK)	151-00207
IAHC5T		13.5	57.0	45.0	PA66HIRHS	Black (BK)	151-00195

All dimensions in mm. Subject to technical changes.

• IAHC-Serie, Connectable, with Arrowhead

TYPE	Drawing	Width (W)	Length (L)	Hole Ø (FH)	Disc Ø	Material	Colour	Article-No.
IAHC4AH		13.0	46.0	6.2 - 6.7	24.0	PA6HIRHS	Black (BK)	151-00211
IAHC3AH		13.5	40.0	6.2 - 6.7	24.0	PA66HIRHS	Black (BK)	151-00378
IAHC4AH		13.5	48.0	6.2 - 6.7	24.0	PA66HIRHS	Black (BK)	151-00382
IAHC5BH		13.5	57.0	6.2 x 12.2	24.0	PA66HIRHS	Black (BK)	151-00384
IAHC3CH		13.5	40.0	6.2 x 12.2	24.0	PA66HIRHS	Black (BK)	151-00381
IAHC4CH		13.5	47.0	6.2 x 12.2	24.0	PA6HIRHS	Black (BK)	151-00383
IAHC3EH		13.5	44.5	6.2 x 12.2	24.0	PA66HIRHS	Black (BK)	151-00489
IAHC5FH		13.5	61.5	6.2 x 12.2	24.0	PA66HIRHS	Black (BK)	151-00787

All dimensions in mm. Subject to technical changes.



Fixing Elements for Tubes and Harnesses, for Edges

- EdgeClip-Family

Edge Clips are used in the automotive and electrical industries for applications where it is impossible to drill holes or no other fixing points are available.

Features and Benefits

- Releasable fixing elements with EdgeClip
- Low-vibration routing of larger bundle diameters
- Can be easily pushed onto an edge by hand
- Can also be snapped together with one hand
- Bundles can be released at any time
- EC27: fixing element enables usage of smaller bundle diameter
- EC41: for parallel guidance of two bundles



EdgeClip cable and tube clips are suitable for the low-vibration routing of cables and tubes with larger bundle diameters.

**Material specification
please see page 30.**

TYPE	Drawing	Panel Thickness	Attach to Ø	Material	Colour	Article-No.
EC27		1.0 - 3.0	15.0 - 22.0	PA66HIRHS	Black (BK)	151-00161
EC39		1.0 - 3.0	15.3 - 15.9	PA6HIR	Black (BK)	151-00174
EC41		3.0 - 6.0	2 x 8.0	PA66HIR	Black (BK)	151-00234
HCEC3.0SP-C		1.0 - 3.0	12.0 - 15.0	PA66HIRHS	Black (BK)	151-00610
HCEC3.0TPS		1.0 - 3.0	4.5 - 5.0	PA66HIRHS	Black (BK)	151-00645

All dimensions in mm. Subject to technical changes.



Fixing Elements for Corrugated Tubing, with Fir Tree

- **CTC-Series**

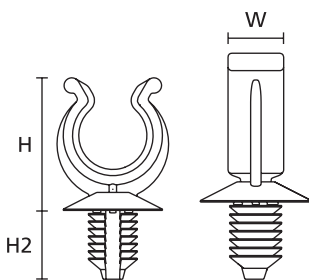
CTC clamps are used in the automotive, harness making and electrical industries and wherever corrugated tubing has to be quickly and firmly fixed.

Features and Benefits

- Available for a variety of nominal diameters
- Fir tree foot part can be used for a variety of panel thicknesses
- Suitable for use within threaded holes
- Tube is guided accurately, clipping into place
- Movement is prevented by the inside profile of the clamp



The tubing clips into the CTC clamp and is held firmly.



CTC10FT6LG

TYPE	Width (W)	Height (H)	Height (H2)	Nominal Ø	Disc Ø	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
CTC7.5FT6LG	8.0	18.6	11.1	7.5	16.0	6.5 - 7.0	0.8 - 6.0	PA66HIRHS	Black (BK)	151-14313
CTC7.5FT9	8.0	19.9	12.2	7.5	23.0	8.7 - 9.0	3.0 - 5.0	PA66HIRHS	Black (BK)	155-31602
CTC10FT6	8.0	21.4	7.5	10.0	16.0	6.5 - 7.0	0.8 - 3.0	PA66HIRHS	Black (BK)	151-14311
CTC10FT6LG	8.0	21.4	11.1	10.0	16.0	6.5 - 7.0	0.8 - 6.0	PA66HIRHS	Black (BK)	151-00018
CTC10FT9	8.0	22.7	12.2	10.0	23.0	8.7 - 9.0	3.0 - 5.0	PA66HIRHS	Black (BK)	155-17801
CTC13FT6	8.0	25.2	7.5	13.0	16.0	6.5 - 7.0	0.8 - 3.0	PA66HIRHS	Black (BK)	151-14312
CTC13FT6LG	8.0	25.2	11.1	13.0	16.0	6.5 - 7.0	0.8 - 6.0	PA66HIRHS	Black (BK)	151-00019
CTC22FT9	8.0	37.7	12.2	22.0	23.0	8.7 - 9.0	3.0 - 5.0	PA66HIRHS	Black (BK)	155-25201
CTC4.5FT6LG	10.0	16.1	11.1	4.5	16.0	6.5 - 7.0	0.8 - 6.0	PA66HIRHS	Black (BK)	151-14314
CTCFT6	11.0	18.5	9.3	15.0	-	6.3 - 6.7	0.7 - 4.5	PA66HIRHS	Black (BK)	151-00783

All dimensions in mm. Subject to technical changes.



Fixing Elements for Corrugated Tubing, for Weld Studs

- CTC-Series for Weld Studs

Features and Benefits

- Fixing elements for corrugated tubing for nominal diameters from 4.5 - 17.0 mm
- For M6 weld studs
- Soft-Push mechanic for simple assembly without the need for a tool
- Tube is guided accurately, clipping into place
- Movement is prevented by the inside profile of the clamp
- Clamp can be unscrewed and removed from the weld stud



The tubing clips into the CTC clamp and is held firmly.

TYPE	Drawing	Width (W)	Length (L)	Height (H)	Nominal Ø	Material	Colour	Article-No.
CTC17SBS6		11.0	44.6	33.2	17.0	PA66HIRHS	Black (BK)	151-00010
CTC4.5SBS6		11.0	28.6	18.7	4.5	PA66HIRHS	Black (BK)	151-00700
CTC7.5SBS6		11.0	31.8	19.4	7.5	PA66HIRHS	Black (BK)	151-00701
CTC10SBS6		11.0	35.3	22.2	10.0	PA66HIRHS	Black (BK)	151-00702
CTC13SBS6		11.0	37.0	26.5	13.0	PA66HIRHS	Black (BK)	151-00703

All dimensions in mm. Subject to technical changes.

Fixing Elements for Corrugated Tubing, with Arrowhead

Features and Benefits

- Clamps for corrugated tubing for a variety of nominal diameters
- Arrowhead simply locks into place
- Tube is guided accurately, clipping into place
- Movement is prevented by the inside profile of the clamp
- CTCLPROFILE clamp can also fastened to a metal edge

Material specification please see page 30.



Simple and secure installation of pipes or hoses to panels.

TYPE	Drawing	Width (W)	Length (L)	Height (H)	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
RCC D21		22.0	31.0	30.0	6.2 x 12.2	0.7 - 2.5	PA66HIRHS	Black (BK)	150-92300
RCC D24		22.0	33.0	33.0	6.2 x 12.2	0.7 - 2.5	PA66HIRHS	Black (BK)	155-04000
RCC D28		22.0	37.0	37.0	6.75 x 13.25	0.7 - 3.0	PA66HIRHS	Black (BK)	151-00598
CTCLPROFILE		12.0	49.7	47.0	7.8 - 8.2	2.3 - 2.7	PA66HIRHS	Black (BK)	151-00026

All dimensions in mm. Subject to technical changes.



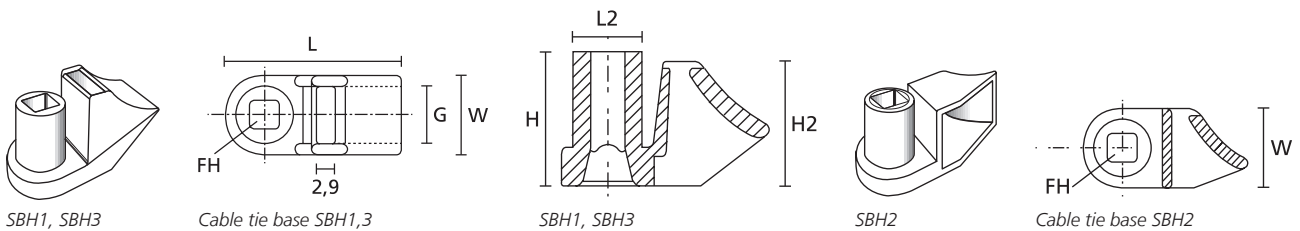
Fixing Elements for Weld Studs

Many industries (but specifically the automotive market) use 'weld studs' as the standard method of attaching components. Simply hammered onto the stud, these parts provide ideal fixing bases for attaching cables, pipes or hoses. The use of weld studs avoids the problems associated with 'holes' (ingress of moisture, corrosion etc).

Features and Benefits

- Simple and quick method of fixing
- SBH types simply hammered onto the stud
- SBH1 and SBH3 allow cables to run across the panel
- SBH2 allow cables to run at 90° to the panel

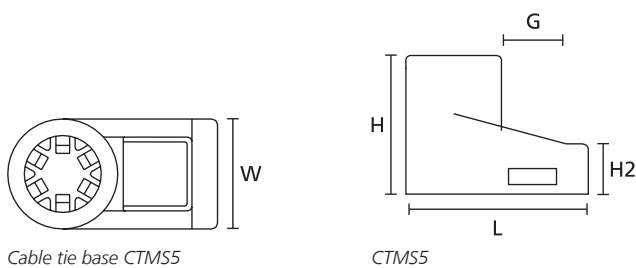
• SB-Series



TYPE	Width (W)	Length (L)	Length (L2)	Height (H)	Height (H2)	Stud Ø	Strap Width max. (G)	Material	Colour	Article-No.
SBH1	12.5	26.8	9.0	13.9	15.9	5.0	8.5	PA66	Black (BK)	151-26150
SBH2	12.5	26.8	9.0	14.0	12.5	5.0	8.5	PA66	Black (BK)	151-26250
SBH3	12.5	26.8	9.0	18.0	15.9	5.0	8.5	PA66	Black (BK)	150-18900

All dimensions in mm. Subject to technical changes.

• CT-Series



Cable tie base CTM55

CTM55

TYPE	Width (W)	Length (L)	Height (H)	Height (H2)	Stud Ø	Strap Width max. (G)	Material	Colour	Article-No.
CTM55	10.0	19.0	14.5	5.3	5.0	5.0	PA66	Black (BK)	151-03301

All dimensions in mm. Subject to technical changes.

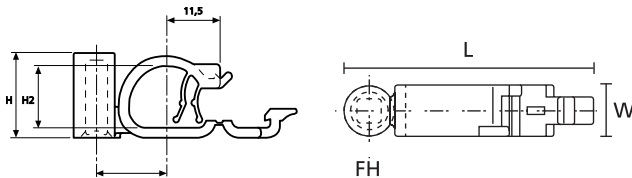


Fixing Elements for Weld Studs

- SBF-Clips

Features and Benefits

- One-piece fixing and retainer
- For bundles of up to 13.5 mm



SBF2

TYPE	Width (W)	Length (L)	Height (H)	Height (H2)	Stud Ø	Bundle Ø max.	Material	Colour	Article-No.
SBF2	10.0	47.7	18.2	13.5	5.0	13.5	PA66	Black (BK)	150-47700

All dimensions in mm. Subject to technical changes.

Plastic Nuts

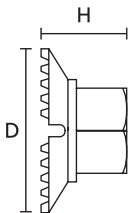
- KM

KM plastic nuts can be used in virtually all applications where metal nuts may have been used. Offering benefits in speed of application, weight saving and corrosion resistance they also offer a secure fixing when subject to vibration. Typical applications can be found in a wide variety of industries from automotive to white goods (domestic appliances).

Features and Benefits

- Faster assembly than traditional metal hexagonal nuts
- Simply pushed onto bolt by hand
- Easily opened at any time using a standard spanner
- Available for both 5 mm and 6 mm ISO threaded bolts

Material specification please see page 30.



Plastic Nuts KM5, 6

TYPE	Ø D	Height (H)	Nut Size (NS)	Material	Colour	Article-No.
KM5	17.5	9.5	10.0	PA66HIRHS	Black (BK)	150-51910
KM6	17.5	9.6	10.0	PA66	Black (BK)	150-61910

All dimensions in mm. Subject to technical changes.



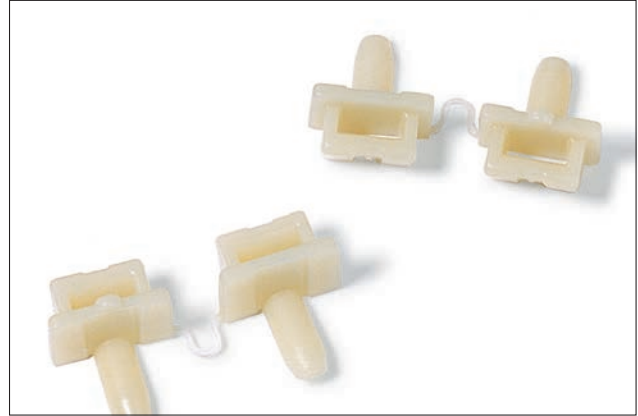
Rivet Mount

- **TY5-Series**

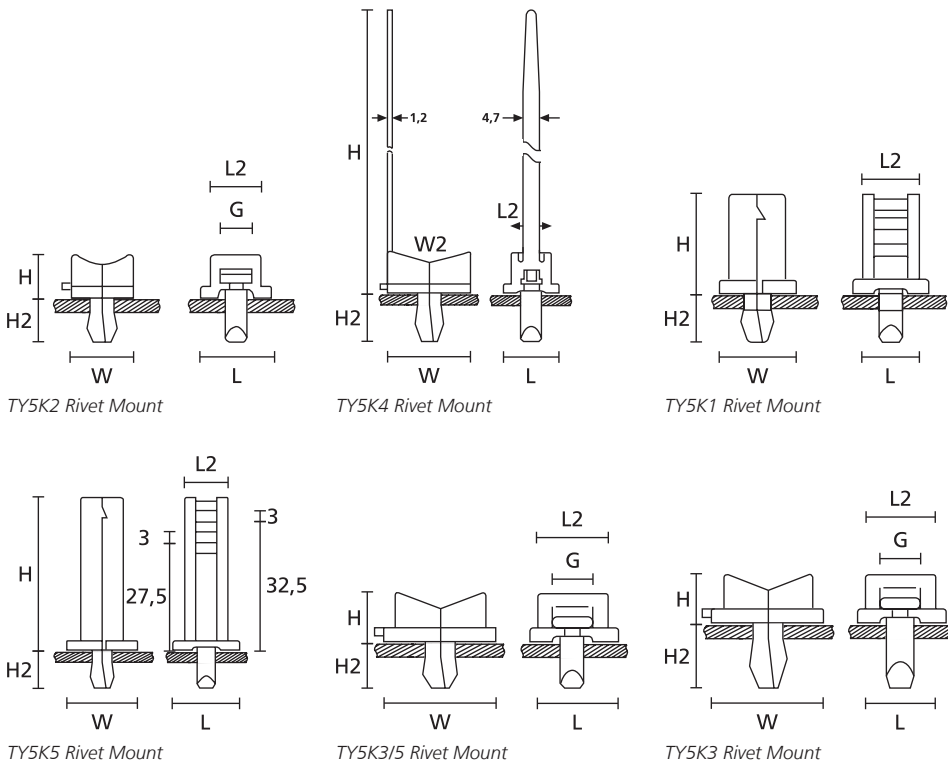
The TY Fixings are ideal for use where a high pull out force is required (eg. in the aircraft industry). The two piece 'wedge' ensures that once installed the mounts will not come away from the panel. Particularly designed for areas with restricted access.

Features and Benefits

- Quick installation
- Two-piece wedge
- Easy insertion
- Firmly fixes wide variety of cable ties



TY5 Wedge Base Socket.



TYPE	Width (W)	Length (L)	Length (L2)	Height (H)	Height (H2)	Strap Width max. (G)	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
TY5K2	12.0	14.0	10.0	7.8	9.5	5.5	4.9 - 5.3	1.0 - 5.0	PA66HS	Natural (NA)	152-11209
TY5K1	14.8	15.0	11.0	18.3	9.5	5.5	5.0 - 5.3	1.0 - 3.0	PA66HS	Natural (NA)	152-51059
TY5K5	17.8	18.0	11.0	38.3	9.5	6.0	5.0 - 5.3	1.0 - 3.0	PA66HS	Natural (NA)	152-55059
TY5K4	22.0	14.0	10.0	175.0	12.5	-	5.9 - 6.4	2.0 - 8.0	PA66HS	Natural (NA)	152-11409
TY5K3/5	22.0	18.0	14.0	10.0	9.5	9.3	4.9 - 5.3	1.0 - 5.0	PA66HS	Natural (NA)	152-11359
TY5K3	22.0	18.0	14.0	10.0	12.5	9.3	5.9 - 6.4	2.0 - 8.0	PA66HS	Natural (NA)	152-11309

All dimensions in mm. Subject to technical changes.



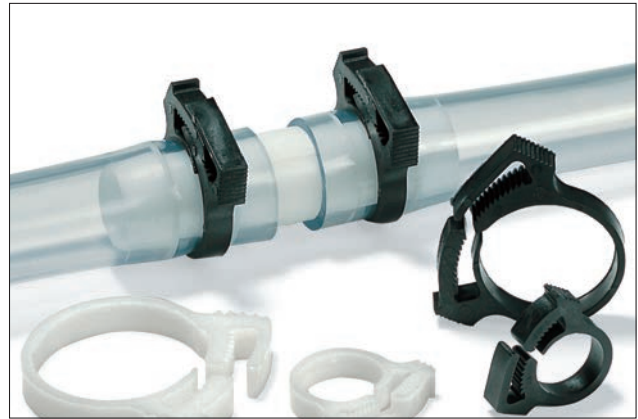
Snapper Hose Clips for Tubes and Harnesses

- **SNP-Series**

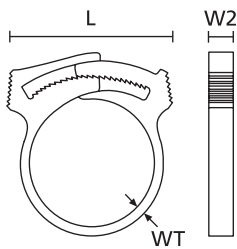
The SNP range provides an ideal replacement for metal hose clamps. Snapper can be used in markets as diverse as automotive, agriculture, white goods, venting systems, pumps and hydraulic systems to medical engineering.

Features and Benefits

- Releasable and reusable plastic hose clamps
- Self-locking
- Releasable by giving a lateral movement to the 'head'
- Installation by hand possible
- Installation with processing tool for a secure tensoning
- For higher operating temperatures: Glass Filled PA66



SNP-Series.



SNP-Series

Application tools
please see page 338.

Material specification
please see page 30.

SNP Snapper are also available on request in material PA66HS and PA46.

TYPE	Bundle Ø min.	Bundle Ø max.	Width (W) min.	Width (W) max.	Width (W2)	Wall (WT)	Material	Colour	Article-No.
SNP1	6.0	6.5	8.33	11.73	3.8	1.00	POM	White (WH)	190-00022
	6.0	6.8	8.56	11.79	3.8	1.00	PA66GF13	Black (BK)	192-10010
SNP1.25	7.1	7.7	10.57	12.62	3.8	1.10	PA66GF13	Black (BK)	190-00029
SNP1.5	7.8	9.2	13.0	17.0	3.7	1.40	PA66GF15	Black (BK)	193-00150
SNP2(E)	8.7	10.0	17.0	21.0	6.0	1.50	POM	Natural (NA)	191-10029
SNP2	9.3	10.5	12.22	17.48	5.9	1.70	PA66GF13	Black (BK)	192-10020
SNP3(E)	10.0	11.4	19.0	25.0	6.0	1.80	POM	Natural (NA)	191-10039
SNP4	10.4	11.7	13.39	19.15	5.9	1.70	PA66GF13	Black (BK)	192-10040
SNP4(E)	10.8	12.3	19.0	23.0	6.0	1.80	POM	Natural (NA)	191-10049
SNP7	11.4	13.7	18.62	28.73	5.9	1.70	PA66GF13	Black (BK)	192-10070
SNP6	11.7	13.3	14.71	21.54	5.9	1.70	PA66GF13	Black (BK)	192-10060
SNP6(E)	12.0	13.7	19.0	24.0	6.0	1.80	POM	Natural (NA)	191-10069
SNP8	13.1	15.0	16.69	24.89	5.7	1.70	PA66GF13	Black (BK)	192-10080
SNP8(E)	13.7	15.3	19.0	24.0	6.0	1.80	POM	Natural (NA)	191-10089
SNP10	14.5	16.6	17.6	26.9	5.9	1.80	PA66GF13	Black (BK)	192-10100
SNP10(E)	15.0	16.8	19.0	24.0	6.0	1.80	POM	Natural (NA)	191-10109
SNP12A	15.9	18.2	20.96	29.9	5.9	1.80	PA66GF13	Black (BK)	190-00254
SNP12(E)	16.8	18.4	19.0	24.0	6.0	1.80	POM	Natural (NA)	191-10129
SNP14(E)	18.1	19.9	19.0	24.0	6.0	1.80	POM	Natural (NA)	191-10149
SNP14A	18.5	21.0	20.9	30.1	5.9	1.80	PA66GF13	Black (BK)	190-00300
SNP16	19.1	21.7	19.89	30.81	5.8	1.50	PA66GF13	Black (BK)	192-10160
SNP16(E)	19.9	21.7	19.0	24.0	6.0	1.90	POM	Natural (NA)	191-10169
SNP18A	20.0	23.1	24.03	35.51	5.9	1.80	PA66GF13	Black (BK)	190-00258
SNP18(E)	21.4	23.0	16.0	22.0	6.0	1.90	POM	Natural (NA)	191-10189

All dimensions in mm. Subject to technical changes.



Snapper Hose Clips for Tubes and Harnesses

• SNP-Series

TYPE	Bundle Ø min.	Bundle Ø max.	Width (W) min.	Width (W) max.	Width (W2)	Wall (WT)	Material	Colour	Article-No.
SNP19	22.3	25.3	22.3	36.09	5.9	1.80	PA66GF13	Black (BK)	190-00090
SNP20(E)	22.7	24.7	20.0	26.0	6.0	1.80	POM	Natural (NA)	191-10209
SNP22	23.7	27.4	23.9	37.69	6.0	1.80	PA66GF13	Black (BK)	192-10220
SNP22(E)	25.3	27.3	20.0	26.0	6.0	1.60	POM	Natural (NA)	191-10229
SNP24	25.8	29.2	26.49	39.4	7.4	1.70	PA66GF13	Black (BK)	192-10240
SNP24(E)	26.5	28.6	26.5	39.4	7.4	2.50	POM	Natural (NA)	191-10249
SNP28	29.1	33.6	25.91	41.81	7.3	1.70	PA66GF13	Black (BK)	190-00127
SNP32(E)	30.3	33.1	27.0	34.0	7.5	2.00	POM	Natural (NA)	191-10329
SNP32	31.2	35.8	27.33	44.4	7.3	1.80	PA66GF13	Black (BK)	192-10320
SNP34(E)	32.5	35.1	27.0	34.0	7.5	2.00	POM	Natural (NA)	191-10349
SNP36(E)	34.8	37.1	27.0	34.0	7.5	2.00	POM	Natural (NA)	191-10369
SNP38(E)	36.7	38.9	27.0	34.0	7.5	2.00	POM	Natural (NA)	191-10389
SNP36	37.8	44.0	32.41	43.99	7.3	1.70	PA66GF13	Black (BK)	192-10360
SNP42(E)	41.0	44.2	32.0	45.0	7.5	2.00	POM	Natural (NA)	191-10429
SNP38	41.0	48.1	35.61	57.51	7.3	1.80	PA66GF13	Black (BK)	192-10380
SNP42N	44.5	52.2	35.1	58.93	7.3	1.70	PA66GF13	Black (BK)	191-00005
SNP50(E)	48.8	52.0	32.0	45.0	7.5	2.00	POM	Natural (NA)	191-10509
SNP50	52.2	58.6	36.5	60.4	7.5	1.70	PA66GF13	Black (BK)	192-10500
SNP58(E)	56.7	59.2	31.0	39.0	7.5	2.00	POM	Natural (NA)	191-10589

All dimensions in mm. Subject to technical changes.

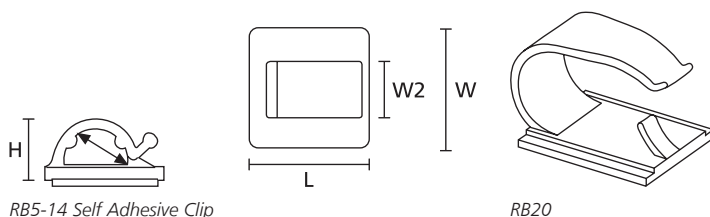
Self Adhesive Clips

• RB-Series with flat design

Features and Benefits

- One-piece self-adhesive fixing clips for quick and easy installation
- Designed to hold wires, cables or hoses without a cable tie
- Flat design for use in applications with limited space
- Different sizes for various bundle diameters
- Cost effective with easy application on smooth, clean surfaces

For more information on the types of adhesive please see page 118.



RB5-14 Self Adhesive Clip

RB20

TYPE	Width (W)	Width (W2)	Length (L)	Height (H)	Bundle Ø max.	Material	Colour	Adhesive	Article-No.
RB20	27.0	18.0	33.0	25.0	20.0	PA66HIRHS	Black (BK)	Synthetic rubber	151-00831
RB14	27.4	23.0	33.2	16.0	14.0	PA66	Black (BK)	Synthetic rubber	151-00502
	27.4	23.0	33.2	16.0	14.0	PA66	Natural (NA)	Synthetic rubber	151-00505

All dimensions in mm. Subject to technical changes.



Blind Plugs

These products were developed especially for the automotive industry for application in trunks, doors, wheel housing and dash panels. Parts are even used for optical applications.

Features and Benefits

- Easy assembly without the need of a tool
- Disc of the part covers the hole and minimises ingress of dust, dirt and water
- Standard geometry for example fir tree or arrowhead



Blind plugs are available in different shapes and material.

Material specification please see page 30.

TYPE	Drawing	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
TRIM PLUG 5		5.0	4.0	PA66HIR	Natural (NA)	151-00333
PLUG11		11.0	4.0 - 6.0	PA66HIRHS	Natural (NA)	151-00485
		11.0	6.0 - 8.0	POM	Black (BK)	151-00360
PLUG5.5		5.0 - 5.5	2.5 - 26.0	PA6HIR	Black (BK)	151-00399
		5.0 - 5.5	2.5 - 26.0	PA6HIR	Grey (GY)	151-00401
PLUG SQ8x8		7.6 - 8.0	1.0 - 3.0	PA66HIR	Black (BK)	151-00415
PLUG5 WITH OPENING		5.05 - 5.25	4.8 - 5.2	PA66HIRHS	Black (BK)	151-00419
PLUG10		10.2	2.0 - 12.0	PE	Black (BK)	151-00426
		10.2	2.0 - 12.0	PE	Grey (GY)	151-00488
PLUGFT6XL		6.5 - 7.0	0.7 - 18.0	PA46	Brown (BN)	151-00428
		6.5 - 7.0	0.7 - 18.0	PA66HIR	Black (BK)	241-00002
		6.5 - 7.0	0.7 - 18.0	PA66HIR	Grey (GY)	241-00001
PLUGFT7		7.05 - 7.25	2.5 - 8.0	PA6HIR	Black (BK)	151-00414

All dimensions in mm. Subject to technical changes.



Cover Plugs and Open Plugs

These products were developed especially for the automotive industry for application in trunks, doors, wheel housing and dash panels, particularly where holes have to be covered and tubes must be guided securely. Parts are even used for optical applications.

Features and Benefits

- Easy assembly without the need for a tool
- Protection of ingress of dust, dirt and water are offered by cover plugs
- Open plugs cover and secure the edges of drilled holes



Cover Plugs protect and secure boreholes.

• Cover Plugs

TYPE	Drawing	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
Cover Plug 20x50		20.0 x 50.0	2.5	PP, EPDM	Black (BK)	151-00342
Cover Plug 20		19.5	3.0	PP, EPDM	Black (BK)	151-00343
Cover Plug 32		32.0	2.5	EPDM	Black (BK)	151-00424

All dimensions in mm. Subject to technical changes.

• Open Plugs

TYPE	Drawing	Hole Ø (FH)	Panel Thickness	Material	Colour	Article-No.
Open Plug 55x70		55.0 x 70.0	5.0 - 8.0	PP	Black (BK)	151-00392
Open Plug 42x84		42.0 x 84.0	5.0 - 8.0	PA6HIR	Black (BK)	151-00391
OPEN PLUG 34.6x112		34.6 x 112.0	5.0 - 8.0	PA66HIR	Black (BK)	151-00394

All dimensions in mm. Subject to technical changes.



Aluminium P-Clips

- ALU-P-Clip with / without chloroprene Insert

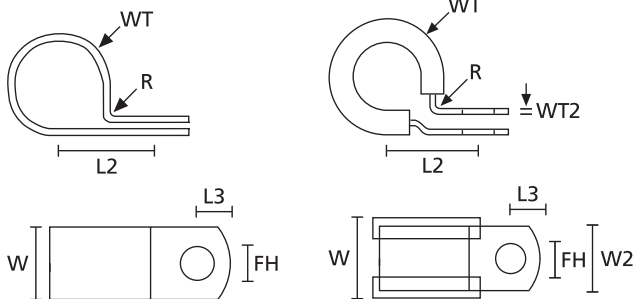
Manufactured from a high quality aluminium these P-Clips provide flexibility and yet give a permanent fixing in the most arduous of environments. The addition of a Chloroprene insert provides the cable or pipe bundle with a high degree of protection against vibration, reduces noise and also offers electrical isolation.

Features and Benefits

- Simple, secure pipe or cable fixing (e. g. caravan construction)
- Combine with chloroprene insert for vibration resistance (e. g. retain capacitors on PCB)
- Ideal for use in high temperatures
- Suitable for applications needing strength of metal components



P-Clips manufactured in polyamide, aluminium or aluminium with a chloroprene insert.



Aluminium P Clips

Aluminium P Clips with a Chloroprene insert

**Material specification
please see page 30.**

TYPE	Width (W)	Width (W2)	Wall (WT)	Wall (WT2)	Hole Ø (FH)	Bundle Ø max.	Fixing Hole Centres (F2)	Radius (R)	Material	Colour	Article-No.
ALU4	12.7	-	0.80	-	5.2	6.4	11.6	1.6	AL	Natural (NA)	211-10040
ALU5	12.7	-	0.80	-	5.2	8.0	12.6	1.6	AL	Natural (NA)	211-10050
ALU6	12.7	-	0.80	-	5.2	9.5	13.4	1.6	AL	Natural (NA)	211-10060
ALU7	12.7	-	0.80	-	5.2	11.1	14.2	1.6	AL	Natural (NA)	211-10070
ALU8	12.7	-	0.80	-	5.2	12.7	15.0	1.6	AL	Natural (NA)	211-10080
ALU10	12.7	-	0.80	-	5.2	15.9	16.6	1.6	AL	Natural (NA)	211-10100
ALU11	12.7	-	1.30	-	5.2	17.5	19.1	2.8	AL	Natural (NA)	211-10110
ALU12	12.7	-	1.30	-	5.2	19.1	19.9	2.8	AL	Natural (NA)	211-10120
ALU13	12.7	-	1.30	-	5.2	20.6	20.7	2.8	AL	Natural (NA)	211-10130
ALU4C	16.3	12.7	3.70	0.8	5.2	3.2	11.6	1.6	AL, CR	Black (BK)	211-15040
ALU5C	16.3	12.7	3.70	0.8	5.2	4.8	12.6	1.6	AL, CR	Black (BK)	211-15050
ALU6C	16.3	12.7	3.70	0.8	5.2	6.4	13.4	1.6	AL, CR	Black (BK)	211-15060
ALU7C	16.3	12.7	3.70	0.8	5.2	8.0	14.2	1.6	AL, CR	Black (BK)	211-15070
ALU8C	16.3	12.7	3.70	0.8	5.2	9.5	15.0	1.6	AL, CR	Black (BK)	211-15080
ALU9C	16.3	12.7	3.70	0.8	5.2	11.1	15.8	1.6	AL, CR	Black (BK)	211-15090
ALU10C	16.3	12.7	3.70	0.8	5.2	12.7	16.6	1.6	AL, CR	Black (BK)	211-15100
ALU11C	16.3	12.7	4.50	1.3	5.2	14.3	19.1	2.8	AL, CR	Black (BK)	211-15110

All dimensions in mm. Subject to technical changes.



Aluminium P-Clips

- ALU-P-Clip with / without chloroprene Insert

TYPE	Width (W)	Width (W2)	Wall (WT)	Wall (WT2)	Hole Ø (FH)	Bundle Ø max.	Fixing Hole Centres (F2)	Radius (R)	Material	Colour	Article-No.
ALU12C	16.3	12.7	4.50	1.3	5.2	15.9	19.9	2.8	AL, CR	Black (BK)	211-15120
ALU13C	16.3	12.7	4.50	1.3	5.2	17.5	20.7	2.8	AL, CR	Black (BK)	211-15130
ALU14C	16.3	12.7	4.50	1.3	5.2	19.1	21.5	2.8	AL, CR	Black (BK)	211-15140
ALU15C	16.3	12.7	4.50	1.3	5.2	20.6	22.3	2.8	AL, CR	Black (BK)	211-15150
ALU16C	16.3	12.7	4.50	1.3	5.2	22.2	23.1	2.8	AL, CR	Black (BK)	211-15160
ALU17C	16.3	12.7	4.50	1.3	5.2	23.8	23.9	2.8	AL, CR	Black (BK)	211-15170
ALU18C	16.3	12.7	4.50	1.3	5.2	25.4	24.6	2.8	AL, CR	Black (BK)	211-15180
ALU19C	16.3	12.7	4.50	1.3	5.2	27.0	25.5	2.8	AL, CR	Black (BK)	211-15190
ALU20C	16.3	12.7	4.50	1.6	5.2	28.6	27.0	3.2	AL, CR	Black (BK)	211-15200
ALU22C	16.3	12.7	4.50	1.6	5.2	31.8	28.6	3.2	AL, CR	Black (BK)	211-15220
ALU23C	16.3	12.7	4.50	1.6	5.2	33.3	29.4	3.2	AL, CR	Black (BK)	211-15230
ALU25C	16.3	12.7	4.50	1.6	5.2	36.5	30.8	3.2	AL, CR	Black (BK)	211-15250
ALU26C	16.3	12.7	4.50	1.6	5.2	38.1	31.7	3.2	AL, CR	Black (BK)	211-15260
ALU28C	16.3	12.7	4.50	1.6	5.2	41.3	33.3	3.2	AL, CR	Black (BK)	211-15280
ALU29C	16.3	12.7	4.50	1.6	5.2	42.9	34.1	3.2	AL, CR	Black (BK)	211-15290
ALU30C	16.3	12.7	4.50	1.6	5.2	44.5	34.9	3.2	AL, CR	Black (BK)	211-15300
ALU34C	16.3	12.7	4.50	1.6	5.2	50.8	38.1	3.2	AL, CR	Black (BK)	211-15340
ALU24C	16.3	12.7	4.50	1.6	5.2	34.9	30.2	3.2	AL, CR	Black (BK)	211-15240

All dimensions in mm. Subject to technical changes.



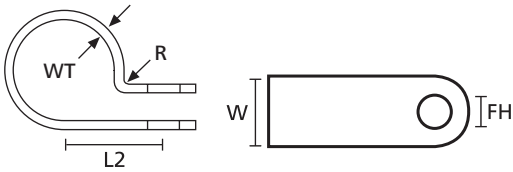
Plastic P-Clips

- HP-Series

For permanent or semi-permanent cable fixings, this range of P-Clips can be used in a variety of industries. Their light weight makes them particularly suitable for use in the aerospace industry where minimising weight, but retaining a strong fixing is vitally important.

Features and Benefits

- Manufactured from Polyamide
- Good temperature resistance and high strength
- Wide range of sizes for every application



P-Clip H1P-H18P



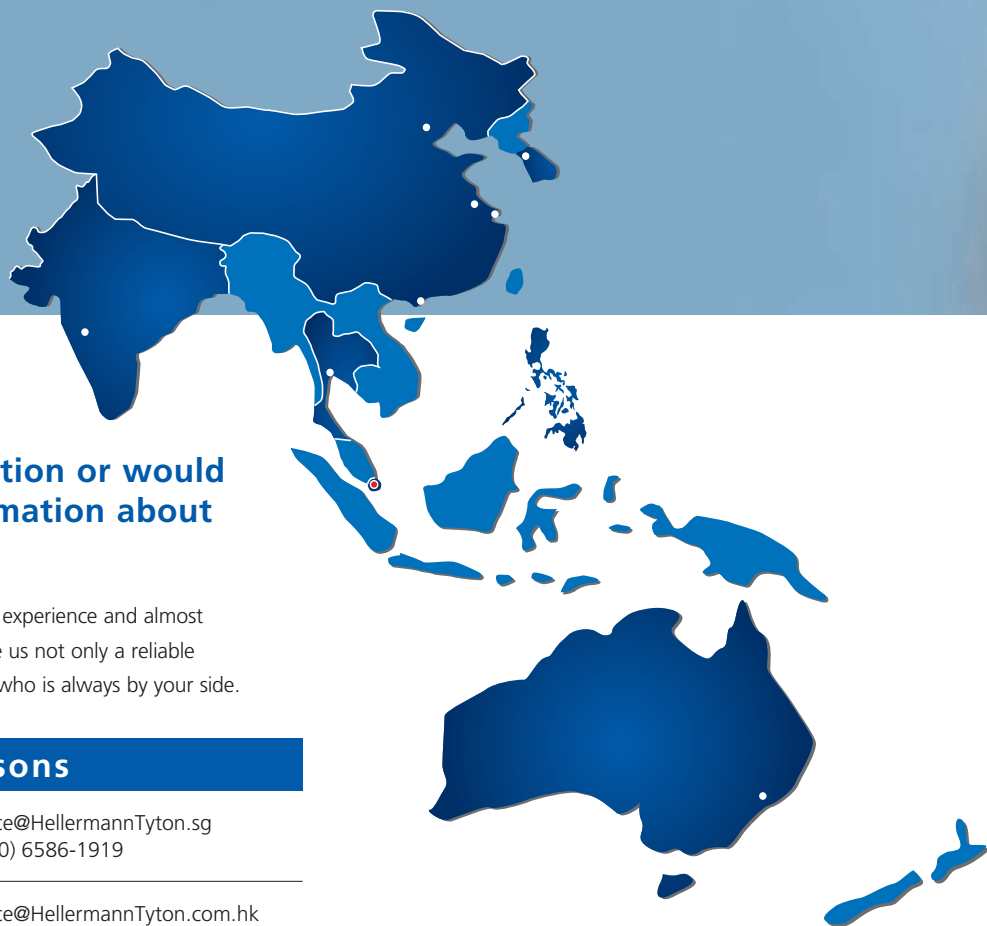
P-Clip HP.

Material specification please see page 30.

TYPE	Width (W)	Wall (WT)	Hole Ø (FH)	Bundle Ø max.	Fixing Hole Centres (F)	Radius (R)	Material	Colour	Article-No.
H1P	10.0	0.80	4.2	3.2	8.5	0.5	PA66	Natural (NA)	211-60019
	10.0	0.80	4.2	3.2	8.5	0.5	PA66HS	Black (BK)	211-60000
H2P	10.0	1.00	4.2	5.0	9.5	1.0	PA66	Natural (NA)	211-60029
	10.0	1.00	4.2	5.0	9.5	1.0	PA66HS	Black (BK)	211-60001
H3P	10.0	1.00	4.2	6.5	10.0	1.0	PA66	Natural (NA)	211-60039
	10.0	1.00	4.2	6.5	10.0	1.0	PA66HS	Black (BK)	211-60002
H4P	10.0	1.20	4.2	8.0	10.0	1.0	PA66	Natural (NA)	211-60049
	10.0	1.20	4.2	8.0	10.0	1.0	PA66HS	Black (BK)	211-60003
H5P	10.0	1.20	4.2	9.5	11.0	1.0	PA66	Natural (NA)	211-60059
	10.0	1.20	4.2	9.5	11.0	1.0	PA66HS	Black (BK)	211-60004
H6P	10.0	1.20	4.2	11.0	13.0	1.0	PA66	Natural (NA)	211-60069
	10.0	1.20	4.2	11.0	13.0	1.0	PA66HS	Black (BK)	211-60005
H7P	10.0	1.20	4.2	12.5	14.0	1.5	PA66	Natural (NA)	211-60079
	10.0	1.20	4.2	12.5	14.0	1.5	PA66HS	Black (BK)	211-60006
H8P	10.0	1.50	4.2	14.0	15.0	1.5	PA66	Natural (NA)	211-60089
	10.0	1.50	4.2	14.0	15.0	1.5	PA66HS	Black (BK)	211-60007
H9P	10.0	1.50	4.2	16.0	16.0	1.5	PA66	Natural (NA)	211-60099
	10.0	1.50	4.2	16.0	16.0	1.5	PA66HS	Black (BK)	211-60008
H10P	10.0	1.50	4.2	17.5	17.0	1.5	PA66	Natural (NA)	211-60109
	10.0	1.50	4.2	17.5	17.0	1.5	PA66HS	Black (BK)	211-60009
H11P	10.0	1.50	4.2	19.0	18.0	2.0	PA66	Natural (NA)	211-60119
	10.0	1.50	4.2	19.0	18.0	2.0	PA66HS	Black (BK)	211-60120
H12P	10.0	1.50	4.2	20.5	19.0	2.0	PA66	Natural (NA)	211-60129
H13P	12.0	1.50	5.2	22.0	20.5	2.0	PA66	Natural (NA)	211-60139
H14P	12.0	1.50	5.2	24.0	21.5	2.0	PA66	Natural (NA)	211-60149
H15P	12.0	1.50	5.2	25.5	23.0	2.5	PA66	Natural (NA)	211-60159
H16P	12.0	1.50	5.2	28.5	24.0	2.5	PA66	Natural (NA)	211-60169
H17P	12.0	1.50	5.2	31.5	26.0	2.5	PA66	Natural (NA)	211-60179
H18P	12.0	1.50	5.2	35.0	27.5	2.5	PA66	Natural (NA)	211-60189

All dimensions in mm. Subject to technical changes.

Wherever you need us – we are there for you



Do you have a question or would you like more information about a specific solution?

We are there for you. Our extensive experience and almost unlimited technical capabilities make us not only a reliable supplier – we are a service provider who is always by your side.

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