


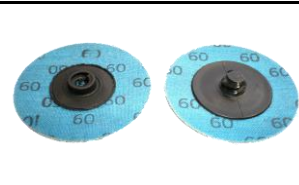




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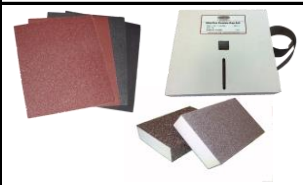



**PREFERRED ABRASIVES**

**PROFESSIONAL  
GRADE SANDPAPER**

# "COATED & BONDED" ABRASIVES





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# "NON-WOVEN & COTTON FIBER" ABRASIVES

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Terms / Conditions: See inside back cover

# Cross Reference Chart

Listed by Grain Type, the most flexible to the most rigid.

ALUMINUM OXIDE CLOTH									
Wt.	Preferred	Backing	Grits	3M	Norton	Hermes	VSM	Kling.	Deer
J-Flex	KAF	Cotton	60-600	201E	R201	RB317J	KK511F, J	LS309J	JA512
	KK511F		800	-	R245	RB346J	-	-	-
	KA537 (Grind. Aid)		60-600	303D	R296	RB406J	KK841F	LS312J	KA537
	JA165	Poly/Cotton	60-600	201E	R201	RB317J	KK511F, J	LS309J	JA512
	K35SF Open Coat-Wood		80-220	-	-	RB306JF	KK504F	LS319JF	JW342
J	Sheets/Shop Rolls	Cotton	36-500	314D	K225,K227	RB232J	KK14F	KL361	-
	Emery Cloth		C,M,F	011K	K622	-	-	KL371	-
	Crocus Cloth		Crocus	-	K624	-	-	-	-
X	XA167	Poly/Cotton	24-400	241D, E	R228	RB346X	KK711X	CS310X	XA911
	XA911, R145			248D	R249,R283			CS412X	
	XA345, K35X Open Coat		24-320	240D	R215,R232	RB316XOP	KK504X	CS311X	XW341
Y	R192 (Grind. Aid) Dry Only	Poly/Cotton	36-600	361F	R247,R249	RB376TY	KK711Y	CS410,412Y	PA631
	PA343, W25 OC Wet or Dry	Poly	24-320	270D	R215	RB316XOP	KK524X,Y	CS311,341Y CS413Y	PA343
ZIRCONIA ALUMINA CLOTH									
X	XZ677 Wet or Dry	Poly/Cotton	36-180	-	-	-	ZK713T	CS411X	XZ677
Y	PZ628, R205 Wet or Dry	Poly	24-120	-	R823P	RB484TY	ZK713X	CS411Y	PZ628
	R203, PZ528 (Grind. Aid) Dry Only					RB488Y	KK715X	CS408Y	
			24-120	577F 777F	R823P	RB486X,Y RB426X	ZK744X KK815Y	CS414Y CS409Y	PZ528
CERAMIC ALUMINA CLOTH									
J	052J, JS997 (Grind. Aid)	Poly/Cotton	60-220	707JE	R916	-	XK870F	-	JS997
X, Y	Firestorm II (Grinding Aid) Wet or Dry	Poly	24-120	984F	-	-	XK885Y	-	-
	Firestorm (Grinding Aid) Wet or Dry			777F,963G 967F,977F	R980	CB441Z CB440Y	XK870X	CS612YY CS610YY	PS999 PS992
SILICON CARBIDE CLOTH									
Y	PC221, S181 Wet or Dry	Poly	24-800	461F	R422	RB318X	CK721X	CS321X	PC221
RESIN FIBER DISCS									
Fiber	Ceramic Firestorm II	Fiber	24-120	987C	-	-	XF885	-	-
	Ceramic Firestorm		24-120	982C,985C	F980, F981	CB844X	XF870	CS661	-
	Zirc Premium		24-120	501C	F826P	RB414	ZF713	CS565	VZ133
	AO Premium		16-120	281C, 381C	F240, F726	RB314X	KF708	CS561	VA113,VA632

# Cross Reference Chart - Cont'd.

Listed by Grain Type, the most flexible to the most rigid.

PAPER / FILM									
Wt.	Preferred	Backing	Grits	3M	Norton	Mirka	VSM	Kling.	Indasa
FILM	AO Blue Film	Film	40-2000	366L	-	Microstar	-	-	Ryno Film
A	AO Finishing Paper	Paper	80-280	210N	212	-	KP31	PL31	-
C/D	AO Cabinet Paper		36-150	230N	211, 213	-	KP31	PL31	-
A/C	S/C Wet or Dry Paper		60-3000	431Q	401, 414	-	CP918	PS11	Rynowet
B/C	AO White Stearate (No-Load)		80-400	216U	A275, PB273	Bulldog, Carat, Base Cut	-	PS33	Whiteline
B/C	AO Gold Stearate (No-Load)		40-600	214U, 236U	A296, PB273	Bulldog, Carat, Base Cut	KP911, MP10	PS33, PL36	Whiteline
F	AO F-wt. Anti Static OP B-317		40-220	261UZ 265UZ	H248 H258	-	KP520F	PS20 PS23	-

## Abrasive Grain Types

### **CERAMIC** (self-sharpening)

Due to their microcrystalline structure, small particles break away during use, allowing them to maintain a very high level of stock removal. They represent the latest innovation in grain technology. **They are the ultimate for life and stock removal.** They provide an aggressive cut under medium or heavy pressure. Used primarily on metal applications.

### **ZIRCONIA ALUMINA** (aka Zirc or Zirconium - self-sharpening)

**They work best for heavy stock removal on high pressure applications.** Heavy pressure is necessary to fracture the grain and allow it to self-sharpen. They offer an increased cut rate and longer life than aluminum oxide products.



### **ALUMINUM OXIDE** (very versatile)

They are a good starting specification when initial price is the primary purchasing consideration. Generally used for sanding metal and wood. Can be used with light to heavy pressure.

### **SILICON CARBIDE** (high initial cut rate)

Popular in various aerospace applications - especially on titanium because they will not contaminate the workpiece. Also good for sanding glass, ceramics, plastics, paints, rubber, wood and non-ferrous applications.

## Coating Types

Open Coat vs. Closed Coat

### **CLOSED COAT**

With a closed coat, the entire coated abrasive surface is covered with abrasive grain, with no voids between the particles. This is the most typical coating, permitting the greatest degree of stock removal and longest product life.

### **OPEN COAT**

With an open coat, 50% to 75% of the coated abrasive surface is covered with abrasive grain. There are evenly spaced voids between the particles of grain, helping reduce the effect of loading caused by wood dust or metal particles.

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# Material Descriptions

## CERAMIC CLOTH

- CA/Y FIRESTORM II** **XK885Y** Grit range 24 – 120 (Closed Coat)  
"Firestorm II" Ceramic, Y-wt. Poly: This new and innovative grain is manufactured in a way that results in a much finer crystalline structure. This improved mineral fracture provides longer life, and more aggressive grains with an improved self-sharpening effect. This product features a durable polyester backing and grinding aid that helps reduce work piece temperatures and aids in reducing loading. Works best with medium to heavy pressure. Best for stainless steel, Inconel, titanium, carbon steel and aluminum. Very durable. Good for narrow and wide belts. Designed for dry use but can be used wet.
- FIRESTORM (Original)** **XK870X** Grit range 24 – 120 (Closed Coat)  
"Firestorm" Ceramic, X-wt. Poly: This high-performance product continues to be one of our top selling materials. The ceramic grain structure allows each granule to "micro fracture" to last longer and stay sharp throughout the life of the product. Features a durable polyester backing and grinding aid that helps reduce work piece temperatures and aids in reducing loading. Works best with medium to heavy pressure. Best for stainless steel, Inconel, titanium, carbon steel and aluminum. Very durable. Good for narrow and wide belts. Designed for dry use but can be used wet.
- CA/J CERAMIC PLUS** **JS997 and 052J (Flexible Ceramic)** Grit range 60-220 (Closed Coat)  
Ceramic, J-wt. Poly/Cotton: High performance flexible product with a grinding aid. Great for polishing or when using the "slack" of the belt. Does NOT require heavy pressure. Works great on carbon steel, stainless steel, inconel, titanium and high-grade aluminum. Primarily used for narrow belts. Designed for dry use but can be used wet.
- 

## ZIRC CLOTH

- ZA/Y PLUS** **R203 (PZ528 also available)** Grit range 24 - 120 (Closed Coat)  
Zirconia Alumina, Y-wt. Poly: This is the "Original" Green Belt, today it is still the top performing Zirc belt on the market. Featuring a durable polyester backing and top sized grinding aid that helps reduce work piece temperatures. Heavy pressure helps to break down the grains and keep them sharp. Great for hard to grind metals, and even excels on aluminum, due to the grinding aid which helps prevent loading. Great for stainless steel, titanium, low carbon steel, cast iron and aluminum. Very durable. Good for narrow and wide belts. Designed for dry use but can be used wet.
- STANDARD** **PZ628 (R205 also available)** Grit range 24 - 120 (Closed Coat)  
Zirconia Alumina, Y-wt. Poly: Great for most metals and hardwoods. Heavy pressure helps to break down the grains and keep them sharp. Very durable. Good for narrow and wide belts. Can be used wet or dry.
- ZA/X ECONOMY** **XZ677 (Our economy Zirc)** Grit range 36 - 180 (Closed Coat)  
Zirconia Alumina, X-wt. 65/35 Poly/Cotton: Good for medium pressure applications that don't require the durability of a full polyester backing. Primarily used for narrow belts. Can be used wet or dry.
- 

## A/O CLOTH

- AO/J PLUS (Grinding Aid)** **KA537 (Our most popular J-Flex belt material)** Grit range 60 – 600 (Closed Coat)  
"Premium" Blue Fired Aluminum oxide, J-Flex 100% Cotton: A highly flexible product with a grinding aid for use on most metals and hardwoods. Easy to tear into narrower widths. Great on stainless steel, brass and other alloyed materials (very popular with Knifemakers for blades and handles). Primarily used for narrow belts, dry use only.
- PREMIUM** **KAF** Grit range 60 – 400 (Closed Coat)  
Aluminum oxide, J-wt. 100% Egyptian Cotton: A highly flexible product for use on most metals and hardwoods. Easy to tear into narrower widths. Primarily used for narrow belts, dry use only.
- "PC"** **JA165 (Our economy AO/J belt material)** Grit range 60 – 600 (Closed Coat)  
Aluminum oxide, J-wt. 65/35 Poly/Cotton: Anti-Static, flexible multi-use product for use on soft woods, aluminum, die-cast, carbon steel and other metal applications. Primarily used for narrow belts, dry use only.

# Material Descriptions – Cont'd.

## A/O CLOTH –Cont'd.

- AO/X STANDARD**                      **XA911** (R145 also available)                      Grit range 24 - 400 (Closed Coat)  
Aluminum oxide, X-wt. 65/35 Poly/Cotton: Good for most metal and hardwood applications. Good for narrow and wide belts, dry use only.
- "PC"**                                      **XA167** (*Our economy AO/X belt material*)                      Grit range 24 - 400 (Closed Coat)  
Aluminum oxide, X-wt. 65/35 Poly/Cotton: Anti-Static, multi-purpose material for most metal and wood applications. Good for narrow and wide belts, dry use only. Popular for portable belts, edge sanders and stroke sanders.
- OPEN COAT**                              **XA345** (K35X also available)                      Grit range 24 - 320 (Open Coat)  
Aluminum oxide, X-wt. Cotton: Good general-purpose material for all wood applications. Good for narrow and wide belts, dry use only. Popular for portable belts, edge sanders and stroke sanders.
- AO/Y PLUS**                              **R192**    Grit range 24 - 600 (Closed Coat)  
Heat Treated Aluminum Oxide, X/Y wt. 65-35 Poly/Cotton: (Y-wt. for 120 grit and coarser). Includes an active filler grinding aid to help reduce heat. For stainless steel, carbon steel, tool steel, high tensile steel, titanium and other heat sensitive material. Good for narrow and wide belts. Designed for dry use but can be used wet.
- 

## A/O PAPER

- AO/F OPEN COAT**                      **B317**    Grit range 40 - 320 (Open Coat)  
Aluminum oxide, F-wt. Paper: Good general-purpose material for all wood or metal applications. Good for wide belts, dry use only.
- 

## S/C CLOTH

- SC/Y STANDARD Wet/Dry**                      **PC221** (S181 also available)                      Grit range 24 - 800 (Closed Coat)  
Silicon Carbide, Y-wt. Poly: For sanding of titanium, non-ferrous metal, glass, cement, ceramic, plastic and rubber. Good for narrow and wide belts, Can be used wet or dry.
- 

## RESIN FIBER DISCS

- CERAMIC FIRESTORM II**    Grit range 24 - 120 Closed Coat  
This new high-performance disc (*Made-in-Germany*) provides the ultimate performance on stainless steel and many other hard metals, and aluminum. Made with a new and innovative grain that is manufactured in a way that results in a much finer crystalline structure. This improved mineral fracture provides longer life, and more aggressive grains with an improved self-sharpening effect. They provide the fastest cut rate and longest life. The grinding aid reduces heat build-up and can help prevent loading.
- FIRESTORM**    Grit range 24 - 120 Closed Coat  
This high-performance disc (*Made-in-Germany*) works great on stainless steel and many other hard metals, and aluminum. They provide a very fast cut rate and long life. The grinding aid reduces heat build-up and can help prevent loading.
- ZIRC PREMIUM**    Grit range 16 - 120 Closed Coat  
This premium ZA disc (*Made-in-Germany*) is a good choice for aggressive grinding on most materials (works best with pressure). Zirc is a self-sharpening grain and it maintains good cutting action as it wears.
- AO PREMIUM**    Grit range 16 - 120 Closed Coat  
This premium AO discs (*Made-in-Germany*) are a good starting point when price is the primary purchasing criteria. AO grains do not resharpen like ceramic and zirc products. As they wear, they become dull and the rate of stock removal diminishes quickly.

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# Popular J-Flex Belts



(Green) AO/J Plus (J3) = A/O "Blue Fired" grain - flexible cotton backing  
 (Blue) CA/J Plus (CJ3) = Ceramic grain - flexible poly/cotton backing

Size	Mtl.	80	120	180	220	320	400	600
1 x 30	Green	701606-J3	701608-J3	701610-J3	701611-J3	701613-J3	701614-J3	701615-J3*
Std. Pkg. 50	Blue	701606-CJ3	701608-CJ3	701610-CJ3	701611-CJ3	-	-	-
1 x 72	Green	70186-06-J3-SE	70186-08-J3-SE	70186-10-J3-SE	70186-11-J3-SE	70186-14-J3-SE	70186-15-J3-SE	70186-17-J3-SE
Scalloped Edge	Green	70186-06-J3-SE	70186-08-J3-SE	70186-10-J3-SE	70186-11-J3-SE	70186-14-J3-SE	70186-15-J3-SE	70186-17-J3-SE
Std. Pkg. 50	Green	70186-06-J3-SE	70186-08-J3-SE	70186-10-J3-SE	70186-11-J3-SE	70186-14-J3-SE	70186-15-J3-SE	70186-17-J3-SE
2 x 42	Green	70298-J3	70300-J3	70302-J3	70303-11-J3	70303-14-J3	70303-15-J3	70303-17-J3*
Std. Pkg. 10	Blue	70298-CJ3	70300-CJ3	70302-CJ3	70303-11-CJ3	-	-	-
2 x 48	Green	70322-J3	70324-J3	70326-J3	70326-11-J3	70327-14-J3	70328-15-J3	70328-17-J3
Std. Pkg. 10	Blue	70322-CJ3	70324-CJ3	70326-CJ3	70326-11-CJ3	-	-	-
2 x 72	Green	70346-J3	70348-J3	70349-J3	70350-J3	70352-J3	70354-J3	70355-17-J3*
Std. Pkg. 10	Blue	70346-CJ3	70348-CJ3	70349-CJ3	70350-CJ3	-	-	-
2 x 72	Green	70346-J3-SE	70348-J3-SE	70349-J3-SE	70350-J3-SE	70352-J3-SE	70354-J3-SE	70355-17-J3-SE
Scalloped Edge	Green	70346-J3-SE	70348-J3-SE	70349-J3-SE	70350-J3-SE	70352-J3-SE	70354-J3-SE	70355-17-J3-SE
Std. Pkg. 10	Green	70346-J3-SE	70348-J3-SE	70349-J3-SE	70350-J3-SE	70352-J3-SE	70354-J3-SE	70355-17-J3-SE
2 x 132	Green	70382-J3	70384-J3	70386-J3	70386-11-J3	70388-J3	70389-J3	70391-J3
Std. Pkg. 10	Blue	70382-CJ3	70384-CJ3	70386-CJ3	70386-11-CJ3	-	-	-
3 x 132	Green	70646-J3	70648-J3	70650-J3	70650-11-J3	70652-J3	70653-J3	70655-J3
Std. Pkg. 10	Blue	70646-CJ3	70648-CJ3	70650-CJ3	70650-11-CJ3	-	-	-
4 x 132	Green	70886-J3	70888-J3	70890-J3	70890-11-J3	70893-J3	70894-J3	70896-J3
Std. Pkg. 10	Blue	70886-CJ3	70888-CJ3	70890-CJ3	70890-11-CJ3	-	-	-

\* 800,1200, 2000 grits are also available.

# Super Saver Cloth Belts

AO/X "PC"

Expanded selection of "STOCK ITEMS"



**Super Saver Belts:** These popular size belts are made from our AO/X "PC" material (XA167). This is an excellent quality semi-open coat material, well suited for all general purpose AO belt applications on either metal or wood. These select sizes are offered at substantial cost savings compared to our regular AO/X Standard material.



Size	Pkg.	36	40	50	60	80	100	120
1 x 42	50	70162-PC	70163-PC	70164-PC	70165-PC	70166-PC	70167-PC	70168-PC
2 x 48	10	70318-PC	70319-PC	70320-PC	70321-PC	70322-PC	70323-PC	70324-PC
3 x 18	10	70510-PC	70511-PC	70512-PC	70513-PC	70514-PC	70515-PC	70516-PC
3 x 21	10	70522-PC	70523-PC	70524-PC	70525-PC	70526-PC	70527-PC	70528-PC
3 x 24	10	70546-PC	70547-PC	70548-PC	70549-PC	70550-PC	70551-PC	70552-08-PC
4 x 24	10	70738-PC	70739-PC	70740-PC	70741-PC	70742-PC	70743-PC	70744-PC
4 x 36	10	70762-PC	70763-PC	70764-PC	70765-PC	70766-PC	70767-PC	70768-PC
6 x 48	10	70990-PC	70991-PC	70992-PC	70993-PC	70994-PC	70995-PC	70996-PC



# Narrow Cloth Belts



AO/X "PC" = "Super Saver" - Save big \$ on select sizes  
 AO/X = AO/X Standard (General Purpose)  
 ZA/Y + = Green Zirc Plus  
 CA/Y + = Firestorm Ceramic Plus

Size	Mtl.	36	40	50	60	80	100	120
1/4 x 18 Std. Pkg. 50	AO/X	70045	70046	70047	70048	70049	700490	700491
	ZA/Y +	70045-Z3	70046-Z3	70047-Z3	70048-Z3	70049-Z3	700490-Z3	700491-Z3
	CA/Y +	70045-C3	70046-C3	70047-C3	70048-C3	70049-C3	700490-C3	700491-C3
3/8 x 13 Std. Pkg. 50	AO/X	70058-02	70058-03	70058-04	70059	<b>70060</b>	70061	70062
	ZA/Y +	70058-02-Z3	70058-03-Z3	70058-04-Z3	70059-Z3	70060-Z3	70061-Z3	70062-Z3
	CA/Y +	70058-02-C3	70058-03-C3	70058-04-C3	<b>70059-C3</b>	70060-C3	70061-C3	<b>70062-C3</b>
1/2 x 12 Std. Pkg. 50	AO/X	70072	70073	70074	70075	70076	70077	70078
	ZA/Y +	70072-Z3	70073-Z3	70074-Z3	70075-Z3	70076-Z3	70077-Z3	70078-Z3
	CA/Y +	70072-C3	70073-C3	70074-C3	70075-C3	70076-C3	70077-C3	<b>70078-C3</b>
1/2 x 18 Std. Pkg. 50	AO/X	700811-02	700811-03	700811-04	<b>700811-05</b>	700811-06	700811-07	700811-08
	ZA/Y +	<b>700811-02-Z3</b>	700811-03-Z3	700811-04-Z3	<b>700811-05-Z3</b>	<b>700811-06-Z3</b>	700811-07-Z3	700811-08-Z3
	CA/Y +	<b>700811-02-C3</b>	700811-03-C3	700811-04-C3	<b>700811-05-C3</b>	<b>700811-06-C3</b>	700811-07-C3	700811-08-C3
1/2 x 24 Std. Pkg. 50	AO/X	70084	70085	70086	<b>70087</b>	<b>70088</b>	70089	70090
	ZA/Y +	70084-Z3	70085-Z3	70086-Z3	<b>70087-Z3</b>	70088-Z3	70089-Z3	70090-Z3
	CA/Y +	70084-C3	<b>70085-C3</b>	70086-C3	<b>70087-C3</b>	<b>70088-C3</b>	70089-C3	<b>70090-C3</b>
3/4 x 18 Std. Pkg. 50	AO/X	70120	70121	70122	<b>70123</b>	<b>70124</b>	70125-07	<b>70125-08</b>
	ZA/Y +	70120-Z3	70121-Z3	70122-Z3	70123-Z3	70124-Z3	70125-07-Z3	70125-08-Z3
	CA/X +	<b>70120-C3</b>	70121-C3	70122-C3	70123-C3	70124-C3	70125-07-C3	<b>70125-08-C3</b>
3/4 x 20-1/2 Std. Pkg. 50	AO/X	70126	70127	70128	<b>70129</b>	70130	70131	70132
	ZA/Y +	70126-Z3	70127-Z3	70128-Z3	70129-Z3	70130-Z3	70131-Z3	70132-Z3
	CA/Y +	70126-C3	70127-C3	70128-C3	<b>70129-C3</b>	70130-C3	70131-C3	70132-C3
1 x 18 Std. Pkg. 50	AO/X	701581-02	701581-03	701581-04	701581-05	701581-06	701581-07	701581-08
	ZA/Y +	701581-02-Z3	701581-03-Z3	701581-04-Z3	701581-05-Z3	701581-06-Z3	701581-07-Z3	701581-08-Z3
	CA/Y +	701581-02-C3	701581-03-C3	701581-04-C3	701581-05-C3	701581-06-C3	701581-07-C3	701581-08-C3
1 x 21 Std. Pkg. 50	AO/X	70159-02	70159-03	70159-04	70159-05	70159-06	70159-07	70159-08
	ZA/Y +	70159-02-Z3	70159-03-Z3	70159-04-Z3	70159-05-Z3	70159-06-Z3	70159-07-Z3	70159-08-Z3
	CA/Y +	70159-02-C3	70159-03-C3	70159-04-C3	70159-05-C3	70159-06-C3	70159-07-C3	70159-08-C3
1 x 30 Std. Pkg. 50	AO/X	701602	701603	701604	<b>701605</b>	701606	701607	701608
	ZA/Y +	701602-Z3	701603-Z3	701604-Z3	701605-Z3	701606-Z3	701607-Z3	701608-Z3
	CA/Y +	<b>701602-C3</b>	701603-C3	701604-C3	<b>701605-C3</b>	<b>701606-C3</b>	701607-C3	<b>701608-C3</b>
1 x 42 Std. Pkg. 50	AO-PC	70162-PC	70163-PC	70164-PC	<b>70165-PC</b>	70166-PC	70167-PC	70168-PC
	AO/X	70162	70163	70164	70165	<b>70166</b>	70167	<b>70168</b>
	ZA/Y +	70162-Z3	70163-Z3	70164-Z3	<b>70165-Z3</b>	<b>70166-Z3</b>	70167-Z3	70168-Z3
	CA/Y +	70162-C3	70163-C3	70164-C3	<b>70165-C3</b>	70166-C3	70167-C3	70168-C3
1 x 132 Std. Pkg. 10	AO/X	70190-02	70190-03	70190-04	70190-05	70190-06	70190-07	70190-08
	ZA/Y +	70190-02-Z3	70190-03-Z3	70190-04-Z3	70190-05-Z3	70190-06-Z3	70190-07-Z3	70190-08-Z3
	CA/Y +	70190-02-C3	70190-03-C3	70190-04-C3	70190-05-C3	70190-06-C3	70190-07-C3	70190-08-C3
1-1/8 x 21 Std. Pkg. 50	AO/X	70202	70203	70204	70205	70206	70207	70208
	ZA/Y +	70202-Z3	70203-Z3	70204-Z3	70205-Z3	70206-Z3	70207-Z3	70208-Z3
	CA/Y +	70202-C3	70203-C3	70204-C3	70205-C3	70206-C3	70207-C3	70208-C3
1-1/2 x 18-15/16 (Fits 6" expander) Std. Pkg. 10	AO/X	702421-02	702421-03	702421-04	702421-05	702421-06	702421-07	702421-08
	ZA/Y +	702421-02-Z3	702421-03-Z3	702421-04-Z3	702421-05-Z3	702421-06-Z3	702421-07-Z3	702421-08-Z3
	CA/Y +	702421-02-C3	702421-03-C3	702421-04-C3	702421-05-C3	702421-06-C3	702421-07-C3	702421-08-C3
1-1/2 x 60 Std. Pkg. 10	AO/X	70246	70247	70248	70249	70250	70251	70252
	ZA/Y +	70246-Z3	70247-Z3	70248-Z3	<b>70249-Z3</b>	<b>70250-Z3</b>	<b>70251-Z3</b>	<b>70252-Z3</b>
	CA/Y +	70246-C3	70247-C3	70248-C3	70249-C3	70250-C3	70251-C3	70252-C3
2 x 18-15/16 (Fits 6" expander) Std. Pkg. 10	AO/X	70267-02	70267-03	70267-04	70267-05	70267-06	70267-07	70267-08
	ZA/Y +	70267-02-Z3	70267-03-Z3	70267-04-Z3	70267-05-Z3	70267-06-Z3	70267-07-Z3	70267-08-Z3
	CA/Y +	70267-02-C3	70267-03-C3	70267-04-C3	70267-05-C3	70267-06-C3	70267-07-C3	70267-08-C3
2 x 30 Std. Pkg. 10	AO/X	70268-02	70268-03	70268-04	70268-05	70268-06	70268-07	70268-08
	ZA/Y +	70268-02-Z3	70268-03-Z3	70268-04-Z3	70268-05-Z3	70268-06-Z3	70268-07-Z3	70268-08-Z3
	CA/Y +	70268-02-C3	70268-03-C3	70268-04-C3	70268-05-C3	70268-06-C3	70268-07-C3	70268-08-C3

Note: Our most popular sizes and materials are shown. Others materials are available upon request - see page 9 for other material options.

# Narrow Cloth Belts



AO/X "PC" = "Super Saver" - Save big \$ on select sizes  
 AO/X = AO/X Standard (General Purpose)  
 ZA/Y + = Green Zirc Plus  
 CA/Y + = Firestorm Ceramic Plus

Size	Mtl.	36	40	50	60	80	100	120
2 x 36 Std. Pkg. 10	AO/X	70276	70277	70278	70279	70280	70281	70282
	ZA/Y +	70276-Z3	70277-Z3	70278-Z3	70279-Z3	70280-Z3	70281-Z3	70282-Z3
	CA/Y +	70276-C3	70277-C3	70278-C3	70279-C3	70280-C3	70281-C3	70282-C3
2 x 42 Std. Pkg. 10	AO/X	70294	70295	70296	70297	70298	70299	<b>70300</b>
	ZA/Y +	70294-Z3	70295-Z3	70296-Z3	70297-Z3	70298-Z3	70299-Z3	70300-Z3
	CA/Y +	<b>70294-C3</b>	70295-C3	70296-C3	<b>70297-C3</b>	<b>70298-C3</b>	70299-C3	<b>70300-C3</b>
2 x 48 Std. Pkg. 10	AO-PC	70318-PC	70319-PC	70320-PC	<b>70321-PC</b>	<b>70322-PC</b>	<b>70323-PC</b>	<b>70324-PC</b>
	AO/X	70318	70319	70320	<b>70321</b>	<b>70322</b>	70323	<b>70324</b>
	ZA/Y +	70318-Z3	70319-Z3	70320-Z3	70321-Z3	70322-Z3	70323-Z3	<b>70324-Z3</b>
	CA/Y +	70318-C3	70319-C3	70320-C3	<b>70321-C3</b>	<b>70322-C3</b>	70323-C3	<b>70324-C3</b>
2 x 60 Std. Pkg. 10	AO/X	70330	70331	70332	70333	70334	70335	70336
	ZA/Y +	70330-Z3	70331-Z3	70332-Z3	70333-Z3	70334-Z3	70335-Z3	70336-Z3
	CA/Y +	70330-C3	70331-C3	70332-C3	70333-C3	70334-C3	70335-C3	70336-C3
2 x 72 Std. Pkg. 10 Original Firestorm Firestorm II	AO/X	<b>70342</b>	<b>70343</b>	<b>70344</b>	<b>70345</b>	<b>70346</b>	70347	<b>70348</b>
	ZA/Y +	70342-Z3	70343-Z3	70344-Z3	70345-Z3	<b>70346-Z3</b>	70347-Z3	70348-Z3
	CA/Y +	<b>70342-C3</b>	<b>70343-C3</b>	<b>70344-C3</b>	<b>70345-C3</b>	<b>70346-C3</b>	70347-C3	<b>70348-C3</b>
	CA/Y +	<b>70342-C4</b>	<b>70343-C4</b>	<b>70344-C4</b>	<b>70345-C4</b>	<b>70346-C4</b>	70347-C4	<b>70348-C4</b>
2 x 132 Std. Pkg. 10	AO/X	70378	70379	70380	70381	70382	70383	70384
	ZA/Y +	<b>70378-Z3</b>	70379-Z3	70380-Z3	70381-Z3	70382-Z3	70383-Z3	70384-Z3
	CA/Y +	70378-C3	70379-C3	70380-C3	70381-C3	70382-C3	70383-C3	70384-C3
2-1/2 x 48 Std. Pkg. 10	AO/X	70426	70427	70428	70429	70430	70431	70432
	ZA/Y +	70426-Z3	70427-Z3	70428-Z3	<b>70429-Z3</b>	70430-Z3	70431-Z3	70432-Z3
	CA/Y +	70426-C3	70427-C3	70428-C3	70429-C3	70430-C3	70431-C3	70432-C3
2-1/2 x 60 Std. Pkg. 10	AO/X	70438	70439	70440	70441	70442	70443	70444
	ZA/Y +	70438-Z3	70439-Z3	70440-Z3	70441-Z3	70442-Z3	70443-Z3	70444-Z3
	CA/Y +	<b>70438-C3</b>	70439-C3	70440-C3	70441-C3	70442-C3	70443-C3	70444-C3
3 x 18 Std. Pkg. 10	AO-PC	<b>70510-PC</b>	<b>70511-PC</b>	<b>70512-PC</b>	<b>70513-PC</b>	<b>70514-PC</b>	<b>70515-PC</b>	<b>70516-PC</b>
	AO/X	70510	70511	70512	70513	70514	70515	70516
	ZA/Y +	70510-Z3	70511-Z3	70512-Z3	70513-Z3	70514-Z3	70515-Z3	70516-Z3
	CA/Y +	70510-C3	70511-C3	70512-C3	70513-C3	70514-C3	70515-C3	70516-C3
3 x 21 Std. Pkg. 10	AO-PC	<b>70522-PC</b>	<b>70523-PC</b>	<b>70524-PC</b>	<b>70525-PC</b>	<b>70526-PC</b>	<b>70527-PC</b>	<b>70528-PC</b>
	AO/X	70522	70523	70524	70525	70526	70527	70528
	ZA/Y +	70522-Z3	70523-Z3	70524-Z3	70525-Z3	70526-Z3	70527-Z3	70528-Z3
	CA/Y +	70522-C3	70523-C3	70524-C3	70525-C3	70526-C3	70527-C3	70528-C3
3 x 24 Std. Pkg. 10	AO-PC	<b>70546-PC</b>	<b>70547-PC</b>	<b>70548-PC</b>	<b>70549-PC</b>	<b>70550-PC</b>	<b>70551-PC</b>	<b>70552-PC</b>
	AO/X	70546	70547	70548	70549	70550	70551	70552
	ZA/Y +	70546-Z3	70547-Z3	70548-Z3	70549-Z3	70550-Z3	70551-Z3	70552-Z3
	CA/Y +	70546-C3	70547-C3	70548-C3	70549-C3	70550-C3	70551-C3	70552-C3
3 x 72 Std. Pkg. 10	AO/X	70558	70559	70560	70561	70562	70563	70564
	ZA/Y +	70558-Z3	70559-Z3	70560-Z3	70561-Z3	70562-Z3	70563-Z3	70564-Z3
	CA/Y +	70558-C3	70559-C3	70560-C3	70561-C3	70562-C3	70563-C3	70564-C3
3 x 79 Std. Pkg. 10	AO/X	705701-02	705701-03	705701-04	70571	70572	70573	70574
	ZA/Y +	705701-02-Z3	705701-03-Z3	705701-04-Z3	70571-Z3	70572-Z3	70573-Z3	70574-Z3
	CA/Y +	705701-02-C3	705701-03-C3	705701-04-C3	70571-C3	70572-C3	70573-C3	70574-C3
3 x 90 Std. Pkg. 10	AO/X	70582	70584	70585	70586	70587	70588	70589
	ZA/Y +	70582-Z3	70584-Z3	70585-Z3	70586-Z3	70587-Z3	70588-Z3	70589-Z3
	CA/Y +	70582-C3	70584-C3	70585-C3	70586-C3	70587-C3	70588-C3	70589-C3
3 x 132 Std. Pkg. 10	AO/X	70642	70643	70644	70645	70646	70647	70648
	ZA/Y +	70642-Z3	70643-Z3	70644-Z3	70645-Z3	70646-Z3	70647-Z3	70648-Z3
	CA/Y +	<b>70642-C3</b>	70643-C3	70644-C3	70645-C3	70646-C3	70647-C3	<b>70648-C3</b>

Note: Our most popular sizes and materials are shown. Others materials are available upon request - see page 9 for other material options.

# Narrow Cloth Belts



AO/X "PC" = "Super Saver" - Save big \$ on select sizes  
 AO/X = AO/X Standard (General Purpose)  
 ZA/Y + = Green Zirc Plus  
 CA/Y + = Firestorm Ceramic Plus

Size	Mtl.	36	40	50	60	80	100	120
3 x 168 Std. Pkg. 10	AO/X	70662	70663	70664	70665	70666	70667	70668
	ZA/Y +	70662-Z3	<b>70663-Z3</b>	70664-Z3	70665-Z3	70666-Z3	70667-Z3	70668-Z3
	CA/Y +	70662-C3	70663-C3	70664-C3	70665-C3	70666-C3	70667-C3	70668-C3
3-1/2 x 15-1/2 Std. Pkg. 10	AO/X	70690	70691	70692	70693	70694	70695	70696
	ZA/Y +	70690-Z3	70691-Z3	70692-Z3	<b>70693-Z3</b>	<b>70694-Z3</b>	70695-Z3	<b>70696-Z3</b>
	CA/Y +	70690-C3	70691-C3	70692-C3	70693-C3	70694-C3	70695-C3	70696-C3
4 x 24 Std. Pkg. 10	AO-PC	<b>70738-PC</b>	<b>70739-PC</b>	<b>70740-PC</b>	<b>70741-PC</b>	<b>70742-PC</b>	<b>70743-PC</b>	<b>70744-PC</b>
	AO/X	70738	70739	70740	70741	70742	70743	70744
	ZA/Y +	70738-Z3	70739-Z3	70740-Z3	70741-Z3	70742-Z3	70743-Z3	70744-Z3
4 x 36 Std. Pkg. 10	AO-PC	70762-PC	<b>70763-PC</b>	<b>70764-PC</b>	<b>70765-PC</b>	<b>70766-PC</b>	70767-PC	70768-PC
	AO/X	70762	70763	70764	<b>70765</b>	<b>70766</b>	70767	70768
	ZA/Y +	70762-Z3	70763-Z3	70764-Z3	70765-Z3	70766-Z3	70767-Z3	70768-Z3
4 x 54 Std. Pkg. 10	AO/X	70786	70787	70788	70789	70790	70791	70792
	ZA/Y +	70786-Z3	70787-Z3	70788-Z3	70789-Z3	70790-Z3	70791-Z3	70792-Z3
	CA/Y +	70786-C3	70787-C3	70788-C3	70789-C3	70790-C3	70791-C3	70792-C3
4 x 60 Std. Pkg. 10	AO/X	70793	70794	70794-04	70795	70796-06	70796-07	70796-08
	ZA/Y +	70793-Z3	70794-Z3	70794-04-Z3	<b>70795-Z3</b>	<b>70796-06-Z3</b>	70796-07-Z3	70796-08-Z3
	CA/Y +	70793-C3	70794-C3	70794-04-C3	70795-C3	70796-06-C3	70796-07-C3	70796-08-C3
4 x 106 Std. Pkg. 10	AO/X	70825	70826	70827	70828	70829	70830	70831
	ZA/Y +	70825-Z3	70826-Z3	70827-Z3	70828-Z3	70829-Z3	70830-Z3	70831-Z3
	CA/Y +	70825-C3	70826-C3	70827-C3	70828-C3	70829-C3	70830-C3	70831-C3
4 x 132 Std. Pkg. 10	AO/X	70882	70883	70884	70885	70886	70887	70888
	ZA/Y +	70882-Z3	70883-Z3	70884-Z3	70885-Z3	70886-Z3	70887-Z3	70888-Z3
	CA/Y +	70882-C3	70883-C3	70884-C3	70885-C3	70886-C3	70887-C3	70888-C3
6 x 48 Std. Pkg. 10	AO-PC	<b>70990-PC</b>	<b>70991-PC</b>	<b>70992-PC</b>	<b>70993-PC</b>	<b>70994-PC</b>	70995-PC	<b>70996-PC</b>
	AO/X	70990	<b>70991</b>	<b>70992</b>	<b>70993</b>	<b>70994</b>	70995	<b>70996</b>
	ZA/Y +	<b>70990-Z3</b>	<b>70991-Z3</b>	<b>70992-Z3</b>	<b>70993-Z3</b>	<b>70994-Z3</b>	70995-Z3	<b>70996-Z3</b>
6 x 60 Std. Pkg. 10	AO/X	71026	71027	71028	71029	71030	71031	71032
	ZA/Y +	71026-Z3	71027-Z3	71028-Z3	71029-Z3	71030-Z3	71031-Z3	71032-Z3
	CA/Y +	71026-C3	71027-C3	71028-C3	71029-C3	71030-C3	71031-C3	71032-C3
6 x 132 Std. Pkg. 10	AO/X	71036-02	71036-03	71036-04	71036-05	71037	71038	71039
	ZA/Y +	71036-02-Z3	71036-03-Z3	71036-04-Z3	71036-05-Z3	71037-Z3	71038-Z3	71039-Z3
	CA/Y +	71036-02-C3	71036-03-C3	71036-04-C3	71036-05-C3	71037-C3	71038-C3	71039-C3
8 x 107 Std. Pkg. 10	AO/X	71086	71087	71088	71089	71090	71091	71092
	ZA/Y +	71086-Z3	71087-Z3	71088-Z3	71089-Z3	71090-Z3	71091-Z3	71092-Z3
	CA/Y +	71086-C3	71087-C3	71088-C3	71089-C3	71090-C3	71091-C3	71092-C3
10 x 70-1/2 Std. Pkg. 10	AO/X	71206	71207	71208	71209	71210	71211	71212
	ZA/Y +	71206-Z3	71207-Z3	71208-Z3	71209-Z3	71210-Z3	71211-Z3	71212-Z3
	CA/Y +	71206-C3	71207-C3	71208-C3	71209-C3	71210-C3	71211-C3	71212-C3

## Other popular belt materials

Grain	Description	Ext. *	Grade	Grain	Description	Ext. *	Grade
AO/J	AO/J PC Economy	(-JPC)	JA165	SC/Y	SC/Y Standard (wet/dry)	(-S)	PC221
	AO/J Premium	(-J2)	KAF	ZA/X	ZA/X PC (Economy)	(-ZPC)	XZ677
	AO/J Plus	(-J3)	KA537	ZA/Y	ZA/Y Standard (wet/dry)	(-Z)	PZ628
	AO Blue Film	(-BF)	SA331		ZA/Y Plus (wet/dry**)	(-Z3)	R203
AO/X	AO/X PC Economy	(-PC)	XA167	CA/J	ZA/Y Plus (wet/dry**)	(-Z6)	PZ528
	AO/X Standard	None	XA911		CA/J Blue Ceramic	(-CJ3)	JS997
	AO/X Open Coat	(-4)	K35	CA/X	CA/X Firestorm (wet/dry**)	(-C3)	XK870X
AO/Y	AO/Y Plus (w/d**)	(-Y)	R192	CA/Y	CA/Y Firestorm II (wet/dry**)	(-C4)	XK885Y

\*\* Designed for dry use, but can be used wet.

\* Material extension follows the part number. ie: to have a belt made from ZA/Y STD material, the AO/X part number will be followed by "-Z"

# Wide Cloth Belts



## Part Number Extension:

<b>AO/X Standard</b>	<b>(For Metal)</b>	....shown below
<b>AO/X "PC" Economy</b>	<b>(For Metal / Wood)</b>	....add - <b>PC</b> to part number
<b>AO/X Open Coat</b>	<b>(For Wood)</b>	....add - <b>4</b> to part number
<b>AO/F Paper</b>	<b>(For Metal / Wood)</b>	....add - <b>F</b> to part number
<b>SC/F Paper</b>	<b>(For Metal / Wood)</b>	....add - <b>S-F</b> to part number
<b>ZA/Y Plus</b>	<b>(For Metal)</b>	....add - <b>Z3</b> to part number
<b>CA/Y Plus</b>	<b>(For Metal)</b>	....add - <b>C3</b> to part number

Std. Pkg.	3/Box				5/Box							
	Size	36	40	50	60	80	100	120	150	180	220	240
25 x 48	72141	72142	72143	72144	72145	72146	72147	72148	72149	72150	72151	
25 x 60	72152	72153	72154	72155	72156	72157	72158	72159	72160	72161	72162	
36 x 75	72229	72230	72231	72232	72233	72234	72235	72236	72237	72238	72239	
37 x 60	72281	72282	72283	72284	72285	72286	72287	72288	72289	72290	72291	
37 x 75	72304	72305	72306	72307	72308	72309	72310	72311	72312	72313	72314	
50 x 103	72392	72393	72394	72395	72396	72397	72398	72399	72400	72401	72402	
52 x 75	72437	72438	72439	72440	72441	72442	72443-08	72443	72444	72445	72446	
52 x 103	72448	72449	72450	72451	72452	72453	72454	72455	72456	72457	72458	

Other sizes and grits are available. Normal delivery is approximately 5-7 work days.

# Pump Sleeves

## AO/J Open Coat

Std. Pkg. 10

Size	Grit	Item No.
9" x 10-5/8" (3" x 9" Drum)	60-J	69920
	80-J	69921
	120-J	69923
	180-J	69925
9" x 13-3/4" (4" x 9" Drum)	60-J	69932
	80-J	69933
	120-J	69935
	180-J	69937

Size	Grit	Item No.
9" x 20" (6" x 9" Drum)	60-J	69944
	80-J	69945
	120-J	69947
	180-J	69949
9" x 26-5/16" (8" x 9" Drum)	60-J	69956
	80-J	69957
	120-J	69959
	180-J	69961



## GREASE STICKS

**Formax F-26 Grease Stick:** Helps prevent loading. This light bodied grease spreads out thinly and remains "wet" on the belt. Recommended for all belt-polishing operations. Works great on aluminum!

Std. Pkg. 1

Description	Item No.
Formax F-26	<b>68010</b>



## CLEANING STICKS

Designed to primarily remove wood and other non-metallic materials that build up and clog the abrasive surface. In some instances it also helps to remove clogged metal.

Std. Pkg. 1

Size	Item No.
1-1/2 x 1-1/2 x 8	<b>68026</b>
2 x 2 x 12	<b>68027</b>

# Hi-Performance Quick-Lock Discs

## ***FIRESTORM CERAMIC II: 2-ply blue backing***

Longest lasting grain. Our newest ceramic grain offers improved self-sharpening for longer life and faster cut. Grinding aid makes it excellent for high heat applications such as stainless steel, highly alloyed or hardened steels. Also works great on carbon steel and aluminum.

## ***FIRESTORM CERAMIC: 2-ply blue backing***

Long lasting grain self sharpens under medium or heavy pressure. Grinding aid makes it excellent for high heat applications such as stainless steel, highly alloyed or hardened steels. Also works great on carbon steel and aluminum.

## ***Ceramic Fiber: rigid fiber backing***

Long lasting self sharpening grain, on a durable fiber backing. The rigid fiber backing and a strong resin bond offer tear-resistance and help increase disc life.



## ***Zirc Plus: 2-ply blue backing***

Self-sharpening grain. Works best with heavy pressure. Grinding aid makes it excellent for high heat applications such as stainless steel, highly alloyed or hardened steels. Also works great on carbon steel and aluminum.

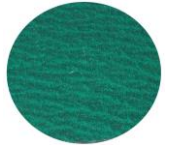
### Competitive Products:

3M: Cubitron II  
Superior: Ceramic Advantage  
Norton: Blaze R980P 2 Ply

3M: 977F, 777F Regalite  
Norton: Blaze R980P 2 Ply  
Merit: Ultra Ceramic Plus  
Arc: Predator

3M: 785C, 787C  
Norton: Blaze F980  
Arc: Predator Resin Fiber

3M: 577F  
Norton: R860  
Merit: Zirc Plus R887D



		FIRESTORM II	
Dia.	Grit	"S"	"R"
1-1/2" Std. Pkg. 100	36	-	-
	40	-	-
	50	-	-
	60	-	-
	80	-	-
	100	-	-
2" Std. Pkg. 100	120	-	-
	24	32549	32749
	36	32550	32750
	40	32551	32751
	50	32552	32752
	60	32553	32753
3" Std. Pkg. 50	80	32554	32754
	100	32555	32755
	120	32556	32756
	24	32561	32761
	36	32562	32762
	40	32563	32763
	50	32564	32764
	60	32565	32765
	80	32566	32766
	100	32567	32767
	120	32568	32768

FIRESTORM	
"S"	"R"
32438	32638
32439	32639
32440	32640
32441	32641
32442	32642
32443	32643
32444	32644
32449	32649
32450	32650
32451	32651
32452	32652
32453	32653
32454	32654
32455	32655
32456	32656
32461	32661
32462	32662
32463	32663
32464	32664
32465	32665
32466	32666
32467	32667
32468	32668

Ceramic Fiber	
"S"	"R"
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
32449-F	32649-F
32450-F	32650-F
-	-
32452-F	32652-F
32453-F	32653-F
32454-F	32654-F
-	-
32456-F	32656-F
32461-F	32661-F
32462-F	32662-F
-	-
32464-F	32664-F
32465-F	32665-F
32466-F	32666-F
-	-
32468-F	32668-F

Zirc Plus	
"S"	"R"
-	-
-	-
-	-
-	-
-	-
-	-
-	-
-	-
319031	319131
319032	319132
319033	319133
319034	319134
319035	319135
319036	319136
319037	319137
319038	319138
319041	319141
319042	319142
319043	319143
319044	319144
319045	319145
319046	319146
319047	319147
319048	319148

Holdings - page 13



**TYPE "S" Equal To:**  
Norton Speed-Lok TS®  
Merit Powerlock Type II®  
3M Roloc TS®



**TYPE "R" Equal To:**  
Norton Speed-Lok TR®  
Merit Powerlock Type III®  
3M Roloc TR®

# Quick-Lock Discs - AO

## AO "Extreme":

Proprietary Blend of AO and ceramic grain. Discs have an extra durable 2-ply red backing which reduces edge wear and snagging. Metal Type S buttons are provided on our AO Extreme discs.

## AO "Premium":

AO cloth is laminated to a blue cloth backing which improves durability and reduces edge wear. AO is a versatile grain and is a good starting specification when initial price is the primary purchasing consideration.



		AO "Extreme"		
Dia.	Grit	Type "P"	Type "S"	Type "R"
1" Std. Pkg. 100	36	31214-E	31414-E	31614-E
	40	31215-E	31415-E	31615-E
	50	31216-E	31416-E	31616-E
	60	31217-E	31417-E	31617-E
	80	31218-E	31418-E	31618-E
	100	31219-E	31419-E	31619-E
1-1/2" Std. Pkg. 100	120	31220-E	31420-E	31620-E
	36	31238-E	31438-E	31638-E
	40	31239-E	31439-E	31639-E
	50	31240-E	31440-E	31640-E
	60	31241-E	31441-E	31641-E
	80	31242-E	31442-E	31642-E
2" Std. Pkg. 100	100	31243-E	31443-E	31643-E
	120	31244-E	31444-E	31644-E
	36	31250-E	31450-E	31650-E
	40	31251-E	31451-E	31651-E
	50	31252-E	31452-E	31652-E
	60	31253-E	31453-E	31653-E
3" Std. Pkg. 50	80	31254-E	31454-E	31654-E
	100	31255-E	31455-E	31655-E
	120	31256-E	31456-E	31656-E
	36	31262-E	31462-E	31662-E
	40	31263-E	31463-E	31663-E
	50	31264-E	31464-E	31664-E
	60	31265-E	31465-E	31665-E
	80	31266-E	31466-E	31666-E
	100	31267-E	31467-E	31667-E
	120	31268-E	31468-E	31668-E

		AO "Premium"	
Dia.	Grit	Type "S"	Type "R"
1-1/2" Std. Pkg. 100	36	31438	31638
	40	31439	31639
	50	31440	31640
	60	31441	31641
	80	31442	31642
	100	31443	31643
2" Std. Pkg. 100	120	31444	31644
	24	31449	31649
	36	31450	31650
	40	31451	31651
	50	31452	31652
	60	31453	31653
	80	31454	31654
	100	31455	31655
	120	31456	31656
	180	31458	31658
3" Std. Pkg. 50	240	31459	31659
	320	31460	31660
	24	31461	31661
	36	31462	31662
	40	31463	31663
	50	31464	31664
	60	31465	31665
	80	31466	31666
	100	31467	31667
	120	31468	31668
	180	31470	31670
	240	31471	31671
	320	31472	31672

Most non-stock Extreme discs are usually available in 2-3 days.

Holders - page 13

**Also available:** Compact Grain and Silicon Carbide discs. Please contact us for availability.

# Quick-Lock Holders

## Premium Holders "Made in the USA"

Std. Pkg. 1 1/4" Shank

Dia.	Dens.	RPM	Type "S"	Type "R"
1-1/2"	Med/Firm	25,000	50252	50258
2"	Med/Firm	25,000	50253	50259
3"	Med/Firm	20,000	50254	50260



Premium holders improve cut-rate and disc life. Good for all discs, but they really enhance the performance of Ceramic and Zirc discs!

## Traditional "Rubber" Holders

Std. Pkg. 1 1/4" Shank

Dia.	Dens.	RPM	Type "P"	Type "S"	Type "R"
3/4"	Med	40,000	-	50250	-
1"	Med	40,000	50234	50251	50257
1-1/2"	Med	25,000	50237	50252-R	50258-R
2"	Soft	20,000	50240SF	50253SF	50259SF
	Med	25,000	50240	50253-R	50259-R
	Firm	25,000	-	50253FM	50259FM
3"	Soft	12,000	50241SF	50254SF	50260SF
	Med	20,000	50241	50254-R	50260-R
	Firm	20,000	-	50254FM	50260FM



## Additional Hardware

Std. Pkg. 1

Description	Item No.
Replacement Shank	50230
6" Extension Mandrel	12954
5/8-11 Adapter	50264

# Fiber Disc Back-Up Pads

## Rubber "Vented"

Std. Pkg. 1

Description	Firm.	Max RPM	Item No.
4-1/2" x 5/8-11	Med	13,500	50401
5" x 5/8-11	Med	13,000	50404
7" x 5/8-11	Med	8,600	50410
7" x 5/8-11	Rigid	8,600	50411
9" x 5/8-11	Med	6,600	50415
5/8-11 Center Nut (sold separately)			50418

Above pads are also available with a 5/8" smooth bore. To order this style, add "-SB" after the part number.



**Our most popular back up pad.** Spiral vents provide cooling action by pulling air between the disc and pad.

## Low Profile

Std. Pkg. 1

Description	Firm.	Max RPM	Item No.
4-1/2" x 5/8-11	Med	13,000	50431-LP
5" x 5/8-11	Med	12,000	50432-LP

Includes 5 spacer washers to accommodate different spindle lengths.



**Designed to work with quick-change fiber discs.** Originally made to fit Black & Decker electric grinders due to their short spindles, but will fit most grinders. **Comparable to Standard Abrasives BD style pad.**

## Heavy Duty

Std. Pkg. 1

Description	Firm.	Max RPM	Item No.
4-1/2" x 5/8 (Plain Hole)	Rigid	13,000	50436
5" x 5/8 (Plain Hole)	Rigid	12,000	50437
7" x 5/8 (Plain Hole)	Rigid	8,500	50438

Center Nut (#50418) included with each pad at no extra charge.



**Extra Rigid - "Glass Fiber Reinforced".** Works great on severe grinding applications. (Ideal for grits 24 & 36)

## General Purpose

Std. Pkg. 1

Description	Firm.	Max RPM	Item No.
4-1/2" x 5/8 (Plain Hole)	Med	13,000	50431
5" x 5/8 (Plain Hole)	Med	12,000	50432
7" x 5/8 (Plain Hole)	Med	8,500	50433

Center Nut (#50418) included with each pad at no extra charge.



**Our economy priced pad.** Smooth face design works good on most general purpose applications.

# Resin Fiber Discs

## **FIRESTORM II CERAMIC:**



Our NEWEST GENERATION ceramic grain (Made-in-Germany) is produced with a much finer crystalline structure than previous generation ceramics. This allows each granule to micro-fracture more often during use, continuously revealing fresh abrasive grain. Works best on medium to high pressure applications on heat sensitive materials such as stainless steel, titanium and other super alloys. Works great on most other metals. The "Top Sized" grinding aid also allows it to perform well on aluminum without loading!

## **FIRESTORM CERAMIC:**



Our original Firestorm ceramic grain (Made-in-Germany). Works great on medium to high pressure applications on heat sensitive materials such as stainless steel, titanium and other super alloys. Works great on most other metals. The "Top Sized" grinding aid also allows it to perform well on aluminum without loading!

## **Zirc Premium:**



This premium ZA disc (Made-in-Germany) is a good choice for aggressive grinding on most materials (works best with medium to heavy pressure). Zirc is a self-sharpening grain and it maintains good cutting action as it wears.

## **AO Premium:**



This premium AO disc (Made-in-Germany) is a good starting point when price is the primary purchasing criteria. *Note: AO grains do not resharpen like ceramic and zirc products, as they wear they become dull and the rate of stock removal diminishes quickly.*

Std. Pkg. 25	CERAMIC			ZIRC PREM.	AO PREM.
	Dia. x AH	Grit	Item No.		
4-1/2" x 7/8 Max RPM 13,000	24	<b>37610</b>	<b>37510</b>	<b>37202</b>	<b>37110</b>
		<b>37611</b>	<b>37511</b>	<b>37203</b>	<b>37111</b>
	50	37612	<b>37512</b>	37204	<b>37112</b>
		<b>37613</b>	<b>37513</b>	<b>37205</b>	<b>37113</b>
		<b>37614</b>	<b>37514</b>	<b>37206</b>	<b>37114</b>
		<b>37616</b>	<b>37516</b>	37207	<b>37116</b>
5" x 7/8 Max Max. 11,900	24	<b>37618</b>	<b>37518</b>	37208	<b>37118</b>
		<b>37619</b>	<b>37519</b>	<b>37209</b>	<b>37119</b>
	50	<b>37620</b>	<b>37520</b>	37210	<b>37120</b>
		<b>37621</b>	<b>37521</b>	<b>37211</b>	<b>37121</b>
		<b>37622</b>	<b>37522</b>	<b>37212</b>	<b>37122</b>
		37624	<b>37524</b>	37214	<b>37124</b>
7" x 7/8 Max RPM 8,600	24	37626	<b>37526</b>	37214	<b>37126</b>
		<b>37627</b>	<b>37527</b>	<b>37215</b>	<b>37127</b>
	50	37628	37528	37216	37128
		<b>37629</b>	<b>37529</b>	37217	37129
		<b>37630</b>	37530	<b>37218</b>	<b>37130</b>
		37632	37532	37219	<b>37132</b>

4" & 9" diameters are also available.

Back-up pads - page 13

**5/8-11 Quick-Change Hub, can be added to all fiber discs shown above.**



**Quick-change discs work great with our Low Profile pads - page 13.** Available to fit 4-1/2" & 5" discs. Includes several spacer-washers to prevent 5/8-11 grinder spindles from protruding thru the front of disc.



# Ceramic Flap Discs

## Traditional Fiberglass Backing Plate

***FIRESTORM CERAMIC:*** BEST CHOICE for *stainless steel and other hard-to-grind alloys*. Works great on most other materials, including carbon steel.



### Standard Density (Fiberglass Backing Plate)

Tightly layered flaps provide the most aggressive stock removal rates.



### Hi-Density (Fiberglass Backing Plate)

Significantly increases product life and provides a more cushioned effect.



**Type 29 (AF = angled face):** "Built-in" angle for increased contact area & more aggressive stock removal.



**Type 27 (FF = flat face):** Better for blending & finishing applications.



Std. Pkg. 10		Firestorm Ceramic			
		Standard Density		Hi-Density	
Dia. x Arbor	Grit	T-29	T-27	T-29	T-27
4-1/2" x 7/8	36	10923AF	10923FF	10928AF	10928FF
	40	10924AF	10924FF	10929AF	10929FF
	60	10925AF	10925FF	10930AF	10930FF
	80	10926AF	10926FF	10931AF	10931FF
	120	10927AF	10927FF	10932AF	10932FF
4-1/2" x 5/8-11	36	10913AF	10913FF	10918AF	10918FF
	40	10914AF	10914FF	10919AF	10919FF
	60	10915AF	10915FF	10920AF	10920FF
	80	10916AF	10916FF	10921AF	10921FF
	120	10917AF	10917FF	10922AF	10922FF
5" x 7/8	36	10943AF	10943FF	10948AF	10948FF
	40	10944AF	10944FF	10949AF	10949FF
	60	10945AF	10945FF	10950AF	10950FF
	80	10946AF	10946FF	10951AF	10951FF
	120	10947AF	10947FF	10952AF	10952FF
5" x 5/8-11	36	10933AF	10933FF	10938AF	10938FF
	40	10934AF	10934FF	10939AF	10939FF
	60	10935AF	10935FF	10940AF	10940FF
	80	10936AF	10936FF	10941AF	10941FF
	120	10937AF	10937FF	10942AF	10942FF
7" x 7/8	36	10963AF	10963FF	10968AF	10968FF
	40	10964AF	10964FF	10969AF	10969FF
	60	10965AF	10965FF	10970AF	10970FF
	80	10966AF	10966FF	10971AF	10971FF
7" x 5/8-11	36	10953AF	10953FF	10958AF	10958FF
	40	10954AF	10954FF	10959AF	10959FF
	60	10955AF	10955FF	10960AF	10960FF
	80	10956AF	10956FF	10961AF	10961FF

# Ceramic - Quick Change Trimmable

## Trimmable Backing Plate

Every Trimmable disc now has a 5/8-11 built-in thread!  
(Quit paying extra for a metal 5/8-11 hub !)



Std. Pkg. 10		FasTrim® (Type 27) Trimmable Plastic Backing Plate			
		Standard Density		Hi-Density	
Dia. x Arbor	Grit	T-29	T-27	T-29	T-27
4-1/2" x 5/8-11	36	-	10913T-FF	-	10918T-FF
	40	-	10914T-FF	-	10919T-FF
	60	-	10915T-FF	-	10920T-FF
	80	-	10916T-FF	-	10921T-FF

- FasTrim discs have an internal 5/8-11 thread, which creates a lower profile design than metal hubs!
- Safer, low profile design keeps the disc inside the safety guard!

# Zirc Flap Discs

## Traditional Fiberglass Backing Plate

**Premium Zirc:** BEST CHOICE for carbon steel. Works great on most other materials, including stainless steel.



Std. Pkg. 10		Premium Zirc			
		Standard Density		Hi-Density	
Dia. x Arbor	Grit	T-29	T-27	T-29	T-27
4-1/2" x 7/8 Max. RPM 13,300	36	10823AF	10823FF	10623AF	10623FF
	40	10824AF	10824FF	10624AF	10624FF
	60	10825AF	10825FF	10625AF	10625FF
	80	10826AF	10826FF	10626AF	10626FF
	120	10827AF	10827FF	10627AF	10627FF
4-1/2" x 5/8-11 Max. RPM 13,300	36	10813AF	10813FF	10613AF	10613FF
	40	10814AF	10814FF	10614AF	10614FF
	60	10815AF	10815FF	10615AF	10615FF
	80	10816AF	10816FF	10616AF	10616FF
	120	10817AF	10817FF	10617AF	10617FF
5" x 7/8 Max. RPM 13,000	36	10843AF	10843FF	10643AF	10643FF
	40	10844AF	10844FF	10644AF	10644FF
	60	10845AF	10845FF	10645AF	10645FF
	80	10846AF	10846FF	10646AF	10646FF
	120	10847AF	10847FF	10647AF	10647FF
5" x 5/8-11 Max. RPM 13,000	36	10833AF	10833FF	10633AF	10633FF
	40	10834AF	10834FF	10634AF	10634FF
	60	10835AF	10835FF	10635AF	10635FF
	80	10836AF	10836FF	10636AF	10636FF
	120	10837AF	10837FF	10637AF	10637FF
7" x 7/8 Max. RPM 8,600	36	10863AF	10863FF	10663AF	10663FF
	40	10864AF	10864FF	10664AF	10664FF
	60	10865AF	10865FF	10665AF	10665FF
	80	10866AF	10866FF	10666AF	10666FF
	7" x 5/8-11 Max. RPM 8,600	36	10853AF	10853FF	10653AF
40		10854AF	10854FF	10654AF	10654FF
60		10855AF	10855FF	10655AF	10655FF
80		10856AF	10856FF	10656AF	10656FF

### Standard Density (Fiberglass Backing Plate)

Tightly layered flaps provide the most aggressive stock removal rates.



### Hi-Density (Fiberglass Backing Plate)

Significantly increases product life and provides a more cushioned effect.



**Type 29 (AF = angled face):** "Built-in" angle for increased contact area & more aggressive stock removal.



**Type 27 (FF = flat face):** Better for blending & finishing applications.



# Zirc - Quick Change Trimmable

## Trimmable Backing Plate

Every Trimmable disc now has a 5/8-11 built-in thread!  
(Quit paying extra for a metal 5/8-11 hub !)



Std. Pkg. 10		FasTrim® (Type 27) Trimmable Plastic Backing Plate			
		Standard Density		Hi-Density	
Dia. x Arbor	Grit	T-29	T-27	T-29	T-27
4-1/2" x 5/8-11 Max. RPM 13,300	36	-	10813T-FF	-	10613T-FF
	40	-	10814T-FF	-	10614T-FF
	60	-	10815T-FF	-	10615T-FF
	80	-	10816T-FF	-	10616T-FF

- FasTrim discs have an internal 5/8-11 thread, which creates a lower profile design than metal hubs!
- Safer, low profile design keeps the disc inside the safety guard!

# Curved Edge Flap Discs

Std. Pkg. 10

		Firestorm Ceramic		
Dia. x AH	Max RPM	40	60	80
4-1/2 x 7/8"	13,300	10900	10901	10902
4-1/2 x 5/8-11	13,300	10906	10907	10908
		Zirc Premium		
Dia. x AH	Max RPM	40	60	80
4-1/2 x 7/8"	13,300	10870	10871	10872
4-1/2 x 5/8-11	13,300	10880	10881	10882



Ideal for fillet welds and internal corners. They can grind on the face or the curved edge.

## Curved Edge Mini Flap Discs

Std. Pkg. 10

		Zirc Premium - Type "R"			Undersize
Dia.	Max RPM	40	60	80	Holder
2"	30,000	319210	319211	319212	50258**
3"	25,000	319310	319311	319312	50259**

\*\*IMPORTANT: These unique Quick-Lock discs require an undersized holder!!  
2" discs use a 1-1/2" holder and the 3" discs use a 2" holder.



# Mini Flap Discs

## Mini Flap Discs - Type 27

Std. Pkg. 10

		Type "R"				
		Firestorm Ceramic - Type "R"				
Dia.	Max RPM	40	60	80	120	Holder
2"	30,000	31719	31721	31722	31724	50259
3"	20,000	31727	31729	31730	31732	50260
		Zirc Premium - Type "R"				Holder
Dia.	Max RPM	40	60	80	120	
2"	30,000	31719FD	31721FD	31722FD	31724FD	50259
3"	20,000	31727FD	31729FD	31730FD	31732FD	50260



Std. Pkg. 10

		Type "S"				
		Zirc Premium - Type "S"				Steel Mandrel
Dia.	Max RPM	40	60	80	120	
2"	30,000	31536FD	31538FD	31539FD	31541FD	31560
3"	20,000	31548FD	31550FD	31551FD	31553FD	31560



**Note about holders for mini flap discs:**

**Type S:**

2" TS - discs **must** be used with steel mandrel #31560 shown.  
3" TS - discs can be used with steel mandrel #31560 or with conventional quick-lock holder #50254 (page 13).

**Type R:**

2" and 3" TR - discs to be used on conventional Type R quick-lock holders (page 13).

# Premium Mounted Flap Wheels

**Premium:** These premium wheels are "Made-in-Germany" with German X-Flex Egyptian Cotton. They have a high flap count and yet are flexible. They do not throw excessive dust, like many other wheels. These are generally regarded as the finest flap wheels available.



## "Premium" - Flexible

Std. Pkg. 10

			<b>1/4" Shank Premium</b>						
			Grit / Item No.						
Dia. x Width	Max RPM		40	60	80	120	180	240	320
3/4" x 3/4"	35,000		<b>11139-1</b>	<b>11139-3</b>	<b>11139-4</b>	<b>11139-5</b>	11139-6	11139-7	11139-8
1" x 5/8"	30,000		-	<b>11156</b>	<b>11157</b>	11159	11161	11163	11165
1" x 1"	30,000		<b>11167</b>	<b>11169</b>	<b>11170</b>	<b>11172</b>	<b>11174</b>	<b>11176</b>	<b>11178</b>
1-1/2" x 1/2"	30,000		11206	11208	11209	11211	11213	11215	11217
1-1/2" x 1"	30,000		<b>11232</b>	<b>11234</b>	<b>11235</b>	<b>11237</b>	11239	<b>11241</b>	11243
2" x 1/2"	25,000		11258	<b>11260</b>	<b>11261</b>	11263	11265	11267	11269
2" x 3/4"	25,000		11271	<b>11273</b>	<b>11274</b>	11276	11278	11280	11282
2" x 1"	25,000		<b>11284</b>	<b>11286</b>	<b>11287</b>	<b>11289</b>	<b>11291</b>	<b>11293</b>	<b>11295</b>
2" x 1-1/2"	25,000		11297	<b>11299</b>	11300	11302	11304	11306	11308
2-1/2" x 1"	23,000		11336	<b>11338</b>	11339	<b>11341</b>	11343	11345	11347
3" x 1/4"	23,000		-	11361-05	11361-06	11361-07	11361-08	-	-
3" x 1/2"	23,000		<b>11362</b>	<b>11364</b>	<b>11365</b>	<b>11367</b>	<b>11369</b>	11371	11373
3" x 3/4"	23,000		11375	11377	11378	<b>11380</b>	11382	11384	11386
3" x 1"	23,000		<b>11388</b>	<b>11390</b>	<b>11391</b>	<b>11393</b>	<b>11395</b>	<b>11397</b>	<b>11399</b>
3" x 2"	12,000		11414	<b>11416</b>	<b>11417</b>	<b>11419</b>	11421	11423	11425


Std. Pkg. 10

			<b>1/8" Shank Premium Miniatures</b>						
Dia. x Width	RPM		40	60	80	120	180	240	320
3/8" x 3/8"	40,000		-	<b>11082-3</b>	<b>11082-4</b>	<b>11082-5</b>	11082-6	11082-7	11082-8
5/8" x 5/8"	40,000		-	<b>11090-3</b>	<b>11090-4</b>	<b>11090-5</b>	11090-6	11090-7	11090-8
5/8" x 3/4"	40,000		-	11091-3	11091-4	11091-5	11091-6	11091-7	11091-8
3/4" x 3/16"	35,000		-	11104-3	<b>11104-4</b>	11104-5	11104-6	11104-7	11104-8
3/4" x 3/8"	35,000		-	11117-3	11117-4	<b>11117-5</b>	11117-6	11117-7	11117-8
3/4" x 1/2"	35,000		-	11127-3	11127-4	11127-5	11127-6	11127-7	11127-8
3/4" x 5/8"	35,000		-	11128-3	11128-4	<b>11128-5</b>	11128-6	11128-7	11128-8
3/4" x 3/4"	35,000		-	<b>11129-3</b>	11129-4	11129-5	11129-6	11129-7	11129-8
1-3/16" x 1/8"	30,000		-	11179-3	<b>11179-4</b>	<b>11179-5</b>	11179-6	11179-7	11179-8
1-3/16" x 3/16"	30,000		-	11182-3	<b>11182-4</b>	<b>11182-5</b>	11182-6	<b>11182-7</b>	11182-8
1-3/16" x 3/8"	30,000		-	11195-3	<b>11195-4</b>	<b>11195-5</b>	<b>11195-6</b>	11195-7	<b>11195-8</b>

Std. Pkg. 10

			<b>1/4-20 Spin-On Shank Premium</b>						
Dia. x Width	Max RPM		40	60	80	120	180	240	320
1" x 1"	30,000		12148	<b>12150</b>	<b>12151</b>	12153	12155	12157	12159
1-1/2" x 1"	30,000		12187	12189	12190	12192	12194	12196	12198
2" x 1"	25,000		12239	<b>12241</b>	<b>12242</b>	12244	12246	12248	12250
3" x 1"	23,000		12343	12345	12346	12348	12350	12352	-

Std. Pkg. 1

			<b>1/4-20 Spin-On Adapters</b>	
Spin-on adapter	1/4-20 x 1/4" Shank		<b>50931</b>	
6" OAL Spin-on adapter	1/4-20 x 1/4" Shank x 6" Long (2-pcs.)		<b>50933</b>	

# "PC" Mounted Flap Wheels

**PC:** These wheels are economically priced and are offered in 2 different abrasive flexibility options. Both are made with Aluminum Oxide for fast cut.

**Firm AO/X** - Stiffer cotton backing. These durable flaps hold up well under heavy pressure or abusive applications.

**Flexible AO/X** - X-Flex Egyptian Cotton backing. The softer backing allows the flaps to flex under light pressure to make more contact with the workpiece. Best choice for contoured parts.



## "PC" - Firm or Flexible

Std. Pkg. 10			<b>1/4" Shank "PC" Firm</b>						
			Grit / Item No.						
Dia. x Width	Max RPM		40	60	80	120	180	240	320
3/4"	3/4"	30,000	13139-1	<b>13139-3</b>	<b>13139-4</b>	<b>13139-5</b>	<b>13139-6</b>	-	-
1"	1"	30,000	<b>13167</b>	<b>13169</b>	<b>13170</b>	<b>13172</b>	<b>13174</b>	<b>13176</b>	13178
1-1/2"	1/2"	30,000	-	13208	13209	13211	-	-	-
1-1/2"	1"	30,000	<b>13232</b>	<b>13234</b>	<b>13235</b>	<b>13237</b>	<b>13239</b>	-	-
2"	1/2"	25,000	<b>13258</b>	<b>13260</b>	<b>13261</b>	<b>13263</b>	-	-	-
2"	1"	25,000	<b>13284</b>	<b>13286</b>	<b>13287</b>	<b>13289</b>	<b>13291</b>	<b>13293</b>	<b>13295</b>
2-1/2"	1"	23,000	13336	13338	13339	13341	-	-	-
3"	1/2"	20,000	-	<b>13364</b>	<b>13365</b>	<b>13367</b>	-	-	-
3"	1"	20,000	<b>13388</b>	<b>13390</b>	<b>13391</b>	<b>13393</b>	<b>13395</b>	-	-

Std. Pkg. 10			<b>1/4" Shank "PC" Flexible</b>						
			Grit / Item No.						
Dia. x Width	Max RPM		40	60	80	120	180	240	320
3/4"	3/4"	30,000	13139-1-FX	<b>13139-3-FX</b>	<b>13139-4-FX</b>	<b>13139-5-FX</b>	13139-6-FX	-	-
1"	1"	30,000	<b>13167-FX</b>	<b>13169-FX</b>	<b>13170-FX</b>	<b>13172-FX</b>	<b>13174-FX</b>	<b>13176-FX</b>	<b>13178-FX</b>
1-1/2"	1"	30,000	<b>13232-FX</b>	<b>13234-FX</b>	<b>13235-FX</b>	<b>13237-FX</b>	<b>13239-FX</b>	-	-
2"	1"	25,000	<b>13284-FX</b>	<b>13286-FX</b>	<b>13287-FX</b>	<b>13289-FX</b>	13291-FX	13293-FX	13295-FX
3"	1"	20,000	<b>13388-FX</b>	<b>13390-FX</b>	<b>13391-FX</b>	<b>13393-FX</b>	13395-FX	-	-

Std. Pkg. 10			<b>1/4-20 Spin-On Shank "PC" Firm</b>						
			Grit / Item No.						
Dia. x Width	Max RPM		40	60	80	120	180	240	320
1"	1"	30,000	14167	14169	14170	14172	14174	14176	14178
1-1/2"	1"	30,000	14232	14234	14235	14237	-	-	-
2"	1"	25,000	14284	14286	14287	14289	14291	14293	14295
3"	1"	20,000	14388	14390	14391	14393	-	-	-

Non-stock, but are generally available in 3-4 days. Other sizes and grits are available.

See previous page for Spin-On Adapters.

# Unmounted Flap Wheels



These wheels are offered in 2 different abrasive flexibility options. Both are made with Aluminum Oxide for fast cutting. Our "PC" Firm wheels are economically priced!



## "Premium" - Flexible

Dia. x Width x AH	Grit	Item No.
6 x 1 x 1 Std. Pkg. 5 Max RPM 5,700	40	10241
	60	<b>10243</b>
	80	<b>10244</b>
	120	<b>10246</b>
6 x 1-1/2 x 1 Std. Pkg. 3 Max RPM 5,700	40	10261
	60	<b>10263</b>
	80	10264
	120	<b>10266</b>
6 x 2 x 1 Std. Pkg. 2 Max RPM 5,700	40	10281
	60	<b>10283</b>
	80	10284
	120	10286
8 x 1 x 1 Std. Pkg. 5 Max RPM 4,300	40	10341
	60	10343
	80	10344
	120	10346

## "PC" - Firm

Dia. x Width x AH	Grit	Item No.
6 x 1 x 1 Std. Pkg. 5 Max RPM 5,700	40	10241-PC
	60	<b>10243-PC</b>
	80	10244-PC
	120	10246-PC
6 x 1-1/2 x 1 Std. Pkg. 3 Max RPM 5,700	40	10261-PC
	60	10263-PC
	80	10264-PC
	120	10266-PC
6 x 2 x 1 Std. Pkg. 2 Max RPM 5,700	40	<b>10281-PC</b>
	60	10283-PC
	80	10284-PC
	120	10286-PC
8 x 1 x 1 Std. Pkg. 5 Max RPM 4,300	40	10341-PC
	60	10343-PC
	80	10344-PC
	120	10346-PC

Non-stock items are generally available in 3-4 days. Other sizes and grits are available.

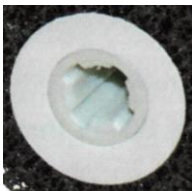
## Reducer Bushings

Std. Pkg. 1 Pair

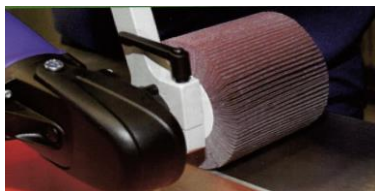
Size	Item No.
1" to 1/2"	<b>10502</b>
1" to 5/8"	<b>10503</b>
1" to 3/4"	<b>10504</b>



# Abrasive Flap Drums



Quad Keyway



5/8-11 Spin-On

These premium wheels are made with German X-Flex Egyptian Cotton. The soft backing allows the flaps to flex under light pressure to make more contact with the workpiece, getting the job done faster.

Dia. x Width x AH	Quad Keyway	
	Grit	Part #
4 x 4 x 3/4" Std. Pkg. 1 5000 Max RPM	40	54265
	60	54266
	80	54267
	120	54268



Dia. x Width x AH	Spin-On Hub	
	Grit	Part #
4-1/4 x 4 x 5/8-11 Std. Pkg. 1 5000 Max RPM	40	54275
	60	54276
	80	54277
	120	54278

2" wide wheels are also available.

See page 44 for Interleaf and non-woven flap drums.

## 5/8-11 Adapter for Quad Keyway

Std. Pkg. 1

Quad Key Adapter	Part #
Converts grinder spindle from 5/8-11 to 3/4" Quad Keyway	54372



# Bore Polishers

AO Resin Bond (Flexible)

BP-300



BP-400



BP-800



Our Bore Polishers are made with a special cotton material, which gives them a spring-action design so they automatically adjust to the inside diameter on every pass. Perfectly balanced and self centering to provide fast cleaning and polishing of interior cylinders.

Std. Pkg. 10

Series	ID Range	Flap Length	Grit	Item No.
BP-305 25,000 RPM	3/4 to 1" 3-Wings	3/8"	60	<b>12804</b>
			80	<b>12805</b>
			120	<b>12807</b>
BP-405 22,000 RPM	1 to 1-1/2" 4-Wings	5/8"	60	<b>12815</b>
			80	<b>12816</b>
			120	<b>12818</b>
BP-410 20,000 RPM	1-1/2 to 2" 4-Wings	1"	60	<b>12826</b>
			80	<b>12827</b>
			120	<b>12829</b>
BP-415 16,000 RPM	2-1/8 to 2-1/2" 4-Wings	1-1/2"	60	<b>12837</b>
			80	<b>12838</b>
			120	12840
BP-420 15,000 RPM	2-1/2 to 3" 4-Wings	2"	60	<b>12848</b>
			80	<b>12849</b>
			120	<b>12851</b>
BP-425 10,000 RPM	3-1/8 to 4" 4-Wings	2-1/2"	60	12859
			80	<b>12860</b>
			120	12862
BP-810 16,000 RPM	2 to 2-1/2" 8-Wings	1-1/4"	60	12870
			80	<b>12871</b>
			120	12873

Zirconia is also available.

Series	ID Range	Flap Length	Grit	Item No.
BP-815 15,000 RPM	2-5/8 to 3" 8-Wings	1-1/2"	60	12881
			80	<b>12882</b>
			120	<b>12884</b>
BP-820 10,000 RPM	3-1/8 to 4" 8-Wings	1-3/4"	60	<b>12892</b>
			80	<b>12893</b>
			120	<b>12895</b>
BP-825 8,000 RPM	4-1/4 to 5-1/4" 8-Wings	2-1/2"	60	12903
			80	<b>12904</b>
			120	12906
BP-830 8,000 RPM	5-1/4 to 5-7/8" 8-Wings	3"	60	12914
			80	<b>12915</b>
			120	12917

## Bore Polisher Mandrels

Std. Pkg. 1

Mandrel #	Thrd.	Item No.
BPM-3 Series	5/16-18	<b>12950</b>
BPM-4 Series	1/2-20	<b>12951</b>
BPM-8 Series	1/4-20	<b>12952</b>

Extensions can be used with BPM-4 or BPM-8

4" Extension	1/4-20	<b>12953</b>
6" Extension	1/4-20	<b>12954</b>
8" Extension	1/4-20	<b>12955</b>



BPM-3  
#12950  
(One pc. construction)

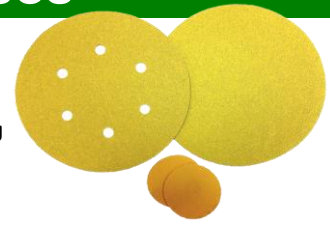


BPM-4  
#12951  
(Two pc. construction)



BPM-8  
#12952  
(2" OAL)

# Paper, Film & Mesh H&L Discs



**Gold H & L Paper:** These C-weight discs offer durability and value for dry finishing. Made with P-graded AO grain for increased life, fast cut rate, and consistent finish. Anti-loading stearated for reduced clogging.

Std. Pkg. 100

Grit	2"	3"	5" x NH	5" x 5 Holes	5" x 8 Holes	6" x NH	6" x 6 Holes
40-D	34933-03	349331-03	34935-03	34935-03-5	34935-03-8	34936-03	-
60-C	34933-05	349331-05	34935-05	34935-05-5	34935-05-8	34936-05	-
80-C	34933-06	349331-06	34935-06	34935-06-5	34935-06-8	34936-06	34936-06-6
100-C	34933-07	349331-07	34935-07	34935-07-5	34935-07-8	34936-07	-
120-C	34933-08	349331-08	34935-08	34935-08-5	34935-08-8	34936-08	34936-08-6
150-C	34933-09	349331-09	34935-09	34935-09-5	34935-09-8	34936-09	-
180-C	34933-10	349331-10	34935-10	34935-10-5	34935-10-8	34936-10	34936-10-6
220-C	34933-11	349331-11	34935-11	34935-11-5	34935-11-8	34936-11	34936-11-6
320-C	34933-14	349331-14	34935-14	34935-14-5	34935-14-8	34936-14	-
400-C	34933-15	349331-15	34935-15	34935-15-5	34935-15-8	34936-15	-
600-C	34933-17**	349331-17**	34935-17 **	-	-	34936-17 **	-

\*\* Also available: 800, 1000, 1200, 1500. H & L holders (see page 24)

**Blue Stearated H & L Film:** Precision-graded AO grain, resin-bonded to a flexible and durable film backing. Provides a fast cut with uniform finish. Non-loading, for use on metal, plastic, fiberglass, wood, or solid-surface materials.



Std. Pkg. 100

Grit	2"	3"	5"	6"
60	35062-05	35063-05	35065-05	35066-05
80	35062-06	35063-06	35065-06	35066-06
100	35062-07	35063-07	35065-07	35066-07
120	35062-08	35063-08	35065-08	35066-08
150	35062-09	35063-09	35065-09	35066-09
180	35062-10	35063-10	35065-10	35066-10
220	35062-11	35063-11	35065-11	35066-11
240	35062-12	35063-12	35065-12	35066-12
320	35062-14	35063-14	35065-14	35066-14
400	35062-15	35063-15	35065-15	35066-15
600	35062-17	35063-17	35065-17	35066-17
800	35062-18	35063-18	35065-18	35066-18
1000	35062-19	35063-19	35065-19	35066-19
1500	35062-21	35063-21	35065-21	35066-21
2000	35062-22	35063-22	35065-22	35066-22

H & L holders (see page 24)

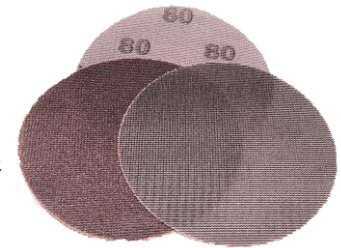
Advantages of Film over paper:

- Longer lasting
- Flexible, waterproof & tear resistant
- Stronger grain adhesion
- Uniform grain size - reduces stray scratches

Competitive Products:

3M: 366L  
Deer: SA331  
Sun: Q711T, L3121

**H & L Mesh Discs:** Our H & L mesh sanding discs have an open net construction allowing particles to flow freely through thousands of tiny holes. This open structure allows dust extraction in any application and provides a dust free sanding environment.



Std. Pkg. 50

Grit	5"	6"
40	35085-03	-
60	35085-05	35086-05
80	35085-06	35086-06
100	35085-07	35086-07
120	35085-08	35086-08
150	35085-09	35086-09

H & L holders (5" and 6" see page 24).



Grit	5"	6"
180	35085-10	35086-10
220	35085-11	35086-11
240	35085-12	35086-12
320	35085-14	35086-14
400	35085-15	35086-15
600	35085-17	35086-17



# Paper & Film PSA Discs



**Gold :** These C-weight discs offer durability and value for dry finishing. Pull Tabs for easy removal of backing paper. Made with P-graded AO grain for increased life, fast cut rate, and consistent finish. Anti-loading stearated for reduced clogging.



## Gold PSA Disc Rolls

Std. Pkg. 1 Roll	(100 discs per roll)	
	Gold Disc Rolls	
Grit	5"	6"
60	34967-05	34972
80	34967-06	34973
100	34967-07	34974
120	34967-08	34975
150	34967-09	34976
180	34967-10	34977
220	34967-11	34978
240	34967-12	34979
320	34967-14	34981
400	34967-15	34982
600	34967-17	34983

## Gold PSA Discs with Tabs

Std. Pkg. 100	Gold PSA Discs - Tabs	
Grit	5"	6"
40	34920-03	34925-03
60	34920-05	34925-05
80	34920-06	34925-06
100	34920-07	34925-07
120	34920-08	34925-08
150	34920-09	34925-09
180	34920-10	34925-10
220	34920-11	34925-11
320	34920-14	34925-14
400	34920-15	34925-15
600	34920-17	34925-17

### Competitive Products:

3M: 236U  
Norton: A-296  
Klingspor: PS33  
Mirka: Bulldog Gold, Basecut



**Blue Stearated Film:** Precision graded AO grain, resin bonded to a flexible and durable film backing. Pull Tabs for easy removal of backing paper. Provides fast cut with uniform finish and outlasts paper discs. Non-loading, for use on metal, plastic, fiberglass, wood or solid-surface composites.

## Blue Stearated Film PSA Discs with Tabs

Std. Pkg. 100	Blue PSA Film - Tabs	
Grit	5"	6"
60	35055-05	35056-05
80	35055-06	35056-06
100	35055-07	35056-07
120	35055-08	35056-08
180	35055-10	35056-10
220	35055-11	35056-11
240	35055-12	35056-12
320	35055-14	35056-14
400	35055-15	35056-15
600	35055-17	35056-17
800	35055-18	35056-18
1000	35055-19	35056-19
1500	35055-21	35056-21
2000	35055-22	35056-22

Tapered Edge



Low Profile



## PSA Back-Up Pads

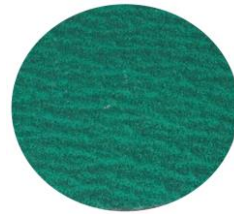
Std. Pkg. 1	Dia.	Vac Holes	Edge	Item No.
5" x 5/16-24 Thrd.	12,000 Max RPM	0	Tapered LP	50215 50217
		5	Tapered LP	50215-5 50217-5
		8	LP	50217-8
6" x 5/16-24 Thrd.	12,000 Max RPM	0	Tapered LP	50216 50218
		6	Tapered LP	50216-6 50218-6

# Zirc & Ceramic Cloth PSA Discs

Our "Hot Melt" PSA glue allows the worn disc to be removed without leaving any residue behind.  
 (Tip: It is easier to remove the disc while it is still warm from grinding)

Dia.	Grit	Zirc Plus	Firestorm
		Item No.	Item No.
5"	36	<b>30438-Z3</b>	30438-C3
	40	30439-Z3	-
	50	30440-Z3	30440-C3
	60	<b>30441-Z3</b>	<b>30441-C3</b>
	80	<b>30442-Z3</b>	<b>30442-C3</b>
Std. Pkg. 50	120	30444-Z3	30444-C3
6"	36	30450-Z3	30450-C3
	40	30451-Z3	-
	50	30452-Z3	30452-C3
	60	30453-Z3	30453-C3
	80	30454-Z3	30454-C3
Std. Pkg. 50	120	30456-Z3	30456-C3
12"	36	<b>30510-Z3</b>	30510-C3
	40	30511-Z3	-
	50	30512-Z3	30512-C3
	60	<b>30513-Z3</b>	30513-C3
	80	<b>30514-Z3</b>	30514-C3
Std. Pkg. 25	120	30516-Z3	30516-C3
20"	36	<b>30558-Z3</b>	
	40	30559-Z3	
	50	30560-Z3	
	60	<b>30561-Z3</b>	
Std. Pkg. 10	80	<b>30562-Z3</b>	
	36	30570-Z3	
24"	40	30571-Z3	
	50	30572-Z3	
	60	30573-Z3	

Other sizes and grits available.



## Zirc Plus:

Long lasting, self-sharpening grain with a grinding aid on a heavy Y-wt. backing. Good choice for tough applications & heavy stock removal. Grinding Aid helps reduce loading and workpiece temperatures.



## Firestorm

Longest lasting, self-sharpening grain with a grinding aid on a heavy Y-wt. backing. Best choice for tough applications and heavy stock removal, but works great on most materials. Grinding Aid helps reduce loading and workpiece temperatures.



## Foam H & L Interface Pads - 1/2" Thick

Std. Pkg. 1

Dia. x Shank	Edge	# Holes	Item No.
5"	Soft	0	<b>53905IV</b>
		5	<b>53905IV-5</b>
		8	<b>53905IV-8</b>
6"	Soft	0	<b>53906IV</b>
		6	<b>53906IV-6</b>

Tapered Edge      Low Profile



## H & L Back-up Pads

Std. Pkg. 1

Dia. x Shank	Edge	# Holes	Item No.
5" x 5/16-24	Tapered	0	<b>53905</b>
		5	53905-5
12,000 Max RPM	LP	0	<b>53905F</b>
		5	53905F-5
6" x 5/16-24	Tapered	0	<b>53906</b>
		6	53906-6
12,000 Max RPM	LP	0	<b>53906F</b>
		6	53906F-6



## Mini H & L Holders

Std. Pkg. 1

Dia. x Shank	Foam Density	Item No.
2" x 1/4 6,000 RPM	3/4" Thick Soft	<b>53902-F</b>
3" x 1/4 6,000 RPM	3/4" Thick Soft	<b>53903-F</b>
3" x 5/16-24 12,000 RPM	3/8" Thick Firm	<b>53903-2</b>

# AO Cloth PSA Discs

## AOIX Premium



***AOIX Premium:*** Premium AO grain on an X-wt. cloth backing. Discs coated with our "Hot Melt" PSA glue. These discs won't leave any residue when removed from backing pad or metal plate. (Tip: It is easier to remove the disc while it is still warm from grinding)

Dia.	Grit	Item No.
1/2" Std. Pkg. 100	80	30358-8
	100	30359-8
	120	30360-8
	180	30362-8
3/4" Std. Pkg. 100	80	30370-8
	100	30371-8
	120	30372-8
	180	30374-8
1" Std. Pkg. 100	60	30381-8
	80	30382-8
	100	30383-8
	120	30384-8
1-1/2" Std. Pkg. 100	180	30386-8
	50	30392-8
	60	30393-8
	80	30394-8
2" Std. Pkg. 100	100	30395-8
	120	30396-8
	180	30398-8
	50	30404-8
3" Std. Pkg. 100	60	30405-8
	80	30406-8
	100	30407-8
	120	30408-8
3" Std. Pkg. 100	180	30410-8
	50	30416-8
	60	30417-8
	80	30418-8
3" Std. Pkg. 100	100	30419-8
	120	30420-8
	180	30422-8

Other sizes and grits available.

DA pads, see pg. 23

Dia.	Grit	Item No.
5" Std. Pkg. 50	36	30438-8
	40	30439-8
	50	30440-8
	60	30441-8
	80	30442-8
	100	30443-8
	120	30444-8
	180	30446-8
6" Std. Pkg. 50	240	30447-8
	320	30448-8
	36	30450-8
	40	30451-8
	50	30452-8
	60	30453-8
	80	30454-8
	100	30455-8
8" Std. Pkg. 50	120	30456-8
	180	30458-8
	240	30459-8
	320	30460-8
	36	30474-8
	40	30475-8
	50	30476-8
	60	30477-8
9" Std. Pkg. 25	80	30478-8
	120	30480-8
	36	30486-8
	40	30487-8
9" Std. Pkg. 25	50	30488-8
	60	30489-8
	80	30490-8
	120	30492-8

Dia.	Grit	Item No.
10" Std. Pkg. 25	36	30498-8
	40	30499-8
	50	30500-8
	60	30501-8
	80	30502-8
12" Std. Pkg. 25	120	30504-8
	36	30510-8
	40	30511-8
	50	30512-8
	60	30513-8
15" Std. Pkg. 25	80	30514-8
	120	30516-8
	36	30522-8
	40	30523-8
	50	30524-8
16" Std. Pkg. 25	60	30525-8
	80	30526-8
	36	30534-8
	40	30535-8
	50	30536-8
20" Std. Pkg. 10	60	30537-8
	80	30538-8
	36	30558-8
	40	30559-8
	50	30560-8
24" Std. Pkg. 10	60	30561-8
	80	30562-8
	36	30570-8
	40	30571-8
	50	30572-8
30" Std. Pkg. 5	60	30573-8
	36	30582-8
	40	30583-8
	50	30584-8
	60	30585-8

### ***Small PSA Holders***

Std. Pkg. 1

Dia. x Shank	RPM	Item No.
1/2" x 1/8	30,000	50201
3/4" x 1/4	30,000	50204
1" x 1/4	22,000	50206
1-1/2" x 1/4	22,000	50208
2" x 1/4	22,000	50209
3" x 1/4	12,000	50210
3" x 5/16-24	12,000	50214

5" and 6" PSA pads, see pg. 23



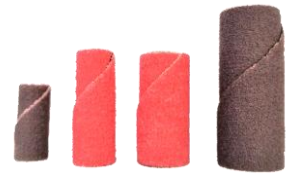
# Straight Cartridge Rolls

Zirc and Silicon Carbide are available on request

Cartridge Rolls are effective for flash removal, edge breaking, polishing and removing machine tool marks. Great for reaching into corners and other tight areas that larger tools can not reach.

**Firestorm Ceramic:** They cut faster, and last significantly longer than AO. They work especially well on hard-to-grind materials such as stainless, titanium, and other exotic alloys.

**AO/X Premium:** AO (R228) works great on most materials. The cotton backing breaks down with normal pressure to allow the additional layers to be exposed.



Std. Pkg. 100

Dia. x Length x AH	Grit	Item No.
3/16 x 1 x 3/32 Max RPM 26,000 Use A-2B or A-2E Mandrel	80	<b>21136</b>
	100	21137
	120	<b>21138</b>
	180	21140
1/4 x 1 x 1/8 Max RPM 26,000 Use A-4 or A-8 Mandrel	60	<b>21159</b>
	60-CER	21159-C
	80	<b>21160</b>
	80-CER	<b>21160-C</b>
	100	21161
	120	<b>21162</b>
	120-CER	21162-C
	180	21164
1/4 x 1-1/2 x 1/8 Max RPM 26,000 Use A-5 or A-9 Mandrel	240	21165
	320	21166
	60	<b>21167</b>
	60-CER	<b>21167-C</b>
	80	<b>21168</b>
	80-CER	<b>21168-C</b>
	100	21169
	120	<b>21170</b>
5/16 x 1 x 1/8 Max RPM 26,000 Use A-4 or A-8 Mandrel	120-CER	<b>21170-C</b>
	180	<b>21172</b>
	240	21173
	320	<b>21174</b>
	60	21211
	80	21212
5/16 x 1-1/2 x 1/8 Max RPM 26,000 Use A-5 or A-9 Mandrel	120	21214
	60	21223
	80	21224
3/8 x 1 x 1/8 Max RPM 26,000 Use A-4 or A-8 Mandrel	120	21226
	60	<b>21271</b>
	60-CER	21271-C
	80	<b>21272</b>
	80-CER	21272-C
	100	21272
	120	21274
3/8 x 1-1/2 x 1/8 Max RPM 26,000 Use A-5 or A-9 Mandrel	120-CER	21274-C
	180	<b>21276</b>
	240	21277
	50	21282
	60	<b>21283</b>
	60-CER	<b>21283-C</b>
	80	<b>21284</b>
	80-CER	<b>21284-C</b>
3/8 x 1-1/2 x 1/8 Max RPM 26,000 Use A-5 or A-9 Mandrel	100	<b>21285</b>
	120	<b>21286</b>
	120-CER	<b>21286-C</b>
	180	21288
	240	21289
	320	21290

Dia. x Length x AH	Grit	Item No.
1/2 x 1 x 1/8 Max RPM 26,000 Use A-4 or A-8 Mandrel	60	21331
	60-CER	21331-C
	80	<b>21332</b>
	80-CER	21332-C
	100	21333
	120	21334
	120-CER	21334-C
1/2 x 1-1/2 x 1/8 Max RPM 26,000 Use A-5 or A-9 Mandrel	180	21336
	240	21337
	36	<b>21340</b>
	40	21341
	60	<b>21343</b>
	60-CER	<b>21343-C</b>
	80	<b>21344</b>
	80-CER	<b>21344-C</b>
	100	<b>21345</b>
	120	<b>21346</b>
1/2 x 2 x 1/8 Max RPM 26,000 Use A-10 Mandrel	120-CER	<b>21346-C</b>
	180	<b>21348</b>
	240	<b>21349</b>
5/8 x 1 x 3/16 Max RPM 18,000 Use A-15 Mandrel	320	21350
	60	21355
	80	21356
5/8 x 1-1/2 x 3/16 Max RPM 18,000 Use A-16 Mandrel	120	21358
	60	21439
	80	21440
3/4 x 1 x 3/16 Max RPM 18,000 Use A-15 Mandrel	120	21442
	60	<b>21451</b>
	80	<b>21452</b>
3/4 x 1-1/2 x 3/16 Max RPM 18,000 Use A-16 Mandrel	120	21454
	60	21523
	80	21524
3/4 x 1 x 1/8 Max RPM 18,000 Use A-8 Mandrel	120	21526
	60	21523-AH
	80	21524-AH
3/4 x 1-1/2 x 1/4 Max RPM 18,000 Use A-21 Mandrel	120	21526-AH
	60	21535
	80	<b>21536</b>
3/4 x 2 x 1/4 Max RPM 18,000 Use A-22 Mandrel	120	21538
	60	21535-AH
	80	21536-AH
1 x 1-1/2 x 1/4 Max RPM 15,000 Use A-21 Mandrel	120	21538-AH
	60	21547-AH
	80	21548-AH
1 x 2 x 1/4 Max RPM 15,000 Use A-22 Mandrel	120	21550-AH
	36	21796
	60	21799
1 x 2 x 1/4 Max RPM 15,000 Use A-22 Mandrel	80	21800
	36	21916
	60	21919
1 x 2 x 1/4 Max RPM 15,000 Use A-22 Mandrel	80	21920

Other sizes, arbor holes and grits available. Mandrels - page 27

# Full Taper Cartridge Rolls

Zirc & Silicon Carbide are available on request

**Firestorm Ceramic:** They cut faster, and last significantly longer than AO. They work especially well on hard-to-grind materials such as stainless, titanium, and other exotic alloys.

**AO/X Premium:** AO (R228) works great on most materials. The cotton backing breaks down with normal pressure to allow the additional layers to be exposed.



Std. Pkg. 100

Dia. x Length x AH	Grit	Item No.
3/8 x 1 x 1/8 Max RPM 26,000 Use A-4 or A-8 Mandrel	60	<b>23105</b>
	60-CER	23105-C
	80	<b>23106</b>
	80-CER	23106-C
	120	<b>23108</b>
3/8 x 1-1/2 x 1/8 Max RPM 26,000 Use A-5 or A-9 Mandrel	60	<b>23285</b>
	60-CER	<b>23285-C</b>
	80	<b>23286</b>
	80-CER	<b>23286-C</b>
	120	23288
1/2 x 1 x 1/8 Max RPM 26,000 Use A-4 or A-8 Mandrel	120-CER	23288-C
	60	<b>23141</b>
	60-CER	23141-C
	80	<b>23142</b>
	80-CER	23142-C
1/2 x 1-1/2 x 3/16 Max RPM 18,000 Use A-16 Mandrel	120	23144
	120-CER	23144-C
	180	23146

Dia. x Length x AH	Grit	Item No.
1/2 x 1-1/2 x 1/8 Max RPM 26,000 Use A-5 or A-9 Mandrel	60	<b>23321</b>
	60-CER	<b>23321-C</b>
	80	<b>23322</b>
	80-CER	23322-C
	120	23324
1/2 x 2 x 1/8 Max RPM 26,000 Use A-10 Mandrel	120-CER	23324-C
	180	23326
	60	23465
	80	23466
5/8 x 1-1/2 x 1/8 Max RPM 18,000 Use A-5 or A-9 Mandrel	120	23468
	60	<b>23357</b>
	80	23358
3/4 x 1-1/2 x 3/16 Max RPM 18,000 Use A-16 Mandrel	120	23360
	60	23405
	80	23406
1 x 1-1/2 x 3/16 Max RPM 18,000 Use A-16 Mandrel	120	23408
	60	23621
	80	23622
	120	23624

Other sizes, arbor holes and grits available.

## Cartridge Roll Mandrels

Std. Pkg. 1

Mandrel No.	Pilot Dia.	Pilot Length	Shank Dia.	OAL	Item No.
A-2B	3/32	3/4	1/8	3	50102-3
A-2E	3/32	3/4	1/4	3	50102-2
A-4	1/8	3/4	1/8	2-3/4	<b>50104</b>
A-5	1/8	1	1/8	3	<b>50105</b>
A-8	1/8	3/4	1/4	2-1/2	<b>50108</b>
A-8-6	1/8	3/4	1/4	6	<b>50108-6</b>
A-9	1/8	1	1/4	2-3/4	<b>50109</b>
A-9-6	1/8	1	1/4	6	<b>50109-6</b>
A-10	1/8	1-1/2	1/4	3-1/4	<b>50110</b>
A-15	3/16	3/4	1/4	2-1/2	<b>50115</b>
A-16	3/16	1	1/4	3	<b>50116</b>
A-16-6	3/16	1	1/4	6	<b>50116-6</b>
A-17	3/16	1-1/2	1/4	3-1/2	<b>50117</b>
A-21	1/4	1	1/4	3	<b>50121</b>
A-21-6	1/4	1	1/4	6	<b>50121-6</b>
A-22	1/4	1-1/2	1/4	3-1/2	<b>50122</b>



### How to order mandrels:

\* The pilot diameter should match the arbor hole of the cartridge roll.

\* The pilot length should be 1/2" shorter than the cartridge roll.



\* The pilot length should be 1/2" shorter than the cartridge roll.



# Cross Pads

Aluminum Oxide

Firestorm Ceramic is available on request



Primarily used for deburring holes and tubing, but also works great for close-tolerance work since their design allows the operator to "see through" the pad to precisely control the point of contact.

8-Ply - The most common, more flexible than 10 Ply

10-Ply - Use when more stiffness is required. If part numbers are not shown, available on request.

Std. Pkg. 100

Dia. x Width	Grit	Item No.
3/4 x 3/8	60-J	27728
Max RPM 25,000	80-J	27729
<b>8-PLY</b>	120-J	<b>27731</b>
3-48 Eyelet	180-J	27733
1 x 3/8	60-J	<b>27739</b>
Max RPM 25,000	80-J	<b>27740</b>
<b>8-PLY</b>	120-J	27742
3-48 Eyelet	180-J	27744
1-1/2 x 1/2	60-J	<b>27750</b>
Max RPM 23,000	80-J	<b>27751</b>
<b>8-PLY</b>	100-J	<b>27752</b>
8-32 Eyelet	120-J	<b>27753</b>
	120-CER	<b>27753-C-F</b>
	180-J	27755
2 x 1/2	60-J	<b>27772</b>
Max RPM 20,000	80-J	<b>27773</b>
<b>8-PLY</b>	100-J	27774
8-32 Eyelet	120-J	<b>27775</b>
	120-CER	<b>27775-C-F</b>
	180-J	27777

Dia. x Width	Grit	Item No.
	60-X	27794
	80-X	<b>27795</b>
2 x 3/4	80-J	<b>27795-J</b>
Max RPM 18,000	100-J	<b>27796-J</b>
<b>8-PLY</b>	120-X	27797
8-32 Eyelet	120-J	27797-J
	120-CER	<b>27797-C-F</b>
	180-J	27799-J
2 x 1	60-X	27816
Max RPM 18,000	80-X	27817
<b>8-PLY</b>	120-X	27819
1/4-20 Eyelet	180-X	27821
2-1/2 x 3/4	60-X	27904
Max RPM 18,000	80-X	<b>27905</b>
<b>8-PLY</b>	120-X	27907
8-32 Eyelet	120-CER	<b>27907-C-F</b>
2-1/2 x 3/4	60-X	27915
Max RPM 18,000	80-X	27916
<b>10-PLY</b>	120-X	27918
1/4-20 Eyelet	180-X	27920

Dia. x Width	Grit	Item No.
2-1/2 x 1	60-X	27926
Max RPM 16,000	80-X	27927
<b>8-PLY</b>	120-X	27929
1/4-20 Eyelet	180-X	27931
2-1/2 x 1	60-X	27937
Max RPM 16,000	80-X	27938
<b>10-PLY</b>	120-X	27940
1/4-20 Eyelet	180-X	27942
3 x 1	60-X	<b>27970</b>
Max RPM 14,000	80-X	<b>27971</b>
<b>8-PLY</b>	80-CER	<b>27971-C</b>
1/4-20 Eyelet	120-X	27973
3 x 1	60-X	27981
Max RPM 14,000	80-X	27982
<b>10-PLY</b>	120-X	27984
1/4-20 Eyelet	180-X	27986
4 x 1	60-X	28058
Max RPM 12,000	80-X	28059
<b>8-PLY</b>	120-X	28061
1/4-20 Eyelet	180-X	28063

Other sizes and grits are available. Mandrels - page 29

# Square Pads

Aluminum Oxide

Firestorm Ceramic is available on request



The intermittent strokes of the corners provide both a fast cutting action as well as a buffing action as the pads become rounded and the cloth backing is exposed. Will not leave a "circular" swirl pattern that discs leave behind.

Std. Pkg. 100

Width / Thick.	Grit	Item No.
1-1/2" x 1/4"	60	26423
Max RPM 23,000	80	26424
8-32 Eyelet	120	26426
1-1/2" x 3/8"	60	26434
Max RPM 23,000	80	26435
8-32 Eyelet	120	26437
1-1/2" x 1/2"	60	26445
Max RPM 20,000	80	26446
1/4-20 Eyelet	120	26448
2" x 1/4"	60	26456
Max RPM 20,000	80	26457
8-32 Eyelet	120	26459

Width / Thick.	Grit	Item No.
2" x 3/8"	60	26467
Max RPM 18,000	80	26468
8-32 Eyelet	120	26470
2" x 1/2"	60	26478
Max RPM 18,000	80	26479
1/4-20 Eyelet	120	26481
2-1/2" x 1/4"	60	26500
Max RPM 18,000	80	26501
1/4-20 Eyelet	120	26503
2-1/2" x 3/8"	60	26511
Max RPM 16,000	80	26512
1/4-20 Eyelet	120	26514

Width / Thick.	Grit	Item No.
2-1/2" x 1/2"	60	26522
Max RPM 14,000	80	26523
1/4-20 Eyelet	120	26525
3" x 1/4"	60	26533
Max RPM 14,000	80	26534
1/4-20 Eyelet	120	26536
3" x 3/8"	60	26544
Max RPM 13,000	80	26545
1/4-20 Eyelet	120	26547
3" x 1/2"	60	26555
Max RPM 12,000	80	26556
1/4-20 Eyelet	120	26558

Other sizes and grits are available. Mandrels - page 29

# Spin-On Overlap Discs

Aluminum Oxide

Firestorm Ceramic is available on request

**2/Set:** Shown below. Designed for deburring or chamfering the front side of holes or tubing.

**4/Set:** Are also available upon request. They are designed to deburr both the front & back side of holes or tubing.

Std. Pkg. 100

Dia.	Eyelet	Grit	Item No.
1" Max. Rpm. 25,000	8-32	60	<b>33957</b>
		80	<b>33958</b>
		120	33960
1-1/4" Max. Rpm. 20,000	8-32	60	33969
		80	33970
		120	33972
1-1/2" Max. Rpm. 20,000	8-32	60	33981
		80	33982
		120	33984
2" Max. Rpm. 20,000	8-32	60	34005
		80	34006
		120	34008
2-1/2" Max. Rpm. 18,000	8-32	60	34029
		80	<b>34030</b>
		120	34032
3" Max. Rpm. 14,000	1/4-20	60	<b>34053</b>
		80	34054
		120	34056

Other sizes and grits available.



Flex-Shaft eyelet mandrels will follow internal contours



## Eyelet Mandrels



Std. Pkg. 1

1/4" Shank

Thread x OAL	Item No.
3-48 x 2-1/2 OAL	<b>50328</b>
8-32 x 3" OAL	<b>50329</b>
8-32 x 6" OAL	<b>50329-6</b>
8-32 x 6" OAL Flex Shaft	<b>50329-6-FS</b>
1/4-20 x 3" OAL	<b>50330</b>
1/4-20 x 6" OAL	<b>50330-6</b>
1/4-20 x 6" OAL Flex Shaft	<b>50330-6-FS</b>

# Zirc Flap Bands

Our Zirconia Flap Bands provide more aggressive stock removal and extended life than traditional Flap Wheels or No-Lap Spiral Bands. Great for working in small confined areas such as pipes and tubing. As the flaps wear, new sharp grain is exposed, providing fast cutting action through the entire life of the band.

## Flap Bands

Std. Pkg. 10

Dia. x Width	Grit	Item No.	Max RPM	Item No.
1-1/4" x 3/4"	40	<b>75701</b>	26,000	<b>50557</b>
	60	<b>75702</b>		
	80	75703		
1-3/4" x 3/4"	40	75711	19,000	50558
	60	75712		
	80	75713		
1-3/4" x 1-3/16"	40	<b>75721</b>	19,000	<b>50559</b>
	60	<b>75722</b>		
	80	75723		
2-1/2" x 1-3/16"	40	<b>75731</b>	12,700	<b>50560</b>
	60	<b>75732</b>		
	80	75733		
3" x 1-3/16"	40	75741	9,500	50561
	60	75742		
	80	75743		

## Slotted Rubber Expanding Drum

Std. Pkg. 1



# No-Lap Spiral Bands

Aluminum Oxide

Firestorm Ceramic and Zirc are also available

No-Lap Bands provide a smooth cutting action due to their spiral wound design. Ideal for curved or contoured surfaces.

Std. Pkg. 100

Dia. x Length	Grit	Item No.
1/2 x 1/2	60	76321
	80	<b>76322</b>
	120	76324
1/2 x 1	60	76333
	80	76334
	120	<b>76336</b>
3/4 x 1	60	<b>76621</b>
	80	76622
	120	76624
1 x 1	36	<b>76762</b>
	50	76764
	60	<b>76765</b>
	80	76766
	120	<b>76768</b>
1 x 1-1/2	60	76777
	80	76778
	120	76780
1-1/2 x 1	50	77124
	60	77125
	80	77126
	120	77128

Dia. x Length	Grit	Item No.
1-1/2 x 1-1/2	36	77134
	50	77136
	60	77137
	80	77138
	120	77140
2 x 1	36	77410
	50	77412
	60	77413
	80	77414
2 x 1-1/2	120	77416
	36	77422
	50	77424
	60	77425
	80	77426
2 x 2	120	77428
	36	77434
	50	77436
	60	77437
2 x 2	80	77438
	120	77440



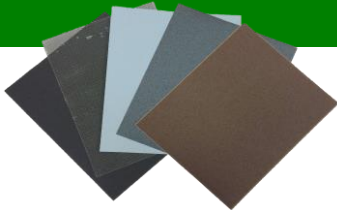
## Rubber Drums

Std. Pkg. 1

Dia.	Length	Shank	Max RPM	Item No.
1/2	1/2	1/8	30,000	<b>50506</b>
	1/2	1/4	30,000	<b>50507</b>
	1	1/4	20,000	<b>50510</b>
3/4	1	1/4	19,000	<b>50524</b>
	1-1/2	1/4	12,000	50525
1	1	1/4	15,000	<b>50533</b>
	1-1/2	1/4	10,000	50534
1-1/2	1	1/4	14,000	<b>50542</b>
	1-1/2	1/4	10,000	<b>50543</b>
2	1	1/4	11,000	50547
	1-1/2	1/4	8,000	50548
	2	1/4	6,000	50549

Extra long bands for Oscillating Spindle Sanders are available in 4-1/2", 6" and 9" lengths.

# 9 x 11 Sheets

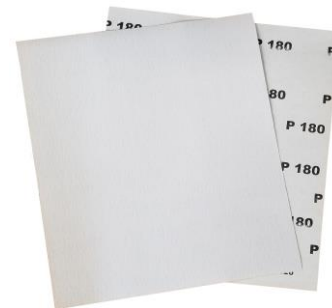


## Cloth Sheets AO RB

Grit	Pkg.	Item No.
60-X	50	<b>74104</b>
80-J	50	<b>74105</b>
100-J	50	<b>74106</b>
120-J	50	<b>74107</b>
150-J	50	<b>74108</b>
180-J	50	<b>74109</b>
220-J	50	<b>74110</b>
240-J	50	<b>74111</b>
280-J	50	<b>74112</b>
320-J	50	<b>74113</b>
400-J	50	<b>74114</b>
500-J	50	74115
Crocus	50	<b>74116</b>

## Wet / Dry S/C Paper Sheets

Grit	Pkg.	Item No.
60-C	50	74121
80-C	50	<b>74122</b>
100-C	50	<b>74123</b>
120-C	50	<b>74124</b>
150-C	50	<b>74125</b>
180-C	50	<b>74126</b>
220-A	50	<b>74128</b>
240-A	50	<b>74129</b>
280-A	50	74130
320-A	50	<b>74131</b>
400-A	50	<b>74133</b>
500-A	50	<b>74134</b>
600-A	50	<b>74135</b>
800-A	50	<b>74135-1</b>
1000-A	50	<b>74135-2</b>
1200-A	50	<b>74136</b>
1500-A	50	<b>74137</b>
2000-A	50	<b>74138</b>
2500-A	50	<b>74139</b>
3000-A	50	<b>74140</b>



## AO Stearate Paper

Grit	Pkg.	Item No.
80-C	50	<b>74172</b>
100-C	50	74173
120-C	50	74174
150-B	50	<b>74175</b>
180-B	50	<b>74176</b>
220-B	50	<b>74177</b>
320-B	50	74180
400-B	50	<b>74181</b>

## Emery Cloth

Crs.	50	74119
Med.	50	<b>74118</b>
Fine	50	<b>74117</b>



# Sponges

## Sponges

Std. Pkg. 12

Size	Grit / Side	Item No.
4 x 2-3/4 x 1"	100 / 100	<b>39148</b>
	60 / 100	<b>39151</b>



# Shop Rolls (50 Yds. Long)

Std. Pkg. 1

Size	Grit	ECONOMY	ULTRA-FLEX
1" x 50 Yds.	60	73034	<b>73134</b>
	80	<b>73035</b>	<b>73135</b>
	100	<b>73036</b>	73136
	120	<b>73037</b>	<b>73137</b>
	150	<b>73038</b>	<b>73138</b>
	180	<b>73039</b>	<b>73139</b>
	220	73040	<b>73140</b>
	240	<b>73041</b>	<b>73141</b>
	320	<b>73043</b>	<b>73143</b>
	400	<b>73044</b>	<b>73144</b>
1-1/2" x 50 Yds.	60	<b>73049</b>	<b>73149</b>
	80	<b>73050</b>	<b>73150</b>
	100	73051	<b>73151</b>
	120	<b>73052</b>	<b>73152</b>
	150	<b>73053</b>	<b>73153</b>
	180	<b>73054</b>	<b>73154</b>
	220	73055	<b>73155</b>
	240	<b>73056</b>	<b>73156</b>
	320	<b>73058</b>	<b>73158</b>
	400	<b>73059</b>	<b>73159</b>
2" x 50 Yds.	60	<b>73064</b>	<b>73164</b>
	80	<b>73065</b>	<b>73165</b>
	100	73066	<b>73166</b>
	120	<b>73067</b>	<b>73167</b>
	150	<b>73068</b>	<b>73168</b>
	180	<b>73069</b>	<b>73169</b>
	220	<b>73070</b>	<b>73170</b>
	240	<b>73071</b>	<b>73171</b>
	320	<b>73073</b>	<b>73173</b>
	400	<b>73074</b>	<b>73174</b>

### Ultra-Flex Shop Rolls:

Water and Oil Resistant  
Our Most Popular Material



### Economy Shop Rolls:

Economically priced, flexible backing.



### Crocus Rolls

1" x 50 Yds.	73193
1-1/2" x 50 Yds.	73194
2" x 50 Yds.	73195

# Resin Cloth Rolls (A/O X-wt.) 50 Yds. Long

Std. Pkg. 1

Width	36	40	50	60	80	100	120	180	240
2"	73461	73462	73463	73464	73465	73466	73467	73469	73471
3"	73479	73480	73481	73482	73483	73484	73485	73487	73489
6"	73524	73525	73526	73527	73528	73529	73530	73532	73534

Other sizes, grits and backings are available. Also available with PSA backing.

# Reinforced Cut-Off Wheels



## Competitive Products:

### Firestorm HP

STAINLESS
STEEL

High Performance Grain and Bond provides outstanding productivity and long life on stainless steel and high tensile steel. Also works great on sheet metal and rusted bolts.

Flexovit - LL RazorBlade - A60SST  
 Bullard - Max Force - SGA-60U  
 Metabo - Super Slicer - A60XP  
 CGW - Quicke Cut ZA60S  
 Walter - A60 Zip Cut

Dewalt - FlexVolt  
 Norton - Blue Fire  
 Pferd - SGP Steelox  
 Sait - Saitech  
 3M - Cubitron

### Alum. Oxide

STEEL
Ferrous or Non-ferrous

These wheels are considered a premium amongst other general-purpose wheels on the market. With a fast cut and long life, these wheels are a great choice for everyday work on most metals.

CGW - Super Quicke Cut  
 Bullard - High Energy TA60U  
 Metabo - LL Original Slicer A60XL  
 Sait - General Purp. .045 - A60S

Dewalt - Metal  
 Norton - Metal, Gemini  
 Pferd - PSF Universal  
 Flexovit - Brilliant

## Small - High Speed Cut-Off Wheels

### Hi-Performance - Firestorm HP

Dia. x Thick. x AH	Grade	Item No.	RPM Std. Pkg.
3 x .035 x 3/8	CA60T	87725-C3	25,000
3 x 1/16 x 3/8	CA46T	87726-C3	50/Box
4 x .035 x 3/8	CA60T	87742-C3	19,000
4 x 1/16 x 3/8	CA46T	87743-C3	50/Box

### General Purpose - AO

Dia. x Thick. x AH	Grade	Item No.	RPM Std. Pkg.
3 x .035 x 1/4	A60T	87721	25,000 50/Box
3 x .035 x 3/8	A60T	87725	
3 x 1/16 x 1/4	A46T	87722	19,000 50/Box
3 x 1/16 x 3/8	A46T	87726	
4 x .035 x 1/4	A60T	87738	19,000 50/Box
4 x .035 x 3/8	A60T	87742	
4 x 1/16 x 3/8	A46T	87743	

IMPROVED! Hi-Performance slicer wheels now last even longer than before!

## .045 Slicer Wheels



### Hi-Performance - Firestorm HP

Dia. x Thick. x AH	Grade	Item No.	RPM Std. Pkg.
4-1/2 x .045 x 7/8 T-1	CA60T	87770-C3	13,300
4-1/2 x .045 x 7/8 T-27	CA60T	87770-C3-27	25/Box
6 x .045 x 7/8 T-1	CA60T	87781-C3	10,500
6 x .045 x 7/8 T-27	CA60T	87781-C3-27	25/Box

### General Purpose - AO

Dia. x Thick. x AH	Grade	Item No.	RPM Std. Pkg.
4-1/2 x .045 x 7/8 T-1	A60T	87770	13,300
4-1/2 x .045 x 7/8 T-27	A60T	87770-27	50/Box
6 x .045 x 7/8 T-1	A60T	87781	10,500
6 x .045 x 7/8 T-27	A60T	87781-27	50/Box

# Cut-Off Wheel Mandrels

Std. Pkg. 1

Description	Fits Hole	Shank	Item No.
A-100 (3-Pc. Set)	1/4 or 3/8	1/4"	50690
A-100-1/4	1/4"	1/4"	50690-1
A-100-3/8	3/8"	1/4"	50690-2

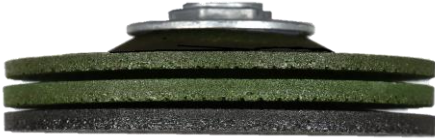


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Part numbers in  
**RED** are stock

# Mean Green - Grinding Wheels

T-27 Grinding Wheels



- **Save time and money** - Removes metal extremely fast. They also excel at removing scale without clogging!
- **Unique bond and wheel design** - Less chatter, smoother and quieter. Better operator control. Waffle pattern prevents loading - even on aluminum!
- **High Performance** - Proprietary Blend of Premium Grains
- **Contaminate Free** - (Virtually Iron Free) Contains only 0.035% iron, with less than 0.1% chlorine and sulfur.

**Works great on virtually all metals, including ALUMINUM!**

Stainless Steel    Armor Plate    Inconel    Aluminum    Titanium    Hard Face

## "Original" Mean Green 3/16" Thick

Size	Grade	Std. Pkg.	Item No.
4-1/2 x 7/8 Max RPM 13,300	36-CZ	5	<b>88103-5</b>
		25	<b>88103</b>
4-1/2 x 5/8-11 Max RPM 13,300	36-CZ	5	<b>88106-5</b>
		10	<b>88106</b>
7 x 7/8 Max RPM 8,500	36-CZ	5	<b>88115-5</b>
		25	<b>88115</b>
7 x 5/8-11 Max RPM 8,500	36-CZ	5	<b>88118-5</b>
		10	<b>88118</b>



## Mean Green "Original"

Preferred's most popular wheel.  
*Rapid stock removal with no chatter.*

## NEW, Thicker! Mean Green "MAX" 1/4" Thick

4-1/2 x 1/4 x 7/8 Max RPM 13,300	36-CZ	5	<b>88123-5</b>
		20	<b>88123</b>
4-1/2 x 1/4 x 5/8-11 Max RPM 13,300	36-CZ	5	<b>88124-5</b>
		10	<b>88124</b>
7 x 1/4 x 7/8 Max RPM 8,500	36-CZ	5	<b>88129-5</b>
		20	<b>88129</b>
7 x 1/4 x 5/8-11 Max RPM 8,500	36-CZ	5	<b>88130-5</b>
		10	<b>88130</b>



## Mean Green "Max"

**New!  
Improved!**

All of the benefits of the original Mean Green in a **thicker (1/4")** version for longer life.

## NEW! Mean Green "BLACKOUT" 1/4" Thick

4-1/2 x 1/4 x 7/8 Max RPM 13,300	24-CZ	5	<b>88133-5</b>
		20	<b>88133</b>
4-1/2 x 1/4 x 5/8-11 Max RPM 13,300	24-CZ	5	<b>88134-5</b>
		10	<b>88134</b>
5 x 1/4 x 7/8 Max RPM 8,500	24-CZ	5	<b>88135-5</b>
		20	<b>88135</b>
5 x 1/4 x 5/8-11 Max RPM 8,500	24-CZ	5	<b>88136-5</b>
		10	<b>88136</b>
6 x 1/4 x 7/8 Max RPM 8,500	24-CZ	5	88137-5
		20	88137
6 x 1/4 x 5/8-11 Max RPM 8,500	24-CZ	5	88138-5
		10	88138
7 x 1/4 x 7/8 Max RPM 8,500	24-CZ	5	88139-5
		20	88139
7 x 1/4 x 5/8-11 Max RPM 8,500	24-CZ	5	88140-5
		10	88140



## Mean Green "Blackout"

**NEW!**

• Preferred's **most aggressive** grinding wheel.

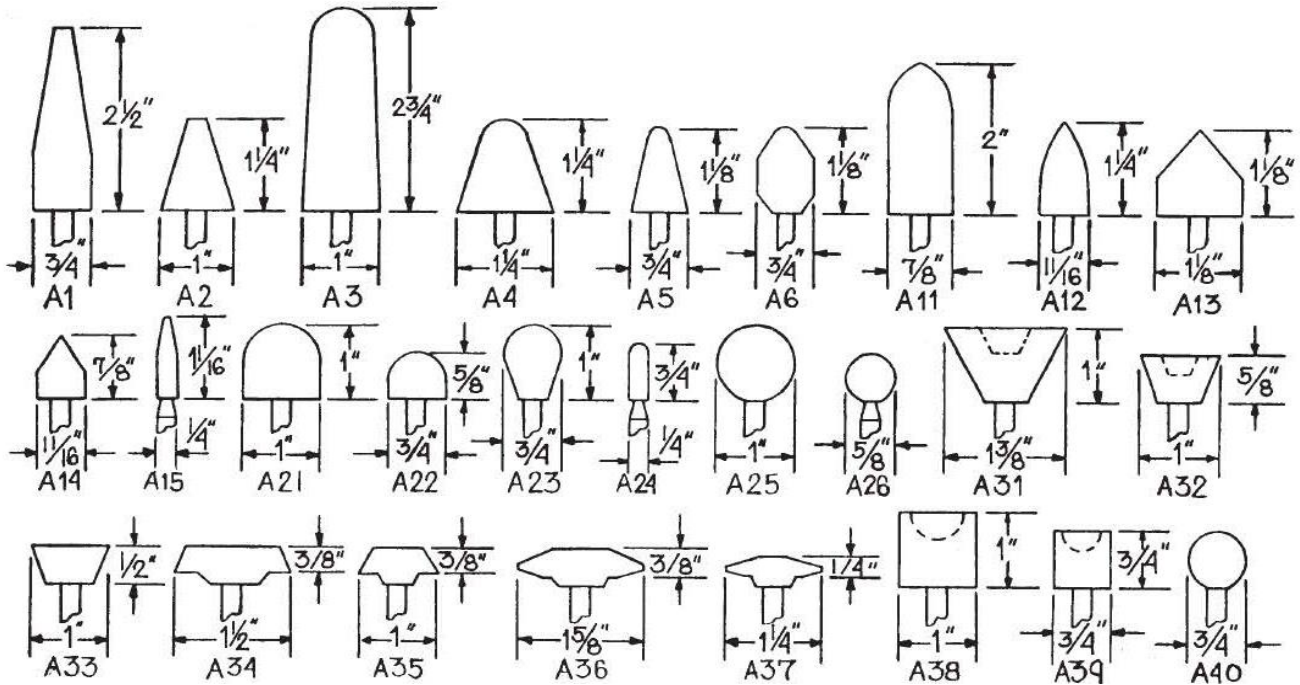
• Produced from a **proprietary blend of premium 24 grit grains**.

• Up to **15% faster stock removal** than other leading wheels on stainless steel welds.

# "A" Shape Vitrified Mtd. Pts. (All "A" Shapes have 1/4" Shanks)

**Red:** (Burnt Orange) Mounted points are ideal for deburring sharp edges, removing tooling marks, and mold flashing. The Red are considered general purpose, the Blue are harder, making them more durable and longer lasting.

**Blue:** (Blue Grey)



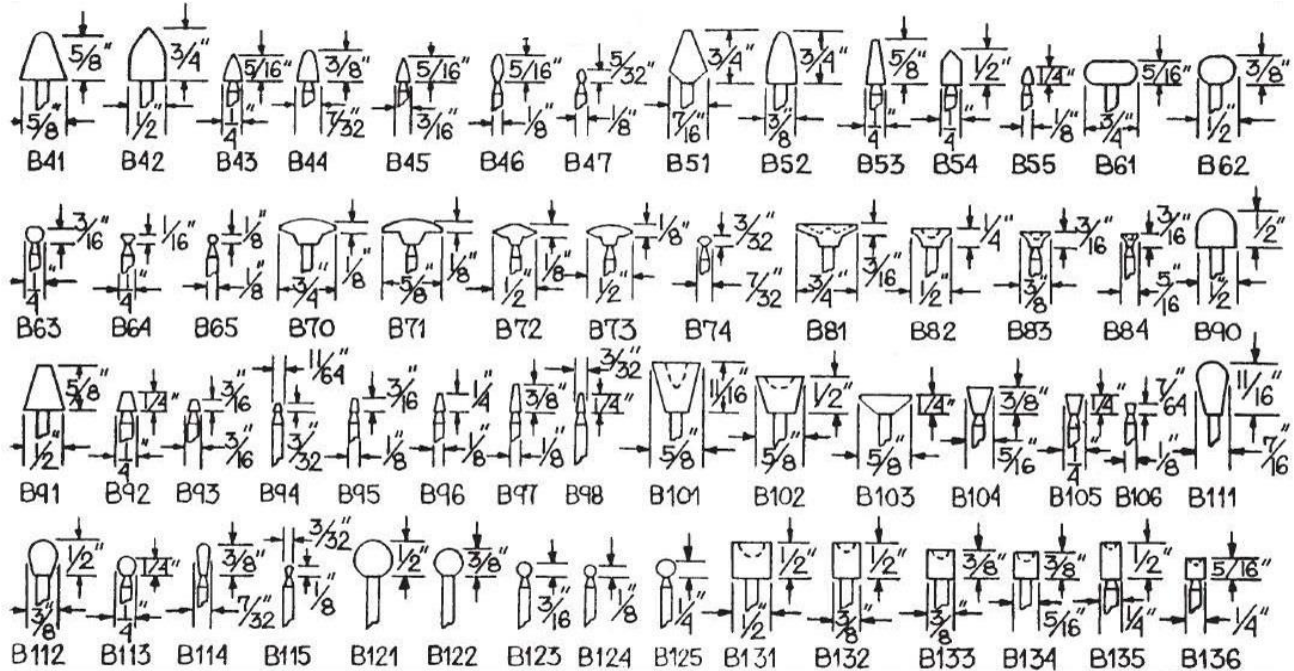
Min. Pkg. 25

Shape / 1/4 Shank	Max RPM with 1/2" Overhang	Red Item #	Blue Item #
A1	19,800	80010	80015
A2	38,200	80025	80030
A3	16,100	80040	80045
A4	30,560	80055	80060
A5	45,000	80070	80075
A6	39,000	80085	80090
A11	19,860	80100	80105
A12	48,000	80115	80120
A13	33,950	80130	80135
A14	55,560	80145	80150
A15	72,750	80160	80165
A21	34,500	80175	80180
A22	50,930	80190	80195

Shape / 1/4 Shank	Max RPM with 1/2" Overhang	Red Item #	Blue Item #
A23	39,370	80205	80210
A24	76,500	80220	80225
A25	35,620	80235	80240
A26	61,120	80250	80255
A31	27,780	80265	80270
A32	38,200	80280	80285
A33	38,200	80295	80300
A34	25,470	80310	80315
A35	38,200	80325	80330
A36	23,520	80340	80345
A37	30,560	80355	80360
A38	34,500	80370	80375
A39	47,250	80385	80390
A40	47,250	80400	80405

Non-stock points are available in 2-3 days.

# "B" Shape Vitrified Mtd. Pts. (All "B" Shapes have 1/8" Shanks)



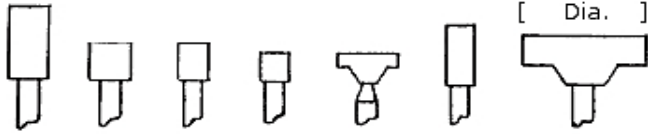
Min. Pkg. 25

Shape / 1/8" Shank	Max RPM with 1/2" Overhang	Red Item #	Blue Item #
B41	33,750	80415	80420
B42	33,750	80430	80435
B43	81,370	80445	80450
B44	68,400	80460	80465
B45	104,250	80475	80480
B46	105,000	80490	80495
B47	105,000	80505	80510
B51	45,370	80520	80525
B52	45,370	80535	80540
B53	60,000	80550	80555
B54	60,000	80565	80570
B55	105,000	80580	80585
B61	38,250	80595	80600
B62	41,020	80610	80615
B63	92,400	80625	80630
B64	105,000	80640	80645
B65	105,000	80655	80660
B70	50,930	80670	80675
B71	61,120	80685	80690
B72	73,500	80700	80705
B73	73,500	80715	80720
B74	105,000	80730	80735
B81	50,930	80745	80750
B82	76,390	80760	80765
B83	87,600	80775	80780
B84	105,000	80790	80795
B90	34,500	80805	80810
B91	34,500	80820	80825
B92	81,370	80835	80840

Shape / 1/8" Shank	Max RPM with 1/2" Overhang	Red Item #	Blue Item #
B93	105,000	80850	80855
B94	105,000	80865	80870
B95	105,000	80880	80885
B96	105,000	80895	80900
B97	105,000	80910	80915
B98	105,000	80925	80930
B101	33,750	80940	80945
B102	45,370	80955	80960
B103	61,120	80970	80975
B104	68,400	80985	80990
B105	104,250	81000	81005
B106	105,000	81015	81020
B111	33,750	81030	81035
B112	45,370	81045	81050
B113	81,370	81060	81065
B114	68,400	81075	81080
B115	105,000	81090	81095
B121	45,370	81105	81110
B122	61,650	81120	81125
B123	104,250	81135	81140
B124	105,000	81150	81155
B125	61,650	81165	81170
B131	34,500	81180	81185
B132	45,370	81195	81200
B133	54,000	81210	81215
B134	61,650	81225	81230
B135	60,000	81240	81245
B136	77,250	81255	81260

Non-stock points are available in 2-3 days.

# "W" Shape Vitrified Mounted Pts. (1/8 or 1/4" Shanks)



Shank Size:

D1 = 1/8 x 1-1/2 Long

D2 = 1/4 x 1-1/2 Long

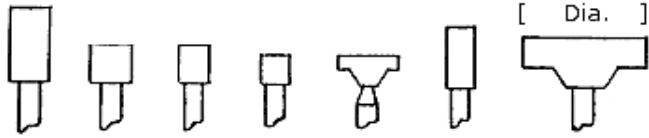
Min. Pkg. 25

Shape / Shank	Max RPM with 1/2" Overhang	Dia. x Width	Red Item #	Blue Item #
W141-D1	105,000	3/32 x 5/32	81270	81275
W142-D1	105,000	3/32 x 1/4	81285	81290
W143-D1	105,000	1/8 x 1/8	81300	81305
W144-D1	105,000	1/8 x 1/4	81315	81320
W145-D1	105,000	1/8 x 3/8	81330	81335
W146-D1	105,000	1/8 x 1/2	81345	81350
W149-D1	105,000	5/32 x 1/4	81360	81365
W151-D1	105,000	3/16 x 1/8	81375	81380
W152-D1	105,000	3/16 x 1/4	81390	81395
W153-D1	80,850	3/16 x 3/8	81405	81410
W154-D1	10,500	3/16 x 1/2	81420	81425
W157-D1	123,000	1/4 x 1/16	81435	81440
W158-D1	105,000	1/4 x 1/8	81450	81455
W159-D1	92,400	1/4 x 3/16	81465	81470
W160-D1	81,370	1/4 x 1/4	81480	81485
W161-D1	77,250	1/4 x 5/16	81495	81500
W162-D1	68,400	1/4 x 3/8	81510	81515
W163-D1	60,000	1/4 x 1/2	81525	81530
W164-D1	45,900	1/4 x 3/4	81540	81545
W165-D1	107,400	5/16 x 1/16	81555	81560
W166-D1	96,970	5/16 x 1/8	81570	81575
W167-D1	75,000	5/16 x 1/4	81585	81590
W168-D1	68,400	5/16 x 5/16	81600	81605
W169-D1	61,650	5/16 x 3/8	81615	81620
W170-D1	52,500	5/16 x 1/2	81630	81635
W171-D1	37,120	5/16 x 3/4	81645	81650
W172-D1	99,370	3/8 x 1/16	81660	81665
W173-D1	87,600	3/8 x 1/8	81675	81680
W174-D1	69,000	3/8 x 1/4	81690	81695
W175-D1	54,000	3/8 x 3/8	81705	81710
W176-D1	45,370	3/8 x 1/2	81720	81725
W176-D2	81,000	3/8 x 1/2	81735	81740
W177-D1	33,750	3/8 x 3/4	81750	81755
W177-D2	66,000	3/8 x 3/4	81765	81770
W178-D1	26,250	3/8 x 1	81780	81785
W178-D2	55,200	3/8 x 1	81795	81800
W179-D2	45,750	3/8 x 1-1/4	81810	81815
W181-D1	76,390	1/2 x 1/16	81825	81830

Shape / Shank	Max RPM with 1/2" Overhang	Dia. x Width	Red Item #	Blue Item #
W182-D1	73,500	1/2 x 1/8	81840	81845
W183-D1	51,750	1/2 x 1/4	81855	81860
W184-D1	41,020	1/2 x 3/8	81870	81875
W184-D2	71,250	1/2 x 3/8	81885	81890
W185-D1	34,500	1/2 x 1/2	81900	81905
W185-D2	61,500	1/2 x 1/2	81915	81920
W186-D1	26,250	1/2 x 3/4	81930	81935
W186-D2	51,000	1/2 x 3/4	81945	81950
W187-D1	20,620	1/2 x 1	81960	81965
W187-D2	40,500	1/2 x 1	81975	81980
W188-D2	30,370	1/2 x 1-1/2	81990	81995
W189-D2	24,000	1/2 x 2	82005	82010
W190-D1	61,120	5/8 x 1/16	82020	82025
W191-D1	58,870	5/8 x 1/8	82035	82040
W192-D1	43,120	5/8 x 1/4	82050	82055
W192-D2	61,120	5/8 x 1/4	82065	82070
W193-D1	32,250	5/8 x 3/8	82080	82085
W193-D2	61,120	5/8 x 3/8	82095	82100
W194-D1	29,400	5/8 x 1/2	82110	82115
W194-D2	56,400	5/8 x 1/2	82125	82130
W195-D1	22,120	5/8 x 3/4	82140	82145
W195-D2	46,500	5/8 x 3/4	82155	82160
W196-D2	35,250	5/8 x 1	82170	82175
W197-D2	21,000	5/8 x 2	82185	82190
W198-D2	16,500	5/8 x 2-1/2	82200	82205
W199-D1	50,930	3/4 x 1/16	82215	82220
W200-D1	50,930	3/4 x 1/8	82230	82235
W201-D1	38,250	3/4 x 1/4	82245	82250
W202-D1	30,600	3/4 x 3/8	82260	82265
W202-D2	50,930	3/4 x 3/8	82275	82280
W203-D1	25,500	3/4 x 1/2	82290	82295
W203-D2	50,930	3/4 x 1/2	82305	82310
W204-D1	18,900	3/4 x 3/4	82320	82325
W204-D2	42,750	3/4 x 3/4	82335	82340
W205-D2	34,500	3/4 x 1	82350	82355
W206-D2	28,720	3/4 x 1-1/4	82365	82370
W207-D2	24,000	3/4 x 1-1/2	82380	82385
W208-D2	18,750	3/4 x 2	82395	82400

Non-stock points are available in 2-3 days.

# "W" Shape Vitrified Mounted Pts. (Continued)



Shank Size: D1 = 1/8 x 1-1/2 Long  
D2 = 1/4 x 1-1/2 Long

Min. Pkg. 25

Shape / Shank	Max RPM with 1/2" Overhang	Dia. x Width	Red Item #	Blue Item #
W209-D2	15,000	3/4 x 2-1/2	82410	82415
W210-D1	43,650	7/8 x 1/16	82425	82430
W211-D1	43,650	7/8 x 1/8	82440	82445
W212-D1	33,750	7/8 x 1/4	82455	82460
W212-D2	43,650	7/8 x 1/4	82470	82475
W213-D1	27,000	7/8 x 3/8	82485	82490
W213-D2	43,650	7/8 x 3/8	82500	82505
W214-D1	30,520	15/16 x 1/4	82515	82520
W214-D2	38,200	15/16 x 1/4	82530	82535
W215-D1	38,200	1 x 1/8	82545	82550
W215-D2	38,200	1 x 1/8	82560	82565
W216-D1	30,520	1 x 1/4	82575	82580
W216-D2	38,200	1 x 1/4	82590	82595
W217-D2	38,200	1 x 3/8	82605	82610
W218-D2	38,200	1 x 1/2	82620	82625
W219-D2	35,100	1 x 3/4	82635	82640
W220-D2	25,500	1 x 1	82650	82655
W221-D2	19,120	1 x 1-1/2	82665	82670

Shape / Shank	Max RPM with 1/2" Overhang	Dia. x Width	Red Item #	Blue Item #
W222-D2	15,900	1 x 2	82680	82685
W223-D2	12,370	1 x 2-1/2	82695	82700
W225-D2	30,560	1-1/4 x 1/4	82710	82715
W226-D2	30,560	1-1/4 x 3/8	82725	82730
W227-D2	30,560	1-1/4 x 1/2	82740	82745
W228-D2	30,520	1-1/4 x 3/4	82755	82760
W229-D2	24,000	1-1/4 x 1	82770	82775
W230-D2	30,400	1-1/4 x 1-1/4	82785	82790
W231-D2	17,620	1-1/4 x 1-1/2	82800	82805
W232-D2	14,250	1-1/4 x 2	82815	82820
W235-D2	25,470	1-1/2 x 1/4	82830	82835
W236-D2	25,470	1-1/2 x 1/2	82845	82850
W237-D2	22,500	1-1/2 x 1	82860	82865
W238-D2	15,600	1-1/2 x 1-1/2	82875	82880
W239-D2	12,750	1-1/2 x 2	82890	82895
W242-D2	19,100	2 x 1	82905	82910
W243-D2	14,500	2 x 1-1/2	82920	82925
W244-D2	11,750	2 x 2	82935	82940

Non-stock points are available in 2-3 days.

## Vitrified Mounted Point Kits

<b>The 1/8" shank set</b> contains: (5 of each, 100 pcs. total).	B42, B45, B52, B81, B91, B97, B102, B122, B136, W144, W146, W152, W160, W163, W167, W175, W176, W185, W200, W215
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<b>The 1/4" shank set</b> contains: (5 of each, 50 pcs. total)	A4, A12, A14, A21, A32, A37, A39, A40, W206, W218
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Kit Details	Red	Blue
1/8" Shank (100 pcs.)	82922	82923
1/4" Shank (50 pcs.)	82932	82933



# Non-Woven Cross-Reference Chart

**PREFERRED "Flex-N-Finish"® "**

**3M "Scotch-Brite"® "**

**STANDARD "BriteRite"® " NORTON "BEAR-TEX"® "**

## SURFACE CONDITIONING DISCS

A-CRS (BROWN)	A CRS	FE/GP/RC COARSE	RAPID PREP COARSE
A-MED (MAROON)	A MED	FE/GP/RC MEDIUM	RAPID PREP MED
A-Fine (GREEN)	N/A		RAPID PREP FINE
A-VF (BLUE)	A V-FINE	FE/GP/RC VERY FINE	RAPID PREP VERY FINE
S-SF (GRAY)	S SFN	N/A	RAPID PREP SUPER FINE
C-HD CRS (BROWN) Heavy Duty	SE A CRS	XD CRS	N/A
C-HD MED (MAROON) Heavy Duty	SE A MED	XD MED	N/A

## SURFACE CONDITIONING BELTS

### *Air File Sizes*

A-CRS X-FLEX (BROWN W/Green Back)	SCRIM COARSE	FE COARSE	RAPID PREP COARSE
A-MED X-FLEX (MAROON W/Green Back)	SCRIM MEDIUM	FE MEDIUM	RAPID PREP MED
A-VF X-FLEX (BLUE W/Green Back)	SCRIM VERY FINE	FE VERY FINE	RAPID PREP VERY FINE

### *Stationary Machine Sizes*

A-CRS LS (BROWN Low Stretch)	L.S. COARSE	FE/RC COARSE	RAPID PREP COARSE
A-MED LS (MAROON Low Stretch)	L.S. MEDIUM	FE/RC MEDIUM	RAPID PREP MED
A-FINE LS (GREEN Low Stretch)	N/A	N/A	RAPID PREP FINE
A-VF LS (BLUE Low Stretch)	L.S. VERY FINE	FE/RC VERY FINE	RAPID PREP VERY FINE
S-SF LS (GRAY Low Stretch)	L.S. SUPER FINE	N/A	RAPID PREP SUPER FINE

## HAND PADS, ROLLS & DISCS

#07440 HEAVY DUTY A/O (TAN)	#7440 CUT & POLISH MED. A/O	HEAVY DUTY A/O	#740 DARK TAN HD
#07446 S-MED (BLACK)	#7446 MEDIUM S/C	N/A	S M (GRAY)
A-FINE (MAROON)	CLEAN & FINISH FINE A/O	N/A	#644 MAROON FINE A/O
#07447 A-VF (MAROON)	#7447 CLEAN & FINISH V.F. A/O	GP A/O VERY FINE	#747 MAROON GP+ V-F A/O
#07450 SCOURING (GREEN)	#96 INDUSTRIAL	N/A	SCOURING #796
#07448 UF (GRAY) S/C	#7448 CLEAN & FINISH U.F. S/C	ULTRA FINE S/C	#748 GRAY FINAL SHINE S/C
#07445 CLEANING-NON ABRASIVE (WHITE)	CLEANSING PAD #7445	CLEANING WHITE	#456 CLEANING PAD

## DISCS

HI-STRENGTH A-MED (MAROON)	HIGH STRENGTH MED. A/O	HP A/O MEDIUM	HIGH STRENGTH A/O (M)
HI-STRENGTH A-FINE (MAROON)	HIGH STRENGTH FINE. A/O	HP A/O FINE	HIGH STRENGTH A/O (F)
HI-STRENGTH A-VF (MAROON)	HIGH STRENGTH V. FINE A/O	HP A/O VERY FINE	HIGH STRENGTH A/O (VF)

## CONVOLUTE WHEELS

DEBURRING XL2	EX2 & EX3	DEBURRING	SERIES 4000
DEBURRING XL	EXL	DEBURRING	SERIES 1000

## UNITIZED WHEELS

UNITIZED 2 HARDNESS	EXL UNITIZED 2 HARDNESS	SERIES 500	NEX - 2
UNITIZED 4 HARDNESS	EXL UNITIZED 4 HARDNESS	SERIES 600	NEX - 4
UNITIZED 5 HARDNESS	CUT & POLISH 5 HARDNESS	SERIES 731 / 732	VORTEX - 5
UNITIZED 6 HARDNESS	EXL UNITIZED 6 HARDNESS	SERIES 700	NEX - 6
UNITIZED 7 HARDNESS	CUT & POLISH 7 HARDNESS	SERIES 800	VORTEX - 7
UNITIZED 8 HARDNESS	EXL UNITIZED 8 HARDNESS	SERIES 911 / 721	NEX - 8

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# Convolute Wheels



**"GP" Deburring Wheels** - These economically priced convolute wheels are a good choice for general deburring and blending on most applications.

**"XL" Deburring Wheels** - These premium wheels are great for removing burrs or flashing, blending weld areas, blending scratch patterns, or applying decorative finishes. The softer wheels (6-7 density) provide slight conformability and will not overcut. 8 density wheels are a little harder and more durable. We recommend them as the best starting point for new applications. 9 density wheels are the most rigid and durable, allowing them to handle sharp burrs without premature shredding.

**"XL2" Heavy Deburring Wheels** - Advanced resin system and high grain content make these the best choice for rapid stock removal and heavy deburring.

Std. Pkg. 1	Size	Grade	Max RPM	New		
				GP	XL	XL2
			Item No.	Item No.	Item No.	
6 x 1/2 x 1	7SF	6,000	545416-GP	545416	-	
	8SF	6,000	545103-GP	545103	-	
	9SF	6,000	545105-GP	545105	545105-XL2	
6 x 1 x 1	6SF	6,000	-	545419	-	
	7AF	6,000	-	545418	-	
	7SF	6,000	545420-GP	545420	-	
	8AM	6,000	545109-GP	545109	545109-XL2	
	8SF	6,000	545110-GP	545110	545110-XL2	
	8SM	6,000	545111-GP	545111	-	
8 x 1 x 3	9SF	6,000	545112-GP	545112	545112-XL2	
	7SF	4,500	545422-GP	545422	-	
	8AM	4,500	545126-GP	545126	545126-XL2	
	8SF	4,500	545127-GP	545127	545127-XL2	
	8SM	4,500	-	545128	-	
	9SF	4,500	545129-GP	545129	545129-XL2	



Grade explanation:	
9SF	#9 = Density S = Silicon Carbide F = Fine Grit
8AM	#8 = Density A = Aluminum Oxide M = Medium Grit

Other sizes and grades are available.

## RED Metal Finishing Wheels

Std. Pkg. 1	Grade	Max RPM	Item No.
6 x 1 x 1	5AM	6,000	545236
6 x 2 x 1	5AM	6,000	545238
8 x 1 x 3	5AM	4,500	545240
8 x 2 x 3	5AM	4,500	545242

These durable wheels provide users with a long-lasting finishing wheel for decorative, satin and antique finishing of stainless steel, brass and aluminum.



## GRAY Multi-Finishing Wheels

Std. Pkg. 1	Grade	Max RPM	Item No.
6 x 1 x 1	2SC	6,000	545200
	2SM	6,000	545201
6 x 2 x 1	2SC	6,000	545203
	2SM	6,000	545204

Soft and spongy, they will provide a #4 RMS "Food Grade" finish. Best wheel to provide a bright, uniform linear finish on stainless steel or aluminum. Do not use on burrs!



## GREEN Final Polish Wheels

Std. Pkg. 1	Grade	Max RPM	Item No.
6 x 1 x 1	GFP	4,750	545409
8 x 1 x 3	GFP	3,400	545411

"FINAL POLISH" wheels will leave a "mirror like" finish on a variety of metals. Will not alter part geometry and do not require compound!



## Arbor Hole Reducer Bushings

Std. Pkg. 1 Pair	Size	Item No.
	Plastic set (1", 3/4", 5/8", 1/2")	10500
	1" to 1/2"	10502
	1" to 5/8"	10503
	1" to 3/4"	10504



Std. Pkg. 1 Pair	Size	Item No.
	3" to 5/8" (Machined Steel)	105111-S
	3" to 1" (Machined Aluminum)	105121
	3" to 1-1/4" (Machined Aluminum)	105131
	5" to 1" (Machined Aluminum)	105141
	5" to 1-1/4" (Machined Aluminum)	105142

# Surface Conditioning: Quick-Locks

**Premium:** Our #1 product! Great balance of fast cut and long life. Excellent for deburring, blending machine tool marks and general surface cleaning. The STIFF "Scrim Backed" material provides superior grain retention and resists loading and smearing on most materials.

**General Purpose:** These discs are ideal for general purpose use. Durable, fast cutting and ECONOMICAL!

**Max Finish:** These discs provide more flexibility than our Premium discs and will leave a smooth finish without any "stray" scratches making them ideal for applications like aerospace, where surface finish is the primary concern. Comparable to 3M ScotchBrite™! They are less aggressive than our Premium Discs.

**Heavy Duty:** These RIGID discs contain a Ceramic / AO blend with additional grain and resin for added cut & durability. They provide the fastest stock removal. They are ideal for heavy deburring, and blending tool marks.

## Premium



Dia.	Grit	Type "S"	Type "R"
1" Std. Pkg. 100	A-CRS	53437	<b>53470</b>
	A-MED	<b>53438</b>	<b>53471</b>
	A-VF	53439	<b>53472</b>
1-1/2" Std. Pkg. 100	A-CRS	53440	53473
	A-MED	<b>53441</b>	53474
	A-FINE	53441-4	53474-4
	A-VF	53442	53475
2" Std. Pkg. 50	S-SF	53442-5	53475-5
	A-CRS	<b>53443</b>	<b>53476</b>
	A-MED	<b>53444</b>	<b>53477</b>
	A-FINE	<b>53444-4</b>	<b>53477-4</b>
3" Std. Pkg. 25	A-VF	<b>53445</b>	<b>53478</b>
	S-SF	53445-5	<b>53478-5</b>
	A-CRS	<b>53446</b>	<b>53479</b>
	A-MED	<b>53447</b>	<b>53480</b>
4" Std. Pkg. 25	A-FINE	53447-4	53480-4
	A-VF	<b>53448</b>	<b>53481</b>
	S-SF	53448-5	53481-5
	A-CRS	53449	<b>53485</b>
	A-MED	53450	<b>53486</b>
	A-FINE	53450-4	53486-4
	A-VF	53451	53487
	S-SF	53452	53488

A-CRS (Brown)  
A-MED (Maroon)  
A-FINE (Green)  
A-VF (Blue)  
S-SF (Gray)



A-CRS (Brown)  
A-MED (Maroon)  
A-VF (Blue)

## General Purpose

Dia.	Grit	Type "S"	Type "R"
2" Std. Pkg. 50	A-CRS	<b>53443-GP</b>	<b>53476-GP</b>
	A-MED	<b>53444-GP</b>	<b>53477-GP</b>
	A-VF	<b>53445-GP</b>	<b>53478-GP</b>
3" Std. Pkg. 25	A-CRS	<b>53446-GP</b>	<b>53479-GP</b>
	A-MED	<b>53447-GP</b>	<b>53480-GP</b>
	A-VF	<b>53448-GP</b>	<b>53481-GP</b>



A-CRS (Brown)  
A-MED (Maroon)  
A-VF (Blue)



C-CRS (Brown)  
C-MED (Maroon)

## Max-Finish

Dia.	Grit	Type "S"	Type "R"
2" Std. Pkg. 50	A-CRS	<b>53443-M</b>	<b>53476-M</b>
	A-MED	<b>53444-M</b>	<b>53477-M</b>
	A-VF	<b>53445-M</b>	<b>53478-M</b>
3" Std. Pkg. 25	A-CRS	<b>53446-M</b>	<b>53479-M</b>
	A-MED	53447-M	<b>53480-M</b>
	A-VF	<b>53448-M</b>	<b>53481-M</b>

## Heavy Duty

Dia.	Grit	Type "S"	Type "R"
2" Std. Pkg. 50	C-CRS	<b>53443-HD</b>	<b>53476-HD</b>
	C-MED	<b>53444-HD</b>	<b>53477-HD</b>
3" Std. Pkg. 25	C-CRS	<b>53446-HD</b>	<b>53479-HD</b>
	C-MED	<b>53447-HD</b>	<b>53480-HD</b>

Holdings - page 13. Other sizes are available.

# Surface Conditioning Discs - Large Dia. Type "S"

*See material descriptions on pg. 40*

## **Premium Quick-Lock** Type "S" 5/8-11 thread

*(Fast cut with long life)*

Dia.	Grade	Item No.
4-1/2" x 5/8-11 Std. Pkg. 20	A-CRS	52453H
	A-MED	52455H
	A-VF	52457H
5" x 5/8-11 Std. Pkg. 20	A-CRS	52503H
	A-MED	52505H
	A-VF	52507H



## **Low Profile B/U Pad**

Designed specifically to work with 5/8-11 quick-lock discs.

*Includes 5 washers to accommodate different spindle lengths. (Prevents grinder shaft from protruding through the face of the disc).*

Std. Pkg. 1

Dia. x Arbor	Max RPM	Item No.
4-1/2" x 5/8-11	20,000	50431-LP
5" x 5/8-11	20,000	50432-LP

# Surface Conditioning Discs with Arbor Hole

*See material descriptions on pg. 40*

## **Premium H & L** (Disc with Center Hole)

*(Fast cut with long life)*

Dia. x AH	Grade	Item No.
4-1/2" x 7/8" AH ** Std. Pkg. 20	A-CRS	52453AH
	A-MED	52455AH
	A-VF	52457AH
5" x 7/8" AH ** Std. Pkg. 20	A-CRS	52503AH
	A-MED	52505AH
	A-VF	52507AH



## **General Purpose H & L** (Disc with Center Hole)

*(Durable and Economical)*

Dia. x AH	Grade	Item No.
4-1/2" x 7/8" AH ** Std. Pkg. 10	A-CRS	52453-GP-AH
	A-MED	52455-GP-AH
	A-VF	52457-GP-AH
5" x 7/8" AH ** Std. Pkg. 10	A-CRS	52503-GP-AH
	A-MED	52505-GP-AH
	A-VF	52507-GP-AH

\*\* Recommended to use with self-centering holders shown below.

## **"HD" H & L** (Disc with Center Hole)

*(Most aggressive & durable)*

Dia. x AH	Grade	Item No.
4-1/2" x 7/8 AH ** Std. Pkg. 20	C-CRS	52452AH
	C-MED	52454AH
5" x 7/8 AH ** Std. Pkg. 20	C-CRS	52502AH
	C-MED	52504AH

\*\* Recommended to use with self-centering holders shown.



## **Self-Centering H & L Holders**

Eliminate vibration or "fly-off". The centering post will keep the disc securely centered!

Std. Pkg. 1

Dia. x Arbor	Max RPM	Item No.
4-1/2" x 5/8-11	13,000	53904Z3-CP
5" x 5/8-11	12,000	53905Z1-CP

# Surface Conditioning: H & L Discs

*See material descriptions on pg. 40*

## Premium H & L Discs

<i>(Fast cut with long life)</i>		
Dia.	Grade	Item No.
4" Std. Pkg. 25	A-CRS	<b>52403</b>
	A-MED	<b>52405</b>
	A-VF	<b>52407</b>
	S-SF	52408
4-1/2" Std. Pkg. 20	A-CRS	<b>52453</b>
	A-MED	<b>52455</b>
	A-FINE	52456
	A-VF	<b>52457</b>
5" Std. Pkg. 20	A-CRS	<b>52503</b>
	A-MED	<b>52505</b>
	A-FINE	52506
	A-VF	<b>52507</b>
7" Std. Pkg. 20	A-CRS	<b>52703</b>
	A-MED	<b>52705</b>
	A-FINE	52706
	A-VF	<b>52707</b>
	S-SF	52708

## General Purp. H & L Discs

<i>(Durable and economical)</i>		
Dia.	Grade	Item No.
4-1/2" Std. Pkg. 20	A-CRS	<b>52453-GP</b>
	A-MED	<b>52455-GP</b>
	A-VF	<b>52457-GP</b>
5" Std. Pkg. 20	A-CRS	<b>52503-GP</b>
	A-MED	<b>52505-GP</b>
	A-VF	<b>52507-GP</b>
7" Std. Pkg. 20	A-CRS	<b>52703-GP</b>
	A-MED	<b>52705-GP</b>
	A-VF	<b>52707-GP</b>



## Max-Finish H & L Discs

<i>(Leaves the best finish)</i>		
Dia.	Grade	Item No.
4-1/2" Std. Pkg. 20	A-CRS	52453-C
	A-MED	52455-C
	A-VF	52457-C
5" Std. Pkg. 20	A-CRS	52503-C
	A-MED	52505-C
	A-VF	52507-C
7" Std. Pkg. 20	A-CRS	52703-C
	A-MED	52705-C
	A-VF	52707-C

## H & L Holders

To be used on discs shown above. These holders feature an extra long T-shaped hook for extra holder power.

Std. Pkg. 1

Dia. x Arbor	Max RPM	Item No.
4" x 5/8-11	15,000	<b>53904SH</b>
4-1/2" x 5/8-11	13,000	<b>53904Z3</b>
5" x 5/8-11	12,000	<b>53905Z1</b>
7" x 5/8-11	8,500	<b>53907</b>

# Surface Conditioning Flap Discs

*See material descriptions on pg. 40*

Layered flap design outlasts several conventional hook and loop discs. Vibration free, smooth running. *Ideal for TIG-weld seams on stainless steel.*

## Premium

<i>(Fast cut with long life)</i>		
Dia.	Grit	Item No.
4-1/2" x 7/8" Max RPM 13,300 Std. Pkg. 5	A-CRS	<b>53250</b>
	A-MED	<b>53251</b>
	A-VF	<b>53252</b>
4-1/2" x 5/8-11" Max RPM 13,300 Std. Pkg. 5	A-CRS	53255
	A-MED	53256
	A-VF	53257



## General Purpose

<i>(Durable and economical)</i>		
Dia.	Grit	Item No.
4-1/2" x 7/8" Max RPM 13,300 Std. Pkg. 10	A-CRS	<b>53250-GP</b>
	A-MED	<b>53251-GP</b>
	A-VF	<b>53252-GP</b>

# Surface Conditioning Belts

The open construction of the non-woven material enables aggressive cutting action and improved surface finish without fear of loading or gouging the workpiece. They can be used on conventional belt machines and most airfile sanders for deburring, surface conditioning, buffing and polishing.

Size	Mtl.	Grit	Item No.
1/4 x 18" Std. Pkg. 20	X-Flex	A-CRS	535002
		A-MED	535003
		A-VF	535005
1/4 x 24" Std. Pkg. 20	X-Flex	A-CRS	535006-1
		A-MED	535006-2
		A-VF	535006-4
1/2 x 12" Std. Pkg. 24	X-Flex	A-CRS	535015
		A-MED	<b>535025</b>
		A-VF	535035
1/2 x 18" Std. Pkg. 24	X-Flex	A-CRS	<b>53512</b>
		A-MED	<b>53513</b>
		A-VF	<b>53514</b>
1/2 x 24" Std. Pkg. 24	X-Flex	A-CRS	<b>53524</b>
		A-MED	<b>53525</b>
		A-VF	<b>53526</b>
3/4 x 18" Std. Pkg. 16	X-Flex	A-CRS	<b>53532</b>
		A-MED	<b>53533</b>
		A-VF	<b>53534</b>
3/4 x 20-1/2" Std. Pkg. 16	X-Flex	A-CRS	<b>53535</b>
		A-MED	<b>53536</b>
		A-VF	<b>53537</b>
1 x 18" Std. Pkg. 12	LS	A-CRS	535402-1
		A-MED	535402-2
		A-VF	535402-3
1 x 21" Std. Pkg. 12	LS	A-CRS	535403-1
		A-MED	535403-2
		A-VF	535403-4
1 x 30" Std. Pkg. 12	LS	A-CRS	535405
		A-MED	<b>535415</b>
		A-VF	<b>535425</b>
1 x 42" Std. Pkg. 12	LS	A-CRS	<b>53556</b>
		A-MED	<b>53557</b>
		A-VF	<b>53558</b>
1-1/8 x 21" Std. Pkg. 12	LS	A-CRS	53569-1
		A-MED	53569-2
		A-VF	53569-4
1-1/2 x 30" Std. Pkg. 12	LS	A-CRS	<b>535702-1</b>
		A-MED	<b>535702-2</b>
		A-VF	535702-3
2 x 48" Std. Pkg. 6	LS	A-CRS	<b>53660</b>
		A-MED	<b>53661</b>
		A-VF	<b>53662</b>
2 x 60" Std. Pkg. 6	LS	A-CRS	53668
		A-MED	<b>53669</b>
		A-VF	53670
2 x 72" Std. Pkg. 6	LS	A-CRS	<b>53676</b>
		A-MED	<b>53677</b>
		A-VF	<b>53678</b>
		S-SF	<b>53679</b>

Green (A-Fine) and Gray (S-SF) are also available.

Size	Mtl.	Grit	Item No.
2 x 132" Std. Pkg. 6	LS	A-CRS	53696
		A-MED	53697
		A-VF	53698
2-1/2 x 60" Std. Pkg. 4	LS	A-CRS	53728
		A-MED	<b>53729</b>
		A-VF	53730
2-3/4 x 15-1/2" Std. Pkg. 10	X-Flex	A-CRS	53736
		A-MED	53737
		A-VF	53738
3 x 10-11/16" Std. Pkg. 10	X-Flex	A-CRS	53740
		A-MED	53741
		A-VF	53742
3 x 24" Std. Pkg. 8	LS	A-CRS	53752
		A-MED	53753
		A-VF	53754
3 x 132" Std. Pkg. 4	LS	A-CRS	53772
		A-MED	<b>53773</b>
		A-VF	53774
3-1/2 x 15-1/2" Std. Pkg. 10	X-Flex	A-CRS	<b>53788</b>
		A-MED	<b>53789</b>
		A-VF	<b>53790</b>
4 x 24" Std. Pkg. 6	LS	A-CRS	<b>53800</b>
		A-MED	53801
		A-VF	53802
4 x 54" Std. Pkg. 3	LS	A-CRS	53808
		A-MED	53809
		A-VF	53811
4 x 132" Std. Pkg. 3	LS	A-CRS	53824
		A-MED	53825
		A-VF	53826
4 x 168" Std. Pkg. 3	LS	A-CRS	53832
		A-MED	53833
		A-VF	53834
6 x 48" Std. Pkg. 5	LS	A-CRS	<b>53856</b>
		A-MED	<b>53857</b>
		A-VF	<b>53858</b>
6 x 132" Std. Pkg. 3	LS	A-CRS	53870-1
		A-MED	53870-2
		A-VF	53870-4
25 x 60" Std. Pkg. 1	LS	A-CRS	53882-1
		A-MED	53882-2
		A-VF	53882-4
37 x 60" Std. Pkg. 1	LS	A-CRS	53887-1
		A-MED	53887-2
		A-VF	53887-4
37 x 75" Std. Pkg. 1	LS	A-CRS	53888-1
		A-MED	53888-2
		A-VF	53888-4

## GRADE / COLOR

- A-CRS (Brown)
- A-MED (Maroon)
- A-FINE (Green)
- A-VF (Blue)
- S-SF (Gray)



### X-Flex:

A softer material used primarily on narrow and short length belts. The flexible green backing offers improved grain retention when run on small diameter contact wheels. (Particularly well suited for airfile applications!)



### LS (Low Stretch):

Stiffer and more aggressive than X-Flex, this material is used primarily on longer belts to reduce stretching.

# Surface Conditioning Products

## Surface Conditioning Stars

Dia.	Max RPM	Grade	Item No.
1-1/2" x 1/4-20 Std. Pkg. 50	25,000	A-CRS	55007
		A-MED	55008
		A-VF	55009
2" x 1/4-20 Std. Pkg. 50	20,000	A-CRS	55010
		A-MED	55011
		A-VF	55012
3" x 1/4-20 Std. Pkg. 25	12,000	A-CRS	55015
		A-MED	55016
		A-VF	55017
4" x 1/4-20 Std. Pkg. 25	10,000	A-CRS	55020
		A-MED	55021
		A-VF	55022
1/4-20 x 3" OAL EYELET MANDREL			<b>50330</b>

Surface conditioning stars are designed for cleaning and polishing the I.D. of tubing. Effective on stainless steel, aluminum, steel and most other metals.

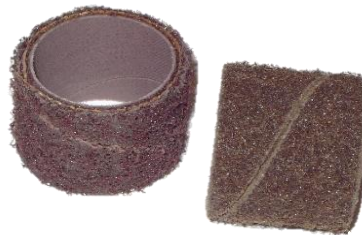


All have 1/4-20 eyelets

## Surface Conditioning Bands

Size	Max RPM	Grit	Item No.
1 x 1" Std. Pkg. 25	18,000	A-CRS	534940
		A-MED	534941
		A-VF	534942
1-1/2 x 1-1/2" Std. Pkg. 25	10,000	A-CRS	534950
		A-MED	534951
		A-VF	534952
2 x 2" Std. Pkg. 25	6,000	A-CRS	534960
		A-MED	534961
		A-VF	534962

Surface conditioning bands fit on conventional rubber drums. Great for finishing curved or contoured surfaces or applying a linear scratch pattern to small areas.



Rubber drums - page 30

# Cross-Buffs

Dia.	Max RPM	Grade	Item No.
1" x 8-32 Std. Pkg. 50 2-PLY	20,000	A- MED	56001
		A- FINE	56002
		A-VF	56002-3
1-1/2" x 8-32 Std. Pkg. 50 3-PLY	20,000	A- MED	56008-1
		A- FINE	56008-3
		A-VF	56008-4
1-1/2" x 1/4-20 Std. Pkg. 50 2-PLY	20,000	A- MED	<b>56006</b>
		A- FINE	56007
		A-VF	<b>56008</b>
2" x 1/4-20 Std. Pkg. 50 2-PLY	12,000	A- MED	56011
		A- FINE	56012
		A-VF	56013
3" x 1/4-20 Std. Pkg. 25 2-PLY	8,000	A- MED	56016
		A- FINE	56017
		A-VF	56018
8-32 x 3" OAL Eyelet Mandrel			<b>50329</b>
1/4-20 x 3" OAL Eyelet Mandrel			<b>50330</b>

Made with Hi-Strength material, cross buffs are ideal for ID polishing of tubes and cylindrical parts. Firm but conformable to fit in tight areas. Open construction reduces loading and leaves a matte finish.



# Flex-N-Finish Products



## Flex-N-Finish 6" x 9" Hand Pads

Designed for general clean-up, light deburring and blending. The open structure prevents loading. They can be used wet or dry.

Item No.	3M / Norton Equivalent	Color / Grade	Grit	Steel Wool Equivalent	Std. Pkg Qty.
<b>07440</b>	7440 / 740	Tan Medium A/O Heavy Duty	100-150	4	10/Shrink Wrap
<b>07445</b>	7445 / 456	White (Non-Abrasive)	-	0000	20/Box, 3 Boxes/Cs.
<b>07446</b>	7446 / 746	Black MED S/C for Stainless Steel	100-150	3	20/Box, 3 Boxes/Cs.
<b>07447A</b>	7447 / 747	Maroon VF A/O	240-360	1	20/Box, 3 Boxes/Cs.
<b>07447A-P</b>	7447 / 747	Maroon VF A/O (48 Cs. Pallet)	240-360	1	20/Box, 3 Boxes/Cs.
<b>07448</b>	7448 / 748	Gray UF S/C	800-1200	0000	20/Box, 3 Boxes/Cs.
<b>07448-P</b>	7448 / 748	Gray UF S/C (48 Cs. Pallet)	800-1200	0000	20/Box, 3 Boxes/Cs.
<b>07450</b>	96 / 796	Green GP Scouring #96	240-360	0	10/Shrink Wrap, 60/Cs.

## Flex-N-Finish Rolls

These rolls can be cut to size with scissors. Made from the same flexible material as our hand pads.

Std. Pkg. 1 Roll

Size	Heavy Duty Tan*	A-MED Maroon	A-FINE Maroon	A-VF Maroon	S-UF Gray
2" x 30'	53033	53034	53035	53036	53039
4" x 30'	53045	53046	<b>53047</b>	<b>53048</b>	53051
6" x 30'	53057	53058	53059	<b>53060</b>	53063



Other width and grits are also available, call for price & availability.

\* Tan Heavy Duty is comparable the 3M's Tan "Cut & Polish" material.

## Flex-N-Finish Discs

Great for satin and antique finishing, scratch blending and thread cleaning. Discs can be mounted individually or ganged on a shaft. For extra stiffness, use with side plates.

**Heavy Duty:** discs can handle light to moderate surface cleaning and deburring.

**Hi-Strength:** discs can handle medium to heavy surface cleaning and deburring. The high-strength fibers combined with a high grain content deliver a tough long lasting disc.

Std. Pkg. 25

		Arbor Hole Discs	
		Heavy Duty	Hi-Strength
Size	Grade	Item No.	Item No.
6 x 1/2" 3,600 RPM	A-MED	53136	<b>53187-1</b>
	A-FINE	<b>53137</b>	<b>53187-2</b>
	A-VF	<b>53138</b>	<b>53187-3</b>
8 x 1/2" 2,700 RPM	A-MED	53150	53188-1
	A-FINE	53151	53188-2
	A-VF	<b>53152</b>	<b>53188-3</b>

Other sizes and arbor holes available.



Heavy Duty



Hi-Strength



		Quick-Lock Discs			
		Heavy Duty		Hi-Strength	
Dia.	Grit	Type "S"	Type "R"	Type "S"	Type "R"
2" Std. Pkg. 50 12,000 RPM	A-MED	<b>53343</b>	<b>53376</b>	<b>53384</b>	<b>53390</b>
	A-FINE	<b>53344</b>	53377	53385	<b>53391</b>
	A-VF	<b>53345</b>	53378	53386	<b>53392</b>
3" Std. Pkg. 25 8,000 RPM	A-MED	<b>53346</b>	53379	<b>53387</b>	<b>53393</b>
	A-FINE	53347	53380	53388	53394
	A-VF	53348	53381	53389	<b>53395</b>

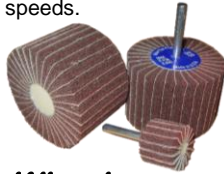
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Part numbers in  
**RED** are stock

# Flex-N-Finish Wheels

**Interleaf Wheels:** Consist of alternating flaps of coated and non-woven material. They provide some stock removal with a brushed finish. Great for blending scratch patterns. The smooth "cushioned feel" provides greater control and eliminates chatter at slow speeds.



## Mounted Interleaf Flap Wheels

Size	Max / Opt. RPM		Grit	Item No.
1 x 1 x 1/4" Std. Pkg. 5	15,000	10,500	MED/80	<b>54117</b>
			MED/120	<b>54118</b>
			MED/180	54119
2 x 1 x 1/4" Std. Pkg. 5	13,700	9,600	MED/80	<b>54123</b>
			MED/120	<b>54124</b>
			MED/180	54125
3 x 1 x 1/4" Std. Pkg. 5	8,600	6,000	MED/80	<b>54131</b>
			MED/120	<b>54132</b>
			MED/180	54133
3 x 2 x 1/4" Std. Pkg. 5	8,600	6,000	MED/80	<b>54138</b>
			MED/120	<b>54139</b>
			MED/180	<b>54140</b>



## Unmounted Interleaf Flap Wheels

Size	Max / Opt. RPM		Grit	Item No.
6 x 1 x 2" Std. Pkg. 5	4,500	2,000	MED/80	54325
			MED/120	54326
			MED/180	54327
6 x 2 x 2" Std. Pkg. 5	4,500	2,000	MED/80	54328
			MED/120	54329
			MED/180	54330
8 x 1 x 3" Std. Pkg. 3	4,000	1,500	MED/80	54341
			MED/120	54342
			MED/180	54343



**Mounted Disc Wheels** can handle light to moderate surface cleaning and deburring, satin and antique finishing, scratch blending and thread cleaning. They are more conformable than finishing flap wheels.

**Finishing Wheels:** Consist of all non-woven material. They are great at conforming to irregular surfaces for light to moderate surface cleaning, satin and antique finishing and scratch blending.

Tan wheels are comparable to 3M's Cut & Polish.



## Mounted Finishing Flap Wheels

Size	Max / Opt. RPM		Grit	Item No.
2 x 1 x 1/4" Std. Pkg. 10	13,700	9,600	TAN	<b>540201</b>
			MED	<b>54020103</b>
			FINE	<b>54020105</b>
			VF	<b>54020107</b>
3 x 1 x 1/4" Std. Pkg. 10	8,600	6,000	TAN	5400301
			MED	<b>54030103</b>
			FINE	54030105
			VF	54030107
3 x 2 x 1/4" Std. Pkg. 10	8,600	6,000	TAN	<b>5400302</b>
			MED	<b>54030203</b>
			FINE	<b>54030205</b>
			VF	<b>54030207</b>



## Unmounted Finishing Flap Wheels

Size	Max / Opt. RPM		Grit	Item No.
6 x 1 x 2" Std. Pkg. 5	4,500	2,000	MED	54421
			FINE	54422
6 x 2 x 2" Std. Pkg. 5	4,500	2,000	MED	54426
			FINE	54427
8 x 1 x 3" Std. Pkg. 3	4,000	1,500	MED	54433
			FINE	54434
8 x 2 x 3" Std. Pkg. 2	4,000	1,500	MED	54441
			FINE	54442

## Mounted Disc Wheels

Size	Max / Opt. RPM		Grit	Item No.
2 x 1/2 x 1/4" Std. Pkg. 5	12,000	5,000	MED	<b>54213</b>
			FINE	<b>54215</b>
2 x 1 x 1/4" Std. Pkg. 5	12,000	5,000	MED	<b>54217</b>
			FINE	<b>54219</b>
3 x 1/2 x 1/4" Std. Pkg. 5	8,000	4,000	MED	<b>54221</b>
			FINE	54223
3 x 1 x 1/4" Std. Pkg. 5	8,000	4,000	MED	<b>54225</b>
			FINE	54227

Other sizes and grades available for all items above.



# Non-Woven Flap Drums



Non-woven and Interleaf drums should always be run at lower speeds. This will extend the drum life and improve finish.

## Interleaf Flap Drums

Dia. x Width x AH	Quad Keyway	
	Grit	Part #
4 x 4 x 3/4"	60-CRS	54285
	80-MED	54286
	120-MED	54287
	150-FINE	54288
Std. Pkg. 1 5000 Max RPM	240/V. FINE	54289
2000 Optimum RPM		



Dia. x Width x AH	Spin-On Hub	
	Grit	Part #
4-1/4 x 4 x 5/8-11	60-CRS	54296
	80-MED	54297
	120-MED	54298
	150-FINE	54299
Std. Pkg. 1 5000 Max RPM	240/V. FINE	54301
2000 Optimum RPM		

2" wide wheels are also available.

## Non-Woven Finishing Flap Drums

Dia. x Width x AH	Quad Keyway	
	Grit	Part #
4 x 4 x 3/4"	CRS	54307
	MED	54308
	FINE	54309
	VERY FINE	54310
Std. Pkg. 1 5000 Max RPM	ULTRA FINE	54311
2000 Optimum RPM		



Dia. x Width x AH	Spin-On Hub	
	Grit	Part #
4-1/4 x 4 x 5/8-11	CRS	54317
	MED	54318
	FINE	54319
	VERY FINE	54320
Std. Pkg. 1 5000 Max RPM	ULTRA FINE	54321
2000 Optimum RPM		

2" wide wheels are also available.

# Flex-N-Strip Discs

- Black** - S/C General Purpose, rust & paint removal.
- Purple** - S/C Heavy Duty, rust & paint removal.
- Orange** - Ceramic, long life & nice finish.

## Type 27 Discs

Std. Pkg. 5 Dia. x AH		RPM		Item No.
		Max	Optimum	
4-1/2 x 7/8"	Black	11,500	3,000	<b>57041</b>
	Purple	11,500	3,000	<b>57043</b>
	Orange	11,500	3,000	<b>57044</b>
4-1/2 x 5/8-11	Black	11,500	3,000	<b>57046</b>
	Purple	11,500	3,000	<b>57047</b>
	Orange	11,500	3,000	<b>57048</b>



## Type "R" Quick-Lock Discs

Std. Pkg. 10 Diameter	Color	RPM		Item No.
		Max	Optimum	
2"	Black	12,000	7,000	<b>57050</b>
	Purple	12,000	7,000	<b>57052</b>
	Orange	12,000	7,000	<b>57053</b>
3"	Black	8,500	5,000	<b>57060</b>
	Purple	8,500	5,000	<b>57062</b>
	Orange	8,500	5,000	<b>57063</b>



# Unitized Wheels



Unitized Wheels provide a consistent, uniform finish on most materials. They can be used on highly alloyed materials without smearing. They can be run in either direction.

**XL Wheels:** Good choice for light deburring and blending. Smear resistant formula.

**CP Wheels:** These cut and polish wheels are a better choice for light weld bead and weld spatter removal, heavy deburring and finishing.

## Competitive Grades

(Softest to Hardest)

Dia. x Width x AH	Std. Pkg.	Max RPM	Type	Grade	Item No.
1 x 1 x 3/16	50	25,000	XL	2SF	544892
		35,000		6AM	544893
		35,000		6SF	544894
		35,000		8AM	544895
		35,000		8AC	544896
2 x 1/4 x 1/4	60	18,000	XL	2AM	544906
		18,000		2SF	544907
		22,000	CP	7AM	545006
3 x 1/8 x 1/4 3 x 1/8 x 3/8	40	18,000	CP	7AM	545016
		18,000	CP	7AM	545018
3 x 1/4 x 1/4	40	12,000	XL	2AM	544911
		12,000		2SF	544912
		18,000		6AM	544913
		18,000		8AM	544914
		18,000		8AC	544915
		18,000	CP	5AM	545019
		18,000		7AM	545020
6 x 1/2 x 1	4	4,700	XL	2SF	544936
		6,000	CP	5AF	545047
		6,000	CP	7AM	545051
6 x 1 x 1	2	4,700	XL	2SF	544939
		6,000	CP	7AM	545056

Other sizes, grades and arbor holes available on request.

### XL Comparison

Preferred	3M	Standard	Norton
2SF XL	EXL 2S FIN	532	NEX - 2SF
2AM XL	EXL 2A MED	521	NEX - 2AM
6SF XL	EXL 6S FIN	732	NEX - 6SF
6AF XL	EXL 6A FIN	731	NEX - 6AF
6AM XL	EXL 6A MED	-	NEX - 6AM
8AM XL	EXL 8A MED	821, 921	NEX - 8AM
8SM XL	EXL 8S MED	-	NEX - 8SM
8AC XL	EXL 8A CRS	811, 911	NEX - 8AC

### CP Comparison

5AF CP	CP-5A FIN	731	Vortex 5AF
5AM CP	CP-5A MED	-	Vortex 5AM
5SF CP	CP-5S FIN	732	-
7AC CP	CP-7A CRS	811, 911, 913	-
7AM CP	CP-7A MED	821, 921	Vortex 7AM
7SM CP	CP-7S MED	-	-

## Unitized Wheel Mandrels

Std. Pkg. 1

Fits Hole	Shank Dia.	Max Wheel Thick.	Max Wheel Dia.	Washer Diameter	Competitors Style #	Item No.	
3/16"	1/4	1"	1"	n/a	946	50801	
1/4"	1/4	1"	2"	0.625	932	50794	
1/4"	1/4	1"	3"	1"	933	50795	
1/4"	1/4	3/4"	2"	0.5	n/a	50802	
3/8"	1/4	1"	3"	0.75	n/a	50803	
1/4"	1/4	1/8-1/4"	3"	n/a	n/a	50690-1	
3/8"	1/4	1/8-1/4"	3"	n/a	n/a	50690-2	
1/4"	1/4	1/4-1/2"	3"	n/a	n/a	50690-3	

# Unitized Quick-Lock Discs (Type R)



**XL Wheels** - Best Choice for light deburring and blending. Available in both: GP (General Purpose) and Premium versions.

**CP Wheels** - Better choice for light weld bead and weld splatter removal and heavy deburring and finishing applications.

Dia. / Thick.	Max RPM	Type	Grade	"GP"	Premium
2" x 1/4"	18,000	XL	2AM	544600-GP	544600
	18,000		2SF	544602-GP	544602
	22,000		6AM	544604-GP	544604
Std. Pkg. 60	18,000	CP	3AM	-	544603
	22,000		5AM	-	544603-5
	22,000		7AM	-	544605
3" x 1/4"	12,000	XL	2AM	544612-GP	544612
	12,000		2SF	544614-GP	544614
	18,000		6AM	544616-GP	544616
Std. Pkg. 40	12,000	CP	3AM	-	544615
	18,000		5AM	-	544617
	18,000		7AM	-	544619

Quick-Lock holders - page 13

## XL Wheels

**2AM & 2SF:** Soft open structure. Less burning or loading. They will remove light imperfections and burs.

**6AM:** Harder and more durable. Capable of heavier deburring and surface finishing.

## CP Wheels

**3AM, 5AM, 7AM:** High performance engineered grain. Harder and more durable than XL wheels. Aggressive fast stock removal with long life.

# Unitized Finishing Discs (Type 27)

**4A-CRS, 4S-MED, 4S-VF:** Excellent choice for light deburring and blending stainless steel and providing a smooth, bright finish.

**6S-VFN** will leave a high luster on stainless steel and will leave a bright "mirror-like" final finish on a variety of metals without using compound. They will not alter part geometry.

Dia. / AH	Max RPM	Grade	Grit	Item No.
4-1/2 x 7/8"	11,000	4A-CRS	120	546108
		4S-MED	180	546106
Std. Pkg. 10		4S-VF	240	546102
Std. Pkg. 5	15,100	6S-VFN	320	546100



6S-VFN



# Surface Prep Discs

**Maroon (A/O Fine)** Cleaning, blending, paint removal and finishing on most metals.

**Gray (S/C Super Fine)** Light scratch removal, polishing or satin finishing on aluminum

## Surface Prep Type "R"

Dia. / Thick.	Max RPM	Grade	Type "R"
2" x 1/2"	18,000	A-FINE	546020
Std. Pkg. 25		S-SF	546021

Quick-Lock holders - page 13

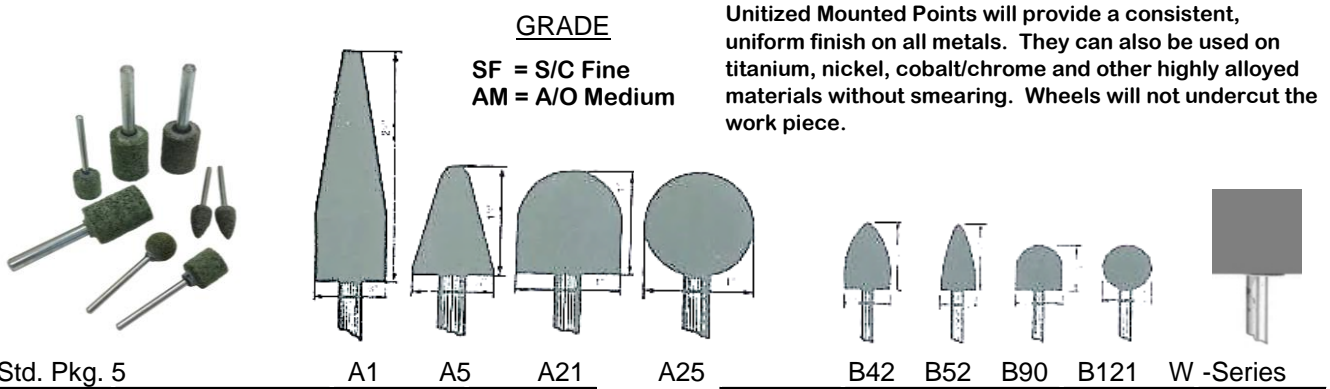
## Surface Prep T-27

Dia. / AH	Max RPM	Grade	Item No.
4-1/2 x 7/8"	11,000	A-FINE	546040
		S-SF	546041
Std. Pkg. 10			

Do not use on sharp edges or burrs!



# Unitized Mounted Points



Std. Pkg. 5

Shape	Dia. x Lgth. x Sh.	Grade	Item No.
A-1	3/4 x 2-1/2 x 1/4 19,800 RPM	SF	54944
		AM	54945
A-5	3/4 x 1-1/8 x 1/4 38,550 RPM	SF	54950
		AM	54951
A-21	1 x 1 x 1/4 34,500 RPM	SF	54953
		AM	54954
A-25	1 x 1 x 1/4 35,600 RPM	SF	54956
		AM	54957
B-42	1/2 x 3/4 x 1/8 33,750 RPM	SF	54959
		AM	54960
B-52	3/8 x 3/4 x 1/8 45,300 RPM	SF	54962
		AM	54963

Shape	Dia. x Lgth. x Sh.	Grade	Item No.
B-90	1/2 x 1/2 x 1/8 34,500 RPM	SF	54965
		AM	54966
B-121	1/2 x 1/2 x 1/8 45,300 RPM	SF	54968
		AM	54969
W-163	1/4 x 1/2 x 1/8 60,000 RPM	SF	54971
		AM	54972
W-185	1/2 x 1/2 x 1/8 34,500 RPM	SF	54977
		AM	54978
W-205	3/4 x 1 x 1/4 32,950 RPM	SF	54980
		AM	54981
W-220	1 x 1 x 1/4 25,500 RPM	SF	54983
		AM	54984

Other sizes are available upon request.  
 See pages 34-37 for additional size information.

# Cotton Fiber Mounted Points

Cotton Fiber Mounted Points are harder and more durable than Unitized Mounted Points. They can be used on all materials including stainless, mild steel, cast parts, and exotic metals. They can also be used on aluminum without loading. They provide a smooth, chatter free operation making them easy to control.



**GFX:** (white) Flexible latex bond. Soft bond for light deburring and finishing. Blend and finish in one operation.

**MTX:** (brown) Hard bond for light to medium stock removal.

Std. Pkg. 10

Shape	Dia. x Lgth. x Sh.	Grade	Item No.
B-52	3/8 x 3/4 x 1/8 45,300 RPM	A80-GFX	80531
		A80-MTX	80532
B-121	1/2 x 1/2 x 1/8 45,300 RPM	A80-GFX	81101
		A80-MTX	81102
W-163	1/4 x 1/2 x 1/8 60,000 RPM	A80-GFX	81521
		A80-MTX	81522
W-176	3/8 x 1/2 x 1/8 45,300 RPM	A80-GFX	81716
		A80-MTX	81717

Shape	Dia. x Lgth. x Sh.	Grade	Item No.
W-177	3/8 x 3/4 x 1/8 33,750 RPM	A80-GFX	81746
		A80-MTX	81747
W-185	1/2 x 1/2 x 1/8 34,500 RPM	A80-GFX	81901
		A80-MTX	81902
W-205	3/4 x 1 x 1/4 32,950 RPM	A80-GFX	82356
		A80-MTX	82357
W-220	1 x 1 x 1/4 25,500 RPM	A80-GFX	82646
		A80-MTX	82647

Other sizes and grades are available upon request.  
 See pages 34-37 for additional size information.

Vitrified Mounted Points are shown on page 30

# Cotton Fiber Products

## Cotton Fiber Type 1 Wheels

**GFX:** (white) Flexible latex bond.

Soft bond for light deburring, blending and finishing. Blend and finish in one operation. Long life vs. unitized wheels.

- Competes well against #8-#9 hardness unitized wheels.

**MTX:** (brown) Hard resin bond.

Hard bond works great for light to medium stock removal.



Std. Pkg. 10 Dia. x Width x AH	GFX				MTX	
	A54	A80	A120	Max RPM	A54	Max RPM
2 x 1/8 x 1/4 (20 Pc. Min.)	549861	549862	549863	18145	549865	27120
2 x 1/4 x 1/4 (20 Pc. Min.)	549871	549872	549873	18145	549875	27120
3 x 1/8 x 1/4	<b>549901</b>	549902	549903	12095	549905	18080
3 x 1/8 x 3/8	<b>549911</b>	549912	549913	12095	549915	18080
3 x 1/4 x 1/4	<b>549921</b>	549922	549923	12095	<b>549925</b>	18080
3 x 1/4 x 3/8	549931	549932	549933	12095	549935	18080
4 x 1/8 x 3/8	549951	549952	549953	9075	549955	13560
4 x 1/4 x 3/8	549971	549972	549973	9075	549975	13560

Other sizes, grades and arbor holes available. Use with cut-off wheel mandrels - page 32.

## Cotton Fiber Quick-Lock Discs

Works great on Stainless and Aluminum. Grind and finish in one step. Non loading!  
Long Life - outlast AO quick change discs 10:1. Won't smear on titanium or stainless.

- \* Order 1-2 grain sizes coarser than conventional grits.
- \* For best results, use an undersized holder.



Std. Pkg. 25

Dia.	Type	Max RPM	A24M	A36F	A54F	A80F	A120F
2"	R	30,000	550009	550010	550011	550012	550013
3"	R	20,000	550019	550020	550021	550022	550023

Quick Lock holders - page 13

## Cotton Fiber Type 27 Flexible Grinding Discs

Std. Pkg. 10

Dia.	Max RPM	A36GFX	A54GFX
4-1/2 x 7/8	13,300	<b>88150</b>	88151
5 x 7/8	12,200	88153	88154
7 x 7/8	8,500	88156	88157
4-1/2 x 5/8-11	13,300	88160	88161
5 x 5/8-11	12,200	88163	88164
7 x 5/8-11	8,500	88166	88167



## Cotton Fiber Type 27 Aluminum Grinding Discs

Std. Pkg. 10

Dia.	Max RPM	A36
4-1/2 x 7/8	13,300	88250
5 x 7/8	12,200	88251
7 x 7/8	8,500	88252
4-1/2 x 5/8-11	13,300	88260
5 x 5/8-11	12,200	88261
7 x 5/8-11	8,500	88262



ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.
07440	47	10656FF	18	10913AF	17	11082-3	20	11172	20	11308	20	12246	20	13239	21
07445	47	10663AF	18	10913FF	17	11082-4	20	11174	20	11336	20	12248	20	13241	21
07446	47	10663FF	18	10913T-FF	17	11082-5	20	11176	20	11338	20	12250	20	13243	21
07447A	47	10664AF	18	10914AF	17	11082-6	20	11178	20	11339	20	12343	20	13258	21
07447A-P	47	10664FF	18	10914FF	17	11082-7	20	11179-3	20	11341	20	12345	20	13260	21
07448	47	10665AF	18	10914T-FF	17	11082-8	20	11179-4	20	11343	20	12346	20	13262	21
07448-P	47	10665FF	18	10915AF	17	11090-3	20	11179-5	20	11345	20	12348	20	13263	21
07450	47	10666AF	18	10915FF	17	11090-4	20	11179-6	20	11347	20	12350	20	13284	21
10241, -PC	22	10666FF	18	10915T-FF	17	11090-5	20	11179-7	20	11361-05	20	12354	20	13286	21
10242, -PC	22	10813AF	18	10916AF	17	11090-6	20	11179-8	20	11361-06	20	12804	23	13287	21
10243, -PC	22	10813FF	18	10916FF	17	11090-7	20	11182-3	20	11361-07	20	12805	23	13289	21
10244, -PC	22	10813T-FF	18	10916T-FF	17	11090-8	20	11182-4	20	11361-08	20	12807	23	13291	21
10246, -PC	22	10814AF	18	10917AF	17	11091-3	20	11182-5	20	11362	20	12815	23	13293	21
10261, -PC	22	10814FF	18	10917FF	17	11091-4	20	11182-6	20	11364	20	12816	23	13295	21
10263, -PC	22	10814T-FF	18	10918AF	17	11091-5	20	11182-7	20	11365	20	12818	23	13336	21
10264, -PC	22	10815AF	18	10918FF	17	11091-6	20	11182-8	20	11367	20	12826	23	13338	21
10266, -PC	22	10815FF	18	10918T-FF	17	11091-7	20	11195-3	20	11369	20	12827	23	13339	21
10281, -PC	22	10815T-FF	18	10919AF	17	11091-8	20	11195-4	20	11371	20	12829	23	13341	21
10283, -PC	22	10816AF	18	10919FF	17	11104-3	20	11195-5	20	11373	20	12837	23	13364	21
10284, -PC	22	10816FF	18	10919T-FF	17	11104-4	20	11195-6	20	11375	20	12838	23	13365	21
10286, -PC	22	10816T-FF	18	10920AF	17	11104-5	20	11195-7	20	11376	20	12840	23	13367	21
10341, -PC	22	10817AF	18	10920FF	17	11104-6	20	11195-8	20	11377	20	12848	23	13388	21
10343, -PC	22	10817FF	18	10920T-FF	17	11104-7	20	11206	20	11378	20	12849	23	13390	21
10344, -PC	22	10823AF	18	10921AF	17	11104-8	20	11208	20	11379	20	12851	23	13391	21
10346, -PC	22	10823FF	18	10921FF	17	11117-3	20	11209	20	11380	20	12859	23	13393	21
10500	22,41	10824AF	18	10921T-FF	17	11117-4	20	11211	20	11381	20	12860	23	13395	21
10502	22,41	10824FF	18	10923AF	17	11117-5	20	11213	20	11382	20	12862	23	14167	21
10503	22,41	10825AF	18	10923FF	17	11117-6	20	11215	20	11383	20	12870	23	14169	21
10504	22,41	10825FF	18	10924AF	17	11117-7	20	11217	20	11384	20	12871	23	14170	21
105111-S	41	10826AF	18	10924FF	17	11117-8	20	11232	20	11385	20	12873	23	14172	21
105121	41	10826FF	18	10925AF	17	11127-3	20	11234	20	11386	20	12881	23	14174	21
105131	41	10827AF	18	10925FF	17	11127-4	20	11235	20	11388	20	12882	23	14176	21
105141	41	10827FF	18	10926AF	17	11127-5	20	11237	20	11390	20	12884	23	14178	21
105142	41	10853AF	18	10926FF	17	11127-6	20	11239	20	11391	20	12892	23	14232	21
10613AF	18	10853FF	18	10927AF	17	11127-7	20	11241	20	11393	20	12893	23	14234	21
10613FF	18	10854AF	18	10927FF	17	11127-8	20	11243	20	11395	20	12895	23	14235	21
10613T-FF	18	10854FF	18	10928AF	17	11128-3	20	11258	20	11397	20	12903	23	14237	21
10614AF	18	10855AF	18	10928FF	17	11128-4	20	11260	20	11399	20	12904	23	14284	21
10614FF	18	10855FF	18	10929AF	17	11128-5	20	11261	20	11414	20	12906	23	14286	21
10614T-FF	18	10856AF	18	10929FF	17	11128-6	20	11263	20	11416	20	12914	23	14287	21
10615AF	18	10856FF	18	10930AF	17	11128-7	20	11265	20	11417	20	12915	23	14289	21
10615FF	18	10863AF	18	10930FF	17	11128-8	20	11267	20	11419	20	12917	23	14291	21
10615T-FF	18	10863FF	18	10931AF	17	11129-3	20	11269	20	11421	20	12950	23	14293	21
10616AF	18	10864AF	18	10931FF	17	11129-4	20	11271	20	11423	20	12951	23	14295	21
10616FF	18	10864FF	18			11129-5	20	11273	20	11425	20	12952	23	14388	21
10616T-FF	18	10865AF	18	10933AF		11129-6	20	11274	20	12148	20	12953	23	14390	21
10617AF	18	10865FF	18	to	17	11129-7	20	11276	20	12150	20	12954	23	14391	21
10617FF	18	10866AF	18	10952FF		11129-8	20	11278	20	12151	20	12955	23	14393	21
10623AF	18	10866FF	18			11139-1	20	11280	20	12153	20			21136	29
10623FF	18	10870	19	10956FF	17	11139-3	20	11282	20	12155	20	13139-1		21137	29
10624AF	18	10871	19	10963AF	17	11139-4	20	11284	20	12157	20	to	21	21138	29
10624FF	18	10872	19	10963FF	17	11139-5	20	11286	20	12159	20	13139-6		21140	29
10625AF	18	10873	19	10964AF	17	11139-6	20	11287	20	12187	20			21159	29
10625FF	18	10880	19	10964FF	17	11139-7	20	11289	20	12189	20	13139-1-FX		21159-C	29
10626AF	18	10881	19	10965AF	17	11139-8	20	11291	20	12190	20	to	21	21160	29
10626FF	18	10882	19	10965FF	17	11156	20	11293	20	12192	20	13395-FX		21160-C	29
10627AF	18	10883	19	10966AF	17	11157	20	11295	20	12194	20			21161	29
10627FF	18	10900	19	10966FF	17	11159	20	11297	20	12196	20	13167		21162	29
		10901	19	10968AF	17	11161	20	11299	20	12198	20	to	21	21162-C	29
10633AF		10902	19	10969	17	11163	20	11300	20	12239	20	13237		21164	29
to	18	10903	19	10970	17	11165	20	11302	20	12241	20			21165	29
10656FF		10906	19	10971	17	11167	20	11304	20	12242	20				
		10907	19			11169	20	11306	20	12244	20				
		10908	19			11170	20								
		10909	19												

ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.
21166	29	21440	29	23624	30	27819	30	30441-8	27	30514-8	27	31242-E	14	31464	14
21167	29	21442	29	26423	30	27821	30	30441-C3	26	30514-C3	26	31243-E	14	31464-E	14
21167-C	29	21451	29	26424	30	27827	30	30441-Z3	26	30514-Z3	26	31244-E	14	31465	14
21168	29	21452	29	26426	30	27904	30	30442-8	27	30515-Z3	26	31250-E	14	31465-E	14
21168-C	29	21454	29	26434	30	27905	30	30442-C3	26	30516-8	27	31251-E	14	31466	14
21169	29	21523	29	26435	30	27907, -C	30	30442-Z3	26	30516-C3	26	31252-E	14	31466-E	14
21170	29	21523-AH	29	26437	30	27915	30	30443-8	27	30516-Z3	26	31253-E	14	31467	14
21170-C	29	21524	29	26445	30	27916	30	30443-Z3	26	30522-8	27	31254-E	14	31467-E	14
21172	29	21524-AH	29	26446	30	27918	30	30444-8	27	30522-Z3	26	31255-E	14	31468	14
21173	29	21526	29	26448	30	27920	30	30444-Z3	26	30523-8	27	31256-E	14	31468-E	14
21174	29	21526-AH	29	26456	30	27926	30	30446-8	27	30523-Z3	26	31258-E	14	31470	14
21211	29	21535	29	26457	30	27927	30	30447-8	27	30524-8	27	31262-E	14	31471	14
21212	29	21535-AH	29	26459	30	27929	30	30448-8	27	30524-Z3	26	31263-E	14	31472	14
21214	29	21536	29	26467	30	27931	30	30450-8	27	30525-8	27	31264-E	14	31536FD	19
21223	29	21536-AH	29	26468	30	27938	30	30450-C3	26	30525-Z3	26	31265-E	14	31538FD	19
21224	29	21538	29	26470	30	27940	30	30450-Z3	26	30526-8	27	31266-E	14	31539FD	19
21226	29	21538-AH	29	26478	30	27942	30	30451-8	27	30526-Z3	26	31267-E	14	31541FD	19
21270	29	21547-AH	29	26479	30	27970	30	30451-Z3	26	30534-8	27	31268-E	14	31548FD	19
21271	29	21548-AH	29	26481	30	27971, -C	30	30452-8	27	30534-Z3	26	31414-E	14	31550FD	19
21271-C	29	21550-AH	29	26500	30	27973	30	30452-C3	26	30535-8	27	31415-E	14	31551FD	19
21272	29	21796	29	26501	30	27981	30	30452-Z3	26	30535-Z3	26	31416-E	14	31553FD	19
21272-C	29	21799	29	26503	30	27982	30	30453-8	27	30536-8	27	31417-E	14	31560	19
21274	29	21800	29	26511	30	27984	30	30453-C3	26	30536-Z3	26	31418-E	14	31614-E	14
21274-C	29	21916	29	26512	30	27986	30	30453-Z3	26	30537-8	27	31419-E	14	31615-E	14
21276	29	21919	29	26514	30	28058	30	30454-8	27	30537-Z3	26	31420-E	14	31616-E	14
21277	29	21920	29	26522	30	28059	30	30454-C3	26	30538-8	27	31438	14	31617-E	14
21282	29	23105	30	26523	30	28061	30	30454-Z3	26	30538-Z3	26	31438-E	14	31618-E	14
21283	29	23105-C	30	26525	30	28063	30	30455-8	27	30558-8	27	31439	14	31619-E	14
21283-C	29	23106	30	26533	30	30357-30374-8	27	30455-Z3	26	30558-Z3	26	31439-E	14	31620-E	14
21284	29	23106-C	30	26534	30	30381-8	27	30456-8	27	30559-8	27	31440	14	31638	14
21284-C	29	23108	30	26536	30	30382-8	27	30456-C3	26	30559-Z3	26	31440-E	14	31638-E	14
21285	29	23108-C	30	26544	30	30383-8	27	30456-Z3	26	30560-8	27	31441	14	31639	14
21286	29	23141	30	26545	30	30384-8	27	30458-8	27	30560-Z3	26	31441-E	14	31639-E	14
21286-C	29	23141-C	30	26547	30	30386-8	27	30459-8	27	30561-8	27	31442	14	31640	14
21288	29	23142	30	26555	30	30392-8	27	30474-8	27	30561-Z3	26	31442-E	14	31640-E	14
21289	29	23142-C	30	26556	30	30393-8	27	30475-8	27	30562-8	27	31443	14	31641	14
21290	29	23144	30	26558	30	30394-8	27	30476-8	27	30562-Z3	26	31443-E	14	31641-E	14
21331	29	23144-C	30	27728	30	30395-8	27	30477-8	27	30570-8	27	31444	14	31642	14
21331-C	29	23146	30	27729	30	30396-8	27	30478-8	27	30570-Z3	26	31444-E	14	31642-E	14
21332	29	23285	30	27731	30	30398-8	27	30480-8	27	30571-8	27	31449	14	31643	14
21332-C	29	23285-C	30	27733	30	30404-8	27	30486-8	27	30571-Z3	26	31449-E	14	31643-E	14
21333	29	23286	30	27739	30	30405-8	27	30487-8	27	30572-8	27	31450	14	31644	14
21334	29	23286-C	30	27740	30	30406-8	27	30488-8	27	30572-Z3	26	31451	14	31644-E	14
21334-C	29	23288	30	27742	30	30407-8	27	30489-8	27	30573-8	27	31451-E	14	31649	14
21336	29	23288-C	30	27744	30	30408-8	27	30490-8	27	30573-Z3	26	31452	14	31649-E	14
21337	29	23321	30	27750	30	30410-8	27	30492-8	27	30574-8	27	31452-E	14	31650	14
21338	29	23321-C	30	27751	30	30416-8	27	30498-8	27	30574-Z3	26	31453	14	31650-E	14
21340	29	23322	30	27753, -C	30	30417-8	27	30499-8	27	30582-8	27	31453-E	14	31651	14
21341	29	23322-C	30	27755	30	30418-8	27	30500-8	27	30583-8	27	31454	14	31651-E	14
21343	29	23324	30	27761	30	30419-8	27	30501-8	27	30584-8	27	31454-E	14	31652	14
21343-C	29	23324-C	30	27762	30	30420-8	27	30502-8	27	30585-8	27	31455	14	31652-E	14
21344	29	23326	30	27764	30	30422-8	27	30504-8	27	31214-E	14	31455-E	14	31653	14
21344-C	29	23357	30	27772	30	30438-8	27	30510-8	27	31215-E	14	31456	14	31653-E	14
21345	29	23358	30	27773	30	30438-C3	26	30510-C3	26	31216-E	14	31456-E	14	31654	14
21346	29	23360	30	27775, -C	30	30438-Z3	26	30510-Z3	26	31217-E	14	31458	14	31654-E	14
21346-C	29	23405	30	27777	30	30439-8	27	30511-8	27	31218-E	14	31458-E	14	31655	14
21348	29	23406	30	27783	30	30439-Z3	26	30511-Z3	26	31219-E	14	31459	14	31655-E	14
21349	29	23408	30	27794	30	30440-8	27	30512-8	27	31220-E	14	31460	14	31656	14
21350	29	23465	30	27795, -J	30	30440-C3	26	30512-C3	26	31238-E	14	31461	14	31656-E	14
21355	29	23466	30	27797, -J, -C	30	30440-Z3	26	30512-Z3	26	31239-E	14	31462	14	31658	14
21356	29	23468	30	27816	30			30513-8	27	31240-E	14	31462-E	14	31658-E	14
21358	29	23621	30	27817	30			30513-C3	26	31241-E	14	31463	14	31659	14
21439	29	23622	30					30513-Z3	26			31463-E	14	31659-E	14

ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.
31660	14	319135	13	32565	13	34920-06	25	34935-17	24	35056-17	24	37112	16	37627	16
31660-E	14	319136	13	32566	13	34920-07	25	34935-17-5	24	35056-18	24	37113	16	37628	16
31661	14	319137	13	32567	13	34920-08	25	34935-17-8	24	35056-19	24	37114	16	37629	16
31662	14	319138	13	32568	13	34920-10	25	34936-03	24	35056-21	24	37116	16	37630	16
31662-E	14	319141	13	32638	13	34920-11	25	34936-05	24	35056-22	24	37118	16	37632	16
31663	14	319142	13	32639	13	34920-14	25	34936-06	24	35062-05	24	37119	16	39148	33
31663-E	14	319143	13	32640	13	34920-15	25	34936-06-6	24	35062-06	24	37120	16	39151	33
31664	14	319144	13	32641	13	34920-17	25	34936-07	24	35062-07	24	37121	16	50102-2	28
31664-E	14	319145	13	32642	13	34925-03	25	34936-08	24	35062-08	24	37122	16	50102-3	28
31665	14	319146	13	32643	13	34925-05	25	34936-08-6	24	35062-10	24	37124	16	50104	28
31665-E	14	319147	13	32644	13	34925-06	25	34936-09	24	35062-11	24	37126	16	50105	28
31666	14	319148	13	32649, -F	13	34925-07	25	34936-10	24	35062-12	24	37127	16	50108	28
31666-E	14	319210	19	32650, -F	13	34925-08	25	34936-10-6	24	35062-14	24	37128	16	50108-6	28
31667	14	319211	19	32651	13	34925-10	25	34936-11	24	35062-15	24	37129	16	50109	28
31667-E	14	319212	19	32652, -F	13	34925-11	25	34936-11-6	24	35062-17	24	37130	16	50109-6	28
31668	14	319213	19	32653, -F	13	34925-14	25	34936-14	24	35062-18	24	37131	16	50110	28
31668-E	14	319310	19	32654, -F	13	34925-15	25	34936-15	24	35062-19	24	37202	16	50115	28
31670	14	319311	19	32655	13	34925-17	25	34936-17	24	35062-21	24	37203	16	50116	28
31671	14	319312	19	32656, -F	13	34933-03	24	34967-05	25	35062-22	24	37204	16	50116-6	28
31672	14	319313	19	32661, -F	13	34933-05	24	34967-06	25	35063-05	24	37205	16	50117	28
31719	19	32210	19	32662, -F	13	34933-06	24	34967-07	24	35063-06	24	37206	16	50121	28
31719FD	19	32211	19	32663	13	34933-07	24	34967-08	24	35063-07	24	37208	16	50121-6	28
31721	19	32212	19	32664, -F	13	34933-08	24	34967-09	24	35063-08	24	37209	16	50122	28
31721FD	19	32213	19	32665, -F	13	34933-10	24	34967-10	24	35063-10	24	37210	16	50124	26
31722	19	32310	19	32666, -F	13	34933-11	24	34967-11	24	35063-11	24	37211	16	50125	26
31722FD	19	32311	19	32667	13	34933-14	24	34967-12	24	35063-12	24	37212	16	50126	26
31724	19	32312	19	32668, -F	13	34933-15	24	34967-14	24	35063-14	24	37214	16	50127	26
31724FD	19	32313	19	32749	13	34933-17	24	34967-15	24	35063-15	24	37215	16	50128	26
31727	19	32438	13	32750	13	349331-05	24	34967-17	24	35063-17	24	37216	16	50129	29
31727FD	19	32439	13	32751	13	349331-06	24	34972	24	35063-18	24	37217	16	50130	29
31729	19	32440	13	32752	13	349331-07	24	34973	24	35063-19	24	37218	16	50131	29
31729FD	19	32441	13	32753	13	349331-08	24	34974	24	35063-21	24	37220	16	50132	29
31730	19	32442	13	32754	13	349331-10	24	34975	24	35063-22	24	37510	16	50133	29
31730FD	19	32443	13	32755	13	349331-11	24	34976	24	35065-05	24	37511	16	50134	29
31732	19	32444	13	32756	13	349331-14	24	34977	24	35065-06	24	37512	16	50135	29
31732FD	19	32449, -F	13	32761	13	349331-15	24	34978	24	35065-07	24	37513	16	50136	29
319022	13	32450, -F	13	32762	13	349331-17	24	34979	24	35065-08	24	37514	16	50137	29
319023	13	32451	13	32763	13	34935-03	24	34981	24	35065-10	24	37516	16	50201	27
319024	13	32452, -F	13	32764	13	34935-05	24	34982	24	35065-11	24	37518	16	50204	27
319025	13	32453, -F	13	32765	13	34935-05-5	24	34983	24	35065-12	24	37519	16	50206	27
319026	13	32454, -F	13	32766	13	34935-05-8	24	35055-05	24	35065-14	24	37520	16	50208	27
319027	13	32455	13	32767	13	34935-06	24	35055-06	24	35065-15	24	37521	16	50209	27
319028	13	32456, -F	13	32768	13	34935-06-5	24	35055-07	24	35065-17	24	37522	16	50210	27
319031	13	32461, -F	13	33957	31	34935-06-8	24	35055-08	24	35065-18	24	37524	16	50214	27
319032	13	32462, -F	13	33958	31	34935-07	24	35055-10	24	35065-19	24	37526	16	50215	25
319033	13	32463	13	33960	31	34935-07-5	24	35055-11	24	35065-21	24	37527	16	50215-5	25
319034	13	32464, -F	13	33969	31	34935-07-8	24	35055-12	24	35065-22	24	37528	16	50216	25
319035	13	32465, -F	13	33970	31	34935-08	24	35055-14	24	35066-05	24	37529	16	50216-6	25
319036	13	32466	13	33972	31	34935-08-5	24	35055-15	24	35066-06	24	37530	16	50217	25
319037	13	32467	13	33981	31	34935-08-8	24	35055-17	24	35066-07	24	37532	16	50217-5	25
319038	13	32468, -F	13	33982	31	34935-09-5	24	35055-18	24	35066-08	24	37610	16	50217-8	25
319041	13	32549	13	33984	31	34935-09-8	24	35055-19	24	35066-10	24	37611	16	50218	25
319042	13	32550	13	34005	31	34935-10	24	35055-21	24	35066-11	24	37612	16	50218-6	25
319043	13	32551	13	34006	31	34935-10-5	24	35055-22	24	35066-12	24	37613	16	50230	15
319044	13	32552	13	34008	31	34935-10-8	24	35056-05	24	35066-14	24	37614	16	50234	15
319045	13	32553	13	34029	31	34935-11	24	35056-06	24	35066-15	24	37616	16	50237	15
319046	13	32554	13	34030	31	34935-11-5	24	35056-07	24	35066-17	24	37618	16	50240	15
319047	13	32555	13	34032	31	34935-11-8	24	35056-08	24	35066-18	24	37619	16	50240SF	15
319048	13	32556	13	34053	31	34935-14	24	35056-10	24	35066-19	24	37620	16	50241	15
319131	13	32561	13	34054	31	34935-14-5	24	35056-11	24	35066-21	24	37621	16	50241SF	15
319132	13	32562	13	34056	31	34935-14-8	24	35056-12	24	35066-22	24	37622	16	50250	15
319133	13	32563	13	34920-03	25	34935-15	24	35056-14	24	37110	16	37624	16	50251	15
319134	13	32564	13	34920-05	25	34935-15-5	24	35056-15	24	37111	16	37626	16	50252	15
						34935-15-8	24							50252-R	15
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ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.
50253FM	15	50803	50	53059	47	53446	42	53534	45	53902-F	26	54325		545128	41
50253-R	15	50931	19	53060	47	53446-HD	42	53535	45	53903-F	26	to	48	545129	41
50253SF	15	50933	19	53063	47	53447	42	53536	45	53903-2	26	54343		545129-XL2	41
50254	15	52403	42	53136	47	53447-4	42	53537	45	53904SH	44			545145	41
50254-R	15	52403-C	44	53137	47	53447-HD	42	535402		53904Z3	44	54370	22	545147	41
50254FM	15	52405	42	53138	47	53447-GP	42	to	45	53904Z3-CP	43	54372	22	545147-9AM	41
50254SF	15	52405-C	44	53150	47	53447-M	42	535425		53905	26	54421	48	545201	41
50257	15	52407	42	53151	47	53448	42	53556	45	53905-5	26	54422	48	545204	41
50258	15	52407-C	44	53152	47	53448-GP	42	53557	45	53905IV	26	54426	48	545236	41
50258-R	15	52408	42	53187-1	47	53448-5	42	53558	45	53905IV-5	26	54427	48	545238	41
50259	15	52452AH	43	53187-2	47	53448-M	42	53569-1, 2, 4	45	53905IV-8	26	54433	48	545240	41
50259-R	15	52453	44	53187-3	47	53470	42			53905F	26	54434	48	545242	41
50259FM	15	52453AH	43	53188-1	47	53471	42	535702-1, 2, 3	45	53905F-5	26	54441	48	545409	41
50259SF	15	52453-C	44	53188-2	47	53472	42	535705	45	53905F-8	26	54442	48	545411	41
50260	15	52453-GP	44	53188-3	47	53473	42	535715	45	53905Z1	44	544600	51	545416	41
50260-R	15	52453H	43	53250	44	53474	42	535725	45	53905Z1-CP	43	544602	51	545418	41
50260FM	15	52454AH	43	53251	44	53475	42	53660	45	53906	26	544603	51	545419	41
50260SF	15	52455	44	53252	44	53476	42	53661	45	53906-6	26	544603-5	51	545420	41
50264	15	52455AH	43	53255	44	53476-HD	42	53662	45	53906IV	26	544604	51	545422	41
50328	31,46	52455-C	44	53256	44	53476-M	42	53668	45	53906IV-6	26	544605	51	546020	51
50329	31	52455-GP	44	53257	44	53476-GP	42	53669	45	53906F	26	544612	51	546021	51
50329-6	31	52455H	43	53343	47	53477	42	53670	45	53906F-6	26	544614	51	546040	51
50329-6-FS	31	52456	44	53344	47	53477-4	42	53676	45	53907	44	544615	51	546041	51
50330	31,46	52457	44	53345	47	53477-HD	42	53677	45	5400201	48	544616	51	546100	51
50330-6	31	52457-C	44	53346	47	53477-GP	42	53678	45	5400301	48	544617	51	546102	51
50330-6-FS	31	52457H	43	53347	47	53477-M	42	53679	45	5400302	48	544619	51	546106	51
50401	15	52502AH	43	53348	47	53478	42	53696	45	54020103	48	544892	50	546108	51
50404	15	52503	44	53376	47	53478-5	42	53697	45	54020105	48	544893	50	54944	52
50410	15	52503AH	43	53377	47	53478-M	42	53698	45	54020107	48	544894	50	54945	52
50411	15	52503-C	44	53378	47	53479	42	53728	45	54030103	48	544895	50	54950	52
50415	15	52503-GP	44	53379	47	53479-HD	42	53729	45	54030105	48	544896	50	54951	52
50418	15	52503H	43	53380	47	53479-GP	42	53730	45	54030107	48	544906	50	54953	52
50431	15	52504AH	43	53381	47	53479-M	42	53736	45	54030203	48	544907	50	54954	52
50431-LP	15,43	52505	44	53384	47	53480	42	53737	45	54030205	48	544911	50	54956	52
50432	15	52505AH	43	53385	47	53480-4	42	53738	45	54030207	48	544912	50	54957	52
50432-LP	15,43	52505-C	44	53386	47	53480-HD	42	53752	45	54117	48	544913	50	54959	52
50433	15	52505-GP	44	53387	47	53480-GP	42	53753	45	54118	48	544914	50	54960	52
50436	15	52505H	43	53388	47	53480-M	42	53754	45	54119	48	544915	50	54962	52
50437	15	52506	44	53389	47	53481	42	53772	45	54123	48	544936	50	54963	52
50438	15	52507	44	53390	47	53481-GP	42	53773	45	54124	48	544939	50	54965	52
50506	32	52507-C	44	53391	47	53481-5	42	53774	45	54125	48	545006	50	54966	52
50507	32	52507H	43	53392	47	53481-M	42	53788	45	54131	48	545016	50	54968	52
50510	32	52508	44	53393	47	534940	46	53789	45	54132	48	545018	50	54969	52
50524	32	52703	44	53394	47	534941	46	53790	45	54133	48	545019	50	54971	52
50525	32	52703-C	44	53395	47	534942	46	53800	45	54138	48	545020	50	54972	52
50533	32	52703-GP	44	53437	42	534950	46	53801	45	54139	48	545047	50	54977	52
50534	32	52705	44	53438	42	534951	46	53802	45	54140	48	545051	50	54978	52
50542	32	52705-C	44	53439	42	534952	46	53808	45	54213	48	545056	50	54980	52
50543	32	52705-GP	44	53440	42	534960	46	53809	45	54215	48	545103	41	54981	52
50547	32	52706	44	53441	42	534961	46	53810	45	54217	48	545105	41	54983	52
50548	32	52707	44	53441-4	42	534962	46	53824	45	54219	48	545105-XL2	41	54984	52
50549	32	52707-C	44	53442	42	535002	45	53825	45	54221	48	545109	41	549861	53
50557	31	52708	44	53442-5	42	535003	45	53826	45	54223	48	545109-XL2	41	549862	53
50558	31	53033	47	53443	42	535005	45	53832	45	54225	48	545110	41	549863	53
50559	31	53034	47	53443-HD	42	535015	45	53833	45	54227	48	545110-XL2	41	549865	53
50560	31	53035	47	53443-GP	42	535025	45	53834	45			545111	41	549871	53
50561	31	53036	47	53443-M	42	535035	45	53856	45	54265		545112	41	549872	53
50690	34	53039	47	53444	42	53512	45	53857	45	to	22	545112-XL2	41	549873	53
50690-1	34	53045	47	53444-4	42	53513	45	53858	45	54321		545126	41	549875	53
50690-2	34	53046	47	53444-HD	42	53514	45	53870-1, -2, -4	45			545126-XL2	41	549901	53
50690-3	50	53047	47	53444-GP	42	53524	45	53882-1, -2, -4	45			545127	41	549902	53
50794	50	53048	47	53444-M	42	53525	45	53887-1, -2, -4	45	54285		545127-XL2	41	549903	53
50795	50	53051	47	53445	42	53526	45	53888-1, -2, -4	45	to	49			549905	53
50801	50	53057	47	53445-5	42	53532	45			54321				549911	53
50802	50	53058	47	53445-M	42	53533	45							549912	53

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ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.
549915	53	68026	12	70074-C3	9	70123	9	70159-05	9	70167-C3	9	70208	9	70267-08	9
549921	53	68027	12	70074-Z3	9	70123-C3	9	70159-05-C3	9	70167-PC	8	70208-C3	9	70267-08-C3	9
549922	53	69920	12	70075	9	70123-Z3	9	70159-05-Z3	9	70167-Z3	9	70208-Z3	9	70267-08-Z3	9
549923	53	69921	12	70075-C3	9	70124	9	70159-06	9	70168	9	70246	9	70268-02	9
549925	53	69923	12	70075-Z3	9	70124-C3	9	70159-06-C3	9	70168-C3	9	70246-C3	9	70268-02-C3	9
549931	53	69925	12	70076	9	70124-Z3	9	70159-06-Z3	9	70168-PC	8	70246-Z3	9	70268-02-Z3	9
549932	53	69932	12	70076-C3	9	70125-07	9	70159-07	9	70168-Z3	9	70247	9	70268-03	9
549933	53	69933	12	70076-Z3	9	70125-07-C3	9	70159-07-C3	9	70186-06-J3-SE	8	70247-C3	9	70268-03-C3	9
549935	53	69935	12	70077	9	70125-07-Z3	9	70159-07-Z3	9	70186-08-J3-SE	8	70247-Z3	9	70268-03-Z3	9
549951	53	69937	12	70077-C3	9	70125-08	9	70159-08	9	70186-10-J3-SE	8	70248	9	70268-04	9
549952	53	69944	12	70077-Z3	9	70125-08-C3	9	70159-08-C3	9	70186-11-J3-SE	8	70248-C3	9	70268-04-C3	9
549953	53	69945	12	70078	9	70125-08-Z3	9	70159-08-Z3	9	70186-14-J3-SE	8	70248-Z3	9	70268-04-Z3	9
549955	53	69947	12	70078-C3	9	70126	9	701602	9	70186-15-J3-SE	8	70249	9	70268-05	9
549971	53	69949	12	70078-Z3	9	70126-C3	9	701602-C3	9	70186-17-J3-SE	8	70249-C3	9	70268-05-C3	9
549972	53	69956	12	700811-02	9	70126-Z3	9	701602-Z3	9	70190-02	9	70249-Z3	9	70268-05-Z3	9
549973	53	69957	12	700811-02-C3	9	70127	9	701603	9	70190-02-C3	9	70250	9	70268-06	9
549975	53	69959	12	700811-02-Z3	9	70127-C3	9	701603-C3	9	70190-02-Z3	9	70250-C3	9	70268-06-C3	9
550009	53	69961	12	700811-03	9	70127-Z3	9	701603-Z3	9	70190-03	9	70250-Z3	9	70268-06-Z3	9
550010	53	70045	9	700811-03-C3	9	70128	9	701604	9	70190-03-C3	9	70251	9	70268-07	9
550011	53	70045-C3	9	700811-03-Z3	9	70128-C3	9	701604-C3	9	70190-03-Z3	9	70251-C3	9	70268-07-C3	9
550012	53	70045-Z3	9	700811-04	9	70128-Z3	9	701604-Z3	9	70190-04	9	70251-Z3	9	70268-07-Z3	9
550013	53	70046	9	700811-04-C3	9	70129	9	701605	9	70190-04-C3	9	70252	9	70268-08	9
550019	53	70046-C3	9	700811-04-Z3	9	70129-C3	9	701605-C3	9	70190-04-Z3	9	70252-C3	9	70268-08-C3	9
550020	53	70046-Z3	9	700811-05	9	70129-Z3	9	701605-Z3	9	70190-05	9	70252-Z3	9	70268-08-Z3	9
550021	53	70047	9	700811-05-C3	9	70130	9	701606	9	70190-05-C3	9	702661-02	9	70276	10
550022	53	70047-C3	9	700811-05-Z3	9	70130-C3	9	701606-C3	9	70190-05-Z3	9	702661-02-C3	9	70276-C3	10
550023	53	70047-Z3	9	700811-06	9	70130-Z3	9	701606-CJ3	8	70190-06	9	702661-02-Z3	9	70276-Z3	10
55007	46	70048	9	700811-06-C3	9	70131	9	701606-J3	8	70190-06-C3	9	702661-03	9	70277	10
55008	46	70048-C3	9	700811-06-Z3	9	70131-C3	9	701606-Z3	9	70190-06-CJ3	8	702661-03-C3	9	70277-C3	10
55009	46	70048-Z3	9	700811-07	9	70131-Z3	9	701607	9	70190-06-J3	8	702661-03-Z3	9	70277-Z3	10
55010	46	70049	9	700811-07-C3	9	70132	9	701607-C3	9	70190-06-Z3	9	702661-04	9	70278	10
55011	46	70049-Z3, C3	9	700811-07-Z3	9	70132-C3	9	701607-Z3	9	70190-07	9	702661-04-C3	9	70278-C3	10
55012	46	700490	9	700811-08	9	70132-Z3	9	701608	9	70190-07-C3	9	702661-04-Z3	9	70278-Z3	10
55015	46	700490-C3	9	700811-08-C3	9	70150	9	701608-C3	9	70190-07-Z3	9	702661-05	9	70279	10
55016	46	700490-Z3	9	700811-08-Z3	9	70150-C3	9	701608-CJ3	8	70190-08	9	702661-05-C3	9	70279-C3	10
55017	46	700491	9	70084	9	70150-Z3	9	701608-J3	8	70190-08-C3	9	702661-05-Z3	9	70279-Z3	10
55020	46	700491-C3	9	70084-C3	9	70151	9	701608-Z3	9	70190-08-CJ3	8	702661-06	9	70280	10
55021	46	700491-Z3	9	70084-Z3	9	70151-C3	9	701610-CJ3	8	70190-08-J3	8	702661-06-C3	9	70280-C3	10
55022	46	70058-02	9	70085	9	70151-Z3	9	701610-J3	8	70190-08-Z3	9	702661-06-Z3	9	70280-Z3	10
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56011	46	70058-04-Z3	9	70087-C3	9	70154	9	70162-C3	9	70202	9	70267-02	9	70294	10
56012	46	70059	9	70087-Z3	9	70154-C3	9	70162-PC	8	70202-C3	9	70267-02-C3	9	70294-C3	10
56013	46	70059-C3	9	70088	9	70154-Z3	9	70162-Z3	9	70202-Z3	9	70267-02-Z3	9	70294-Z3	10
56016	46	70059-Z3	9	70088-C3	9	70155	9	70163	9	70203	9	70267-03	9	70295	10
56017	46	70060	9	70088-Z3	9	70155-C3	9	70163-C3	9	70203-C3	9	70267-03-C3	9	70295-C3	10
56018	46	70060-C3	9	70089	9	70155-Z3	9	70163-PC	8	70203-Z3	9	70267-03-Z3	9	70295-Z3	10
57041	49	70060-Z3	9	70089-C3	9	70156	9	70163-Z3	9	70204	9	70267-04	9	70296	10
57043	49	70061	9	70089-Z3	9	70156-C3	9	70164	9	70204-C3	9	70267-04-C3	9	70296-C3	10
57044	49	70061-C3	9	70090	9	70156-Z3	9	70164-C3	9	70204-Z3	9	70267-04-Z3	9	70296-Z3	10
57046	49	70061-Z3	9	70090-C3	9	701581	9	70164-PC	8	70205	9	70267-05	9	70297	10
57047	49	70062	9	70090-Z3	9	to		70164-Z3	9	70205-C3	9	70267-05-C3	9	70297-C3	10
57048	49	70062-C3	9	70120	9	70159-02	9	70165	9	70205-Z3	9	70267-05-Z3	9	70297-Z3	10
57050	49	70062-Z3	9	70120-C3	9	70159-02-C3	9	70165-C3	9	70206	9	70267-06	9	70298	10
57052	49	70072	9	70120-Z3	9	70159-02-Z3	9	70165-PC	8	70206-C3	9	70267-06-C3	9	70298-C3	10
57053	49	70072-C3	9	70121	9	70159-03	9	70165-Z3	9	70206-Z3	9	70267-06-Z3	9	70298-CJ3	8
57060	49	70072-Z3	9	70121-C3	9	70159-03-C3	9	70166	9	70207	9	70267-07	9	70298-J3	8
57062	49	70073	9	70121-Z3	9	70159-03-Z3	9	70166-C3	9	70207-C3	9	70267-07-C3	9	70298-Z3	10
57063	49	70073-C3	9	70122	9	70159-04	9	70166-PC	8	70207-Z3	9	70267-07-Z3	9	70299	10
68010	12	70073-Z3	9	70122-C3	9	70159-04-C3	9	70166-Z3	9						
		70074	9	70122-Z3	9	70159-04-Z3	9	70167	9						

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70299-Z3	10	70333-Z3	10	70384-J3	8	70524	10	70558-C3	10	70642-C3	10	70693-Z3	11	70768-C3	11
70300	10	70334	10	70384-Z3	10	70524-C3	10	70558-Z3	10	70642-Z3	10	70694	11	70768-PC	8
70300-C3	10	70334-C3	10	70386-CJ3	8	70524-PC	8	70559	10	70643	10	70694-C3	11	70768-Z3	11
70300-CJ3	8	70334-Z3	10	70386-J3	8	70524-Z3	10	70559-C3	10	70643-C3	10	70694-Z3	11	70786	11
70300-J3	8	70335	10	703861-CJ3	8	70525	10	70559-Z3	10	70643-Z3	10	70695	11	70786-C3	11
70300-Z3	10	70335-C3	10	703861-J3	8	70525-C3	10	70560	10	70644	10	70695-C3	11	70786-Z3	11
70302-CJ3	8	70335-Z3	10	70388-J3	8	70525-PC	8	70560-C3	10	70644-C3	10	70695-Z3	11	70787	11
70302-J3	8	70336	10	70389-J3	8	70525-Z3	10	70560-Z3	10	70644-Z3	10	70696	11	70787-C3	11
70303-11-CJ3	8	70336-C3	10	70391-J3	8	70526	10	70561	10	70645	10	70696-C3	11	70787-Z3	11
70303-11-J3	8	70336-Z3	10	70426	10	70526-C3	10	70561-C3	10	70645-C3	10	70696-Z3	11	70788	11
70303-14-J3	8	70342	10	70426-C3	10	70526-PC	8	70561-Z3	10	70645-Z3	10	70738	11	70788-C3	11
70303-15-J3	8	70342-C3, C4	10	70426-Z3	10	70526-Z3	10	70562	10	70646	10	70738-C3	11	70788-Z3	11
70303-17-J3	8	70342-Z3	10	70427	10	70527	10	70562-C3	10	70646-C3	10	70738-PC	8	70789	11
70318	10	70343	10	70427-C3	10	70527-C3	10	70562-Z3	10	70646-CJ3	8	70738-Z3	11	70789-C3	11
70318-C3	10	70343-C3, C4	10	70427-Z3	10	70527-PC	8	70563	10	70646-J3	8	70739	11	70789-Z3	11
70318-PC	8	70343-Z3	10	70428	10	70527-Z3	10	70563-C3	10	70646-Z3	10	70739-C3	11	70790	11
70318-Z3	10	70344	10	70428-C3	10	70528	10	70563-Z3	10	70647	10	70739-PC	8	70790-C3	11
70319	10	70344-C3, C4	10	70428-Z3	10	70528-C3	10	70564	10	70647-C3	10	70739-Z3	11	70790-Z3	11
70319-C3	10	70344-Z3	10	70429	10	70528-PC	8	70564-C3	10	70647-Z3	10	70740	11	70791	11
70319-PC	8	70345	10	70429-C3	10	70528-Z3	10	70564-Z3	10	70648	10	70740-C3	11	70791-C3	11
70319-Z3	10	70345-C3, C4	10	70429-Z3	10	70546	10	705701-02	10	70648-C3	10	70740-PC	8	70791-Z3	11
70320	10	70345-Z3	10	70430	10	70546-C3	10	705701-02-C3	10	70648-CJ3	8	70740-Z3	11	70792	11
70320-C3	10	70346	10	70430-C3	10	70546-Z3	10	705701-02-Z3	10	70648-J3	8	70741	11	70792-C3	11
70320-PC	8	70346-C3, C4	10	70430-Z3	10	70547	10	705701-03	10	70648-Z3	10	70741-C3	11	70792-Z3	11
70320-Z3	10	70346-CJ3	8	70431	10	70547-C3	10	705701-03-C3	10	70650-CJ3	8	70741-PC	8	70793	11
70321	10	70346-J3	8	70431-C3	10	70547-Z3	10	705701-03-Z3	10	70650-J3	8	70741-Z3	11	70793-C3	11
70321-C3	10	70346-Z3	10	70431-Z3	10	70548	10	705701-04	10	706501-CJ3	8	70742	11	70793-Z3	11
70321-PC	8	70347	10	70432	10	70548-C3	10	705701-04-C3	10	706501-J3	8	70742-C3	11	70794	11
70321-Z3	10	70347-C3, C4	10	70432-C3	10	70548-Z3	10	705701-04-Z3	10	70652-J3	8	70742-PC	8	70794-04	11
70322	10	70347-Z3	10	70432-Z3	10	70549	10	70571	10	70653-J3	8	70742-Z3	11	70794-04-C3	11
70322-C3	10	70348	10	70438	10	70549-C3	10	70571-C3	10	70655-17-J3	8	70743	11	70794-04-Z3	11
70322-CJ3	8	70348-C3, C4	10	70438-C3	10	70549-Z3	10	70571-Z3	10	70662	11	70743-C3	11	70794-C3	11
70322-J3	8	70348-CJ3	8	70438-Z3	10	70550	10	70572	10	70662-C3	11	70743-PC	8	70794-Z3	11
70322-PC	8	70348-J3	8	70439	10	70550-C3	10	70572-C3	10	70662-Z3	11	70743-Z3	11	70795	11
70322-Z3	10	70348-Z3	10	70439-C3	10	70550-Z3	10	70572-Z3	10	70663	11	70744	11	70795-C3	11
70323	10	70349-CJ3	8	70439-Z3	10	70551	10	70573	10	70663-C3	11	70744-C3	11	70795-Z3	11
70323-C3	10	70349-J3	8	70440	10	70551-C3	10	70573-C3	10	70663-Z3	11	70744-PC	8	70796-06	11
70323-PC	8	70350-CJ3	8	70440-C3	10	70551-Z3	10	70573-Z3	10	70664	11	70744-Z3	11	70796-06-C3	11
70323-Z3	10	70350-J3	8	70440-Z3	10	70552	10	70574	10	70664-C3	11	70762	11	70796-06-Z3	11
70324	10	70352-J3	8	70441	10	70552-C3	10	70574-C3	10	70664-Z3	11	70762-C3	11	70796-07	11
70324-C3	10	70353-J3	8	70441-C3	10	70552-Z3	10	70574-Z3	10	70665	11	70762-PC	8	70796-07-C3	11
70324-CJ3	8	70354-J3	8	70441-Z3	10	70556-02	10	70582	10	70665-C3	11	70762-Z3	11	70796-07-Z3	11
70324-J3	8	70355-17-J3	8	70442	10	70556-02-C3	10	70582-C3	10	70665-Z3	11	70763	11	70796-08	11
70324-PC	8	70378	10	70442-C3	10	70556-02-Z3	10	70582-Z3	10	70666	11	70763-C3	11	70796-08-C3	11
70324-Z3	10	70378-C3	10	70442-Z3	10	70556-03	10	70584	10	70666-C3	11	70763-PC	8	70796-08-Z3	11
70326-11-CJ3	8	70378-Z3	10	70443	10	70556-03-C3	10	70584-C3	10	70666-Z3	11	70763-Z3	11	70825	11
70326-11-J3	8	70379	10	70443-C3	10	70556-03-Z3	10	70584-Z3	10	70667	11	70764	11	70825-C3	11
70326-CJ3	8	70379-C3	10	70443-Z3	10	70556-04	10	70585	10	70667-C3	11	70764-C3	11	70825-Z3	11
70326-J3	8	70379-Z3	10	70444	10	70556-04-C3	10	70585-C3	10	70667-Z3	11	70764-PC	8	70826	11
70327-14-J3	8	70380	10	70444-C3	10	70556-04-Z3	10	70585-Z3	10	70668	11	70764-Z3	11	70826-C3	11
70328-15-J3	8	70380-C3	10	70444-Z3	10	70556-05	10	70586	10	70668-C3	11	70765	11	70826-Z3	11
70328-17-J3	8	70380-Z3	10			70556-05-C3	10	70586-C3	10	70668-Z3	11	70765-C3	11	70827	11
70330	10	70381	10	70510		70556-05-Z3	10	70586-Z3	10	70690	11	70765-PC	8	70827-C3	11
70330-C3	10	70381-C3	10	to	10	70556-06	10	70587	10	70690-C3	11	70765-Z3	11	70827-Z3	11
70330-Z3	10	70381-Z3	10	70516		70556-06-C3	10	70587-C3	10	70690-Z3	11	70766	11	70828	11
70331	10	70382	10			70556-06-Z3	10	70587-Z3	10	70691	11	70766-C3	11	70828-C3	11
70331-C3	10	70382-C3	10	70522	10	70556-07	10	70588	10	70691-C3	11	70766-PC	8	70828-Z3	11
70331-Z3	10	70382-CJ3	8	70522-C3	10	70556-07-C3	10	70588-C3	10	70691-Z3	11	70766-Z3	11	70829	11
70332	10	70382-J3	8	70522-PC	8	70556-07-Z3	10	70588-Z3	10	70692	11	70767	11	70829-C3	11
70332-C3	10	70382-Z3	10	70522-Z3	10	70556-08	10	70589	10	70692-C3	11	70767-C3	11	70829-Z3	11
70332-Z3	10	70383-Z3	10	70523	10	70556-08-C3	10	70589-C3	10	70692-Z3	11	70767-PC	8	70830	11
70333	10	70384	10	70523-C3	10	70556-08-Z3	10	70589-Z3	10	70693	11	70767-Z3	11	70830-C3	11
		70384-C3	10	70523-PC	8										
				70523-PC	8										

ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.
70830-Z3	11	70996	11	71092	11	72287	12	73054	33	73487	33	74177	33	80015	36
70831	11	70996-C3	11	71092-C3	11	72288	12	73055	33	73489	33	74180	33	80025	36
70831-C3	11	70996-PC	8	71092-Z3	11	72289	12	73056	33	73524	33	74181	33	80030	36
70831-Z3	11	70996-Z3	11	71206	11	72290	12	73058	33	73525	33	75701	31	80040	36
70882	11	71026	11	71206-C3	11	72291	12	73064	33	73526	33	75702	31	80045	36
70882-C3	11	71026-C3	11	71206-Z3	11	72304	12	73065	33	73527	33	75703	31	80055	36
70882-Z3	11	71026-Z3	11	71207	11	72305	12	73066	33	73528	33	75711	31	80060	36
70883	11	71027	11	71207-C3	11	72306	12	73067	33	73529	33	75712	31	80070	36
70883-C3	11	71027-C3	11	71207-Z3	11	72307	12	73068	33	73530	33	75713	31	80075	36
70883-Z3	11	71027-Z3	11	71208	11	72308	12	73069	33	73532	33	75721	31	80085	36
70884	11	71028	11	71208-C3	11	72309	12	73070	33	73534	33	75722	31	80090	36
70884-C3	11	71028-C3	11	71208-Z3	11	72310	12	73071	33	74104	32	75723	31	80100	36
70884-Z3	11	71028-Z3	11	71209	11	72311	12	73073	33	74105	32	75731	31	80105	36
70885	11	71029	11	71209-C3	11	72312	12	73074	33	74106	32	75732	31	80115	36
70885-C3	11	71029-C3	11	71209-Z3	11	72313	12	73134	33	74107	32	75733	31	80120	36
70885-Z3	11	71029-Z3	11	71210	11	72314	12	73135	33	74108	32	75741	31	80130	36
70886	11	71030	11	71210-C3	11	72392	12	73136	33	74109	32	75742	31	80135	36
70886-C3	11	71030-C3	11	71210-Z3	11	72393	12	73137	33	74110	32	75743	31	80145	36
70886-CJ3	8	71030-Z3	11	71211	11	72394	12	73138	33	74111	32	76321	32	80150	36
70886-J3	8	71031	11	71211-C3	11	72395	12	73139	33	74112	32	76322	32	80160	36
70886-Z3	11	71031-C3	11	71211-Z3	11	72396	12	73140	33	74113	32	76324	32	80165	36
70887	11	71031-Z3	11	71212	11	72397	12	73141	33	74114	32	76333	32	80175	36
70887-C3	11	71032	11	71212-C3	11	72398	12	73143	33	74115	32	76334	32	80180	36
70887-Z3	11	71032-C3	11	71212-Z3	11	72399	12	73144	33	74116	32	76336	32	80190	36
70888	11	71032-Z3	11	72141	12	72400	12	73149	33	74117	32	76621	32	80195	36
70888-C3	8	71036-02	11	72142	12	72401	12	73150	33	74118	32	76622	32	80205	36
70888-CJ3	8	71036-02-C3	11	72143	12	72402	12	73151	33	74119	32	76624	32	80210	36
70888-J3	8	71036-02-Z3	11	72144	12	72437	12	73152	33	74121	32	76762	32	80220	36
70888-Z3	11	71036-03	11	72145	12	72438	12	73153	33	74122	32	76764	32	80225	36
70890-CJ3	8	71036-03-C3	11	72146	12	72439	12	73154	33	74123	32	76765	32	80235	36
70890-J3	8	71036-03-Z3	11	72147	12	72440	12	73155	33	74124	32	76766	32	80240	36
708901-CJ3	8	71036-04	11	72148	12	72441	12	73156	33	74125	32	76768	32	80250	36
708901-J3	8	71036-04-C3	11	72149	12	72442	12	73158	33	74126	32	76777	32	80255	36
70893-J3	8	71036-04-Z3	11	72150	12	72443	12	73159	33	74128	32	76778	32	80265	36
70894-J3	8	71036-05	11	72151	12	72443-08	12	73164	33	74128-N	32	76780	32	80270	36
70896-J3	8	71036-05-C3	11	72152	12	72444	12	73165	33	74129	32	77124	32	80280	36
70990	11	71036-05-Z3	11	72153	12	72445	12	73166	33	74129-N	32	77125	32	80285	36
70990-C3	11	71037	11	72154	12	72446	12	73167	33	74130	32	77126	32	80295	36
70990-PC	8	71037-C3	11	72155	12	72448	12	73168	33	74131	32	77128	32	80300	36
70990-Z3	11	71037-Z3	11	72156	12	72449	12	73169	33	74131-N	32	77134	32	80310	36
70991	11	71038	11	72157	12	72450	12	73170	33	74133	32	77136	32	80315	36
70991-C3	11	71038-C3	11	72158	12	72451	12	73171	33	74133-N	32	77137	32	80325	36
70991-PC	8	71038-Z3	11	72159	12	72452	12	73173	33	74134	32	77138	32	80330	36
70991-Z3	11	71039	11	72160	12	72453	12	73174	33	74135	32	77140	32	80340	36
70992	11	71039-C3	11	72161	12	72454	12	73193	33	74135-N	32	77410	32	80345	36
70992-C3	11	71086	11	72162	12	72455	12	73194	33	74135-1	32	77412	32	80355	36
70992-PC	8	71086-C3	11	72229	12	72456	12	73195	33	74135-1-N	32	77413	32	80360	36
70992-Z3	11	71086-Z3	11	72230	12	72457	12	73461	33	74135-2	32	77414	32	80370	36
70993	11	71087	11	72231	12	72458	12	73462	33	74135-2-N	32	77416	32	80375	36
70993-C3	11	71087-C3	11	72232	12	73034	33	73463	33	74136	32	77422	32	80385	36
70993-PC	8	71087-Z3	11	72233	12	73035	33	73464	33	74136-N	32	77424	32	80390	36
70993	11	71088	11	72234	12	73036	33	73465	33	74137	32	77425	32	80400	36
70993-C3	11	71088-C3	11	72235	12	73037	33	73466	33	74137-N	32	77426	32	80405	36
70993-PC	8	71088-Z3	11	72236	12	73038	33	73467	33	74138	32	77428	32	80415	37
70993-Z3	11	71089	11	72237	12	73039	33	73469	33	74138-N	32	77434	32	80420	37
70994	11	71089-C3	11	72238	12	73040	33	73471	33	74139	32	77436	32	80430	37
70994-C3	11	71089-Z3	11	72239	12	73041	33	73479	33	74139-N	32	77437	32	80435	37
70994-PC	8	71090	11	72281	12	73043	33	73480	33	74140	32	77438	32	80445	37
70994-Z3	11	71090-C3	11	72282	12	73049	33	73481	33	74172	33	77440	32	80450	37
70995	11	71090-Z3	11	72283	12	73050	33	73482	33	74173	33			80460	37
70995-C3	11	71091	11	72284	12	73051	33	73483	33	74174	33	78302 - 78610	25	80465	37
70995-PC	8	71091-C3	11	72285	12	73052	33	73484	33	74175	33			80475	37
70995-Z3	11	71091-Z3	11	72286	12	73053	33	73485	33	74176	33	80010	36	80480	37

ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.	ITEM NO.	PG.
80490	37	80945	37	81410	38	81840	38	82295	38	82740	39				
80495	37	80955	37	81420	38	81845	38	82305	38	82745	39				
80505	37	80960	37	81425	38	81855	38	82310	38	82755	39				
80510	37	80970	37	81435	38	81860	38	82320	38	82760	39				
80520	37	80975	37	81440	38	81870	38	82325	38	82770	39				
80525	37	80985	37	81450	38	81875	38	82335	38	82775	39				
80531	52	80990	37	81455	38	81885	38	82340	38	82785	39				
80532	52	81000	37	81465	38	81890	38	82350	38	82790	39				
80535	37	81005	37	81470	38	81900	38	82355	38	82800	39				
80540	37	81015	37	81480	38	81901	52	82356	52	82805	39				
80550	37	81020	37	81485	38	81902	52	82357	52	82815	39				
80555	37	81030	37	81495	38	81905	38	82365	38	82820	39				
80565	37	81035	37	81500	38	81915	38	82370	38	82830	39				
80570	37	81045	37	81510	38	81920	38	82380	38	82835	39				
80580	37	81050	37	81515	38	81930	38	82385	38	82845	39				
80585	37	81060	37	81521	52	81935	38	82395	38	82850	39				
80595	37	81065	37	81522	52	81945	38	82400	38	82860	39				
80600	37	81075	37	81525	38	81950	38	82410	39	82865	39				
80610	37	81080	37	81530	38	81960	38	82415	39	82875	39				
80615	37	81090	37	81540	38	81965	38	82425	39	82880	39				
80625	37	81095	37	81545	38	81975	38	82430	39	82890	39				
80630	37	81101	52	81555	38	81980	38	82440	39	82895	39				
80640	37	81102	52	81560	38	81990	38	82445	39	82905	39				
80645	37	81105	37	81570	38	81995	38	82455	39	82910	39				
80655	37	81110	37	81575	38	82005	38	82460	39	82920	39				
80660	37	81120	37	81585	38	82010	38	82470	39	82923	39				
80670	37	81125	37	81590	38	82020	38	82475	39	82933	39				
80675	37	81135	37	81600	38	82025	38	82485	39	82925	39				
80685	37	81140	37	81605	38	82035	38	82490	39	82935	39				
80690	37	81150	37	81615	38	82040	38	82500	39	82940	39				
80700	37	81155	37	81620	38	82050	38	82505	39	87721	34				
80705	37	81165	37	81630	38	82055	38	82515	39	87722	34				
80715	37	81170	37	81635	38	82065	38	82520	39	87725	34				
80720	37	81180	37	81645	38	82070	38	82530	39	87725-C3	34				
80730	37	81185	37	81650	38	82080	38	82535	39	87726	34				
80735	37	81195	37	81660	38	82085	38	82545	39	87726-C3	34				
80745	37	81200	37	81665	38	82095	38	82550	39	87738	34				
80750	37	81210	37	81675	38	82100	38	82560	39	87742	34				
80760	37	81215	37	81680	38	82110	38	82565	39	87742-C3	34				
80765	37	81225	37	81690	38	82115	38	82575	39	87743	34				
80775	37	81230	37	81695	38	82125	38	82580	39	87743-C3	34				
80780	37	81240	37	81705	38	82130	38	82590	39	87770	34				
80790	37	81245	37	81710	38	82140	38	82595	39	87770-27	34				
80795	37	81255	37	81716	52	82145	38	82605	39	87770-C3	34				
80805	37	81260	37	81717	52	82155	38	82610	39	87770-C3-27	34				
80810	37	81270	38	81720	38	82160	38	82620	39	87781	34				
80820	37	81275	38	81725	38	82170	38	82625	39	87781-27	34				
80825	37	81285	38	81735	38	82175	38	82635	39	87781-C3	34				
80835	37	81290	38	81740	38	82185	38	82640	39	87781-C3-27	34				
80840	37	81300	38	81746	52	82190	38	82646	52						
80850	37	81315	38	81747	52	82200	38	82647	52	88103					
80855	37	81320	38	81750	38	82205	38	82650	39	to	35				
80865	37	81330	38	81755	38	82215	38	82655	39	88140					
80870	37	81335	38	81765	38	82220	38	82665	39						
80880	37	81345	38	81770	38	82230	38	82670	39	88150					
80885	37	81350	38	81780	38	82235	38	82680	39	to	53				
80895	37	81360	38	81785	38	82245	38	82685	39	88262					
80900	37	81365	38	81795	38	82250	38	82695	39						
80910	37	81375	38	81800	38	82260	38	82700	39						
80915	37	81380	38	81810	38	82265	38	82710	39						
80925	37	81390	38	81815	38	82275	38	82715	39						
80930	37	81395	38	81825	38	82280	38	82725	39						
80940	37	81405	38	81830	38	82290	38	82730	39						





# FRACTION-DECIMAL CONVERSION CHART

	<u>INCHES</u>	<u>MILLIMETERS</u>		<u>INCHES</u>	<u>MILLIMETERS</u>
	$\frac{1}{64}$ — .015625	.3969		$\frac{33}{64}$ — .515625	13.096
$\frac{1}{32}$	.03125	.7938	$\frac{17}{32}$	.53125	13.493
	$\frac{3}{64}$ — .046875	1.1906		$\frac{35}{64}$ — .546875	13.890
$\frac{1}{16}$	.0625	1.5875	$\frac{9}{16}$	.5625	14.287
	$\frac{5}{64}$ — .078125	1.9844		$\frac{37}{64}$ — .578125	14.684
$\frac{3}{32}$	.09375	2.3813	$\frac{19}{32}$	.59375	15.081
	$\frac{7}{64}$ — .109375	2.7781		$\frac{39}{64}$ — .609375	15.478
$\frac{1}{8}$	.125	3.1750	$\frac{5}{8}$	.625	15.875
	$\frac{9}{64}$ — .140625	3.5719		$\frac{41}{64}$ — .640625	16.271
$\frac{5}{32}$	.15625	3.9688	$\frac{21}{32}$	.65625	16.668
	$\frac{11}{64}$ — .171875	4.3656		$\frac{43}{64}$ — .671875	17.065
$\frac{3}{16}$	.1875	4.7625	$\frac{11}{16}$	.6875	17.462
	$\frac{13}{64}$ — .203125	5.1594		$\frac{45}{64}$ — .703125	17.859
$\frac{7}{32}$	.21875	5.5563	$\frac{23}{32}$	.71875	18.256
	$\frac{15}{64}$ — .234375	5.9531		$\frac{47}{64}$ — .734375	18.653
$\frac{1}{4}$	.250	6.3500	$\frac{3}{4}$	.750	19.050
	$\frac{17}{64}$ — .265625	6.7469		$\frac{49}{64}$ — .765625	19.447
$\frac{9}{32}$	.28125	7.1438	$\frac{25}{32}$	.78125	19.843
	$\frac{19}{64}$ — .296875	7.5406		$\frac{51}{64}$ — .796875	20.240
$\frac{5}{16}$	.3125	7.9375	$\frac{13}{16}$	.8125	20.6375
	$\frac{21}{64}$ — .328125	8.3344		$\frac{53}{64}$ — .828125	21.0345
$\frac{11}{32}$	.34375	8.7313	$\frac{27}{32}$	.84375	21.431
	$\frac{23}{64}$ — .359375	9.1282		$\frac{55}{64}$ — .859375	21.8282
$\frac{3}{8}$	.375	9.5250	$\frac{7}{8}$	.875	22.2251
	$\frac{25}{64}$ — .390625	9.9219		$\frac{57}{64}$ — .890625	22.6220
$\frac{13}{32}$	.40625	10.3188	$\frac{29}{32}$	.90625	23.0188
	$\frac{27}{64}$ — .421875	10.7157		$\frac{59}{64}$ — .921875	23.4157
$\frac{7}{16}$	.4375	11.1125	$\frac{15}{16}$	.9375	23.8126
	$\frac{29}{64}$ — .453125	11.5094		$\frac{61}{64}$ — .953125	24.2095
$\frac{15}{32}$	.46875	11.9063	$\frac{31}{32}$	.96875	24.6063
	$\frac{31}{64}$ — .484375	12.3032		$\frac{63}{64}$ — .984375	25.0032
$\frac{1}{2}$	.500	12.7001	$\frac{1}{1}$	1.000	25.4001



# GRIT COMPARISON CHART

Average size in microns	GRADING SYSTEMS			Simplified grading	Type of operation
	ANSI (U.S. std.)	FEPA "P" (European std.)	JIS (Japanese std.)		
<b>+ FINE</b>	6.6		2000	<b>super fine</b>	<b>micro finishing</b>
	9.3		1500		
	11		1200		
	15		1000	<b>very fine</b>	<b>polishing operation</b>
	19	600	800		
	23	500	600		
	28	400	500		
	35	360	400		
	43	320	360		
	52	320	320		
	65	280	280		
	77	240	240		
	92	220	220		
	115	180	180	<b>fine</b>	<b>intermediate grinding</b>
	141	150	150		
	190	120	120	<b>medium</b>	<b>intermediate grinding</b>
	265	100	100		
	350	80	80	<b>coarse</b>	<b>heavy grinding</b>
425	60	60			
530	50	50			
<b>+ COARSE</b>	630	40	40	<b>extra coarse</b>	<b>heavy grinding</b>
	710	36	36		
	895	30	30		
	1310	24	24		
	1825	20	20		
		16	16		
	12	12			

# Preferred Abrasives, Inc.

Coated, bonded, cotton fiber and non-woven abrasives....

What do these terms mean?

## Coated Abrasives

The term "Coated Abrasive" means that the grit is adhered (*coated*) on top of some form of backing, typically with resin. The backing material can be paper, cloth or fiber.



## Bonded Abrasives

The term "Bonded Abrasive" means that the grain is bonded together (usually with resin) and they are pressed into a finished shape and are then baked.



## Non-Woven Abrasives

The term "Non-Woven Abrasive" refers to nylon fibers that have abrasive grains attached with flexible resin, leaving open areas through the non-woven structure, creating a 3-dimensional web with grains evenly dispersed throughout.



## Cotton Fiber Products

The term "Cotton Fiber" refers to multiple layers of cotton fabric that are impregnated with abrasive grain. They are then laminated into slabs of varying thickness and hardness. The slabs are then cut into finished discs, wheels or mounted points. These abrasive products are cool cutting and non-loading!



# Terms / Conditions

**Minimum Order:** No minimum dollar amount, simply order in standard box quantities!

**Standard Packages:** Each product is sold in standard package quantities only.

**Forms of Payment:** If your account is not set up on "open account", we accept: Visa, MasterCard, Discover, American Express and PayPal.

**Returned Goods / Stock Rotation:** Please contact our customer service department to obtain an "RGA" number prior to returning any merchandise. Authorized returns are subject to a \$15 or 15% restock / repackaging fee (whichever is greater). Merchandise older than 6 months is not returnable.

**Stock items:** **Red** part numbers are considered "Popular Stock Items". Many other part numbers that are not **Red**, may also be in stock - but not in large quantities and may not be returnable if ordered in

**Shortages:** all shortages should be reported to Preferred's customer service department within 5 business days of receipt of shipment.

## How To Contact Us:

Open Monday-Friday from 8:00 AM to 5:00 PM Eastern

Phone: 937.332.8855

Fax: 937.332.8854

[sales@preferredabrasives.com](mailto:sales@preferredabrasives.com)

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Catalog #8.1