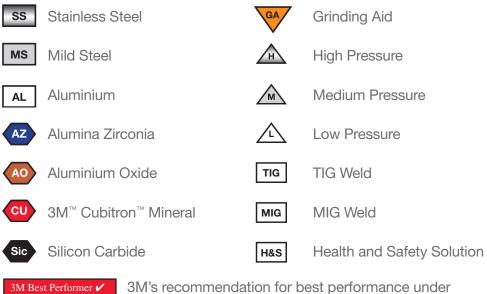
3M Abrasive Systems Metalworking Application Guide



Advanced Vietalworking with 3M support



Product symbols



3M's recommendation for best performance under optimum conditions where value can be measured

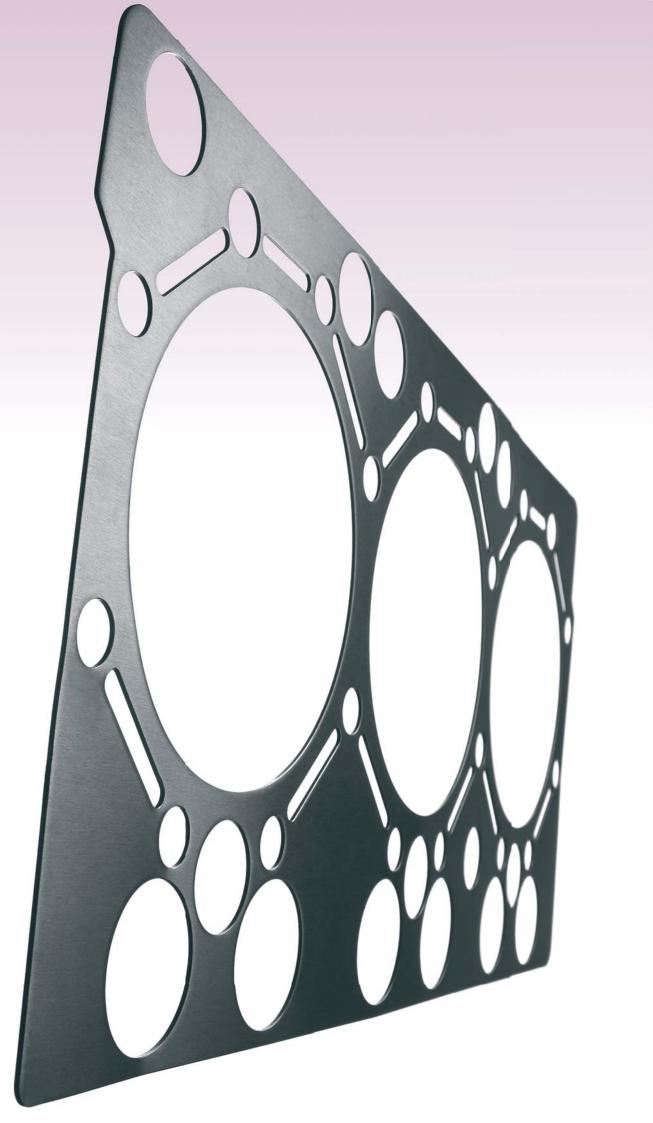
Safety Icons



Extra level of eye protection suggested







Deburring

Solutions for all deburring applications from light burrs on precision parts where tolerances are critical, to coarse chamfering of rough edges.

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23		Fibre disc angle grinder	3M Fibre Discs 501C Scotch-Brite Surface Conditioning Discs SC-DB Accessories	
24		Mini grinder system / Right angled die grinder	3M Roloc [™] Discs 785C/777F EXL Unitised Roloc Discs Accessories	
25		File belt tool	3M Cubitron [™] Cloth Belts 947D 3M Cubriton Cloth Belts 777F Scotch-Brite Surface Conditioning Belts SC-BS	
26		Backstand / Linisher	3M Cloth Belts 577F Orange 3M Cloth Belts 251D	
27		Straight grinder, straight die grinder & portable flexible shaft machine	3M Flap Wheels 449 Scotch-Brite Unitised Wheels Scotch-Brite Radial Bristle Abrasives Accessories	
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Depressed centre disc angle grinder

- Portable and versatile tool ideal for fabrication shops
- No back-up pads required: abrasive discs are secured directly onto the tool
- Ideal for sheet edge deburring / chamfering



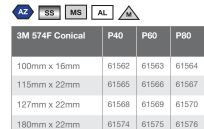
Use Scotch-Brite[™] Unitised Discs to achieve a smooth radiused edge when removing small burrs.

3M[™] Flap Disc 574F

Scotch-Brite[™] **Unitised Disc**



- High performance Alumina Zirconia fibre disc
- High cut rate for heavy duty deburring applications





- Deburrs without undercutting to leave a true, radiused edge
- Consistent performance throughout product life to deliver repeatable results
- Durable product construction means fewer disc changes and less downtime









Fibre disc angle grinder

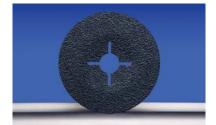
- Portable and versatile tool ideal for fabrication shops
- Back-up pad required to support the disc
- Ideal for sheet edge deburring and chamfering where greater flexibility when compared to a rigid disc system is required





Back-Up Pad

3M[™] Fibre Disc 501C



- High performance Alumina Zirconia fibre disc
- Excellent mineral retention for edge grinding
- High cut rate for heavy duty deburring applications

3M 501C	P60	P80	P120
100mm x 16mm	A60499	A60500	N/A
115mm x 22mm	A60506	A60507	A60509
125mm x 22mm	A60513	A60514	A60516
180mm x 22mm	A60520	A60521	A60523

Scotch-Brite[™] Surface Conditioning Disc (fibre-backed)



- Deburrs with reduced risk of undercutting compared to a fibre disc
- Consistent performance throughout disc life to deliver repeatable results



SC-DB	Super Duty
100mm x 16mm	61948
115mm x 22mm	61947
178mm x 22mm	61945



- Flat, semi-flexible design to maximise edge contact whilst deburring
- Durable construction means long
 product life

Back-Up Pad	Flat Semi-Flex
100mm x M10 - 1.5	07312
115mm x M14 - 2.0	07306
125mm x M14 - 2.0	09386
178mm x M14 & 5/8 Whit	09387

Mini grinder system & right-angled die grinder

- Versatile system for all applications, particularly detail work
- Use of 3M[™] Roloc[™] Back-Up Pad provides positive fixing with rapid grade or product change, allowing you to tackle any deburring job
- 3M[™] Roloc system allows greater access to workpiece compared to conventional disc attachments

Top tip

Use the colour-coded Roloc Quick Release System to select the 3M product most suited to your application.

3M Roloc Abrasive Discs 785C/777F



- Contain 3M Cubitron[™] Mineral for maximum efficiency in heavy duty deburring applications
- Fibre backed 3M 785C discs offer greater durability on electric angle grinders
- Cloth-backed 3M 777F discs are suited to lighter deburring applications, particularly when paired with air die grinders

3M 785C	P60 Orange	P80 Yellow	P120 White	
75mm dia	85885	85886	85888	

3M 777F	P60 Orange	P80 Yellow	P120 White		
75mm dia	76633	76634	249846		
50mm dia	76433	14661	170935		

3M Roloc EXL Unitised Disc



- This product can be used on its face, or on its edge as a wheel
- Suitable for all deburring jobs
- Deburrs without undercutting to leave a true, radiused edge





XL-DR	2SFIN
75mm dia	17184
50mm dia	17183
3M Best Performer 🖌	



3M Roloc

Back-Up Pads



- Rubber back-up pads offer greater flexibility, and are available with 6mm shaft and female thread options to fit angle grinders
- Plastic back-up pads are for use where flexibility is not required, available with 6mm shaft only

Roloc Rubber Back-Up Pad	Hard density
75mm x M14 - 2.0	84998
75mm x M10 - 1.5	85000
75mm x 1/4" thread*	45091
50mm x 1/4" thread*	A45096
6mm shaft, (*use with)	82455

Roloc Plastic Back-Up Pad	Plastic
No.4, 75mm dia, 6mm shaft	09988
No.3, 50mm dia, 6mm shaft	09987
No.1 25mm dia, 6mm shaft	09884

File belt tool

- Lightweight, handheld tool with ergonomic off-set design
- Quick belt change feature
- Increases operator capability to access hard-to-reach areas via a comprehensive range of contact arms



3M Cubitron[™] Belt



777F

- Contains Cubitron Mineral for maximum efficiency in heavy duty deburring applications
- Stiffer, Y-weight backing for optimum performance on sharper, tougher burrs



3M 777F	P60	P80	P120
13mm x 305mm	65111	65112	221303
13mm x 457mm	65143	65144	221305
20mm x 457mm	65151	65152	221320X
13mm x 533mm	65191	65192	365440
13mm x 610mm	65215	65216	221307

3M Cubitron[™] Belt 947D



- Contains Cubitron Mineral for maximum efficiency in medium duty deburring applications
- Tough X-weight cloth backing offers good conformability and strength

P60	P80	P120
438484	438483	-
111511	418218	450626
101604	365547	450627
431438	423522	463482
434002	393931	459482
	438484 111511 101604 431438	438484 438483 111511 418218 101604 365547 431438 423522

Scotch-Brite[™] Surface Conditioning Belt



- A tough, non-woven nylon web impregnated with mineral throughout its structure to deliver high quality, repeatable results and consistent performance throughout product life
- Deburr without undercutting to leave a radiused edge
- Suited to lighter deburring applications

SC-BS	CRS	MED	VFN
13mm x 305mm	65344	65345	65346
13mm x 457mm	66141	65232	66142
20mm x 457mm	66143	65234	66144
13mm x 533mm	05325	65244	335591
13mm x 610mm	05655	65250	05654

Deburring

Where no part number is shown, please call the Customer Services Team for availability on 0161 237 6390.

Backstand/Linisher machine

- For deburring most small parts
- Ideal for higher volume and complex parts where greater control is needed - part to belt
- Offers versatility through the use of different belt widths and the ability to change from contact wheel to platen or slack of belt to access all areas of the part



Top tip

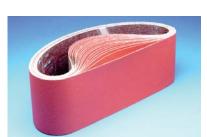
To achieve a smoother, more radiused deburred edge, use a machine with slack of belt option. Working off the contact wheel will produce a more chamfered edge.

3M[™] Cloth Belt 577F Orange



- Alumina Zirconia mineral for optimum performance in heavy duty deburring applications on this type of machinery
- Stiffer Y-weight backing for sharper, tougher burrs



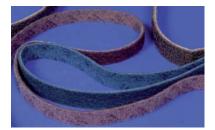


3M Cloth Belt 251D

- General purpose Aluminium Oxide belt for lighter duty applications
- Tough X-weight cloth backing gives good conformability and strength

3M 251D	P180	P240		
100mm x 915mm	436201	435729		
50mm x 1525mm	445934	439360		
75mm x 2000mm	-	443068		
150mm x 2000mm	-	-		
100mm x 2500mm	-	-		

Scotch-Brite[™] Surface Conditioning Belt



- A tough, non-woven nylon web impregnated with mineral throughout its structure which delivers repeatable results
- Deburrs without undercutting, leaving a radiused edge
- Suited to lighter deburring applications, this product offers consistent performance throughout its life

SC-BL	SE- ACRS	CRS	MED
100mm x 915mm	-	240477	243255
50mm x 1525mm	430536	238418	250371
75mm x 2000mm	462411	221744	221745
150mm x 2000mm	-	189238	190505
100mm x 2500mm	457411	438035	437961

Where no part number is shown, please call the Customer Services Team for availability on 0161 237 6390.

Straight grinder, straight die grinder & portable flexible shaft machine

- Use for larger workpieces where the tool is brought to the job
- A die grinder is the best option for small or confined areas
- Straight grinders normally have a shaft to directly mount products, whereas die grinders and flexible shaft machines use a collet for shaft mounted conversions



3M[™] Flap Wheel 449



- Aluminium Oxide abrasive flap wheel with 6mm shaft
- Conformable construction for deburring on contoured parts
- Available in a variety of grades to match the severity of the application

📣 ss ms al 🎪

3M 449	P60	P80	P120
30mm x 15mm x 6mm	65397	65402	65407X
40mm x 20mm x 6mm	65398	65403	N/A
60mm x 30mm x 6mm	65400	65405	65410

Where no part number is shown, please call the Customer Services Team for availability on 0161 237 6390.

Scotch-Brite[™] Unitised Wheel



- Deburr without undercutting, leaving a true radiused edge
- Consistent performance throughout wheel life, delivering repeatable results
- Durable product construction means fewer wheel changes resulting in less down time

AO SS MS AL M

XL-UW	6AMED	2AMED
38mm x 3mm x 4.8mm	15515	N/A
51mm x 6mm x 6.35mm	03786	03781
76mm x 6mm x 6.35mm	-	15531
152mm x 12mm x 12.7mm	-	-

Sic SS MS AL L				
XL-UW	2SFN			
51mm x 6mm x 6.35mm	09831			
76mm x 6mm x 6.35mm	13716			
152mm x 12mm x 12.7mm	13719			
2M Post Parformar				

3M Best Performer 🗸

Accessories	992M	933M	900-6
4.8mm centre hole wheels	85076	N/A	N/A
6.35mm centre hole wheels	N/A	00933	N/A
12.7mm centre hole wheels	N/A	N/A	A07947

Scotch-Brite Radial Bristle Brush



- A brush consists of a series of discs, each made from a one piece moulded construction and impregnated with 3M Cubitron[™] Mineral to give a consistent finish and performance throughout product life
- When compared to wire brushes, the Radial Bristle construction eliminates hazards from flying wires; minimal pressure is require making the product extremely easy and comfortable to use
- Suitable for light deburring applications where conformability is required

CU SS MS	AI	-] /	<u>ک</u>		
Radial Bristle Discs	P5	be A 0 een	Type (P80 Yellow		Type C P120 White
19mm dia	N/A	4	25755		-
50mm dia	N/A	4	30118		30120
75mm dia	242	279	30126		30127
150mm dia	A2	7605	33215		33212
Accessories		990N	1	90	00-6
50mm x 75mm dia		3253	10	N/	/A
150mm dia		N/A		A	07947

Type A bristles are thicker and angled for heavy duty applications. Type C bristles are thinner and curved for greater conformability.

Spindle machine (bench or floor mounted)

- For deburring most small fabricated parts
- Ideal for higher volume and complex parts where greater control is required - part to abrasive
- · Facility to mount a large range of different rotary abrasives to achieve desired results e.g. wheels and brushes



Top tip

Convolute (deburring) wheels have a central core, making them the first choice for use with flanges on straight shafts. Unitised wheels have a cut-out centre hole and can be used on tapered spindles.

Scotch-Brite[™] **Deburring Wheel**



- Convolute wound construction provides long life, consistent results and a controlled action, leading to improved product quality and a reduction in rejects
- Produces a true radiused edge without affecting the dimensions of the part, meaning less re-work with a better quality finish first time
- Range of hardnesses available to tackle most burr sizes - the X3-WL is the most durable for the toughest burrs

Sic SS MS AL L						
Scotch-Brite Deburring Wheels	X3-WL 9SFN	DB-V 9SFN		DB-WL 7SFN		
152mm x 12mm x 25.4mm	30214	-		-		
152mmx25.4mm x 25.4mm	30213	1876	2	18768		
203mmx25.4mm x 76.2mm	24579	1876	4	18769		
203mmx25.4mm x 76.2mm 3M Best Performer		1876	4	18769		
			Spi	18769 ndle aptor		
3M Best Performer	 Image: A state of the state of	jes	Spi	ndle aptor		
3M Best Performer Accessories	Flang	ges 7	Spi Ada	ndle aptor		

Scotch-Brite **Unitised Wheel**



- Deburr without undercutting, leaving a true radiused edge
- Consistent performance throughout wheel life delivering repeatable results
- Durable product construction means fewer wheel changes, resulting in less down time

XL-UW	6AMED	2AMED			
152mm x 12mm x 12.7mm	-	-			
203mm x 25mm x 12.7mm	-	-			
Sic SS MS AL					
XL-UW		2SFN			

152mmx x12mm x 12.7mm	13719
152mm x 25mm x 12.7mm	13742
203mm x 25mm x 12.7mm	30382

Scotch-Brite **Radial Bristle Brush**



- A brush consists of a series of discs, each made from a one piece moulded construction impregnated with Cubitron Mineral to give a consistent finish and performance throughout product life
- When compared to wire brushes, the bristle construction eliminates hazardous flying wires; minimal pressure is required from the operator, making the product extremely easy and comfortable to use
- Suitable for light deburring applications where conformability is required

Radial Bristle Disc	Type A P50 Green	Type S P50 Green	Type C P80 Yellow	Type C P120 White	
150mm x 13mm	27605	N/A	33215	33212	
203mm x 25mm	N/A	33081	33129	33130	

Type A bristles are thicker and angled for heavier duty applications.

Type C bristles are thinner and curved for greater conformability.

Type S bristles are straight for increased aggression.

Where no part number is shown, please call the Customer Services Team for availability on 0161 237 6390.

To find out more about our complete range of abrasive systems please call the 3M Customer Information Team

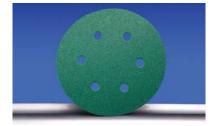
Orbital sander

- Orbital motion produces a random scratch pattern
- Ideal for large accessible areas
- Use for deburring punched holes on flat parts





3M Hookit[™] Disc 245 3M Hookit[™] Disc 255P



- 3M Hookit fixing system allows the product to be attached and reattached as many times as necessary
- 3M 245 is the ideal choice for more demanding deburring applications due to its heavy duty E-weight paper backing
- Open coat construction helps prevent premature loading and extends product life, especially on aluminium

3M Hookit 245 P60 P80 P120 150mm x Plain A01648 A01647 A01645 150mm x 6 hole A01690 A01689 A01687 3M Best Performer 🖌



- 3M Hookit fixing system allows the product to be attached and reattached as many times as necessary
- High performance C-weight paper 255P disc is suited to lighter duty deburring applications
- Incorporates Fre-Cut Anti-Loading Coating to prevent clogging and extend product life, especially on aluminium

3M Hookit 255P	P80	P120	P180
150mm x Plain	A00341	A00339	A00337
150mm x 6 hole	A00329	A00327	A00325

3M Hookit Back-Up Pad



- Rated to 12,000 rpm for use on the latest higher speed random orbital sanders
- Durable polyurethane construction for maximum life and good flexibility
- Well balanced for smooth running and reduced vibration

3M Hookit Back-Up Pads	
150mm x Plain	07389
150mm x 6 hole	05876





Abrasive Systems Customer Service Group 3M House, 28 Great Jackson Street Manchester M15 4PA United Kingdom Phone:0161 237 6390 Fax: 0161 237 1106 Email: abrasives.uk@mmm.com www.3m.com/uk/abrasives

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