

Scotch-Brite™ Cleaning and Flap Brushes



Improved
Quality
& **Throughput**

Clean, deburr and
finish in one pass

More web types,
more options



Clean, prep, finish and deburr – faster and more consistently



Ideal for use on coil stock – sheet stock – and flat parts

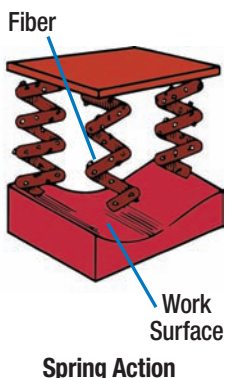
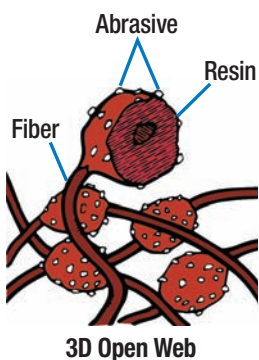
Scotch-Brite™ Cleaning and Flap Brushes are the versatile, high-performance alternative to conventional bristle brushes and messy, technique-dependent buffing compounds. These long-lasting, precision-made brushes give you improved consistency and greater control over a number of critical metal prep and finishing tasks, including cleaning, stripping, deburring, polishing, aesthetic finishing and more.

Engineered using proprietary 3M non-woven materials technology, Scotch-Brite brushes are available in a wide range of grades and brush constructions. This gives us the ability to tailor brush performance to your specific application requirements – unlike “all-purpose” brushes that may compromise quality, consistency or durability. And, because they provide more contact with the workpiece than bristle-type brushes, Scotch-Brite brushes last longer and can be run faster – to help you achieve higher throughput.

Production-proven technology for enhancing quality and productivity

The key to the superior performance of Scotch-Brite brushes lies in their resilient, open web construction, in which abrasive particles are resin-bonded to resilient synthetic fibers. This unique construction offers a number of important benefits, including:

- **More uniform finishes** – The spring-like action of the dense web of nylon fibers allows more effective contact with the work surface, including contours and irregular thicknesses; at the same time, fresh abrasive is continually being exposed. Together, this helps deliver more consistent, uniform results throughout the life of the brush.
- **Longer lasting** – The open web construction of Scotch-Brite brushes helps reduce downtime and increase productivity by reducing loading and maintaining effective cutting action longer – resulting in less frequent replacement than conventional brushes. Helps reduce material costs.
- **Helps reduce chemical usage** – By providing more complete removal of soils, metal fines and other contaminants, the use of Scotch-Brite brushes can often eliminate the need for separate chemical cleaning steps.
- **Improved surface prep** – Cleaning with Scotch-Brite brushes lowers the surface energy of the finished piece. This enables better wetting, which in turn results in improved paint adhesion, fewer surface defects and enhanced corrosion resistance. And the controlled abrasive action reduces undercutting and gouging, resulting in fewer rejects.
- **Greater operator safety** – Unlike wire and fiber bristles, the non-metallic, open web construction of Scotch-Brite brushes eliminates sharp wires and bristle fragments flying off the brush.
- **Minimal material removal** – By allowing more effective brush energy transfer and greater control, Scotch-Brite brushes efficiently take off soils, burrs and contaminants while minimizing removal of base material.



Save
time,
save steps

3M provides a full line of Scotch-Brite Cleaning and Flap Brushes, to meet the needs of your specific application. Available in a variety of grades, densities and mineral types.

Basic Constructions

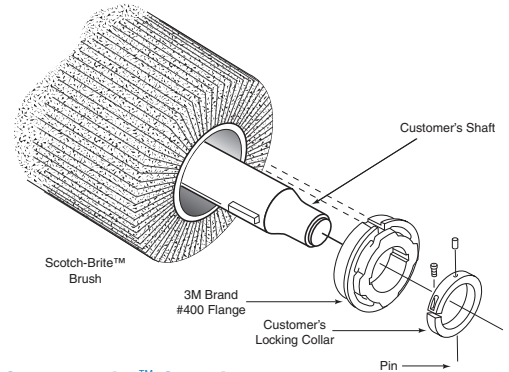
Scotch-Brite™ Flap Brushes

Light Duty

Constructed from sections of non-woven material slit lengthwise and bonded to a cylindrical core

Typical Applications

- Deburring
- Aesthetic finishes (“set a grain”)
- General cleaning



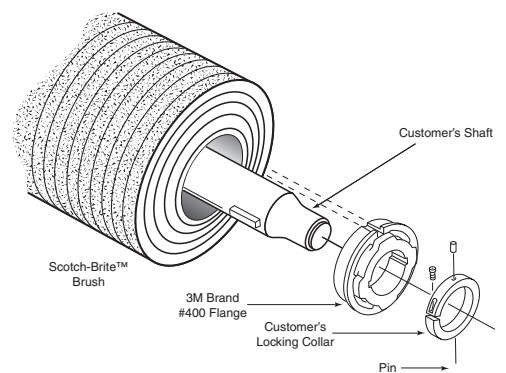
Scotch-Brite™ Cleaning Brushes

Medium Duty

Constructed from circular sections of non-woven material, bonded to a cylindrical core

Typical Applications

- Coil cleaning prior to coating
- Deburring
- Reclaiming sheet and coil
- Scale/oxide removal



Scotch-Brite™ XDR Cleaning Brushes

Heavy Duty

Same applications and construction as standard Scotch-Brite Cleaning Brushes, but with individual sections bonded together with resin, to provide 2 to 3 times longer life

Product Selection Guide

Scotch-Brite™ Flap and Cleaning Brushes (Wide Brushes with 5.75" Steel Cores)

Steel Core Flap Brushes are available up to 64" wide Steel Core Cleaning Brushes are available up to 80" wide

	Product	Designation	Dia. (Inches)	Width (Inches)	Mineral ¹	Color	Grade	Density			Applications
								3	5	7	
LESS ↑ AGGRESSIVENESS	Clean & Finish Flap Brush	CF-FS	10, 11.5, 12, 14	12-64	A	Maroon	FIN		X	X	Ultra light duty cleaning and finishing operations.
							MED	X	X	X	
							CRS		X	X	
					S	Gray	SFN	X	X	X	
							ULF, VFN		X	X	
							FIN	X	X	X	
	MED			X							
	High Strength Flap Brush	HS-FS	10, 11.5, 12, 14	12-64	A	Maroon	MED			X	Medium duty cleaning and finishing requiring a brush with longer life and more durability.
	Cut & Polish Flap Brush	CP-FS	10, 11.5, 12, 14	12-64	A	Tan	MED		X	X	Cleaning and finishing applications that require a more aggressive brush or a brighter finish.
					S	Tan	XCS	X	X	X	
Clean & Finish Cleaning Brush	CF-CB	10, 11.5, 12, 14, 16	8-80	A	Maroon	VFN, FIN		X	X	Light to medium duty operations to clean sheet and coil stock. Reclaiming applications, finishing applications, light oxide and stain removal and preparing surfaces for coating.	
						MED		X	X		
				S	Gray	SFN	X	X	X		
						VFN		X	X		
				ULF, FIN			X				
				T	White	N/A			X		
A ²	Maroon	VFN, FIN		X							
S ²	Gray	SFN			X						
High Strength Cleaning Brush	HS-CB	10, 11.5, 12, 14, 16	8-80	A	Maroon	VFN		X	X	Medium duty cleaning and polishing of sheet or coil stock. Removing light oxides and contaminants. Deburring stamped or laser-cut parts.	
						MED			X		
Cut & Polish Cleaning Brush	CP-CB	10, 11.5, 12, 14	8-80	A	Tan	VFN			X	Medium to heavy duty cleaning and polishing of sheet or coil stock requiring a more aggressive product or higher polished finish. Removing heavy oxides, stubborn contaminants. Deburring stamped or laser-cut parts.	
						MED		X	X		
XDR Clean & Finish Cleaning Brush	XF-CB	10, 11.5, 12, 14	8-80	A	Maroon	VFN			X	Bonded and reinforced for extended durability in tough, high-wear, heavy duty applications.	
						FIN			X		
				MED			X				
S	Gray	FIN			X						
XDR High Strength Cleaning Brush	XH-CB	10, 11.5, 12, 14, 16	8-80	A	Maroon	MED			X	Bonded and reinforced for extended durability in tough, high-wear, heavy duty applications.	
Clean & Strip Cleaning Brush	CS-CB	10, 11.5, 12, 14	8-80	S	Black	XCS		X	X	Heavy duty cleaning to remove rust, corrosion, light mill scale and other surface contaminants from metal sheet or coil.	

¹ Mineral Types: A = Aluminum Oxide; S = Silicon Carbide; T = Talc

² Clean & Finish Cleaning Brush is also available with a bolt-through construction, with a 6.09" center hole

Scotch-Brite™ Grade Guide

1 Density Number (prefix to mineral)	2 Mineral Abbreviations (prefix to grade)	3 Grade Abbreviations		Example					
<p>Soft ← → Hard</p> <table border="1"> <tr> <td>3</td> <td>5</td> <td>6</td> <td>7</td> <td>9</td> </tr> </table>	3	5	6	7	9	<p>A = Aluminum Oxide S = Silicon Carbide T = Talc</p>	<p>ULF = Ultra Fine SFN = Superfine VFN = Very Fine FIN = Fine</p>	<p>MED = Medium CRS = Coarse XCS = Extra Coarse</p>	<p>7A FIN</p> <p>1 Hard Density 2 Aluminum Oxide 3 Fine Grade</p>
3	5	6	7	9					

Scotch-Brite™ Brushes and Wheels for Lighter Duty and Specialty Applications (Fiberglass Core)

Fiberglass Core Flap Brushes are available up to 48" wide

Brush Types and Sizes

Product	Designation	Diameter (Inches)	Width (Inches)	Center Hole (Inches)
Finishing Flap Brush	CF-FB	6	.75-48	2
		8	.75-48	3
		10	.75-48	5
		12	.75-48	5
		14	.75-48	8
		16	.75-48	10
Cut & Polish Flap Brush	CP-FB	6	.75-48	2
		8	.75-48	3
		8	.75-48	4
		10	.75-48	5
		12	.75-48	5
		14	.75-48	8
High Strength Flap Brush	HS-FB	6	.75-48	2
		8	.75-48	3
		10	.75-48	5
		12	.75-48	5
		14	.75-48	8
		16	.75-48	10
High Resolution PC Cleaning Brush	HR-PC	2.5	6 - 30.5	1
		3	6 - 30.5	1
		3.5	6 - 30.5	1
		4	6 - 30.5	1
		4	6 - 30.5	1.25
		5	6 - 30.5	2
		5	6 - 30.5	2.25
		5	6 - 30.5	3
		5	6 - 30.5	50mm
		6	6 - 36	2
		6	6 - 36	3
Printed Circuit Cleaning Brush	PC-PC	2.5	6 - 30.5	1
		3	6 - 30.5	1
		3.5	6 - 30.5	1
		4	6 - 30.5	1
		4	6 - 30.5	1.25
		5	6 - 30.5	2
		6	6 - 36	2
High Resolution PC Flap Brush	HR-PF	3.5	24	1
		4	24.5	1
		4	30	1
		5	30.125	2
Flat Part Deburring Bonded Brush	FP-CB	6	36	3
		12 ³	36	5.75
		12 ³	50	5.75
Flat Part Deburring Wheel	FP-WL	6	12 - 24	2
		6	12 - 48	3
		8	12 - 48	3
Wet Deburring Wheel	WD-PW	4	10 - 24	1
		5	10 - 30.5	2
		6	10 - 30.5	2 - 3
		8	10 - 30.5	3
		10	10 - 30.5	5
EXL Deburring Wheel	XL-WL	8	12 - 36	3
		10	12 - 36	5
		12	12 - 36	5
		14	12 - 36	8

Mineral Types, Grades and Densities

Mineral ¹	Color	Grade	Density						Applications
			3	5	6	7	8	9	
A	Maroon	VFN, FIN	X	X		X			
		MED	X	X		X		X	
		CRS	X	X		X			
S	Gray	ULF, SFN	X	X		X			
		FIN	X	X		X			
		VFN, MED		X		X			
T	White	N/A	X	X		X			
A	Tan	VFN	X	X					
		MED	X	X		X			
S	Tan	XCS	X	X		X			
A	Maroon	VFN, MED	X	X		X			
A	Maroon	VFN				X			
S	Gray	SFN				X			
S	Gray	ULF				X			
A	Maroon	VFN				X			
S	Gray	SFN				X			
S	Green	SFN				X			
A	Tan	VFN, MED		X		X			
S	Black	XCS		X		X			
T	White	N/A				X			
A	Tan	VFN, MED				X			
S	Black	XCS ²				X			
A	Maroon	VFN, FIN				X			
A	Gray	MED					X		
S	Gray	FIN					X	X	

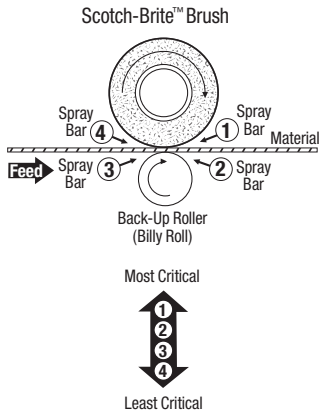
¹ Mineral Types: A = Aluminum Oxide; S = Silicon Carbide; T = Talc

² Not available with 2" core

³ Supplied with a steel core

General Usage Guidelines

Spray Bar Positioning Priority

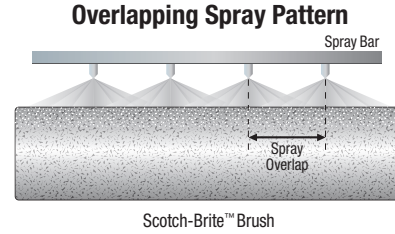


Note: It is preferable to dress the brush in a dry condition.

Coolant/Lubricant Requirements

During cleaning operations, a coolant – such as water – must be applied to the brush at the rate of 4 to 6 gallons per minute per 12" of brush width. This enhances performance by producing a cooler-running operation. It also helps wash away cleaning by-products and reduces loading to extend brush life and effectiveness.

Apply coolant in an overlapping spray pattern directed at the nip of the brush, so that if one nozzle plugs, adjacent nozzles maintain complete spray coverage. Position spray fixtures so that coolant is applied to key brush locations in the priority indicated in the illustration.



Dressing Procedure

To make a dressing board, mount a length of PSA-backed abrasive (such as 3M™ PSA Cloth Roll 248D, Grade P36) on a flat, rigid steel sheet. To dress brushes 24" or narrower, place the abrasive material at a right angle across the dressing board (Figure A).

For brushes wider than 24", place the abrasive material diagonally on the sheet so that the dressing action progresses across the brush as the board passes through the machine (Figure B). Dressing boards should be at least as wide as the brush to provide even dressing.

1. Adjust the hold-down or pinch rolls to securely hold the dressing board.
2. Place the board under a stationary brush. Adjust pressure so the brush is just touching the abrasive – just lightly enough so the brush can be hand-turned. This is the same procedure that is used to adjust pressure for processing parts.
3. Remove dressing board from machine when procedure is complete.
4. Start machine and repeatedly feed dressing board through until the brush contacts uniformly across its entire width. Note: Avoid feed/line speeds that create excessive heat, which may warp the dressing board (suggested speed is 15 – 20 fpm). If feed/line speed is not fast enough to prevent warping, prepare dressing board as in previous Figure A. Use available oscillation for a more uniform surface. Maintain brush speed ≥ 2000 sfp, but not exceeding maximum operating speed. Use reverse feed for additional passes. Direction does not affect results.
5. Remove bare fibers (fuzzy surface) by running any of the following under the rotating brush: A full-width high-density fiber board (e.g. Masonite™) or particle board; 1" x 6" or 1" x 8" hardwood (oak) plank of sufficient width, angularly positioned; or repeated passes of scrap workpieces. Note: Heat removes the fibers. Brush surface usually appears darker with fibers removed and new abrasive/resin exposed.

Figure A
For Brushes 24" Wide and Narrower

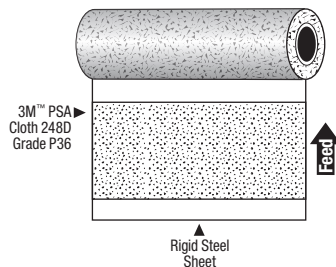
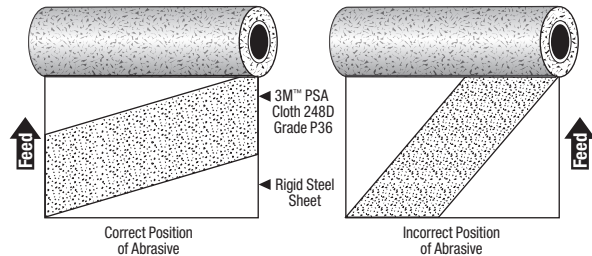


Figure B
For Brushes Over 24" Wide



Recommended Operating Parameters

	Light Duty Cleaning	Medium Duty Cleaning	Heavy Duty Cleaning
Rotational Speed (SFPM)	2000-3500	2000-3500	2000-3500
Work Pressure (HP/inch of working width)	0.10-0.15	0.15-0.30	0.30-0.50
Oscillation (Cycles per minute, 3/8"-1" stroke)	80-150	80-150	80-150
Feed Speed (FPM per brush)	100-150	75-100	50-75
Lubricant/Coolant (Gallons per minute per 12" brush width)	4-6	4-6	4-6

Mechanical Requirements

Brush Width		Minimum Shaft Diameter Through Brush Assembly		Brush Diameter		Maximum Operating Speed
Inches	mm	Inches	mm	Inches	mm	RPM
8-12	203-304	1.75	44	8	203	3200
12-24	304-609	2.4375	61	10	254	2500
24-60	609-1524	4	101	12	304	2100
60-72	609-1524	4.5	114	14	355	1800
72 and greater	1828 and greater	5	127	16	406	1600



Because performance can be affected by many variables, use these recommendations as general guidelines only. Contact your 3M representative for assistance in choosing the Scotch-Brite brush that will provide optimal performance in your application.



With 3M, you get more than great products



The 3M Customer Abrasive Methods (CAM) Center, located at 3M's St. Paul, Minnesota, headquarters, was established to help customers identify the most cost-effective combination of abrasives, equipment and techniques for their particular applications. At the CAM Center, evaluations are carried out under controlled, repeatable conditions using a wide array of production-scale grinding, polishing and finishing equipment, as well as in our on-site research and testing laboratories.

The services of the 3M CAM Center include applications development, process optimization, operator training and other technical support. Contact your local 3M representative for more information.

Ordering Instructions

Specify: Product name, density, mineral type, grade and size – diameter × width × center hole

Example: Scotch-Brite Finishing Flap Brush 5S Super Fine, 12 × 50 × 5.75"

Accessories and Additional Products

Product	Purpose	Ordering Information
3M Drive Flange No. 400V*, 400U*	Adapt steel core brushes to the machine's shaft	3M Drive Flange no. 400V, 5.75 x 3" machined. Two keyways 1/2 × 1/4", 180° opposed
3M™ PSA Cloth 248D Grade P36	Abrasive recommended for Dressing Board	UPC 051135-92417-4 Specify roll size (typical size = 12" × 25 yds)

*V = Ventilated U = Unventilated



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