



Abrasive Products for Airframe Manufacturing Applications

A comprehensive guide to improve quality,
increase productivity and reduce costs



Helping you...the only job we never finish

3M Abrasive Products for spars, stringers, skins, windows, and more.

For the many interior and exterior components of an airframe, you can select an advanced abrasive product most appropriate for your quality and production requirements. These include performance-proven 3M coated abrasives, 3M™ Scotch-Brite™ non-woven abrasives and 3M micro abrasives and superabrasives.

Grinding and defect removal

With 3M you have the broadest selection of coated abrasive and Scotch-Brite non-woven abrasive types and grades available for applications ranging from grinding and dimensioning to defect removal.

Deburring, blending, finishing, and cleaning

With Scotch-Brite non-woven abrasive wheels and belts, controlled abrasive action helps prevent undercutting or gouging for less chance of affecting critical tolerances. With wide product range you can vary

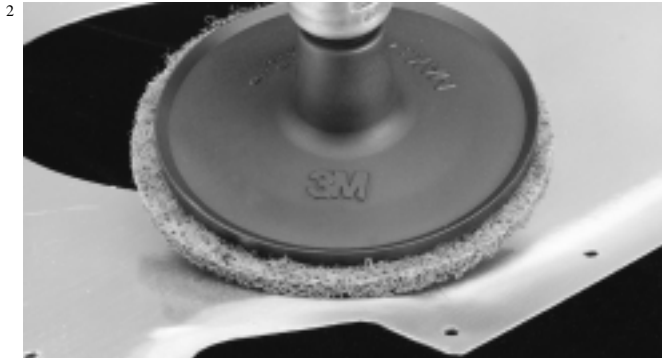
abrasive aggressiveness and conformability to meet surface finish requirements.

Window and canopy repair

You can readily repair such window damage as deep scratches and light hazing with the 3M™ Finesse-it™ Plastic Repair Kit II. Kit includes everything you need to finish the job by hand or with power tools.

Peening

The 3M TC 330 roto-peen flap assembly consists of shot bonded to a flexible flap. For stress relief applications, the flap is rotated at high speed so the shot strikes the component with each revolution. This is cleaner and more precise than loose shot "blasting".



Airframe component deburring (left) – Scotch-Brite Roloc™ surface conditioning disc deburrs while radiusing edges on aluminum airframe components.



Blending aluminum mismatch (above) – Scotch-Brite™ surfacing conditioning belt blends mismatched aluminum without undercutting or gouging.



Weld removal and blending (above) – The 3M PG wheel removes, blends and finishes uneven welded surfaces of this aluminum aircraft component.

Abrasives/Airframe-Related Applications Guide

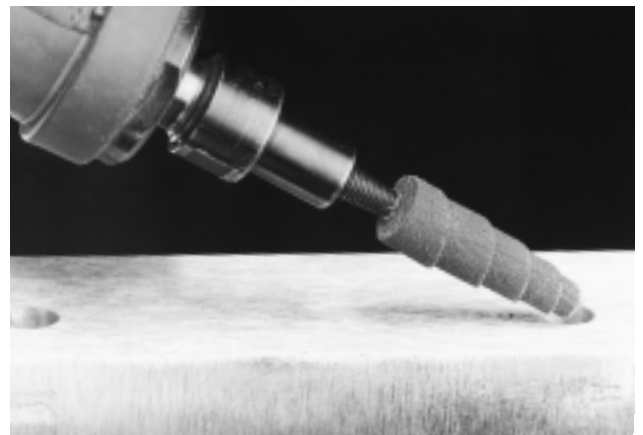
Application	Product	Grade	Equipment
Defect removal			
<ul style="list-style-type: none"> • Heavy scratches, handling marks (aluminum, stainless, titanium, composite) 	3M 777F Roloc™ Disc	P120	Small right angle grinder
	Roloc Unitized Wheel	6A-MED	
	Surface Cond. Disc	A-CRS	
	Roloc Surf. Cond. Disc	A-CRS	
	3M Stikit™ 255L	P80	Random orbital
3M 268L – IMFF	100-9 micron		
<ul style="list-style-type: none"> • Light scratches, handling marks 	Roloc Unitized Wheel	2S-FIN	Right angle grinder
	Surface Cond. Disc	S-SF, A-VF, A-MED	
	Roloc Surf. Cond. Disc	S-SF, A-VF, A-MED	
	3M Stikit 255L	P500	Random orbital
	3M 268L – IMFF	100-9 micron	
Heavy deburring			
<ul style="list-style-type: none"> • Large burr removal 	Regalite Polycut RB Cartridge Roll	36X - 80X	Die grinder
	3M 361F	80	Belt grinder
	3M 363F	P100-P150	
	3M 353F	P180-P220	
	3M 777F Roloc Disc	60-P120	Right angle grinder
Deburring, blending, finishing			
<ul style="list-style-type: none"> • Aluminum, stainless, titanium 	Light Deburring Wheel	7S-FIN	Bench motor, floor lathe
	EXL Deburring Wheel	8S/9S-FIN, 8S-MED	
	EXL Unitized Wheel	2S-FIN to 8A-MED	Die grinder
	Roloc Unitized Wheel	2S-FIN to 8A-MED	Small right angle grinder
	Roloc Surf. Cond. Disc	A-VF, A-MED, A-CRS	
<ul style="list-style-type: none"> • Edge blending and deburring of aluminum parts prior to forming 	Cut & Polish Unitized Wheel	5A-FIN	Die grinder
	Cut & Polish Unitized Wheel	5A-FIN	Die grinder
	EXL Unitized Wheel	6A, 8A-MED	
<ul style="list-style-type: none"> • Spar deburring and radiusing 	Roloc Unitized Wheel	6A, 8A-MED	Die grinder, small right angle grinder
	H.S. Clean/Finish Disc	A-MED	Straight line automatic
<ul style="list-style-type: none"> • Flat part deburring 	Brushlon long trim (RX)	120	Robotics
	Surface Cond. Disc	A-VF to A-CRS	Flat part deburring machine
	Brushlon Disc	80, 120	
	Flat part deburring wheel	A-VF	
<ul style="list-style-type: none"> • Deburring and blending lightening holes 	Surface Cond. Belt	A-VF to A-CRS	Belt grinder
	EXL Unitized Wheel	2S, 6S-FIN	Die grinder
	Roloc Surf. Cond. Disc	A-VF, A-MED	Small right angle grinder
<ul style="list-style-type: none"> • Mismatch removal after mechanical or chemical milling (spars, stringers) 	Roloc Surf. Cond. Disc	A-VF, A-MED, A-CRS	Small right angle grinder
	Roloc Unitized Wheel	2S, 6S-FIN	
	Surface Cond. Belt	A-VF, A-MED, A-CRS	Belt grinder
<ul style="list-style-type: none"> • Deburring/deflashing composites 	EXL Deburring Wheel	9S-FIN, 8A-MED	Bench motor, floor lathe, portable tool
	3M Stikit 255L	P80-P500	Random orbital
	3M 268L – IMFF	100-9 micron	

Application	Product	Grade	Equipment	
Surface preparation •Preparation for bonding, coating and painting	Scotch-Brite™ and Brushlon™ products			
	7447 Hand Pad	A-VF	Not applicable	
	7440 Hand Pad	A-MED		
	6444 Hand Pad	A-FIN		
	Clean & Finish Roll	S-SF, A-VF		
		3M Stikit 255L	P80-P500	Random orbital
		3M 266L – IMFF	180-9 micron	
		Surface Cond. Disc	A-VF	Right angle grinder
Roloc Cond. Disc		S-SF to A-CRS	Small right angle grinder	
Cleaning • Adhesive removal •Weld cleaning •Mold cleaning and polishing	Surface Cond. Disc	S-SF to A-CRS	Right angle grinder	
	Roloc Cond. Disc	S-SF to A-CRS	Small right angle grinder	
	Roloc Unitized Wheel	6A-MED, 8A-MED		
	Spindle mount flap brush	A-MED	Slow speed straight grinder	
	Roloc Unitized Wheel	2S-FIN	Small right angle grinder	
	Cut & Polish Unitized	5A-FIN	Die grinder	
	Clean & Strip Disc	S-X Coarse	Straight shaft tool	
	EXL Unitized	2S-FIN	Die grinder	
	Clean & Finish Disc	S-SF, A-VF	Straight shaft grinder	
	3M 268L – IMFF	100-9 micron	Random orbital	
	Peening • Stress control	3M TC330 Roto-Peen Flap	Not applicable	Flex shaft, portable electric tool
		Plastic repair		
	•Windows and canopies	Finesse-it™ Plastic Repair Kit II or Finesse-it™ Plastic Maintenance Kit		
		- 3M 268L – IMFF	100-15 micron	Random orbital or hand pad
		- 3M 486 Q Wet or Dry™	30-15 micron	
- 3M 286 Q Wet or Dry		9-3 micron		
- 3M Finesse-it™ Finishing Material		Not applicable		
3M 968M Imperial™ Polishing Film	Not applicable			

NOTE: Information and data provided above should be considered representative or typical only and not for specification purposes. Refer to Technical Data Sheets and product literature for more specific technical data.

CHART CODES: SF = Super Fine. VF = Very Fine. FIN = Fine. MED = Medium. CRS = Coarse. H.S. = High Strength. A = Aluminum Oxide. S = Silicon Carbide. RX = RX hubs. IMFF = Imperial™ Microfinishing Film. Str.= Straight.

Small hole deburring – Made of 3M ceramic mineral, this 3M cartridge roll quickly removes the heavy burrs left by a previous drilling operation.





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Peening – 3M TC 330 roto-peen flap assembly imports a residual compressive stress to machined surfaces.



7

Light scratch removal – Scotch-Brite Roloc surface conditioning discs remove minor defects without undercutting the work surface.



8

General deburring – Scotch-Brite EXL deburring and finishing wheels are a popular choice for general deburring in a variety of aerospace applications.



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Weld cleaning – Roloc™ unitized wheel cleans welds on airframe subassembly and resists loading and shelling even under severe operating conditions.



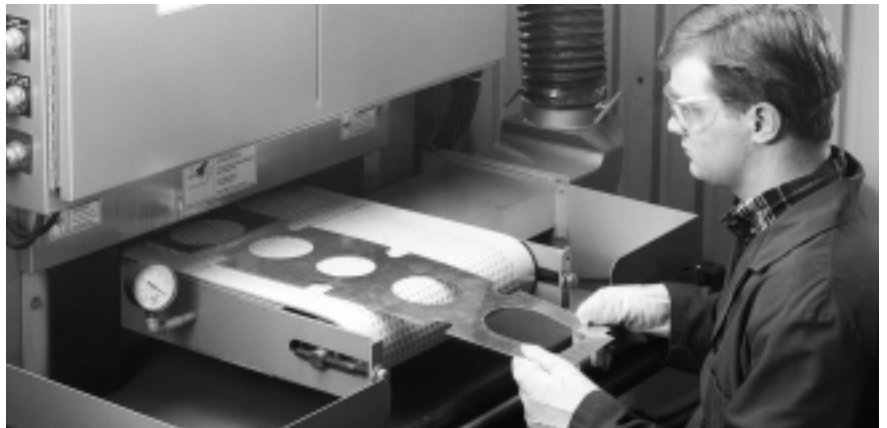
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Automated deburring – Flexible Brushlon™ long trim material is easily automated for deburring a variety of aerospace components.



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Defect removal (left) – Roloc coated abrasive discs save time and money with efficient removal of defects and deep scratches.



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Flat part deburring – Automated machine using Scotch-Brite surface conditioning and Brushlon disc products efficiently deburrs flat, aerospace components.

For more information and assistance:

Contact your local 3M abrasive products distributor or 3M.

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Alaska..... **907-522-5200**

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Northern Mexico..... **915-599-4685**

Puerto Rico..... **809-750-3000**

Important Notice:

This brochure is intended to be an introductory summary of 3M coated abrasives and Scotch-Brite surface conditioning products. The information provided is based upon typical conditions and is believed to be reliable, however, due to the wide variety of intervening factors, 3M does not warrant the result will necessarily be obtained. All details concerning product specification and terms of sales are available from 3M.

Read and follow instructions for use. Always use protective glasses, face shields and body protection. Use guards provided with machine. Do not exceed maximum operating RPM. Follow safety operation procedures posted in work area.



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