



Science.
Applied to Life.™

3M™ Abrasives and Power Tools for Stainless Steel Finishing




**Systems for stainless
steel finishing — the way
to exceptional finishes.**



3M™ Stainless Steel Finishing System

Discover how fast and effective 3M abrasives can be for the often difficult task of stainless steel weld removal and finishing. This 3-step system features our Scotch-Brite™, Cubitron™ II and Trizact™ abrasives.

In three easy steps, using the 3M Finishing System, you can grind and blend welds to match your finish.

Leveling the Weld 1		Premium 3M™ Cubitron™ II Fibre Disc 987C
		Advanced 3M™ Fibre Disc 787C
Setting the Grain 2		Premium 3M™ Cubitron™ II Belt 947A
		Advanced 3M™ Belt 777F
Final Finishing: Choose Your Finish 3		Premium #3 Finish: Scotch-Brite™ Surface Conditioning Belt A CRS #4 Finish: Scotch-Brite™ Surface Conditioning Belt A MED #5–8 Finish: 3M™ Trizact™ Abrasive Belt 237AA / 217EA

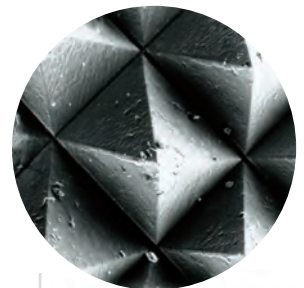


CUBITRON™ II

The precision-shaped grain found in 3M™ Cubitron™ II belts continuously fractures to form sharp points and edges.



Scotch-Brite™ non-woven synthetic fiber and abrasive mineral forms a web that is open, tough, conformable and long-lasting.



Trizact™

Trizact grain featuring microreplicated three-dimensional abrasive structures for the finest finishes.

Your One Stop Shop

A complete system of 3M tools and accessories to make your finishing job simpler.



3M™ Disc Sanders

- ▶ High power-to-weight ratio helps operators get more work done in less time
- ▶ 3M™ Gripping Material allows easy control and user comfort
- ▶ Ergonomic 97-degree head allows for more comfortable wrist position
- ▶ Dual mount feature allows direct mount for visibility or collet mount for extended reach

UPC	Dia.	Max RPM	Motor
051141-20231-0	2"	20,000	0.5 HP
051141-28341-8	2"	20,000	0.3 HP
051141-20232-7	2-3"	15,000	1 HP
051141-28329-6	2-3"	12,000	0.5 HP
051141-28328-9	2-3"	12,000	0.3 HP

*Also supports 3" and 4" backup pads.



3M™ Inline Sanders

- ▶ Straight shaft sander for generating or restoring straightline finishes
- ▶ Easy to control and simplifies finish matching
- ▶ 1 HP motor easily handles most finishing applications
- ▶ Fully machined steel motor housing provides strength and durability

UPC	Max RPM	Motor
051141-28339-5	3,500	1 HP

Accessories

UPC	Dimensions	Belt Size
051141-28348-7	5" x 3-1/2"	3-1/2" x 15-1/2"
051141-28349-4	3.4" x 3"	3" x 10-11/16"
051144-45038-1	#3 Wheel Adapter Kit	



3M™ File Belt Sander

- ▶ Uses coated abrasive and Scotch-Brite™ Belts (1/8"-3/4" x 18"-24") for a wide variety of metalworking applications
- ▶ Steel drive wheel attached
- ▶ Includes standard attachment arm (PN28368) and rubber drive wheel
- ▶ 24" belts require 3M™ File Belt Sander Extension (PN28376)

UPC	Max RPM	Motor
051141-28366-1	22,000	0.6 HP

Accessories

UPC	Belt Size
051141-28372-2	1/8" or 1/4" x 18"
051141-28375-3	1/4" or 1/2" x 24"



3M™ Match & Finish Sander

- ▶ Ideal for various blending and finish matching on metal parts
- ▶ Efficient way to generate or restore straight line finishes
- ▶ Easy to control and simplifies finish matching
- ▶ Adapters for multiple abrasive media make these versatile, utilitarian tools

UPC	Max RPM	Motor
051141-28659-4	3,500	1 HP

Accessories

UPC	3M™ Expander Wheel and Adapter Kit
051141-28718-8	5" x 3-1/2" x 1 Arbor Hole
051141-28719-5	1" x 5/8-11 INT

Abrasives and accessories sold separately.

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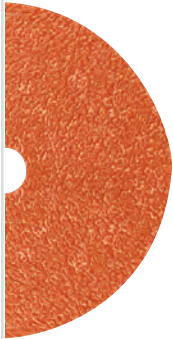
Leveling the Weld

Using the following products for weld leveling helps prepare stainless steel for #3 and #4 finishes.

Recommended Starting Points

Fibre Discs are engineered to cut faster, cooler and with less grinding pressure than conventional abrasives. And they are long lasting for increased productivity!

Option #1



3M™ Cubitron™ II Fibre Disc 987C

60+

- ▶ Powered by 3M Precision-Shaped Grain for ultra-fast cut and exceptional life
- ▶ Includes a grinding aid for cooler running temperatures
- ▶ Best in class for weld prep and removal on heat sensitive alloys such as stainless steel



Tech Tip: Use the finest grade of abrasive that gets the job done; finer grind lines are easier to remove. Use a 7" dia. black ribbed faceplate to level the weld quickly and leave fine grind lines.

Option #2



3M™ Fibre Disc 787C

60+

- ▶ Powered by 3M Precision-Shaped Grain
- ▶ Optimized for stainless steel and non-ferrous metals like aluminum and titanium
- ▶ Cuts cooler, faster and lasts longer than conventional ceramic discs in applications like weld removal, beveling, edge chamfering and more
- ▶ Includes a grinding aid for cooler running temperatures

Alternative Selections

Flap Discs offer an unbeatable system for grinding and blending in one easy step. The construction wears away, exposing fresh mineral to extend disc life and provide consistent cut rates. 3M™ Roloc™ Discs provide a fast, efficient method for grinding, blending, leveling and finishing on all types of metal.

3M™ Cubitron™ II Flap Disc 967A

60+

- ▶ Powered by 3M Precision-Shaped Grain, this disc cuts fast and lasts long
- ▶ Exceptional for stainless steel fabrication where finish and gouge resistance are important
- ▶ Long-life and consistency at any grinding pressure
- ▶ Constructed with a poly-cotton backing that exposes fresh mineral as it wears, for a fast, forgiving cut



3M™ Cubitron™ II Roloc™ Disc 987C

60+

- ▶ Powered by 3M Precision-Shaped Grain, engineered with ultra-sharp, fast cutting points that wear evenly, run cool, and optimize mineral breakdown to maximize life
- ▶ Includes grinding aid for cooler running temperatures, reducing metal discoloration/oxidation and the chance of heat related stress cracks
- ▶ Disc life is significantly longer, completing more parts per disc and requiring fewer disc changes
- ▶ Best in class for weld prep and removal on heat sensitive alloys such as stainless steel



3M™ Cubitron™ II Roloc™ Durable Edge Disc 984F

60+

- ▶ Powered by 3M Precision-Shaped Ceramic Grain for ultra-fast cut and exceptional life
- ▶ Includes a grinding aid for cooler running temperatures



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Setting the Grain

Use these products to generate a directional scratch to prepare stainless steel for final finishing.

Recommended Starting Point



3M™ Cubitron™ II Cloth Belt 947A

120+

- ▶ 3M Precision-Shaped Grain slices through metals like a knife rather than gouging or plowing
- ▶ Removes material faster, with less pressure
- ▶ Grinding aid for less grinding friction and cooler cutting
- ▶ Optimized for low-medium pressure applications on stainless, mild steel and aluminum



Tech Tip: Attempt to stay as close as possible to the weld area to minimize final blending.

Alternative Selections



3M™ Cloth Belt 777F

P120

- ▶ Powered by a durable ceramic aluminum oxide blend that surpasses aluminum oxide abrasives in cut-rate
- ▶ Grinding aid reduces heat and increases performance, when used stainless steel



3M™ Flap Wheel 747D

80 3" x 1" x 1/4"

- ▶ Contains 3M™ Ceramic Aluminum Oxide blend abrasive grain
- ▶ Constructed on a resin-bonded X-wt., durable cloth backing
- ▶ Provides a uniform finish
- ▶ Features a grinding aid for cooler grinding of stainless steel

Troubleshooting Guide for Stainless Steel Repair

Problem	Solution
Heat or Warpage	<ul style="list-style-type: none"> ▶ Use coarser grade abrasive ▶ Reduce speed ▶ Use new abrasive ▶ Use harder disc pad
Edge Cutting	<ul style="list-style-type: none"> ▶ Use softer disc pad ▶ Reduce angle of grinder
Disc Scratches Show Through	<ul style="list-style-type: none"> ▶ Use finer grade leveling disc ▶ Increase speed
Chatter	<ul style="list-style-type: none"> ▶ Reduce speed and/or pressure
Flap Wheel Bounce	<ul style="list-style-type: none"> ▶ Reduce speed and/or pressure ▶ Use smaller wheel
Multi-finishing Wheel Bounce	<ul style="list-style-type: none"> ▶ Reduce speed ▶ Dress wheel to round
Smearing	<ul style="list-style-type: none"> ▶ Reduce speed ▶ Clean or replace contaminated product
Tool Stalling	<ul style="list-style-type: none"> ▶ Check for proper air supply at tool ▶ Increase torque and/or HP of tool
Streaking on Final Finish	<ul style="list-style-type: none"> ▶ Use 3M™ Twist-Lok™ Pad Holder 961

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Final Finishing: Choose Your Finish

Generate a #3 through a #8 stainless steel finish with these 3M Products.

Recommended Starting Points

#3 Stainless Steel Finish



Scotch-Brite™ SC Surface Conditioning Belt

A Coarse

- ▶ Premium Scotch-Brite surface conditioning non-woven web
- ▶ Designed for cleaning, finishing and light deburring
- ▶ Run at low speeds to generate uniform, well-blended satin finishes



Tech Tip: Finish a small area on the corner of the piece. Examine the finish from several angles. With a little practice you can “feather” in and out of the repair area. A few slow passes should restore the finish. Working with the grain, ease off pressure on both ends of the strokes.

#4 Stainless Steel Finish



Scotch-Brite™ SC Surface Conditioning Belt

A Medium

- ▶ Constructed with a non-woven nylon material
- ▶ Designed for cleaning, finishing and light deburring
- ▶ Run at low speeds to generate uniform, well-blended satin finishes

Alternative Selection



Scotch-Brite™ Multi-Finishing Wheel

2S Coarse **6" dia.**

- ▶ Produces uniform grain finishes on stainless steel and other metals
- ▶ Highly conformable and tough enough to finish edges and welds
- ▶ Works well on large surfaces
- ▶ Available in 1", 2" and 3" widths

Alternative Selections



Scotch-Brite™ Multi-Finishing Wheel

2S Medium **6" dia.**

- ▶ Use on ferrous and non-ferrous metals
- ▶ Conformable to work surface
- ▶ Designed for cleaning, finishing and light deburring
- ▶ Can finish edges, welds and large surfaces
- ▶ Available in 1", 2", 3" widths

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Final Finishing: Choose Your Finish (cont.)

Generate a #3 through a #8 stainless steel finish with these 3M Products.

Recommended Starting Points

#5–8 Stainless Steel Finishes

3M™ Trizact™ Abrasive Belts 237AA / 217EA

A 100

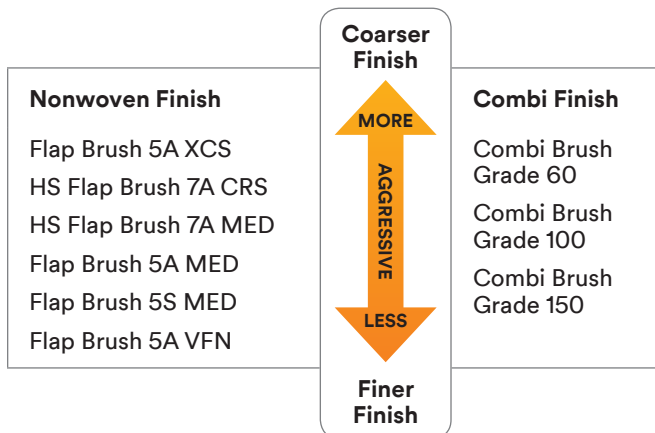
- ▶ 237AA is a perfect choice for dry metalworking applications, and is semi-flexible for intermediate to final finishing
- ▶ 217EA is a flexible belt for intermediate to final finishing, and is for low to medium pressure applications
- ▶ Both contain a grinding aid to assist in cutting and keeping the workpiece cool



Tech Tip: To achieve a pharmaceutical finish, choose 3M™ Trizact™ Belt 237AA in a series of grades A100, A45 and A16. Also to obtain a surface finish of less than 32 micro-inch for dairy applications, refine the repair area after Step 2 with a 3M™ Trizact™ 237AA, grade A100, followed by a fourth step of Scotch-Brite™ Surface Conditioning Belt in grade A Very Fine.

Choose the Scotch-Brite™ Match & Finish Flap Brush That's Right for Your Application

Scotch-Brite™ Match & Finish Flap Brush Selection Guide



Match Your Finish with Scotch-Brite™ Match & Finish Flap Brushes

- Easy to control
- Conforms to most surface geometries
- Easy-thread on/off attachment



Tech Tip: With a little practice, you can “feather” in and out of the repair area. Working with the grain, ease off pressure on both ends of the strokes.



Tech Tip: Start with HS CRS or HS MED. If the finish doesn't match, then move to a more aggressive or less aggressive grade.



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