

3M Science.
Applied to Life.™

3M™ Abrasive Belts

- Our expanded lineup gives you more choices of grades, sizes and constructions
- The same world-class performance you expect from 3M
- Applications range from high pressure automated grinding to low and medium pressure offhand applications.
- Featuring 3M™ Cubitron™ II Belts and Trizact™ Belts

3M™ abrasive technologies.

The science of speed.

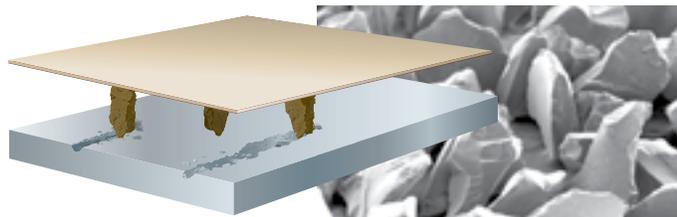
CUBITRON™ II

The precision-shaped grain found in 3M™ Cubitron™ II Abrasives combines the advanced material properties of our original Cubitron grain with the precise microreplicated structures pioneered in 3M™ Trizact™ Abrasives. As the triangular shaped grain wears, it continuously fractures to form sharp points and edges.

Conventional ceramic abrasive grain is irregular and blocky in shape. Instead of a clean, machining action, the grain tends to “plow” through the metal, causing heat to build up in the workpiece and the abrasive — resulting in a slower cut, shorter belt life and undesirable effects, such as burnishing.



Precision-shaped Grain



Conventional

The science of consistent finishes.

Trizact™

Derived from patented 3M microreplication technology, 3M™ Trizact™ Abrasives consist of precisely-shaped three-dimensional structures distributed uniformly over the substrate. Unlike conventional abrasives, which are constructed from randomly-spaced and irregular-shaped minerals, the uniform configuration of Trizact abrasives helps deliver consistent performance.



Conventional abrasives start out sharp, but dull quickly.



The three-dimensional structures of 3M™ Trizact™ Abrasives contain multiple layers of mineral. As these structures wear, fresh, sharp mineral is constantly exposed to the workpiece, resulting in faster, more consistent cutting throughout the life of the belt.

Meet the belts.

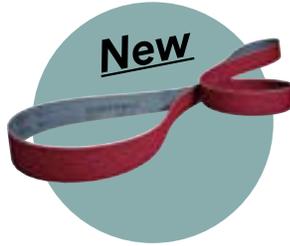
3M™ Cubitron™ II Abrasive Belts



**3M™ Cubitron™ II
984F Abrasive Belt**

AKA:
MVP

- Excellent in medium/high pressure stainless steel, carbon steel and cobalt chrome
- Long belt life, producing more parts per belt with fewer belt changes
- Durable polyester cloth backing
- Available in grades 36+, 50+, 60+, 80+ and 120+.



**3M™ Cubitron™ II
784F Abrasive Belt**

AKA:
Mr. Versatility

- Excellent in medium pressure applications in a variety of different metals
- Strong value for medium pressure grinding and dimensioning
- Polyester waterproof backing
- Available in grades 36+ to 180+



**3M™ Cubitron™ II
947A Abrasive Belt**

AKA:
Mr. Universal

- Optimized for medium/low pressure applications on stainless, mild steel and aluminum
- X-weight poly-cotton backing provides flexibility and durability
- Use in dry applications
- Available in grades 40+ to 120+



**3M™ Cubitron™ II
723D Abrasive Belt**

AKA:
Mr. Flexible

- Strong value without sacrificing performance
- Very flexible and conformable J-weight backing
- Available in grades 100+ to 220+



**3M™ Cubitron™ II
967F Abrasive Belt**

AKA:
Terminator

- Go-to product for titanium and high nickel alloys
- Grinding aid enables rough grinding on heat-sensitive alloys
- Heavy duty YF-weight cloth backing stands up to high pressure applications
- Available in grades 24+ to 80+



**3M™ Cubitron™ II
966F Abrasive Belt**

AKA:
The Crusher

- Constructed of durable waterproof polyester cloth backing
- Designed for heavy wet grinding of titanium, plate and slab, and other heat sensitive alloys
- Available in grades 20+ to 80+

3M™ Cubitron™ II Abrasive Belts



**3M™ Cubitron™ II
997F Abrasive Belt**

AKA:
Mr. Durability

- Engineered for stainless steel and high nickel alloys
- Belt can be run wet or dry
- ZF-weight polyester cloth backing ideal for high pressure applications
- Available in grade 36+



**3M™ Cubitron™ II
994F Abrasive Belt**

AKA:
The Carbonator

- Optimal for high pressure carbon steel and cast iron applications
- Suitable for wet and dry applications
- Durable ZF-weight polyester backing
- Available in grade 36+

Tech Tip

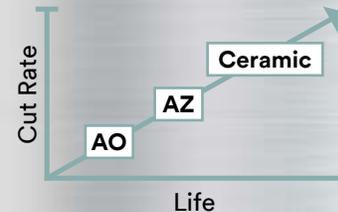
Keep things cool –
When working on heat sensitive alloys, like stainless steel, nickel alloys and cobalt alloys, choose a product with a grinding aid*.

Backing

Flexible Durable



Mineral



*Grinding aid belts include 984F, 784F, 967F, 997F, 307EA, 237AA, and 217EA

3M™ Trizact™ Abrasive Belts



**3M™ Trizact™
307EA Abrasive Belt**

- Resin-bonded Aluminum oxide mineral on a JE-weight rayon backing for long lasting performance.
- Aimed at higher nickel alloys, stainless steel
- Available in grades A100 to A6



**3M™ Trizact™
237AA Abrasive Belt**

- Robust aluminum oxide mineral on a semi-flexible X-weight backing
- Available in grades A160 to A6



**3M™ Trizact™
217EA Abrasive Belt**

- Aluminum oxide mineral on very flexible J-weight backing.
- Used on aluminum or brass (softer alloys)
- Available in grades A100 to A6

3M™ Agglomerate Abrasive Belts



3M™ Cubitron™ II 399F Abrasive Belt

AKA: The Agglomonator

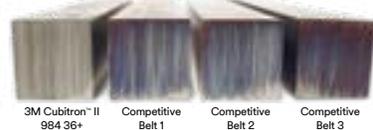
- Little or no break-in period
- Extended belt life
- Fewer rejects, less rework – higher productivity
- Up to 2x life against competitive engineered abrasives
- Water resistant polyester backing
- Grades 180 to 600



Newly designed 3M precision shaped agglomerate belt for deburring, centerless grinding, cylindrical grinding and flat finishing offers you unprecedented performance on a wide range of metals including carbon steel, stainless steel and other alloys – for outstanding quality, throughput and cost savings. Long lasting abrasive technology helps you achieve desired dimensions and finishes – right from the start!

How cool is this?

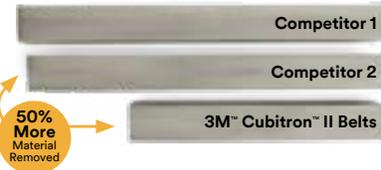
3M™ Cubitron II™ Belts are engineered to run cooler eliminating metal discoloration/oxidation and reducing the chances of heat-related stress cracks.



This photo shows four identical 304 stainless steel bars after nine grinding cycles of ten seconds each. While the three bars were ground using conventional ceramic abrasive belts show varying degrees of oxidation, the bar ground with a Cubitron II belt is free of burnishing.

No contest.

Cubitron II vs. Conventional Grain Competitors



This photo shows three identical 304 stainless steel bars after nine grinding cycles of ten seconds per cycle using equal pressure. In that time, the Cubitron II belt removed 50% more metal than the so-called "next generation" ceramic grain abrasive.

3M™ General Purpose Abrasive Belt



3M™ 384F Abrasive Belt

AKA: The Workhorse

- Workhorse for general purpose metalworking applications
- Consistent performance on all metals at a great value
- Waterproof X-weight polyester backing
- Available in grades 36+ to 240+; P320-400



Stainless Steel & Cobalt Chrome

Recommended Product	Heavy Grinding	Dimensioning/ Deburring	Blending / Finishing	Polishing
984F	●			
784F		●		
947A			●	
723D			●	●
Trizact				●

Chart is a starting point for substrate and application. Depending on operating parameters and application specifics other belts or belt grades could be recommended. Contact your 3M Sales Specialist for details.



Industrial

Processor vessels,
Mixer vessels,
Silo tanks,
Storage vessels



Medical

Orthopedic
implants and
surgical
instrument
manufacturing



Stainless steel home goods

Appliances, cutlery,
pots and pans, light
fixtures, commercial
kitchen equipment



Plumbing fixtures

Faucets, sinks



Carbon Steel & Cast Iron

Recommended Product	Heavy Grinding	Dimensioning/ Deburring	Blending / Finishing	Polishing
984F	●			
784F		●		
947A			●	
723D			●	●
Trizact				●

Chart is a starting point for substrate and application. Depending on operating parameters and application specifics other belts or belt grades could be recommended. Contact your 3M Sales Specialist for details.





Castings & Forgings

Automotive
powertrain, electrical
enclosures, plumbing
fixtures, cast iron pans,
agriculture equipment



Hand tools

Hammers, wrenches,
pliers, screw drivers,
chisels

Aluminum & Soft Substrates

Recommended Product	Heavy Grinding	Dimensioning/ Deburring	Blending / Finishing	Polishing
994F	●			
784F		●		
947A			●	
723D			●	●
Trizact				●

Chart is a starting point for substrate and application. Depending on operating parameters and application specifics other belts or belt grades could be recommended. Contact your 3M Sales Specialist for details.



Foundry

Automotive powertrain,
electrical enclosures,
plumbing fixtures,
agriculture equipment

Builder's hardware

Residential and
commercial door
handles and knobs



Automotive

Trim, powertrain,
suspension and
more



Titanium & High Nickel

Recommended Product	Heavy Grinding	Dimensioning/ Deburring	Blending / Finishing	Polishing
967F	●			
784F		●		
947A			●	
723D			●	●
Trizact				●

Chart is a starting point for substrate and application. Depending on operating parameters and application specifics other belts or belt grades could be recommended. Contact your 3M Sales Specialist for details.





**Land-based
Turbine**

Turbine engine
components



Medical

Orthopedic
implants and
surgical
instrument
manufacturing



**Aerospace
Turbine**

Turbine engine
components



Centerless Grinding, Cylindrical Grinding & Flat Finishing

Grinding/Finishing Capabilities

Stock Removal

Dimensioning/Finishing

Final Finishing/Polishing

36+

984F

120+

36+

784F

180+

180

399F

600

A45

463FC

A6

36+

384F

400



3M™ Cubitron™ II
399F Abrasive Belt



3M™ Cubitron™ II
784F Abrasive Belt



3M™ Cubitron™ II
984F Abrasive Belt



3M™ 384F
Abrasive Belt



3M™ Trizact™
463FC Abrasive Belt



Automotive

Mirror brackets,
grab bars, fender
brackets, pick up truck
bed rails, brush guards,
luggage racks

Food Industry

Oven and refrigerator door
handles, various restaurant
equipment, gussets and
hardware



Medical

Hospital bed rails,
handicap railing, iv
poles, surgical trays
and more

3M™ 384F A/O Metalworking Belt



It's the workhorse of the shop.

Whatever low pressure applications come its way, you'll get consistent performance. Still want more? It does it all while being an excellent value, too.

- Excellent on Aluminum, Mild and Stainless Steel
- X-weight polyester backing
- Available in Grades: 36+, 50+, 60+, 80+, 120+, 150+, 180+, 220+, 240+, P320, & P400
- Can be used wet or dry



What the CAM Center Can Do For You

The Customer Abrasive Methods (CAM) Center is where 3M's dedicated engineering staff use their expertise to help customers solve surface modification challenges. CAM Center engineers focus on specific process requirements within a variety of key industries and areas, including:

- Metal Fabrication
- Castings and Forgings
- Woodworking
- Solid Surface Materials
- Transportation
- Cylindrical Grinding
- Flat Finishing
- CNC Grinding
- Primary Metals
- Centerless Grinding
- Microfinishing

Want to Lower Costs? The CAM Center Can Help

Buying the lowest priced abrasives doesn't necessarily save money. When you work with 3M your company can benefit from the industry's foremost technical experts on surface modification solutions who can help reduce your overall costs.

Here's how:

- The CAM Center is a 30,000 sq. foot facility that houses over 80 grinding and finishing machines as well as portable tools for any application. The facility is dedicated to developing surface modification solutions that improve customer processes.
- CAM Center engineers can help you spec in new equipment to optimize your processes. Only the machine builders themselves may know more than the CAM engineers about abrasive machinery, and they put that knowledge to work for 3M customers.
- Methods development — Bring or send your parts to the CAM Center and a CAM engineer will work with you to develop a new or improved finishing method.

By considering all variables including equipment, abrasives and operating parameters 3M's technical specialists can help you reduce process steps, reduce rework and scrap, reduce abrasive costs, improve throughput, improve quality and your overall results.



**Optimize
Your Finishing
Processes**



Employee Training and Development

Keeping up with the latest techniques and training takes resources that many manufacturers may not have available. 3M Abrasive's customers, however, have access to the training facilities at the CAM Center where 3M can offer customized training based on customer needs. This state-of-the-art training facility also hosts leading industry association events where customers and non-customers alike learn from CAM experts. Here are a few examples:

- Speeds, feeds and pressure training; factors that impact performance
- Off-hand, portable power tool grinding and finishing systems
- Automation, Woodworking and Metalworking Seminars
- Safety Seminars
- Customized training to customer requirements



Learn From Industry Leading Experts

Take Your Profits and Results to The Next Level

- Issues with hard to grind materials? **WE CAN HELP.**
- Abrasive change outs chipping away at your profits? **WE CAN HELP.**
- Issues with achieving your desired finish? **WE CAN HELP.**
- Belt splice chatter, smearing or other process issues marring your finish? **WE CAN HELP.**
- Looking for automation in your grinding/finishing operations? **WE CAN HELP.**
- Dusty environment hampering your productivity? **WE CAN HELP.**
- Quality issues? **WE CAN HELP.**
- Need to do more with less? **WE CAN HELP.**
- Throughput or bottleneck issues? **WE CAN HELP.**

For help with these problems and many more, work with your local 3M Representative to connect you to the CAM Center today

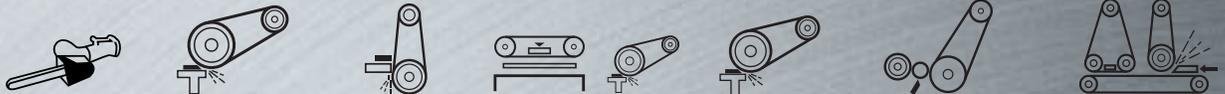
Or call 651-733-4643 opt. 4



How to Use the Coated Abrasive Belt Selection Guide

1. Find the machine type that you will run this belt on.
2. Move down to the metal type that is being worked on.
3. Select the product from the list of Recommended – Alternative – Finishing/Polishing belts.
4. Check the Availability Guide for the grade.
5. Find the product on the following pages for available sizes.
6. If your size is not listed, contact your 3M distributor or 3M representative for ordering instructions.

3M™ Coated Abrasive Belt Selection Guide



Recommended Starting Point	Portable File Belt	Coarse Grade High Pressure Grinding	Backstand / Off Hand Low-Med Pressure	Stroke Sander	Bench Top Belt Sander	Slack of Belt Sander	Centerless and Roll Grinding		Flat and Wide Belt Finishing	
							Dry	Wet	Dry	Wet
Carbon Steel and Cast Iron (984F, 784F, 947A, 723D, Trizact)										
Recommended	784F	984F	784F	384F	784F	947A	784F	984F	784F	784F
Alternative	947A	994F	984F	784F	947F	723D	384F	784F	577F	577F
Finishing/Polishing	384F	–	947A	947A	384F	784F	347FC	363FC	384F	384F
	–	–	–	–	–	–	399F	399F	399F	399F
Stainless Steel and Cobalt Chrome (984F, 784F, 947A, 723D, Trizact)										
Recommended	784F	984F	784F	784F	784F	947A	784F	984F	784F	784F
Alternative	947A	997F	984F	947A	947A	784F	384F	784F	577F	577F
Finishing/Polishing	384F	–	947A	384F	384F	–	347FC	363FC	461F	461F
	–	–	–	–	–	–	399F	399F	399F	399F
Aluminum & Soft Substrates (994F, 784F, 947A, 723D, Trizact)										
Recommended	947A	994F	784F	784F	784F	947A	784F	784F	384F	384F
Alternative	784F	784F	984F	947A	947A	784F	384F	384F	361F	361F
Finishing/Polishing	384F	–	–	384F	384F	384F	Trizact	Trizact	461F	461F
	–	–	–	–	–	–	327AA	253FA	–	–
Titanium (967F, 784F, 947A, 723D, Trizact)										
Recommended	967F	967F	461F	–	967F	947A	N/A	966F	N/A	966F
Alternative	784F	–	784F	–	784F	784F	N/A	784F	N/A	461F
Finishing/Polishing	947A	–	461F	–	947A	–	N/A	–	N/A	–
	–	–	–	–	–	–	N/A	Trizact	N/A	463F
*Go-To is the potential best starting point based on the application. 2nd option and other option are alternatives based either on a different flexibility and durability need, or a possible lower initial belt cost. Value shown in belt process can be viewed as an increase in throughput, lower overall belt cost, and faster sanding or grinding time.										

← Flexible • Durable →

723D
J Weight

947A
X Weight

784F
Y/X Weight

984F
Y Weight

← Lower Pressure • Higher Pressure →

Note:

- Applicable Substrates: stainless steel, cobalt chrome, carbon and cast iron steels

Belt Size, Grade and Quantity

384F				
UPC	Size	Grade	Quantity	
76308-45587-3		60+	50/200	
76308-45588-0	½ × 18	80+		
76308-45586-6		120+		
76308-45583-5		60+	50/200	
76308-45584-2	¾ × 18	80+		
76308-45585-9		120+		
76308-45579-8		80+	200/600	
76308-45580-4	1 × 42	120+		
76308-45575-0		60+	50/150	
76308-45574-3	2 × 60	80+		
76308-45581-1		60+	20/60	
76308-45582-8	6 × 48	80+		
76308-45573-6		80+	20/60	
76308-45577-4		80+	2/6	
76308-45576-7	37 × 60	120+	5/15	
76308-45578-1	37 × 75	120+	5/15	
*60-00035-4112		36+	Determined by size	
*60-00035-4138		50+		
*60-00035-4146		60+		
*60-00035-4153		80+		
*60-00035-4179		120+		
*60-00035-4187	Custom sizes	150+		
*60-00035-4195		180+		
*60-00035-5168		220+		
*60-00035-4203		240+		
*60-00035-4211		P320		
*60-00035-4229		P400		
Available in sizes 36+ to 400+				
*3M ID - Custom size made to order				

723D			
UPC	Size	Grade	Quantity
76308-45551-4	½ × 42	220+	200/600
76308-45550-7	2 × 72	120+	50/150
76308-45548-4		120+	50/150
76308-45549-1	2 × 132	150+	
76308-45545-3		120+	50/150
76308-45546-0	3 × 132	150+	
76308-45547-7		220+	
*60-00035-6356		100+	Determined by size
*60-00035-5135		120+	
*60-00035-4872	N/A	150+	
*60-00035-4898		180+	
*60-00035-4914		220+	
Available in sizes 120+ to 200+			
*3M ID - Custom size made to order			
984F			
UPC	Size	Grade	Quantity
051141-27511-6	½ × 18	36+	50/200
051141-27512-3	½ × 24	36+	50/200
051141-27460-7		36+	50
051141-55044-2	2 × 132	60+	25/50
051141-27461-4		36+	25
051141-55043-5	3 × 132	60+	
051141-55051-0		80+	
051141-27462-1	4 × 132	36+	25
*051141-55040-4	½ × 42	60+	200
*051141-55050-3	1 × 11	80+	50/500
*051141-55060-2	1 × 42	80+	25/200
*051141-55066-4	1½ × 132	36+	25/50
*051141-55036-7	2 × 60	60+	25/50
*051141-27853-7		60+	25/50
*051141-55058-9	2½ × 60	80+	
*051141-55059-6	6 × 48	80+	20
*051141-55063-3	37 × 60	80+	2
*051141-55062-6	37 × 75	80+	2
Available in sizes 36+ to 120+			
*3M ID - Custom size made to order			

784F			
UPC	Size	Grade	Quantity
76308-45559-0		60+	50/200
76308-45563-7	½ X 18	80+	
76308-45567-5		120+	
76308-45556-9		60+	50/200
76308-45565-1	½ X 24	80+	
76308-45568-2		120+	
76308-45555-2		60+	50/200
76308-45562-0	¾ X 18	80+	
76308-45572-9		120+	
76308-45554-5	1 X 132	50+	50/150
76308-45570-5		60+	50/150
76308-45571-2	2 X 48	80+	
76308-45557-6		60+	50/150
76308-45569-9	2 X 72	120+	
76308-45552-1		36+	50/150
76308-45561-3	2 X 132	60+	
76308-45553-8		36+	50/150
76308-45560-6	3 X 132	80+	
76308-45564-4		60+	
76308-45558-3		60+	20/60
76308-45566-8	6 X 48	80+	
*60-00035-4732		36+	Determined by size
*60-00035-4740	Custom sizes	50+	
*60-00035-4757		60+	
*60-00035-4765		80+	
*60-00035-4773		120+	
*60-00035-4781		150+	
*60-00035-4799		180+	
Available in sizes 36+ to 180+			
*3M ID - Custom size made to order			

947A				
UPC	Size	Grade	Quantity	
051125-94703-9		60+	50/200	
051125-94704-6	½ × 18	80+		
051125-94705-3		120+		
051125-94706-0		60+	50/200	
051125-94707-7	½ × 24	80+		
051125-94708-4		120+		
051125-94709-1		60+	50/200	
051125-94710-7	¾ × 18	80+		
051125-94711-4		120+		
051125-94724-4		60+	25/50	
051125-94725-1	2 × 72	80+		
051125-94730-5		60+	25	
051125-94731-2	3 × 132	80+		
051125-94732-9		120+		
Available in sizes 40+ to 120+				
*3M ID - Custom size made to order				
966F				
UPC	Size	Grade	Quantity	
*60-00032-4008		20+	Determined by size	
*60-00035-4997	Custom sizes	24+		
*60-00035-5010		36+		
*60-00035-5036		50+		
*60-00035-5051		60+		
*60-00035-5077		80+		
*3M ID - Custom size made to order				
967F				
UPC	Size	Grade	Quantity	
*60-00035-5176		24+	Determined by size	
*60-00035-5192	Custom sizes	36+		
*60-00035-5218		50+		
*60-00035-5234		60+		
*60-00035-5481		80+		
Available in sizes 24+ to 80+				
*3M ID - Custom size made to order				

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Limitation of Liability: Except where prohibited by law, 3M will not be liable for any loss or damage arising from the 3M product, whether direct, indirect, special, incidental or consequential, regardless of the legal theory asserted, including warranty, contract, negligence or strict liability.



3M Abrasive Systems Division
3M Center, Building 21-1W-10
St. Paul, MN 55144 USA

Phone 1-866-279-1235
Web 3M.com/abrasives

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