3M™ Cubitron™ II
Abrasive Belts

NEW **Cubitron II Belts 947A**

For low to medium pressure grinding

The power of 3M precision shaped grain – now on a flexible cloth belt!

Shaping the future

The speed and cutting power of 3M precision shaped grain – now available in more grades and constructions!

CUBITRON™ II

3M

Forget everything you know about grinding with abrasive belts.

Since 2009, 3M™ Cubitron™ II Abrasive Belts have set the world standard for cutting speed and belt life. Now, our expanded lineup of Cubitron II belts gives you more choices of grades, sizes and constructions – so you can enjoy the same world-class performance in applications ranging from high pressure automated grinding to low and medium pressure offhand applications.

Cubitron II belts continue to raise the bar for grinding performance and productivity – thanks to a breakthrough 3M technology that re-writes the rules for speed, consistency and belt life.

- Average up to 30% faster cutting on hard-to-grind metals than the next-best competitive belt
- Cuts cooler – diverts heat from the workpiece and belt to the swarf
- Helps eliminate burnishing and heat stress
- Lasts up to 4 times as long as conventional ceramic aluminum oxide belts
- Now available in more belt sizes, grades and constructions, for applications ranging from high pressure, automated grinding to low and medium pressure offhand operations

▲ Improved Productivity

"With Cubitron II belts, we've reduced belt changeover time by over 50%."

– Casting House

Shaping a new era of

The secret behind the revolutionary performance of new Cubitron II belts lies in their proprietary triangular-shaped abrasive grain. These self-sharpening triangles are designed to fracture as they wear, continuously forming new, super-sharp points and edges that slice cleanly through the metal like a knife, instead of gouging or plowing. This prevents heat from building up in the workpiece – reducing heat-related stress cracks and discoloration. And, because the abrasive itself stays cooler and sharper, it lasts up to four times as long as conventional ceramic grain belts!

As shown by the sparks in this photo, Cubitron II abrasives divert heat to the swarf, keeping both the work piece and the belt cooler.

▲ Less Operator Fatigue

"Because Cubitron II belts cut faster, nearly all operators report that much less pressure is required throughout the life of the belt."

– Aerospace Parts Manufacturer

▲ Higher Cut Rates

"It took our operator 60 minutes to complete a work order using a competitor's belt. He completed the same size work order in just 45 minutes, using a Cubitron II belt."

– Precision Casting Company

▲ Longer Belt Life

"I was able to get three times the life with the 994F 36+ versus the competitive ceramic belt. Not only did this increase my productivity but it also reduced the hassle of belt changeover."

– Foundry Operator

▲ Cuts Cooler, for Improved Part Quality

"We processed 24 parts with no heat stress using a single Cubitron II belt, versus a competitive belt that showed signs of heat stress on the very first part."

– Investment Casting Company

grinding performance

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.

The new precision-shaped grain found in 3M™ Cubitron™ II Belts 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. The result is a belt that cuts faster, stays cooler and lasts up to 4 times longer than the next best competitive belt.

How cool is this?

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

3M Cubitron™ II 984F 36+ | Competitive Belt 1 | Competitive Belt 2 | Competitive Belt 3

This photo shows four identical 304 stainless steel bars after nine grinding cycles of ten seconds each. While the three bars that 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 more than 50% more metal than the so-called "next-generation" ceramic grain abrasive.

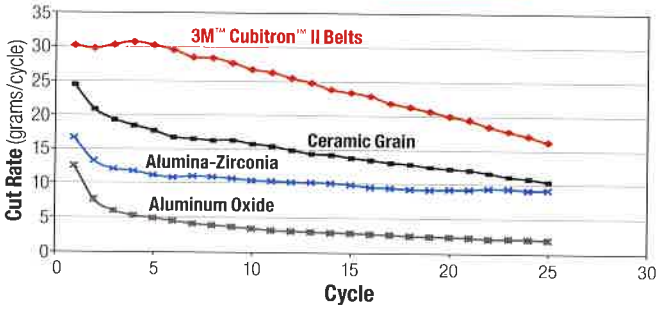
www.3MCubitron2.com

Taking productivity to the next level

3M™ Cubitron™ II Belts not only last up to four times longer than conventional ceramic abrasive belts, but also cut faster throughout their life. This translates to more finished parts per belt per hour – and more profit to your bottom line. But no belt can live up to its full potential – unless your employees see the benefit. That's where Cubitron II belts can really push your productivity over the top.

For example, many operators report that Cubitron II belts run smoother, and cut fast with less pressure. This can mean less operator fatigue and greater comfort – which in turn can lead to fewer errors, greater consistency and improved employee morale.

3M™ Cubitron™ II Abrasive Belts CUT FASTER!

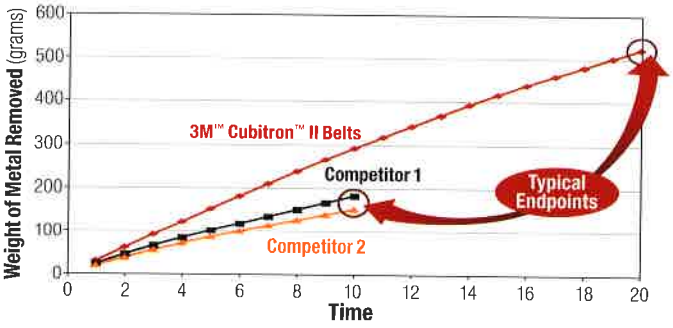


The evolution of high-performance grinding abrasives

In their day, each of the three competitive abrasive technologies shown on this graph represented a major advance in grinding performance. Now, in side-by-side comparisons of cutting rates on stainless steel, Cubitron II sets a new standard in productivity.

3M™ Cubitron™ II Abrasive Belts LAST LONGER!

Cumulative Cut, SS304: Typical End Point



3M surveys indicate that most operators stop using a belt when performance drops to 2/3 of its initial cut rate. As this graph shows, Cubitron II belts take twice as long to reach that end point as conventional ceramic abrasive belts. In addition, Cubitron II belts cut faster throughout their entire life. Bottom line? Not only is more work done per unit of time, but also much more total work per belt.

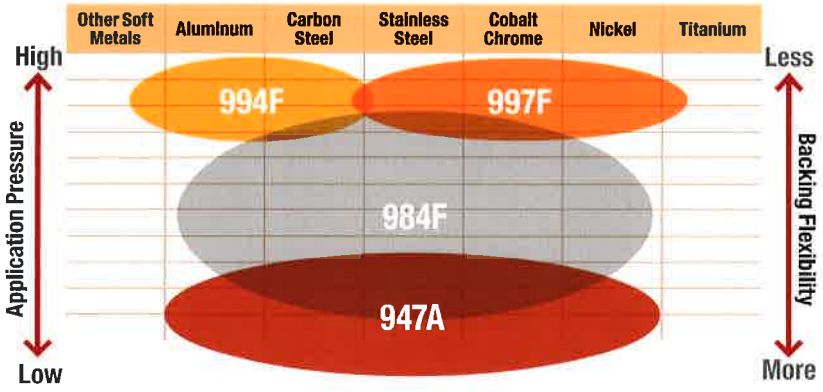
994F Z-weight backing optimal for high pressure carbon steel, aluminum applications

997F ZF-weight backing ideal for high pressure stainless, cobalt chrome and nickel alloy applications

984F YF-weight backing excels in medium/high pressure stainless, cobalt chrome and nickel alloy applications

NEW **947A** X-weight poly-cotton backing provides greater flexibility – optimized for low/medium pressure applications on stainless, mild steel and aluminum

Our new lineup of 3M™ Cubitron™ II Abrasive Belts



grin The new world standard for cutting speed and belt life

3M™ Cubitron™ II Abrasive Belt Selection Guide

Conventional Product Grade	Recommended Cubitron II Replacement
24	36+
36	36+
	60+
40	36+
	40+
	60+
50	36+
	40+
	60+
	80+
60	60+
	80+
80	80+
100	80+
	120+
120	120+

Because of the enhanced efficiency and durability of Cubitron II belts, you can use a similar or finer grade than your current belt, while enjoying significantly faster cut rates and longer belt life. And in many cases, by switching to a Cubitron II belt, you can reduce the number of steps in your sequence, without sacrificing surface finish.

At 3M product innovation is just the beginning

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.

3M

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