
# 3M™ Abrasives Core Belt Range

CUBITRON™ II

Scotch-Brite™ FINISHING STRONG SINCE 1958

Trizact™

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# 3M™ Abrasives Core Belt Range – overview

**With 3M™ Cubitron™ II, 3M™ Trizact™ and Scotch-Brite™ abrasives, you are buying into over 100 years of expert heritage and knowledge for surface modification applications.**

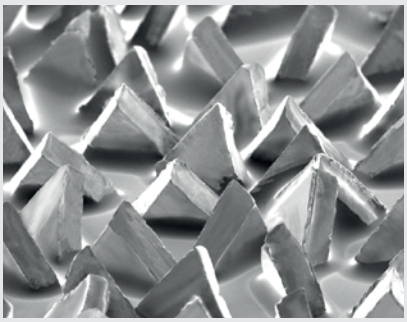
**The 3M™ Abrasives Core Belt Range is a portfolio from our leading technologies that are suitable for a wide variety of applications such as grinding, refining and finishing across a range of substrates.**

- The Core Belt Range is served from stock with short lead times
- Available in a range of attractive quantities to cover a broad range of belt machines in the metal working market

- We will continue to offer non-standard size belts to support you when a customised solution is required

# 3M™ Abrasive technologies

## Driving productivity from start to finish



*The science of speed*

## Coated belts

Almost our entire coated abrasive belts range uses the proprietary 3M™ Precision-Shaped Ceramic Grain – precisely shaped, uniformly sized triangles of ceramic aluminium oxide. These self-sharpening triangles are designed continuously forming new super-sharp points and edges that slice cleanly through the metal like a knife, instead of gouging or ploughing. This prevents heat from building up in the workpiece – reducing heat-related stress cracks and discolouration. Additionally, because the abrasive itself stays cooler and sharper, it lasts up to four times as long as conventional ceramic grain belts.

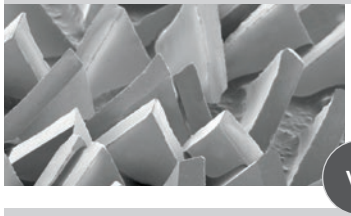
CUBITRON™ II

## 3M's Precision-Shaped Ceramic Grain technology.

It acts like a cutting tool, slicing through metal like a knife. The material is continuously self-sharpening, as points break off during use to expose new sharp edges.

- Slicing cleaner and faster
- Staying cooler
- Lasting longer than conventional grain

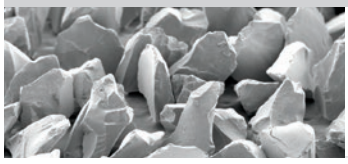
*Precision-Shaped Ceramic Grain slices cleaner and faster.*



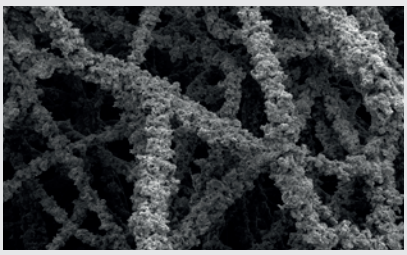
- ✓ Cooler operation
- ✓ Clean cut
- ✓ Lasts much longer

VS

*Conventional ceramic grain is irregular and 'ploughs' through the metal.*



- ✗ Heat build-up
- ✗ Slower cutting
- ✗ Shorter life



*The science of smooth*

## Non-woven belts

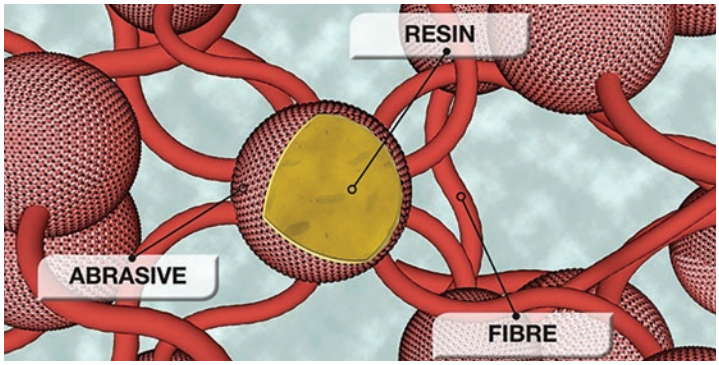
The Scotch-Brite™ line of surface conditioning belts includes a variety of non-woven synthetic fibre webs suitable for a wide range of applications. These belts are well-suited for cleaning, blending, deburring, finishing and polishing, and improve surfaces without significantly changing the shape or dimension of the workpiece. Scotch-Brite abrasives run cool, and resist loading due to their open web construction, reducing the risk of part discolouration and warping.

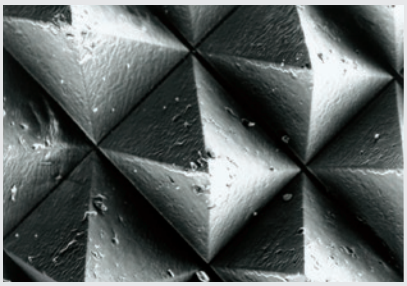
**Scotch-Brite™**

## Scotch-Brite™ Non-woven technology. Prepared for perfection.

A tough, non-woven nylon web impregnated with resin and mineral throughout its structure

- Spring-like action produces smooth, burr-free surface
- Easy to use, less rework, fewer rejects



*The science of finishing*

## Micro and macro-replicated belts

Using another proprietary technology, Trizact™ abrasives derive from 3M's vast experience in the art of microreplication. Unlike conventional abrasives, which are constructed from randomly spaced and irregular-shaped minerals, the uniform configuration of Trizact abrasives helps deliver a more consistent finish with higher cut rates, and cooler grinding and finishing temperatures. The fast, fine, consistent finishes made possible with Trizact abrasives help reduce reject rates and improve worker productivity.

**Trizact™**

## The science of consistent finishes

Derived from patented 3M microreplication technology, 3M™ Trizact™ Abrasives consist of precisely-shaped three-dimensional structures distributed uniformly over the substrate.

- Uniform configuration for consistent performance
- Faster cut
- Multi-layer mineral

*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.*

# 3M™ Cubitron™ II abrasive belts

CUBITRON™ II

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

- Blend: Precision-Shaped Grain/ aluminium oxide
- Excellent in medium/ high pressure applications in a variety of different metals
- General purpose high performance belt. High cut rate providing optimal durability and price value even in intermediate finishing applications
- Polyester backing. Suitable for wet and dry applications
- Available in grades 36+ to 180+*

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

- Blend: Precision-Shaped Grain/ aluminium oxide
- Optimised for low/ medium pressure applications on stainless, mild steel and other metals
- Very good cut rate providing optimal durability suitable for offhand operations
- Semi-flexible X-weight poly-cotton. Suitable for dry applications
- Available in grades 40+ to 120+*

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

- Precision-Shaped Grain
- Excellent in high pressure stainless steel, carbon steel and cobalt chrome
- High performance belt. Very high cut rate providing optimal durability and price value
- Durable polyester cloth backing. Suitable for wet and dry applications
- Available in grades 36+ to 120+*

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

- Precision-Shaped Grain
- Optimal for very high pressure carbon steel and cast-iron applications
- High mineral density belt. Extremely fast cut with high time-saving potential and excellent stock removal rates
- Durable ZF-weight polyester backing. Suitable for wet and dry applications
- Available in grade 36+*

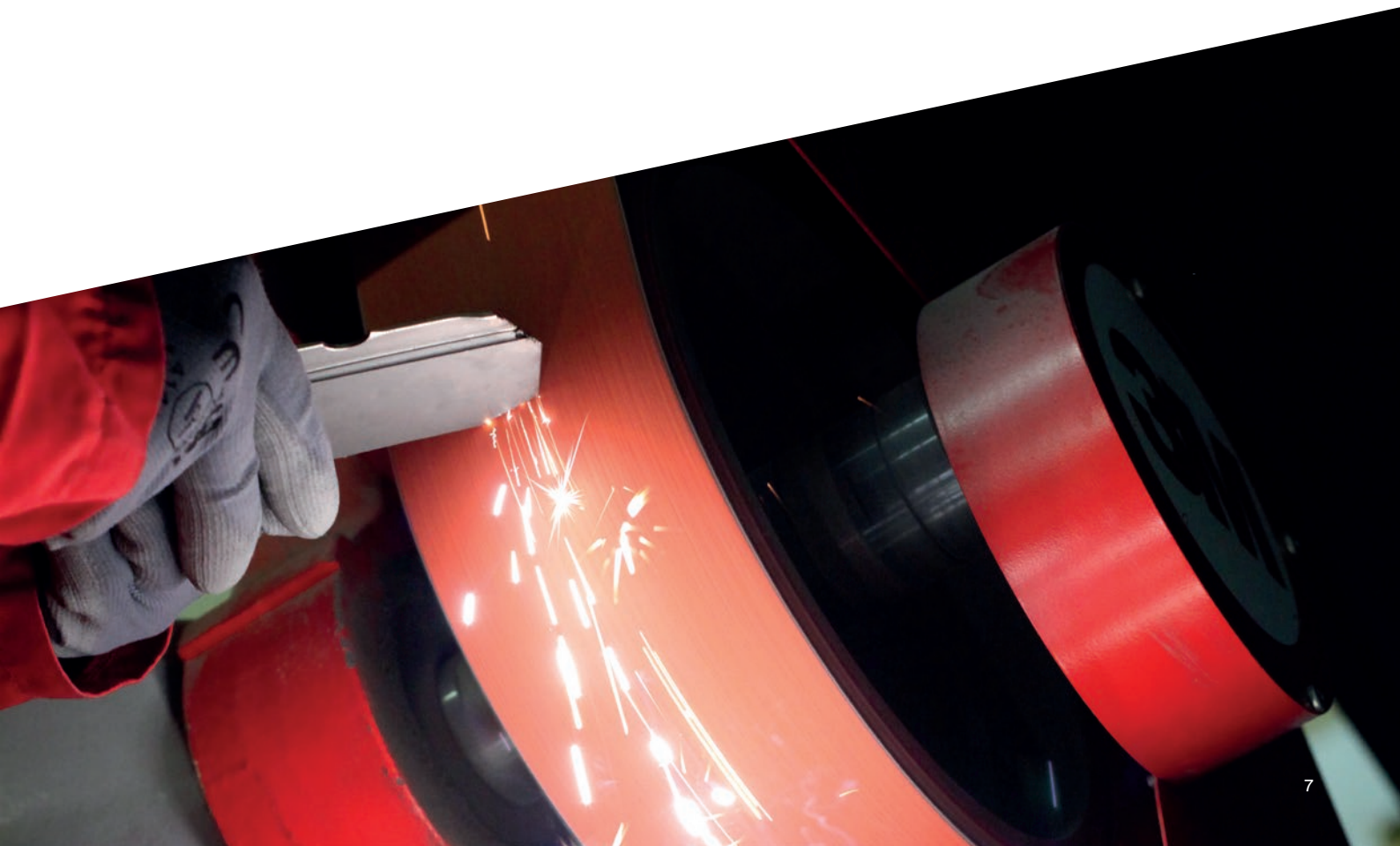


*Not all grades are available in the Core Belt Range.

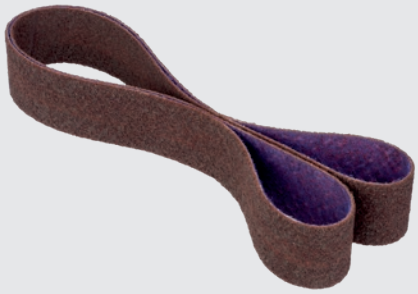
# 3M™ Conventional mineral abrasive belt


## 3M™ Cloth Belt 307D Abrasive Belt

- Aluminium oxide
- Low to medium pressure belt for blending and finishing contours and complex parts on most metals
- Aggressive cut and long abrasive life, which means good productivity
- Flexible J-weight backing. Suitable for dry applications
- Available in grades P120-P600*



# Scotch-Brite™ surface conditioning belts



## Scotch-Brite™ DF-BL Surface Conditioning Belt

- Aluminium oxide
- Durable belt engineered to perform tough detail work such as deburring, blending and finishing, on a variety of metals
- Higher flexibility resists “chunking” and performs well on belt sanders with small contact wheels
- The reinforced, low-stretch backing and superior edge durability aid in supplying an aggressive cutting ability
- Grade: ACRS/AMED/AFIN*

## Scotch-Brite™ SC-BF Surface Conditioning Belt

- Aluminium oxide
- Hardwearing belt engineered to perform detail work such as blending on a variety of metals
- Reduced loading and heat build-up allow extended operating time and consistent surface conditioning results
- Reinforced and ultimate low-stretch film backing
- Grade: ACRS/AMED/AVFN*

## TECH TIP:

- A grade beginning with an A, such as AVFN, denotes that the mineral used is Aluminium Oxide, which is a hard, block type mineral that provides high cut-rate and long life.
- A grade beginning with an S, such as SSFN, denotes that the mineral used is Silicon Carbide, which is sharper and breaks down faster than Aluminium Oxide, producing sharper edges which then gives you a finer finish.



*Not all grades are available in the Core Belt Range.

## Scotch-Brite™ SC-BL Surface Conditioning Belt

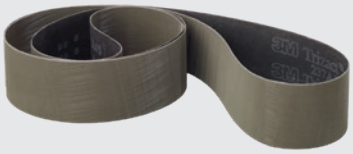
- Aluminium oxide or silicon carbide – depending on the grade
- Long-lasting belt engineered to perform detail work such as blending on a variety of metals
- Reduced loading and heat build-up allow extended operating time. Very forgiving backing creates consistent surface conditioning results
- Reinforced and low-stretch scrim backing
- Grade: ACRS/AMED/ AVFN/SVFN/SSFN/ TYPE T*

## Scotch-Brite™ SC-BS Surface Conditioning Belt

- Aluminium oxide or silicon carbide – depending on the grade
- Non-woven belt engineered to perform detail work such as blending on a variety of metals
- General purpose belt for applications such as cleaning, blending, deburring and finishing all types of metals
- Scrim backing
- Grade: ACRS/AMED/ AVFN/SSFN*

# 3M™ Trizact™ abrasive belts

Trizact™



## 3M™ Trizact™ 237AA Abrasive Belt

- Aluminium oxide
- Medium pressure belt for stainless steel, mild steel, nickel alloys, cobalt chrome
- Trizact™-Pyramid creates a uniform and consistent finish throughout the entire life of the belt
- Semi-flexible X-weight backing. Suitable for dry applications
- Available in grades A160 to A6*

## 3M™ Trizact™ 307EA Abrasive Belt

- Aluminium oxide
- Low to medium pressure belt for stainless steel, mild steel, nickel alloys, cobalt chrome
- Trizact™-Pyramid creates a uniform and consistent finish throughout the entire life of the belt
- Flexible JE-weight rayon backing for for finishing contours and complex parts. Suitable for dry applications
- Available in grades A100 to A6*

## TECH TIP:

Lower is finer

- The unique construction of 3M™ Trizact™ abrasives requires a different grading system. Grade is defined by the average particle size in microns and begins with “A”.
- The table below shows the abrasive grade comparison to conventional abrasive grades. The lower the A-grade, the finer the grade.

| 3M™ Trizact™ grade | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A5 | | A6 | A10 | A16 | A20 | | A30 | A40 | A45 | A60 | | A65 | A80 | A90 | A110 | A130 | A160 | | A300 |
| **P-grade (FEPA)** | | | | | | | | | | | | | | | | | | | |
| | P2500 | P2000 | P1500 | P1200 | P1000 | P800 | P600 | P500 | P400 | P360 | P320 | P280 | P240 | P220 | P180 | P150 | P120 | P100 | P80 |



*Not all grades are available in the Core Belt Range.

## 3M™ Trizact™ 337DC Abrasive Belt

- Aluminium oxide
- Works well under medium pressure conditions creating a uniform, reproducible surface with fewer rejects on most metals
- Trizact™-Brick for intermediate scratch refinement to create a uniform and consistent finish throughout the entire life of the belt
- X-weight cotton cloth backing. Suitable for dry applications
- Available in grades: A300 to A30*

## 3M™ Trizact™ 363FC Abrasive Belt

- Aluminium oxide
- Excellent in medium pressure on carbon steel, stainless steel, nickel alloys and zirconium applications
- Trizact™-Hexagon durable bond allows for consistent fast sanding throughout the entire life of the belt
- YF-weight backing. Suitable for wet and dry applications
- Available in grades A300 to A45*

# Belt application guide

| | Substrate | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Aluminium/brass/bronze | | | | | | Carbon steel/cast iron | | | | | | Stainless steel | | | | | |
| **Machines*** | Robotics | Backstand | Centreless/ throughfeed | Portable belt | Wide belt | Stroke sander | Robotics | Backstand | Centreless/ throughfeed | Portable belt | Wide belt | Stroke sander | Robotics | Backstand | Centreless/ throughfeed | Portable belt | Wide belt | Stroke sander |
| |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **Application** | | | | | | | | | | | | | | | | | | |
| Gate removal/ heavy deflashing | 994F 984F | 994F 984F | | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | | 984F 784F | 984F 784F | 984F 784F |
| Scale removal | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F |
| Pipe notching | 984F 784F | 984F 784F | | 984F 784F | | | 984F 784F | 984F 784F | | 984F 784F | | | 984F 784F | 984F 784F | | 984F 784F | | |
| Weld grinding, corner radiusing | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 784F 947A | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 784F 947A | 984F 784F | 984F 784F |
| Bevelling | 984F 784F | 984F 784F | | 984F 784F | | | 984F 784F | 984F 784F | | 984F 784F | | | 984F 784F | 984F 784F | | 984F 784F | | |
| Tube deburring | 984F 784F | 984F 784F | 984F 784F | 984F 784F | | | 984F 784F | 984F 784F | 984F 784F | 784F 947A | | | 984F 784F | 984F 784F | 984F 784F | 784F 947A | | |
| Forging skin/casting skin/ coating/defect removal | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 784F 337DC | 784F 337DC | 784F 347FC | 947A 337DC | 784F 337DC | 784F 337DC | 784F 337DC | 784F 337DC | 784F 347FC | 947A 337DC | 784F 337DC | 784F 337DC |
| Milling line/ scratch refinement | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 784F 337DC | 784F 337DC | 784F 347FC | 947A 337DC | 784F 337DC | 784F 337DC | 784F 337DC | 784F 337DC | 784F 347FC | 947A 337DC | 784F 337DC | 784F 337DC |
| Die line removal | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 784F 947A | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 784F 947A | 984F 784F | 984F 784F |
| Sheet metal deburring | 984F 784F | 984F 784F | | 984F 784F | 984F 784F | 984F 784F | 984F 784F | 984F 784F | | 784F 947A | 984F 784F | 984F 784F | 984F 784F | 984F 784F | | 784F 947A | 984F 784F | 984F 784F |
| Intermediate finishing/blending | 947A 237AA | 784F 337DC | 784F 347FC | 784F 337DC | 784F 337DC | 784F 337DC | 947A 237AA | 784F 337DC | 784F 347FC | 784F 337DC | 784F 337DC | 784F 337DC | 947A 237AA | 784F 337DC | 784F 347FC | 784F 337DC | 784F 337DC | 784F 337DC |
| Satin finishing/blending | DF-BL SC-BL | DF-BL SC-BL | DF-BL SC-BL | DF-BL SC-BS/F* | DF-BL SC-BL | DF-BL SC-BL/F | DF-BL SC-BL | DF-BL SC-BL | DF-BL SC-BL | DF-BL SC-BS/F* | DF-BL SC-BL | DF-BL SC-BL/F | DF-BL SC-BL | DF-BL SC-BL | DF-BL SC-BL | DF-BL SC-BS/F* | DF-BL SC-BL | DF-BL SC-BL/F |
| Weld cleaning | DF-BL SC-BL | DF-BL SC-BL | DF-BL SC-BL | DF-BL SC-BS/F* | DF-BL SC-BL | DF-BL SC-BL/F | DF-BL SC-BL | DF-BL SC-BL | DF-BL SC-BL | DF-BL SC-BS/F* | DF-BL SC-BL | DF-BL SC-BL/F | DF-BL SC-BL | DF-BL SC-BL | DF-BL SC-BL | DF-BL SC-BS/F* | DF-BL SC-BL | DF-BL SC-BL/F |
| Fine/pre-plate/ pre-polish finishing | 307D 217EA | 307D 217EA | 347FC 253FA | 384F 237AA | 337DC 237AA | 337DC 237AA | 307D 307EA | 307D 237AA | 347FC 363FC | 337DC 237AA | 337DC 237AA | 337DC 237AA | 307D 307EA | 307D 237AA | 347FC 363FC | 337DC 237AA | 337DC 237AA | 337DC 237AA |
| General purpose | 384F | 384F | 384F | 384F | 384F | 384F | 384F | 384F | 384F | 384F | 384F | 384F | 384F | 384F | 384F | 384F | 384F | 384F |

* SC-BS for file belt sanders, and SC-BF for match and finish type machines

**Note 1:** Higher pressure option top, lower pressure bottom

**Note 2:** Higher pressure option may not be first choice. Choice of product determined by looking at conditions like force applied, size of defect, diameter of contact wheel etc.

**Note 3:** Not all applications are applicable to all the machines shown. Belt options shown for convenience.

**Note 4:** Not every application is necessarily best performed by a belt machine, but the best option is shown if a belt machine was used.

**Selection process:** Look at application and determine the process and machine to guide you to the right cell. Then consider the conditions to determine if the high pressure or low pressure option in the cell is the right choice.

## *Machines

**Robotics** = robot cells, automated systems and applications generally where more compliance/ flexibility might be needed like slack of belt

**Backstand** = backstands, upright linishers, flatbed linishers, pipe notchers, swing frame grinders, floor grinders, rapid grinding machines, edge bevellers, fixed tube finishers

**Centreless/ throughfeed** = centreless machines, throughfeed machines, roll grinders

**Portable belt** = file belt sanders, in line grainers, portable tube finishers, flexi-shaft machines

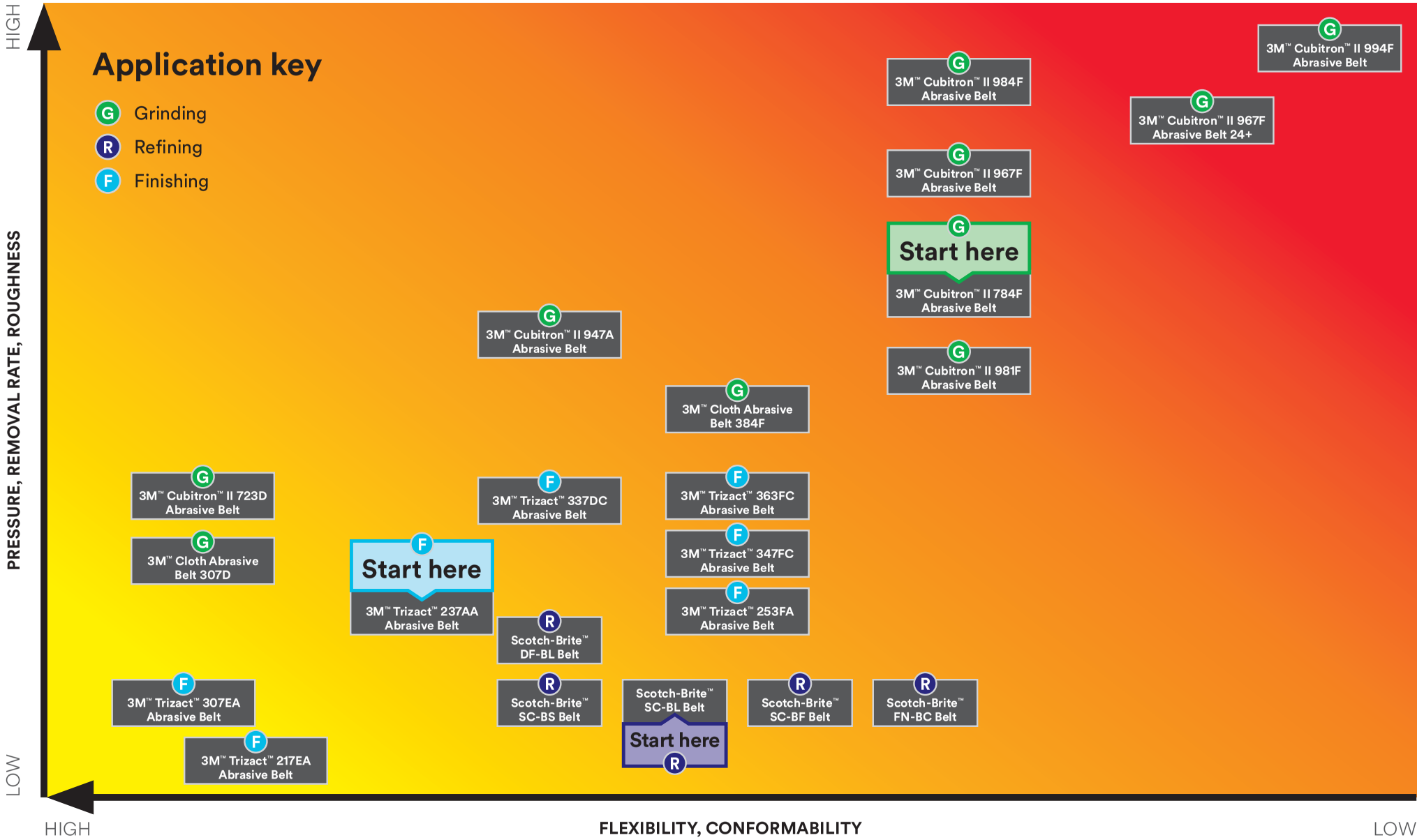
**Wide belt** = wide belt grinders/ sanders

**Stroke sander** = stroke sanders

# Belt selection guide

To help you select the right product for your application we recommend you begin with the below starting product:

G Grinding – 784F  R Refining – SC-BL  F Finishing – 237AA



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