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PGF-050-EN

3M Science. Applied to Life.™

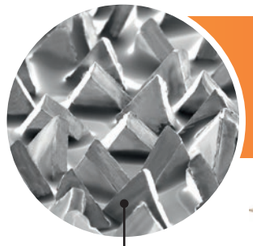
3M Precision Grinding & Finishing

Solutions for more precise and efficient grinding

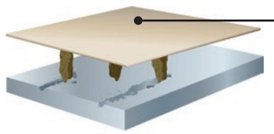
CUBITRON™ II

3M™ Precision-Shaped Grain. Turns grinding laws upside down.

3M™ Cubitron™ II vitrified wheels are comprised of precisely shaped triangles made of ceramic aluminum oxide. These self-sharpening triangles cleanly slice through metal like a knife. The ensuing heat is directly dissipated from the workpiece into the chip.



The triangular ceramic abrasive grains are easily detectable under a microscope. 3M capitalize Precision-Shaped Grain in Cubitron II vitrified wheels continuously fracture to form sharp points and edges-slicing cleaner and faster, staying cooler and lasting many times longer.



Conventional ceramic abrasive grain is irregular in shape. Instead of a clean, machining action, the grain “plows” through the metal, causing heat build up, slower cutting and shorter life.

Comprised of defined grain sizes.

The 3M™ Cubitron™ II wheels design permits transition from grinding to micro-milling. 3M Precision-Shaped Grain abrasive grains are the secret to outstanding removal rates. This technology sets new standards with the result that grains are not merely indicated as per FEPA (e.g. P60) but with a “plus” (e.g. 60+).

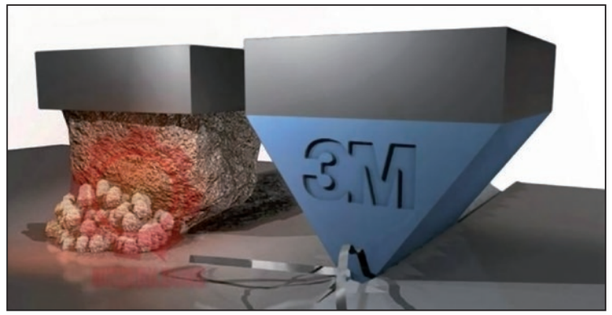
This “plus” raises expectations for cuts similar to conventionally grained abrasives albeit with a significantly higher removal rate. Each individual abrasive grain displays an identical, predefined shape thereby creating an exactly predetermined surface finish.

Features chip removing properties.

Thanks to its many small, perfectly geometrically formed cutting edges, the new wheel features chip removing properties, thereby bypassing the plowing typical of grinding in order to commence chip formation directly. During machining, this is visible in the form of long sparks formed by the glowing chips.

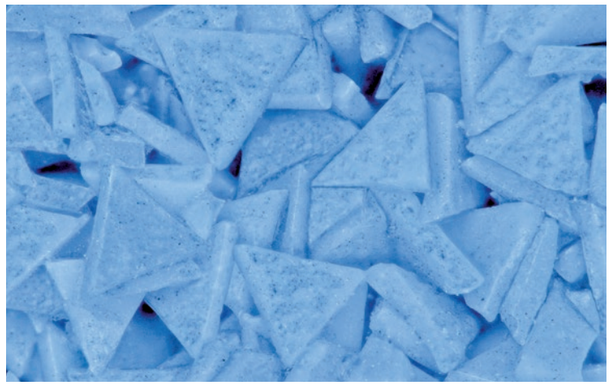
Significantly less thermal load is exerted on the workpiece surface.

As the chips immediately take away the heat arising during the grinding process, no thermal load is exerted on the workpiece surface by the grinding wheel.



Set new standards economic efficiency!

Thanks to its free-cutting properties and dimensional stability, up to 50 % faster grinding cycles and up to four times less dressing can be achieved. This high removal rate requires less overall energy. The abrasive chips are incurred as flow chips, facilitating filtration and increasing the coolant service life while preserving the machine.



Reliably constant surface quality!

None of these increases in productivity impair the surface quality in any way.