

For CVT Grooves / High Precision Electroplated Wheel Formaster Premium

Longer Tool Life for Hardened Steel Parts such as Gears

This CBN electro-deposited wheel has a long service life in the process of hardened steel components such as gears by improving form-stability.



Features

•The number of workpieces that can be machined can be increased while maintaining shape accuracy by making the abrasive grains tougher and stabilizing the amount of grain protrusion. (longer wheel life)

Applications

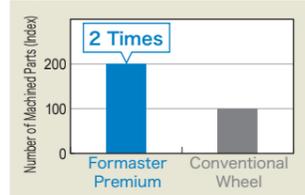
•High-precision Profile Machining of Hardened Steel Parts

Machining Examples

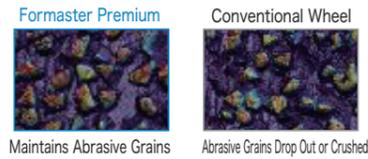
□Comparison of Life with Conventional Products

- 1) Wheel Specification Outer Diameter : $\Phi 44$
Shape: R groove
Grit Size : #170
- 2) Workpiece Hardened Steel
- 3) Machining Conditions Peripheral Speed : 40 m/s
D.O.C. : 0.15 mm
Feed Rate : 100 mm/min
- 4) Life Determination Surface Roughness : Rz >3.2 μm

Comparison of Tool Life with Conventional Wheel



[Results]



For Rubber Belts / PSL Wheel

Ideal for Materials that Tend to Cause Loading such as Rubber and Resin

It has high abrasive grain holding power, together with large abrasive grain protrusion amount and abrasive grain spacing, providing excellent sharpness and discharge performance of chips.



Features

•Ideal for machining that tends to cause loading due to deposition of chips such as rubber and resin.

Applications

•Machining of various automotive rubber belts

For Glass Beveling / Beveling Wheel

High Quality Surface

The employment of bond that has high grain holding power provides long-lasting sharpness to produce high quality surfaces.



Features

•High quality surface produced.
•Bonds are lined up to meet various machining conditions and workpieces.

Applications

•Beveling of automotive glass, ceramics and magnetic materials

For Finishing Various Holes / Super Sizing Reamer

Highly Precise Hole Finishing by 1 Pass

A high performance superabrasive reamer capable of finishing holes precisely by 1 pass.



Features

•Capable of 1 pass hole machining.
•High accuracy (roughness · roundness · cylindricity).
•Reduction of rolled edge around lubricant hole or keyway.
•Skill is not required.

Applications

•Hole finish machining of Automotive parts and Cast iron hydraulic component



Comparison of performance of Super Sizing with other hole finishing operations

Processing Method Performance	Super Sizing	Honing	Internal Grinding	Fine Boring Milling
Roundness, Cylindricity	Very Good	Very Good	Very Good	Average
Surface Roughness	Very Good	Very Good	Very Good	Average
Retention of Hole Diameter Dimension	Very Good	Average	Good	Poor
Finishing Efficiency	Very Good	Good	Average	Good
Finishing of Oil Holes, Notches, Holes with Keyway	Very Good	Average	Average	Poor
Finishing Long Holes Relative to Diameter	Very Good	Good	Poor	Average

Finishing Accuracy (Example: Stock Removal $\phi 0.03$ mm)

Roundness	0.002 mm or less
Cylindricity	0.002 mm or less
Surface Roughness ^①	Ry 2 μm or less
Hole Diameter	$\phi 4$ μm or less

Standard Manufacturable Range

Abrasive Grain	Diamond / CBN
Grit Size	#40~#270
Tool Diameter	$\phi 5\sim 50$ (Tolerance ± 0.002 mm)
Run-Out	0.005 mm or less

*JIS B0601-1994

For other specifications, please contact us.

Cam Grinding Wheel / VITMATE HIG Wheel

Highly Efficient Wheel for Processing with High Dressing Performance and Wear Resistance

The employment of the bond that has high grain holding force enables the properties of CBN grains to be utilized fully to achieve highly efficient grinding and significant tooling cost reduction.



Features

•This wheel has excellent cutting ability and dressing performance as well as high wear resistance to work best in grinding operations that require high accuracy.
•This bond has higher wear resistance to make this wheel ideal for grinding that requires high grinding accuracy.

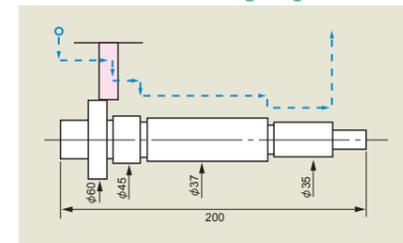
Applications

•Grinding of Cams, Crankshafts, Injection needles, Rocker arms, Turbo components, etc.

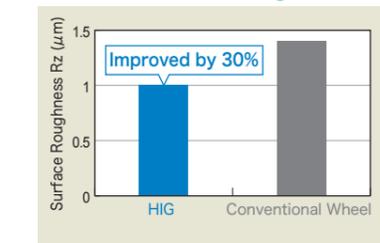
Machining Examples

- Sintered Alloy Machining Example
- 1) Machine High-Speed Cylindrical Grinder
- 2) Wheel Specification BN120M200VE2
- 3) Wheel Size $\phi 400 \times 10$ U
- 4) Workpiece SCM435 (HRC60)
- 5) Conditions Peripheral Speed : 160 m/s
D.O.C. : $\phi 0.2$ mm
- 6) Coolant Water-Soluble
- Feed Rate : 300 mm/min

Contour Grinding Diagram



[Results] Surface Roughness



Tool Cost

