

# PARADIGM®

## DIAMOND WHEELS FOR FLUTE GRINDING



Create the Perfect Flute on  
Carbide Round Tools

Paradigm wheels deliver the best grinding performance on carbide flute grinding, with the fastest cycle times and lowest cost per part.

### FEATURES & BENEFITS

- Truable online and offline for maximum productivity
- Wear and load resistance deliver superior grinding performance on tough-to-grind carbides with 6-12% cobalt content
- Better control over core growth
- High grain retention and uniform structure generate high G-ratio; up to 2.5 times longer life and 30% higher MRR than existing superabrasive wheels
- Low specific cutting energy promotes faster grinding with lower power draw and less burn

ONLINE TRUING & DRESSING CAPABILITY  
LOWER TOOLING COST | BETTER EDGE QUALITY

A **PARADIGM SHIFT** IN CUTTING TOOL MANUFACTURING™



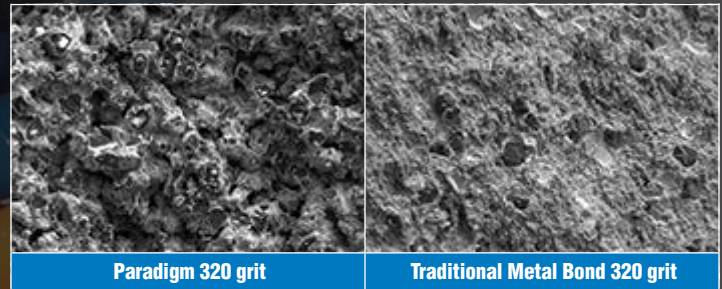
# PARADIGM<sup>®</sup>

## DIAMOND WHEELS FOR FLUTE GRINDING

### THE PARADIGM SHIFT

Increase productivity/decrease costs:

- Up to 46% porosity
- + > 2:1 diamond to bond ratio
- + Metal matrix forms an ionic bond with the diamond particles
- + Finer grits and more working particles with higher exposure
- = Lower cutting energies with highest quality part edges and finish



### MADE-TO-ORDER AVAILABILITY

All Norton Winter Paradigm diamond wheels are made to your precise requirements.

Available for Anca<sup>®</sup>, Makino<sup>®</sup>, Rollomatic<sup>®</sup>, Star<sup>®</sup>, Walter<sup>®</sup>, and other grinding systems. Paradigm wheels for flute grinding are available from 3" to 8" diameters and up to 1" thick in 1A1, 1B1, and 1F1 wheel shapes.

#### GENERAL APPLICATION PARAMETERS

Wheel Speed:	3,000-5,000 SFPM
Infeed Rate:	2" - 8" per minute
Depth of Cut:	Up to 0.220"
Coolant:	Oil or water soluble. Do not use perpendicular high-pressure (> 200 PSI) scrubber nozzle with Paradigm wheels

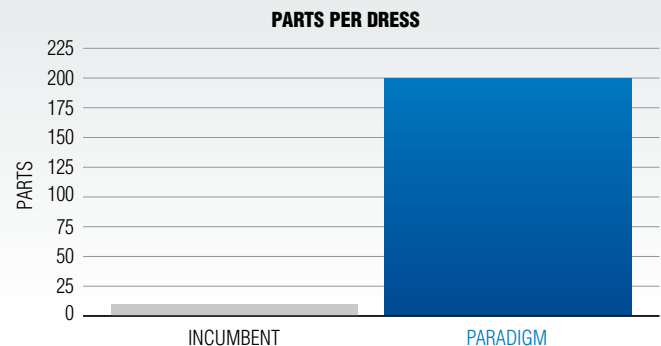
#### DIAMOND STARTING SPECIFICATIONS FOR CARBIDE AND CERAMICS

SD320-C176-P100C
SD320-D168-P100C
SD400-D168-P100C

Prior to order entry, please contact your Norton representative for specification recommendations to ensure maximum grinding performance, quotations, and current lead-times.

### Case Study – Tungsten Carbide

<i>APPLICATION:</i>	Grinding flutes on 1/2" end mills
<i>MACHINE:</i>	5-axis CNC grinder
<i>NORTON WINTER PRODUCT:</i>	1B1 wheel shape 7" x 3/16" x 50mm SD320-D168-P100C
<i>INCUMBENT PRODUCT:</i>	240 grit diamond wheel
<i>RESULTS:</i>	The Paradigm wheel drastically increased the parts-per-dress which positively improved part-to-part consistency and process Cpk



**BEST** – NORTON WINTER Paradigm

**BETTER** – NORTON WINTER G-Force

**GOOD** – NORTON WINTER B610 / B80

[www.facebook.com/NortonAbrasivesNA](http://www.facebook.com/NortonAbrasivesNA) | [www.youtube.com/NortonAbrasives](http://www.youtube.com/NortonAbrasives) | [www.nortonabrasives.com](http://www.nortonabrasives.com)

#### USA CUSTOMER SERVICE:

Toll Free Phone: 1 (800) 551-4413  
Toll Free Fax: 1 (800) 551-4416

#### CANADA CUSTOMER SERVICE:

Toll Free Phone: 1 (800) 263-6565  
Toll Free Fax: 1 (800) 561-9490

**FORM #8322** REV. 08/18

© Saint-Gobain August 2018.

Norton, Norton Winger, G-Force, and Paradigm are registered trademarks; A Paradigm Shift in Cutting Tool Manufacturing is a trademark of Saint-Gobain Abrasives.

All other trademarks are property of their respective holders.

**NO-RISK TEST**

