



ROUND TOOL GRINDING

DIAMOND WHEELS  
FOR FLUTE GRINDING

# Create the Perfect Flute on Carbide Round Tools

NEW 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™



SCAN THIS QR CODE WITH  
YOUR SMARTPHONE TO SEE  
A DEMONSTRATION VIDEO

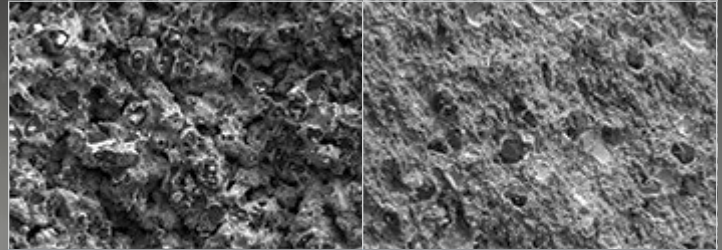


**NORTON**

SAINT-GOBAIN

**PARADIGM**<sup>®</sup>

# DIAMOND WHEELS FOR FLUTE GRINDING



Norton Paradigm 320 grit

Traditional Metal Bond 320 grit

## 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 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. Norton Paradigm wheels for flute grinding are available from 3" to 8" diameters and up to 3/4" thick in 1A1, 1B1, and 1F1 wheel shapes.

#### GENERAL APPLICATION PARAMETERS

Wheel Speed:	3,000-5,000 SFPM
Infeed Rate:	2" – 6" 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

SD220-D168-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

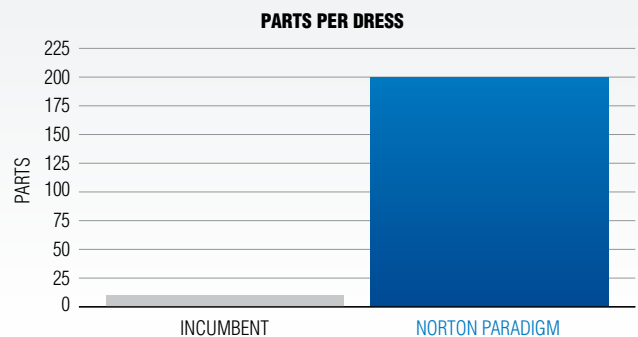
**APPLICATION:** Grinding flutes on 1/2" end mills

**MACHINE:** 5-axis CNC grinder

**NORTON PRODUCT:** 1B1 wheel shape  
7" x 3/16" x 50mm  
SD320-D168-P100C

**INCUMBENT PRODUCT:** 240 grit diamond wheel

**RESULTS:** The Norton Paradigm wheel drastically increased the parts-per-dress which positively improved part-to-part consistency and process Cpk

**BEST**

NORTON Paradigm

**BETTER**

NORTON G-Force

**GOOD**

NORTON B610 / B80

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