

PARADIGM®

DIAMOND WHEELS FOR INSERT TOP AND BOTTOM GRINDING



Max Out Machine Throughput
with Paradigm Wheels

Norton Winter Paradigm wheels for carbide and ceramic insert top and bottom grinding deliver up to 5X the throughput of competitive diamond wheels – on your existing machinery.

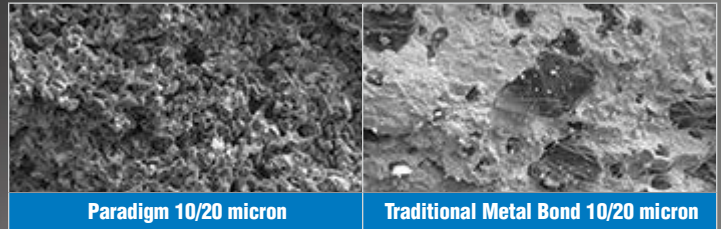
FEATURES & BENEFITS

- Fine grit diamond availability for excellent finish while retaining high material removal rates
- Medium diamond concentration ensures free cutting with good form holding
- Natural porosity increases chip clearance and coolant penetration for higher removal rates and better part quality
- Low specific cutting energy produces higher machine throughput and cooler parts
- Truable bond technology reduces set-up time without sacrificing wheel life

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

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





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.

Paradigm wheels for insert top and bottom grinding are available for all common machine wheel sizes in 2A2 wheel shape.

GENERAL APPLICATION PARAMETERS

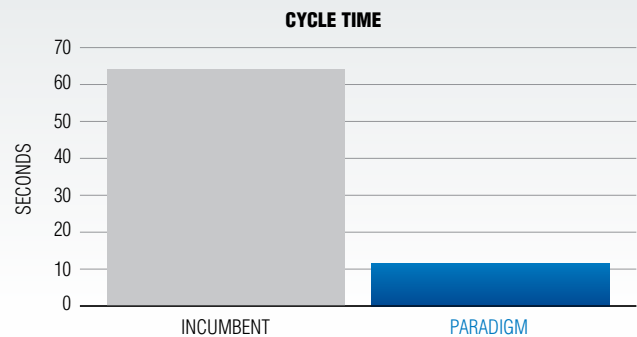
Wheel Speed:	3,500-6,000 SFPM
Infeed Rate:	Up to 0.300" per minute
Oscillation Rate:	Up to 60 hertz
Stock Removal:	Up to 0.200"
Truing/Dressing Parameters:	Dresser and Paradigm wheel surface velocity ratio = approximately 3:1, infeed 0.0005" or less, plunge at 0.025" per minute. Use 220 grit or finer silicon carbide or aluminum oxide H grade or softer truing wheel.
Coolant:	Straight oil

DIAMOND STARTING SPECIFICATIONS FOR CARBIDE AND CERAMICS

DES30/40MIC-E64-P131C	Fastest cycle times for components under 1/2"
DES30/40MIC-E80-P131C	Fast cycle times with good form holding
DES20/30MIC-E96-P131C	Best life and form holding

Case Study – Carbide

<i>APPLICATION:</i>	Insert top and bottom grinding of large carbide squares
<i>MACHINE:</i>	Large diameter CNC insert top and bottom grinder
<i>NORTON WINTER PRODUCT:</i>	2A2TSSA wheel shape 19.685" x 1.575" x 14.980" Paradigm DES30/40MIC-E64-P131C
<i>INCUMBENT PRODUCT:</i>	150 grit diamond resin bond
<i>RESULTS:</i>	The Paradigm wheel reduced cycle time by a factor of 5 and eliminated heat-damage issues on the parts



BEST – NORTON WINTER Paradigm | **BETTER** – NORTON WINTER G-Force and Series 700 | **GOOD** – NORTON WINTER B80 / B610 / B90

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NO-RISK TEST

