NORTON®

SAINT-GOBAIN

Reshaping your world®

Diamond Rotary Dresser

Norton Diamond Tools for dressing grinding wheels

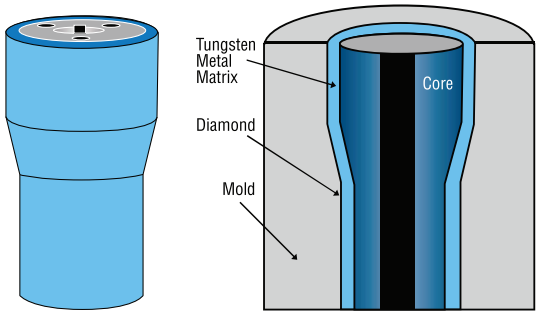
SAINT-GOBAIN

FEATURES & BENEFITS

- Dressing of complex, intricate forms (i.e. fuel injection, thread, and aerospace root and tree forms) at realistic, low cost
- The controlled exposure of the diamond matrix, in a precise profile, creates a more free-cutting dressing roll, increases cutting speeds, and ensures smoother contact between diamond and wheel face
- Improved chip clearance promotes better grinding wheel swarf removal
- Decreased grinding power during material removal
- Decreased normal forces during dressing results in reduced vibration, improved size-holding, and improved finished part quality
- Uniformly distributed, high diamond concentration extends diamond dressing roll form-holding and life
- The precise diamond profile needs little or no lapping; close tolerances are achieved “out of the mold” (±0.005mm / ±.0002")
- These sharp natural points provide a superior dressing action, resulting in an open grinding wheel and lower grinding forces

INFILTRATED DIAMOND FORM ROLLS

Each diamond is hand set and secured in place with a very tough tungsten/bronze matrix which allows for a wide range of customizable options (concentration, patterns, reinforcement, grit type, etc.). The toughness of the tungsten based matrix makes these diamond rolls ideal for aggressive and harsh environments.



INFILTRATED TECHNOLOGY

Strengths

- Rugged product can withstand rougher treatment
- Can be reconditioned (“relapped”) to extend life
- Broad size range offering (small and large)
- Can be customized (grit size, type, reinforcement, etc.)

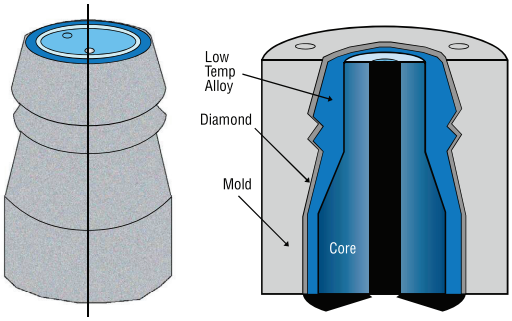
WHEN TO USE INFILTRATED FORM ROLLS

- Simple Profiles/Forms
- Short Runs- job shop applications
- Abusive operations or applications
- Geometries with thin, tall fins
- Customers with reconditioning programs
- Dry applications, or high heat (like with resin bond)

REVERSE-PLATED DIAMOND FORM ROLLS

Diamond is secured with an electroplated nickel matrix. Diamond is randomly distributed throughout the form roll, with a very high concentration. Because the precision of the diamond profile is designed into the manufacturing process, the diamond is not usually shaped or “lapped”. By not lapping the diamond, the sharp, natural points provide a good dressing action resulting in a open grinding wheel, lower grinding forces and thus a more accurate part. For profiles requiring extremely tight tolerances, lapped reverse-plated form rolls are also available.

This technology is very sensitive to heat and impact and must be used in highly controlled processes



REVERSE-PLATED TECHNOLOGY

Strengths

- Relative low cost for complex, intricate forms
- High diamond concentration extends form holding / life
- Close tolerances “out of the mold” (±0.005mm / ±.0002”)
- Sharper diamonds, with little or no lapping

WHEN TO USE REVERSE-PLATED FORM ROLLS

- Continuous Dress Creep Feed
- Complex forms
  - Fuel injection
  - Thread forms
  - Aerospace root / tree forms
- Long form life
  - Higher diamond concentration
- Most Bearing and Aerospace Customers
  - Exceptions for old equipment or unskilled work force

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