

Agglomerated and Sintered Tungsten Carbide, Nickel Powder

TeroJet[®] 55 590

HVOF Powder



COATING

- High bond strength on a wide variety of base metals
- Excellent resistance to abrasion
- Suitable for HVOF or Plasma Non-Transferred Arc applications
- Hard, dense coatings with excellent corrosion resistance
- Better corrosion resistance and toughness than tungsten carbide cobalt coatings



DESCRIPTION:

TeroJet 55 590 is an agglomerated and sintered Tungsten Carbide-Nickel powder designed specifically for thermal spraying. Optimum coating results will be achieved using HVOF.

The use of a nickel matrix improves corrosion resistance as compared to WC-12Co HVOF coatings. In addition, the absence of cobalt renders coatings of 55 590 suitable for selective nuclear applications. The HVOF coatings produced are hard, dense and will exhibit high bond strengths to a wide variety of base metals. Exceptional resistances to low stress abrasion, fretting wear and hard particle erosion can also be expected.

TECHNICAL DATA:

COATING PROPERTIES:

Micro Hardness: 1000-1200 DPH 100g
Hardness / R15N: 90-93 (HRC 59-67 converted)
Bond Strength: > 10,000 psi (ASTM C633)
Porosity: < 2%
Coating Density: 15.3 g/cc
Service Temperature: 900° F / 482° C (Max)
As-Sprayed Roughness: 175 micro-inches AA
As-Ground Roughness: < 10 micro-inches AA
As-Ground and Lapped: < 5 micro-inches AA
Wear Resistance: 9-11 x 10⁻³ mm³ Volume Loss
(ASTM G65, Sch. A)

POWDER PROPERTIES:

Chemistry/Matrix: Tungsten Carbide with Nickel matrix
Bulk Density: 4.0-4.4 g/cc

PROCEDURES FOR USE:

FINISHING PROCEDURE:

Coatings of 55 590 may be finished by grinding using diamond wheels or belts with flood coolant. Follow the tool manufacturer's recommendations for speeds and feeds.

TYPICAL APPLICATIONS:

- Knife Blades
- Oil Field Apparatus
- Pump Seals
- Turbine Components
- Exhaust Fan Blades
- Extrusion Dies
- Bearing and Splined Mandrels

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