Castolin Eutectic®
Eutectic Castolin

Agglomerated and Sintered
Tungsten Carbide, Cobalt
HVOF Thermal Spray Powder

TeroJet 55583

- High bond strength on a wide variety of base metals
- Very good abrasion resistance
- May be used on some non-HVOF application systems
- Hard, dense coatings with excellent resistance to fretting wear
- Excellent surface finish after grinding

TeroJet 55583

TeroJet 55583 is an agglomerated and sintered Tungsten Carbide-Cobalt powder designed specifically for application via thermal spraying. Optimum coating results will be achieved using HVOF. However, 55583 powder may also be applied using high energy, low velocity combustion or plasma NTA systems.

Each lot of powder is subjected to extensive quality checks to insure a consistent particle size distribution and chemical composition. The powder is essentially spherical in shape. 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 erosion can also be expected.

TECHNICAL DATA

Typical Values	
Microhardness:	1000 - 1200 DPH 100g
Hardness / R15N:	90-92 (HRC 59-65 converted)
Bond Strength:	>10,000 psi (ASTM C633)
Porosity:	< 2 %
Coating Density:	12.8 g/cc
Bulk Density:	4.0 - 4.4 g/cc
Service Temperature:	1020°F / 549°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: (ASTM G65, Sch. A)	10-12 x 10^{-3} mm^3 volume loss

Powder Properties:

Tungsten Carbide, Cobalt

PROCEDURE FOR USE:

Finishing Procedure

Coatings of TeroJet 55583 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

- Compressor Shafts
- Oil Field Apparatus
- Pump Seals
- Hydraulic Cylinders
- Induced Draft Fan Blades
- Compressor Rods

When applying 55583 powder via the HVOF process, respiratory, hearing and eye protection is required. For general guidelines consult AWS Publication C2.1-73 and AWS TSS-85, "Recommended Safe Practices for Thermal Spraying and AWS TSS-85, "Thermal Spraying, Practice, Theory and Application." Thermal spraying is a completely safe process when performed in accordance with proper safety measures. Become familiar with local safety regulations before starting spray operations. DO NOT operate your spraying equipment or use the spray material supplied, before you have thoroughly read the equipment instruction manual. Refer to the Eutectic web site for Material Safety Data Sheet (MSDS) information. DISREGARDING THESE INSTRUCTIONS MAY BE HAZARDOUS TO YOUR HEALTH.

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