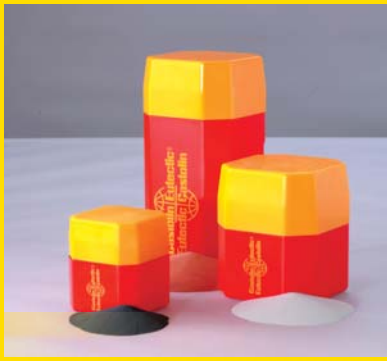
Tungsten Carbide, Cobalt and Chromium Alloy Specially Made for Thermal Spraying

# TeroJet® 55 586



## COATING

- Ideal for use with High Velocity Oxy-Fuel equipment
- High bond strength with a variety of base metals
- Exceptional resistances to low stress abrasion, fretting wear and erosion/corrosion
- Chromium content improves resistance to corrosion and increases thermal stability

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## DESCRIPTION:

TeroJet 55 586 is an agglomerated and sintered Tungsten Carbide-Cobalt-Chromium powder designed specifically for thermal spraying. Optimum coating results will be achieved via HVOF. However, 55 586 powder may also be applied using high energy, low velocity combustion or plasma NTA systems. 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/corrosion can be expected. Further, the addition of chromium to the matrix improves resistance to corrosion and increases thermal stability as compared to conventional WC-12Co or WC-17Co powders.

## TECHNICAL DATA:

### Powder Properties:

Nominal Composition: Tungsten Carbide
Cobalt
Chromium
Bulk Density: 4.5-5.5 g/cc

### Coating Properties:

Micro Hardness: 1000-1400 DPH 100g
Hardness / R15N: 90-93 (HRC 59-67 converted)
Bond Strength: >10,000 psi (ASTM C633)
Porosity: < 2 %
Coating Density: 14.0 g/cc
Service Temperature: 1148° F / 620° 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: 7-10 x $10^{-3}$ $mm^3$ Volume Loss
(ASTM G65, Sch. A)

*Photomicrograph shows a dense coating with a high volume percent of uniformly distributed, discreet tungsten carbide particles.*

## PROCEDURE FOR USE:

### Finishing Procedure:

Coatings of 55 586 may be finished by grinding using diamond wheels or belts with flood coolant. Follow the tool manufacturer's recommendations for speeds and feeds.

## APPLICATIONS:

- Compressor Shafts
- Oil Field Apparatus
- Pump Seals
- Impellers
- Induced Draft Fan Blades
- Paper Rolls
- Splined and bearing mandrels

## HEALTH & SAFETY:

When applying 55 586 powder via the HVOF process, respiratory, hearing and eye protection is required. Observe normal spraying practices, respiratory protection and proper air flow pattern advised. For general spray practices, see AWS Publications AWS C2. 1-73, "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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