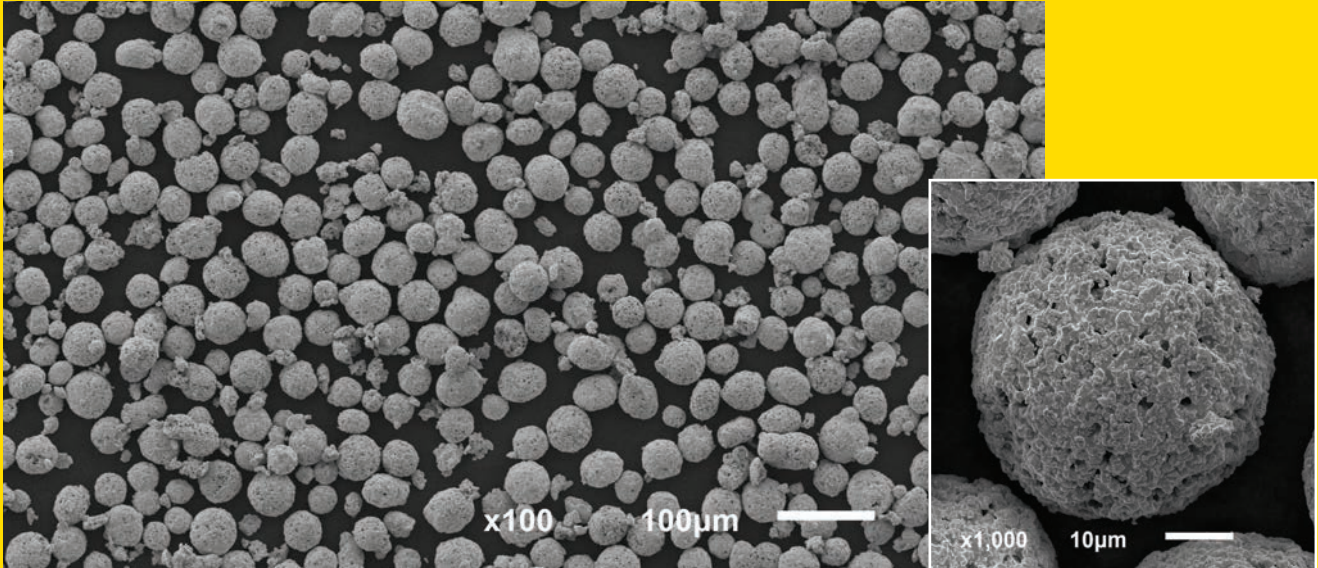


CastoJet® HVOF Powder

55588C

Tungsten carbide - 12% cobalt



- Enhanced wear resistance to abrasion erosion, friction and fretting
- Developed for use with the CastoJet CJK5 HVOF system
- Compatible with other HVOF systems
- Excellent bond strength on most metals
- Withstands service temperature up to 500°C

COATING

Description

55588C is a spherical powder manufactured by agglomerating and sintering a formulation of 88% tungsten carbide with 12 % cobalt by weight. It has been developed for spraying with the CastoJet CJK5 system which is a High Pressure HVOF using kerosene as liquid fuel. 55588C powder is also suitable for other HVOF systems or plasma spraying. 55588C sprayed coatings are hard and dense with high bond strengths on a wide variety of metallic substrates. They resist exceptionally well to low stress abrasion, fretting wear and hard particle erosion for service temperatures up to 500°C.

Technical Data

Typical Coating Properties

Micro hardness: ~1200 HV0.3

Service temperature: max 500°C (930°F)

Bond strength (EN 582:1994): >70 MPa (>10,000 psi)

Deposition efficiency (EN ISO 17836:2004): ~ 54%

Porosity (image analysis): <0.5%

The above values depend on the spraying system and parameters used. Therefore measured coating properties may vary from above values.

Powder Properties

Nominal composition (weight %): 88% tungsten carbide, 12% cobalt

Nominal size distribution: -45 +15 microns

Apparent density: 5 g/cm³

Typical Applications

- Knife blades
- Oil and gas extraction parts
- Pump seals
- Capstans and pulleys
- Exhaust fan blades
- Extrusion dies
- Compressor rods

Procedures for use

Preparation

The substrate surface must be perfectly clean and free from all traces of residues or contaminants before being grit blasted.

Spray parameters

Typical spray parameters for the CastoJet® CJK5 that can be further optimised depending on the specific application:

- Gun barrel length: 200 mm
- Kerosene flow rate: 435 ml/min
- Oxygen flow rate: 900 NI/min
- Powder carrier gas flow rate: 9.6 NI/min of nitrogen
- Powder feed rate: 71.6 g/min (12.1 rpm)
- Chamber pressure: 7 bar
- Spray distance: 350 mm

For other HVOF and plasma systems, the spray parameters must be adapted according to the system used. Contact your Castolin Eutectic specialist.

Finishing Procedure

Due to high hardness characteristics, 55588C coatings are usually used as-sprayed without post machining. However grinding the coating to required surface finish specifications is possible using diamond wheels or belts with fluid coolant. Follow the tool manufacturer's recommendations for speeds and feeds.

Packaging and Storage

55588C powder is packed in sealed 5 kg wide neck MegaPak containers for optimum storage protection (part n°/ESC code 757476).

MegaPaks should be stored in a dry location and thoroughly shaken before use to homogenise the powder contents from possible sedimentary effects.

Health & Safety

Use the powder in accordance with its Material Safety Data Sheet (MSDS) instructions. MSDS for 55588C is available from the Castolin web site at www.castolin.com.

Your resource for protection, repair and joining solutions

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