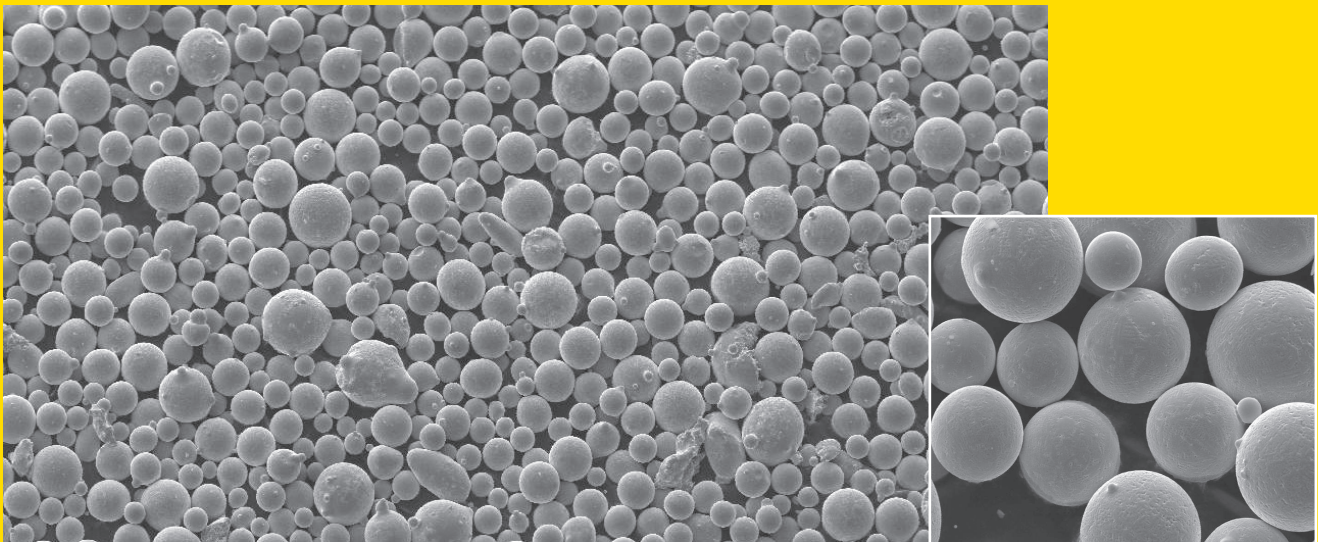


# CastoJet® HVOF Powder

## 55396C

Self-fluxing alloy – Nickel chromium silicon boron



- Dense coatings with excellent corrosion and good wear resistance
- May be used as sprayed or can be fused after spraying
- 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 800°C

COATING



## Description

55396C is mainly spherical powder manufactured by atomising a formulation of self-fluxing nickel based alloy. It has been developed for spraying with the CastoJet CJK5 system which is a High Pressure HVOF using kerosene as liquid fuel. 55396C powder is also suitable for other HVOF systems.

55396C sprayed coatings are dense and smooth with high bond strengths on a wide variety of metallic substrates. They resist exceptionally well to corrosion, low stress abrasion, fretting and particle erosion. It can be used for service temperatures up to 800°C.

## Technical Data

### Typical Coating Properties

Micro hardness: ~ 750 HV1

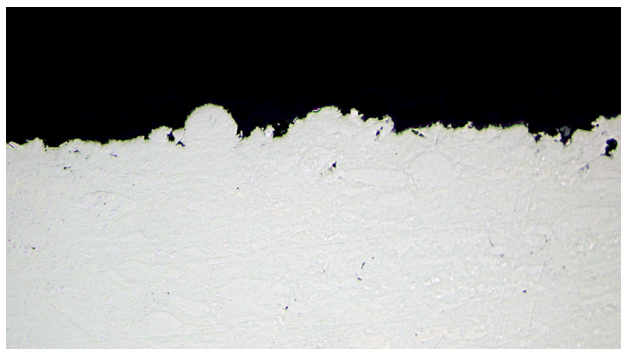
Service temperature: max 800°C (1470°F)

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

Deposition efficiency (EN ISO 17836:2004): ~ 56%

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 %):

Nickel, 16% chromium, 4.3% silicon, 3.4% boron

Nominal size distribution: -50 +25 microns

Apparent density: ~ 4.2 g/cm<sup>3</sup>

### Typical Applications

- Pump sleeves
- Pump screws
- Wear rings
- Pump seals
- Pusher rods
- Exhaust fans

- Capstan coiling drum
- Ball valve
- Run out table rollers
- Chrome plating replacement
- Buffering layer for HVOF carbides coatings

## 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:	100 mm
- Kerosene flow rate:	400 ml/min
- Oxygen flow rate:	800 NI/min
- Powder carrier gas flow rate:	8.5 NI/min of nitrogen
- Powder feed rate:	71.8 g/min (15.3 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

Good finish can be achieved with little coating removal. Finishing of 55396C coatings is preferred by grinding, e.g. using silicon carbide wheels with flood coolant or aluminum oxide wheels. Follow the tool manufacturer's recommendations for speeds and feeds.

## Packaging and Storage

55396C powder is packed in sealed 5 kg wide neck MegaPak containers for optimum storage protection (order n°/ESC code 757810).

MegaPak 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 55396C is available from the Castolin web site at [www.castolin.com](http://www.castolin.com).

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