

VDM® Powder 699 XA

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VDM® Powder 699 XA is the powder variant of a metal dusting corrosion and oxidation resistant alloy for use in additive manufacturing. This is achieved by high chromium and aluminum content.

VDM® Powder 699 XA is characterized by:

- Spherical particles
- High purity
- Low oxygen content
- High metal dusting corrosion and oxidation resistance
- Weldability under Argon

Designations (based on VDM® Alloy 699 XA)

| Standard | Material designation |
|----------|----------------------|
| EN | 2.4842 - NiCr30Al |
| UNS | N06699 |

Table 1 – Designations

Chemical composition

| | Ni | Cr | Al | Fe | Mn | Si | Ti | Nb | Cu | Zr | C | N | P | S | B |
|------|------|------|-----|-----|------|------|------|------|------|------|-------|------|------|------|-------|
| Min. | Bal. | 26.0 | 1.9 | | | | | | | | 0.005 | | | | |
| Max. | | 30.0 | 3.0 | 2.5 | 0.50 | 0.50 | 0.60 | 0.50 | 0.50 | 0.10 | 0.10 | 0.05 | 0.02 | 0.01 | 0.008 |

Table 2 – Chemical composition (%) according to UNS number N06699

VDM® Powder 699 XA contains low amounts of oxygen of up to 0.03 %.

Physical properties

| Density | Melting range |
|--|------------------|
| 8.0 g/cm ³ at 20 °C (68 °F) | 1,370-1,390 °C |
| 0.29 lb/in ³ at 68 °F | (2,498-2,534 °F) |

Microstructural properties

VDM® Powder 699 XA has an austenitic microstructure.

Corrosion resistance

As a result of the high chromium and aluminum content, conventionally manufactured VDM® Alloy 699 XA has very good metal dusting corrosion and oxidation resistance.

Applications

Due to its excellent metal dusting corrosion and oxidation resistance, VDM® Powder 699 XA is intended for the use in the petrochemical industry.

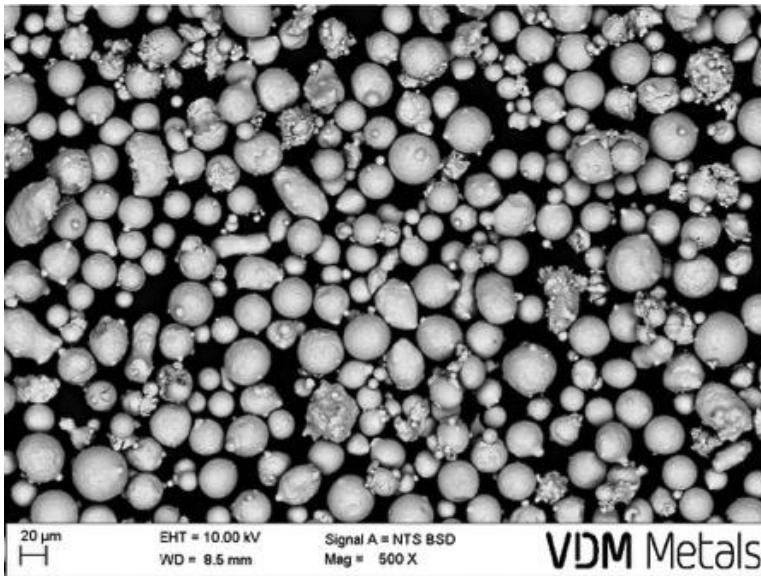
Availability

According to the AM process requirements of our customers, VDM® Powder 699 XA is available in a wide range of particle fractions from 15 to 250 µm.

Standard particle fractions

| Particle size distribution µm | Oxygen content % | Porosity < 10µ (pore area) % |
|----------------------------------|---------------------|---------------------------------|
| 15-53 | < 0.03 | < 0.5 |
| 53-150 | | |

Additional particle fractions are available on request. Please contact us.



The picture shows a typical micrograph of VDM® Powder 699 XA as an example.

Legal notice

23 November 2020

Publisher

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Disclaimer

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