

VDM® Powder CoCr MP1

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VDM® Powder CoCr MP1 is a non-magnetic cobalt-chrome-molybdenum-based superalloy for use in additive manufacturing.

VDM® Powder CoCr MP1 is characterized by:

- Spherical particles
- High purity
- Low oxygen content
- Good corrosion and temperature resistance
- Excellent wear resistance

Designations

Standard	Material designation
ISO	5832-12 / 5832-4
ASTM	F1537-11 / F75
UNS	R31538 / R30075

Table 1 – Designations

Chemical composition

	Co	Cr	Mo	Si	Mn	Fe	C	Ni
Min.	balance	26.0	5.0					
Max.		30.0	7.0	1.0	1.0	0.75	0.35	0.1

Table 2 – Chemical composition (%) according to UNS R31538 / R30075

VDM® Powder CoCr MP1 contains low amounts of oxygen of up to 0.03 %.

Physical properties

Density8.3 g/cm³ at 20 °C (68 °F)

Melting range1,350-1,430 °C (2,462-2,606 °F)

Corrosion resistance

As a result of the high chromium content, VDM® Powder CoCr MP1 has very good general corrosion and temperature resistance.

Applications

Due to its good corrosion, temperature and wear resistance, VDM® Powder CoCr MP1 is intended for the use as medical prosthetic implant like knee implants, metal-to-metal hip joints or dental prosthetics. Furthermore, it is appropriate for high-temperature engineering applications like aero- and land-based gas turbines as gas nozzles and vanes for industrial gas turbines.

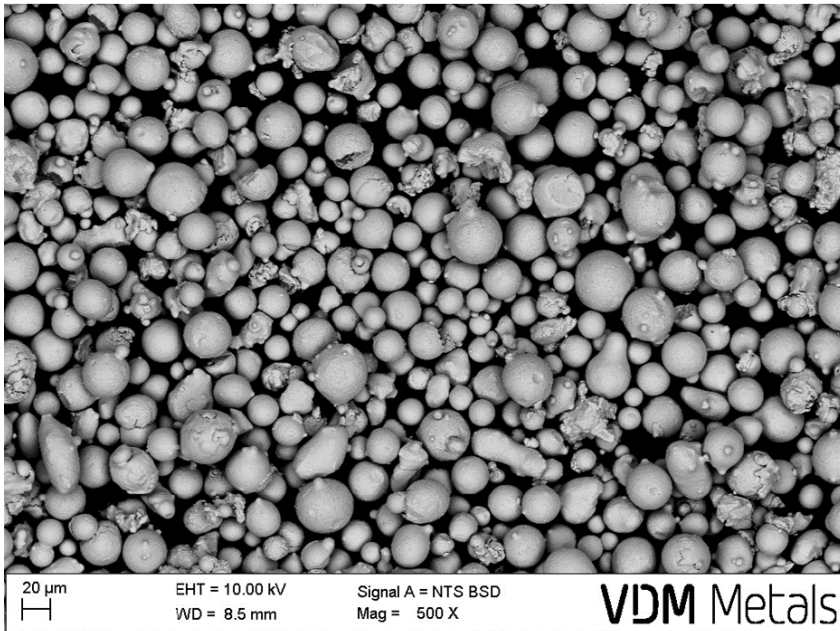
Availability

According to the AM process requirements of our customers, VDM® Powder CoCr MP1 is available in a wide range of particle fractions from 10 to 250 µm.

Standard particle fractions

Particle size distribution µm	Oxygen content %	Porosity < 10µ (pore area) %
10-53	< 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 CoCr MP1 as an example.

Legal notice

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VDM Metals International GmbH
Plettenberger Straße 2
58791 Werdohl
Germany

Disclaimer

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VDM Metals International GmbH
Plettenberger Strasse 2
58791 Werdohl
Germany

Phone +49 (0)2392 55 0
Fax +49 (0)2392 55 22 17
vdm@vdm-metals.com
www.vdm-metals.com