

# forAM<sup>®</sup> CoCrMo 15-45 VG

Advanced cobalt-based superalloy for Additive Manufacturing

**forAM CoCrMo VG** is a vacuum induction melted, gas atomized, and spherical powder for additive manufacturing. The alloy is a cobalt-chromiummolybdenum- based superalloy with excellent mechanical properties, wear and corrosion resistance, biocompatibility and a very high specific strength.

Typical applications of forAM CoCrMo are orthopaedic implants, dental implants and gas turbine components.

#### **Equivalent materials:**

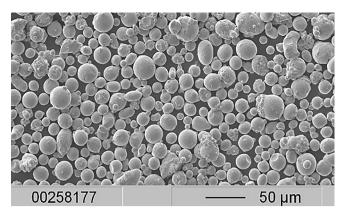
- >> ASTM F75
- >> UNS R30075
- >> ISO 5832-4
- ≫ 2.4979
- >> CoCr28Mo6

For more information on forAM product line and other of Höganäs products, please contact your local sales representative.

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#### **Powder properties**

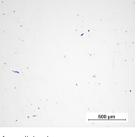
Chemical composition, (typical values)		
Element	Content, %	
Cr	28	
Мо	5.7	
C	<0.01	
Ni	< 0.04	
Co	Balance	



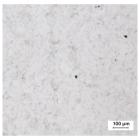
Typical powder properties				
Nominal particle range	15-45 µm (max 5% over and under size)	MPIF05, ASTM B214, ISO4497		
Hall flow	16 s/50 g	MPIF03, ASTM B213, ISO4490		
Apparent density	4.3 g/cm <sup>3</sup>	MPIF04, ASTM B212, ISO3923/1		

## **Mechanical properties**

Surface condition is machined		
Heat treatment	SR <sup>(1)</sup>	
Printed in Z-direction – Build direction		
UTS (MPa)	1,090	
YS (MPa)	570	
Elongation (%)	18	
IE Notch in Y direction (J)	33	







Stress	Relieved (1)

Heat treatment	SR <sup>(1)</sup>	
Printed in X/Y-direction – Perpendicular		
UTS (MPa)	1,190	
YS (MPa)	600	
Elongation (%)	23	
IE Notch in Z direction (J)	37	
Hardness (HRC)	37	

(1) Stress relieved at 1,150 °C in Ar for 6h

### Standard packaging:

30 kg (6x5 kg, 2.5 L PE bottles packed in cardboard box (Other tailored particle sizes and packaging are available under conditions)

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At Höganäs, we have designed our high-quality 3D printing metal powders for the special requirements of additive manufacturing. Manufacturers all over the globe achieve optimal results with our products and value them for the following characteristics: excellent flowability, good spherical shape, controlled oxygen and nitrogen content, full and high packing density and perfect reproducibility.