

forAM[®] HX 15-45 VG

Advanced nickel superalloy for Additive Manufacturing

forAM HX VG is a vacuum induction melted, argon gas atomized, and spherical powder for additive manufacturing. The alloy is a Nickel-Chromium-Iron-Molybdenum based superalloy. Its exceptional corrosion resistance up to 1,200 °C, high strength over a wide temperature range, and the excellent fabricability make the forAM HX VG first choice for the chemical processing field, aerospace, and gas turbine engines.

Typical applications are, gas turbine engine components, aircraft parts, industrial furnace systems, nuclear engineering, chemical process applications, petrochemical process equipment. Equivalent materials: ≫ 2.4665 ≫ UNS N06002 ≫ ASTM B435

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	22	
Fe	18	
Мо	9	
Co	1.5	
w	0.7	
С	0.07	
Ni	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	4.1 g/cm ³	MPIF04, ASTM B212, ISO3923/1		

Mechanical properties

Surface condition is machined		
Heat treatment	As printed ⁽¹⁾	
Printed in Z-direction – Build direction		
UTS (MPa)	695	
YS (MPa)	530	
Elongation (%)	40	

Heat treatment	As printed ⁽¹⁾		
Printed in X/Y-direction – Perpendicular			
UTS (MPa)	840		
YS (MPa)	650		
Elongation (%)	28		



As polished



As Printed – Build direction

(1) No heat treatment

Standard packaging:

30 kg (6x5 kg, 2.5 L PE bottles packed in cardboard box)200 kg / 500 kg Flexbag(Other tailored particle sizes and packaging are available under conditions)

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www.hoganas.com

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.