

forAM® 316L 20-53 GA

Austenitic stainless steel powder for Additive Manufacturing

forAM 316L GA is a nitrogen gas atomized, good flowable spherical powder for additive manufacturing. It is a general-purpose stainless steel with good resistance to atmospheric corrosion and many organic and inorganic chemicals. This material withstand the normal corrosive attack of the everyday environment that people experience.

Equivalent materials:

- >> X2CrNiMo17-12-2
- >> X2CrNiMo17-12-3
- ≫ 1.4404
- >> AISI 316L

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



Powder properties

Chemical composition, (typical values)				
Element	Content, %			
Cr	17			
Ni	12			
Мо	2.5			
Mn	1.5			
Si	0.8			
С	0.01			
0	0.06			
Fe	Balance			



Typical powder properties	
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Nominal particle range	20-53 µm (max 5% over and under size)	MPIF05, ASTM B214, ISO4497
Hall flow	15 s/50 g	MPIF03, ASTM B213, ISO4490
Apparent density	4.1 g/cm ³	MPIF04, ASTM B212, ISO3923/1
Tap density	5.0 g/cm ³	ASTM B527, DIN3953, ISO3953

Mechanical properties

Surface condition is machined				
Heat treatment	SR ⁽¹⁾	SA ⁽²⁾		
Printed in Z-direction – Build direction				
UTS (MPa)	595	530		
YS (MPa)	505	345		
Elongation (%)	45	55		
IE Notch in Y direction (J)	145			

Heat treatment	SR ⁽¹⁾	SA ⁽²⁾		
Printed in X/Y-direction – Perpendicular				
UTS (MPa)	690			
YS (MPa)	560			
Elongation (%)	32			
IE Notch in Z direction (J)	150			
Hardness (HV10)	225			

(1) Stress relieved at 300 °C in air for 1 h

(2) Solution Annealed at 1,050 °C in Ar followed by oil quench

Standard packaging:

20 kg (4x5 kg, 1 L PE bottles packed in cardboard box) 25 kg metal drums 200 kg flexbag (Other tailored particle sizes, and packaging eg. 500 kg flexbag, are available under conditions)





As polished

As Printed – Build direction

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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.