



## forAM<sup>®</sup> 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.

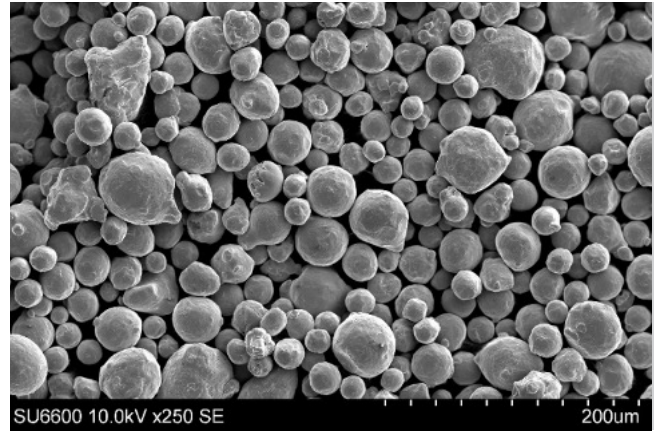
### Equivalent materials:

- » 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

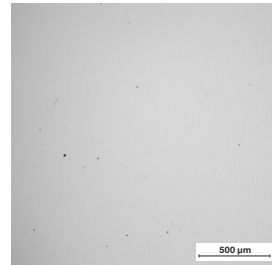
Chemical composition, (typical values)	
Element	Content, %
Cr	17
Ni	12
Mo	2.5
Mn	1.5
Si	0.8
C	0.01
O	0.06
Fe	Balance



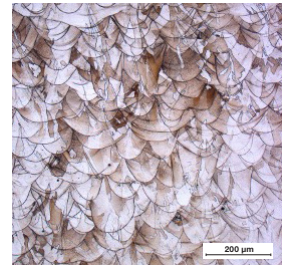
Typical powder properties		
Nominal particle range	20-53 µm (max 5% over and under size)	MPIF05, ASTM B214, ISO4497
Hall flow	15 s/50 g	MPIF03, ASTM B213, ISO4490
Apparent density	4.1 g/cm <sup>3</sup>	MPIF04, ASTM B212, ISO3923/1
Tap density	5.0 g/cm <sup>3</sup>	ASTM B527, DIN3953, ISO3953

## Mechanical properties

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



As polished



As Printed – Build direction

Heat treatment	SR <sup>(1)</sup>	SA <sup>(2)</sup>
<b>Printed in X/Y-direction – Perpendicular</b>		
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)