

# forAM<sup>®</sup> 316L 15-45 VG

Austenitic stainless steel powder for additive manufacturing

**forAM 316L VG** is a vacuum induction melted, argon gas atomized, and spherical powder for additive manufacturing. It is a general-purpose stainless steel alloy with good resistance to atmospheric corrosion and many organic and inorganic chemicals.

The 316L alloy withstands 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	17.5		
Ni	12		
Мо	2.2		
Mn	1.5		
Si	0.2		
Fe	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	4.0 g/cm <sup>3</sup>	MPIF04, ASTM B212, ISO3923/1			
Tap density	4.8 g/cm <sup>3</sup>	ASTM B527, DIN3953, ISO3953			

## **Mechanical properties**

Surface condition is machined				
Heat treatment	SR <sup>(1)</sup>	<b>SA</b> <sup>(2)</sup>		
Printed in Z-direction – Build direction				
UTS (MPa)	575	545		
<b>YS</b> (MPa)	425	325		
Elongation (%)	48	56		
IE Notch in Y direction (J)	145	160		



As Polished



As Printed – Build direction

Heat treatment	SR <sup>(1)</sup>	SA (2)		
Printed in X/Y-direction – Perpendicular				
UTS (MPa)	615	580		
<b>YS</b> (MPa)	475	335		
Elongation (%)	52	49		
IE Notch in Z direction (J)	150	195		
Hardness (HV10)	205	170		

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

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

### Standard packaging:

40 kg (4x10 kg, 3.6 L PE drums packed in cardboard box)

200 kg/500 kg Flexbag

(Other tailored particle sizes and packaging are available under conditions)

