



# Amperprint® 0717 316L

Austenitic stainless steel for laser powder bed fusion

## General material description

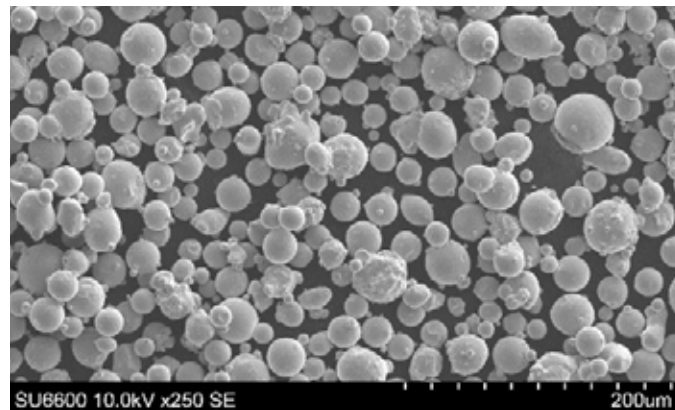
**Amperprint 0717** is a vacuum induction melted, argon gas atomized, and spherical powder for additive manufacturing. It is a general-purpose stainless steel alloy with good resistance to atmospheric corrosion and many organic and inorganic chemicals. The 316L alloy withstands the normal corrosive attack of the everyday environment that people experience.

## Equivalent materials:

- X2CrNiMo17-12-2
- X2CrNiMo17-12-3
- 1.4404
- AISI316L

**For more information on Amperprint and other Höganäs products, please contact your local sales representative.**

Chemical composition, % (typical values)	
Element	Content, %
Cr	17.5
Ni	12
Mo	2.5
Mn	1.5
Si	< 0.1
C	< 0.1
Fe	Balance

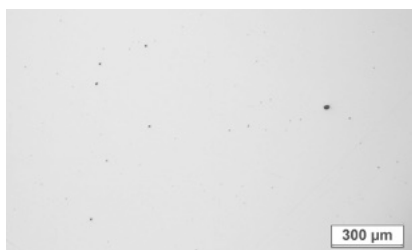


Typical powder properties		
Nominal particle range	15–45 µm (max 5% over- and undersize)	MPIF05, ASTM B214, ISO4497
Hall flow	17 s/50 g	MPIF03, ASTM B213, ISO4490
Apparent density	4.0 g/cc	MPIF04, ASTM B212, ISO3923/1
Tap density	4.9 g/cc	ASTM B527, DIN3953

Mechanical properties			
	As printed and stress relieved*	As printed and solution annealed**	Machined and stress relieved*
<b>Z-direction - Build direction</b>			
UTS (MPa)	510	480	525
YS (MPa)	415	300	430
Elongation (%)	52	62	53
<b>X/Y-direction – Perpendicular</b>			
UTS (MPa)			610
YS (MPa)			490
Elongation (%)			38

Machined and solution annealed*	
IE Notch in XY direction	190
IE Notch in Z direction	160
Hardness HV10	170

\* Stress relieve 300°, 1 hour, in air  
 \*\* Solution annealing: 1050–1080 °C, 1 hour under Ar, quench in oil to below 280 °C.



Non etched



Etched

Figure: As printed microstructure of stainless steel Amperprint® 0717

### 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)