Material data sheet: 316L

aidro
Desktop Metal Company

Manufacturing process: Metal Binder Jetting - Desktop Metal Shop System

Physical properties (±1σ)

	As sintered	HIP
Density[1] (g/cm³)	7.85 ± 0.051	7.952 (avg)

Mechanical properties (±1σ)

	As sintered	HIP
Yield strength Rp 0.2% (MPa):	168 ± 10	159 ± 4
Tensile strength Rm (MPa):	530 ± 14	519 ± 7
Elongation at break (%)	89 ± 9	98 ± 2

Geometrical data:

Layer thickness available	50 µm, 75 µm		
Typical part accuracy[2]	after first print	± 3%	Part accuracy is highly dependent on part design and is typically improved through the application development phase.
	after 2 to 3 iterations	± 1%	

Hardness	As sintered
Vickers Hardness (HV)	117 (avg)

Chemical analysis data (based on Aidro testing campaigns)

Condition	C	S	N	O	H	Al
AS SINTERED	0.040	0.005	<0.002	0.002	0.0001	0.04

Condition	Cr	P	Mn	Mo	Ni	Cu
AS SINTERED	16.30	0.038	1.08	2.12	10.62	0.34

Condition	Si	Ti	V
AS SINTERED	0.01	0.65	0.06

Notes:

[1] Archimede's density according to ASTM B311.

[2] Reference values only. In MBJ applications, part accuracy is improved through an iterative approach aiming at fine tuning scaling factors and calibrating distorsion compensation. Please reach to Aidro team to know more about part accuracy that can be reached via Metal Binder Jetting.

13/10/2023