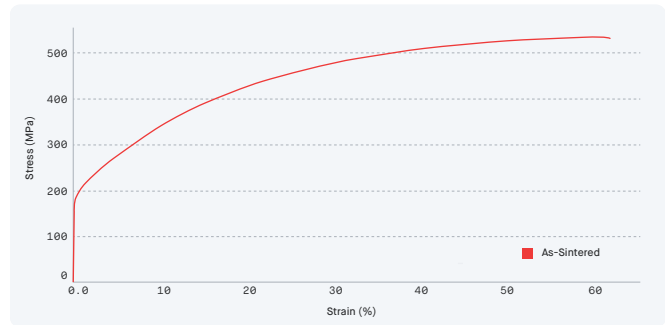
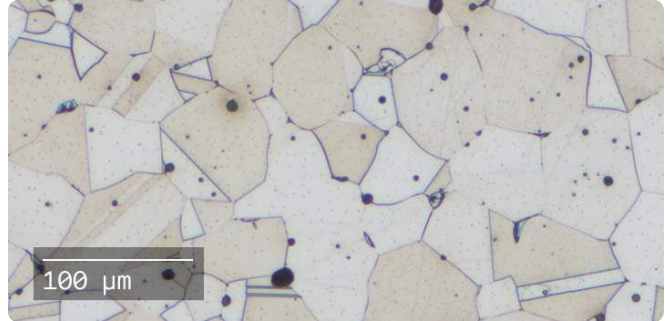


[Material Data Sheet]

316L Stainless Steel


COMPOSITION %

Fe	Balance
Cr	16-18
Ni	10-14
Mo	2-3
Mn	2 (max)
Si	1 (max)
C	0.045 (max)


MECHANICAL PROPERTIES *

Standard	Shop System™		ASTM B883 / MPIF 35 **	
	As-Sintered		As-Sintered	
Ultimate tensile strength - xy (MPa)	ASTM E8M	521 ± 28	450-520	
Yield strength - xy (MPa)	ASTM E8M	181 ± 5	140-175	
Elongation - xy (%)	ASTM E8M	59 ± 20	40-50	
Young's modulus - xy (GPa)	ASTM E111	183 ± 14	190 (typ)	
Unnotched Charpy impact energy - xy (J)	MPIF 59	208 ± 16	190 (typ)	
Hardness (HRB)	ASTM E18	63 ± 2	67 (typ)	
Density (g/cc)	ASTM B311	7.72 ± 0.1	7.6	

PERFORMANCE ***

Boil test (corrosion)	ASTM F1089	Pass	Pass
Copper sulfate test (corrosion)	ASTM F1089	Pass	Pass
Sulfuric acid test (corrosion)	MPIF 62	<0.005 g/dm ² /day	<0.005 g/dm ² /day

ATTRIBUTES & APPLICATIONS

Corrosion resistant Medical components for use in endoscopy & orthopedics

Structural components (e.g. housings & frames)

Jewelry & decorative items

Fluid transfer components (e.g. manifolds)

High temperature applications

OTHER STANDARD DESIGNATIONS ****

UNS S31673

EN 1.4404

* Mechanical properties noted represent mean values +/- 1 standard deviation across Xy & Yz orientations for as-printed samples.

** Per ASTM B883 - 19, Standard Specification for Metal Injection Molded (MIM) Materials and MPIF Standard 35, Materials Standards for Metal Injection Molded Parts (MPIF 35-MIM, 2018)

*** Prior to corrosion resistance testing, all test samples were hand ground to remove surface oxidation and passivated in accordance with ASTM A967

**** Listed designations are for reference purposes only. Composition and mechanical properties may vary.

End-use material performance is impacted (+/-) by certain factors including but not limited to part geometry and design, application and evaluation conditions, etc.