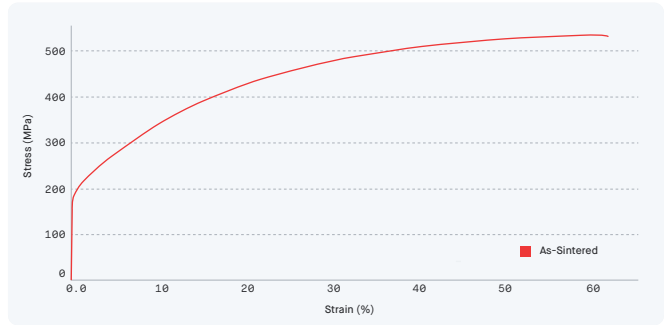


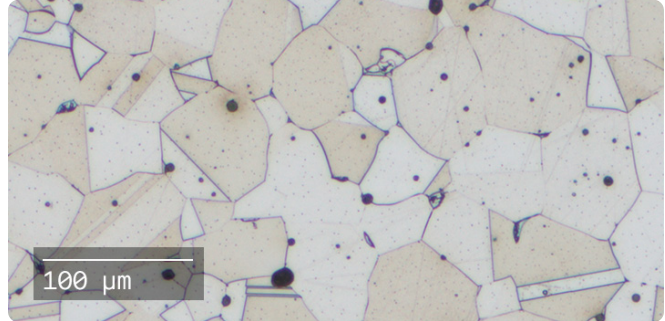
[Material Data Sheet]

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 ***

Standard	Shop System™	ASTM B883 / MPIF 35 **
Boil test (corrosion)	ASTM F1089	Pass
Copper sulfate test (corrosion)	ASTM F1089	Pass
Sulfuric acid test (corrosion)	MPIF 62	<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.