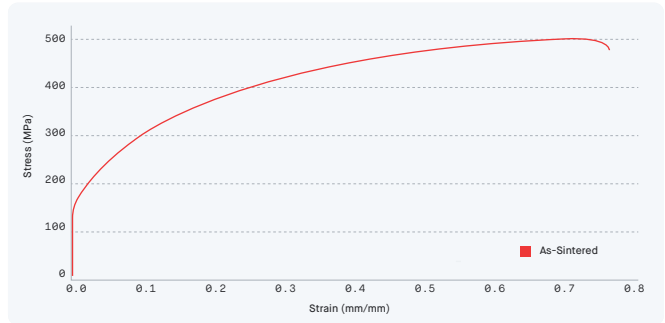


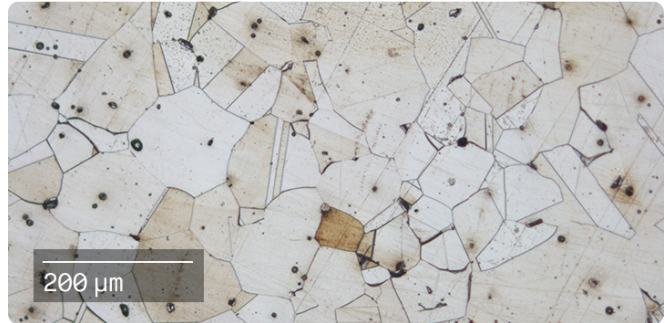
[Material Data Sheet]

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 ¹

Standard	Shop System™		ASTM B883 / MPIF 35 ²	
		As-Sintered		As-Sintered
Ultimate tensile strength - xy (MPa)	ASTM E8M	505 ± 16		450-520
Yield strength - xy (MPa)	ASTM E8M	150 ± 12		140-175
Elongation - xy (%)	ASTM E8M	76 ± 12		40-50
Young's modulus - xy (GPa)	ASTM E111	195 ± 4		—
Hardness (HRB)	ASTM E18	58 ± 2		67 (typ)
Density (g/cc)	ASTM B311	7.8 ± 0.1		7.6

PERFORMANCE ³

Standard	Shop System™	ASTM B883 / MPIF 35 ²
Boil test (corrosion)	ASTM F1089	Pass
Copper sulfate test (corrosion)	ASTM F1089	Pass
Sulfuric acid test (corrosion)	MPIF 62	<0.005 g/dm²/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 ⁴

- UNS S31673
- EN 1.4404

1. Mechanical properties noted represent mean values +/- 1 standard deviation across Xy & Yz orientations for as-printed samples.
 2. 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)
 3. Prior to corrosion resistance testing, all test samples were hand ground to remove surface oxidation and passivated in accordance with ASTM A967
 4. 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.