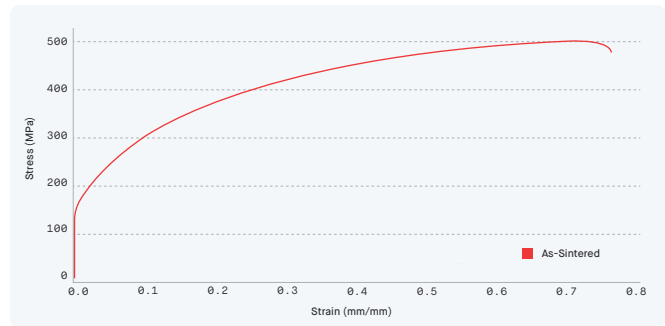
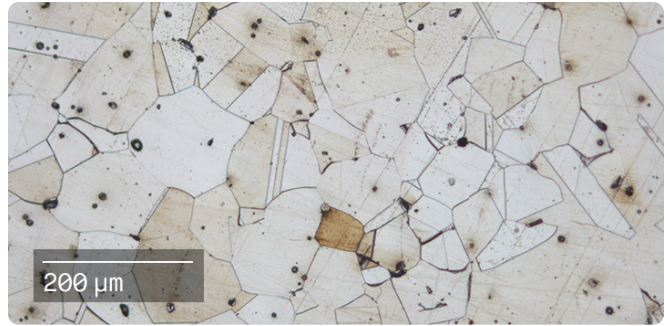


[Material Data Sheet]

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	190 (typ)
Unnotched Charpy impact energy - xy (J)	MPIF 59	191 ± 5	190 (typ)
Hardness (HRB)	ASTM E18	58 ± 2	67 (typ)
Density (g/cc)	ASTM B311	7.8 ± 0.1	7.6

PERFORMANCE ³

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 ⁴

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.