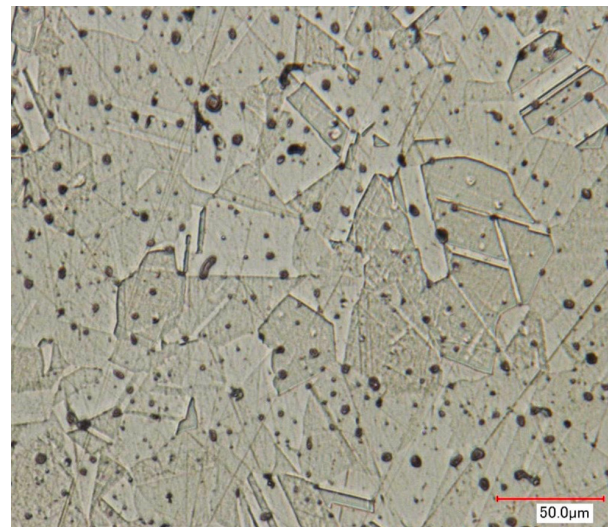
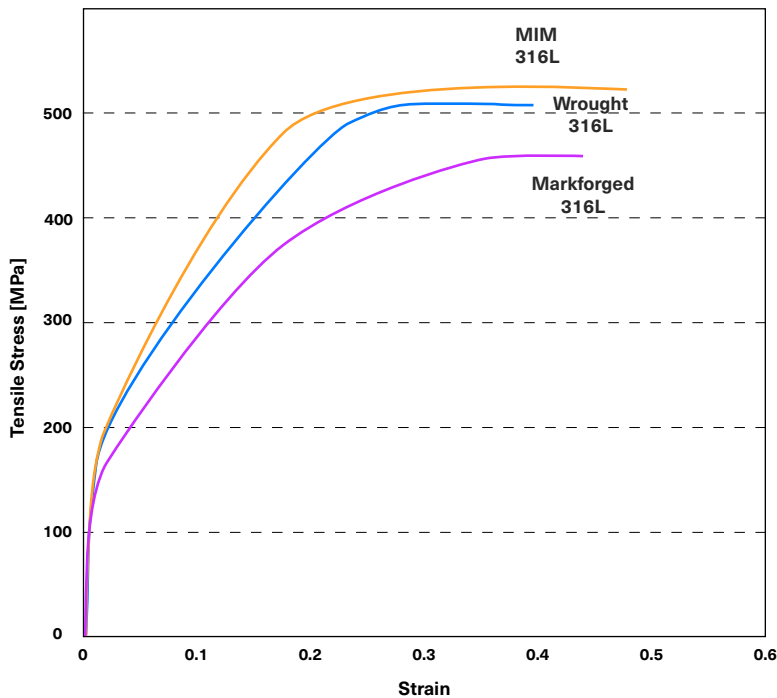


316L

STAINLESS STEEL

316L is an austenitic low-carbon stainless steel renowned for its excellent corrosion resistance and is widely used across manufacturing. Common applications include food and beverage manufacturing, automotive components, chemical and petrochemical processing, medical devices, and marine environments.



Markforged 316L

316L printed on FX10 and sintered in Sinter-2. As-sintered microstructure pictured.

Physical Properties	Test	Markforged 316L	MIM 316L	Wrought 316L
Ultimate tensile strength [MPa]	ASTM E8	465	520	485
0.2% Yield strength [MPa]	ASTM E8	170	175	170
Elongation at break [%]	ASTM E8	44	50	40
Hardness [HRB]	ASTM E18	57	67	95 (Max)
Corrosion	ASTM F1089	Pass	Pass	Pass
Relative density [%]	ASTM B923	95	95	100

Composition	Weight%
Iron	Balance
Carbon*	0.03 max
Chromium	16.0 - 18.0
Manganese	2.0 max
Silicon	1.0 max
Phosphorus	0.045 max
Sulfur	0.03 max
Nickel	10.0 - 14.0
Molybdenum	2.0 - 3.0

*Carbon composition tests were conducted by a 3rd party in accordance with ASTM E1019. For more information on as-sintered carbon composition, see Best Practices for Designing 316L Stainless Steel Parts.

Material performance and composition is impacted by certain factors including but not limited to part geometry. All tests and microstructure image were conducted by 3rd party. These representative data were tested, measured, or calculated using standard methods and are subject to change without notice. Markforged represent typical tested values of solid fill parts as sintered in Sinter-2, while MIM and Wrought represent typical reference values from MPIF Standard 35. Markforged makes no warranties of any kind, express or implied, including, but not limited to, the warranties of merchantability, fitness for a particular use, or warranty against patent infringement; and assumes no liability in connection with the use of this information. The data listed here should not be used to establish design, quality control, or specification limits, and are not intended to substitute for your own testing to determine suitability for your particular application. Nothing in this sheet is to be construed as a license to operate under or a recommendation to infringe upon any intellectual property right.