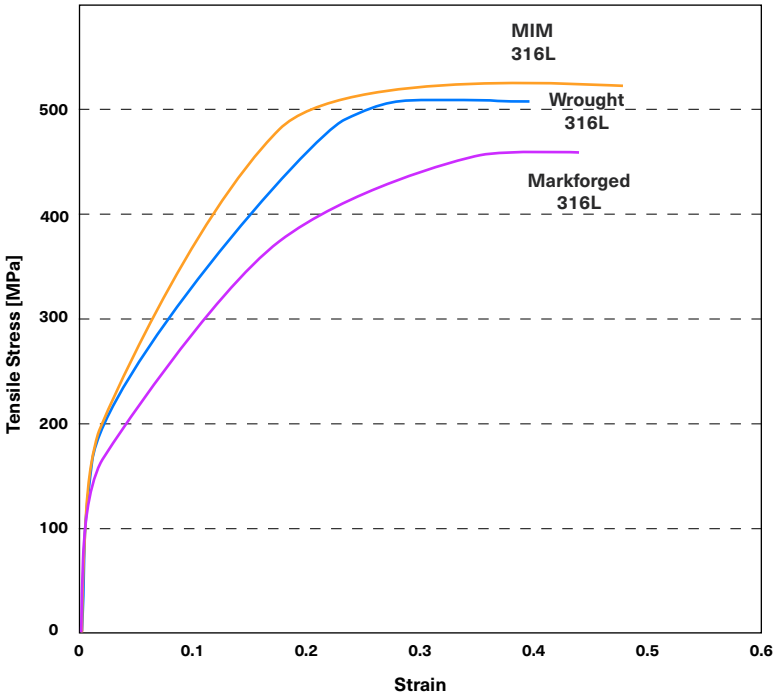
METAL MATERIAL DATASHEET

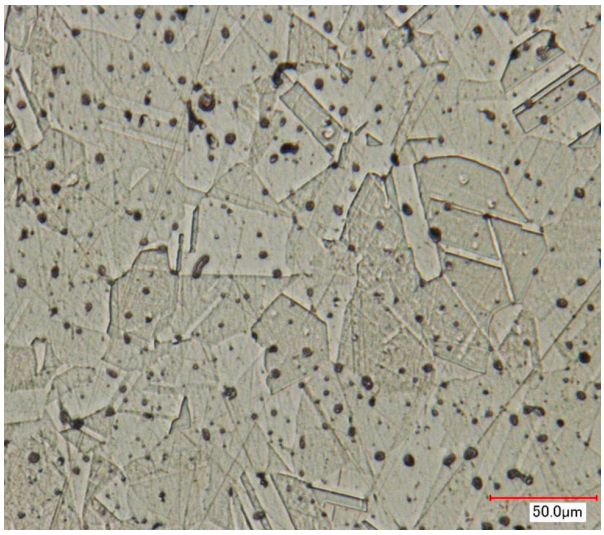
Markforged

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

*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.

J&TEK

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