

# MATERIALS COMPARISON - Technical Datasheet

## Metals



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	MATERIAL	TENSILE MODULUS	TENSILE STRENGTH	ELONGATION AT BREAK	MELTING POINT	YIELD STRENGTH	CHARPY IMPACT NOTCHED	HARDNESS	DENSITY	COMPOSITION
FDM	<a href="#">Ultrafuse® 316L</a>	-	XY: 561 MPa Z: 521 MPa	XY: 53% ZX: 36%	-	XY: 251 MPa Z: 234 MPa	111 J/cm2	XY: 128 HV10 Z: 128 HV10	7.85 g/cm³ (Sintered part)	-
DMLS / SLM	<a href="#">Aluminum AISi7Mg0.6</a>	73 ± 3 GPa	460 ± 20 MPa	XY: 9 ± 2% Z: 6 ± 2 %	630- 670°C	XY: 267 MPa Z: 364 MPa	-	-	-	Aluminum: >90% Silicon: 7% Magnesium: 0.6%
	<a href="#">Titanium 6Al-4V</a>	XY: 111 ± 20 GPa Z: 115 ± 20 GPa	XY: 1075 ± 30 MPa Z: 1080 ± 30 MPa	XY: 13 ± 3 % Z: 15 ± 4 %	1660°C	XY: 1000 ± 40 MPa Z: 1005 ± 40 MPa	-	-	4.41 g/cm³	Titanium: 88- 100% Aluminum: 5.5- 6.5% Vanadium: 3.5- 4.5%
	<a href="#">Stainless Steel 316L</a>	XY: 185 GPa Z: 180 GPa	XY: 640 ± 50 MPa Z: 540 ± 55 MPa	XY: 40 ± 15% Z: 50 ± 20%	1400°C	XY: 530 ± 60 MPa Z: 470 ± 90 MPa	-	89 HRB	7.9 g/cm3	Iron: 66- 70% Chrome: 16-18% Nickel: 11- 14% Molybdenum: 2- 3%
Binder Jetting	<a href="#">Steel/ Bronze 420SS/BR</a>	147 GPa	496 MPa	7%	800-850°C	427 MPa	-	93 HRB	7.86 g/cm3	Stainless Steel: Alloy 420 Bronze: 90% Cu, 10% Sn
	<a href="#">Stainless Steel 316</a>	XY: 220 GPa Z: 186 GPa	XY: 582 MPa Z: 526 MPa	XY: 55% Z: 52%	1371°C	XY: 224 MPa Z: 226 MPa	63 J	71 HRB	7.9 g/cc	Stainless Steel: >70% Nickel: 10% - 14% Chromium: 16 - 18%
Wax Casting	<a href="#">Bronze</a>	96- 120 GPa	70-800 MPa	0-70%	913°C	-	-	-	-	Copper: 90% Tin: 10%
	<a href="#">Brass</a>	111 GPa	250 MPa	30%	927°C	-	-	-	-	Copper: 80% Zinc: 15% Tin: 5%
	<a href="#">Sterling Silver</a>	75 GPa	385 MPa	5%	951°C	-	-	-	-	Pure silver: 92.5% Metal Alloy: 7.5%

All materials available at: [sculpteo.com](https://www.sculpteo.com)