

# High-quality 3D printed metals for DMLS (Laser Sintering)

## Overview

rapid prototype and manufacturing llc offers high quality printed parts using DMLS (laser sintering). A wide range of finish options are available, including heat treatment, post-machining and inspection for all materials listed below.

rp+m is AS9100:2016 Certified, ISO 9001:2015 Certified, Small Business Certified, and ITAR registered.



Material	Characteristics	Ultimate Tensile Strength (Mpa)	Yield Strength (Mpa)	Modulus of Elasticity (Gpa)	Hardness	Max Operating Temp
Stainless Steel (PH1)	Very high strength	1200 ± 50	930 ± 75	-	43 HRC	-
	Easily hardenable up to 45 HRC					
Stainless Steel (GP1)	Mechanical properties of 17-4	930 ± 50	586 ± 50	170 ± 30	20 HRC	550 °C
	Excellent ductility					
Stainless Steel (316 L)	Excellent corrosion resistance	640 ± 50	530 ± 60	185	10 HRC	870 °C
	High ductility					
Maraging Steel (MS1)	Hardenable up to 54 HRC	1200 ± 100	930 ± 150	150 ± 25	33 HRC	400 °C
	Good thermal conductivity					
Aluminum (AlSi10Mg)	Good strength and hardness	460 ± 20	270 ± 10	75 ± 10	68 HRC	-
	High dynamic properties					
Titanium Alloy (Ti-64)	High specific strength	1075	965	-	34 HRC	350 °C
	Corrosion resistant					
Titanium Alloy (Ti-64 ELI)	Low specific weight, biocompatible	1075	965	-	34 HRC	350 °C
	Corrosion resistant					
Cobalt Chrome (CoCrMo)	High strength, temp, corrosion resistant	1350 ± 100	1060 ± 100	220 ± 20	35-45 HRC	1150 °C
	Nickel free					
Nickel Alloy (IN718)	Heat, corrosion resistance	1060 ± 50	780 ± 50	160 ± 20	30 HRC	650 °C (under load)
	High performance at high temp					
	Oxidation resistant					

NOTE: Table represents data of as-built parts and reflects minimum values.

Let's talk.

Contact an rp+m professional today:  
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