

## MARAGING STEEL M300

### Description

Maraging steel M300 stands out as a remarkable material with unique characteristics. This alloy, predominantly composed of iron, nickel, and cobalt, exhibits a remarkable combination of strength, toughness, and corrosion resistance. M300 is renowned for its ability to be heat-treated to achieve impressive mechanical properties, making it suitable for demanding applications in aerospace, defense, and industrial sectors. Its exceptional resistance to wear and fatigue, coupled with the capability to produce intricate and precise designs through 3D metal printing, make it a preferred choice for critical components, such as aircraft parts and specialized tooling. Maraging steel M300 sets the benchmark for producing durable and high-performance functional parts in the world of advanced manufacturing.

### Benefits

- High Strength
- Heat-Treatable
- Corrosion Resistance
- Precision and Intricacy
- Customized Engineering
- Durability

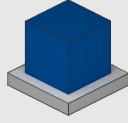
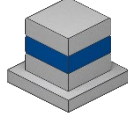
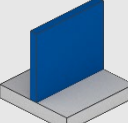
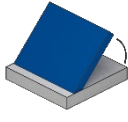
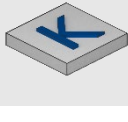
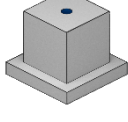
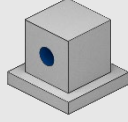

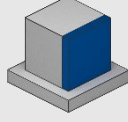
### Application

- Aerospace
- Military
- Automotive
- Tooling and Manufacturing
- Energy
- Medical

### Data sheet

	Units	Maraging steel M300	
		Performance	+Heat treatment
DIN	-	1.2709	-
Layer thickness	[ $\mu\text{m}$ ]	50	50
Density	$\text{g/cm}^3$	8.1	8.1
	%	>99.5	>99.5
Ultimate tensile Strength	MPa	1050	1900
Yield strength	MPa	1070	1800
Elongation at break	%	8	2
Youngs Modulus	GPa	210	180
<b>Hardness</b>			
Rockwell	HRC	35	55
Vickers	HV	330	650
<b>Roughness</b>			
As printed	Ra	10	10
After shot peening	Ra	4-10	4-10
After tumbling	Ra	2-4	2-4
Postprocessed	Ra	<0.5	<0.5

## Technical specifications

	Description		Performance	Speed
Maximum dimensions	Largest printable size		420 x 420 x 400 mm <sup>3</sup>	420 x 420 x 400 mm <sup>3</sup>
Min feature size in z-direction	Print layer height		0.03 or 0.05 mm	0.06 mm
Minimum Wall Thickness	Smallest wall thickness available for printing		0.2 mm (smaller possible on request)	0.5 mm
Unsupported Overhang	Minimum angle at which a wall can be printed without requiring support		>45° (smaller possible on request)	>45°
Text embossment/engraving	Size of text; Embossment height or engraving depth		4mm (size) 0,5 mm (depth) Font: Arial Black	4mm (size) 0,5 mm (depth) Font: Arial Black
Holes	Minimum diameter available for printing holes		0.2 mm	0.5 mm
Horizontal holes	Maximum diameter of a horizontal hole without support		9 mm	9 mm
Thread	Available thread size		M2 – M60	M2 – M60
General Tolerances	Expected tolerance (dimensional accuracy)		± 0.2% With a minimum of 0.2 mm (smaller possible on request)	± 0.3% With a minimum of 0.3 mm (smaller possible on request)