

ALUMINUM AISI10MG

Description

Aluminum AISi10Mg is a high-performance material renowned for its lightweight yet robust properties. This alloy, composed primarily of aluminum (Al), silicon (Si), and magnesium (Mg), is ideal for applications requiring a combination of strength and reduced weight. Its remarkable features include excellent corrosion resistance, making it a preferred choice in industries like aerospace and automotive. Aluminum AISi10Mg's low density makes it well-suited for parts that demand reduced mass without sacrificing structural integrity. In 3D metal printing, it enables intricate and efficient designs. This material is widely used in the production of aircraft components, automotive parts, and lightweight structural elements. Its versatile nature and impressive mechanical properties make it an indispensable option for various manufacturing needs.

Benefits

- Lightweight Strength
- Corrosion Resistance
- High Thermal Conductivity
- Design Flexibility
- Lightweight Structural Elements
- Reduced Material Waste

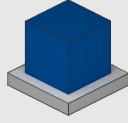
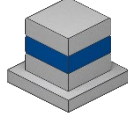
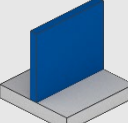
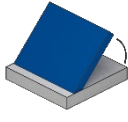
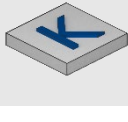
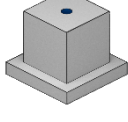
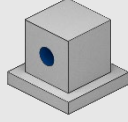

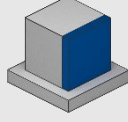
Application

- Aerospace
- Automotive
- Electronics
- Medical
- Industrial manufacturing
- Consumer items

Data sheet

	Units	Aluminum AISi10Mg	
		Performance	Speed
DIN	-	3.2381	-
Layer thickness	[μm]	30	60
Density	g/cm^3	2.67	2.67
	%	>99.0	>98.0
Ultimate tensile Strength	MPa	415	280
Yield strength	MPa	220	180
Elongation at break	%	6	4
Youngs Modulus	GPa	70	65
Hardness			
Rockwell	HRC	-	-
Vickers	HV	100	100
Roughness			
As printed	Ra	10	15
After shot peening	Ra	3-6	4-10
After tumbling	Ra	1-3	2-4
Postprocessed	Ra	<0.5	<1

Technical specifications

	Description		Performance	Speed
Maximum dimensions	Largest printable size		420 x 420 x 400 mm ³	420 x 420 x 400 mm ³
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)