Aluminum AlSi10Mg Datasheet

Overview

Aluminum AlSi10Mg is one of the most commonly used alloys in the industry. Known for its strength, lightweight nature, and metallic appearance, this aluminum alloy is well-suited for a diverse range of functional parts and prototypes.

As-printed Part's Tolerance: ±300μm or 0.3%

Maximum Printing Size: 427*527*460mm

Properties

Dense Properties	Metric	Method
Density	2.65 g/cm^3	WGE-Prod-067EN
Relative Density	99.0%	WGE-Prod-067EN
Mechanical Properties	**Metric**	**Method**
Tensile Strength	300MPa	DIN EN ISO 6892-1:2009
Yield Strength	190MPa	DIN EN ISO 6892-1:2009
Elongation at Break	2%	DIN EN ISO 6892-1:2009
Elastic Modulus	70GPa	DIN EN ISO 6892-1:2009
Surface Properties	**Metric**	**Method**
Roughness Ra	16 μm	ISO 4287 / AITM 1-00070
Roughness Rz	70 μm	ISO 4287 / AITM 1-00070

Pros

Aluminum AlSi10Mg offers exceptional material properties. It has excellent electrical conductivity and resistance to corrosion, making it an ideal choice for engineering validation, design testing, and mass production of complex structural metal components.

Cons

The surface may feature pits and wider tolerances, requiring post-processing steps for improved quality.

Applications

Automotive parts and supplies Art and Design Intercoolers

Consumer Electronic Products Aerospace Mechanical Parts Frames

Jigs and Fixtures Enclosures and Housings Bicycle Components