

Aluminium Al-Si10Mg

Key Features

Stiffness • Corrosion resistance • Thermal and electrical conductivity • Properties can be enhanced with heat treatments (T6)

Product Description

Aluminium AlSi10Mg is a lightweight alloy known for its good mechanical properties, including strength, hardness, and dynamic load-bearing capacity. It offers high corrosion resistance and good thermal and electrical conductivity, which can be enhanced with heat treatments to improve ductility and conductivity. This material is ideal for manufacturing gas-tight parts and is commonly used in general engineering, aerospace, automotive components, and lightweight designs, often substituting cast AlSi10Mg parts.

Properties*

Yield strength (xy/z)	270 / 230 MPa
Tensile strength (xy/z)	450 / 460 MPa
Elongation at break (xy/z)	10.2 / 6.3%
Electrical conductivity	25% IACS
Thermal conductivity (xy/z)	110/ 100 W/(mK)
Coefficient of thermal expansion	20*10 ⁻⁶ /K
Fatigue strength	110 MPa
Density	2.67 g/cm ³
Hardness	119 HBW
Weldability	Yes

*As manufactured, 30 µm layer thickness

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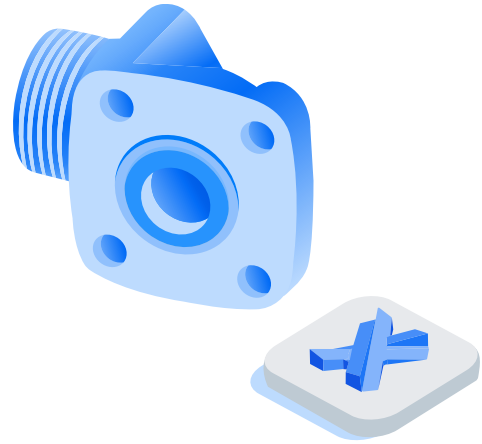
Applications

Aerospace

Automotive

Engineering

Machine building



Chemical Composition

Al	Balance	Si	9 - 11
Cu	0.05	Sn	0.05
Fe	0.55	Ti	0.15
Mg	0.25 - 0.45	Zn	0.1
Mn	0.45		
Ni	0.05		
Pb	0.05		

Reference

For more detailed source information, please consult the original document linked [here](#). We encourage users to verify the data's relevance and suitability for their specific needs.