Data Sheet

Aluminium AlSi10Mg

Alternative Designations

EN - 1706

Key Features

Excellent strength • Good heat crack resistance

Description

This material has excellent strength at elevated temperatures (about 200°C). It has good resistance to corrosion and can be polished easily. It has good workability and good heat crack resistance. The fatigue strength is excellent at 110N/mm². The material has good weldability and is widely applied in parts for vehicles, machines, and aircraft. It has a tensile strength of 450 MPa at room temperature.

Mechanical Properties

Yield strength	271 – 297 MPa
Tensile strength	450 MPa
Elongation at break	6 – 8%
Hardness	124
Module of elasticity	73 – 74 GPa

Physical Properties

Density	2.67 g/cm³
Electrical conductivity	2.1 m/Ω · mm²
Coefficient of thermal expansion	1.9 – 2.52 K-1 · 10-6
Thermal conductivity	130 – 150 W/m · K
Specific heat capacity	910 – 920 J/kg · K

Chemical Composition

Al	Rest is Al	N	-
Bi	-	Nb	-
C	-	Ni	0.05%
Cd	-	O	-
Co	-	P	-
Cr	-	Pb	0.05%
Cu	0.05%	S	-
Fe	0.55%	Si	9 – 11%
H	-	Sn	0.05%
Mg	0.25 – 0.45%	Ti	0.15%
Mn	0.45%	V	-
Mo	-	Zn	0.1%

Reference

Datasheets provided by Xometry contain materials sourced through trusted OEMs, material distributors, and databases. Please visit Materialdatacenter.com for further information on this material.