Request more information

5083 H321 Aluminum Sheet

Properties

Request Fatigue Data (S-N Curve)

General

Property	Temperature	Value	Comment
Density	23.0 °C	2.65 - 2.7 g/cm³	Typical for Wrought 5000 Series Aluminium

Mechanical

Property	Temperature	Value	Comment
Elastic modulus	23.0 °C	69 - 70 GPa	Typical for Wrought 5000 Series Aluminium
Elongation A50	23.0 °C	12 %	
Plane-Strain Fracture Toughnes	23.0 °C	22 - 35 MPa·√m	Typical for Wrought 5000 Series Aluminium
Poisson's ratio	23.0 °C	0.33 [-]	Typical for Wrought 5000 Series Aluminium
Shear modulus	23.0 °C	26 - 26.5 GPa	Typical for Wrought 5000 Series Aluminium
Tensile strength	23.0 °C	305 - 385 MPa	

Yield strength Rp0.2	23.0 °C	215 MPa

Thermal

Property	Temperature	Value	Comment
Coefficient of thermal expansion	23.0 °C	2.2E-5 - 2.5E-5 1/K	Typical for Wrought 5000 Series Aluminium
Max service temperature		150 °C	Typical for Wrought 5000 Series Aluminium
Melting point		560 - 655 °C	Typical for Wrought 5000 Series Aluminium
Specific heat capacity	23.0 °C	879 - 963 J/(kg·K)	Typical for Wrought 5000 Series Aluminium
Thermal conductivity	23.0 °C	112 - 205 W/(m·K)	Typical for Wrought 5000 Series Aluminium

Electrical

Property	Temperature	Value	Comment
Electrical conductivity	23.0 °C	1.80E+7 - 3.10E+7 S/m	Typical for Wrought 5000 Series Aluminium
Electrical resistivity	23.0 °C	3.3E-8 - 5E-8 Ω·m	Typical for Wrought 5000 Series Aluminium

Chemical properties

Property	Value
Chromium	0.05 - 0.25 %
Copper	0.1 %
Iron	0.4 %

Magnesium	4 - 4.9 %
Manganese	0.4 - 1 %
Other	each 0.05, total 0.15, Rest Al
Silicon	0.4 %
Titanium	0.15 %
Zinc	0.25 %

Technological properties

Property	
Brazing	general: no brazing is known or developed
Corrosion properties	Stress corrosion cracking: kein Schadensfall im Betrieb und bei Labortests (O, H321, H116), kein Schadensfall im Betrieb, eingeschränkte Schäden bei den Labortests (H111), general: very good, without protection in industrial or seawater atmosphere
General machinability	General: poor
Workability	general (condition): acceptable (O), poor(H321, H116, H111)