

5005 H24 Aluminum Sheet

Properties

General

Property	Temperature	Value
Density	23.0 °C	2.7 g/cm³

Mechanical

Property	Temperature	Value	Comment
Elastic modulus	23.0 °C	69 GPa	
Elongation	23.0 °C	2.9 %	
Elongation A100	23.0 °C	7 %	
Elongation A50	23.0 °C	2 - 8 %	
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	140 - 180 MPa	
Yield strength	23.0 °C	120 MPa	

Yield strength
Rp0.2

23.0 °C

[105 MPa](#)

Thermal

Property	Temperature	Value	Comment
Coefficient of thermal expansion	20.0 °C	2.38E-5 1/K	
	23.0 °C	2.4E-5 1/K	
	100.0 °C	2.38E-5 1/K	
Max service temperature		150 °C	Typical for Wrought 5000 Series Aluminium
Melting point		630 - 655 °C	
Specific heat capacity	23.0 °C	900 J/(kg·K)	
Thermal conductivity	23.0 °C	200 - 201 W/(m·K)	

Electrical

Property	Temperature	Value
Electrical conductivity	23.0 °C	3.00E+7 S/m
Electrical resistivity	23.0 °C	3.33E-8 Ω·m

Chemical properties

Property	Value	Comment
Aluminium	97 - 99.5 %	

Chromium	0 - 0.1 %	
Copper	0 - 0.2 %	
Iron	0 - 0.7 %	
Magnesium	0.5 - 1.1 %	
Manganese	0 - 0.2 %	
Other	0 - 0.15 %	each 0.05, total 0.15, Rest Al
Silicon	0 - 0.3 %	
Zinc	0 - 0.25 %	

Technological properties

Property	
Brazing	general: Lötbar mit speziellen Techniken oder bei bestimmten Anwendungen
Corrosion properties	Stress corrosion cracking: no damage during operation and laboratory tests, general: very good, without protection in industrial or seawater atmosphere
General machinability	General: not suitable (O, H12, H32), poor (H14, H34, H16, H18, H36, H38)
Workability	general (condition): good (O, H12, H32), acceptable (H14, H34), poor(H16, H18, H36, H38)