



ASM Aerospace Specification Metals Inc.



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Aluminum 2124-T351

Subcategory: 2000 Series Aluminum Alloy; Aluminum Alloy; Metal; Nonferrous Metal

Close Analogs:

Composition Notes:

A Zr + Ti limit of 0.20 percent maximum may be used with this alloy designation for extruded and forged products only, but only when the supplier or producer and the purchaser have mutually so agreed.

Agreement may be indicated, for example, by reference to a standard, by letter, by order note, or other means which allow the Zr + Ti limit.

Aluminum content reported is calculated as remainder.

Composition information provided by the Aluminum Association and is not for design.

Key Words: Aluminium 2124-T351; UNS A92124; QQ-A-250/29; ASTM B209; AMS 4101; AA2124-T351

Component	Wt. %	Component	Wt. %	Component	Wt. %
Al	91.2 - 94.7	Mg	1.2 - 1.8	Si	Max 0.2
Cr	Max 0.1	Mn	0.3 - 0.9	Ti	Max 0.15
Cu	3.8 - 4.9	Other, each	Max 0.05	Zn	Max 0.25
Fe	Max 0.3	Other, total	Max 0.15		

Material Notes:

Data points with the AA note have been provided by the Aluminum Association, Inc. and are NOT FOR DESIGN.

Physical Properties	Metric	English	Comments
Density	<u>2.78 g/cc</u>	0.1 lb/in ³	AA; Typical

Mechanical Properties

Hardness, Brinell	120	120	500 kg load with 10 mm ball
Hardness, Knoop	150	150	Converted from Brinell Hardness Value
Hardness, Rockwell A	47	47	Converted from Brinell Hardness Value
Hardness, Rockwell B	75	75	Converted from Brinell Hardness Value
Hardness, Vickers	137	137	Converted from Brinell Hardness Value

Tensile Strength, Ultimate	<u>470 MPa</u>	68200 psi	
Tensile Strength, Yield	<u>325 MPa</u>	47100 psi	
Elongation at Break	<u>20 %</u>	20 %	In 5 cm; Sample 1.6 mm thick
Modulus of Elasticity	<u>73 GPa</u>	10600 ksi	Average of Tension and Compression. In Aluminum alloys, the compressive modulus is typically 2% greater than the tensile modulus
Poisson's Ratio	0.33	0.33	Estimated from trends in similar Al alloys.
Fatigue Strength	<u>140 MPa</u>	20300 psi	500,000,000 Cycles
Shear Modulus	<u>27 GPa</u>	3920 ksi	Estimated from similar Al alloys.
Shear Strength	<u>285 MPa</u>	41300 psi	

Electrical Properties

Electrical Resistivity	<u>4.4e-006 ohm-cm</u>	4.4e-006 ohm-cm	Estimated from other heat treatments.
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Thermal Properties

CTE, linear 68°F	<u>22.9 µm/m-°C</u>	12.7 µin/in-°F	AA; Typical; Average over 68-212°F range.
CTE, linear 250°C	<u>24.7 µm/m-°C</u>	13.7 µin/in-°F	Average over the range 20-300°C
Specific Heat Capacity	<u>0.882 J/g-°C</u>	0.211 BTU/lb-°F	
Thermal Conductivity	<u>150 W/m-K</u>	1040 BTU-in/hr-ft ² -°F	
Melting Point	502 - 638 °C	935 - 1180 °F	AA; Typical range based on typical composition for wrought products 1/4 inch thickness or greater. Eutectic melting is not eliminated by homogenization.
Solidus	<u>502 °C</u>	935 °F	AA; Typical
Liquidus	<u>638 °C</u>	1180 °F	AA; Typical

Processing Properties

Annealing Temperature	<u>413 °C</u>	775 °F
Solution Temperature	<u>493 °C</u>	920 °F
Aging Temperature	<u>191 °C</u>	375 °F

References for this datasheet.

Some of the values displayed above may have been converted from their original units and/or rounded in order to display the information in a consistent format. Users requiring more precise data for scientific or engineering calculations can click on the property value to see the original value as well as raw conversions to equivalent units. We advise that you only use the original value or one of its raw conversions in your calculations to minimize rounding error.