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## Aluminum 6005-T5

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Aluminum content reported is calculated as remainder.

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

**Key Words:** UNS A96005; ISO AISiMg; Aluminium 6005-T5; AA6005-T5

Component	Wt. %	Component	Wt. %	Component	Wt. %
Al	97.5 - 99	Mg	0.4 - 0.6	Si	0.6 - 0.9
Cr	Max 0.1	Mn	Max 0.1	Ti	Max 0.1
Cu	Max 0.1	Other, each	Max 0.05	Zn	Max 0.1
Fe	Max 0.35	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.

[Click here to view available vendors for this material.](#)**Physical Properties****Metric****English****Comments**

Density	<u>2.7 g/cc</u>	0.0975 lb/in <sup>3</sup>	AA; Typical
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### Mechanical Properties

Hardness, Brinell	95	95	500 kg load with 10 mm ball
Hardness, Knoop	120	120	Converted from Brinell Hardness Value
Hardness, Rockwell A	39.8	39.8	Converted from Brinell Hardness Value
Hardness, Rockwell B	60	60	Converted from Brinell Hardness Value
Hardness, Vickers	107	107	Converted from Brinell Hardness Value
Tensile Strength, Ultimate	<u>260 MPa</u>	37700 psi	
Tensile Strength, Yield	<u>240 MPa</u>	34800 psi	
Elongation at Break	<u>8 %</u>	8 %	In 5 cm; Sample 1.6 mm thick
Modulus of Elasticity	<u>69 GPa</u>	10000 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>100 MPa</u>	14500 psi	500,000,000 Cycles
Shear Modulus	<u>26 GPa</u>	3770 ksi	Estimated from similar Al alloys.
Shear Strength	<u>205 MPa</u>	29700 psi	

### Electrical Properties

Electrical Resistivity	<u>3.49e-006 ohm-cm</u>	3.49e-006 ohm-cm	AA; Typical at 68 °F
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### Thermal Properties

CTE, linear 68 °F	<u>23.4 μm/m- °C</u>	13 μin/in- °F	AA; Typical; Average over 68-212 °F range.
CTE, linear 250 °C	<u>25 μm/m- °C</u>	13.9 μin/in- °F	Estimated from trends in similar Al alloys. 20-300 °C.
Specific Heat Capacity	<u>0.89 J/g- °C</u>	0.213 BTU/lb- °F	Estimated from trends in similar Al alloys.
Thermal Conductivity	<u>189 W/m-K</u>	1310 BTU-in/hr-ft <sup>2</sup> - °F	AA; Typical at 77 °F
Melting Point	607 - 654 °C	1125 - 1210 °F	AA; Typical range based on typical composition for wrought products 1/4 inch thickness or greater; Eutectic melting can be completely eliminated by homogenization.
Solidus	<u>607 °C</u>	1125 °F	AA; Typical
Liquidus	<u>654 °C</u>	1210 °F	AA; Typical

### Processing Properties

Annealing Temperature	<u>414 °C</u>	778 °F	hold at temperature for 2 to 3 hr
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Solution Temperature	<a href="#">546 °C</a>	1015 °F
Aging Temperature	<a href="#">174 °C</a>	346 °F

hold at temperature for 8 hr

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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. We also ask that you refer to MatWeb's disclaimer and terms of use regarding this information. [Click here](#) to view all the property values for this datasheet as they were originally entered into MatWeb.

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