

Data sheets for over **58,000** metals, plastics, ceramics, and composites.[Advertise with MatWeb!](#)[REGISTER NOW](#)[HOME](#) • [SEARCH](#) • [TOOLS](#) • [SUPPLIERS](#) • [FOLDERS](#) • [ABOUT US](#) • [FAQ](#) • [LOGIN](#)Searches: [Advanced](#) | [Material Type](#) | [Property](#) | [Composition](#) | [Trade Name](#) | [Manufacturer](#) [SEARCH](#)

Aluminum Anodizing

www.eastwestdye.com (800) 407-6371[Aluminum Anodizing - Hardcoating - 24 Hour Turnaround Available - Mil-Spec Certified - Custom Coloring](#)

Aluminum 7005-T6, 7005-T63, and 7005-T6351

[Printer friendly version](#)[Download to Excel \(requires Excel and Windows\)](#)[Export data to your CAD/FEA program](#)[Return to last search](#)Add to Folder: [Material suppliers](#)**Subcategory:** 7000 Series Aluminum Alloy; Aluminum Alloy; Metal; Nonferrous Metal**Close Analogs:****Composition Notes:**

Aluminum content reported is calculated as remainder.

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

Key Words: Aluminium 7005-T6, Aluminium 7005-T63, Aluminium 7005-T6351, UNS A97005; AA7005-T6, AA7005-T63, and AA7005-T6351

Component	Wt. %	Component	Wt. %	Component	Wt. %
Al	91 - 94.7	Mg	1 - 1.8	Si	Max 0.35
Cr	0.06 - 0.2	Mn	0.2 - 0.7	Ti	0.01 - 0.06
Cu	Max 0.1	Other, each	Max 0.05	Zn	4 - 5
Fe	Max 0.4	Other, total	Max 0.15	Zr	0.08 - 0.2

Material Notes:**Applications :** bike frames

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	2.78 g/cc	0.1 lb/in ³	AA; Typical
Mechanical Properties			
Hardness, Brinell	94	94	500 kg load with 10 mm ball. Calculated value.
Hardness, Knoop	119	119	Converted from Brinell Hardness Value
Hardness, Rockwell A	39.5	39.5	Converted from Brinell Hardness Value
Hardness, Rockwell B	59	59	Converted from Brinell Hardness Value
Hardness, Vickers	106	106	Converted from Brinell Hardness Value
Tensile Strength, Ultimate	350 MPa	50800 psi	
Tensile Strength, Yield	290 MPa	42100 psi	
Elongation at Break	13 %	13 %	In 5 cm; Sample 1.6 mm thick
Modulus of Elasticity	72 GPa	10400 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	150 MPa	21800 psi	500,000,000 Cycles
Shear Modulus	26.9 GPa	3900 ksi	
Shear Strength	215 MPa	31200 psi	
Electrical Properties			
Electrical Resistivity	4.9e-006 ohm-cm	4.9e-006 ohm-cm	
Thermal Properties			
CTE, linear 20°C	23.6 µm/m-°C	13.1 µin/in-°F	20-100°C
CTE, linear 250°C	25 µm/m-°C	13.9 µin/in-°F	Average over the range 20-300°C
Specific Heat Capacity	0.875 J/g-°C	0.209 BTU/lb-°F	
Thermal Conductivity	137 W/m-K	951 BTU-in/hr-ft ² -°F	
Melting Point	607 - 643 °C	1120 - 1190 °F	
Solidus	607 °C	1120 °F	
Liquidus	643 °C	1190 °F	

Processing Properties

Annealing Temperature	343 °C	650 °F
Solution Temperature	399 °C	750 °F

 [Printer friendly version](#)

[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. 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.



Aluminum Anodizing

www.eastwestdye.com (800) 407-6371



[Aluminum Anodizing - Hardcoating - 24 Hour Turnaround Available - Mil-Spec Certified - Custom Coloring](#)

Subscribe to Premium Services

Searches: [Advanced](#) • [Composition](#) • [Property](#) • [Material Type](#) • [Manufacturer](#) • [Trade Name](#) • [UNS Number](#)
Other Links: [Advertising](#) • [Submit Data](#) • [Database Licensing](#) • [Web Design & Hosting](#) • [Trade Publications](#)
[Supplier List](#) • [Unit Converter](#) • [Reference](#) • [News](#) • [Links](#) • [Help](#) • [Contact Us](#) • [Site Map](#) • [FAQ](#) • [Home](#)

Please read our [License Agreement](#) regarding materials data and our [Privacy Policy](#). Questions or comments about MatWeb? Please contact us at webmaster@matweb.com. We appreciate your input.

Site designed and maintained by Automation Creations, Inc. The contents of this web site, the MatWeb logo, and "MatWeb" are Copyright 1996-2006 by Automation Creations, Inc. MatWeb is intended for personal, non-commercial use. The contents, results, and technical data from this site may not be reproduced either electronically, photographically or substantively without permission from Automation Creations, Inc.