

Aluminum 535.0-F or Aluminum 535.0-T5, Sand Cast

Categories: [Metal](#); [Nonferrous Metal](#); [Aluminum Alloy](#); [Aluminum Casting Alloy](#)


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

Composition Notes:

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

Key Words: Aluminium 535.0-F; Aluminium 535.0-T5; UNS A05350; AA535.0-F; AA535.0-T5

Vendors: No vendors are listed for this material. Please [click here](#) if you are a supplier and would like information on how to add your listing to this material.

Physical Properties	Metric	English	Comments
Density	2.62 g/cc	0.0947 lb/in ³	AA; Typical
Mechanical Properties	Metric	English	Comments
Hardness, Brinell	60 - 90	60 - 90	AA; Typical; 500 g load; 10 mm ball
Hardness, Knoop	98	98	Estimated from Brinell Hardness.
Hardness, Vickers	85	85	Estimated from Brinell Hardness.
Tensile Strength, Ultimate	>= 241 MPa	>= 35000 psi	AA
Tensile Strength, Yield	>= 124 MPa @Strain 0.200 %	>= 18000 psi @Strain 0.200 %	AA
Elongation at Break	>= 8.0 %	>= 8.0 %	AA; in 2 in. (50 mm) or 4D
Modulus of Elasticity	71.0 GPa	10300 ksi	In Tension; elastic modulus in compression is typically about 2% higher for aluminum alloys.
Compressive Yield Strength	162 MPa	23500 psi	
Poissons Ratio	0.33	0.33	Estimated
Machinability	90 %	90 %	0-100 Scale (100=best)
Shear Modulus	26.7 GPa	3870 ksi	Estimated
Shear Strength	190 MPa	27600 psi	
Charpy Impact	14.2 J	10.5 ft-lb	90° Notch
Charpy Impact, Unnotched	77.0 J	56.8 ft-lb	
Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.00000750 ohm-cm	0.00000750 ohm-cm	AA; Typical 23% IACS Conductivity
Thermal Properties	Metric	English	Comments
Heat of Fusion	389 J/g	167 BTU/lb	Typical for cast aluminum
CTE, linear 	23.6 µm/m-°C @Temperature 20.0 - 100 °C	13.1 µin/in-°F @Temperature 68.0 - 212 °F	AA; Typical
	26.6 µm/m-°C @Temperature 20.0 - 300 °C	14.8 µin/in-°F @Temperature 68.0 - 572 °F	AA; Typical; average over range
Specific Heat Capacity	0.963 J/g-°C	0.230 BTU/lb-°F	Typical for cast aluminum
Thermal Conductivity	96.2 W/m-K	667 BTU-in/hr-ft ² -°F	AA; Typical at 25°C
Melting Point	549 - 629.4 °C	1020 - 1165 °F	AA; Typical
Solidus	549 °C	1020 °F	AA; Typical
Liquidus	629.4 °C	1165 °F	AA; Typical
Component Elements Properties	Metric	English	Comments
Aluminum, Al	91.4 - 93.6 %	91.4 - 93.6 %	As remainder
Beryllium, Be	0.003 - 0.007 %	0.003 - 0.007 %	
Boron, B	<= 0.005 %	<= 0.005 %	
Copper, Cu	<= 0.05 %	<= 0.05 %	
Iron, Fe	<= 0.15 %	<= 0.15 %	
Magnesium, Mg	6.2 - 7.5 %	6.2 - 7.5 %	
Manganese, Mn	0.10 - 0.25 %	0.10 - 0.25 %	
Other, each	<= 0.05 %	<= 0.05 %	
Other, total	<= 0.15 %	<= 0.15 %	
Silicon, Si	<= 0.15 %	<= 0.15 %	
Titanium, Ti	0.10 - 0.25 %	0.10 - 0.25 %	

[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 [terms of use](#) regarding this information. [Click here](#) to view all the property values for this datasheet as they were originally entered into MatWeb.