



ASM Aerospace Specification Metals Inc.

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AISI Type 314 Stainless Steel, annealed bar

Subcategory: Ferrous Metal; Metal; Stainless Steel; T 300 Series Stainless Steel

Component Wt. %

C	0.25
Cr	Max 26
Fe	47
Mn	2
Ni	Max 22
P	0.045
S	0.03
Si	Max 3

Physical Properties	Metric	English	Comments
Density	<u>7.8 g/cc</u>	0.282 lb/in ³	

Mechanical Properties

Hardness, Brinell	180	180	
Hardness, Knoop	201	201	Converted from Brinell Hardness
Hardness, Rockwell B	88	88	
Hardness, Vickers	189	189	Converted from Brinell Hardness.
Tensile Strength, Ultimate	<u>689 MPa</u>	99900 psi	
Tensile Strength, Yield	<u>345 MPa</u>	50000 psi	
Elongation at Break	<u>45 %</u>	45 %	in 50 mm
Modulus of Elasticity	<u>200 GPa</u>	29000 ksi	

Electrical Properties

Electrical Resistivity	<u>7.7e-005 ohm-cm</u>	7.7e-005 ohm-cm	at 20°C
Magnetic Permeability	1.02	1.02	approximate value for the annealed condition at RT

Thermal Properties

CTE, linear 250°C	15.1 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	8.39 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	at 0-315°C (32-600°F)
CTE, linear 500°C	17.6 $\mu\text{m}/\text{m}\cdot^\circ\text{C}$	9.78 $\mu\text{in}/\text{in}\cdot^\circ\text{F}$	0 - 815°C
Specific Heat Capacity	0.5 $\text{J}/\text{g}\cdot^\circ\text{C}$	0.12 BTU/lb-°F	from 0-100°C (32-212°F)
Thermal Conductivity at Elevated Temperature	17.5 $\text{W}/\text{m}\cdot\text{K}$	121 BTU-in/hr-ft ² -°F	100°C

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.