

AISI 1008 (UNS G10080)

CARBON STEEL



Description

AISI 1008 is a low-carbon steel containing approximately 0.40% manganese that has excellent weldability and formability. AISI 1008 carbon steel is primarily used in extruded, cold headed, cold upset, and cold pressed parts and forms. AISI 1008 in the cold rolled condition is used for exposed or unexposed parts where bending, moderate drawing, forming and welding may be involved. This steel may normally be welded without special precautions using any of the standard arc or resistance welding processes. AISI 1008 is used in home appliances, furniture, and automotive applications.

Hardness Requirements

Hardness requirements for ASTM A109 tempers

Temper	Thickness (inch)		Rockwell Hardness	
	Under	Through	Min.	Max.
No. 1 (hard)	0.025	-	15T90	-
	0.040	0.025	30T76	-
	0.070	0.040	B90.0	-
	0.300	0.070	B84.0	-
No. 2 (½ hard)	0.025	-	15T83.5	15T88.5
	0.040	0.025	30T63.5	30T73.5
	0.300	0.040	B70.0	B85
No. 3 (¼ hard)	0.025	-	15T80	15T85
	0.040	0.025	30T56.5	30T67
	0.300	0.040	B60	B75
No. 4 (skin-rolled)	0.025	-		15T82
	0.040	0.025		30T60
	0.300	0.040		B65
No. 5 (dead soft)	0.025	-		15T78.5
	0.040	0.025		30T53
	0.300	0.040		B55

Data are typical, are provided for informational purposes, and should not be construed as maximum or minimum values for specification or for final design, or for a particular use or application. The data may be revised anytime without notice. We make no representation or warranty as to its accuracy and assume no duty to update. Actual data on any particular product or material may vary from those shown herein. © 2017 RMP Inc. All rights reserved.

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Chemical Composition

Chemical Composition (wt%) limits of AISI 1008*

Element	AISI 1008
Carbon	0.10
Manganese	0.30-0.50
Phosphorus	0.030
Sulfur	0.050

* Maximum, unless range is indicated

Physical Properties

Physical properties for AISI 1008 steel

Property	AISI 1008 Data
Density, lb/in ³	0.284
Modulus of Elasticity, psi	29 x 10 ⁶
Coefficient of Thermal Expansion, 68-212°F, /°F	7.0 x 10 ⁻⁶
Thermal Conductivity, Btu/ft hr °F	37.7
Specific Heat, Btu/lb °F	0.12
Electrical Resistivity, Microhm-in	5.59

Standards

Typical standards for AISI 1008 steel

AISI 1008
ASTM A109