

AISI 1006 Steel, cold drawn

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Subcategory: AISI 1000 Series Steel; Carbon Steel; Low Carbon Steel; Metal

Key Words: UNS G10060, ASME 5041, ASTM A29, ASTM A510, ASTM A545, FED QQ-W-461, MIL SPEC MIL-S-11310 (CS1006), SAE J403, SAE J412, SAE J414

Component	Wt. %
C	Max 0.08
Fe	99.43 - 99.75
Mn	Max 0.45
P	Max 0.04
S	Max 0.05

Material Notes:

The composition shown above is for structural shapes, plates, strip, sheets, and welded tubing only. Semifinished products for forging, hot-rolled and cold finished bars, wire rods, and seamless tubing have a magnesium range of 0.25 - 0.40%.

Applications: Soft, very ductile, used in applications which require severe bending and welding such as panels for automobiles or appliances. Also used in magnet core applications.

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Physical Properties	Metric	English	Comments
Density	7.872 g/cc	0.284 lb/in ³	

Mechanical Properties

Hardness, Brinell	95	95	
Hardness, Knoop	113	113	Converted from Brinell hardness.
Hardness, Rockwell B	55	55	Converted from Brinell hardness.
Hardness, Vickers	98	98	Converted from Brinell hardness.
Tensile Strength, Ultimate	330 MPa	47900 psi	
Tensile Strength, Yield	285 MPa	41300 psi	
Elongation at Break	20 %	20 %	In 50 mm
Reduction of Area	45 %	45 %	
Modulus of Elasticity	205 GPa	29700 ksi	Typical for steel
Bulk Modulus	140 GPa	20300 ksi	Typical for steel
Poisson's Ratio	0.29	0.29	Typical For Steel

Machinability	50 %	50 %	Based on AISI 1212 steel. as 100% machinability. The machinability of Group I bar, rod, and wire products can be improved by cold drawing.
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Shear Modulus	80 GPa	11600 ksi	Typical for steel
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Electrical Properties

Electrical Resistivity	1.74e-005 ohm-cm	1.74e-005 ohm-cm	Typical steel
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Thermal Properties

CTE, linear 20°C	12.6 µm/m-°C	7 µin/in-°F	0-100°C
CTE, linear 250°C	13.5 µm/m-°C	7.5 µin/in-°F	0-300°C (68-570°F)
CTE, linear 500°C	14.2 µm/m-°C	7.89 µin/in-°F	0-500°C (68-930°F)
CTE, linear 1000°C	13.7 µm/m-°C	7.61 µin/in-°F	0-1000°C
Specific Heat Capacity	0.481 J/g-°C	0.115 BTU/lb-°F	50-100°C

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[References](#) for this datasheet.

Some of the values displayed above may have been converted from their original units and/or rounded in order