

## Material: SAE 1012

### Standard Specification For Carbon Steel Compositions For Forging To Hot-Rolled And Cold-Finished Bars, To Wire Rods, Plates, Strip, Sheet and Tubing

**Group:** Ferrous Mild Steel Alloys

**Sub Group:** SAE 1012 Carbon Steel Compositions For Forging To Hot-Rolled And Cold-Finished Bars, Wire Rods, Plates, Strip, Sheets and Tubing

**Application:** Intended for Valve, Pump, General Engineering, Automotive and Other Industries

**Grade Belongs to the Industry:** Bars, Wire Rods, Plates, Strip, Sheets and Tubing

Chemical Composition			Heat Treatment	
Carbon	C %	0.100 - 0.150	As Raw or Annealing or Normalizing or Hardening and Tempering	
Manganese	Mn %	0.300 - 0.600		
Phosphorus	P %	0.040 max.		
Sulphur	S %	0.050 max.		
Chromium	Cr %	0.070 max.		
Copper	Cu %	0.200 max.		
Molybdenum	Mo %	0.050 max.		
Nickel	Ni %	0.150 max.		
Silicon	Si %	0.200 max.		
Iron	Fe %	Balance	Mechanical Properties	
-	-	-	Tensile Strength in Mpa	330 - 370
-	-	-	Yield Strength in Mpa	180 min.
-	-	-	Elongation in %	19 min.
-	-	-	Reduction of Area in %	40 - 50
-	-	-	Hardness in HB	95 - 105
-	-	-	Impact in Joule	-

Cross Reference Table			
Material	Standard	Country	Grade Belong to the Industry
G10120	UNS	USA	Bars, Wire Rods, Plates, Strip, Sheets and Tubing
1012	AISI	USA	Bars, Wire Rods, Plates, Strip, Sheets and Tubing
A 1040 1012	ASTM	USA	Bars, Wire Rods, Plates, Strip, Sheets and Tubing
A 29 1012	ASTM	USA	Bar
A 29 M1012	ASTM	USA	Bar
A 510 1012	ASTM	USA	Wire Rod
A 512 Grade 1012	ASTM	USA	Tubing

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