

Material: SAE 4140

Standard Specification for Chemical Compositions of SAE Alloy Steels

Group: Ferrous Mild Steel Alloys

Sub Group: SAE 4140 Chemical Compositions of SAE Alloy Steels

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

Grade Belongs to the Industry: Bar, Tube, Sheet, Strip and Forging

Chemical Composition			Heat Treatment	
Carbon	C %	0.380 - 0.430	Annealing or Normalizing or Hardening + Tempering	
Silicon	Si %	0.150 - 0.350		
Manganese	Mn %	0.750 - 1.000		
Phosphorus	P %	0.025 max.		
Sulphur	S %	0.025 max.		
Chromium	Cr %	0.800 - 1.100		
Nickel	Ni %	0.250 max.		
Molybdenum	Mo %	0.150 - 0.250		
Copper	Cu %	0.350 max.		
Tungsten	W %	0.100 max.	Mechanical Properties Tensile Strength in Mpa 621 - 1516 Yield Strength in Mpa 725 min. Elongation in % 5 min. Reduction of Area in % 20 min. Hardness in HB 187 - 241 Impact in Joule 25.1 - 25.7 J @ RT	
Iron	Fe %	Balance		
-	-	-		
-	-	-		
-	-	-		
-	-	-		
-	-	-		

Cross Reference Table			
Material	Standard	Country	Grade Belong to the Industry
J14049	UNS	USA	Casting
4140	AISI	USA	Forging, Bar, Wire, and Shape
4140	AMS	USA	Bar and Forging
K11542	UNS	USA	Steel
K14047	UNS	USA	Steel
A732 8Q	ASTM	USA	Casting
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