

## Material: ASTM A 29 1144

### Standard Specification For Carbon Steel Compositions For Forging To Hot-Rolled And Cold-Finished Steel and Bar

**Group:** Ferrous Mild Steel Alloys

**Sub Group:** ASTM A 29 1144 Carbon Steel Compositions For Forging To Hot-Rolled And Cold-Finished Steel and Bar

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

**Grade Belongs to the Industry:** Steel and Bar

Chemical Composition			Heat Treatment	
Carbon	C %	0.400 - 0.480	As Raw or Annealing or Normalizing or Hardening and Tempering	
Manganese	Mn %	1.350 - 1.650		
Phosphorus	P %	0.040 max.		
Sulphur	S %	0.240 - 0.330		
Silicon	Si %	0.100 max.		
Aluminium	Al %	0.020 max.		
Niobium	Nb %	0.015 Max.		
Vanadium	V %	0.020 max.		
Iron	Fe %	Balance	Mechanical Properties	
-	-	-	Tensile Strength in Mpa	585 min.
-	-	-	Yield Strength in Mpa	370 min.
-	-	-	Elongation in %	5 min.
-	-	-	Reduction of Area in %	20 min.
-	-	-	Hardness in HB	197 - 321
-	-	-	Impact in Joule	-

Cross Reference Table			
Material	Standard	Country	Grade Belong to the Industry
G11440	UNS	USA	Bars, Wire Rods, Plates, Strip, Sheets and Tubing
1144	SAE	USA	Bars, Wire Rods, Plates, Strip, Sheets and Tubing
1144	AISI	USA	Steel and Bar
A 1040 1144	ASTM	USA	Steel
A 108 Grade 1144	ASTM	USA	Steel and Bar
A 311 1144 Class A	ASTM	USA	Steel and Bar
A 311 1144 Class B	ASTM	USA	Steel and Bar

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