

# Material: ASTM A 29 1020

## 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 1020 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 %	0.180 - 0.230	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.		
Aluminium	Al %	0.020 max.		
Boron	B %	0.0005 - 0.003		
Copper	Cu %	0.200 max.		
Niobium	Nb %	0.025 max.		
Silicon	Si %	0.100 max.		
Vanadium	V %	0.050 max.		
Iron	Fe %	Balance	Mechanical Properties	
-	-	-	Tensile Strength in Mpa	330 - 690
-	-	-	Yield Strength in Mpa	195 min.
-	-	-	Elongation in %	5 min.
-	-	-	Reduction of Area in %	40 - 50
-	-	-	Hardness in HB	111 - 121
-	-	-	Impact in Joule	47.6 - 69.7 J @ RT

Cross Reference Table			
Material	Standard	Country	Grade Belong to the Industry
G10200	UNS	USA	Bars, Wire Rods and Tubing
1020	SAE	USA	Sheet, Strip and Plate
1020	AISI	USA	Sheet, Strip and Plate
A 1040 1020	ASTM	USA	Steel
A 108 Grade 1020	ASTM	USA	Steel and Bar
A 29 M1020	ASTM	USA	Steel and Bar
A 510 1020	ASTM	USA	Wire Rod and Round Wire

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