

## Material: ASTM A 513 Grade 1021

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

**Group:** Ferrous Mild Steel Alloys

**Sub Group:** ASTM A 513 Grade 1021 Carbon Steel Compositions For Forging To Hot-Rolled And Cold-Finished Tubing

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

**Grade Belongs to the Industry:** Tubing

Chemical Composition			Heat Treatment	
Carbon	C %	0.180 - 0.230	As Raw or Annealing or Normalizing or Hardening and Tempering	
Manganese	Mn %	0.600 - 0.900		
Phosphorus	P %	0.035 max.		
Sulphur	S %	0.035 max.		
Iron	Fe %	Balance		
-	-	-		
-	-	-		
-	-	-		
-	-	-		
-	-	-		
			Mechanical Properties	
			Tensile Strength in Mpa	345 min.
			Yield Strength in Mpa	240 min.
			Elongation in %	5 min.
			Reduction of Area in %	-
			Hardness in HRC	62 - 78
			Impact in Joule	-

Cross Reference Table			
Material	Standard	Country	Grade Belong to the Industry
G10210	UNS	USA	Bars, Wire Rods and Tubing
1021	SAE	USA	Bending and Flaring
1021	AISI	USA	Tubing
A 1040 1021	ASTM	USA	Steel
A 29 1021	ASTM	USA	Steel and Bar
A 510 1021	ASTM	USA	Wire Rod and Round Wire
A 512 Grade 1021	ASTM	USA	Tubing

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