

# Material: JIS SMn 21

## Standard Specification for Seamless Steel Tubes for Pressure Purposes

**Group:** Ferrous Mild Steel Alloys

**Sub Group:** JIS SMn 21 Seamless Steel Tubes for Pressure Purposes

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

**Grade Belongs to the Industry:** Forging and Rolling

Chemical Composition		
Carbon	C %	0.170 - 0.230
Silicon	Si %	0.150 - 0.350
Manganese	Mn %	1.200 - 1.500
Phosphorus	P %	0.030 max.
Sulphur	S %	0.030 max.
Chromium	Cr %	0.350 max.
Nickel	Ni %	0.250 max.
Copper	Cu %	0.300 max.
Iron	Fe %	Balance
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

Heat Treatment
Normalizing Forming

Mechanical Properties	
Tensile Strength in Mpa	510 - 850
Yield Strength in Mpa	295 min.
Elongation in %	12 min.
Reduction of Area in %	-
Hardness in HB	146 - 255
Impact in Joule	35 J @ RT

Cross Reference Table			
Material	Standard	Country	Grade Belong to the Industry
1.0471	EN	European Union	Steel and Tube
1.0471	DIN	Germany	Steel and Tube
1.0471	DIN	Germany	Steel and Tube
1522	AISI	USA	Forging, Rolling, Bar and Tube
150M19	BS	British	Steel and Tube
G15220	UNS	USA	Forging, Rolling, Bar and Tube
21MnSi5	DIN	Germany	Steel and Tube

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