

# Material: ISO X 11 CrMo 91 TN+TT

## Standard Specification for Seamless Steel Tubes for Pressure Purposes

**Group:** Ferrous Stainless Steel Alloys

**Sub Group:** ISO X 11 CrMo 91 TN+TT Seamless Steel Tubes for Pressure Purposes

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

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

Chemical Composition		
Carbon	C %	0.080 - 0.150
Silicon	Si %	0.250 - 1.000
Manganese	Mn %	0.300 - 0.600
Phosphorus	P %	0.030 max.
Sulphur	S %	0.300 max.
Chromium	Cr %	8.000 - 10.000
Molybdenum	Mo %	0.900 - 1.100
Aluminium	Al %	0.020 max.
Copper	Cu %	0.250 max.
Iron	Fe %	Balance
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

Heat Treatment
Isothermal Annealing

Mechanical Properties	
Tensile Strength in Mpa	590 - 740
Yield Strength in Mpa	390 min.
Elongation in %	18 min.
Reduction of Area in %	-
Hardness in BHN	-
Impact in Joule	27 J @ RT

Cross Reference Table			
Material	Standard	Country	Grade Belong to the Industry
1.7386+I	EN	European Union	Steel and Tube
1.7386+I	DIN	Germany	Steel and Tube
1.7386+I	DIN	Germany	Steel and Tube
X11CrMo91TA	ISO	International	Steel and Tube
X12CrMo9 1	DIN	Germany	Steel and Tube
17116	CSN	Czech Republic	Steel
X12Cr9KG	UNI	Italy	Steel and Forging

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