

Material: ASTM A217 Grade C12A

Standard Specification for Steel Castings, Martensitic Stainless and Alloy, for Pressure-Containing Parts, Suitable for High-Temperature Service

Group: Ferrous Mild Steel Alloys

Sub Group: ASTM A217 / A217M Steel Castings, Martensitic Stainless and Alloy, for Pressure-Containing Parts, Suitable for High-Temperature Service

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

Belongs to the Industry: Casting

Chemical Composition			Heat Treatment	
Carbon	C %	0.080 - 0.120	Normalising or Annealing or Hardening + Tempering	
Silicon	Si %	0.200 - 0.500		
Manganese	Mn %	0.300 - 0.600		
Phosphorus	P %	0.025 max.		
Sulphur	S %	0.010 max.		
Chromium	Cr %	8.000 - 9.500		
Nickel	Ni %	0.400 max.		
Molybdenum	Mo %	0.850 - 1.050		
Vanadium	V %	0.180 - 0.250		
Nitrogen	N %	0.030 - 0.070		
Niobium	Nb %	0.060 - 0.100	Mechanical Properties	
Aluminium	Al %	0.020 max.	Tensile Strength in Mpa	585 - 760
Titanium	Ti %	0.010 max.	Yield Strength in Mpa	415 min.
Zirconium	Zr %	0.010 max.	Elongation in %	18 min.
Iron	Fe %	Balance	Reduction of Area in %	45 min.
			Hardness in BHN	-
			Impact in Joule	-

Cross Reference Table			
Material	Standard	Country	Grade Belong to the Industry
J84090	UNS	USA	Casting
1.4903	DIN	Germany	Steel
A234 Grade WP91	ASTM	USA	Pipe
A336 Grade F91	ASTM	USA	Forging
TU2 10 CDVNb 09-01	AFNOR NF	France	Tube
X 10 CrMoVNb 9-1	DIN	Germany	Steel
J80490	UNS	USA	Casting

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