

Material: UNS J84090

Standard Specification for Alloy Steel Casting (Grade C12A)

Group: Ferrous Stainless Steel Alloys

Sub Group: UNS J84090 Alloy Steel Casting (Grade C12A)

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	Normalizing 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		
Molybdenum	Mo %	0.850 - 1.050		
Nickel	Ni %	0.400 max.		
Vanadium	V %	0.180 - 0.250		
Aluminium	Al %	0.040 max.		
			Mechanical Properties	
Nitrogen	N %	0.030 - 0.070	Tensile Strength in Mpa	585 - 760
Niobium	Nb %	0.060 - 0.100	Yield Strength in Mpa	415 min.
Iron	Fe %	Balance	Elongation in %	18 min.
-	-	-	Reduction of Area in %	45 min.
-	-	-	Hardness in BHN	-
-	-	-	Impact in Joule	-

Cross Reference Table			
Material	Standard	Country	Grade Belong to the Industry
1.4903	UNS	USA	Casting
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
A217 Grade C12A	ASTM	USA	Casting

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