

## Material: ASTM A217 Grade WC9

### 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 %	0.050 - 0.180	Normalising or Annealing or Hardening + Tempering	
Silicon	Si %	0.600 max.		
Manganese	Mn %	0.400 - 0.700		
Phosphorus	P %	0.035 max.		
Sulphur	S %	0.035 max.		
Chromium	Cr %	2.000 - 2.750		
Nickel	Ni %	0.500 max.		
Molybdenum	Mo %	0.900 - 1.200		
Copper	Cu %	0.500 max.		
Tungsten	W %	0.100 max.		
other	Ot %	1.000 max.	Mechanical Properties	
Iron	Fe %	Balance	Tensile Strength in Mpa	485 - 655
-	-	-	Yield Strength in Mpa	275 min.
-	-	-	Elongation in %	20 min.
-	-	-	Reduction of Area in %	35 min.
-	-	-	Hardness in BHN	-
-	-	-	Impact in Joule	-

Cross Reference Table			
Material	Standard	Country	Grade Belong to the Industry
J21890	UNS	USA	Casting
SA-217 Grade WC9	ASME	USA	Casting
10 CrMo 9-10	AFNOR NF	France	Steel
622	BS	British	Bar
10 CrMo 9-10	DIN	Germany	Forging
10 CrMo 9-10	EN	European Union	Casting
10 CrMo 9-10	UNI	Italy	Casting

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