

# Material: ASTM A541 Grade 11 Class 4

## Standard Specification for Quenched and Tempered Carbon and Alloy Steel Forgings for Pressure Vessel Components

**Group:** Ferrous Mild Steel Alloys

**Sub Group:** ASTM A541 Grade 11 Class 4 Quenched and Tempered Carbon and Alloy Steel Forgings for Pressure Vessel Components

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

**Grade Belongs to the Industry:** Forging

Chemical Composition		
Carbon	C %	0.100 - 0.200
Silicon	Si %	0.500 - 1.000
Manganese	Mn %	0.300 - 0.800
Phosphorus	P %	0.025 max.
Sulphur	S %	0.025 max.
Chromium	Cr %	1.000 - 1.500
Nickel	Ni %	0.500 max.
Molybdenum	Mo %	0.450 - 0.650
Vanadium	V %	0.050 max.
Iron	Fe %	Balance
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

Heat Treatment
Normalizing or Annealing or Hardening + Tempering

Mechanical Properties	
Tensile Strength in Mpa	550 - 725
Yield Strength in Mpa	345 min.
Elongation in %	18 min.
Reduction of Area in %	38 min.
Hardness in BHN	-
Impact in Joule	20 J @ RT

Cross Reference Table			
Material	Standard	Country	Grade Belong to the Industry
369 G-17 CrMo 5-5	SFS	Finland	Casting
621	BS	British	Plate
J12073	UNS	USA	Casting
G 17 CrMo 5-5	UNI	Italy	Casting
A217 WC11	ASTM	USA	Casting
A217 WC6	ASTM	USA	Casting
A356 6	ASTM	USA	Casting

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