

## Material: SAE 1046

### Standard Specification for Steel Castings for General Engineering Purposes

**Group:** Ferrous Mild Steel Alloys

**Sub Group:** SAE 1046 Steel Castings for General Engineering Purposes

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

**Grade Belongs to the Industry:** Casting

Chemical Composition			Heat Treatment	
Carbon	C %	0.430 - 0.500	As Cast or Annealing or Normalizing or Hardening and Tempering	
Manganese	Mn %	0.700 - 1.000		
Phosphorus	P %	0.030 max.		
Sulphur	S %	0.035 max.		
Iron	Fe %	Balance		
-	-	-		
-	-	-		
-	-	-		
-	-	-		
-	-	-		
			Mechanical Properties	
-	-	-	Tensile Strength in Mpa	590 - 650
-	-	-	Yield Strength in Mpa	320 min.
-	-	-	Elongation in %	12 min.
-	-	-	Reduction of Area in %	35 - 45
-	-	-	Hardness in BHN	170 - 187
-	-	-	Impact in Joule	-

Cross Reference Table			
Material	Standard	Country	Grade Belong to the Industry
AW2	BS	British	Casting
1046	AISI	USA	Casting
A 1040 1046	ASTM	USA	Casting
A 29 1046	ASTM	USA	Casting
A 510 1046	ASTM	USA	Casting
A 576 1046	ASTM	USA	Casting
A 830 1046	ASTM	USA	Casting

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