

# Material: DIN 1.1190 + N

## Standard Specification for Carbon Heat-Treatable Steel Casting

**Group:** Ferrous Mild Steel Alloys

**Sub Group:** DIN 1.1190 + N Carbon Heat-Treatable Steel Casting

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

**Grade Belongs to the Industry:** Casting

Chemical Composition		
Carbon	C %	0.390 - 0.440
Silicon	Si %	0.250 - 0.400
Manganese	Mn %	0.750 - 0.900
Phosphorus	P %	0.035 max.
Sulphur	S %	0.035 max.
Nitrogen	N %	0.0070 max.(P-)
Iron	Fe %	Balance
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

Heat Treatment
Annealing or Normalizing or Hardening + Tempering

Mechanical Properties	
Tensile Strength in Mpa	460 - 620
Yield Strength in Mpa	345 min.
Elongation in %	22 min.
Reduction of Area in %	-
Hardness in BHN	-
Impact in Joule	-

Cross Reference Table			
Material	Standard	Country	Grade Belong to the Industry
J04002	UNS	USA	Casting
1040	AISI	USA	Forging, Bar, Wire, and Shape
A 3	BS	British	Casting
42CD4M	AFNOR NF	France	Casting
A732 3Q	ASTM	USA	Casting
A732 1Q	ASTM	USA	Casting
A732 3A	ASTM	USA	Casting

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