

## Material: IS 11286 Grade 4A

### Standard Specification for Corrosion Resistant High Alloy Steel Nickel Base and Cobalt Base Investment Castings for Severe Applications

**Group:** Non-Ferrous Nickel Alloys

**Sub Group:** IS 11286 Grade 4A Corrosion Resistant High Alloy Steel Nickel Base and Cobalt Base Investment Castings for Severe Applications

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

**Grade Belongs to the Industry:** Casting

Chemical Composition			Heat Treatment	
Carbon	C %	0.350 max.	As-Cast or Annealing or Age Hardning	
Silicon	Si %	2.000 max.		
Manganese	Mn %	1.500 max.		
Phosphorus	P %	0.030 max.		
Iron	Fe %	3.500 max.		
Sulphur	S %	0.030 max.		
Copper	Cu %	26.000 - 33.000		
Nickel	Ni %	Balance		
-	-	-	Mechanical Properties	
-	-	-	Tensile Strength in Mpa	450 min.
-	-	-	Yield Strength in Mpa	175 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
3444 Grade 22	IS	India	Casting
M-35-2	NBR	Brazil	Casting
M-35-2	NMX	Mexico	Casting
A 743 Grade M-35-2	ASTM	USA	Casting
A 744 Grade M-35-2	ASTM	USA	Casting
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