

## Material: IS 4522 Grade 10

### Standard Specification for Heat Resistant Alloy Steel and Nickel Base Castings

**Group:** Ferrous Stainless Steel Alloys

**Sub Group:** IS 4522 Grade 10 Heat Resistant Alloy Steel and Nickel Base Castings

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

**Grade Belongs to the Industry:** Casting

Chemical Composition			Heat Treatment	
Carbon	C %	0.200 - 0.600	As - Cast or Annealing	
Silicon	Si %	2.500 max.		
Manganese	Mn %	2.000 max.		
Phosphorus	P %	0.050 max.		
Sulphur	S %	0.050 max.		
Chromium	Cr %	28.000 - 32.000		
Nickel	Ni %	18.000 - 22.000		
Molybdenum	Mo %	0.500 max.		
Iron	Fe %	Balance	Mechanical Properties	
-	-	-	Tensile Strength in Mpa	460 min.
-	-	-	Yield Strength in Mpa	240 min.
-	-	-	Elongation in %	10 min.
-	-	-	Reduction of Area in %	-
-	-	-	Hardness in HB	140 - 200
-	-	-	Impact in Joule	-

Cross Reference Table			
Material	Standard	Country	Grade Belong to the Industry
N08604	UNS	USA	Casting
SCH 23	JIS	Japan	Casting
A608 Grade HL 30	ASTM	USA	Casting
A608 Grade HL 40	ASTM	USA	Casting
N08613	UNS	USA	Casting
N08614	UNS	USA	Casting
A297 Grade HL	ASTM	USA	Casting

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