

## Material: ASTM A 167 S33228

### Standard Specification for Chromium and Chromium-Nickel Stainless Steel Plate, Sheet, and Strip for Pressure Vessels and for General Applications

**Group:** Ferrous Stainless Steel Alloys

**Sub Group:** ASTM A 167 S33228 Chromium and Chromium-Nickel Stainless Steel for Pressure Vessels and for General Applications

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

**Grade Belongs to the Industry:** Steel, Sheet, Plate and Strip

Chemical Composition			Heat Treatment	
Carbon	C %	0.040 - 0.080	Solution Annealing	
Silicon	Si %	0.300 max.		
Manganese	Mn %	1.000 max.		
Phosphorus	P %	0.020 max.		
Sulphur	S %	0.015 max.		
Chromium	Cr %	26.000 - 28.000		
Nickel	Ni %	31.000 - 33.000		
Cerium	Ce %	0.050 - 0.100		
Niobium	Nb %	0.600 - 1.000		
Aluminium	Al %	0.025 max.		
Iron	Fe %	Balance	Mechanical Properties	
-	-	-	Tensile Strength in Mpa	504 min.
-	-	-	Yield Strength in Mpa	186 min.
-	-	-	Elongation in %	30 min.
-	-	-	Reduction of Area in %	-
-	-	-	Hardness in HB	217 max.
-	-	-	Impact in Joule	-

Cross Reference Table			
Material	Standard	Country	Grade Belong to the Industry
A240 UNS S33228	ASTM	USA	Steel, Plate, Sheet and Strip
S33228	UNS	USA	Steel
A213 S33228	ASTM	USA	Steel and Tube
A312 S33228	ASTM	USA	Steel and Pipe
A249 S33228	ASTM	USA	Steel and Tube
A479 S33228	ASTM	USA	Steel and Bar
A959 S33228	ASTM	USA	Steel

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