



GRAVITY CAST PVT. LTD.
GRAVITY GROUP OF COMPANIES

Material - ASME SA-182 Grade F 45

Standard Specification for Forged or Rolled Alloy and Stainless Steel Pipe Flanges, Forged Fittings and Valves and Parts for High-Temperature Service

Group - Ferrous Stainless Steel Alloys

Sub Group - ASME SA-182 Grade F 45 Forged or Rolled Alloy and Stainless Steel Pipe Flanges, Forged Fittings and Valves and Parts for High-Temperature Service

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

Grade Belongs to the Industry - Pipe and Forging

Chemical Composition			Heat Treatment	
Carbon	C %	0.050 - 0.100	Solution Annealing	
Manganese	Mn %	0.800 max.		
Phosphorus	P %	0.040 max.		
Sulphur	S %	0.030 max.		
Silicon	Si %	1.400 - 2.000		
Nickel	Ni %	10.000 - 12.000		
Chromium	Cr %	20.000 - 22.000		
Nitrogen	N %	0.140 - 0.200		
Cerium	Ce %	0.030 - 0.080		
Iron	Fe %	Balance	Mechanical Properties	
-	-	-	Tensile Strength in Mpa	600 min.
-	-	-	Yield Strength in Mpa	310 min.
-	-	-	Elongation in %	40 min.
-	-	-	Reduction of Area in %	50 min.
-	-	-	Hardness in BHN	-
-	-	-	Impact in Joule	-

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Cross Reference Table			
Material	Standard	Country	Grade Belong to the Industry
S30815	UNS	USA	Steel
A 182 F 45	ASTM	USA	Steel and Pipe
A 213 S30815	ASTM	USA	Steel and Tubing
A 249 S30815	ASTM	USA	Steel and Tubing
A 276 S30815	ASTM	USA	Bars and Shapes
A 409 S30815	ASTM	USA	Steel and Pipe
A 312 S30815	ASTM	USA	Steel and Tubing

Further any inquiry to discuss with Gravity Cast Pvt. Ltd. – Gravity Group of Companies team member Call on +918469160029, or email marketing@gravitycastindia.com

All information in our data sheets and website is indicative only and is not intended to be a substitute for the full specification from which it is extracted. It is intended to provide typical values to allow comparison between metal alloy option rather than a definitive statement of mechanical performance or suitability for a particular application as these will vary with temperature, product type and product application. It is presented apart from contractual obligations and does not constitute any guarantee of properties or of processing or application possibilities in individual cases. Our warranties and liabilities are stated exclusively in our terms of business.

ONE STOP SOLUTION FOR METAL PARTS