



**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		
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](mailto:marketing@gravitycastindia.com)

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