



**GRAVITY CAST PVT. LTD.**  
**GRAVITY GROUP OF COMPANIES**

## Material - ASME SA-182 Grade F 12 Class 2

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

Group - Ferrous Mild Steel Alloys

Sub Group - ASME SA-182 Grade F 12 Class 2 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		
Carbon	C %	0.100 - 0.200
Manganese	Mn %	0.300 - 0.800
Phosphorus	P %	0.040 max.
Sulphur	S %	0.040 max.
Silicon	Si %	0.100 - 0.600
Chromium	Cr %	0.800 - 1.250
Molybdenum	Mo %	0.440 - 0.650
Iron	Fe %	Balance
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-
-	-	-

Heat Treatment	
	Annealing or Normalising & Tempering

Mechanical Properties	
Tensile Strength in Mpa	485 min.
Yield Strength in Mpa	275 min.
Elongation in %	20 min.
Reduction of Area in %	30 min.
Hardness in BHN	143 - 207
Impact in Joule	-

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Cross Reference Table			
Material	Standard	Country	Grade Belong to the Industry
K11564	UNS	USA	Steel
16 CrMo4-4	DIN	Germany	Steel
1.7337	DIN	Germany	Steel
7660 B 18 CrMo 4 5 KW	UNI	Italy	Steel and Forging
A 336 Grade F12	ASTM	USA	Steel and Forging
A 387 Grade F12	ASTM	USA	Steel and Plates
SA-387 Grade 12	ASME	USA	Steel and Plates

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)

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**