



GRAVITY CAST PVT. LTD.
GRAVITY GROUP OF COMPANIES

Material - ASME SA-182 Grade F 22 Class 1

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 22 Class 1 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 - 0.150	Annealing or Normalising & Tempering	
Manganese	Mn %	0.300 - 0.600		
Phosphorus	P %	0.040 max.		
Sulphur	S %	0.040 max.		
Silicon	Si %	0.500 max.		
Chromium	Cr %	2.000 - 2.500		
Molybdenum	Mo %	0.870 - 1.130		
Iron	Fe %	Balance		
-	-	-	Mechanical Properties	
-	-	-	Tensile Strength in Mpa	415 min.
-	-	-	Yield Strength in Mpa	205 min.
-	-	-	Elongation in %	20 min.
-	-	-	Reduction of Area in %	35 min.
-	-	-	Hardness in BHN	170 max.
-	-	-	Impact in Joule	-

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Cross Reference Table			
Material	Standard	Country	Grade Belong to the Industry
K21590	UNS	USA	Steel
A 542 Type B Class 3	ASTM	USA	Steel and Plates
A 542 Type B Class 2	ASTM	USA	Steel and Plates
A 250 Grade T22	ASTM	USA	Steel and Tubing
A 336 Grade F22A	ASTM	USA	Steel and Forging
A 369 Grade FP22	ASTM	USA	Steel and Pipe
A 335 Grade P22	ASTM	USA	Steel and Pipe

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.

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