



GRAVITY CAST PVT. LTD.
GRAVITY GROUP OF COMPANIES

Material - ASME SA-182 Grade F 22 Class 3

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 3 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		
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		515 min.		
Yield Strength in Mpa		310 min.		
Elongation in %		20 min.		
Reduction of Area in %		30 min.		
Hardness in BHN		156 - 207		
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

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