GRAVITY CAST PVT. LTD.
GRAVITY GROUP OF COMPANIES

Material - ASME SA-182 Grade F 3VCb

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 3VCb Forged or Rolled Alloy and Stainles Steel Pipe Flanges, Forged Fittings and Valves and Parts for Hogh-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 - 0.150
Manganese	Mn %	0.300 - 0.600
Phosphorus	P %	0.020 max.
Sulphur	S %	0.010 max.
Silicon	Si %	0.100 max.
Nickel	Ni %	0.250 max.
Chromium	Cr %	2.700 - 3.300
Molybdenum	Mo %	0.900 - 1.100
Niobium	Nb %	0.015 - 0.070
Titanium	Ti %	0.015 max.
Vanadium	V %	0.200 - 0.300
Copper	Cu %	0.250 max.
Calcium	Ca %	0.0005 - 0.0150
Iron	Fe %	Balance
-	-	-

Heat Treatment
Annealing

Mechanical Properties	
Tensile Strength in Mpa	585 - 760
Yield Strength in Mpa	415 min.
Elongation in %	18 min.
Reduction of Area in %	45 min.
Hardness in BHN	174 - 237
Impact in Joule	-

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Cross Reference Table			
Material	**Standard**	**Country**	**Grade Belong to the Industry**
K31390	UNS	USA	Steel
A 182 F 3VCb	ASTM	USA	Steel and Pipe
A 542 Type E Class 4	ASTM	USA	Steel and Plates
A 542 Type E Class 4a	ASTM	USA	Steel and Plates
SA-542 Type D Class 4	ASME	USA	Steel and Plates
SA-542 Type D Class 4a	ASME	USA	Steel and Plates
SA-542 Type E Class 4	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

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