



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

## Material - ASME SA-592 Grade F

Standard Specification for High-Strength Quenched and Tempered Low-Alloy Steel Forged Fittings and Parts for Pressure Vessels

Group - Ferrous Mild Steel Alloys

Sub Group - ASME SA-592 Grade F High-Strength Quenched and Tempered Low-Alloy Steel Forged Fittings and Parts for Pressure Vessels

Application - Intended for Valve, Pump, General Engineering, Automotive and Other Industries

Grade Belongs to the Industry - Forging

Chemical Composition			Heat Treatment	
Carbon	C %	0.100 - 0.200	Annealing or Normalising or Hardening + Tempering	
Silicon	Si %	0.150 - 0.350		
Manganese	Mn %	0.600 - 1.000		
Phosphorus	P %	0.025 max.		
Sulphur	S %	0.025 max.		
Chromium	Cr %	0.400 - 0.650		
Nickel	Ni %	0.700 - 1.000		
Molybdenum	Mo %	0.400 - 0.600		
Copper	Cu %	0.150 - 0.500		
Vanadium	V %	0.030 - 0.080		
Boron	B %	0.002 - 0.006		
Iron	Fe %	Balance		
-	-	-		
-	-	-		
-	-	-		
			Mechanical Properties	
			Tensile Strength in Mpa	725 - 930
			Yield Strength in Mpa	620 min.
			Elongation in %	17 min.
			Reduction of Area in %	40 min.
			Hardness in BHN	-
			Impact in Joule	-

Cross Reference Table			
Material	Standard	Country	Grade Belong to the Industry
1.8719	DIN	Germany	Steel
1.892	EN	European Union	Steel
6386 Type 12	AMS	USA	Steel
K11576	UNS	USA	Casting
SA-487 Grade 7A	ASME	USA	Casting
J12084	UNS	USA	Casting
A487 7A	ASTM	USA	Casting

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**