

MATERIAL DATA SHEET



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ASTM A182 F11

Condition of supply:-	<i>As Rolled/Forged, Annealed, Quenched & Tempered</i>
Surface Condition:-	<i>Black, Bright, Proof machined, Machined to Requirements</i>

Description:

ASTM A182 F11 sustains High Temperature Loads and offers Excellent Stress Distribution, for maximum resistance to acid attack and demonstrates superior resistance to stress, corrosion cracking in boiling 20-40% sulphuric acid and also has excellent general corrosion resistance to sulphuric acid and chloride stress corrosion cracking.

Typical Applications:

Off-Shore Oil Drilling Companies, Power Generation, Petrochemicals, Gas Processing, Specialty Chemicals, Pharmaceuticals, Pharmaceutical Equipment, Chemical Equipment, Sea Water Equipment, Heat Exchangers, Condensers, Pulp and Paper Industry

F11 is generally used for High Pressure Services Systems & Boilers and is commonly found in a wide range of Fittings and Flanges such as Slip on, Weld Neck, Blind & Joint Flanges.

Typical Chemical Composition:

	C	Si	Mn	S	P	Cr	Mo
Class 1	0.05-0.15	0.50-1.00	0.30-0.60	0.030	0.030	1.00-1.50	0.44-0.65
Class 2	0.10-0.20	0.50-1.00	0.30-0.80	0.040	0.040	1.00-1.50	0.44-0.65
Class 3	0.10-0.20	0.50-1.00	0.30-0.80	0.040	0.040	1.00-1.50	0.44-0.65

Mechanical Properties – ASTM A182 F11

F11	Tensile Strength Min, Ksi [Mpa]	Yield Strength min, ksi [MPa]	Elongation %	Reduction of area min, %	Brinell Hardness HBW
Class 1	60 [415]	30 [205]	20	45	121-174
Class 2	70 [485]	40 [275]	20	30	143-207
Class 3	75 [515]	45 [310]	20	30	156-207

Machining

F11 is readily machinable allowing processes such as Sawing, Turning, Drilling, Boring and Milling to be relatively easily achieved.

Form of supply:

Material can be supplied, Black Annealed - Rolled/Forged Bar, Proof Machined, Bright Turned or Ground Bar, Cut Pieces or Machined to customer specification.

Size ranges from:

170mm diameter - 250mm diameter