

ASTM A182 – Forged or Rolled Alloy and Stainless Steel Pipe Flanges, Forged Fittings, and Valves and Parts for High Temperature Service

Grade: F53 (ferritic-austenitic stainless steel)

UNS number : S32750

Chemical Requirements, %

C: ≤ 0.030

Mn: ≤ 1.20

P: ≤ 0.035

S: ≤ 0.020

Si: ≤ 0.80

Cr: 24.0-26.0

Ni: 6.0-8.0

Mo: 3.0-5.0

N: 0.24-0.32

Cu: ≤ 0.50

Heat treatment

Solution treat and quench, ≥ 1025 °C

Cooling media, liquid

Quenching cool below 260°C

Tensile Requirements

Thickness	$\leq 50\text{mm}$	$> 50\text{mm}$
Tensile Strength	$\geq 800\text{MPa}$	$\geq 730\text{MPa}$
Yield Strength	$\geq 550\text{MPa}$	$\geq 515\text{MPa}$

Elongation 2 in. or 50 mm (or 4D), $\geq 15\%$

Brinell Hardness, ≤ 310