

MATERIAL DATA SHEET · SUPER DUPLEX STAINLESS STEEL

ASTM A182 F53 (Super Duplex 2507) — Chemical Composition & Mechanical Properties

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ASTM A182 F53 (Super Duplex 2507) is a super duplex stainless steel grade for forged flanges & fittings (UNS S32750, EN / W.Nr.1.4410). It is also known as 2507 · SAF 2507 (trade name). This sheet summarises its chemical composition limits, minimum mechanical properties, heat treatment and typical service. Teshi Group manufactures flanges and fittings in this grade.

At a glance

Material family	Super duplex stainless steel
Product form	Forged flanges & fittings
UNS	S32750
EN / W.Nr	1.4410
Also known as	2507 · SAF 2507 (trade name)
PREN (min values)	37.7

Mechanical properties

Tensile strength, min	800 MPa
Yield strength (0.2 % offset), min	550 MPa
Elongation, min	15 %
Hardness	310 HBW max

Chemical composition (weight %)

C 0.030 max	Mn 1.20 max	P 0.035 max	S 0.020 max	Si 0.80 max
Cr 24.0–26.0	Ni 6.0–8.0	Mo 3.0–5.0	N 0.24–0.32	Cu 0.50 max

Single values are maximums unless shown as a range or “min”.

Heat treatment

Solution annealed 1025–1125 °C, water quench

Typical service

Seawater injection, firewater, subsea and desalination

International equivalents (nearest)

USA — ASTM / ASME	ASTM A182 F53 (Super Duplex 2507) · ASME SA-182 F53 (Super Duplex 2507)
USA — UNS	S32750
Europe — EN designation	X2CrNiMoN25-7-4
Europe — W.Nr	1.4410
Japan — JIS	SUS327L1
China — GB / NB	S25073 (022Cr25Ni7Mo4N)
China — old GB designation	00Cr25Ni7Mo4N

Same alloy in other product forms

Flanges & forged fittings	ASTM A182 F53
Butt-weld fittings	ASTM A815 WPS32750
Pipe	ASTM A790 / A928 S32750
Plate	ASTM A240 S32750
Bar	ASTM A479 S32750

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