

MATERIAL DATA SHEET · SUPER DUPLEX STAINLESS STEEL

ASTM A182 F61 (Alloy 255) — Chemical Composition & Mechanical Properties

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ASTM A182 F61 (Alloy 255) is a super duplex stainless steel grade for forged flanges & fittings (UNS S32550, EN / W.Nr 1.4507). It is also known as 255 · Ferralium 255 (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	S32550
EN / W.Nr	1.4507
Also known as	255 · Ferralium 255 (trade name)
PREN (min values)	35.2

Mechanical properties

Tensile strength, min	750 MPa
Yield strength (0.2 % offset), min	550 MPa
Elongation, min	25 %
Hardness	Not specified

Chemical composition (weight %)

C 0.04 max	Mn 1.50 max	P 0.040 max	S 0.030 max	Si 1.00 max
Cr 24.0–27.0	Ni 4.5–6.5	Mo 2.9–3.9	N 0.10–0.25	Cu 1.50–2.50

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

Heat treatment

Solution annealed 1050–1125 °C, water quench

Typical service

Sulphuric acid, phosphoric acid and seawater service

International equivalents (nearest)

USA — ASTM / ASME	ASTM A182 F61 (Alloy 255) · ASME SA-182 F61 (Alloy 255)
USA — UNS	S32550
Europe — EN designation	X2CrNiMoCuN25-6-3
Europe — W.Nr	1.4507
China — GB / NB	S25554 (03Cr25Ni6Mo3Cu2N)

Teshi Group — OEM manufacturer of flanges, pipe fittings, fasteners, valves and fabrications; stockist and supplier of pipes, plates and structural steel. ISO 9001:2015 · IBR approved · since 1971. Enquiries: info@teshigroup.com · sales@teshigroup.com · +91 78900 09110

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