UNS S32750 (1.4410, F53)

Smiths Advanced Metals

Super Duplex Strength

Super duplex stainless steel with PREN 40 min.

UNS S32750 is a super duplex stainless steel with a roughly 50:50 austenite-ferrite structure, combining high strength with excellent resistance to seawater corrosion.

A guaranteed PREN of 40 or more gives high resistance to pitting, crevice corrosion and chloride stress corrosion cracking. Notch toughness is good at ambient temperature and down to -50 °C.

Its proof strength is more than twice that of Type 316. It can replace 316, standard 22% chromium duplex and 17-4PH in demanding environments. Typical yield strength reaches 570 MPa, against a 530 MPa minimum.

We stock UNS S32750 super duplex as round bar in a broad range of sizes.



Grades / Specifications

- UNS S32750
- 1.4410
- ASTM A182 F53
- NORSOK M-630
- NACE MR0175

Key Applications

- Pumps & valves
- Chokes & Christmas trees
- Pipework & flanges
- Bolting & connectors
- Manifolds

* Chemical Composition (weight %)

	C	Mn	Si	S	P	Cr	Ni	Mo	N
min.						24.0	6.0	3.0	0.24
max.	0.030	2.00	1.00	0.015	0.035	26.0	8.0	4.5	0.35

* As per EN 10088-3 1.4410

* Mechanical Properties (minimum)

Tensile Strength	730–930 MPa
0.2% Proof Strength	530 MPa min
Elongation	25% min
Hardness	290 HB max

* As per EN 10088-3, solution annealed bar up to 160 mm

Physical Properties

Density	7.8 g/cm³
Thermal Conductivity	15 W/m·K
Thermal Expansion (20–100 °C)	13.0 µm/m·°C
Modulus of Elasticity	200 GPa
Electrical Resistivity	0.80 µΩ·m
Magnetic	Yes

Replacing 316, Duplex & 17-4PH

With a PREN of 40 or more, UNS S32750 offers far better pitting and crevice resistance than Type 316 or 22% chromium duplex (PREN 33–34). Machining and welding present no particular problems, and we can supply guidance notes on request.

Unit 5 Percy Road,
Huntingdon,
Cambridgeshire PE29 6SZ
Tel: +44 (0) 1767 604710

bsi ISO 9001 Quality Management Systems CERTIFIED
AS/EN 9100 Aviation Space and Defence CERTIFIED
EN 9120 Aviation Space and Defence CERTIFIED
UKAS TESTING 1930

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