UNS S32760

Smiths Advanced Metals

Super Duplex Stainless Steel Bar

Outstanding Corrosion Resistance

UNS S32760 combines outstanding corrosion resistance in marine atmospheres and a broad range of oil & gas application environments.

The alloy boasts good ductility and superior mechanical strength (with a typical yield strength of 600 MPa). High resistance to crevice corrosion, stress corrosion cracking, and high resistance to pitting corrosion is guaranteed as the material is supplied with pitting resistance equivalent (PREN) of >40.0. UNS S32760 is often considered a viable, cost-effective alternative to Grade 5 titanium or nickel-based alloys. Unlike standard stainless steels, the alloy offers an effective solution to chloride-induced cracking and promotes outstanding resistance to sulphide-stress corrosion cracking, typical in sour gas applications. The alloy consists of around 40-50% ferrite in the annealed condition and offers high impact strength in sub-zero temperature environments. Typical applications include pressure vessels, heat exchangers and seawater systems.

We stock UNS S32760 super duplex bars in various sizes and will process the product for you, in-house.

Grades / Specifications

- 1.4501
- F55
- X2CrNiMoCuWN25-7-4
- ASTM A182, ASME A182
- ASTM A276, ASME A276
- ASTM A479, ASME A479
- NACE MR0103
- NACE MR0175
- Norsok M-630
- Norsok MDS 57

Benefits

- Excellent resistance to corrosion
- Good ductility
- High impact strength
- High resistance to crevice corrosion

Chemical Composition (weight %)

	C	Mn	Si	S	P	Cr	Ni	Mo	Cu	N	W	**PreN
min.						24.00	6.00	3.00	0.50	0.20	0.50	40.00
max.	0.03	1.00	1.00	0.010	0.030	26.00	8.00	4.00	1.00	0.30	1.00	

* As per ASTM A182

** PREn = Cr % + 3.3Mo% + 16N%

*Mechanical Properties (minimum, at room temperature)

Tensile Strength	750 - 895 MPa
Yield Strength	550 MPa min
Elongation	25%
Reduction of Area	45%

Typical Properties

Density	7.8 kg/dm³
Specific Thermal Capacity at 20°C	500 $J.Kg^{-1}.K^{-1}$
Mean Coefficient of Thermal Expansion at 20 - 100°C	13.0 x $10^{-6}K^{-1}$
Thermal Conductivity at 20°C	15 $W.m^{-1}.K^{-1}$
Electrical Resistivity at 20°C	0.80 $\Omega.mm^2.m^{-1}$
Modulus of Elasticity at 20°C	200 GPa
Magnetisable	Yes

* Properties as per ASTM A182

Stratton Business Park,
London Road, Biggleswade,
Bedfordshire SG18 8QB
Tel: +44 (0) 1767 604710

ISO 9001 Quality Management Systems CERTIFIED
AS/EN 9100 Aviation Space and Defence CERTIFIED
EN 9120 Aviation Space and Defence CERTIFIED

UKAS TESTING 1930

All information in our data sheet is based on approximate testing and is stated to the best of our knowledge and belief. It is presented apart from contractual obligations and does not constitute any guarantee of properties or of processing or application possibilities in individual cases. Our warranties and liabilities are stated exclusively in our terms of trading.

© Smiths Advanced Metals 2023