

## S 32760/F55

# SUPER DUPLEX ALLOY

BOLTING MATERIAL FOR HIGH TEMPERATURE SERVICE

Super Duplex UNS S32760 has excellent corrosion resistance to a wide variety of media, with outstanding resistance to pitting and crevice corrosion in seawater and other chloride containing environments, with Critical Pitting Temperature exceeding 50°C. S32760 has Excellent corrosion resistance in a wide variety of corrosive, Super Duplex UNS S32760 Outstanding resistance to pitting and crevice corrosion in seawater and other chloride containing environments, with Critical Pitting Temperature exceeding 50°C.

Providing higher strength than both austenitic and 22% Cr Duplex Stainless Steels UNS S32760 is suited to a variety of applications in industries such as Chemical Processing, Oil & Gas, and Marine environments. Super Duplex UNS S32760 High strength compared to austenitic and 22%Cr duplex stainless steels

UNS S32760 is listed in NACE MR 01 75 for sour service and having gained ASME Approval for Pressure Vessel applications. Super Duplex UNS S32760 has Excellent corrosion resistance in a wide variety of corrosive chemicals including seawater and industrial acids, Super Duplex UNS S32760 has High resistance to abrasion, erosion and cavitation erosion Excellent resistance to stress corrosion cracking

### Chemical Properties

C	Mn	P	S	Si	Cr	Ni	Mo	Cu	N	W	PREN
0.03 Max	1.00 Max	0.03 Max	0.01 Max	1.00 Max	24.0-26.0	6.0-8.0	3.0-4.0	0.50-1.0	0.20-0.30	0.5-1.0	0.40Min

### Mechanical Properties

Yield strength	Tensile strength	Elongation	Reduction	Hardness
Mpa	Mpa	%	%	BHN
min	min	min	min	
550	750-895	25	45	300

### Physical Properties

Density	Elastic Modulus	Mean Coefficient of Thermal	Thermal Conductivity	Specific Heat	Electrical Resistivity
(Kg/m <sup>3</sup> )	(Gpa)	Expansion(μm/m/°C)	(W/m.K)	0-100°C	(μΩ.m)
7810	199	11.1 X10 <sup>-6</sup>	14.2	475	0.8

### Heat Treatment

Solution Annealed @ 1100°C -1140°C & Liquid Quenched @ 260°C

### Additional Tests:

ASTM G48A Corrosion test at 40°C	No pitting and weight loss <4.0 g/m <sup>2</sup>
Ultrasonic Testing	According to ASTM A388
Ferrite Content	35%-55%
Microstructure	Microstructure certified free from grain boundary carbides, sigma, chi and laves phases

### Equivalent Designation

UNS S32760  
EN number 1.4501  
AISI F55  
Werkstoff.No.1.4496  
SS  
Z3CND25.0  
ZERON 100

### Applications

Chemical Process Industry  
Marine Industry and Shipbuilding  
Oil and Gas Industry:  
Pollution Control  
Pulp and Paper Industry:  
Food Industry:  
Agrochemicals

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