

S32205/F60

DUPLEX ALLOY

BOLTING MATERIAL FOR HIGH TEMPERATURE SERVICE

"DUPLEX 32205 is a Stainless ferritic-austenitic Cr-Ni-Mo steel with nitrogen addition. High corrosion resistance, especially against stress corrosion cracking in solutions containing chloride. Good strength properties. Resistant to intergranular corrosion in the temperature range up to 300°C. Heat treatment subsequent to welding not necessary.

Surface condition for optimum corrosion resistance: pickled, heat treated free from scale or machined. UNS 32205 is widely used for Components in the chemical industry, e.g. separator and heat exchanger parts, from the paper industry, oil and gas production, compressor parts, seawater desalination plants." DUPLEX 32205 has Good resistance to pitting and crevice corrosion in seawater. High stress corrosion resistance. Lower thermal expansion than austenitic stainless steels. Higher thermal conductivity than austenitic stainless steels

Chemical Properties

C	Mn	P	S	Si	Cr	Ni	Mo	N
0.030 Max	2.00 Max	0.030 Max	0.020 Max	1.00 Max	22.0-23.0	4.50-6.50	3.00-3.50	0.14-0.20

Mechanical Properties

Yield strength	Tensile strength	Elongation	Reduction	Hardness
Mpa	Mpa	%	%	BHN
min	min	min	min	
485	655	25		

Physical Properties

Density	Elastic Modulus	Mean Coefficient of Thermal	Thermal Conductivity	Specific Heat	Electrical Resistivity
(Kg/m ³)	(Gpa)	Expansion (µm/m/°C)	(W/m.K)	0-100°C	(µΩ.m)
7810	190	11 X10 ⁻⁶	15	400	0.85

Heat Treatment

Solution Annealed @1020°C & liquid Quenched @260°C

Additional Tests:

ASTM G48A Corrosion test at 40°C	No pitting and weight loss <4.0 g/m ²
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 S32205
EN number 1.4462/1.4470
AISI F60
W.Nr. 1.4462
SS 2377
AFNOR Z2CND22.05Az

Applications

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

CUSTOMER ASSISTANCE : customer@TorqBolt.com