# **DUPLEX STEEL**

# UNS 31803 - 1.4462



#### UNS 31803 - 1.4410

UNS 31803 is a type of Duplex stainless steel that has a balanced microstructure of 50% austenite and 50% ferrite. Also known as F51 or 2205, this grade is a successful alternative to the normal 300 series austenitic stainless steels, where its higher strength and resistance to stress corrosion cracking is required in critical applications.

#### **KEY FEATURES**

- High corrosion resistance
- High strength
- Good mechanical strength
- Good weldability

## **CHEMICAL PROPERTIES**

<b>21-23%</b>	4.5-6.5%	2.5-3.5%	<b>2%</b>	(3) <b>1%</b>	0.5-1%	0.15%	0.035%	0.03%	0.02%
Chromium	Nickel	Molybdenum	Manganese	Silicone	Copper	Nitrogen	Phosphorus	Carbon	Sulphur
(Cr)	(Ni)	(Mo)	(Mn)	(Si)	(Cu)	(N)	(P)	(C)	(S)

### **MECHANICAL PROPERTIES**

	1
Tensile strength (N/mm <sup>2</sup> )	650-880
Yield strength (N/mm <sup>2</sup> )	450
Elongation (% in 4D)	25
Hardness - Rockwell (HRB) max	105
Hardness - Brinell (HB) max	270

### **PHYSICAL PROPERTIES**

Density (kg/m <sup>3</sup> )	7800	
Modulus of elasticity (Gp	oa)	200
M	0-100°C (µm/m/°C)	13.0
Mean coefficient of thermal expansion	0-350°C (µm/m/°C)	13.4
	0-538°C (µm/m/°C)	14.1
Thermal	at 100°C (W/m.K)	15.0
conductivity	at 500°C (W/m.K)	20.2
Specific Heat 0-100°C (J	/kg.K)	500
Electrical resistivity (nΩ.	m)	800
Melting point (°C)	1450	

#### **MARKET SECTORS**





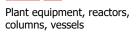
Chemical Processing

Ship hulls, propeller shafts, fasteners



Pumps, valves, chokes, piping systems







Pulp & Paper Industry

Digesters, bleaching tanks, piping systems



Heat exchangers, tanks, piping equipment



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