



Duplex UNS S31803, 1.4462

Duplex UNS S31803 is an austenitic ferritic stainless steel which combines elements of chromium, nickel and molybdenum. It has roughly twice the yield strength of standard austenitic stainless steel grades. This grade of stainless steel offers excellent resistance to stress and crevice corrosion, pitting and cracking.

The characteristics of Duplex UNS S31803 make it an effective substitute for 300 series stainless steels in applications where greater mechanical strength, reduced weight, and/or resistance to stress corrosion cracking are crucial. Examples include fasteners used in chemical processing, marine environments, the offshore oil & gas industry, pulp & paper processing, and pollution control equipment.

Duplex UNS S31803 Grades & Equivalents:

- Duplex 2205
- Werkstoff 1.4462
- ASTM A182 F51
- ASTM A276
- ASTM A479
- BS EN 10088

Typical Chemical Analysis

C	Si	Mn	P	S	Cr	Ni	Mo
0.030	1.000	2.000	0.030	0.020	21.0-23.0	4.50-6.50	2.50-3.50
W	N	Cb/Nb	Ti	Co	Cu	Al	B
	0.08-2.00						
V	Fe	Mg	Ta	Ca	O	Bi	Se
Sn	Zn	Pb	Y	Cb/Nb + Ta	Ni + Co	H	PREN

Typical Mechanical Properties

Tensile Strength	620 N/mm ²
0.2% Proof Stress	448 N/mm ²
Elongation	25% Min
Reduction of Area	
Hardness	290 HBw Max
Impacts	
Stress Rupture	
Other Remarks	

Product Forms Available:

- Hexagon Head Bolts
- Hexagon Nuts
- Studbolts
- Socket Capscrews
- Socket Countersunk Screws
- Socket Setscrews
- & Many other special fasteners and bespoke machined parts

Products can be produced to customer drawings or relevant British (BS), American (ASME, ANSI), European (DIN, UNI) or International Standards (ISO).

The size ranges M3 to M120 Metric and 3/16" to 4.75" Imperial can be supplied. Thread forms include UNC, UNS, UNF, BSW, BSF, Whitworth, Metric, Metric Fine.



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