

Stainless Steel

ASTM A815 (S31803/S32205)

Datasheet Updated
05 August 2021

SPECIFICATIONS

Commercial	ASTM A815
US	S31803

A duplex stainless steel with a microstructure of 50:50 austenite and ferrite.

CHEMICAL COMPOSITION

Element	% Present
Carbon (C)	0.00 - 0.03
Chromium (Cr)	21.00 - 23.00
Phosphorous (P)	0.00 - 0.03
Sulphur (S)	0.00 - 0.02
Nickel (Ni)	4.50 - 6.50
Nitrogen (N)	0.08 - 0.20
Molybdenum (Mo)	2.50 - 3.50
Iron (Fe)	Balance
Manganese (Mn)	Balance
Silicon (Si)	Balance

ALLOY DESIGNATIONS

Grade UNS 31803 is similar to:

- 2205
- EN 1.4462Z
- UNS S31803
- UNS S32205
- BS 318S13
- 318

SUPPLIED FORMS

- Bar
- Fittings & Flanges
- Pipe
- Tube
- Sheet
- Plate

APPLICATIONS

- Chemical processing, transport and storage
- Oil and gas exploration and offshore rigs
- Oil and gas refining
- Marine environments
- Pollution control equipment
- Pulp & paper manufacturing
- Chemical process plant

CHARACTERISTICS

- High resistance to stress corrosion cracking
- High resistance to general corrosion, pitting, and crevice corrosion
- High resistance to erosion corrosion and corrosion fatigue
- High mechanical strength - roughly twice the proof strength of austenitic stainless steel
- Physical properties that offer design advantages
- Good weldability

MECHANICAL PROPERTIES

Property	Value
Proof Stress	450 Min MPa
Tensile Strength	620 Min MPa
Elongation A50 mm	25 Min %
Hardness Brinell	290 Max HB

DISCLAIMER

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