

Stainless Steel

1.4462 (S32205) F51

Datasheet Updated
05 August 2021

RANGE

Product Form	Imperial Sizes	Metric Sizes
Round Bar Peeled K12	4"	100mm

SPECIFICATIONS

Commercial	F51
EN	1.4462
US	S32205

A duplex austenitic-ferritic chromium-nickel-molybdenum stainless steel.

CHEMICAL COMPOSITION

EN 10088-3
1.4462 Steel

Element	% Present
Carbon (C)	0.00 - 0.03
Chromium (Cr)	21.00 - 23.00
Manganese (Mn)	0.00 - 2.00
Silicon (Si)	0.00 - 1.00
Phosphorous (P)	0.00 - 0.03
Sulphur (S)	0.00 - 0.02
Nickel (Ni)	4.50 - 6.50
Nitrogen (N)	0.10 - 0.22
Molybdenum (Mo)	2.50 - 3.50
Iron (Fe)	Balance

ALLOY DESIGNATIONS

Grade 1.4462/2205 is similar to **but may not be a direct equivalent:**

- UNS S31803
- UNS S32205
- BS 318S13

SUPPLIED FORMS

- Bar
- Fittings & Flanges
- Pipe
- Tube

APPLICATIONS

- Process industry components in sulphuric acid, nitric acid, phosphoric acid, ethylene oxide, polypropylene & PVC production
- Equipment handling organic & fatty acids, chemical storage, tankers, heat exchangers
- Marine industry and shipbuilding propellers, shafts, rudders, shaft seals, pumps, bolts, fasteners, valves, instrumentation
- Oil and chemical tankers
- Oil & Gas industry pumps, valves, pipe, vessels, wellhead equipment, subsea equipment, separators, heat exchangers
- Pollution control systems, effluent scrubbing, flue gas desulphurisation (FGD)
- Waste water treatment, sour water purification
- Pulp & paper industry applications such as pulp liquor heaters, bleach tower linings, digesters, brownstock washers
- Food industry applications including brewery piping, evaporators, hot liquor tanks, presses



CHARACTERISTICS

- Higher strength than standard stainless steels
- Higher corrosion resistance than Alloy 316L stainless steel in a wide variety of corrosive chemicals including sulphuric, phosphoric and nitric acids
- 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

MECHANICAL PROPERTIES

EN 10088-3

Bar Up to 160mm Dia/Thickness

Property	Value
Proof Stress	450 Min MPa
Tensile Strength	650 to 880 MPa
Elongation A50 mm	25 Min %
Hardness Brinell	270 Max HB

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