

316/316L - UNS S31600/ S31603

MATERIAL DESCRIPTION

What is the difference in 316 and 316L?

316L stainless steel is almost identical to 316. The only difference is the carbon content.

316L's lower carbon content imparts even better corrosion resistance than 316. 316L does not require post-weld annealing.

316L grade stainless steel, sometimes referred to as A4 stainless steel or marine grade stainless steel, is an austenitic stainless steel. Its primary alloying constituents after iron, are chromium, nickel and molybdenum, with small quantities of silicon, phosphorus & sulphur also present. The addition of molybdenum provides greater corrosion resistance than 304, with respect to localized corrosive attack by chlorides and to general corrosion by reducing acids, such as sulfuric acid, 316L grade is the low carbon version of 316 stainless steel.

When cold worked, 316 can produce high yield and tensile strengths similar to Duplex stainless grades.

Commonly used in chemical and petrochemical industry, in food processing, pharmaceutical equipment, medical devices, in potable water, wastewater treatment, in marine applications and architectural applications near the seashore or in urban areas

APPLICABLE SPECIFICATIONS

ASTM A 276 /A276M & ASME BPVC II. A SA- 276

ASTM A 479 /A479M & ASME BPVC II. A SA- 479 /SA-479M

NORSOK M 630 NORSOK MDS – S01 & S17

ASTM A182/A182M - (CHEM & MECHS ONLY)

ASME BPVC.II.A SA 182 /182M - (CHEM ONLY)

ANSI/NACE MR 0175/ISO15156-3 & ANSI/NACE MR 0103 /ISO17945

1.4404 - 1.4401 / X2CrNiMo17-12-2

PED 2014/68/EU & AD2000 WO

HEAT TREATMENT

Intoco bar stock is in the Solution Annealed condition

CHEMICAL ANALYSIS RANGE

ELEMENT	WEIGHT %	ELEMENT	WEIGHT %
C	0.03 max	Si	1.00 max
Mn	2.00 max	Ni	10.0 - 14.0
P	0.045 max	Cr	16.0 – 18.0
S	0.03 max	Mo	2.00 - 3.00

TYPICAL MECHANICAL PROPERTIES (Min unless stated)

0.2% Yield ksi (MPa)	UTS ksi (MPa)	Ductility		Full size (10mm x 10mm) Charpy V Notch @ 20°C Ft-lbs (J)	Hardness HBW
		%El 4D	%RA		
30 (205)	75 (515)	35	50	Info only	215 Max

The data contained in this datasheet is for informational purposes only.

Information may be revised at any time without prior notice.

Intoco Special Steels makes no representation or warranty of any kind (express or implied) and assumes no liability with respect to the accuracy or completeness of the information contained herein.

Although the data is believed to be representative of the product, the actual

characteristics or performance of the product may vary from what is shown in this publication.

Nothing contained in this publication should be construed as guaranteeing the product for a particular use or applications

CONTACT DETAILS

Email: sales@intoco.co.uk

Telephone: 01452 712519