MULTIAlloys

ADDING VALUE THROUGH EXPERIENCE

ALLOY 1.4313

ALLOY INFORMATION SHEET | UNS S41500 W Nr 1.4313

HEAT AND/OR CREEP RESISTANT CORROSION RESISTANT OTHER

Alloy 1.4313 is a low-carbon, nickel-alloyed martensitic stainless steel with good mechanical properties including impact strength, a corrosion resistance superior to that of other martensitic grades with high C contents and it is weldable. It is one of several grades often referred to as “soft” or “super” martensitics.

The very useful properties displayed by these grades result from a microstructure that consists of tempered low-carbon martensite in the heat-treated condition (quenching + tempering) and possibly traces of ferrite and residual austenite.

1.4313 can be used between -60 °C and + 300 °C. Applications for the alloy includes parts for power generation turbines, couplings, pumps, valves and compressors components. The weldability of the alloy comes to the fore in the offshore oil and gas industry.

NOTE: Further mechanical property data available on request

NOMINAL COMPOSITION (%)						
	Fe	Cr	Ni	Mo	C	Other
ALLOY 1.4313	82	13	4	0.5	0,05 Max	N – 0,02% Min

APPLICABLE SPECIFICATIONS	
PLATE, SHEET & STRIP	
PIPE, TUBE	
BAR	EN 10088-3
FASTENERS	
FORGINGS	
FITTINGS	
WELDING PRODUCTS	

TYPICAL MECHANICAL PROPERTIES (COND QT780) #	
TENSILE STRENGTH (MPa)	780 - 980
YIELD STRESS (MPa)	620 Min.
ELONGATION (% in 50mm)	15% Min (long)
HARDNESS (Brinell)	
CHARPY IMPACT (J)	70 Min

TYPICAL PHYSICAL PROPERTIES #	
DENSITY (kg / cu m.)	7700
YOUNGS MODULUS (GPa)	200
THERMAL CONDUCTIVITY (W/m.C)	25
THERMAL EXPANSION (per Deg C)	0.0000105

 # - At room temperature

FABRICATION

1.4313 can be welded using most conventional welding processes. The weldability of this martensitic grade is enhanced by its low carbon and nickel contents. If welding with a filler and mechanicals on par with 1.4313 are not required then 316LM can be used; if mechanicals are required to be on par with the parent material, then a homogeneous filler can be used.

1.4313 can be machined in both annealed and quenched and tempered conditions.

In the annealed condition the grade is subject to the chip sticking to the tool. QT 700 temper offers the best machinability of the various standard conditions that 1.4313 is supplied in.

Please call for details of Stock, Delivery and Price

Detailed technical data available upon request

Note: Data shown are typical and full research should be done to determine the usefulness in any application or design. No warranty is expressed or implied and we assume no responsiblity for the accuracy, completeness or usefulness of the content.

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