MULTIAlloys

ADDING VALUE THROUGH EXPERIENCE

ALLOY 400

ALLOY INFORMATION SHEET | UNS N04400 W Nr 2.4360

HEAT AND/OR CREEP RESISTANT | CORROSION RESISTANT | OTHER

Alloy 400 is a nickel - copper alloy with excellent corrosion resistance in a range of media. It is resistant to steam, sea water and brines, even at elevated temperatures, as well as being able to withstand hydrofluoric acid, sulphuric acid (under certain conditions) and alkalis. Alloy 400 is thus also widely used in marine engineering and the hydrocarbon and chemical processing industries.

Further features of Alloy 400 are : - Good thermal conductivity and hence widespread use in heat exhangers - High strength - Good ductility - Toughness - Readily fabricated.

Alloy 400 is one of the most widely used nickel alloys and hence is available in a wide range of product forms, as well as equipment, such as pumps and valves. There are variants of Alloy 400, one of the most common being Alloy K500. This is a precipitation hardenable version with greater strength and hardness than Alloy 400 and is thus ideally suited for use as pump and propeller shafts, valve trim and fasteners.

NOMINAL COMPOSITION (%) * = min							
	Ni	Cu	Mn	Si	C	Fe	
	63*	31,5	1,0	0,5	0,1	1,5	

APPLICABLE SPECIFICATIONS	
PLATE, SHEET	ASTM B127
PIPE, TUBE	ASTM B163/165
BAR	ASTM B164
FASTENERS	
FORGINGS	ASTM B564
FITTINGS	ASTM B366
WELDING PRODUCTS	AWS ENiCu7 / ERNiCu7

TYPICAL MECHANICAL PROPERTIES #	
UTS (MPa)	550
0.2% PROOF STRENGTH (MPa)	240
ELONGATION	40%
HARDNESS	

TYPICAL PHYSICAL PROPERTIES #	
DENSITY (kg / cu m.)	8800
YOUNGS MODULUS (GPa)	188
THERMAL CONDUCTIVITY (w/ m.C)	21,8
THERMAL EXPANSION (per Deg C)	0,000014

 # - At room temperature

FABRICATION

Alloy 400 can be readily welded by gas - tungsten arc, gas - metal arc or shielded metal arc processes using the filler metals listed. Post weld heat treatment is not required but proper cleaning after welding is essential for optimum corrosion resistance. Like other nickel alloys, this alloy will be tough to machine and will work harden. However, with the correct choice of tool and machining parameters, very good results can be obtained. Hot working can be carried out in the temperature range 1130 - 900 deg C. Cleanliness is essential to prevent contamination and embrittlement.

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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