MULTIAlloys

ADDING VALUE THROUGH EXPERIENCE

ALLOY 904 - 6% Mo

ALLOY INFORMATION SHEET | UNS N08925 W Nr 1.4529

HEAT AND/OR CREEP RESISTANT CORROSION RESISTANT OTHER

Alloy 904 - 6% Mo is of very similar composition to Alloy 904L but with the molybdenum content increased to a minimum of 6% and a higher nitrogen content. These compositional modifications result in substantially better crevice corrosion and pitting resistance - a PREN of approximately 43. The alloy is used for media such as sulphuric and phosphoric acids containing chlorides and other contaminants which result in accelerated corrosion. It may be better suited to these environments than some 6% molybdenum alloys which are copper free. Other environments, which are all application areas for Alloy 904 - 6% Mo, are those subjected to acidic chloride containing solutions at elevated temperatures which exist in the pulp and paper industry, evaporation and crystalisation of salts, scrubbers and pollution control equipment. It is also well suited for use in offshore and other marine applications. The high nitrogen content of the alloy also results in a higher strength than most other austenic grades and this may be of advantage in structural or wear applications.

NOMINAL COMPOSITION (%)									
Ni	Cr	Mo	Cu	Mn	Si	N	C	Fe	Other
25	20	6,3	0,9	1,5	0,5	0,20	0,02	Rem	

APPLICABLE SPECIFICATIONS	
PLATE, SHEET	ASTM B625
PIPE, TUBE	ASTM B673/674/677
BAR	ASTM B649
FASTENERS	
FORGINGS	ASTM A182 / ANSI B 16.5*
FITTINGS	ASTM A403 / ANSI B 16.9*
WELDING PRODUCTS	

** In applicable parts*

FABRICATION

Alloy 904L - 6% Mo can be welded by the processes commonly used for austenitic stainless steel. Matching filler metals may be used but it is preferable for many applications to select an “overalloyed” filler from the nickel based alloys. Heat input should be minimised and proper cleaning after welding is essential. This alloy will be tough to machine and form 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 1200 - 900 deg C. This must be followed by solution annealing (1170 deg C) and water quenching.

TYPICAL MECHANICAL PROPERTIES #	
U T S (MPa)	700
0.2% PROOF STRENGTH (MPa)	320
ELONGATION	35%
HARDNESS (HV10)	180 -220

TYPICAL PHYSICAL PROPERTIES #	
DENSITY (kg / cu m.)	8100
YOUNGS MODULUS (GPa)	195
THERMAL CONDUCTIVITY (w/ m.C)	13
THERMAL EXPANSION (per Deg C)	0,000016

 # - At room temperature

Please call for details of availability 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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