



ALLOY-SEARCH

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2.4662 – Alloy 901 – Solution Treated + Aged

DESCRIPTION

2.4662 – Alloy 901 is a nickel-based superalloy that possesses high strength levels and resistance to elevated temperatures. It is commonly produced by VIM + CER, VIM+VAR or VIM+ESR methods to achieve high levels of metallurgical purity and the desired creep-life & stress-rupture properties under elevated temperatures.

APPLICABLE STANDARDS

UNS N09901
EN-ISO NiFe35Cr14MoTi / NiCr13Mo6Ti3
AFNOR Z8NCDT42
AMS 5660 / 5661
BR HR 55
Pyromet / Nimonic / Inconel 901
B50A305 / MSRR 7029 / MSRR 7031
Bohler L901 / Nickelvac 901
Other standards available upon request

CHEMICAL COMPOSITION*

Element	C	Mn	Si	P	S	Cr	Ag	Mo	Cu	Al	Ti	Co	Ni+Co	Fe
Min %	0.02	-	-	-	-	11.00	-	5.00	0.00	-	2.80	-	40.0	-
Max %	0.06	0.50	0.40	0.020	0.008	14.00	1.00	6.50	0.20	0.30	3.10	1.00	45.0	Balance

*Per AMS 5661

MECHANICAL PROPERTIES*

Property	Minimum
UTS	1130 Mpa
Rp0.2	810 Mpa
Elongation % in 5D	10%
Reduction of Area %	15%
Elastic Module	201 GPa
Hardness	302 HB.

*Per AMS 5661 at room temperature.

TYPICAL PRODUCTS & USAGE

Wire
Bolts/Flanges
Bar/Discs
Gas Turbines
Pressure Vessels
Petrochemical Environments
Elevated Temperatures

MATERIAL APPLICATION

Alloy 901 is an alloy typically used under elevated temperatures, typically up to 600 degrees Celsius. Common applications are gas turbines, pressure vessels, petrochemical applications etc. Alloy 901 is forged in three-stage process by first applying a solution annealing heat treatment, and afterwards two rounds of ageing and stabilization / precipitation. Moreover, this alloy has great corrosion resistance properties and can successfully be machined in all conditions. It does not observe great welding characteristics and as such any welding should preferably be performed on the material in the solution annealed condition. Appropriate heat treatment is recommended post-welding.

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