



R906.72

EN: 2.4806
AWS ERNiCr-3
Alloy 82

R906.72, Known as Alloy 82 is an Nickel base alloy used for welding of grades such as Alloy 600, 601 and Type 330. Alloy 82 exhibits good creep rupture strength and oxidation resistance at elevated temperatures. The alloy is suitable for applications where temperature ranges from cryogenic up to high temperature in applications such as mechanical engineering, chemical industry & nuclear etc.

CHEMICAL COMPOSITION (Nominal) %

C	Cr	Ni	Mn	Nb	Ti	Fe
0.01	20.0	Base	3.0	2.5	0.3	<1.0

PHYSICAL PROPERTIES

Condition: D-cooled

Density	8.2 g / cm ³
Modulus of elasticity, E	197 GPa
Specific heat 20°C	450 J / kg°C

TYPICAL MECHANICAL PROPERTIES

Condition: D-cooled

Proof strength	Rp0.2	390 N / mm ²
Tensile strength	Rm	800 N / mm ²
Elongation	A10	50 %

THERMAL TREATMENT

Annealing temperature	1050-1150 °C
	1922-2102 °F

MAX. OPERATING TEMPERATURE

Operating temp. in air	900 °C
	1652 °F
Resistance to oxidation. in air	1100 °C
	2012 °F

THERMAL CONDUCTIVITY

20 °C	11.2 W / mK
100 °C	11.6 W / mK
200 °C	14.4 W / mK
300 °C	16.1 W / mK

THERMAL EXPANSION

CTE

100 °C	13.3 μm/m°C
300 °C	14.2 μm/m°C
500 °C	15.1 μm/m°C