Alloy 718 **High Temperature Alloy**

Trade name	UNS	DIN	EN
Inconel 718	N07718	W2.4663	NiCr19NbMo
Alvac 718			
Nicrofer 5219			
Altemp 718			

Chemical Composition %

Cr	Ni + Co	Fe	Mo	C	Mn	Si	S	Nb+Ta	Ti	Al	B
17-21	50-55	Balance	2.8-3.3	0.08max	0.35max	0.35max	0.015max	4.75-5.5	0.65-1.15	0.2-0.8	0.006max

Co	P	Cu
1max	0.015max	0.3max

Recommended Welding Consumables

Wire ER NiFeCr-2
Rod E NiFeCr-2

Form	Smls Pipe/Tub	Weded Pipe	Welded Tube	Fittings	Plate	Bar	Forgings
Standard	ASTM B622	ASTM B 619	ASTM B 626	ASTM B 366	ASTM B333	ASTM B335	ASTM B564

Properties

High creep-rupture strength at high temperatures to above 1300 °F (700 °C)
High resistance to post weld cracking
Good tensile, fatigue, creep, and rupture strength

Applications

Gas turbine engines
Cryogenic storage tanks

Physical Properties

Density: 0.296 lbs/in3, 8.19 g/cm3
Specific Heat: Btu/lb ° F (J/kg ° C):
At 70 ° F (21 ° C): 0.104 (435)
Mean Coefficient of Thermal Expansion: in/in!° (mm/m/° C) 70 - 212 ° F (20 - 100 ° C): 7.6 x 10-5 (13.0)
Modulus of Elasticity: KSI (MPa)
29.7 x 103 (204.9 x 103) in tension
Magnetic Permeability, H = 200 Oersteds:
Melting Range: 2300 - 2437 ° F (1260 - 1336 ° C)
Ultimate Tensile Strength: 120 KSI min (827 MPa min)
Yield Strength: (0.2% offset) 60 KSI min (414 MPa min)
Elongation: 30% min (gauges:> 0.040 inches)