Nickel Alloy
AMS 5662 - Alloy 718

SPECIFICATIONS

Aerospace	AMS 5662
Commercial	Alloy 718

Alloy 718 is a Nickel-Chromium based Superalloy

CHEMICAL COMPOSITION

Element	% Present
Nickel (Ni)	50 - 55
Nickel + Cobalt (Ni+Co)	50 - 55
Chromium (Cr)	17 - 21
Niobium (Columbium) (Nb)	4.75 - 5.5
Columbium + Tantalum (Cb+Ta)	4.75 - 5.5
Molybdenum (Mo)	2.8 - 3.3
Titanium (Ti)	0.65 - 1.15
Cobalt (Co)	1 max
Aluminium (Al)	0.2 - 0.8
Manganese (Mn)	0.35 max
Silicon (Si)	0.35 max
Copper (Cu)	0.3 max
Phosphorous (P)	0.15 max
Sulphur (S)	0.15 max
Carbon (C)	0.08 max
Boron (B)	0.06 max
Iron (Fe)	Balance

This details the main elements only

SUPPLIED FORMS

Please contact us with your requirements

MECHANICAL PROPERTIES

Typical

Property	Value
Proof Stress	70 MPa
Tensile Strength	135 MPa
Elongation A50 mm	45 %
Hardness Rockwell B	100 HRB

The table shows typical properties for this alloy

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PHYSICAL PROPERTIES

Density	0.296 lb/in^3 annealed	0.274 lb/in^3 aged						
Melting Point	2410 - 2540 °F							
Temperature, °F	-320	70	200	400	600	1000	1200	1400
Coefficient of Thermal Expansion, in/in °F x 10^{-4}	5.9	-	7.3	7.5	7.7	8.1	8.4	8.9
Thermal Conductivity Btu ft/ft^2	-	6.4	7.2	8.2	9.3	11.3	12.3	13.3
Modulus of Elasticity, Dynamic psi x 10^6	-	29	28	27	26	25	24	22

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REVISION HISTORY

Datasheet Updated	15 January 2019

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