Nickel Alloy
AMS 5663 - Alloy 718

GOULD ALLOYS
THE LEADING EDGE IN METALS

SPECIFICATIONS

Aerospace	AMS 5663
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

[1 OF 2] CONTINUED

© Copyright Gould Alloys Limited / Parkway House, Unit 6 Parkway Industrial Estate, Wednesbury WS10 7WP

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

CONTACT

Address: Gould Alloys Ltd
Markham Lane
Markham Vale
Chesterfield
S44 5HS
United Kingdom
Tel: +44 (0) 1246 263300
Email: sales@gouldalloys.co.uk
Web: www.gouldalloys.co.uk

REVISION HISTORY

Datasheet Updated 15 January 2019

DISCLAIMER

This Data is indicative only and as such is not to be relied upon in place of the full specification. In particular, mechanical property requirements vary widely with temper, product and product dimensions. All information is based on our present knowledge and is given in good faith. No liability will be accepted by the Company in respect of any action taken by any third party in reliance thereon.

Please note that the 'Datasheet Update' date shown above is no guarantee of accuracy or whether the datasheet is up to date.

The information provided in this datasheet has been drawn from various recognised sources, including EN Standards, recognised industry references (printed & online) and manufacturers' data. No guarantee is given that the information is from the latest issue of those sources or about the accuracy of those sources.

Material supplied by the Company may vary significantly from this data, but will conform to all relevant and applicable standards.

As the products detailed may be used for a wide variety of purposes and as the Company has no control over their use; the Company specifically excludes all conditions or warranties expressed or implied by statute or otherwise as to dimensions, properties and/or fitness for any particular purpose, whether expressed or implied.

Advice given by the Company to any third party is given for that party's assistance only and without liability on the part of the Company. All transactions are subject to the Company's current Conditions of Sale. The extent of the Company's liabilities to any customer is clearly set out in those Conditions; a copy of which is available on request.

© Copyright Gould Alloys Limited / Parkway House, Unit 6 Parkway Industrial Estate, Wednesbury WS10 7WP