

NICKEL ALLOY 718 SHEET AND PLATE - AMS 5596, AMS 5597

Alloy 718 (alternatively known by Special Metals trade name Inconel 718) AMS 5596, AMS 5597, is a nickel chromium alloy which can be heat treated to give high strength, good corrosion resistance and is readily fabricated into complex parts with a very good resistance to postweld cracking. Alloy 718 can work effectively between -423 to 1300 deg F.

Specific Gravity															
7.98 g/cm3															
Typical Applications								Related Specifications							
Exhausts Liquid rocket components involving cryogenic temperatures								AMS 5596 AMS 5597 UNS N07718 ASTM B670							
Chemical Composition (Wt %)															
	Ni	Cr	Fe	Mo	Nb+Ta	C	Mn	Si	Ph	S	Ti	Cu	B	Al	Co
Min	50	17	Bal	2.8	4.75	–	–	–	–	–	0.65	–	–	0.20	–
Max	55	21	–	3.3	5.50	0.08	0.035	0.35	0.015	0.015	1.15	0.30	0.006	0.80	1.00
Mechanical Properties in the annealed condition															
											0.2% Proof Stress	Tensile Strength	Elongation		
											MPA	MPA	%		
											Max	Max	Min		
Sheet and strip											550	965	30		
Plate											725	1035	30		
Mechanical Properties in the solution treated and precipitation heat treated condition															

0.2% Proof Stress	Tensile Strength	Elongation
MPA	MPA	%
Min	Min	Min
1035	1240	12

* This data has been supplied in good faith and is indicative only. It has been provided for general information purposes only and is not to be relied upon in place of the full specification. Mechanical properties can vary considerably with different supply conditions such as heat treatment or temper and product dimensions.

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