

Technical datasheet

Alloy 718 | 2.4668 | AMS 5596

Major specifications

UNS N07718	DMD 0424-22	ASTM B670	NACE MRO175			
------------	-------------	-----------	-------------	--	--	--

Available product forms

Coils and Plates $\leq 25,4\text{mm}$ according AMS 5596

Plates

The current stock range can be found on www.sd-metals.com. Further dimensions available upon request.

Key features

Alloy 718 is a precipitation hardenable nickel-chromium alloy with additions of niobium, molybdenum, aluminium and titanium for improved corrosion resistance combined with extremely high strength and excellent weldability. Though originally developed for aerospace applications the unique combination of strength and corrosion resistance of Alloy 718 made it candidate for applications in the oil and gas sector.

Material according to AMS 5596 is supplied in the solution annealed condition for ease of fabrication and machining. The material must be precipitation heat treated to develop full strength

Alloy 718 plate is widely used in applications that require high strength, corrosion resistance and heat resistance.

Applications

- aircraft structural panels
- heat shields
- engine mounting brackets and exhaust ducts
- heat exchanger plates
- pressure vessels and storage tanks
- offshore platform components

Chemical composition

Composition - limits in % according AMS 5596

Ni	Cr	Nb	Mo	Co	Ti	Al	Mn	Si	Cu	C	T	S	P	B	Fe
50,0 - 55,0	17,0 - 21,0	4,75 - 5,50	2,80 - 3,30	max. 1,00	0,65 - 1,15	0,20 - 0,80	max. 0,35	max. 0,35	max. 0,30	max. 0,08	max. 0,05	max. 0,015	max. 0,015	max. 0,006	Rest

Physical and thermal properties

Density	8,19 g/cm ³
Melting temperature	1260 - 1336 °C
Thermal conductivity at 20°C	9,5 W/m • °C
Expansion coefficient at 21 - 93°C	13,1 µm/m • °C

Mechanical properties

(room temperature, once precipitation treated according AMS 5596)

Yield strength	min. 827 MPa
Tensile strength	min. 1034 MPa
Elongation	min. 20 %

All information is subject to change without notice.
The properties correspond to the material in the heading.
They may vary for other specifications.
Please contact us for more details.