Material Data Sheet

QUEST 4 ALLOYS

Alloy 718

Chemical Composition	Cr	Ni+ Co	Mo	Cu	Cb + Ta	Al	Ti	C	Fe	Co	Mn	Si	P	S
% Values (minimum)	17	50	2.80	-	4.87	0.4	0.65	-		-	-	-	-	-
% Values (Maximum)	21	55	3.30	0.15	5.2	0.6	1.15	0.08	bal	1.00	0.35	0.35	0.15	0.15

APPLICATIONS

Aerospace
Gas turbine engines
Cryogenic tankage
Fasteners
Instrumentation parts.

DESCRIPTION

Alloy 718 (UNS N07718/W.Nr. 2.4668) is a high-strength, corrosion-resistant nickel chromium material used at -423° to 1300°F. Typical composition limits are shown in Table 1. The age-harden able alloy can be readily fabricated, even into complex parts. Its welding characteristics, especially its resistance to post weld cracking, are outstanding.

CORROSION RESISTANCE

Alloy 718 has excellent corrosion resistance to many media. This resistance, which is similar to that of other nickel-chromium alloys, is a function of its composition. Nickel contributes to corrosion resistance in many inorganic and organic, other than strongly oxidizing, compounds throughout wide ranges of acidity and alkalinity. It also is useful in combating chloride-ion stress-corrosion cracking. Chromium imparts an ability to withstand attack by oxidizing media and sulphur compounds. Molybdenum is known to contribute to resistance to pitting in many media.