Material Data Sheet

QUEST 4 ALLOYS

Alloy 600

Chemical Composition	Cr	Ni	Mo	Cu	Cb+ Ta	Al	Ti	C	Fe	Co	Mn	Si	P	S
% Values (minimum)	14	72		-				-	6		-	-		-
% Values (Maximum)	17			0.05				0.15	10		1	0.50		0.015

APPLICATION

Chemical industry
Heaters
Stills,
Bubble towers
Condensers for processing of fatty acids
Evaporator tubes
Manufacture of paper pulp.

DESCRIPTION

Alloy 600 (UNS N06600/W.Nr. 2.4816) is a standard engineering material for applications which require resistance to corrosion and heat. The alloy also has excellent mechanical properties and presents the desirable combination of high strength and good workability. The limiting chemical composition of INCONEL alloy 600 is shown in Table 1. The high nickel content gives the alloy resistance to corrosion by many organic and inorganic compounds and also makes it virtually immune to chloride-ion stress-corrosion cracking. Chromium confers resistance to sulphur compounds and also provides resistance to oxidizing conditions at high temperatures or in corrosive solutions. The alloy is not precipitation harden able; it is hardened and strengthened only by cold work. The versatility of INCONEL alloy 600 has led to its use in a variety of applications involving temperatures from cryogenic to above 2000°F (1095°C).

CORROSION RESISTANCE

Alloy 600 is able to resist a variety of corrosives. The chromium content of the alloy makes it superior to commercially pure nickel under oxidizing conditions, and its high nickel content enables it to retain considerable resistance under reducing conditions. The nickel content also provides excellent resistance to alkaline solutions. The alloy has fair resistance to strongly oxidizing acid solutions. However, the oxidizing effect of dissolved air alone is not sufficient to insure complete passivity and freedom from attack by air-saturate mineral acids and certain concentrated organic acids.