TorqBolt Inc.

MATERIAL GRADE DATA SHEET

CuNi90-10 COPPER NICKEL ALLOY

BOLTING MATERIAL FOR HIGH TEMPERATURE SERVICE

Copper nickel alloys are alloys that have moderate strength and thermal stability in high temperature levels. The high oxidation resistance of these alloys is visible in moist air and steam. Copper nickel alloys have 2 to 30% nickel, high oxidation resistance and stress corrosion cracking resistance.Copper nickel alloys have good fabricability and high inherent resistance to biofouling. The addition of manganese, niobium, iron and or chromium in these alloys improves their corrosion resistance and strength. The 90/10 alloys are widely used as they are inexpensive. The 90/10 copper nickel alloys have great resistance to sea water corrosion due to the presence of significant amounts of manganese and iron.

Chemical Properties

Cu	Pb	Fe	Zn	Ni	Mn
89	0.05	1.3	1.0	10	1.0

Mechanical Properties

Yeild strength	Tensile strength	Elongation
Min 0.2% Mpa	Min Mpa	Min %
110-393	303-414	42

Physical Properties

Density	Elastic Modulus	Mean Coefficient of Thermal	Thermal Conductivity	Specific Heat	Melting Point
(Kg/m^3)	(Gpa)	Expansion(µm/m/°C)	(W/m.K)	0-100°C	(nΩ.m)
8.94	140	17.1	45	377	1150

Equivalent Designation

UNS C70600
Werkstoff no 2.0872
Din CuNi10Fe1Mn
BS2871

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