



TECHNICAL DATA - Special Alloys

NICKEL/CHROMIUM ALLOY: **Alloy 625 (UNS N26625 or CW6MC)**

Description

Alloy 625 is a 60% Nickel, 20% Chromium Alloy with Niobium & Molybdenum additions designed for high strength, high temperature and outstanding corrosion resistance

Heat Treatment

Castings in Alloy 625 are normally supplied in the solution annealed condition.

Applications

Submarine applications, sea water parts including comms cable connectors, heat exchangers, exhaust parts.

Design Considerations

Section thicknesses from 8 mm up can be cast satisfactorily in Alloy 625. Designs with drastic changes in section should be avoided, and uniform thickness maintained whenever possible.

Summary of Properties

Nominal Chemical Composition %

C	Mn	Si	P	S	Cr	Mo	Ni	Nb
0.05	0.8	0.8	0.015	0.015	21.0	9.0	Bal	3.5

Mechanical Properties at room temperature

UTS 485 MPa

Yield 275 MPa

Elongation 25%

Hardness 200 BHN Max

Physical Properties (Room Temp)

Density (g/cm³) 8.44

Melting Point (°C) 1300

Specific Heat (J/kg°C) 410

Electrical Resistivity (microhms/cm³) 129

Magnetic Permeability 1.0μ

Thermal Conductivity (W/m-K) 9.8

Properties listed are typical of published laboratory tests and are intended as a guide only. This data should not be considered as guaranteed maximums or minimums. Materials should be tested under actual service conditions to determine their suitability for particular applications.