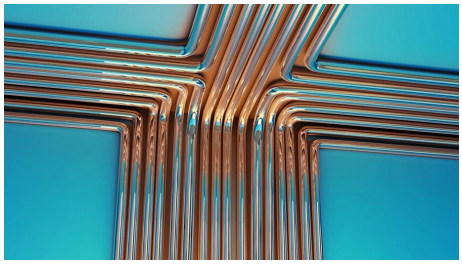
CUPRO NICKEL Advanced Materials. Engineered for Performance.

Cupro Nickel 90/10 Seamless Pipes



Cupro Nickel | UNS: C70600 | EN: CW352H / CuNi10Fe1Mn | DIN: 2.0872 | Navy: MIL-T-16420K

The default seawater alloy. 90% copper with 10% nickel and a controlled iron addition builds a protective cuprous oxide film in seawater, and the inherent copper toxicity stops macrofouling - barnacles and mussels do not settle, so cooling lines stay clean without chlorination. Specified for ship and platform seawater systems, firewater ring mains and condenser tubing where the velocity stays below about 3.5 m/s.

Stock status: Mill indent - Typical lead time: 4 - 8 weeks mill indent

Key features

- Protective oxide film gives long life in flowing seawater
- Natural biofouling resistance - no barnacle or mussel settlement
- Immune to chloride stress corrosion cracking
- Easy to weld and form, no post-weld heat treatment required
- Navy, DNV and Lloyd's approved supply available

Available forms & sizes

Form	Size range
Seamless Pipes & Tubes	1/8" - 12" NB seamless, 6 - 108 mm OD tube, 0.8 - 6 mm wall
Welded Pipes	4" - 36" OD welded pipe to ASTM B467
Plates	3 - 50 mm thk condenser plate and tube sheet (ASTM B171)
Sheets & Coils	0.6 - 3 mm thk sheet and coil
Flanges	1/2" - 24", 150# - 300#, slip-on and weld neck
Fittings	1/2" - 24" butt weld elbows, tees, reducers and stub ends
Round Bars	10 - 200 mm dia rod and bar

Chemical composition (%)

Element	Min	Max
Cu	Remainder	-
Ni	9.0	11.0
Fe	1.0	1.8
Mn	0.5	1.0

Element	Min	Max
Pb	-	0.02

Mechanical properties

Property	Value	Unit
Yield Strength (0.2%)	105 min (annealed)	MPa
Tensile Strength	275 min (annealed)	MPa
Elongation	30 min	%
Hardness	60 - 90	HV

Physical properties

Property	Value	Unit
Density	8.94	g/cm3
Thermal Conductivity	40 - 50	W/m.K
Max Service Temperature	300	C
Max seawater velocity	3.0 - 3.5	m/s

Standards

ASTM B466 (seamless pipe and tube), ASTM B467 (welded pipe), ASTM B111 (condenser tube), ASTM B171 (condenser plate and tube sheet), EN 12449 / EN 12451, MIL-T-16420K, EEMUA 144 / 146, DNV and Lloyd's Register approval, EN 10204 3.1 / 3.2

Equivalent grades

C70600, CuNi10Fe1Mn, CW352H, 2.0872, 90/10 Cupro Nickel

Industries served

Marine, Offshore, Shipbuilding, Desalination, Water & Desalination, Power Generation, Oil & Gas, Defence

Typical applications

- Ship and platform seawater cooling systems
- Firewater ring mains and deluge lines
- Condenser and heat exchanger tubing
- Desalination brine and seawater piping
- Offshore splash zone and ballast piping
- Boat and yacht hull sheathing

Live datasheet