CUPRO NICKEL Advanced Materials. Engineered for Performance.

Cupro Nickel 70/30 Seamless Pipes



Cupro Nickel | UNS: C71500 | EN: CW354H / CuNi30Mn1Fe | DIN: 2.0882 | Navy: MIL-T-16420K

The higher-duty cupro nickel. Tripling the nickel to 30% raises strength, erosion-corrosion resistance and the allowable seawater velocity to around 4.5 m/s, and lifts the service temperature well above 90/10. It is the grade for pump and valve-adjacent piping, hot brine and MSF desalination heat recovery, and any line where turbulence or sand loading would strip the film off 90/10.

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

Key features

- Higher allowable seawater velocity than 90/10 (about 4.5 m/s)
- Better erosion-corrosion resistance in turbulent and sand-laden flow
- Retains strength and film stability at elevated temperature
- Biofouling resistant and immune to chloride stress corrosion cracking
- Supplied as seamless pipe, condenser tube, plate, fittings and flanges

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	29.0	33.0
Fe	0.40	1.00
Mn	0.50	1.50

Element	Min	Max
Pb	-	0.02

Mechanical properties

Property	Value	Unit
Yield Strength (0.2%)	140 min (annealed)	MPa
Tensile Strength	380 min (annealed)	MPa
Elongation	30 min	%
Hardness	80 - 110	HV

Physical properties

Property	Value	Unit
Density	8.94	g/cm3
Thermal Conductivity	29	W/m.K
Max Service Temperature	400	C
Max seawater velocity	4.0 - 4.5	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

C71500, CuNi30Mn1Fe, CW354H, 2.0882, 70/30 Cupro Nickel

Industries served

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

Typical applications

- MSF and MED desalination heat recovery tubing
- Condenser and feedwater heater tube bundles
- High velocity seawater and brine piping
- Pump, valve and bend sections downstream of turbulence
- Naval seawater systems and submarine service
- Offshore produced water and cooling lines

Live datasheet