

Cu-Ni 715



Cu-Ni 715 (UNS C71500)

Cu-Ni 715 is a copper-nickel alloy that is resistant to corrosion in sea water. The alloy has good fatigue strength and relatively high thermal conductivity.

GENERAL INFORMATION

The alloy is readily formed in the annealed temper, and can be joined by the standard welding, brazing and soldering processes.

AVAILABILITY

Cu-Ni 715 is available from Hamilton Precision Metals as strip product in thicknesses from 0.0005" to 0.010" (0.0127 mm to 0.254 mm) in widths up to 12" (304.8 mm). The material conforms to ASTM B122 and UNS C71500.



Technical Data

TYPICAL MECHANICAL PROPERTIES ¹		
	ANNEALED	COLD ROLLED
Ultimate Tensile Strength	65,000 PSI	100,000 PSI
Yield Strength (0.2% Offset)	35,000 PSI	90,000 PSI
Elongation in 2" *	30%	2%
Modulus of Elasticity (Tension)	22 X 10 ⁶ PSI	-

*The measured elongation will be less as thickness decreases to 0.002" and less.

¹ These values may be adjusted by control of process variables – consult HPM for desired values.

NOMINAL COMPOSITION	
Copper	70%
Nickel	Balance

PHYSICAL PROPERTIES ²	
Density	0.322 lbs./cu.in.
Melting Point (Approx.)	1170°C
Electrical Resistivity @ R.T.	41.2 Microhm · cm
Thermal Expansion Coefficient (20° to 95°C)	15.5 x 10 ⁻⁶ /°C
Thermal Conductivity @ R.T.	29.4 W/m · K
Magnetic Attraction	None
Specific Heat	0.09 gram · cal./°C

² Typical values to guide alloy selection but are not a guarantee of minimum or maximum.