


Copper nickel 10%, UNS C70600Categories: [Metal](#); [Nonferrous Metal](#); [Copper Alloy](#)**Material Notes:** Excellent corrosion resistance. Good hot and cold workability. Fabricated by forming and bending, welding.**Applications:** condensers, condenser plates, distiller tubing, evaporator and heat exchanger tubing, ferrules, salt water piping.

Available as flat products and tube.

Key Words: CDA 706, CN102, ISO CuNi10Fe1Mn; 90-10 Cupronickel**Vendors:** [Click here to view all available suppliers for this material.](#)Please [click here](#) if you are a supplier and would like information on how to add your listing to this material.

Physical Properties	Metric	English	Comments
Density	8.94 g/cc	0.323 lb/in ³	
Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	303 - 414 MPa	43900 - 60000 psi	
Tensile Strength, Yield	110 - 393 MPa	16000 - 57000 psi	Depending on temper
Elongation at Break	42 %	42 %	in 254 mm.
Modulus of Elasticity	140 GPa	20300 ksi	
Poissons Ratio	0.31	0.31	Calculated
	0.35	0.35	Calculated
Machinability	20 %	20 %	UNS C36000 (free-cutting brass) = 100%
Shear Modulus	52.0 GPa	7540 ksi	
Electrical Properties	Metric	English	Comments
Electrical Resistivity	0.0000190 ohm-cm @Temperature 20.0 °C	0.0000190 ohm-cm @Temperature 68.0 °F	
Thermal Properties	Metric	English	Comments
CTE, linear	17.1 µm/m-°C @Temperature 20.0 - 300 °C	9.50 µin/in-°F @Temperature 68.0 - 572 °F	
Specific Heat Capacity	0.380 J/g-°C	0.0908 BTU/lb-°F	
Thermal Conductivity	40.0 W/m-K	278 BTU-in/hr-ft ² -°F	
	40.0 W/m-K @Temperature 20.0 °C	278 BTU-in/hr-ft ² -°F @Temperature 68.0 °F	
	59.5 W/m-K @Temperature 100 °C	413 BTU-in/hr-ft ² -°F @Temperature 212 °F	Mill Annealed
	70.2 W/m-K @Temperature 200 °C	487 BTU-in/hr-ft ² -°F @Temperature 392 °F	Mill Annealed
	78.5 W/m-K @Temperature 300 °C	545 BTU-in/hr-ft ² -°F @Temperature 572 °F	Mill Annealed
	82.8 W/m-K @Temperature 700.0 °C	575 BTU-in/hr-ft ² -°F @Temperature 1292 °F	Mill Annealed
	84.0 W/m-K @Temperature 400 °C	583 BTU-in/hr-ft ² -°F @Temperature 752 °F	Mill Annealed
	86.3 W/m-K @Temperature 600.0 °C	599 BTU-in/hr-ft ² -°F @Temperature 1112 °F	Mill Annealed
	86.6 W/m-K @Temperature 500 °C	601 BTU-in/hr-ft ² -°F @Temperature 932 °F	Mill Annealed
Melting Point	1100 - 1150 °C	2010 - 2100 °F	
Solidus	1100 °C	2010 °F	
Liquidus	1150 °C	2100 °F	
Processing Properties	Metric	English	Comments
Annealing Temperature	600 - 825 °C	1110 - 1520 °F	
Hot-Working Temperature	850 - 950 °C	1560 - 1740 °F	
Component Elements Properties	Metric	English	Comments
Copper, Cu	88.7 %	88.7 %	
Iron, Fe	1.0 - 1.8 %	1.0 - 1.8 %	
Lead, Pb	<= 0.050 %	<= 0.050 %	
Manganese, Mn	<= 1.0 %	<= 1.0 %	
Nickel, Ni	9.0 - 11 %	9.0 - 11 %	
Other	<= 0.50 %	<= 0.50 %	
Zinc, Zn	<= 1.0 %	<= 1.0 %	

References for this datasheet.

Some of the values displayed above may have been converted from their original units and/or rounded in order to display the information in a consistent format. Users requiring more precise data for scientific or engineering calculations can click on the property value to see the original value as well as raw conversions to equivalent units. We advise that you only use the original value or one of its raw conversions in your calculations to minimize rounding error. We also ask that you refer to MatWeb's [terms of use](#) regarding this information. [Click here](#) to view all the property values for this datasheet as they were originally entered into MatWeb.