



C70600 / C70620 90-10 COPPER-NICKEL

ASTM B171/ASME SB-171 ASTM B111/ASME SB-111
MIL-C15726F MIL-T-16420K MIL-T-15005

UNS No.	Copper + Silver	Nickel + Cobalt	Manganese	Lead	Iron	Zinc	Other Elem.
C70600	remainder	9.0-11.0	1.0 max	0.05 ^a max	1.0-1.8	1.0 ^a	
C70620	86.2 min	9.0-11.0	1.0 max	0.02	1.0-1.8	0.50	0.05 C .02 S/P

^aFor subsequent welding application, max levels are: Zinc 0.50, Lead 0.02, Phosphorus 0.02, Sulfur 0.02, Carbon 0.05

90/10 Cupro-Nickel is a copper-nickel alloy that is resistant to stress corrosion and is often used when an application will involve high-velocity seawater. Typical CuNi application for use in the chemical and marine industries include tubes and tubesheets for condensers, evaporators and heat exchangers; tubes for carrying seawater; valve bodies; pipe and tube fittings and flanges.

Density @ 68° F	0.323 lb/in ³
Melting Range	2010-2095° F
Hot Formability	Good
Cold Formability	Excellent
Machinability rating (C360 = 100)	20
Brazing	Good
Soldering	Excellent
Gas-shielded arc welding	Excellent
Oxy-acetylene welding	Not recommended
Carbon-arc welding	Not recommended
Coated metal-arc welding	Good
Resistant welding: spot and seam	Good
Resistance Welding: butt	Good

ASTM B171/ASME SB-171 Properties for M20 & O25 tempers

MIL-C-15726F

Thickness, in.	Tensile, min ksi (MPa)	Yield, 0.2% Offset, min (MPa)	Elongation in 2", min, %	Thickness x Width (W), in.	Temper	Tensile, min ksi	Yield, 0.5%, min ksi	Elongation in 2", min %
2.5 and under	40 (275)	15 (105)	30	<=3/16, all W	060	38	15	25
over 2.5 to 5	40 (275)	15 (105)	30	>3/16, all W	M20 Soft	38	15	30
Thickness Tolerances*				<=3/16 x <=24 W	H01	55	30	10
	<=36 in.	>36 to 60 in.	>60 to 96 in.	<=3/16 x >24 W	H01	47	25	10
>.25 to .50	.031	.033	.036	<=1/2 x >24 W	M20 Hard	47	25	15
>.50 to .75	.035	.037	.040	>1/2 to 3, all W	M20 Hard	40	17	20
>.75 to 1.0	.041	.043	.046	>3 to 5, all W	M20 Hard	38	15	20
>1.0 to 1.5	.047	.050	.052	All OD Sizes	060	38	15	30
>1.5 to 1.75	.053	.056	.058	<=3/8 OD	H04	60	38	10
>1.75 to 2.00	.062	.068	.077	>3/8 to 1 OD	H04	50	30	15
>2.00 to 5.00	.072	.077	.081	>1 to 3 OD	H04	40	15	30

*Thickness tolerances for MIL-C-15726F are based on lot weight. Consult FED-STD-146 3a(7) for min/max weights.