



C614 ALUMINUM BRONZE

ASTM B171 / ASME SB-171 ASTM B169
 QQ-C-450

UNS No.	Copper + Silver	Manganese	Lead	Iron	Zinc	Aluminum	Phosphorus
C61400	Remainder	1.0 max	0.01 max	1.5-3.5	0.20 max	6.0-8.0	0.015 max

C61400 Aluminum Bronze is copper, alloyed with zinc, iron and aluminum. C614 offers levels of corrosion and high velocity seawater erosion resistance similar to C71500 70/30 Copper Nickel but with higher strength and resistance to fatigue. Aluminum Bronze 61400 is primarily available in wrought plate form and is used most often in sea water service, steam condensers, oil coolers and other heat exchangers operating on sea water. Tubesheets made from C614 Aluminum Bronze are often paired with copper-nickel tubes in sea water cooled condensers and heat exchangers.

Density @ 68° F	0.285 lb/in ³
Melting Range	2084-2192° F
Hot Formability	Good
Cold Formability	Fair
Machinability rating (C360 = 100)	30
Brazing	Fair
Soldering	Not Recommended
Gas-shielded arc welding	Fair
Oxy-acetylene welding	Not recommended
Carbon-arc welding	Fair
Coated metal-arc welding	Fair
Resistant welding: spot and seam	Good
Resistance Welding: butt	Good

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

Thickness, in.	Tensile, min ksi (MPa)	Yield, 0.5% Offset, min (MPa)	Elongation in 2", min, %
2 and under	70 (485)	30 (205)	35
over 2 to 5	65 (450)	28 (195)	35
Thickness Tolerances			
	<=36 in.	>36 to 60 in.	>60 to 96 in.
>.25 to .50	.031	.033	.036
>.50 to .75	.035	.037	.040
>.75 to 1.0	.041	.043	.046
>1.0 to 1.5	.047	.050	.052
>1.5 to 1.75	.053	.056	.058
>1.75 to 2.00	.062	.068	.077
>2.00 to 5.00	.072	.077	.081