

Copper and Copper Alloy Seamless Condenser Tubes and Ferrule Stock

Standard & Material

ASTM B111/B111M ASME SB111 C44400 O61

It covers the requirements for seamless tube and ferrule stock of copper and various copper alloys up to 3-1/8 inch [80mm] inclusive, in diameter, for use in surface condensers, evaporators and heat exchangers. The coppers and copper alloys are including C10100, C10200, C10300, C10800, C12000, C12200, C14200, C19200, C23000, C28000, C44300, C44400, C44500, C60800, C61300, C61400, C68700, C70400, C70600, C70620, C71000, C71500, C71520, C71640, and C72200.

Chemistry Composition

Cu, % 70.0-73.0

Sn, % 0.90-1.20

Pb, % 0.07 max

Fe, % 0.06 max

Sb, % 0.02-0.10

Zn, % remainder

Mechanical Properties

Tensile Strength, MPa 310 min

Yield Strength, MPa 105 min

Expansion, % 20 min



Wall Thickness: min wall thickness or average wall thickness

Developed Length: max 25 meters each length, +10mm/-0mm

Manufacture: the tubes are made by the processes such as casting, extrusion, drawing, annealing, straightening, trimming, and other processes which may produce a seamless tube in the specified condition.

Heat Treatment: the tubes are heat treated as annealed (O61) temper.

Inspection & Test: chemistry composition analysis, tension test, expansion test, flattening test, residual stress test, NDT, surface inspection and dimension check.

Further Process: U bending tubes, fin tubes