

Seamless and Welded Carbon and Alloy Steel Tubes for Low Temperature Service

Standard & Material

ASTM A334/A334M ASME SA334 Grade 3

It covers several grades of min wall thickness, seamless and welded, carbon and alloy steel tubes intended for use at low temperatures. Some product sizes may not be available under this specification because heavier wall thicknesses have an adverse affect on low temperature impact properties.

Chemistry Composition

C, % 0.19 max

Mn, % 0.31-0.64

P, % 0.025 max

S, % 0.025 max

Si, % 0.18-0.37

Ni, % 3.18-3.82

Mechanical Properties

Tensile Strength, MPa 450 min

Yield Strength, MPa 240 min

Elongation, % 30 min

Hardness, HB 190 or HRB 90 max



Wall Thickness: min wall thickness or average wall thickness

Developed Length: max 30 meters each length, +10mm/-0mm

Manufacture: the tubes made by cold drawn process.

Heat Treatment: the tubes are heat treated as normalizing by heating to a uniform temperature of not less than 845°C and cool in air or in the cooling chamber of an atmosphere controlled furnace, or reheat and control hot working and the temperature of the hot-finishing operation to a finishing temperature range from 845 to 955°C and cool in a controlled atmosphere furnace from an initial temperature of not less than 845°C.

Delivery Condition: black, nitrogen protection or bright annealing.

Inspection & Test: chemistry composition analysis, tensile test, flattening test, flaring test, hardness test, impact test, NDT, surface inspection and dimension check.

Further Process: U bending tubes, fin tubes