

Seamless Medium-Carbon Steel Boiler and Superheater Tubes

Standard & Material

ASTM A210/A210M ASME SA210 A1

It covers min wall thickness, seamless medium-carbon steel, boiler tubes and boiler flues, including safe ends, arch and stay tubes, and superheater tubes. This type is not suitable for safe ending by forge welding. The tubing sizes and thicknesses usually furnished to this specification are 1/2 inch to 5 inch [12.7 to 127mm] in outside diameter and 0.035 inch to 0.500 inch [0.9 to 12.7mm], inclusive, in minimum wall thickness. Tubing having other dimensions may be furnished, provided such tubes comply with all other requirements of ASTM A210/A210M ASME SA210. Mechanical property requirements do not apply to tubing smaller than 1/8 inch [3.2mm] in inside diameter or 0.015 inch [0.4mm] in thickness.

Chemistry Composition

C, % 0.27 max

Si, % 0.10 min

Mn, % 0.93 max

P, % 0.035 max

S, % 0.035 max

Mechanical Properties

Tensile Strength, MPa 415 min

Yield Strength, MPa 255 min

Elongation, % 30 min

Hardness, HB 143 or HRB 79 max



Wall Thickness: min wall thickness or average wall thickness

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

Manufacture: the tubes made by the seamless process in either hot-finished or cold-finished as specified.

Heat Treatment: hot finished tubes need not be heat treated. Cold finished tubes shall be given a subcritical anneal, a full anneal, or a normalizing heat treatment after the final cold finishing process.

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

Further Process: U bending tubes, fin tubes, studded tubes