

Seamless and Welded Austenitic Stainless Steel Tubing for General Service

Standard & Material

ASTM A269 TP316L UNS S31603

It covers grades of nominal wall thickness, stainless steel tubing for general corrosion-resisting and low temperature or high temperature service. The tubing sizes and thicknesses usually furnished to ASTM A269 are 1/4 inch [6.4mm] in inside diameter and larger and 0.020 inch [0.51mm] in nominal wall thickness and heavier. Mechanical property requirements do not apply to tubing smaller than 1/8 inch [3.2mm] in inside diameter or 0.015 inch [0.38mm] in thickness.

Chemistry Composition

C, % 0.035 max

Mn, % 2.00 max

P, % 0.045 max

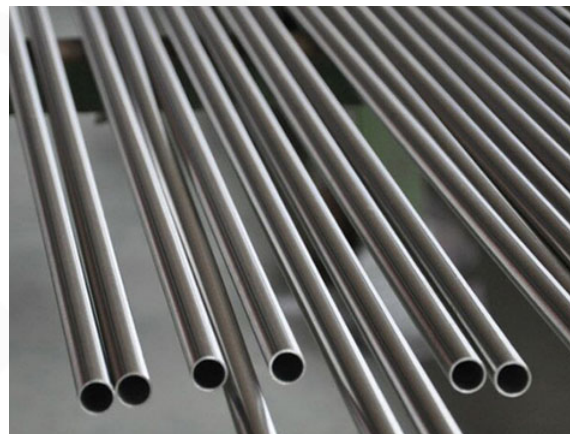
S, % 0.030 max

Si, % 1.00 max

Ni, % 10.0-14.0

Cr, % 16.0-18.0

Mo, % 2.00-3.00



Mechanical Properties

Tensile Strength, MPa 485 min

Yield Strength, MPa 170 min

Elongation, % 35 min

Hardness, HBW 192 or HV 200 or HRB 90 max

Wall Thickness: average wall thickness

Developed Length: max 30 meters straight length, +10mm/-0mm; max 10000 meters coiled length.

Manufacture: the tubes are made by seamless, welded, or redrawn process.

Delivery condition: pickled, bright annealing (BA), polishing, stress relieved annealing.

Heat Treatment: the tubes are heat treated as solution treatment, and the min temperature is not less than 1040°C, and the tubes are individually quenched in water or rapidly cooled (direct quenched). Optional: when stress-relieved annealing requested, the tubes shall be given a heat treatment at 845 to 900°C after roll straightening.

Inspection & Test: chemistry composition analysis, tensile test, flattening test, flaring test (smls), flange test (welded), hardness test, NDT, surface inspection and dimension check. Optional: pneumatic test, intergranular corrosion test.

Further Process: U bending tubes, coiled bending tubing