Seamless and Welded Ferritic and Martensitic Stainless Steel Tubing for General Service

Standard & Material

ASTM A268/A268M ASME SA268 TP410 UNS S41000

It covers a number of grades of nominal wall thickness, stainless steel tubing for general corrosion resisting and high temperature service. Most of these grades are commonly known as the "straight-chromium" types and are characterized by being ferromagnetic. Among the grades in ASTM A268/A268M, TP410 and UNS S41500 are amenable to hardening by heat treatment, and the high chromium, ferritic alloys are sensitive to notch-brittleness on slow cooling to ordinary temperatures. These features should be recognized in the use of these materials. Grade TP439 is used primarily for hot-water tank service and does not require post-weld heat treatment to prevent attack of the heat affected zone.

Chemistry Composition

C, % 0.15 max
Mn, % 1.00 max
P, % 0.040 max
S, % 0.030 max
Si, % 1.00 max
Cr, % 11.5-13.5

Mechanical Properties

Tensile Strength, MPa 415 min
Yield Strength, MPa 205 min
Elongation, % 20 min
Hardness, HB 207 or HRB 95 max

Wall Thickness: min wall thickness or average wall thickness
Developed Length: max 30 meters each length, +10mm/-0mm

Manufacture: the tubes are made by the seamless or welded process with no filler metal added.
Delivery condition: pickled, bright annealing (BA), or polishing.
Heat Treatment: the tubes shall be reheated to a temperature of 650°C or higher as final heat treatment and cooled to meet the requirements of ASTM A268/A268M.
Inspection & Test: chemistry composition analysis, tensile test, flaring test (S), flange test (W), hardness test, reverse flattening test (W), NDT, surface inspection and dimension check. Option: intergranular corrosion test, pneumatic test.

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

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