

Seamless Circular Steel Tubes for Hydrogen Service at Elevated Temperatures and Pressures

Standard & Material

DIN 17176 X12CrMo91 1.7386 (Steel Number)

It specifies seamless circular tubes manufactured from the steels grades 25CrMo4 (1.7218), 13CrMo44 (1.7335), 10CrMo910 (1.7380), 12CrMo910 (1.7375), 12CrMo1210 (1.7381), 12CrMo195 (1.7362), X12CrMo91 (1.7386), 20CrMoV135 (1.7779), X20CrMoV121 (1.4922), the tubes are mainly intended for use in chemical plants for high pressure applications at service temperatures of 200°C or more and simultaneous exposure to hydrogen, such as boiler or heat exchanger tubes.

Chemistry Composition

C, % 0.07-0.15

Si, % 0.25-1.00

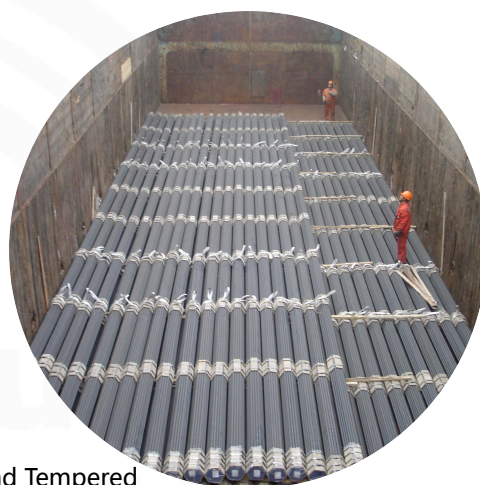
Mn, % 0.30-0.60

P, % 0.025 max

S, % 0.020 max

Cr, % 8.00-10.0

Mo, % 0.90-1.10



Mechanical Properties

Annealed

Tensile Strength, MPa 460-640

Yield Strength, MPa 210 min

Elongation, % 21 min

Solution or Air Quenched and Tempered

Tensile Strength, MPa 460-640

Yield Strength, MPa 210 min

Elongation, % 21 min

Wall Thickness: average wall thickness

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

Manufacture: the tubes made by cold drawn or hot rolled process.

Heat Treatment: the tubes are heat treated over the entire length, all types of heat treatments are annealing, solution or air quenching and tempering.

Inspection & Test: chemistry composition analysis, tensile test, impact test (option), flattening test, NDT, surface inspection and dimension check.

Further Process: U bending tubes, fin tubes