Seamless Steel Tubes for Pressure Purposes - Non-alloy and Alloy Steel Tubes with Specified Elevated Temperature Properties

Standard & Material
EN 10216-2 15NiCuMoNb5-6-4 1.6368 (Steel Number)
It specifies the technical delivery conditions in two test categories for seamless tubes of circular cross section, with specified elevated temperature properties, made of non-alloy and alloy steel, which are used in the construction of boilers, pipelines, pressure vessels and equipment for service up to 600°C and at simultaneous high pressures, where the total stress and relevant scaling conditions can raise or lower the temperature limit.

Chemistry Composition
C, % 0.17 max
Si, % 0.25-0.50
Mn, % 0.80-1.20
P, % 0.025 max
S, % 0.020 max
Cr, % 0.30 max
Mo, % 0.25-0.50
Ni, % 1.00-1.30
Cu, % 0.50-0.80
Nb, % 0.015-0.045

Mechanical Properties
Tensile Strength, MPa 610-780
Yield Strength, MPa 440 min
Elongation, % 19 min

Wall Thickness: average wall thickness, ± 12.5% or ± 0.4mm whichever is the greater; min wall thickness, + 28%/−0 or +0.8mm−0 whichever is the greater; special requirements on id & wt should be agreed before contract.
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 +NT (normalizing + tempering) heat treated over the entire length, normalizing at 880°C to 980°C, and tempering at 580°C to 680°C.
Inspection & Test: chemistry composition analysis, tension test, flattening test, flaring test, NDT, leak tightness test, surface inspection and dimension check. Option: impact test.

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