

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

### Standard & Material

EN 10216-2 10CrMo5-5 1.7338 (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, % 0.15 max

Si, % 0.50-1.00

Mn, % 0.30-0.60

P, % 0.025 max

S, % 0.020 max

Cr, % 1.00-1.50

Mo, % 0.45-0.65

Ni, % 0.30 max

Cu, % 0.30 max



### Mechanical Properties

Tensile Strength, MPa 410-560

Yield Strength, MPa 275 min

Elongation, % 22 min

Wall Thickness: average wall thickness,  $\pm 12.5\%$  or  $\pm 0.4\text{mm}$  whichever is the greater; min wall thickness,  $+ 28\%/-0$  or  $+0.8\text{mm}/-0$  whichever is the greater; special requirements on id & wt should be agreed before contract.

Developed Length: max 30 meters each length,  $+10\text{mm}/-0\text{mm}$

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

Heat Treatment: the tubes are +NT (normalizing and tempering) heat treated over the entire length, normalizing at 900°C to 960°C, and tempering at 650°C to 750°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