

## Steel Boiler and Superheater Tubes Part 2. Carbon, Alloy and Austenitic Stainless

### Steel Tubes with Specified Elevated Temperature Properties

#### Standard & Material

BS 3059-2 620-460

It specifies requirements for plain end, seamless and welded, carbon and alloy steel tubes and for cold finished seamless austenitic steel tubes, not exceeding 127mm outside diameter and not exceeding 12.5mm thickness for use in boilers and superheaters. Tubes manufactured in accordance with BS 3059-2 have specified room temperature properties and specified proof stress values at elevated temperatures.

#### Chemistry Composition

C, % 0.10-0.15

Si, % 0.10-0.35

Mn, % 0.40-0.70

P, % 0.030 max

S, % 0.030 max

Cr, % 0.70-1.10

Mo, % 0.45-0.65



#### Mechanical Properties

Tensile Strength, MPa 460-610

Yield Strength, MPa 180 min

Elongation, % 22 min

Wall Thickness: average wall thickness

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

Manufacture: the tubes made by cold drawn process.

Heat Treatment: the tubes are heat treated by normalized temperature 900-960°C.

Delivery Condition: black or nitrogen protection.

Inspection & Test: chemistry composition analysis, tensile test, flattening test, flaring test, NDT, surface inspection and dimension check.

Further Process: U bending tubes, fin tubes