

‘FORM III-B
[See regulation 4(f)]

Certificate of Manufacture and Test for Tubes

Certificate No: _____ Date: _____
 Name of part & Quantity.....
 Drawing No.....
 Maker’s name and address.....
 Customer’s Name & Address.....
 Design pressure..... Kg/cm²
 Design temperature..... °C

RAW MATERIAL

Process of manufacture.....
 Fully killed/rimmed.....
 Chemical Composition.....
 Heat Number.....
 Size.....
 Test Certificate No. & Date.....
 Name of the Steel Maker.....
 Name of Inspecting Authority.....

TUBES

Process of manufacture.....
 Main dimensions.....
 Tolerances.....
 Specification.....
 Tensile strength.....
 Chemical Composition.....
 Elongation percentage.....
 Bend test.....
 Flattening test.....
 Crushing test.....
 Flare test.....
 Flange test.....
 Other Tests
 Heat treatment.....
 Hydraulic test..... Kg/cm²

Identification mark of Inspecting Authority/Well known tube maker

NOTE.- In addition, the following information in respect of the material shall be furnished in a tabular form in conformity with the requirements of Regulation 4(c)(vi) or the note thereto, as the case may be. This information may be given from the established test data or if the material is of standard quality, an extract from the standard may be furnished instead.

Metal temperature °C	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600
E _t															
S _c															
S _r															
MAWP															

Tensile strength at 20°C.....

Where

- E_t = Yield at temperature t (0.2% proof stress).
** S_c = Average stress to produce an elongation of 1%(creep) in 100,000 hours at the various working metal temperatures.
** S_r = Average and lowest stress to produce rupture in 100,000 hours at various working metal temperatures.
MAWP = Maximum Allowable Working Pressure in Kg./cm²

Temperature range in the table may extend upto the limit of applicability of the material.

**The value of S_c and S_r need be furnished only in respect of tubes intended to be used for working metal temperature above 454°C (850°F).

Certified that the particulars entered herein are correct. The particulars of fabricated component are shown in drawing No.

The tube has been designed and constructed to comply with the Indian Boiler Regulations for a maximum working pressure of _____ Kg/cm² and maximum temperature of _____°C and satisfactorily withstood a water test of _____ Kg/cm² on the _____ day of _____ 20____, in the presence of our responsible representative whose signature is appended hereunder.

Maker's Representative
(Name and signature)

Maker _____
(Name and Signature)

We have satisfied ourselves that the _____ have been constructed in accordance with Indian Boiler Regulations 1950. The tests conducted on the samples taken from the finished tubes have been witnessed by us and the particulars entered herein are correct.

Name and signature of
Competent Person

Name and signature of
Inspecting Authority/Well Known Tube Maker

Place _____
Date _____

NOTE (1).- This form is intended for the use of both tube manufacturers and tube fabricators. Only such of the columns or paragraphs that are applicable, or information that can be obtained and furnished from other certificates, need be filled or entered in this form.

NOTE (2).- In the case of fabrications made from steel tubes obtained from elsewhere, particulars in regard to the "material" and "Tubes" shall be taken from similar forms of certificates obtained in respect of pipes and noted in the appropriate columns or paragraphs.

NOTE-(3).- For Stock and sale purpose, one Form shall be issued for not more than ten tubes.

In the case of tubes made from steel, made and tested by well-known Steel Makers in India or other countries particulars regarding the 'material' as certified by them in Form IV shall be noted in the appropriate columns or paragraphs of Raw material in this 'certificate.'.