

FORM III-A  
[See regulation 4(e)]

**Certificate of Manufacture and test for Pipes**

Certificate No: \_\_\_\_\_ Date: \_\_\_\_\_  
 Name of part & Quantity.....  
 Drawing No.....  
 Maker's name and address.....  
 Customer's Name & Address.....  
 Design pressure.....Kg/cm<sup>2</sup>  
 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.....

**PIPES**

Process of manufacture.....  
 Main dimensions.....  
 Tolerances.....  
 Specification.....  
 Bend test on pipe or weld.....  
 Flattening test.....  
 Other tests.....  
 Tensile strength.....  
 Chemical Composition.....  
 Heat treatment.....  
 Hydraulic test..... Kg/cm<sup>2</sup>

Identification mark of Inspecting Authority/Well known pipe 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. The 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 <sub>t</sub>       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| S <sub>c</sub>       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| S <sub>r</sub>       |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| MAWP                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |

Tensile strength at 20°C.

Where

$E_t$  = Yield point at temperature t (0.2% proof stress)

\*\* $S_c$  = Average stress to produce an elongation of 1% (creep) in 100,000 hours at various working metal temperatures.

\*\* $S_r$  = Average and lowest stress to produce rupture in 100,000 hours at the various working metal temperatures.

MAWP = Maximum Allowable Working Pressure in Kg./cm<sup>2</sup>

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 Pipes 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 pipe has been designed and constructed to comply with the Indian Boiler Regulations for a maximum working pressure of \_\_\_\_\_ Kg/cm<sup>2</sup> and maximum temperature of \_\_\_\_\_ °C and satisfactorily withstood a water test of \_\_\_\_\_ Kg/cm<sup>2</sup> 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 pipes 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 Pipe Maker

Place \_\_\_\_\_  
Date \_\_\_\_\_

NOTE (1).- This form is intended for the use of both pipe manufacturers and pipe 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 pipes obtained from elsewhere, particulars in regard to the "material" and "pipes" 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 five pipes.

In the case of pipes 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.