

FORM III

WORK ADDRESS

Constructor's Certificate of Manufacture and Test

[REGULATION 4 (c)(III)]

1. Description Constructor's Name and address _____

Manufactured for/Stock purposes _____

_____ Contract No. _____

Type of boiler _____ Length overall _____

Diameter inside Largest belt _____

Design pressure _____ lbs./sq. in.

Intended working pressure _____ lbs./sq. in.

Shop Number of boiler _____

Year of Manufacture _____

Total heating surface _____ sq. ft.

Final Temperature of steam (Design) _____ of

Grate area _____ sq. ft.

Brief description of boiler _____

2. Parts Manufactured at the contractor's works Name of part(s)

Description _____

Leading dimensions _____

Manufactured by _____

Identification marks _____

Part(s) manufactured inspected at all stages of construction

by _____

_____ (Inspecting Authority).

Certificates furnished (Constructor's, Steel Maker's and Inspecting Authority's etc.)

Part(s) hydraulically tested and internally Inspected after test by

_____.

3. Parts manufactured outside the

constructor's works. Name of part(s) _____

Description _____

Leading dimensions _____

Manufactured by _____

Identification marks _____

Part(s) manufactured, inspected at all stages of construction by _____

_____ (Inspecting Authority).

Certificates furnished (Constructor's Steel Maker's and Inspecting Authority's etc.)

_____ Part(s) hydraulically tested and internally Inspected after test by

_____.

NOTE.- Similar information is to be furnished for each part manufactured outside the Constructor's Works.

4. Construction:

Riveted/composite construction shells/drums/Miniature Boilers: The construction is in accordance with Chapter III/XIV of the Indian Boiler Regulations.

Number of longitudinal seams in shell/drum in each belt _____

Number of longitudinal seams in furnace in each ring _____

Number of circumferential seams in shell/drum _____

(including end seams) _____

Number of circumferential seams in the furnace _____

Details of repairs, if any, carried out in welded seams during construction _____

Details of heat treatment _____

The longitudinal seams are welded/riveted and have _____

rows of rivets in inside strap and _____ rows of rivets in outside strap.

Rivet holes are _____ diameter and number _____ per pitch of _____.

Butt straps cut from plates and bent to required curvature in _____. The circumferential seams joining rings of shell are _____ Jointed and single/double riveted/welded.

Rivet holes are _____ diameter and number _____ per pitch of _____.

The shell end seams are _____ Jointed and single/double riveted/welded.

Rivet holes are _____ diameter and number _____ per pitch of _____.

Details of seams as in drawing No. _____.

All welded seams are subjected to Radiographic examination to the satisfaction of the Inspecting Authority, where required.

Shell type boilers of welded construction – The construction is in accordance with Chapter XII of the Indian Boiler Regulations.

Number of longitudinal seams in shell in each belt _____.

Number of longitudinal seams in furnace _____.

Number of circumferential seams in shell _____.

Number of circumferential seams in furnace _____.

Details of repairs, if any, carried out to welded seams during construction
_____.

Details of heat treatment _____.

All welded seams were subjected to radiographic examination to the satisfaction of the Inspecting Authority, where required.

Fusion welded Electrode Boilers – The construction is in accordance with Chapter X of the Indian Boiler Regulations, 1950.

Number of longitudinal seams in shell
_____.

Number of circumferential seams (including end seams)
_____.

Details of repairs, if any carried out to welded seams during construction
_____.

Details of heat treatment _____.

All welded seams were subjected to radiographic examination to the satisfaction of the Inspecting Authority, where required.

(d) Fusion welded and seamless forged drums of water tube boilers - The construction is in accordance with Chapter V of the Indian Boiler Regulations, 1950.

Number of longitudinal seams in each ring
_____.

Number of circumferential seams
_____.

Details of repairs, if any, carried out to seams during construction
_____.

All welded seams were subjected to radiographic examination to the satisfaction of the Inspecting Authority.

Furnace seams – The longitudinal seams are welded/riveted. The cross seams joining rings are of _____ type _____ riveted/welded".

Boiler parts and fittings	Material	Smelter	Make	Inspecting Officer	Remarks
5. Material Plates.....					
Manufacturer Plates.....					
Rivet bars.....					
Stay bars.....					
Angles.....					
Bolts.....					
Tubes.....					
Tubes.....					
Tubes.....					
Girders.....					
Boxes.....					
Headers.....					
Headers.....					
Manhole frames.....					
Manhole doors.....					
Manhole.....					
Sighthole doors.....					
Stand blocks.....					
Stand pipes.....					
Stop valve chests.....					
Safety valve chests.....					

Feed valve chests.....					
Blow down valve.....					
Blow down elbow pipe....					
Water gauge mountings....					

NOTE.- Under "material" enter against appropriate items: "Steel Simens Martin Open Hearth acid (or basic) process", "Wrought Iron, Brand.....", "Cast Steel Process" etc. etc. and under "Remarks" a brief explanation of process of manufacture where necessary e.g., "Solid drawn Lap welded", "Solid Pressed", tested by Makers..... lbs. per sq. inch etc.

Part of Boiler	Thickness of plates in 32 nd or diameter in inches	Tensile strength limits to tons	Elongation limits to %	Gauge length inches	Brand & No. of plate
1 2	3	4	5	6	7
6. Thickness of Plates etc., and tensile test, Limit Cylindrical Shell plates Shell.....					
Buttstraps.....					
Steam & Water drums.....					
Wrapper plate (1).....					
Tube plate (1).....					
Wrapper plate (2).....					
Tube plate (2).....					

Wrapper plate (3).....					
Tube plate (3).....					
Cylindrical shell					
Plates Barrel.....					
Fire Box casing crown.....					
Dome.....					
Mud or bottom drum (1)....					
Mud or bottom drum (2)...					
Mud or bottom drum (3)...					
Shell end plate and drum					
Heads Front end shell.....					
Front end shell steam and water drum (1).....					
Front end shell steam and water drum (2).....					
Front end shell steam and water drum (3).....					
Front end shell Mud Drum (1).....					
Front end shell Mud Drum (2).....					
Front end shell Mud Drum (3).....					
Back end shell.....					
Back end shell steam and					

water drum (1).....					
Back end shell steam and water drum (2).....					
Back end shell steam and water drum (3).....					
Back end shell Mud drum (1).....					
Back end shell Mud drum (2).....					
Back end shell Mud drum (3).....					
Shell crown.....					
Dome end.....					
Saddle.....					
Fire box casing sides.....					
Doubling plate Front.....					
Doubling plate back.....					

1 2	3	4	5	6	7
Flanged and fire exposed Plates Furnace circular (Plain).....					
Furnace circular.....					
Firnace circular					

(Corrugated).....					
Fire box crown.....					
Fire box side.....					
Fire box front.....					
Fire box tube.....					
Uptake.....					
Smoke box tube.....					
Com. Chbr. wrapper.....					
Com. Chbr. back.....					

THICKNESS OF PLATES ETC. AND TENSILE TEST LIMITS

1 2	3	4	5	6	7
Tubes Cross tubes.....					
Smoke tubes (Plain).....					
Smoke tubes (Stay).....					
Water tubes (Bottom or Front bank).....					
Water tubes (top or rear Bank).....					
Balance tubes (Steam)...					
Balance tubes (Water)...					
Superheater tubes.....					
Superheater tubes.....					
Superheater tubes.....					

Water wall tubes.....					
Water wall tubes.....					
Integral Economiser tubes.					
Headers and cross Boxes.					
Sectional headers.....					
Water wall headers (1)....					
Water wall headers (2)....					
Water wall headers (3)....					
Water wall headers (4)....					
Water wall headers (5)....					
Water wall headers (6)....					
Integral Economiser headers (1).....					
Integral Economiser headers (2)					
Superheater headers (1)...					
Superheater headers (2)...					
Superheater headers (3)...					
Superheater headers (4)...					
Superheater headers (5)...					
Superheater headers (6)...					
Mud boxes (1).....					
Mud boxes (2).....					
Mud boxes (3).....					
Mud boxes (4).....					
Stays and Bolts Gusset stay					

plates.....					
Longitudinal.....					
Cross.....					
Screw.....					
Roof.....					
Firebox roof slings.....					
Firebox roof pins.....					
Girder bolts.....					
Shell angle bolts.....					
Uptake angle bolts.....					
Manhole bolts.....					
Sighthole bolts.....					
Miscellaneous Firebox girders.....					
End plate stiffeners.....					
Shell angle.....					
Furnace angle.....					
Uptake angle.....					
Gusset angle.....					
Manhole Compensation ring.....					
Manhole frame.....					
Manhole cover.....					
Sighthole compensation ring.....					
Sighthole doors.....					

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** Indicate (1) Flat (2) Dished (3) Ellipsoidal (4) Hemispherical.

8. Headers and Boxes

No.	Size and shape	Thick-ness in 32nds in.	Head or end Shape Thickness in 32 nd s in.	Hydrostatic test lbs./sq. in.
Water Wall Headers 1 2 3 4 5 6				
Integral Economiser headers 1 2				
Superheaters Headers 1				

2				
3				
4				
5				
6				
Mud boxes 1				
2				
3				
4				

9. Tubes

Sl. No.	Nomenclature	Outside diameter in inches	Thickness in 100ths in.
1.	Cross tubes.....		
2.	Smoke tubes (Plain).....		
3.	Smoke tubes (Stay).....		
4.	Water tubes (bottom or front bank).....		
5.	Water tubes (rear or top bank).....		
6.	Balancer tubes (Steam).....		
7.	Balancer tubes (Water).....		
8.	Superheater tubes.....		
9.	Superheater tubes.....		
10.	Water wall tubes.....		
11.	Integral economiser tubes.....		

10. Mountings

No.	Nomenclature	Material	Type	No.	Size
1.	Main stop valve.....				
2.	Auxiliary stop valves.....				
3.	Safety valves (a).....				
	(b).....				
4.	(c).....				
5.	Blow down valve(s).....				
	Feed check valves.....				

11. Boilers:

Details of safety valves and test results:

Manufacturer.....

Identification marks of valves.....

Maker's No.....

Type.....

Lift (mm)..... Drawing Nos.....

Valves details:-

Material.....

Valve Seat.....

Flat/Bevel.....

Diameter of valve seating.....

Valve Body:-

Material.....

Opening at neck.....

Opening at outlet.....

Springs:-

Material.....

Process of manufacture.....

Chemical composition.....

Dimensions:

Outside diameter of coil.....

Section of wire.....

Number of coils.....

Free length of coils.....

Test results:-

Place of test..... date.....

Closing down pressure.....

Remarks:-

Does the valve chatter?.....

Does the valve seat leak?.....

Blow off pressure.....

Type of valve and extract of test results.....

Type of valve.....

Place of test..... date

Constant 'C' by test results.....

Capacity of the valve for the intended blow

off pressure.....

Signature of Maker's representative Inspecting Authority

witnessing tests.

12. Certified that the particulars entered herein in manuscript by us are correct and that parts and fittings in sections 2 to 11, against the names of which entries are made, have been used in the construction and fittings of the boiler.

The particulars shown against the various parts used are in accordance with the enclosed certificates from the respective Makers.

The design of the boiler is that as shown in Drawing Nos.....

The boiler has been designed and constructed to comply with the Regulations under the Indian Boilers Act, 1923, for a working pressure of _____ lbs.

per square inch at our Works above-named and satisfactorily withstood a water test of _____ lbs. per square inch on the _____ day of _____, 19___ in the presence of our responsible representative whose signature is appended hereunder.

MAKER

(Signature of Maker)

or

Secretary of Firm.

Name and Signature of Engineer who witnessed test.

Designation

Dated at _____ the _____ day of _____ 19____.

Official Seal

Name and Signature of
Inspecting Authorities.