FORM II(1)

[See regulation 4(c)(i)]

CERTIFICATE OF INSPECTION FOR SHOP ASSEMBLED BOILERS

INSPECTING AUTHORITY: DIRECTOR OF BOILERS, TAMILNADU Certificate No.MIPL/DB/110/2023-24

We hereby certify that the **HORIZONTAL MULTI TUBULAR SHELL TYPE FULLY WET BACK BOILER** built by **M/s.MAXTHERM (INDIA) PRIVATE LIMITED,at Ranipet Works, under Maker's No. MS-1480** was constructed under our supervision and inspected at various stages of construction by the Competent Person and that the construction and workmanship were satisfactory and in accordance with the standard conditions for the design and construction of boilers as per regulations framed under the Boilers Act, 1923.

The boiler is stamped on the **Main Shell** Plate with stamp as shown hereunder.

MAKER'S NAME	:	MAXTHERM (INDIA) PRIVATE LIMITED RANIPET - 632 406.			
MAKER'S NUMBER	:	MS-1480	YEAR OF MAKE	:	2023
TESTED TO	:	26.25 KG/SQ.CM (G)	ON	:	26.08.2023
W.P.	:	17.5 KG/SQ.CM (G)			

COMPETENT PERSON'S OR INSPECTING AUTHORITY'S OFFICIAL STAMP

DB TN PM PM DB TN

The boiler on completion was subjected to a Hydrostatic test pressure of **26.25 kg/cm² (g)** in the presence of the Competent Person on 26 **th. day of August 2023** and satisfactorily withstood the Test.

All welded seams were subjected to destructive and Non-Destructive examination wherever applicable and found satisfactory.

We have satisfied ourselves that the construction and dimensions of the Boiler are as shown in the Maker's **Drg.No. 10-40-17.5-001/Rev.1** signed by us and that the particulars entered in the Maker's Certificate of manufacture in Form III countersigned by us, are correct to the best of our knowledge and belief.

Deputy Director of Boilers,
Chennai Circle, Chennai.
Signature of Competent Person

Inspecting Authority
Director of Boilers
Tamilnadu
Signature of Inspecting Authority

DDB/CHENNAI
No. 87 /2023-2024

DIRECTORATE OF BOILERS ★ TAMILNADU ★
12 SEP 2023
Date and Seal

DA 354/2023 Date: 12/9/2023

FORM-III

[See regulation 4(c)(ii)]

CONSTRUCTOR'S CERTIFICATE OF MANUFACTURER & TEST

1. DESCRIPTION

Constructor's Name and Address	:	M/s.MAXTHERM (INDIA) PRIVATE LIMITED PLOT No. 6, SIDCO BHEL ANCILLARY ESTATE, RANIPET - 632 406
Manufactured for/Stock purposes	:	Stock
contract No.	:	---
Type of Boiler	:	**HORIZONTAL MULTI TUBULAR SHELL TYPE FULLY WET BACK BOILER.**
Length overall	:	4115 mm
Diameter inside Largest belt	:	2750 mm
Design Pressure	:	17.5 Kg/cm²(g)
Reheater Pressure	:	-
Maker Number of boiler	:	MS - 1480
Year of Make	:	2023
Total Heating Surface	:	154 M²
Evaporation capacity (For Calculation of Relieving Capacity of saftey valves)	:	4620 Kgs/hr.
Final Temperature of Steam(design)	:	209 °C
Superheater Outlet	:	-
Reheater Outlet	:	-
Brief Description of Boiler	:	Horizontal Multitubular Shell Type Fully wet back Boiler of Class I Fusion Welded Construction, Single Furnace, Triple Pass with Stay Tubes 175 Nos.

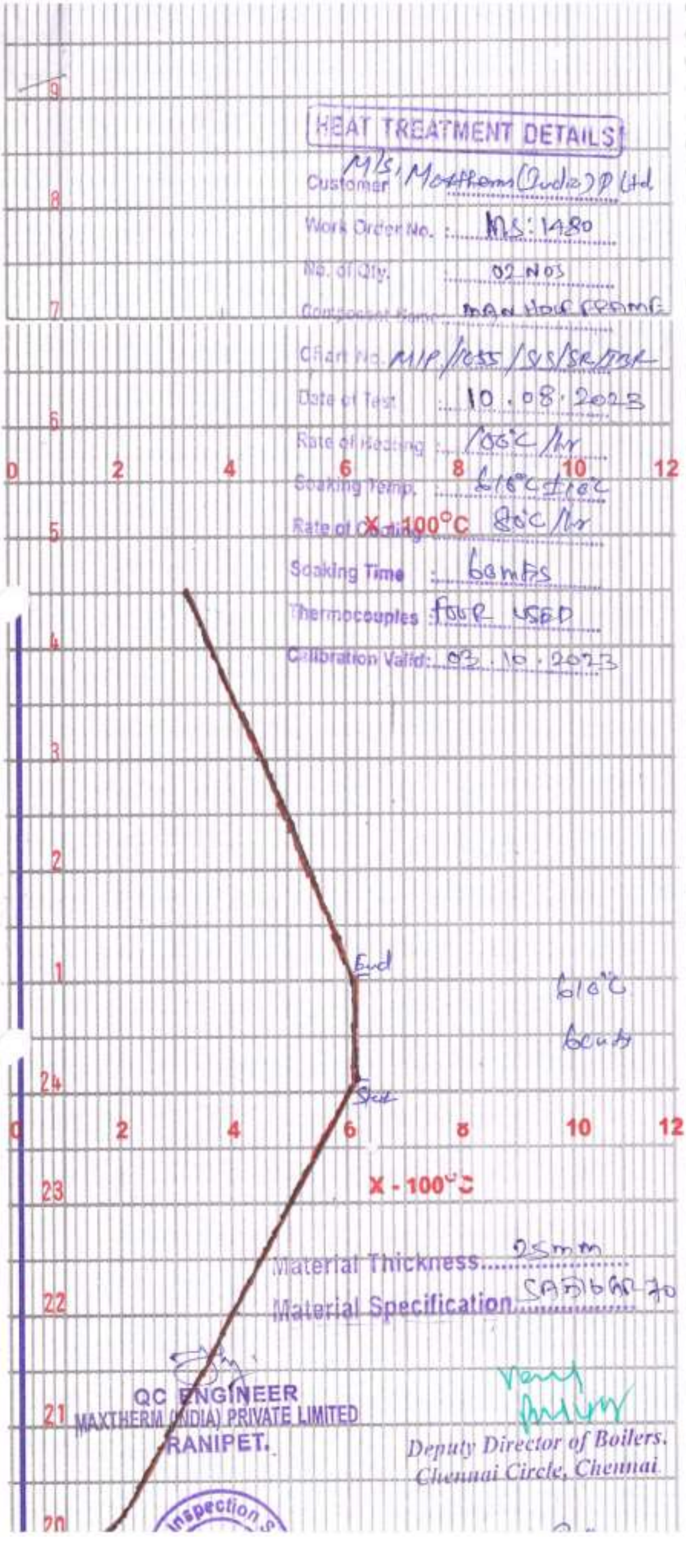
FORM III CONTD.

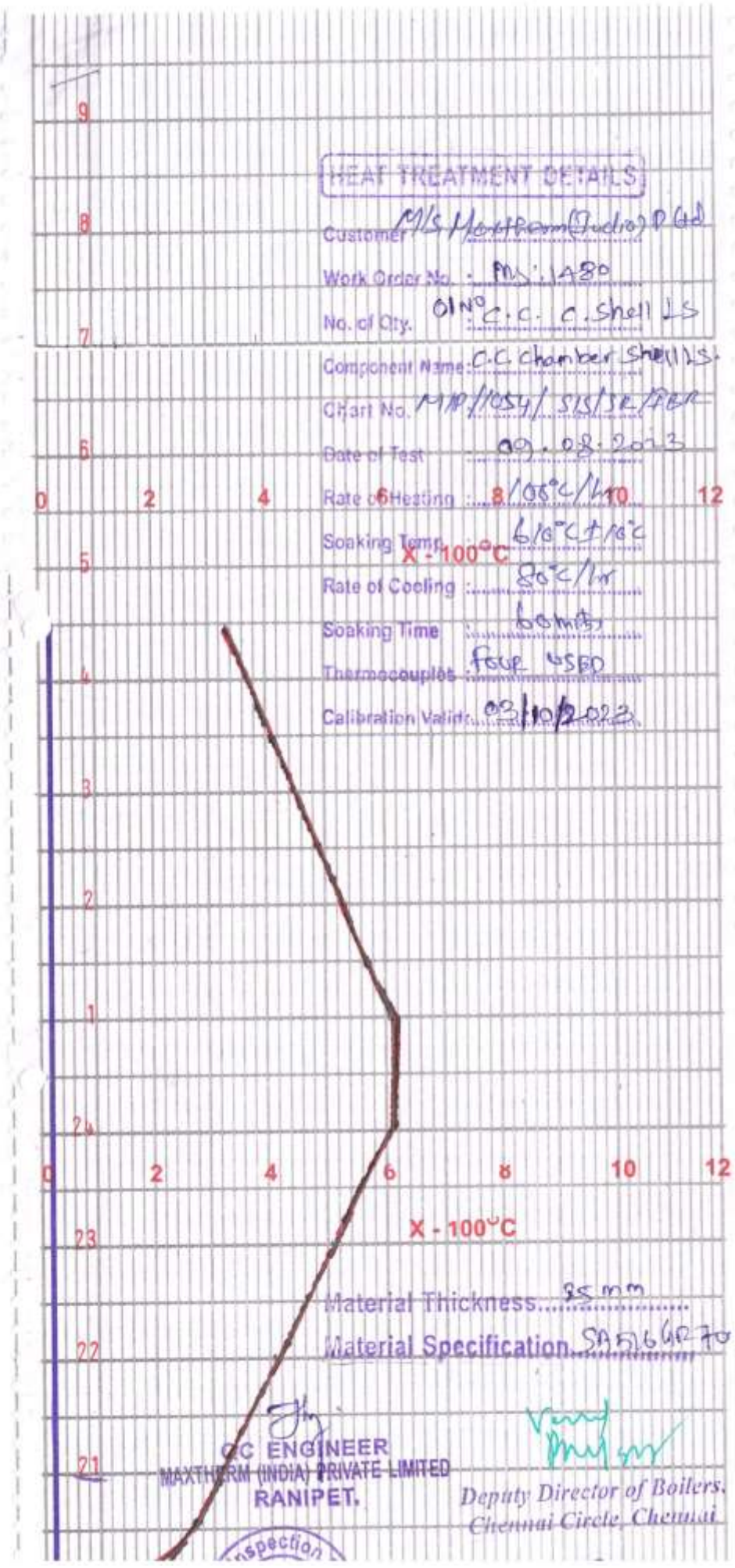
2. Parts Manufactured at the Constructor's Works:

Name of Components(s)	:	1) Shell belt I&II, 2) Plain Furnace Ring I & II 3) C.C.C. Shell, 4) Access Ring 5) Shell Front & Rear End Plates, 6) CCC Front & Rear End Plate 7) Cut Furnace.
Drawing No.	:	10-40-17.5-001/ Rev.1
Manufactured by	:	M/s.MAXTHERM (INDIA) PRIVATE LIMITED PLOT No. 6, SIDCO BHEL ANCILLARY ESTATE, RANIPET - 632 406
Identification Marks	:	COMPETENT PERSON'S OFFICIAL STAMP
Part(s) manufactured, Inspected at all stages of construction by	:	COMPETENT PERSON Deputy Director of Boilers Chennai Circle, Chennai - 5.
Part(s) hydraulically tested and Inspected after test by	:	COMPETENT PERSON Deputy Director of Boilers Chennai Circle, Chennai - 5.

3. Parts Manufactured outside the Constructor's Works :

Name of Components(s)	:	Not Applicable
Drawing No	:	
Manufactured by	:	
Identification Marks		
Parts(s) manufactured, inspected at all stages of construction by		
Parts(s) hydraulically tested & Inspected after test by		


HEAT TREATMENT DETAILS
Customer M/s. Maxtherm (India) P Ltd
Work Order No. : MS: 1480
No. of Qty. : 02 NOS
Component Name : MAN HOLE FRAME
Chart No. MIP/1055/SS/SR/TDR
Date of Test : 10.08.2023
Rate of Heating : 100°C/hr
Soaking Temp. : 610°C ± 10°C
Rate of Cooling 100°C 80°C/hr
Soaking Time : 60 mts
Thermocouples : FOUR USED
Calibration Valid: 03.10.2023
0 2 4 6 8 10 12
X - 100°C
End
Start
610°C
60 mts
Material Thickness 25 mm
Material Specification SA 516 GR 70
QC ENGINEER
MAXTHERM (INDIA) PRIVATE LIMITED
RANIPET.
Deputy Director of Boilers.
Chennai Circle, Chennai


HEAT TREATMENT DETAILS
Customer M/s Maxtherm(India) P Ltd
Work Order No. : PO: 1480
No. of Qty. 01 No C.C. Shell LS
Component Name: C.C chamber Shell LS
Chart No. MHP/1054/SLS/SR/Rev-
Date of Test : 09.08.2023
Rate of Heating : 81/05°C/Hr
Soaking Temp. : 610°C ± 10°C
Rate of Cooling : 80°C/Hr
Soaking Time : 60 mts
Thermocouples : Four USED
Calibration Valid : 03/10/2023
X - 100°C
Material Thickness : 35 mm
Material Specification : SA516 Gr 70
QC ENGINEER
MAXTHERM (INDIA) PRIVATE LIMITED
RANIPET.
Deputy Director of Boilers,
Chennai Circle, Chennai

4. Construction

a)The construction is in accordance with Chapter-III/V/X/XII/XIV-of the Indian Boiler Regulations

Number of longitudinal seams in shell/ drum in each belt	: Shell Belt I - TWO Shell Belt II - TWO Shell Front & Rear End Plate - One Joint in Each End Plate.
Number of longitudinal seams in furnace	: Plain Furnace Ring-I - ONE Plain Furnace Ring-II - ONE C.C.Chamber Shell - ONE Cut Furnace - ONE Access Ring - ONE
Number of circumferential seams in shell/drum .....(including end seams)	: ONE
Number of circumferential seams in the furnace	: ONE
Details of repairs, if any, carried out in welded seams during construction	: Nil
Details of heat treatment	: 1.Manhole Frames - Stress relieved 2.C.C.Chamber Shell L.S.Stress Relieved (Stress Relieving Chart Enclosed)

All welded seams were subjected to Radiographic examination to the satisfaction of the Inspecting Authority, Where required.

FORM III CONTD

5 Details of Drums/Shells

Drg.No.:10-40-17.5-001/ Rev.1

Makers No: MS-1480

No.	Nomen-clature	Nominal Dia(ID) in mm.	Length in mm.	Shell Plate		Tube Plate		Head			Man holes no. & size	Hydro Static Test Kg/cm²
				Thk. in. mm.	inside Radius in.mm.	Thk. in mm.	inside Radius in.mm.	Thk. in mm.	** Type	Radius of dish in mm.		
1	2	3	4	5	6	7	8	9	10	11	12	13
01	Shell	ID 2750	4000	18	1375	18	1372	-	-	-	2 nos. 406x306 x 25 thk	26.25

** Indicate 1)Flat, 2)Dished End, 3)Ellipsoidel & 4)Hemispherical.

FORM III contd.

6. Headers & Boxes

Drg.No.:10-40-17.5-001/ Rev.1

Makers No: **MS-1480**

Description	Size & Shape	Thickness in mm.	Head of End		Hydrostatic test Kg/cm²
			Shape	Thickness in mm.	

FORM III CONTD

7 Mountings

Makers No: MS-1480

No.	Nomenclature	Material	Type	No.	Size
	Refer Mountings List Enclosed				

8. Details of the safety valves and test results (Regulation 4 (c) (Vii)

Manufacturer :

Identification marks of valves :

Maker's No. :
Type :
Lift(mm) :
Drawing Nos. :

Valve Details
Material
Valve seat :
Flat / Bevel :
Diameter of valve seating :

Valve Body
Material :
Opening at neck :
Opening at outlet :

Refer Enclosed Test Certificate

Springs
Material :
Process of manufacture :
Chemical composition in % :

FORM III CONTD

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 & extract of test results
Type of valve :

Place of test :

Constant "C" by test results
Capacity of the valve for the intended blow off pressure

Refer Enclosed Test Certificate

Sd.....
Maker's Representative

Sd.....
Inspecting Authority
Director of Boilers (Gu)

FORM III CONTD

9. Certified that the particulars entered herein in manuscript by us are correct and that parts and fittings in sections 2 to 9, 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. 10-40-17.5-001/Rev.1**

The boiler has been designed and constructed to comply with the regulations under the Boilers Act, 1923 for a working pressure of **17.5 Kg/cm²(g)** at our works above named and satisfactorily withstood a water test of **26.25 Kg/cm²(g)** on **26 th. day of August 2023** in the presence of our responsible representative whose signature is appended hereunder.

Least pressure is for (name of the component) Main Shell and is 17.53 kg/cm²(g)

S.SESHADRI
CHIEF MANAGER
Maxtherm (India) Pvt. Ltd.
RANIPET.

V.S.MANI
TECHNICAL DIRECTOR
Maxtherm (India) Pvt. Ltd.
RANIPET.

Deputy Director of Boilers,
Chennai Circle, Chennai.

Inspecting Authority
Director of Boilers
Tamilnadu

DIRECTORATE OF BOILERS
12 SEP. 2023
TAMILNADU

Dated the day of

MAXTHERM (INDIA) PRIVATE LIMITED
NO.6, SIDCO BHEL Ancillary Estate
Mukundarayapuram, Ranipet - 632406.

FORM IV-A

[See regulation 4(C) (iv)]

CERTIFICATE OF MANUFACTURE AND RESULTS OF TESTS IN LIEU OF ORIGINAL TEST CERTIFICATES

It is hereby certified that original steel Maker's Certificate in Form IV contain following information in respect of the material used in the manufacture of the boiler or parts thereof bearing makers No. : **MS - 1486** According to
Drg.No. 10-40-17.5-0019Rev.1

Part No	Boiler component	Qty.	Size	Cast/Heat No. Plate No.	Steel Making Process	Specification	Name of Steel Maker/ Part Maker	Certificate No. & Date	Heat Treatment	CHEMICAL ANALYSIS % C	Mn Al	P Cu	S As	Si Nb	Cr N	Mo Ti	Ni B	Mech. Properties YS	UTS	Elong.% Gauge Length	Bend Test	Name of the inspecting authority
01a	Shell Belt-I	1	PL.181 x 2500 x 12500	353888 296390702	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80734736 Dt: 29.01.2023	Normalised	0.21 <0.010	1.11 0.021	0.023 <0.02	0.014 -	0.26 <0.010	0.030 61ppm	<0.015 0.013	<0.015 <0.0005	354 Mpa	516 Mpa	22/200	OK	Well Known Steel Maker
01b	Shell Belt-I	1	PL.181 x 2500 x 12500	346519 287721/1	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80710444 Dt: 23.08.2022	Normalised	0.21 <0.010	1.12 0.020	0.023 <0.02	0.017 -	0.21 <0.010	<0.015 57ppm	<0.015 <0.005	<0.015 <0.0005	388 Mpa	538 Mpa	23/200	OK	Well Known Steel Maker
02a	Shell Belt-II	1	PL.181 x 2500 x 12500	353869 296390702	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80734736 Dt: 29.01.2023	Normalised	0.21 <0.010	1.11 0.021	0.023 <0.02	0.014 -	0.26 <0.010	0.030 61ppm	<0.015 0.013	<0.015 <0.0005	354 Mpa	516 Mpa	22/200	OK	Well Known Steel Maker
02b	Shell Belt-II	1	PL.181 x 2500 x 12500	362884 303288/1/1	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80756888 Dt: 10.06.2023	Normalised	0.20 <0.010	1.07 0.029	0.017 <0.02	0.019 -	0.26 <0.010	0.020 62ppm	<0.015 <0.005	<0.015 <0.0005	332 Mpa	523 Mpa	21/200	OK	Well Known Steel Maker
03a	Shell Front End Plate	1	PL.181 x 2500 x 12500	362884 303288/1/1	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80756888 Dt: 10.06.2023	Normalised	0.20 <0.010	1.07 0.029	0.017 <0.02	0.019 -	0.26 <0.010	0.020 62ppm	<0.015 <0.005	<0.015 <0.0005	332 Mpa	523 Mpa	21/200	OK	Well Known Steel Maker
03b	Shell Front End Plate	1	PL.181 x 2500 x 12500	362884 303288/1/1	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80756888 Dt: 10.06.2023	Normalised	0.20 <0.010	1.07 0.029	0.017 <0.02	0.019 -	0.26 <0.010	0.020 62ppm	<0.015 <0.005	<0.015 <0.0005	332 Mpa	523 Mpa	21/200	OK	Well Known Steel Maker
04a	Shell Rear End Plate	1	PL.181 x 2500 x 12500	362884 303288/1/1	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80756888 Dt: 10.06.2023	Normalised	0.20 <0.010	1.07 0.029	0.017 <0.02	0.019 -	0.26 <0.010	0.020 62ppm	<0.015 <0.005	<0.015 <0.0005	332 Mpa	523 Mpa	21/200	OK	Well Known Steel Maker
04b	Shell Rear End Plate	1	PL.181 x 2500 x 12500	362884 303288/1/1	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80756888 Dt: 10.06.2023	Normalised	0.20 <0.010	1.07 0.029	0.017 <0.02	0.019 -	0.26 <0.010	0.020 62ppm	<0.015 <0.005	<0.015 <0.0005	332 Mpa	523 Mpa	21/200	OK	Well Known Steel Maker
05	Plain Furnace Ring - I	1	PL.181 x 2500 x 12500	362884 303288/1/1	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80756888 Dt: 10.06.2023	Normalised	0.20 <0.010	1.07 0.029	0.017 <0.02	0.019 -	0.26 <0.010	0.020 62ppm	<0.015 <0.005	<0.015 <0.0005	332 Mpa	523 Mpa	21/200	OK	Well Known Steel Maker
06	Plain Furnace Ring - II	1	PL.181 x 2500 x 12500	353888 296390702	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80734736 Dt: 29.01.2023	Normalised	0.21 <0.010	1.11 0.021	0.023 <0.02	0.014 -	0.26 <0.010	0.030 61ppm	<0.015 0.013	<0.015 <0.0005	354 Mpa	516 Mpa	22/200	OK	Well Known Steel Maker
07	Furnace End Plate	1	PL.181 x 2500 x 12500	362884 303288/1/1	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80756888 Dt: 10.06.2023	Normalised	0.20 <0.010	1.07 0.029	0.017 <0.02	0.019 -	0.26 <0.010	0.020 62ppm	<0.015 <0.005	<0.015 <0.0005	332 Mpa	523 Mpa	21/200	OK	Well Known Steel Maker
08	Cut Furnace	1	PL.146 x 2500 x 12500	354371 295897/1/1	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80733527 Dt: 23.01.2023	Normalised	0.20 <0.010	1.10 0.020	0.021 <0.02	0.013 -	0.23 <0.010	<0.015 60ppm	<0.015 <0.005	<0.015 <0.0005	354 Mpa	534 Mpa	23/200	OK	Well Known Steel Maker
09	C.C.Chamber Shell	1	PL.251 x 2500 x 12500	346198 287188/1/1	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80703191 Dt: 16.07.2022	Normalised	0.20 <0.010	1.05 0.025	0.022 <0.02	0.010 -	0.22 <0.010	<0.015 62ppm	<0.015 <0.005	<0.015 <0.0005	439 Mpa	593 Mpa	25/200	OK	Well Known Steel Maker
10	C.C.C.Front End Plate	1	PL.181 x 2500 x 12000	362884 303288/1/1	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80756888 Dt: 17.03.2021	Normalised	0.20 <0.010	1.07 0.029	0.017 <0.02	0.019 -	0.26 <0.010	0.020 62ppm	<0.015 <0.005	<0.015 <0.0005	332 Mpa	523 Mpa	21/200	OK	Well Known Steel Maker
11	C.C.C.Rear End Plate	1	PL.181 x 2500 x 12000	362884 303288/1/1	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80756888 Dt: 17.03.2021	Normalised	0.20 <0.010	1.07 0.029	0.017 <0.02	0.019 -	0.26 <0.010	0.020 62ppm	<0.015 <0.005	<0.015 <0.0005	332 Mpa	523 Mpa	21/200	OK	Well Known Steel Maker
12	Recess Ring	1	PL.121 x 2500 x 12000	348762 289260/2/6	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80708826 Dt: 10.08.2022	Normalised	0.20 <0.010	1.13 0.024	0.023 <0.02	0.028 -	0.21 <0.010	0.027 59ppm	<0.015 <0.005	<0.015 <0.0005	397 Mpa	536 Mpa	24/200	OK	Well Known Steel Maker
13	Stiffener Ring	9	PL.181 x 2500 x 12500	353888 296390702	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80734736 Dt: 29.01.2023	Normalised	0.21 <0.010	1.11 0.021	0.023 <0.02	0.014 -	0.26 <0.010	0.030 61ppm	<0.015 <0.005	<0.015 <0.0005	354 Mpa	516 Mpa	22/200	OK	Well Known Steel Maker
14	I nd Pass Stay Tubes	105	OD 63.5 x 3.66 Thk x 4000 Lg	A256825	Basic Oxygen	BS 3059 PT1 ERW Gr.320	Tube Products of India Avadi	TI/11504 Dt: 19.12.2022	Normalised	0.093 -	0.451 -	0.019 -	0.008 -	0.023 -	- -	- -	- -	34.55 Kg/mm²	42.57 Kg/mm²	37/50	N.A	Well Known Tube / Pipe Maker
15	II nd Pass Stay Tubes	70	OD 63.5 x 3.66 Thk x 4000 Lg	A156824	Basic Oxygen	BS 3059 PT1 ERW Gr.320	Tube Products of India Avadi	TI/11494 Dt: 28.11.2022	Normalised	0.090 -	0.460 -	0.018 -	0.008 -	0.012 -	- -	- -	- -	34.32 Kg/mm²	42.42 Kg/mm²	37/50	N.A	Well Known Tube / Pipe Maker
16	Gusset-[01]	5	PL.181 x 2500 x 12500	353888 296390702	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80734736 Dt: 29.01.2023	Normalised	0.21 <0.010	1.11 0.021	0.023 <0.02	0.014 -	0.26 <0.010	0.030 61ppm	<0.015 <0.005	<0.015 <0.0005	354 Mpa	516 Mpa	22/200	OK	Well Known Steel Maker
17	Gusset-[02]	7	PL.181 x 2500 x 12500	353888 296390702	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80734736 Dt: 29.01.2023	Normalised	0.21 <0.010	1.11 0.021	0.023 <0.02	0.014 -	0.26 <0.010	0.030 61ppm	<0.015 <0.005	<0.015 <0.0005	354 Mpa	516 Mpa	22/200	OK	Well Known Steel Maker

Certified that the particulars entered herein by us are correct. This satisfies the requirements of Indian Boiler Regulations,1950.

S.SESHADRI
CHIEF / QA&C
Maxtherm (India) Pvt. Ltd.
RANIPET.

V.S. MANI
TECHNICAL DIRECTOR
Maxtherm (India) Pvt. Ltd.
RANIPET.

Deputy Director of Boilers,
Chennai Circle, Chennai.

MAXTHERM (INDIA) PRIVATE LIMITED
NO 6, SIDCO BHEL Ancillary Estate
Mukundharayapuram, RANIPET - 632 406

FORM IV-A
[See regulation 4(C) (vi)]

CERTIFICATE OF MANUFACTURE AND RESULTS OF TESTS IN LIEU OF ORIGINAL TEST CERTIFICATES

It is hereby certified that original steel Maker's Certificate in Form IV contain following information in respect of the material used in the manufacture of the boiler or parts thereof bearing makers No. : MS - 5480 According to
Drg.No. 10-48-17.5-001/Rev.1

Part No	Boiler component	Qty.	Size	Cast/Heat No. Plate No.	Steel Making Process	Specification	Name of Steel Maker/ Part Maker	Certificate No. & Date	Heat Treatment	C V	Mn Al	P Cu	S As	Si Nb	Cr N	Mo Ti	Ni B	YS	UTS	Elong.% Gauge Length	Bend Test	Name of the inspecting authority
18	Gusset (G3)	2	PL 18t x 2500 x 12500	353888 29039070/2	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80734736 Dt: 29.01.2023	Normalised	0.21 <0.010	1.11 0.021	0.023 <0.02	0.014 -	0.26 <0.010	0.030 61ppm	<0.015 0.013	<0.015 <0.0005	354 Mpa	516 Mpa	22/200	OK	Well Known Steel Maker
19	Gusset (G4)	2	PL 18t x 2500 x 12500	353888 29639070/2	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80734736 Dt: 29.01.2023	Normalised	0.21 <0.010	1.11 0.021	0.023 <0.02	0.014 -	0.26 <0.010	0.030 61ppm	<0.015 <0.005	<0.015 <0.0005	354 Mpa	516 Mpa	22/200	OK	Well Known Steel Maker
20	Tee Piece	16	PL 18t x 2500 x 12500	353888 29639070/2	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80734736 Dt: 29.01.2023	Normalised	0.21 <0.010	1.11 0.021	0.023 <0.02	0.014 -	0.26 <0.010	0.030 61ppm	<0.015 <0.005	<0.015 <0.0005	354 Mpa	516 Mpa	22/200	OK	Well Known Steel Maker
21	Stay Bars	53	Ø [illegible] MTRS	23M125	EIF	SA 105	Mega Steels Pvt Ltd Ghaziabad	MEPL/IBR/20-21/0169 Dt: 15.06.2023	--	0.205 0.005	0.91 0.026	0.022 0.031	0.009 --	0.24 0.0002	0.20 --	0.022 --	0.100 --	370.15 N/mm²	555.35 N/mm²	35.52/50	N.A	Well Known Steel Maker
22	Fusible Plug Socket	2	ROD Ø35	19L-0162	EIF	SA 105	Laxcon Steels Ltd. Ahmedabad	LSL/IBR/18-19/106 Dt: 16.02.2019	--	0.12 0.004	1.03 --	0.023 0.032	0.035 --	0.23 --	0.11 --	0.014 --	0.045 --	344 N/mm²	602 N/mm²	34.12/50	Sat.	Well Known Steel Maker
23	Nozzle Pipe N1	1	OD 88.9 x 7.62 Thk x 5-7 Mtr. Lg	3323499	EAF	SA106 Gr.B	Jindal saw Ltd. Nashik.	JSAW/Q/D21/TX218 2000773-11 Dt: 22.04.2021	NA	0.1500 0.0020	0.7500 0.0320	0.0120 0.0050 Sn:0.0350	0.0040 --	0.1900 --	0.0120 --	0.0020 0.0020	0.0040 --	294.38 Mpa	466.89 Mpa	36.80/50	N.A	Well Known Pipe maker
24	Flange N1	1	PL 25t x 2500 x 12500	290249 24830181/1	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80586720 Dt: 17.07.2019	Normalised	0.20 <0.010	1.16 0.020	0.025 <0.02	0.017 -	0.26 <0.010	<0.015 55ppm	<0.015 <0.005	<0.015 <0.0005	385 Mpa	534 Mpa	26/200	OK	Well Known Steel Maker
25	Pad Plate N1	1	PL 18t x 2500 x 12500	353869 29639070/2	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80734736 Dt: 29.01.2023	Normalised	0.21 <0.010	1.11 0.021	0.023 <0.02	0.014 -	0.26 <0.010	0.030 61ppm	<0.015 <0.005	<0.015 <0.0005	354 Mpa	516 Mpa	22/200	OK	Well Known Steel Maker
26	Nozzle Pipe N2a,b	2	OD 33.4 x 4.55 x 5-7 Mtr. Lg	AB666	EAF	SA 106 Gr. B	Maharashtra Seamless Ltd., Mangaon	MBL-6/IBR/2039/ 127/2022 Dt: 13.12.2022	N.A.	0.170 0.0010	1.030 0.029	0.015 0.005	0.004 --	0.230 --	0.018 --	0.0054 0.0020	0.007 --	440.12 Mpa	543.5 Mpa	33.56/50	OK	Well Known Pipe & Tube maker
27	Flange (N2a,b)	2	PL 22 x 2500 x 12500	296933 2504803/1	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80579558 Dt: 12.11.2019	Normalised	0.22 <0.010	1.14 0.026	0.019 <0.02	0.017 -	0.34 <0.010	<0.015 58ppm	<0.015 <0.005	<0.015 <0.0005	377 Mpa	538 Mpa	27/200	OK	Well Known Steel Maker
28	Nozzle Pipe N3a	1	OD 60.3 x 8.74 Thk x 5-7 Mtr. Lg	AG1720	EAF	SA 106 Gr. B	Maharashtra Seamless Ltd., Nagothane.	MBL-6/IBR/2245/ 57/2021 Dt: 28.12.2021	N.A.	0.120 0.0020	1.310 0.026	0.011 0.006	0.007 --	0.320 --	0.011 --	0.002 0.0024	0.006 --	385.63 Mpa	490.23 Mpa	36.20/50	OK	Well Known Pipe & Tube maker
29	Nozzle Pipe N3b	1	OD 60.3 x 8.74 Thk x 5-7 Mtr. Lg	AG1720	EAF	SA 106 Gr. B	Maharashtra Seamless Ltd., Nagothane.	MSL-6/IBR/2245/ 57/2021 Dt: 28.12.2021	N.A.	0.120 0.0020	1.310 0.026	0.011 0.006	0.007 --	0.320 --	0.011 --	0.002 0.0024	0.006 --	385.63 Mpa	490.23 Mpa	36.20/50	OK	Well Known Pipe & Tube maker
30	Top & Bot. Header Pipe	2	OD 60.3 x 5.54 Thk x 5-7 Mtr. Lg	AA2491	EAF	SA 106 Gr. B	Maharashtra Seamless Ltd., Nagothane.	MSL-6/IBR/2456/ 87/2021 Dt: 23.01.2022	N.A.	0.140 0.005	0.870 0.030	0.009 0.006	0.005 --	0.210 --	0.018 --	0.001 0.0020	0.006 --	342.87 Mpa	459.54 Mpa	36.88/50	N.A	Well Known Pipe & Tube maker
31	Flange (N3a,b)	8	PL 22 x 2500 x 12500	296933 2504803/1	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80579558 Dt: 12.11.2019	Normalised	0.22 <0.010	1.14 0.026	0.019 <0.02	0.017 -	0.34 <0.010	<0.015 58ppm	<0.015 <0.005	<0.015 <0.0005	377 Mpa	538 Mpa	27/200	OK	Well Known Steel Maker
32	Cover Flange N3a,b	2	PL 22 x 2500 x 12500	296933 2504803/1	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80579558 Dt: 12.11.2019	Normalised	0.22 <0.010	1.14 0.026	0.019 <0.02	0.017 -	0.34 <0.010	<0.015 58ppm	<0.015 <0.005	<0.015 <0.0005	377 Mpa	538 Mpa	27/200	OK	Well Known Steel Maker
33	Nozzle Pipe N7a,b,c,d	4	OD 26.7 x 5.56 Thk x 5-6.5 Mtr	6050N	EAF	SA106 Gr.B	ISMT Ltd Ahmednagar, Maharastra.	JU202976/21 Dt: 29.04.2022	--	0.1700 0.0015	0.6000 0.033	0.0120 0.1700 Sn 0.0100	0.0075 --	0.2100 0.0016 Ca:0.0807	0.0900 --	0.0230 0.0023	0.0100 0.0002	416.69 Mpa	438.39 Mpa	40.20/50	OK	Well Known Pipe maker
34	Flange N7a,b,c,d	4	PL 18t x 2500 x 12500	353594 29508665/2	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80730670 Dt: 18.01.2023	Normalised	0.24 <0.010	1.12 0.024	0.018 <0.02	0.021 -	0.24 <0.010	0.030 54ppm	<0.015 <0.005	<0.015 <0.0005	388 Mpa	529 Mpa	22/200	OK	Well Known Steel Maker
35	Nozzle Pipe N8a,b & N9a,b	4	OD 33.4 x 4.55 x 5-7 Mtr. Lg	AB808	EAF	SA 106 Gr. B	Maharashtra Seamless Ltd., Mangaon	MSL-6/IBR/2039/ 127/2022 Dt: 13.12.2022	N.A.	0.170 0.0010	1.030 0.029	0.015 0.005	0.004 --	0.230 -	0.018 -	0.0054 0.0020	0.007 -	440.12 Mpa	543.6 Mpa	33.56/50	OK	Well Known Pipe & Tube maker
36	Flange N8a,b & N9a,b	4	PL 18t x 2500 x 12500	353594 29508665/2	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80730670 Dt: 09.01.2023	Normalised	0.24 <0.010	1.12 0.024	0.018 <0.02	0.021 -	0.24 <0.010	0.030 54ppm	<0.015 <0.005	<0.015 <0.0005	388 Mpa	529 Mpa	22/200	OK	Well Known Steel Maker
37	Cover Flange N9a,b	2	PL 18t x 2500 x 12500	353594 29508665/2	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80730670 Dt: 09.01.2023	Normalised	0.24 <0.010	1.12 0.024	0.018 <0.02	0.021 -	0.24 <0.010	0.030 54ppm	<0.015 <0.005	<0.015 <0.0005	388 Mpa	529 Mpa	22/200	OK	Well Known Steel Maker

Certified that the particulars entered herein by us are correct. This satisfies the requirements of Indian Boiler Regulations 1950.

S.SESHADRI
CHIEF / QA&C
Maxtherm (India) Pvt. Ltd.
RANIPET.

V.S. MANI
TECHNICAL DIRECTOR
Maxtherm (India) Pvt. Ltd.
RANIPET.

Deputy Director of Boilers,
Chennai Circle, Chennai.

MAXTHERM (INDIA) PRIVATE LIMITED
NO 6, SIDCO BHEL Ancillary Estate,
Mukundarayapuram, RANIPET - 632 406

FORM IV-A
[See regulation 4(C) (iv)]

CERTIFICATE OF MANUFACTURE AND RESULTS OF TESTS IN LIEU OF ORIGINAL TEST CERTIFICATES

It is hereby certified that original work Maker's Certificate in Form IV contain following information in respect of the material used in the manufacture of the boiler or parts thereof bearing makers No. : MS - 1480 According to Drg.No. 10-40-17,5-861/Rev.1

Part No	Boiler component	Qty.	Size	Cast/Heat No. Plate No.	Steel Making Process	Specification	Name of Steel Maker/ Part Maker	Certificate No. & Date	Heat Treatment	CHEMICAL ANALYSIS %									Mech. Properties		Elong.% Gauge Length	Bend Test	Name of the inspecting authority
										C V	Mn Al	P Cu	B As	Si Nb	Cr N	Mo Ti	Ni W		YS	UTS			
38	Pipe N10 & N11	2	OD 21.3 x 4.78 Thk x 5 - 7 Mtr	3823205	EAF	SA106 Gr.B	ISMT Ltd Ahmednagar, Maharashtra.	JS366880/94 Dt. 19.09.2020	Normalised	0.1900 0.0020	0.6300 0.0280	0.0130 0.0060	0.0030 0.0020	0.2000 0.0010	0.0110 –	0.0020 0.0022	0.0040 0.0002		302.05 Mpa	434.09 Mpa	45.40/50	OK	Well Known Pipe maker
													Sn:0.0200		Ca:0.0018								
39	Spiral Pipe	2	OD 21.3 x 3.73 Thk x 5 - 7 Mtr	M0949418	EAF	SA 106 Gr. B	Jindal saw Ltd. Nashik.	JSAW/O/B22/TX210 2019/08-22 Dt. 23.02.2022	Annealed	0.1400 0.0080	0.7450 0.0380	0.0110 0.0070	0.0060 –	0.2400 –	0.0200 –	0.0020 0.0016	0.0070 –		316.94 Mpa	448.22 Mpa	38.40/50	ad	Well Known Pipe maker
													Sn:0.0040										
40	Spiral Socket	4	ROD 45H	19L-0162	BF	SA 105	Lavcon Steels Ltd. Ahmedabad	LSL/BR/18-19/186 Dt. 16.02.2019	–	0.12 0.004	1.03 –	0.023 0.032	0.005 –	0.23 –	0.11 –	0.014 –	0.045 –		344 N/mm²	692 N/mm²	34.12/50	Sat	Well Known Steel Maker
41	Nozzle Pipe N4a,b	2	OD 48.3 x 5.08 Thk x 5-7Mtr	3116232	NOF	SA106 Gr.B	ISMT Ltd Baramati, Maharashtra.	JT/370347/T Dt. 19.09.2021	–	0.1700 0.0010	0.6300 0.0300	0.0180 0.0040	0.0060 0.0020	0.1900 0.0005	0.0100 –	0.0030 0.0010	0.0060 0.0002		298.13 Mpa	468.09 Mpa	36.20/50	OK	Well Known Pipe maker
													Sn:0.0020		Ca:0.0020								
42	Flange N4a,b & N8	5	PL 22 x 2500 x 12000	296833 2504803/1	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80579558 Dt. 12.11.2019	Normalised	0.22 <0.010	1.14 0.026	0.019 +0.02	0.017 -	0.34 <0.010	<0.015 58ppm	<0.015 <0.005	<0.015 <0.0005		377 Mpa	538 Mpa	27/200	OK	Well Known Steel Maker
43	Nozzle Pipe N5	1	OD 33.4 x 4.55 x 5 - 7 Mtr. Lg	AB886	EAF	SA 106 Gr. B	MSL-SI/BR/2038/ Seamless Ltd., Mangaon	MSL-SI/BR/2038/ 127/2022 Dt. 13.12.2022	N.A.	0.170 0.0010	1.000 0.029	0.015 0.005	0.004 –	0.230 –	0.018 –	0.0054 0.0031	0.007 –		440.12 Mpa	543.5 Mpa	33.56/50	OK	Well Known Pipe & Tube maker
44	Flange N5	1	PL 19t x 2500 x 12000	293694 2503865/2	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80730673 Dt. 09.01.2023	Normalised	0.24 <0.010	1.12 0.024	0.018 +0.02	0.021 -	0.24 <0.010	0.030 54ppm	<0.015 <0.005	<0.015 <0.0005		389 Mpa	529 Mpa	22/200	OK	Well Known Steel Maker
45	Nozzle Pipe N6	1	OD 48.3 x 5.08 Thk x 5-7Mtr	3116232	NOF	SA106 Gr.B	ISMT Ltd Baramati, Maharashtra.	JT/370347/T Dt. 19.09.2021	–	0.1700 0.0010	0.6300 0.0300	0.0180 0.0040	0.0060 0.0020	0.1900 0.0005	0.0100 –	0.0030 0.0010	0.0060 0.0002		298.13 Mpa	468.09 Mpa	36.20/50	OK	Well Known Pipe maker
													Sn:0.0020		Ca:0.0020								
46	Blowdown Pipe	1	OD 48.3 x 5.08 x 5 - 7 Mtr. Lg	AB983	EAF	SA 106 Gr. B	Maharashtra Seamless Ltd., Mangaon	MSL-T/BR/2588/ 6/2022 Dt. 14.03.2023	N.A.	0.175 0.004	1.080 0.031	0.018 0.006	0.003 –	0.240 –	0.015 –	0.002 0.001	0.008 –		440.76 Mpa	525.94 Mpa	30/50	OK	Well Known Pipe & Tube maker
47	Manhole Frame	2	PL 25t x 2500 x 12000	290249 2463018/1	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80666726 Dt. 17.07.2019	Normalised	0.20 <0.010	1.16 0.020	0.025 +0.02	0.017 -	0.26 <0.010	<0.015 65ppm	<0.015 <0.005	<0.015 <0.0005		385 Mpa	534 Mpa	26/203	OK	Well Known Steel Maker
48	Manhole Cover	2	PL 20t x 2500 x 12000	296837 2504297/1	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80685496 Dt. 22.11.2019	Normalised	0.23 <0.010	1.10 0.027	0.024 +0.02	0.012 -	0.29 <0.010	<0.015 60ppm	<0.015 <0.005	<0.015 <0.0005		362 Mpa	508 Mpa	25/203	OK	Well Known Steel Maker
49	Pad Plate t01,M2	2	PL 19t x 2500 x 12000	353669 2503970/2	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80734736 Dt. 29.01.2023	Normalised	0.21 <0.010	1.11 0.021	0.023 +0.02	0.014 -	0.26 <0.010	0.030 61ppm	<0.015 <0.005	<0.015 <0.0005		354 Mpa	516 Mpa	22/200	OK	Well Known Steel Maker
50	Fuel Nozzle Pipe [N12]	1	OD 323.8 x 9.53 Thk x 5-7Mtr	Y265	EAF	SA 106 Gr. B	United Seamless tubulars PVT LTD Telangana	USTPL/2022/BR/ 02/0478 24.11.2022	NA	0.151 0.002	0.883 -	0.014 0.012	0.005 -	0.216 -	0.013 -	0.005 -	0.015 -		309.99 Mpa	467.08 Mpa	22.91/50	N.A.	Well Known Pipe & Tube maker
51	Pad Plate N12	1	PL 20t x 2500 x 12000	353649 2951291/1	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80728212 Dt. 28.12.2022	Normalised	0.23 <0.010	1.11 0.021	0.018 +0.02	0.015 -	0.21 <0.010	0.030 58ppm	<0.015 0.010	<0.015 <0.0005		385 Mpa	503 Mpa	22/200	OK	Well Known Steel Maker
52	Ash Pipe N13	1	OD 114.3 x6.56 Thk x 5-7Mtr	UA369	EAF	SA106 Gr.B	United Seamless tubulars PVT LTD Telangana	USTPL/2021/BR/ 02/9665 Dt. 14.11.2021	NA	0.163 0.002	1.102 -	0.013 0.005	0.006 -	0.242 -	0.006 -	0.003 -	0.006 -		357.36 Mpa	544.91 Mpa	34.84/50	N.A.	Well Known Pipe & Tube maker
53	Pad Plate N13	1	PL 19t x 2500 x 12000	353669 2503970/2	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80734736 Dt. 29.01.2023	Normalised	0.21 <0.010	1.11 0.021	0.023 +0.02	0.014 -	0.26 <0.010	0.030 61ppm	<0.015 <0.005	<0.015 <0.0005		354 Mpa	516 Mpa	22/200	OK	Well Known Steel Maker

Certified that the particulars entered herein by us are correct. This satisfies the requirements of Indian Boiler Regulations, 1950.

Page 01 of 02 / Form IVA

S.SESHADRI
CHIEF / QA&C
Maxtherm (India) Pvt. Ltd.
RANIPET.

V.S. MANI
Signature of Manufacturer's Competent Person
TECHNICAL DIRECTOR
Maxtherm (India) Pvt. Ltd.
RANIPET.

Deputy Director of Boilers,
Chennai Circle, Chennai.

Inspecting Authority
Signature and Seal of Inspecting Authority
Director of Boilers
Tamilnadu

FORM III-A

[See regulation 4(e)]

CERTIFICATE OF MANUFACTURE AND TEST FOR PIPES

Certificate No : **MIPL/IBR/721** Date:26.08.2023

Boiler Maker's No : **MS-1480**

01	Name of Part & Quantity	: **Feed Water Piping Assy. & Details**
02	Drawing No.	: **20-40-17.5-003/Rev.0**
03	Maker's name and address	: **M/s. MAXTHERM (INDIA) PRIVATE LIMITED 6, Sidco Bhel Ancillary Estate, Mukuntharayapuram, Ranipet - 632 406.**
04	Customer's name and address	: **Stock Purpose**
05	Design Pressure	: **21 Kg/Sq.cm(g)**
06	Design Temperature	: **105 ° C**
	RAW MATERIAL	
07	Process of Manufacture, Fully Killed/rimmed Chemical Composition, Heat Number Size, Test Certificate No. & Date Name of the Steel Maker Name of Inspecting Authority	: **Refer Annexure**
	PIPES	
08	Process of Manufacture, Main dimensions, toler Specification, Bend test on pipe or weld, Flattening test Other tests, Tensile strength, Chemical Composition	: **Refer Annexure**
09	Heat Treatment	: ----------
10	Hydraulic Test	: **31.5 Kg/Sq.cm(g) (Satisfactory)**
11	Identification mark of Inspecting Authority	:
12	Details of Pipes	

Part No.	Qty. in Nos.	Description & Mat. Size OD x thk (in mm)	Material Specification	Melt No Plate No.	Test Certificate No. & Date	Name Of The Steel Maker	Name Of The Inspecting Authority
01	02	Pipe OD 48.3 x 3.68 Thk	SA 106 Gr.B	AB985	MSL-7/IBR/2588/ 6/2022 Dt: 14.03.2023	Maharashtra Seamless Ltd., Mangaon	Well Known Pipe & Tube maker
02	02	Pipe OD 48.3 x 3.68 Thk	SA 106 Gr.B	AB985	MSL-7/IBR/2588/ 6/2022 Dt: 14.03.2023	Maharashtra Seamless Ltd., Mangaon	Well Known Pipe & Tube maker
03	02	Pipe OD 48.3 x 3.68 Thk	SA 106 Gr.B	AB985	MSL-7/IBR/2588/ 6/2022 Dt: 14.03.2023	Maharashtra Seamless Ltd., Mangaon	Well Known Pipe & Tube maker
04	02	Pr.Loop Pipe OD 21.3 x 3.73Thk	SA 106 Gr.B	M004943B	JSAW/Q/B22/TX210 2015508-22 Dt: 28.02.2022	Jindal saw Ltd. Nashik.	Well Known Pipe maker
05	02	M/C Socket 1/2" BSP x 3000# Rod Ø 50	SA 105	19L-0162	LSL/IBR/18-19/196 Dt: 16.02.2019	Laxcon SteelsLtd. Ahmedabad	Well Known Steel Maker
06	10	Flange 40 NB Pl. 16 Thk	SA 516 Gr. 70	296933 2504603/1	RCL/MTL/PLM/ 80579558 Dt: 12.11.2019	SAIL Bhillai Steel Plant Bhillai	Well Known Steel Maker
07	02	Flange 25 NB Pl. 22 Thk	SA 516 Gr. 70	296933 2504603/1	RCL/MTL/PLM/ 80579558 Dt: 12.11.2019	SAIL Bhillai Steel Plant Bhillai	Well Known Steel Maker

Note: In addition' the following information in respect of the material shall be furnished in a tubular 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 Temp.up to °C	250	275	300	325	350	375	400	425	450	475	500	525	550	575	600
Et															
Sc				As Per TC											
Sr															
MAWP															

Tensile Strength at 20°C.
Where
Et = Yield point at temperature t (0.2% proof stress).
Sc = Average stress to produce an elongation of 1% (creep) in 100,000 hours at various working metal temperatures.
Sr = Average and lowest stress to produce rupture in 100,000 hours at the 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 Sc and Sr 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 components are shown in **Drawing No: 20-40-17.5-003/Rev.0**

The pipe have been designed and constructed to comply with the Indian Boiler Regulations for a maximum working pressure of **21 Kg/cm²(g)** and maximum temperature of **105 Deg.C** and satisfactorily withstood a water test of **31.5 Kg/cm²(g)** **on the 26 th. day of August 2023** in the presence of our responsible representative whose signature is appended hereunder.

Maker's Authorised Representative
S.SESHADRI
CHIEF / QA&C
Maxtherm (India) Pvt. Ltd.
RANIPET.

For Maker
(Name and Designation)
V.S. MANI
TECHNICAL DIRECTOR
Maxtherm (India) Pvt. Ltd.
RANIPET.

We have satisfied ourselves that the pipes 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 Inspecting Authority
Deputy Director of Boilers,
Chennai Circle, Chennai.

Name & Signature of Inspecting Authority
Inspecting Authority
Director of Boilers
Tamilnadu

DIRECTORATE OF BOILERS
12 SEP 2023
TAMILNADU

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 is applicable 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.

ANNEXURE

EXTRACTS FROM MILL TEST CERTIFICATE

We certify that the following are the results of tests as given in the original Mill Test Certificate of material used in the manufacture of Boiler/Piping or Parts.

Certificate No. MIPL/IBR/721 Dt :26.08.2023 Boiler Makers No. : MS - 1480 Ref-Drg. No : 20-40-17.5-003/Rev.0

Size in mm	Cast No. / Plate No.	Steel Making Process	Specn.	Name of the Steel Maker	TC No. & Date	Heat Treat-ment	Mech. Properties YS	Mech. Properties UTS	Elong ation % G.L	Bend Test	Hydro Test	Flaring Test	Flatte-ning Test	Eddy Curr-ent	CHEMICAL ANALYSIS% C / V	Mn / Al	P / Cu	S / As	Si / Nb	Cr / N	Mo / Ti	Ni / B
OD 48.3 x 3.68 x 5 - 7 Mtr. Lg	AB985	EAF	SA 106 Gr. B	Maharashtra Seamless Ltd., Mangaon	MSL-7/IBR/2588/ 6/2022 Dt: 14.03.2023	N.A.	440.76 Mpa	525.94 Mpa	30/50	OK	Sat	NA	NA	NA	0.175 0.004	1.060 0.031	0.016 0.006	0.003 --	0.240 --	0.015 --	0.002 0.001	0.006 --
OD 21.3 x 3.73 Thk x 5 - 7 Mtr. Lg	M004943B	EAF	SA 106 Gr. B	Jindal saw Ltd. Nashik.	JSAW/Q/B22/TX210 2015508-22 Dt: 28.02.2022	Annealed	316.94 Mpa	449.22 Mpa	38.40/50	Sat	Sat	NA	NA	Sat	0.1400 0.0080	0.7400 0.0380	0.0110 0.0070 Sn:'0.0040	0.0060 --	0.2400 --	0.0200 --	0.0020 0.0016	0.0070 --
Rod Ø 36	18L-0162	EIF	SA 105	Laxcon Steels Ltd. Ahmedabad	LSL/IBR/18-19/196 Dt: 18.02.2019	--	344 N/mm²	602 N/mm²	34.12/50	Sat	-	-	-	-	0.12 0.004	1.03 --	0.023 0.032	0.035 --	0.23 --	0.11 --	0.014 --	0.045 --
PL 22 x 2500 x 12500	290933 2504503/1	Basic Oxygen	SA 516 Gr.70	SAIL Bhilai Steel Plant Bhilai	RCL/MTL/PLM/ 80579556 Dt: 12.11.2019	Norma lized	377 Mpa	538 Mpa	27/200	OK	-	-	-	-	0.22 <0.010	1.14 0.026	0.019 <0.02	0.017 --	0.34 <0.010	<0.015 58ppm	<0.015 <0.005	<0.015 <0.0006

S.SESHADRI
CHIEF / QA&C
Maxtherm (India) Pvt. Ltd.
RANIPET.

V.S. MANI
TECHNICAL DIRECTOR
Maxtherm (India) Pvt. Ltd.
RANIPET.

Deputy Director of Boilers,
Chennai Circle, Chennai.

MAKER'S NAME : MAXTHERM INDIA PRIVATE LIMITED

PANIPET-132103

MAKER'S NUMBER: MS-1480 YEAR OF MAKE: 2023

TESTED TO : 26.25 KG/SQ.CM. G ON: 26.08.2023

W.P. : 17.5 KG/SQ.CM. G

COMPETENT PERSON'S OR INSPECTING AUTHORITY'S

OFFICIAL STAMP