

# ARC INSULATIONS AND INSULATORS PVT LTD

<b>CLIENT</b>	PAHARPUR COOLING TOWER LTD	DATE	29-05-2024	SHEET No.	1
<b>TITLE</b>	FRP HOT WATER DISTRIBUTER HEADER PIPE	PO NO	24CBO0045		
<b>PROJECT</b>	RAJASTHAN REFINERY PROJECT - 9B STG Pkg.	CUSTOMER	MEIL BARMER HPCL-RAJASTHAN REFINERY LIMITED (HRRL)		
<b>DRG. NO.</b>	23-210034/F/04	TOTAL NO SETS	11		

## JOINT INSPECTION REPORT

### PART - 1 PIPE DIMENSION REPORT

DESCRIPTION	SIZE	OD(MM)		THICKNESS(MM)		LENGTH(MM)	
		SPECIFIED	OBSERVED	SPECIFIED	OBSERVED	SPECIFIED	OBSERVED
<b>PIPE</b>	750	768	768.2	9	9.1	8675	8677.0
	750	768	768.2	9	9.1	8746	8749.0

### PART 2 - FLANGE DIMENSION REPORT

DESCRIPTION	NB	OD	PCD	NOH	HOLE DIA	THK	OBSERVED					
							NB	OD	PCD	NO OF HOLES	HOLE DIA	THK
<b>FLANGES</b>	750	985	914	28	35	62.5	750	986	914	28	36	62

### PART - 4 BLIND DIMENSION REPORT

DESCRIPTION	PIPE SET	SIZE	OD		THICKNESS		LENGTH		NO. OF STIFFENER		THICKNESS OF STIFFENER	
			SPECIFIED	OBSERVED	SPECIFIED	OBSERVED	SPECIFIED	OBSERVED	SPECIFIED	OBSERVED	SPECIFIED	OBSERVED
<b>PIPE</b>	SET 1	750	750	750	20	20	250	250	22	22	252	252

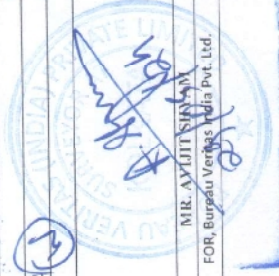
### PART - 5 VENT PIPE DIMENSION REPORT

DESCRIPTION	PIPE SET	SIZE	OD(MM)		THICKNESS(MM)		LENGTH(MM)	
			SPECIFIED	OBSERVED	SPECIFIED	OBSERVED	SPECIFIED	OBSERVED
<b>PIPE</b>	SET 1	200	210	210	5	5	2625	2627

### PART - 6 VENT PIPE FLANGE DIMENSION REPORT

DESCRIPTION	NB	OD	BCD	NOH	HOLE DIA	THK	OBSERVED					
							NB	OD	PCD	NO OF HOLES	HOLE DIA	THK
<b>FLANGES</b>	200	343	298	8	22	25	200	344	298	8	23	26
SET 1 OF 1	200	343	298	8	22	25	200	345	298	8	23	25

ALL THE ABOVE OBSERVED DIMENSIONS ARE UNDER TOLERANCE LIMIT AS PER IS 14402



MR. SUBHADIP ROY  
FOR, ARC INSULATION & INSULATORS PVT LTD.

# ARC INSULATIONS AND INSULATORS PVT LTD

<b>CLIENT</b>	PAHARPUR COOLING TOWER LTD	<b>DATE</b>	29-05-2024	<b>SHEET No.</b>	4
<b>TITLE</b>	FRP HOT WATER DISTRIBUTER HEADER PIPE	<b>PO NO</b>	24CB00045		
<b>PROJECT</b>	RAJASTHAN REFINERY PROJECT - 9B STG Pkg.	<b>CUSTOMER</b>	MEIL BARMER HPCL-RAJASTHAN REFINERY LIMITED (HRRLL)		
<b>DRG. NO.</b>	23-210034/F/04	<b>TOTAL NO SETS</b>	11		

## JOINT INSPECTION REPORT

### PART - 3 HOLE DIMENSION REPORT

DESCRIPTION	DIA 1		LENGTH	DIA 2		LENGTH(MM)	
	SPECIFIED	OBSERVED		SPECIFIED	OBSERVED	SPECIFIED	OBSERVED
<b>PIPE</b>							
FLANGE FACE TO 1ST HOLE	224 +/-1	224	1110	95 +/-1	1110	1110	1110
FLANGE FACE TO 2ND HOLE	224 +/-1	224	2056	95 +/-1	2056	2056	2056
FLANGE FACE TO 3RD HOLE	224 +/-1	223	3612	95 +/-1	3612	3612	3612
FLANGE FACE TO 4TH HOLE	224 +/-1	223	4558	95 +/-1	4558	4558	4558
FLANGE FACE TO 5TH HOLE	224 +/-1	225	6002	95 +/-1	6002	6002	6002
FLANGE FACE TO 6TH HOLE	224 +/-1	225	6948	95 +/-1	6948	6948	6948
FLANGE FACE TO 7TH HOLE	224 +/-1	223	8504	95 +/-1	8504	8504	8504
FLANGE FACE TO 8TH HOLE	224 +/-1	223	9450	95 +/-1	9450	9450	9450
FLANGE FACE TO 9TH HOLE	224 +/-1	224	11118	95 +/-1	11118	11118	11118
FLANGE FACE TO 10TH HOLE	224 +/-1	224	12064	95 +/-1	12064	12064	12064
FLANGE FACE TO 11TH HOLE	224 +/-1	223	13508	95 +/-1	13508	13508	13508
FLANGE FACE TO 12TH HOLE	224 +/-1	223	14454	95 +/-1	14454	14454	14454
FLANGE FACE TO 13TH HOLE	224 +/-1	224	15976	95 +/-1	15976	15976	15976
FLANGE FACE TO 14TH HOLE	224 +/-1	223	16922	95 +/-1	16922	16922	16922

**SET 1**

### BARCOL HARNESS

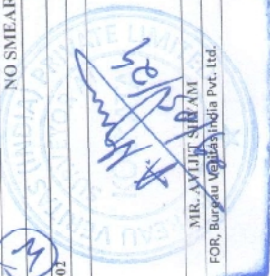
S.NO	LOCATION	OBSERVED
1	PIPE 750	37
2	PIPE 200	39

### PIPE TENSILE TEST

S.NO	LOCATION	OBSERVED
1	PIPE	317.77

### ACETONE SMEAR

S.NO	LOCATION	OBSERVED
1	PIPE	NO SMEAR / SMLUG
2	FLANGE	NO SMEAR / SMLUG



MR. SUBHADIP ROY  
FOR, ARC INSULATION & INSULATORS PVT LTD.

MR. SURESH K. AM  
FOR, Bureau of India Pvt. Ltd.

ALL DIMENSIONS ARE UNDER TOLERANCE LIMIT AS PER IS 14001

# TEST CERTIFICATE

Date : 29-05-2024 , 03:14 PM

## ARC INSULATION & INSULATORS PVT LTD RAMDEVPUR

To / Dept. : INHOUSE  
Address : ARC KOLKATA  
sample Identification : GFRP BAR  
Part description : MEIL BERMER PROJECT  
Part Number :  
Machine : KRYSTAL Make Universal Testing Machine 1200 kN

**Input Data** File Name : FRP PIPE , Record No. : 1  
Sample Type : Rectangular Bar Area : 243.000 mm<sup>2</sup>  
Width : 27 mm Thickness : 9 mm  
Gauge Length : 120 mm Final Gauge Length: 120.1 mm

### Results of Tension Test

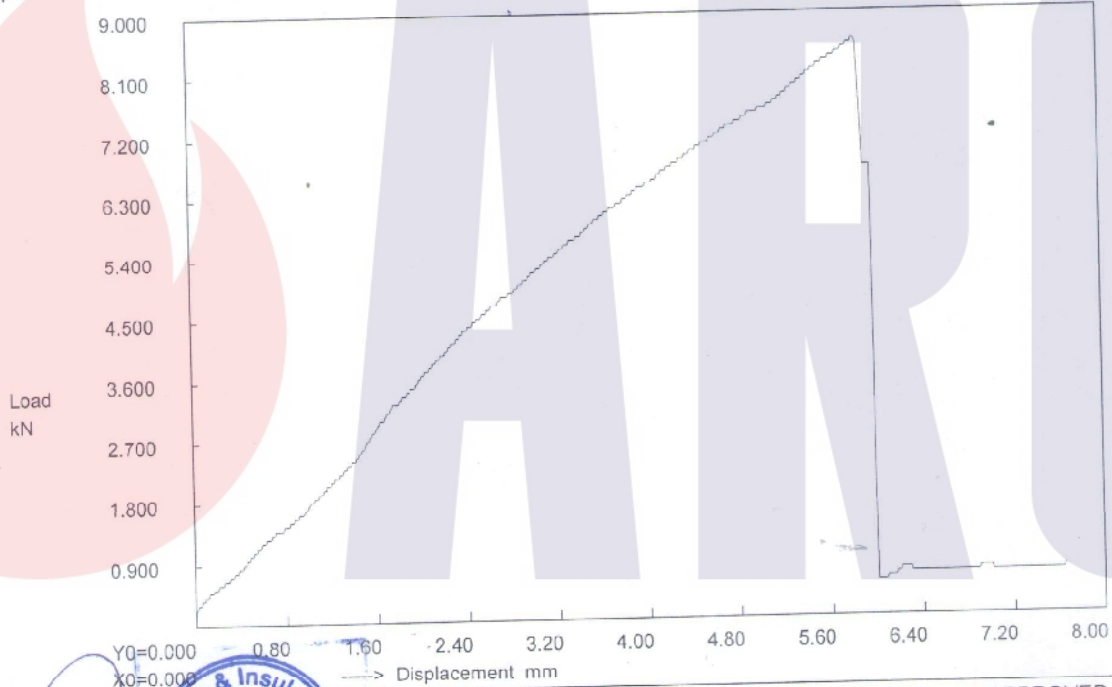
Maximum Force (Fm) : 8.580 kN  
Disp. at Fm : 5.84 mm  
Max. Disp. : 7.660 mm

As per IS 14402, Tensile Strength (T) = F/W

Where, F = Failure force in N  
W = Width of the Test Piece in mm

T = 8580/27  
= 317.77 kN/m

Graph : Load Vs Displacement



TESTED BY

SUBHADIP ROY  
ARC INSULATIONS



INSPECTED BY

AVIJIT SHYAM  
BV INDIA



APPROVED BY

# ARC INSULATIONS AND INSULATORS PVT LTD

<b>CLIENT</b>	PAHARPUR COOLING TOWER LTD	DATE	16-05-2024	SHEET No.	1
<b>TITLE</b>	FRP HOT WATER DISTRIBUTER HEADER PIPE	PO NO	24CBO0045		
<b>PROJECT</b>	RAJASTHAN REFINERY PROJECT - 9B STG Pkg.	CUSTOMER	MEIL BARMER HPCL-RAJASTHAN REFINERY LIMITED (HRRLL)		
<b>DRG. NO.</b>	23-210034/E/04	TOTAL NO SETS	11		

## INTERNAL INSPECTION REPORT

### PART - I PIPE DIMENSION REPORT

DESCRIPTION	SIZE	OD(MM)		THICKNESS(MM)		LENGTH(MM)	
		SPECIFIED	OBSERVED	SPECIFIED	OBSERVED	SPECIFIED	OBSERVED
<b>PIPE</b>							
1	750	768	768.2	9	9.1	8675	8676.0
SET 1 OF 1							
SET 2 OF 1	750	768	768.2	9	9.1	8746	8748.0
2	750	768	768.4	9	9.2	8675	8676.0
SET 1 OF 2							
SET 2 OF 2	750	768	768.2	9	9.1	8746	8748.0
3	750	768	768.4	9	9.2	8675	8677.0
SET 1 OF 3							
SET 2 OF 3	750	768	768.4	9	9.2	8746	8747.0
4	750	768	768.4	9	9.2	8675	8676.0
SET 1 OF 4							
SET 2 OF 4	750	768	768.2	9	9.1	8746	8748.0
5	750	768	768.2	9	9.1	8675	8676.0
SET 1 OF 5							
SET 2 OF 5	750	768	768.4	9	9.2	8746	8748.0
6	750	768	768.4	9	9.2	8675	8677.0
SET 1 OF 6							
SET 2 OF 6	750	768	768.4	9	9.2	8746	8747.0
7	750	768	768.6	9	9.3	8675	8676.0
SET 1 OF 7							
SET 2 OF 7	750	768	768.6	9	9.3	8746	8748.0
8	750	768	768.2	9	9.1	8675	8677.0
SET 1 OF 8							
SET 2 OF 8	750	768	768.2	9	9.1	8746	8747.0
9	750	768	768.4	9	9.2	8675	8677.0
SET 1 OF 9							
SET 2 OF 9	750	768	768.4	9	9.2	8746	8748.0
10	750	768	768.2	9	9.1	8675	8676.0
SET 1 OF 10							
SET 2 OF 10	750	768	768.2	9	9.1	8746	8747.0
11	750	768	768.2	9	9.1	8675	8675.0
SET 1 OF 11							
SET 2 OF 11	750	768	768.2	9	9.1	8746	8746.0

ALL THE ABOVE OBSERVED DIMENSIONS ARE UNDER TOLERANCE LIMIT AS PER IS 14402.

  
 MR. SUHADIP ROY  
 Insulation & Insulators Pvt. Ltd.  
 Kolkata

  
 MR. AVIJIT SHANAYI  
 FOR: Bureau Veritas India Pvt. Ltd.

FOR: ARC INSULATION & INSULATORS PVT. LTD.


# ARC INSULATIONS AND INSULATORS PVT LTD

<b>CLIENT TITLE</b>	PAHARPUR COOLING TOWER LTD	DATE	16-05-2024	SHEET No.	2
<b>PROJECT</b>	FRP HOT WATER DISTRIBUTER HEADER PIPE	<b>PO NO</b>	24CB00045		
<b>DRG. NO.</b>	RAJASTHAN REFINERY PROJECT - 9B STG Pkg.	<b>CUSTOMER</b>	MEIL BARMER HPCL-RAJASTHAN REFINERY LIMITED (HIRRL)		
	23-210034/F/04	<b>TOTAL NO SETS</b>	11		


INTERNAL INSPECTION REPORT												
PART 2 - FLANGE DIMENSION REPORT												
DESCRIPTION	SPECIFIED						OBSERVED					
	NB	OD	PCD	NOHI	HOLE DIA	THK	NB	OD	PCD	NO OF HOLES	HOLE DIA	THK
1	750	985	914	28	35	62.5	750	986	914	28	35.5	63
2	750	985	914	28	35	62.5	750	985	914	28	35.2	63
3	750	985	914	28	35	62.5	750	985	914	28	35.1	62
4	750	985	914	28	35	62.5	750	985	914	28	35.5	63
5	750	985	914	28	35	62.5	750	985	914	28	35.1	63
6	750	985	914	28	35	62.5	750	986	914	28	35.2	62
7	750	985	914	28	35	62.5	750	986	914	28	35.2	64
8	750	985	914	28	35	62.5	750	985	914	28	35.1	63
9	750	985	914	28	35	62.5	750	985	914	28	35.5	63
10	750	985	914	28	35	62.5	750	986	914	28	35.5	63
11	750	985	914	28	35	62.5	750	985	914	28	35.2	64

PART - 3 BLIND DIMENSION REPORT												
DESCRIPTION	OD			THICKNESS			LENGTH			NO. OF STIFFENER		
	SPECIFIED	OBSERVED	PCD	SPECIFIED	OBSERVED	PCD	SPECIFIED	OBSERVED	PCD	SPECIFIED	OBSERVED	PCD
PIPE SET 1	750	750	20	250	251	20	4	4	20	4	20	22
PIPE SET 2	750	750	20	250	250	20	4	4	20	4	20	21
PIPE SET 3	750	750	20	250	251	20	4	4	20	4	20	22
PIPE SET 4	750	750	20	250	251	20	4	4	20	4	20	22
PIPE SET 5	750	750	20	250	251	20	4	4	20	4	20	22
PIPE SET 6	750	750	20	250	250	20	4	4	20	4	20	21
PIPE SET 7	750	750	20	250	250	20	4	4	20	4	20	22
PIPE SET 8	750	750	20	250	251	20	4	4	20	4	20	22
PIPE SET 9	750	750	20	250	252	20	4	4	20	4	20	22
PIPE SET 10	750	750	20	250	251	20	4	4	20	4	20	21
PIPE SET 11	750	750	20	250	251	20	4	4	20	4	20	22

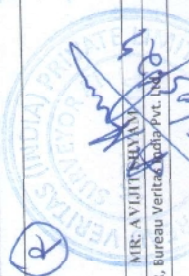
ALL THE ABOVE OBSERVED DIMENSIONS ARE UNDER TOLERANCE LIMIT AS PER IS 14:402



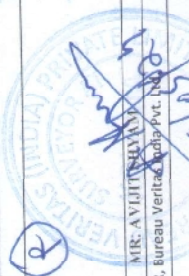
MR. SUBHADIP ROY  
FOR, ARC INSULATION & INSULATORS PVT LTD.



ARC Insulation & Insulators Pvt. Ltd.  
Kolkata



MR. AVIJIT GHOSH  
FOR, Bureau Veritas India Pvt. Ltd.



Bureau Veritas India Pvt. Ltd.

# ARC INSULATIONS AND INSULATORS PVT LTD

<b>CLIENT</b>	PAHARPUR COOLING TOWER LTD	DATE	16-05-2024	SHEET No.	3
<b>TITLE</b>	FRP HOT WATER DISTRIBUTOR HEADER PIPE	<b>PO NO</b>	24CBO0045		
<b>PROJECT</b>	RAJASTHAN REFINERY PROJECT - 9B STG Pkg.	<b>CUSTOMER</b>	MEIL BARMER HPCL-RAJASTHAN REFINERY LIMITED (HRRLL)		
<b>DRG. NO.</b>	23-210034/F/04	<b>TOTAL NO SETS</b>	11		

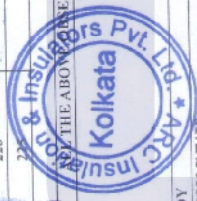
## INTERNAL INSPECTION REPORT PART - 4 HOLE DIMENSION REPORT

DESCRIPTION	DIA 1		LENGTH		DIA 2		LENGTH(MM)	
	SPECIFIED	OBSERVED	SPECIFIED	OBSERVED	SPECIFIED	OBSERVED	SPECIFIED	OBSERVED
<b>PIPE</b>								
FLANGE FACE TO 1ST HOLE	224+/-1	224	1110	1110	95+/-1	95	1110	1110
FLANGE FACE TO 2ND HOLE	224+/-1	224	2056	2056	95+/-1	95	2056	2056
FLANGE FACE TO 3RD HOLE	224+/-1	223	3612	3612	95+/-1	95	3612	3612
FLANGE FACE TO 4TH HOLE	224+/-1	223	4558	4558	95+/-1	95	4558	4558
FLANGE FACE TO 5TH HOLE	224+/-1	225	6002	6002	95+/-1	95	6002	6002
FLANGE FACE TO 6TH HOLE	224+/-1	225	6948	6948	95+/-1	95	6948	6948
FLANGE FACE TO 7TH HOLE	224+/-1	224	8504	8504	95+/-1	95	8504	8504
FLANGE FACE TO 8TH HOLE	224+/-1	224	9450	9450	95+/-1	95	9450	9450
FLANGE FACE TO 9TH HOLE	224+/-1	223	11118	11118	95+/-1	96	11118	11118
FLANGE FACE TO 10TH HOLE	224+/-1	223	12064	12064	95+/-1	96	12064	12064
FLANGE FACE TO 11TH HOLE	224+/-1	223	13508	13508	95+/-1	96	13508	13508
FLANGE FACE TO 12TH HOLE	224+/-1	224	14454	14454	95+/-1	96	14454	14454
FLANGE FACE TO 13TH HOLE	224+/-1	224	15976	15976	95+/-1	95	15976	15976
FLANGE FACE TO 14TH HOLE	224+/-1	223	16922	16922	95+/-1	94	16922	16922
FLANGE FACE TO 1ST HOLE	224+/-1	223	1110	1110	95+/-1	96	1110	1110
FLANGE FACE TO 2ND HOLE	224+/-1	224	2056	2056	95+/-1	95	2056	2056
FLANGE FACE TO 3RD HOLE	224+/-1	223	3612	3612	95+/-1	95	3612	3612
FLANGE FACE TO 4TH HOLE	224+/-1	223	4558	4558	95+/-1	95	4558	4558
FLANGE FACE TO 5TH HOLE	224+/-1	223	6002	6002	95+/-1	95	6002	6002
FLANGE FACE TO 6TH HOLE	224+/-1	225	6948	6948	95+/-1	96	6948	6948
FLANGE FACE TO 7TH HOLE	224+/-1	224	8504	8504	95+/-1	94	8504	8504
FLANGE FACE TO 8TH HOLE	224+/-1	224	9450	9450	95+/-1	95	9450	9450
FLANGE FACE TO 9TH HOLE	224+/-1	224	11118	11118	95+/-1	96	11118	11118
FLANGE FACE TO 10TH HOLE	224+/-1	223	12064	12064	95+/-1	96	12064	12064
FLANGE FACE TO 11TH HOLE	224+/-1	223	13508	13508	95+/-1	96	13508	13508
FLANGE FACE TO 12TH HOLE	224+/-1	225	14454	14454	95+/-1	95	14454	14454
FLANGE FACE TO 13TH HOLE	224+/-1	225	15976	15976	95+/-1	96	15976	15976
FLANGE FACE TO 14TH HOLE	224+/-1	223	16922	16922	95+/-1	96	16922	16922

SET 1

SET 2

ALL THE ABOVE OBSERVED DIMENSIONS ARE UNDER TOLERANCE LIMIT AS PER IS 14402



MR. SUBHADIP ROY  
FOR: ARC INSULATION & INSULATORS PVT LTD.

MR. AVIJIT SANKU  
FOR: Bureau Veritas India Pvt. Ltd.

# ARC INSULATIONS AND INSULATORS PVT LTD

<b>CLIENT TITLE</b>	PAHARPUR COOLING TOWER LTD	DATE	16-05-2024	SHEET No.	4
<b>PROJECT</b>	FRP HOT WATER DISTRIBUTER HEADER PIPE	<b>PO NO</b>	24CBO0045		
<b>DRG. NO.</b>	RAJASTHAN REFINERY PROJECT - 9B STG Pkg.	<b>CUSTOMER</b>	MEIL BARMER HPCL-RAJASTHAN REFINERY LIMITED (HRRLL)		
	23-210034/F/04	<b>TOTAL NO SETS</b>	11		

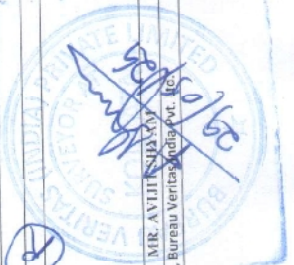
## INTERNAL INSPECTION REPORT PART - 4 HOLE DIMENSION REPORT

DESCRIPTION	DIA 1		LENGTH		DIA 2		LENGTH(MM)	
	SPECIFIED	OBSERVED	SPECIFIED	OBSERVED	SPECIFIED	OBSERVED	SPECIFIED	OBSERVED
<b>PIPE</b>								
FLANGE FACE TO 1ST HOLE	224+/-1	224	1110	1110	95+/-1	95	1110	1110
FLANGE FACE TO 2ND HOLE	224+/-1	224	2056	2056	95+/-1	95	2056	2056
FLANGE FACE TO 3RD HOLE	224+/-1	223	3612	3612	95+/-1	95	3612	3612
FLANGE FACE TO 4TH HOLE	224+/-1	223	4558	4558	95+/-1	95	4558	4558
FLANGE FACE TO 5TH HOLE	224+/-1	225	6002	6002	95+/-1	95	6002	6002
FLANGE FACE TO 6TH HOLE	224+/-1	225	6948	6948	95+/-1	95	6948	6948
FLANGE FACE TO 7TH HOLE	224+/-1	223	8504	8504	95+/-1	95	8504	8504
FLANGE FACE TO 8TH HOLE	224+/-1	223	9450	9450	95+/-1	95	9450	9450
FLANGE FACE TO 9TH HOLE	224+/-1	224	11118	11118	95+/-1	96	11118	11118
FLANGE FACE TO 10TH HOLE	224+/-1	224	12064	12064	95+/-1	96	12064	12064
FLANGE FACE TO 11TH HOLE	224+/-1	223	13508	13508	95+/-1	96	13508	13508
FLANGE FACE TO 12TH HOLE	224+/-1	223	14454	14454	95+/-1	96	14454	14454
FLANGE FACE TO 13TH HOLE	224+/-1	224	15976	15976	95+/-1	95	15976	15976
FLANGE FACE TO 14TH HOLE	224+/-1	223	16922	16922	95+/-1	94	16922	16922
FLANGE FACE TO 1ST HOLE	224+/-1	224	1110	1110	95+/-1	96	1110	1110
FLANGE FACE TO 2ND HOLE	224+/-1	224	2056	2056	95+/-1	95	2056	2056
FLANGE FACE TO 3RD HOLE	224+/-1	223	3612	3612	95+/-1	95	3612	3612
FLANGE FACE TO 4TH HOLE	224+/-1	223	4558	4558	95+/-1	95	4558	4558
FLANGE FACE TO 5TH HOLE	224+/-1	223	6002	6002	95+/-1	95	6002	6002
FLANGE FACE TO 6TH HOLE	224+/-1	225	6948	6948	95+/-1	95	6948	6948
FLANGE FACE TO 7TH HOLE	224+/-1	224	8504	8504	95+/-1	96	8504	8504
FLANGE FACE TO 8TH HOLE	224+/-1	224	9450	9450	95+/-1	96	9450	9450
FLANGE FACE TO 9TH HOLE	224+/-1	224	11118	11118	95+/-1	96	11118	11118
FLANGE FACE TO 10TH HOLE	224+/-1	223	12064	12064	95+/-1	96	12064	12064
FLANGE FACE TO 11TH HOLE	224+/-1	223	13508	13508	95+/-1	96	13508	13508
FLANGE FACE TO 12TH HOLE	224+/-1	225	14454	14454	95+/-1	95	14454	14454
FLANGE FACE TO 13TH HOLE	224+/-1	223	15976	15976	95+/-1	96	15976	15976
FLANGE FACE TO 14TH HOLE	224+/-1	223	16922	16922	95+/-1	96	16922	16922

SET 3

SET 4

THE ABOVE OBSERVED DIMENSIONS ARE UNDER TOLERANCE LIMIT AS PER IS 14402



MR. SUBHADIP ROY  
FOR, ARC INSULATION & INSULATORS PVT LTD.

MR. AVIJIT ROY  
FOR, Bureau Veritas India Pvt. Ltd.

# ARC INSULATIONS AND INSULATORS PVT LTD

<b>CLIENT</b>	PAHARPUR COOLING TOWER LTD	DATE	16-05-2024	SHEET No.	5
<b>TITLE</b>	FRP HOT WATER DISTRIBUTER HEADER PIPE	PO NO	24CBO0045	MEIL BARMER HPCL-RAJASTHAN REFINERY LIMITED	
<b>PROJECT</b>	RAJASTHAN REFINERY PROJECT - 9B STG Pkg.	CUSTOMER	(HRRLL)		
<b>DRG. NO.</b>	23-210034/F/04	TOTAL NO SETS	11		

## INTERNAL INSPECTION REPORT PART - 4 HOLE DIMENSION REPORT

DESCRIPTION	DIA 1		LENGTH		DIA 2		LENGTH(MM)	
	SPECIFIED	OBSERVED	SPECIFIED	OBSERVED	SPECIFIED	OBSERVED	SPECIFIED	OBSERVED
<b>PIPE</b>								
FLANGE FACE TO 1ST HOLE	224 +/-1	224	1110	1110	95 +/-1	95	1110	1110
FLANGE FACE TO 2ND HOLE	224 +/-1	224	2056	2056	95 +/-1	95	2056	2056
FLANGE FACE TO 3RD HOLE	224 +/-1	223	3612	3612	95 +/-1	95	3612	3612
FLANGE FACE TO 4TH HOLE	224 +/-1	223	4558	4558	95 +/-1	95	4558	4558
FLANGE FACE TO 5TH HOLE	224 +/-1	225	6002	6002	95 +/-1	96	6002	6002
FLANGE FACE TO 6TH HOLE	224 +/-1	225	6948	6948	95 +/-1	94	6948	6948
FLANGE FACE TO 7TH HOLE	224 +/-1	223	8504	8504	95 +/-1	95	8504	8504
FLANGE FACE TO 8TH HOLE	224 +/-1	223	9450	9450	95 +/-1	95	9450	9450
FLANGE FACE TO 9TH HOLE	224 +/-1	225	11118	11118	95 +/-1	96	11118	11118
FLANGE FACE TO 10TH HOLE	224 +/-1	225	12064	12064	95 +/-1	96	12064	12064
FLANGE FACE TO 11TH HOLE	224 +/-1	225	13508	13508	95 +/-1	96	13508	13508
FLANGE FACE TO 12TH HOLE	224 +/-1	224	14454	14454	95 +/-1	96	14454	14454
FLANGE FACE TO 13TH HOLE	224 +/-1	224	15976	15976	95 +/-1	95	15976	15976
FLANGE FACE TO 14TH HOLE	224 +/-1	223	16922	16922	95 +/-1	94	16922	16922
FLANGE FACE TO 1ST HOLE	224 +/-1	223	1110	1110	95 +/-1	96	1110	1110
FLANGE FACE TO 2ND HOLE	224 +/-1	225	2056	2056	95 +/-1	95	2056	2056
FLANGE FACE TO 3RD HOLE	224 +/-1	225	3612	3612	95 +/-1	95	3612	3612
FLANGE FACE TO 4TH HOLE	224 +/-1	223	4558	4558	95 +/-1	95	4558	4558
FLANGE FACE TO 5TH HOLE	224 +/-1	223	6002	6002	95 +/-1	95	6002	6002
FLANGE FACE TO 6TH HOLE	224 +/-1	225	6948	6948	95 +/-1	96	6948	6948
FLANGE FACE TO 7TH HOLE	224 +/-1	224	8504	8504	95 +/-1	94	8504	8504
FLANGE FACE TO 8TH HOLE	224 +/-1	224	9450	9450	95 +/-1	95	9450	9450
FLANGE FACE TO 9TH HOLE	224 +/-1	223	11118	11118	95 +/-1	96	11118	11118
FLANGE FACE TO 10TH HOLE	224 +/-1	223	12064	12064	95 +/-1	96	12064	12064
FLANGE FACE TO 11TH HOLE	224 +/-1	225	13508	13508	95 +/-1	96	13508	13508
FLANGE FACE TO 12TH HOLE	224 +/-1	225	14454	14454	95 +/-1	95	14454	14454
FLANGE FACE TO 13TH HOLE	224 +/-1	223	15976	15976	95 +/-1	96	15976	15976
FLANGE FACE TO 14TH HOLE	224 +/-1	225	16922	16922	95 +/-1	96	16922	16922

**SET 5**

**SET 6**



THE ABOVE OBSERVED DIMENSIONS ARE UNDER TOLERANCE LIMIT AS PER IS 14400



MR. SUBHADIP ROY  
FOR, ARC INSULATION & INSULATORS PVT LTD.

MR. AVINASH SHYAM  
FOR, Bureau Veritas India Pvt. Ltd.



# ARC INSULATIONS AND INSULATORS PVT LTD

<b>CLIENT</b>	PAHARPUR COOLING TOWER LTD	DATE	16-05-2024	SHEET No.	6
<b>TITLE</b>	FRP HOT WATER DISTRIBUTOR HEADER PIPE	PO NO	24CBO0045	MEIL FARMER HPCL-RAJASTHAN REFINERY LIMITED	
<b>PROJECT</b>	RAJASTHAN REFINERY PROJECT - 9B STG Pkg.	CUSTOMER	(HRRL)		
<b>DRG. NO.</b>	23-210034/F/04	TOTAL NO SETS	11		

## INTERNAL INSPECTION REPORT PART - 4 HOLE DIMENSION REPORT

DESCRIPTION	DIA 1		LENGTH		DIA 2		LENGTH(MM)	
	SPECIFIED	OBSERVED	SPECIFIED	OBSERVED	SPECIFIED	OBSERVED	SPECIFIED	OBSERVED
<b>PIPE</b>								
FLANGE FACE TO 1ST HOLE	224+/-1	224	1110	1110	95+/-1	95	1110	1110
FLANGE FACE TO 2ND HOLE	224+/-1	224	2056	2056	95+/-1	95	2056	2056
FLANGE FACE TO 3RD HOLE	224+/-1	223	3612	3612	95+/-1	95	3612	3612
FLANGE FACE TO 4TH HOLE	224+/-1	223	4558	4558	95+/-1	95	4558	4558
FLANGE FACE TO 5TH HOLE	224+/-1	225	6002	6002	95+/-1	96	6002	6002
FLANGE FACE TO 6TH HOLE	224+/-1	225	6948	6948	95+/-1	95	6948	6948
FLANGE FACE TO 7TH HOLE	224+/-1	223	8504	8504	95+/-1	95	8504	8504
FLANGE FACE TO 8TH HOLE	224+/-1	223	9450	9450	95+/-1	95	9450	9450
FLANGE FACE TO 9TH HOLE	224+/-1	225	11118	11118	95+/-1	96	11118	11118
FLANGE FACE TO 10TH HOLE	224+/-1	225	12064	12064	95+/-1	96	12064	12064
FLANGE FACE TO 11TH HOLE	224+/-1	225	13508	13508	95+/-1	96	13508	13508
FLANGE FACE TO 12TH HOLE	224+/-1	225	14454	14454	95+/-1	96	14454	14454
FLANGE FACE TO 13TH HOLE	224+/-1	224	15976	15976	95+/-1	95	15976	15976
FLANGE FACE TO 14TH HOLE	224+/-1	223	16922	16922	95+/-1	94	16922	16922
FLANGE FACE TO 1ST HOLE	224+/-1	223	1110	1110	95+/-1	96	1110	1110
FLANGE FACE TO 2ND HOLE	224+/-1	225	2056	2056	95+/-1	95	2056	2056
FLANGE FACE TO 3RD HOLE	224+/-1	225	3612	3612	95+/-1	95	3612	3612
FLANGE FACE TO 4TH HOLE	224+/-1	223	4558	4558	95+/-1	95	4558	4558
FLANGE FACE TO 5TH HOLE	224+/-1	223	6002	6002	95+/-1	95	6002	6002
FLANGE FACE TO 6TH HOLE	224+/-1	225	6948	6948	95+/-1	96	6948	6948
FLANGE FACE TO 7TH HOLE	224+/-1	223	8504	8504	95+/-1	94	8504	8504
FLANGE FACE TO 8TH HOLE	224+/-1	223	9450	9450	95+/-1	95	9450	9450
FLANGE FACE TO 9TH HOLE	224+/-1	223	11118	11118	95+/-1	96	11118	11118
FLANGE FACE TO 10TH HOLE	224+/-1	225	12064	12064	95+/-1	95	12064	12064
FLANGE FACE TO 11TH HOLE	224+/-1	225	13508	13508	95+/-1	96	13508	13508
FLANGE FACE TO 12TH HOLE	224+/-1	223	14454	14454	95+/-1	95	14454	14454
FLANGE FACE TO 13TH HOLE	224+/-1	223	15976	15976	95+/-1	95	15976	15976
FLANGE FACE TO 14TH HOLE	224+/-1	225	16922	16922	95+/-1	95	16922	16922

FOR THE ABOVE OBSERVED DIMENSIONS ARE UNDER TOLERANCE LIMIT AS PER IS 14402

  
**Kolkata**  
 MR. SUBHADIP ROY  
 FOR, ARC INSULATION & INSULATORS PVT LTD

  
 MR. AVIJIT KUMAR  
 FOR, Bureau Veritas India Pvt. Ltd.

# ARC INSULATIONS AND INSULATORS PVT LTD

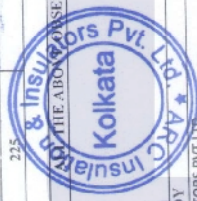
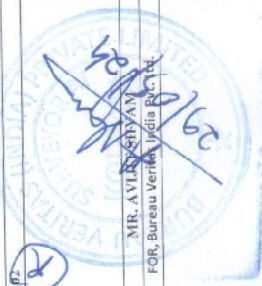
<b>CLIENT</b>	PAIHARPUR COOLING TOWER LTD	DATE	16-05-2024	SHEET No.	7
<b>TITLE</b>	FRP HOT WATER DISTRIBUTER HEADER PIPE	<b>PO NO</b>	24CBO(045)		
<b>PROJECT</b>	RAJASTHAN REFINERY PROJECT - 9B STG Pkg.	<b>CUSTOMER</b>	MEH. BARMER HPCL-RAJASTHAN REFINERY LIMITED (HRRL)		
<b>DRG. NO.</b>	23-210034/F/04	<b>TOTAL NO SETS</b>	11		

## INTERNAL INSPECTION REPORT PART - 4 HOLE DIMENSION REPORT

DESCRIPTION	DIA 1		LENGTH		DIA 2		LENGTH(MM)	
	SPECIFIED	OBSERVED	SPECIFIED	OBSERVED	SPECIFIED	OBSERVED	SPECIFIED	OBSERVED
<b>PIPE</b>								
FLANGE FACE TO 1ST HOLE	224+/-1	224	1110	1110	95+/-1	95	1110	1110
FLANGE FACE TO 2ND HOLE	224+/-1	224	2056	2056	95+/-1	95	2056	2056
FLANGE FACE TO 3RD HOLE	224+/-1	223	3612	3612	95+/-1	95	3612	3612
FLANGE FACE TO 4TH HOLE	224+/-1	223	4558	4558	95+/-1	95	4558	4558
FLANGE FACE TO 5TH HOLE	224+/-1	225	6002	6002	95+/-1	95	6002	6002
FLANGE FACE TO 6TH HOLE	224+/-1	225	6948	6948	95+/-1	95	6948	6948
FLANGE FACE TO 7TH HOLE	224+/-1	223	8504	8504	95+/-1	95	8504	8504
FLANGE FACE TO 8TH HOLE	224+/-1	223	9450	9450	95+/-1	95	9450	9450
FLANGE FACE TO 9TH HOLE	224+/-1	225	11118	11118	95+/-1	96	11118	11118
FLANGE FACE TO 10TH HOLE	224+/-1	225	12064	12064	95+/-1	96	12064	12064
FLANGE FACE TO 11TH HOLE	224+/-1	225	13508	13508	95+/-1	96	13508	13508
FLANGE FACE TO 12TH HOLE	224+/-1	225	14454	14454	95+/-1	96	14454	14454
FLANGE FACE TO 13TH HOLE	224+/-1	224	15976	15976	95+/-1	95	15976	15976
FLANGE FACE TO 14TH HOLE	224+/-1	224	16922	16922	95+/-1	94	16922	16922
FLANGE FACE TO 1ST HOLE	224+/-1	224	1110	1110	95+/-1	95	1110	1110
FLANGE FACE TO 2ND HOLE	224+/-1	223	2056	2056	95+/-1	95	2056	2056
FLANGE FACE TO 3RD HOLE	224+/-1	223	3612	3612	95+/-1	96	3612	3612
FLANGE FACE TO 4TH HOLE	224+/-1	225	4558	4558	95+/-1	96	4558	4558
FLANGE FACE TO 5TH HOLE	224+/-1	223	6002	6002	95+/-1	96	6002	6002
FLANGE FACE TO 6TH HOLE	224+/-1	225	6948	6948	95+/-1	96	6948	6948
FLANGE FACE TO 7TH HOLE	224+/-1	223	8504	8504	95+/-1	94	8504	8504
FLANGE FACE TO 8TH HOLE	224+/-1	223	9450	9450	95+/-1	95	9450	9450
FLANGE FACE TO 9TH HOLE	224+/-1	225	11118	11118	95+/-1	95	11118	11118
FLANGE FACE TO 10TH HOLE	224+/-1	225	12064	12064	95+/-1	95	12064	12064
FLANGE FACE TO 11TH HOLE	224+/-1	225	13508	13508	95+/-1	95	13508	13508
FLANGE FACE TO 12TH HOLE	224+/-1	225	14454	14454	95+/-1	95	14454	14454
FLANGE FACE TO 13TH HOLE	224+/-1	224	15976	15976	95+/-1	96	15976	15976
FLANGE FACE TO 14TH HOLE	224+/-1	224	16922	16922	95+/-1	96	16922	16922

SET 9

SET 10



MR. SUBHADIP ROY  
FOR, ARC INSULATION & INSULATORS PVT LTD.

THE ABOVE OBSERVED DIMENSIONS ARE UNDER TOLERANCE LIMIT AS PER IS 14467

# ARC INSULATIONS AND INSULATORS PVT LTD

<b>CLIENT</b>	PAHARPUR COOLING TOWER LTD	DATE	16-05-2024	SHEET No.	8
<b>TITLE</b>	FRP HOT WATER DISTRIBUTER HEADER PIPE	PO NO	24CBO0045		
<b>PROJECT</b>	RAJASTHAN REFINERY PROJECT - 9B STG Pkg.	CUSTOMER	MEIL BARMER HPCL-RAJASTHAN REFINERY LIMITED (HRRL)		
<b>DRG. NO.</b>	23-210034/F/04	TOTAL NO SETS	11		

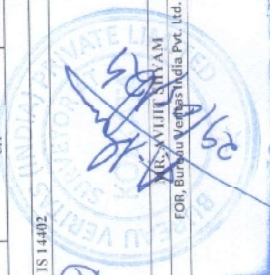
## INTERNAL INSPECTION REPORT PART - 4 HOLE DIMENSION REPORT

DESCRIPTION	DIA 1		LENGTH		DIA 2		LENGTH(MM)	
	SPECIFIED	OBSERVED	SPECIFIED	OBSERVED	SPECIFIED	OBSERVED	SPECIFIED	OBSERVED
<b>PIPE</b>								
FLANGE FACE TO 1ST HOLE	224+/-1	225	1110	1110	95+/-1	95	1110	1110
FLANGE FACE TO 2ND HOLE	224+/-1	225	2056	2056	95+/-1	95	2056	2056
FLANGE FACE TO 3RD HOLE	224+/-1	224	3612	3612	95+/-1	95	3612	3612
FLANGE FACE TO 4TH HOLE	224+/-1	224	4558	4558	95+/-1	95	4558	4558
FLANGE FACE TO 5TH HOLE	224+/-1	223	6002	6002	95+/-1	95	6002	6002
FLANGE FACE TO 6TH HOLE	224+/-1	225	6948	6948	95+/-1	95	6948	6948
FLANGE FACE TO 7TH HOLE	224+/-1	223	8504	8504	95+/-1	95	8504	8504
FLANGE FACE TO 8TH HOLE	224+/-1	224	9450	9450	95+/-1	95	9450	9450
FLANGE FACE TO 9TH HOLE	224+/-1	224	11118	11118	95+/-1	96	11118	11118
FLANGE FACE TO 10TH HOLE	224+/-1	223	12064	12064	95+/-1	96	12064	12064
FLANGE FACE TO 11TH HOLE	224+/-1	223	13508	13508	95+/-1	96	13508	13508
FLANGE FACE TO 12TH HOLE	224+/-1	224	14454	14454	95+/-1	95	14454	14454
FLANGE FACE TO 13TH HOLE	224+/-1	225	15976	15976	95+/-1	95	15976	15976
FLANGE FACE TO 14TH HOLE	224+/-1	225	16922	16922	95+/-1	95	16922	16922

## PART - 5 VENT PIPE DIMENSION REPORT

DESCRIPTION	SIZE	OD(MM)		THICKNESS(MM)		LENGTH(MM)	
		SPECIFIED	OBSERVED	SPECIFIED	OBSERVED	SPECIFIED	OBSERVED
<b>PIPE</b>							
SET 1	200	210	210.2	5	5.1	2625	2625
SET 2	200	210	210.2	5	5.1	2625	2626
SET 3	200	210	210.4	5	5.2	2625	2626
SET 4	200	210	210.4	5	5.2	2625	2626
SET 5	200	210	210.4	5	5.2	2625	2626
SET 6	200	210	210.4	5	5.2	2625	2625
SET 7	200	210	210.4	5	5.2	2625	2625
SET 8	200	210	210.4	5	5.1	2625	2627
SET 9	200	210	210.2	5	5.1	2625	2627
SET 10	200	210	210.2	5	5.1	2625	2626
SET 11	200	210	210.2	5	5.1	2625	2626

ALL DIMENSIONS ARE UNDER TOLERANCE LIMIT AS PER IS 14402



MR. SUBHADIP ROY  
FOR, ARC INSULATION & INSULATORS PVT LTD.

MR. VIJITH SIVAM  
FOR, ARC Insulators & Insulators Pvt. Ltd.

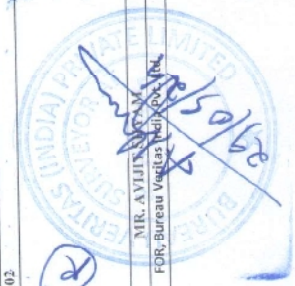
# ARC INSULATIONS AND INSULATORS PVT LTD

<b>CLIENT TITLE</b>	PAHARPUR COOLING TOWER LTD	DATE	16-05-2024	SHEET No.	9
<b>PROJECT</b>	FRP HOT WATER DISTRIBUTER HEADER PIPE	<b>PO NO</b>	24CBO0045		
<b>DRG. NO.</b>	RAJASTHAN REFINERY PROJECT - 9B SIG Pkg.	<b>CUSTOMER</b>	MEIL BARMER HPCL-RAJASTHAN REFINERY LIMITED (HRRLL)		
	23-210034/T/04	<b>TOTAL NO SETS</b>	11		

## INTERNAL INSPECTION REPORT PART - 6 VENT PIPE FLANGE DIMENSION REPORT

DESCRIPTION	SPECIFIED							OBSERVED					
	NB	OD	BCD	NOH	HOLE DIA	THK		NB	OD	PCD	NO OF HOLES	HOLE DIA	THK
<b>FLANGES</b>													
1 SET 1 OF 1	200	343	298	8	22	25		200	343	298	8	22	25
1 SET 2 OF 1	200	343	298	8	22	25		200	344	298	8	23	25
2 SET 1 OF 2	200	343	298	8	22	25		200	343	298	8	23	26
2 SET 2 OF 2	200	343	298	8	22	25		200	343	298	8	22	26
3 SET 1 OF 3	200	343	298	8	22	25		200	344	298	8	23	25
3 SET 2 OF 3	200	343	298	8	22	25		200	344	298	8	23	25
4 SET 1 OF 4	200	343	298	8	22	25		200	344	298	8	23	25
4 SET 2 OF 4	200	343	298	8	22	25		200	343	298	8	23	25
5 SET 1 OF 5	200	343	298	8	22	25		200	343	298	8	22	26
5 SET 2 OF 5	200	343	298	8	22	25		200	344	298	8	23	25
6 SET 1 OF 6	200	343	298	8	22	25		200	344	298	8	23	26
6 SET 2 OF 6	200	343	298	8	22	25		200	343	298	8	23	26
7 SET 1 OF 7	200	343	298	8	22	25		200	343	298	8	23	25
7 SET 2 OF 7	200	343	298	8	22	25		200	344	298	8	23	25
8 SET 1 OF 8	200	343	298	8	22	25		200	343	298	8	23	26
8 SET 2 OF 8	200	343	298	8	22	25		200	343	298	8	23	25
9 SET 1 OF 9	200	343	298	8	22	25		200	343	298	8	23	26
9 SET 2 OF 9	200	343	298	8	22	25		200	344	298	8	23	26
10 SET 1 OF 10	200	343	298	8	22	25		200	344	298	8	22	25
10 SET 2 OF 10	200	343	298	8	22	25		200	343	298	8	22	25
11 SET 1 OF 11	200	343	298	8	22	25		200	344	298	8	22	26
11 SET 2 OF 11	200	343	298	8	22	25		200	343	298	8	22	25

ALL DIMENSIONS OBSERVED DIMENSIONS ARE UNDER TOLERANCE LIMIT AS PER IS 14402



MR. SUBHADIP ROY  
FOR, ARC INSULATION & INSULATORS PVT LTD

MR. AVIJIT  
FOR, Bureau Veritas

# ARC INSULATIONS AND INSULATORS PVT LTD

SHEET.No 10

CLIENT	PAHARPUR COOLING TOWER LTD	DATE	16-05-2024	SHEET.No	10
TITLE	FRP HOT WATER DISTRIBUTER HEADER PIPE	PO NO	24CBO0045		
PROJECT	RAJASTHAN REFINERY PROJECT - 9B STG Pkg.	CUSTOMER	MEIL BARMER HPCL-RAJASTHAN REFINERY LIMITED (HRRL)		
DRAWING NUMBER	23-210034/F/04	TOTAL SET	11		

## INTERNAL INSPECTION REPORT

HYDROSTATIC TEST		OBSERVED
S.NO	LOCATION	OBSERVED
1	PIPE 750	NO LEAKAGE @ 10 Bar, 2 MIN HOLDING
SPECIFIED		
5 BAR		

BARCOL HARNES		OBSERVED
S.NO	LOCATION	OBSERVED
1	PIPE 750	42
2	PIPE 200	39
SPECIFIED		
MIN 32		

ACETONE SMEAR		OBSERVED
S.NO	LOCATION	OBSERVED
1	PIPE	NO SMEAR / SMLUG
2	FLANGE	NO SMEAR / SMLUG
SPECIFIED		
NO SMEAR / SMLUG		


PIPE STIFFNESS TEST		OBSERVED	
S.NO	LOCATION	DIMENSION	SPECIFIED
1	PIPE	750 NB SAMPLE PIPE	62 KPA
2	PIPE	200 NB SAMPLE PIPE	62 KPA
SPECIFIED			
NO SMEAR / SMLUG			

PIPE TENSILE TEST		OBSERVED	
S.NO	LOCATION	DIMENSION	SPECIFIED
1	PIPE	750 NB SAMPLE STRIP	102 KN/M
2	PIPE	200 NB SAMPLE STRIP	102 KN/M
SPECIFIED			
NO SMEAR / SMLUG			


WORKMANSHIP

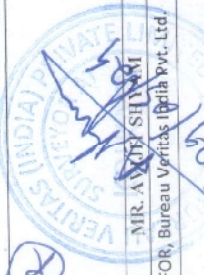
ALL THE PIPES & FITTINGS ACCESSORIES ARE FREE FROM DEFECT FROM ALL ASPECT

THE ABOVE OBSERVED VALUES ARE UNDER TOLERANCE LIMIT AS PER IS 14402



MR. SUBHADIP ROY  
FOR, ARC INSULATION & INSULATORS PVT LTD.





MR. ACHYUT SHANKAR  
FOR, Bureau Veritas (India) Pvt. Ltd.



# CREST SPECIALITY RESINS PRIVATE LIMITED

(formerly Known as Crest Composites and Plastics Private Limited)

Works :  
Plot No. 552 (B) and 558 (C), KIADB Belur Industrial Area, Belur - 580 011, Dist. : Dharwad,  
Karnataka, India. Phone : 0836-2486515.

Registered Office & Works :  
Survey No. : 609,  
Village : Shetra,  
Tal. & Dist. Kheda - 387 560,  
Gujarat (India)  
Tel. +91-9909944547  
CIN NO - U25209GJ1989PTC012776

## TEST REPORT

GRADE : C'POL - 2601

B.NO. : 0324070

D.O.M. : 07.03.2024

EXPIRY DATE: 06.06.2024

INV. NO. :	534/23-24	CUSTOMER NAME :	ARC INSULATIONS & INSULATORS
DATE :	12.03.2024	ORDER NO. :	BY MSG ON 11.03.2024
QTY. :	7920 KGS		
SR. NO.	PROPERTY	OBSERVATION	SPECIFICATION
1	Acid Value ( mg. KOH/g. )	17.64	17 ± 03
2	Viscosity @ 25° C (cps) (B.F. RV-Viscometer, Spindle No.2, RPM-50)	355	280 - 420
3	Specific Gravity @ 25° C	1.118	1.11 - 1.13
4	Volatile Content (%)	39.79	35 - 41
5	Solid Content (%)	60.21	59 - 65
6	Gel time @ 25°C (min) *(100gms Resin + 1ml Acc.A + 1.5ml Cat.C)	16.00	12 TO 18
	Peak Exotherm (°C)	188	> 140
	Reactivity(Time to peak)(min)	25.00	< 40
<b>Expected Mechanical Properties Of Post Cured Resin</b>			
	Tensile strength	60 mpa	
	Elongation at break	3%	
	Barcol hardness	40	
	Remarks	O.K.	

\* Acc.A - ACCELERATOR - 3 % Cobalt solution of Cobalt Octoate.

Cat.C - CATALYST - 50 % Solution of MEKP ( 9% Active Oxygen ) (AKZONOBEL BUTANOX M-50)

> Use of other MEKP catalysts or additives may result in different geltimes.

> Properties No. 1 to 5 are tested in accordance with methods described in IS 6746 : 1994.

**MATERIAL OF LIMITED SHELF LIFE. STORE BELOW 25°C**

NOTE: The user is held to check the quality, safety and all other properties of our product prior to use for his own purpose under his operating condition. We can not assume any responsibility for performance or results obtained through the use of our product unless described nor do we accept any liability for loss or damages directly or indirectly caused by our product.

QC - MANAGER





Asia composite Materials( Thailand) Co., Ltd

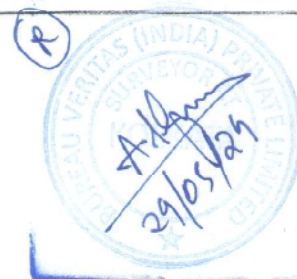
### Certificate of Analysis

Customer Name	FIBRE GLASS INSULATION		Invoice Number	ACM23FRP150-2
Product Name	Fiberglass Roving		Lot Number	2023051108
Product Code	EWT150-2400A		Testing Date	09-11/06/2023
Net weight (kg)	20623.5		Gross weight (kg)	21243.5
Test Condition	Ambient Temperature	28°C	Ambient Humidity	58%
Ser. No	Testing Items	Test Standard	Testing Results	Remarks
1	Appearance		White	White
2	Glass Type		ECR	ECR
3	Filament Diameter( $\mu\text{m}$ )	ISO1888: 1996	23.8	24 $\pm$ 1
4	Roving Density (tex)	ISO1889: 1997	2437.5	2400 $\pm$ 5%
5	Breaking Strength (N/Tex)	ISO3341: 2000	0.43	$\geq$ 0.30
6	Moisture (%)	ISO3344: 1997	0.01	$\leq$ 0.10
7	LOI (%)	ISO1887: 1995	0.50	0.55 $\pm$ 0.15
CONCLUSION	PASS			

INSPECTOR: LI QING-HUI

APPROVED BY: LI HUI

DATE OF ISSUE: 30/09/2023



**TEST CERTIFICATE**

T.C.No.: 564

Product Description : CSM EM 1011 450 - 100 BST CTC  
 Glass : " ECR "  
 Material : 600130  
 Packing List No. : 90099184  
 Quantity : 4477.38 Kgs.

**TEST RESULTS**

Sl. No.	Test	Standard Value	Observed Value
1.	Width (cm)	100 + 3 / -0	100
2.	Moisture content (% by Mass)	0.20 % max.	0.16
3.	Loss on ignition (% by Mass)	4.0 +/- 2.0	4.04
4.	Average mass per unit area (gms/M <sup>2</sup> )	450 +/- 7%	445
5.	% variation in mass/area		
	Individual sample	< 19 %	08.90
	Range .	< 22 %	11.10
6.	Flexural strength of laminate (MPa)		
	1. Dry	180 min.	236
	2. Wet	135 min.	198

The above tests conform to IS - 11551 & BS - 14118  
 for GOA GLASS FIBRE LTD;

Authorised Signatory

F18 - 34 - 3

Note: This is a system generated test certificate and hence, no signature is required.

**Goa Glass Fibre Ltd.**

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 Tel: +91-832-2299884/ 85 / 86 | FAX: +91 - 832 - 2299887 | Email: info@binaniglassfibre.com /  
 Binani\_goa@sancharnet.in | www.binani.cqm

CIN: U26102WB1996PLC 080099







# REYNOLD RUBBER & POLYMERS pvt ltd

An iso 9001 : 2015 company

Plot No: 33, 34 & 35, 9-285/2, RG Nagar, Prashanth Nagar ( IE), Bala Nagar,  
Hyderabad – 500 037. Phone & Fax : 91-40-23073297, Mobile : 09885690339  
e- mail : ceo.revnooldrubbers@gmail.com. info.revnooldrubbers@gmail.com



## QUALITY ASSURANCE & QUALITY CONTROL DEPARTMENT INSPECTION / TEST REPORT OF RUBBER GASKETS

Test Cert. No: RRPL/ARC/QA/Gaskets/750mm/2023-24/Report No:377

Date : 14.03.2024

PART NAME	: M/s . ARC Insulations & Insulators pvt.ltd	PO NO/DATE	: PO/23-24/51/Dt.07.03.24
MATERIAL DESCRIPTION	: EPDM GASKETS	REFERENCE STANDARD	: IS5382:1996
SIZE	: 750 MM	TEST METHOD	: IS 3400
QUANTITY / BAGS	: 62 NOS/04 BAGS	MATERIAL BATCH NO	: RRPL/23-24/377
INVOICE NO/ DATE	: RRPL/23-24/377/Dt 14.03.2024	BIS CML NO	: 3327754

### ANALYSIS REPORT

We certify that the above product have manufactured by us as per IS- 5382 - 1985 are duly ISI marked are free from water extractable substance and does not impart smell or toxicity to water.

S.NO.	PROPERTIES	SPECIFICATIONS/ STANDARDS	UNIT	RESULT	REMARKS
1	Physical Appearance	Homogeneous, free from cut, flashes, porosity, grit, excessives, blooms, blister or visible surface imperfection	-	Free from Defects	OK
2	Dimensions				
	Lg	30.0 ±0.4	MM	30.02	Ok
	Eg	22.0 ±0.4	MM	22.04	OK
	g	6 ±0.4	MM	6.04	OK
	i	5 ±0.4	MM	5.03	OK
	Z	6	MM	6	OK
3	Dag	821 ±1%-0.5%	MM	821.62	OK
4	Splice Strength Test	No Cuts, Cracks or Damage	-	No Cracks	OK
5	MOC	EPDM	-	EPDM	OK
6	Profile check with rubber gasket	Profile of rubber gasket should be matched with the Rubber gasket profile Ref : IS-5382/IS-3400(P1)	-	Profile Matches	Ok
7	Shore °A Hardness	70±5 Ref : IS-5382/IS-3400(P1)	Shore °A	67,68	OK
8	Tensile Strength (Min)	9 MPA Ref : IS-5382/IS-3400(P1)	MPA	11.90	OK
9	Elongation @Break (Min)	200 Ref : IS-5382/IS-3400(P1)	%	386	OK
10	Water Immersion, change in volume after immersion in Natural water for 7 days at 70°C Max	0 to + 8 Ref : IS-5382/IS-3400(P6)	%	+3.60	OK
11	Cold resistance increase in hardness after 72 hrs, @0°C	+5 Ref : IS-5382	-	2.54	OK

Remarks : The Rubber Shall be free from extractable substances which impart taste, odour or toxicity to water.  
All Results are with in Specification, Hence Product is Approved.

TESTED BY :  
( Engineer / Chemist)



VERIFIED & APPROVED BY

Director & Rubber Technologist

