

INSPECTION REPORT

EARTH / DISCHARGE ROD (11KV-33KV)

Date: 18.02.2023

In reference to The Chief Engineer, Planning & Procurement, KPDCL, Srinagar, Letter No. CE/P&P/KPDCL/TS/3386-90 dated 04/02/2023 Mr. Tanmay Biswas, QACA Pvt. Ltd., New Delhi and Er. Aejez Ahmad Mir, AEE, KPDCL, Srinagar jointly visited site of M/s Arc insulation and insulators Pvt. Ltd., Kolkata on 18.02.2023 for inspection and witnessing respectively the Acceptance Tests of Earthing/Discharge Rods (11KV-33kV system) 3000 nos.

M/s Arc Insulation and Insulators Pvt. Ltd. offered full quantity of Earthing/Discharge Rods for 11KV-33KV system 3000 nos. for inspections as per the purchase order.

30 nos. of the items randomly drawn from the lots & checked and found ok as per the approved drawing and GTP. Report of the same is enclosed.

M/s Arc Insulation and insulators Pvt. Ltd. confirmed and assured that the item will be supplied in full as per the approved technical specification.

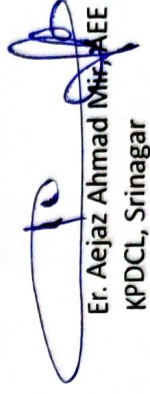
The reports are in order.



Mr. Anup Purkayastha
Arc Insulation and Insulators Pvt. Ltd.



Mr. Tanmay Biswas
QACA Pvt. Ltd., New Delhi



Er. Aejez Ahmad Mir, AEE
KPDCL, Srinagar




ARC INSULATION AND INSULATORS PVT LTD.
VILL-RAMDEVPUR, P.O.-BAWALI, DIST-SOUTH 24 PARGANAS, PIN-743384, W.B.


INSPECTION REPORT

ISSUED TO: KPDCL, SRINAGAR	DATE OF ISSUE: 18.02.2023
COMPONENT/ PRODUCT: Earthing /Dischare Rods for 11 to 33 KVA System	INVOICE NO. DATE:
Drawing No.: ARC/FRP/22-23/0005	SUPPLY QTY: 3000 nos.
JOB NO.: JOB/22-23/088	Page No.- 1 of 6


S.NO.	PARAMETER	Reference Standard	SPECIFICATION (mm)	OBSERVATION					REMARKS
1	Dimension	Drawing	1785	1786	1787	1785	1785	1788	OK
2	Dimension	Drawing	1785	1785	1786	1788	1788	1786	OK
3	Dimension	Drawing	1785	1785	1785	1788	1789	1800	OK
4	Tube Diameter	Drawing	OD 45 - ID38	45-38	45-38	45-38	45-38	45-38	OK
5	Tube Diameter	Drawing	OD 37.5 - ID32	37.5-32	37.5-32	37.5-32	37.5-32	37.5-32	OK
6	Tube Diameter	Drawing	OD 31.5 - ID25.5	31.5-25.5	31.5-25.5	31.5-25.5	31.5-25.5	31.5-25.5	OK
7	Extended Length	Drawing	5000	5005	5005	5002	5000	5005	OK
8	Appearance	Visual	Should be proper Finished	OK	OK	OK	OK	OK	OK
9	Conductor Clamp	Drawing	243mm	243	243	243	243	243	OK
10	Adjustable Jaw	Drawing	34mm	35	35	35	35	35	OK
11	Conductor diameter	Drawing	33mm	35	35	35	35	35	OK
12	Earthing Cable dia	Drawing	25sqmm	25	25	25	25	25	OK
13	Earthing Cable Length	Drawing	12mtr	12	12	12	12	12	OK
14	Grounding casting Grip	Drawing	80x80x12	80x80x12	80x80x12	80x80x12	80x80x12	80x80x12	OK


Anup Purkayastha
FOR, ARC INSULATION & INSULATORS PVT LTD.




Tanmoy Biswas
FOR QACA PVT. LTD., NEW DELHI




Er. Aejaz Ahmad Mir, AEE
FOR, KPDCL, SRINAGAR



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JOB NO.: JOB/22-23/088	Page No.- 2 of 6

S.NO.	PARAMETER	Reference Standard	SPECIFICATION (mm)	OBSERVATION					REMARKS
1	Dimension	Drawing	1785	1788	1788	1785	1785	1788	OK
2	Dimension	Drawing	1785	1787	1786	1788	1789	1786	OK
3	Dimension	Drawing	1785	1789	1785	1788	1789	1785	OK
4	Tube Diameter	Drawing	OD 45 - ID38	45-38	45-38	45-38	45-38	45-38	OK
5	Tube Diameter	Drawing	OD 37.5 - ID32	37.5-32	37.5-32	37.5-32	37.5-32	37.5-32	OK
6	Tube Diameter	Drawing	OD 31.5 - ID25.5	31.5-25.5	31.5-25.5	31.5-25.5	31.5-25.5	31.5-25.5	OK
7	Extended Length	Drawing	5005	5010	5005	5002	5000	5002	OK
8	Appearance	Visual	Should be proper Finished	OK	OK	OK	OK	OK	OK
9	Conductor Clamp	Drawing	243mm	243	243	243	243	243	OK
10	Adjustable Jaw	Drawing	34mm	35	35	35	35	35	OK
11	Conductor diameter	Drawing	33mm	35	35	35	35	35	OK
12	Earthing Cable dia	Drawing	25sqmm	25	25	25	25	25	OK
13	Earthing Cable Length	Drawing	12mtr	12	12	12	12	12	OK
14	Grounding casting Grip	Drawing	80x80x12	80x80x12	80x80x12	80x80x12	80x80x12	80x80x12	OK

Anup Purkayastha
FOR, ARC INSULATION & INSULATORS PVT LTD.



Biswas

Tanmoy Biswas
FOR QACA PVT. LTD., NEW DELHI



Er. Aejaz Ahmad Mir AEE
FOR, KPDCL, SRINAGAR



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1	Dimension	Drawing	1785	1785	1785	1785	1785	1789	OK
2	Dimension	Drawing	1785	1788	1786	1785	1789	1785	OK
3	Dimension	Drawing	1785	1785	1786	1787	1788	1785	OK
4	Tube Diameter	Drawing	OD 45 - ID38	45-38	45-38	45-38	45-38	45-38	OK
5	Tube Diameter	Drawing	OD 37.5 - ID32	37.5-32	37.5-32	37.5-32	37.5-32	37.5-32	OK
6	Tube Diameter	Drawing	OD 31.5 - ID25.5	31.5-25.5	31.5-25.5	31.5-25.5	31.5-25.5	31.5-25.5	OK
7	Extended Length	Drawing	5005	5010	5005	5002	5000	5002	OK
8	Appearance	Visual	Should be proper Finished	OK	OK	OK	OK	OK	OK
9	Conductor Clamp	Drawing	243mm	243	243	243	243	243	OK
10	Adjustable Jaw	Drawing	34mm	35	35	35	35	35	OK
11	Conductor diameter	Drawing	33mm	35	34	35	32	35	OK
12	Earthing Cable dia	Drawing	25sqmm	25	25	25	25	25	OK
13	Earthing Cable Length	Drawing	12mtr	12	12	12	12	12	OK
14	Grounding casting Grip	Drawing	80x80x12	80x80x12	80x80x12	80x80x12	80x80x12	80x80x12	OK

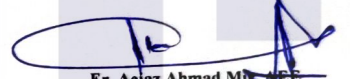
Anup Purkayastha
FOR, ARC INSULATION & INSULATORS PVT LTD.



Tanmoy Biswas
FOR QACA PVT. LTD., NEW DELHI



Er. Aejaz Ahmad MIA, AEE
FOR, KPDCL, SRINAGAR





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S.NO.	PARAMETER	Reference Standard	SPECIFICATION (mm)	OBSERVATION					REMARKS
1	Dimension	Drawing	1785	1800	1788	1785	1787	1788	OK
2	Dimension	Drawing	1785	1789	1786	1785	1789	1785	OK
3	Dimension	Drawing	1785	1784	1786	1787	1785	1785	OK
4	Tube Diameter	Drawing	OD 45 - ID38	45-38	45-38	45-38	45-38	45-38	OK
5	Tube Diameter	Drawing	OD 37.5 - ID32	37.5-32	37.5-32	37.5-32	37.5-32	37.5-32	OK
6	Tube Diameter	Drawing	OD 31.5 - ID25.5	31.5-25.5	31.5-25.5	31.5-25.5	31.5-25.5	31.5-25.5	OK
7	Extended Length	Drawing	5005	5010	5005	5002	5000	5002	OK
8	Appearance	Visual	Should be proper Finished	OK	OK	OK	OK	OK	OK
9	Conductor Clamp	Drawing	243mm	243	243	243	243	243	OK
10	Adjustable Jaw	Drawing	34mm	32	34	33	32	32	OK
11	Conductor diameter	Drawing	33mm	32	33	32	33	33	OK
12	Earthing Cable dia	Drawing	25sqmm	25	25	25	25	25	OK
13	Earthing Cable Length	Drawing	12mtr	12	12	12	12	12	OK
14	Grounding casting Grip	Drawing	80x80x12	80x80x12	80x80x12	80x80x12	80x80x12	80x80x12	OK

Anup Furkayastha
FOR, ARC INSULATION & INSULATORS PVT LTD.



Biswas

Tanmoy Biswas
FOR QACA PVT. LTD., NEW DELHI



Aejaz Ahmad Mir

Er. Aejaz Ahmad Mir, AEE
FOR, KPDCL, SRINAGAR



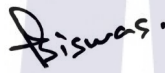
ARC INSULATION AND INSULATORS PVT LTD.
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INSPECTION REPORT

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S.NO.	PARAMETER	Reference Standard	SPECIFICATION (mm)	OBSERVATION					REMARKS
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3	Dimension	Drawing	1785	1784	1786	1787	1785	1785	OK
4	Tube Diameter	Drawing	OD 45 - ID38	45-38	45-38	45-38	45-38	45-38	OK
5	Tube Diameter	Drawing	OD 37.5 - ID32	37.5-32	37.5-32	37.5-32	37.5-32	37.5-32	OK
6	Tube Diameter	Drawing	OD 31.5 - ID25.5	31.5-25.5	31.5-25.5	31.5-25.5	31.5-25.5	31.5-25.5	OK
7	Extended Length	Drawing	5005	5010	5005	5002	5000	5002	OK
8	Appearance	Visual	Should be proper Finished	OK	OK	OK	OK	OK	OK
9	Conductor Clamp	Drawing	243mm	243	243	243	243	243	OK
10	Adjustable Jaw	Drawing	34mm	32	34	33	32	32	OK
11	Conductor diameter	Drawing	33mm	32	33	32	33	33	OK
12	Earthing Cable dia	Drawing	25sqmm	25	25	25	25	25	OK
13	Earthing Cable Length	Drawing	12mtr	12	12	12	12	12	OK
14	Grounding casting Grip	Drawing	80x80x12	80x80x12	80x80x12	80x80x12	80x80x12	80x80x12	OK


Anup Parikayastha
FOR, ARC INSULATION & INSULATORS PVT LTD.





Tanmoy Biswas
FOR QACA PVT. LTD., NEW DELHI




Er. Aejaz Ahmad Mir, AEE
FOR, KPDCL, SRINAGAR

ARC INSULATIONS AND INSULATORS PVT LTD

 ARC	CLIENT	KPDCL, SRINAGAR	DATE	18.02.2023
	ITEMS	EARTHING/DISCHARGE ROD		
	PROJECT	KPDCL, SRINAGAR	P.O. NO.	CE/P&P/KPDCL/39 of 2022
	APPROVED DRAWING NUMBER	ARC/FRP/22-23/0005		
JOINT FINAL INSPECTION REPORT VISUAL & DIMENSIONAL REPORT EARTHING/DISCHARGE ROD for 11kV to 33kV System				
PRODUCT DESCRIPTION	CONDUCTOR CLAMP			
TOTAL QTY	3000 NOS			
SL. NO.	SPECIFICATION	VISUAL	REMARKS	
1	AS PER DRAWING NO. ARC/FRP/22-23/0005	OK	SATISFACTORY	
ALL THE MATERIALS ARE VISSUALY CHECKED & FOUND SATISFACTORY ALL THE ABOVE OBSERVED DIMENSIONS ARE UNDER TOLERANCE LIMIT AS PER IS QAP & DRG.				


 Anup Prakash
 FOR, ARC INSULATIONS & INSULATORS PVT. LTD.



Tanmoy Biswas
 FOR QACA PVT. LTD., NEW DELHI



 Tanmoy Biswas

FOR QACA PVT. LTD., NEW DELHI




 Er. Aejaz Ahmad Mir, AEE
 FOR, KPDCL, SRINAGAR

ARC INSULATIONS AND INSULATORS PVT LTD

 ARC	CLIENT	KPDCL, SRINAGAR	DATE	18.02.2023
	ITEMS	EARTHING/DISCHARGE ROD		
	PROJECT	KPDCL, SRINAGAR		
	DRAWING NUMBER	ARC/FRP/22-23/0005		
		P.O. NO. CE/P&P/KPDCL/39 of 2022		



JOINT FINAL INSPECTION REPORT
VISUAL & DIMENSIONAL REPORT
EARTHING/DISCHARGE ROD for 11kV to 33kV System

PRODUCT DESCRIPTION **GROUNDING CLAMP**

TOTAL QTY **3000 NOS**

SL. NO.	SPECIFICATION	VISUAL	REMARKS
1	AS PER DRAWING NO. ARC/FRP/22-23/0005	OK	SATISFACTORY


ALL THE MATERIALS ARE VISSUALY CHECKED & FOUND SATISFACTORY
 ALL THE ABOVE OBSERVED DIMENSIONS ARE UNDER TOLERANCE LIMIT AS PER IS & DRG.


 Anup Puri
FOR ARC INSULATION & INSULATORS PVT. LTD.



 Tannoy Biswas
FOR QACA PVT. LTD., NEW DELHI



 Er. Aejaz Ahmad
FOR, KPDCL, SRINAGAR

 ARC	CLIENT	KPDCL, SRINAGAR	18.02.2023
	ITEMS	EARTHING/DISCHARGE ROD	CE/P&P/KPDCL/39 of 2022
	PROJECT	KPDCL, SRINAGAR	
	DRAWING NUMBER	ARC/FRP/22-23/0005	
JOINT FINAL INSPECTION REPORT			
VISUAL & DIMENSIONAL REPORT			
EARTHING/DISCHARGE ROD for 11kV to 33kV System			
PRODUCT DESCRIPTION	EARTHING CABLE		
TOTAL QTY	3000 NOS X 12MTR		
SL. NO.	SPECIFICATION	VISUAL	REMARKS
1	AS PER DRAWING NO. ARC/FRP/22-23/0005	SATISFACTORY	FOUND OK
ALL THE MATERIALS ARE VISSUALY CHECKED & FOUND SATISFACTORY			
ALL THE ABOVE OBSERVED DIMENSIONS ARE UNDER TOLERANCE LIMIT AS PER IS & DRG.			

Anup Puri

ARC
 FOR ARC INSULATION & INSULATORS PVT. LTD.

Tanmay Biswas
 Tanmay Biswas
 FOR QACA PVT. LTD., NEW DELHI

Er. Aejaz Ahmad Mir
 Er. Aejaz Ahmad Mir
 FOR, KPDCL, SRINAGAR





ARC INSULATION AND INSULATORS PVT LTD.
VILL-RAMDEVPUR, P.O.-BAWALI, DIST-SOUTH 24 PARGANAS, PIN-743384, W.B.

LAB TEST REPORT

ISSUED TO:	KPDCL, SRINAGAR	P.O. NO.	CE/P&P/KPDCL/39 of 2022
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COMPONENT/ PRODUCT: Earthing /Dischare Rods for 11KV-33 KV System

Drawing No.: ARC/FRP/22-23/0005

JOB NO.: JOB/22-23/088

S.NO.	PARAMETER	Reference Standard	SPECIFICATION	OBSERVATION	REMARKS
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Mechanical Properties

1	TENSILE STRENGTH	ASTM D638	207 N/MM ²	422.55 N/MM ²	OK
2	FLEXURAL STRENGTH	ASTM D790	207 N/MM ²	368.18 N/MM ²	OK
3	GLASS CONTENT	ASTM D2584	Min 55%	67.38%	OK
4	BARCOL HARDNESS	ASTM D2583	Min 35 BHU	41	OK
5	RESIN CONTENT TEST	ASTM D2584	Max 45%	32.62%	OK
6	GLOW WIRE TEST	IEC60695-2-11	No Glow/Melt @ 700 Deg	Passed	OK
7	INSULATION TEST	IS10192	500 Megaohm	above 5000 Megaohm	OK
8	HIGH VOLTAGE TEST	IS2071	upto 33 kV	40 kV	Passed

Remarks (if any): All the above parameter confirms the product quality & Tested found OK.

ARC-F-01	REV. NO.:00	REV. DATE-
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Anup Parikayastha
 FOR, ARC INSULATION & INSULATORS PVT. LTD.



Tanmoy Biswas
 FOR, QACA PVT.LTD., NEW DELHI

Er. Aejaz Ahmad Mir, AEE
 FOR, KPDCL, SRINAGAR



KrystalMet
Software for Material Testing
- KRYSTAL -

Batch Details

Client... KPDCL

Batch... FRP DISCHARGE ROD SAMPLE

Operator... S. ROY

Date of Test... 18 February 2023 : 15:40

Sample Details

Test Type... Compression

Material... FRP

Sample No... 1

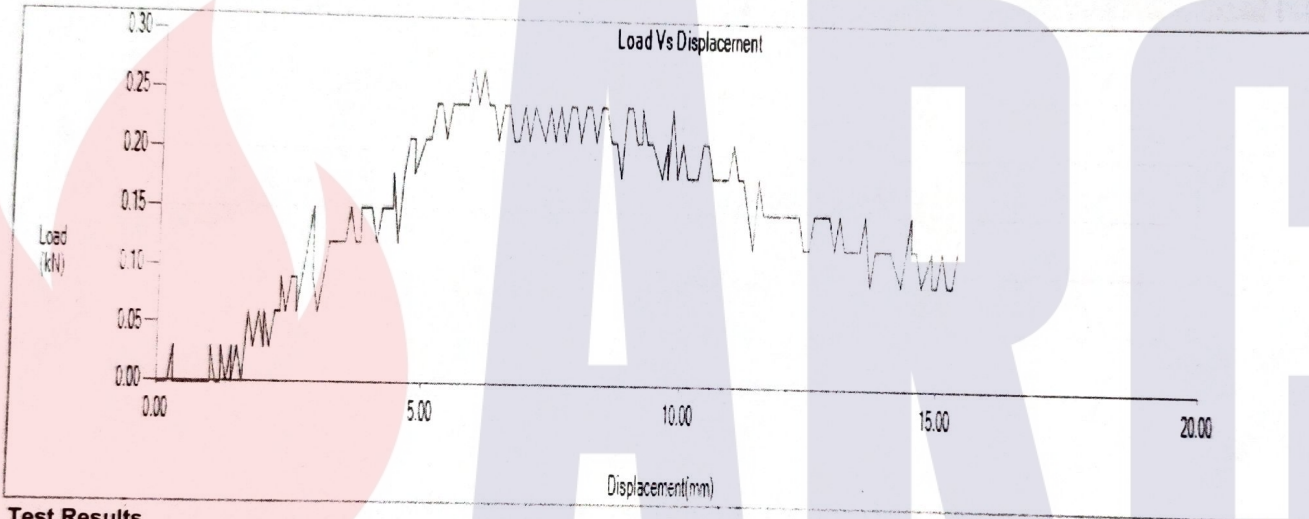
Specimen... Strip

Sensor... Encoder

Test Parameters

Width... 12 mm
Thickness... 2.75 mm
Area of C/S... 33.000 mm²

Load Vs Displacement



Test Results

Max. Force (Fm)... 0.27 kN
Displacement at Fm... 5.9 mm
Maximum Displacement... 15.4 mm
Compression Strength... 8.182 MPa
Energy Under Load- 1.435 J
Displacement Curve...

$$\text{Flexural Strength (F)} = \frac{3PL}{2bd^2}$$

Where,

P = Load in N

L = Support Span in mtr. = 0.03

b = width in mtr. = 0.012

d = thickness in mm

$$= 368.18 \text{ MPa}$$

Remarks : Sample Accepted

Tested By

Verified By



Authorised By

Tested On: ARC INSULATION & INSULATORS PVT.LTD.,UTK-60E, Sr. No.2010-1020

KrystalMet:V4R7 - Software for Material Testing - © KRYSTAL





KrystalMet
Software for Material Testing
- KRYSTAL -

Batch Details

Client... KPDCL
Batch... FRP DISCHARGE ROD SAMPLE TENSILE Operator... S. ROY
Date of Test... 18 February 2023 : 15:51

Sample Details

Test Type... Tensile
Material... FRP Sample No... 1
Specimen... Strip Sensor... Encoder

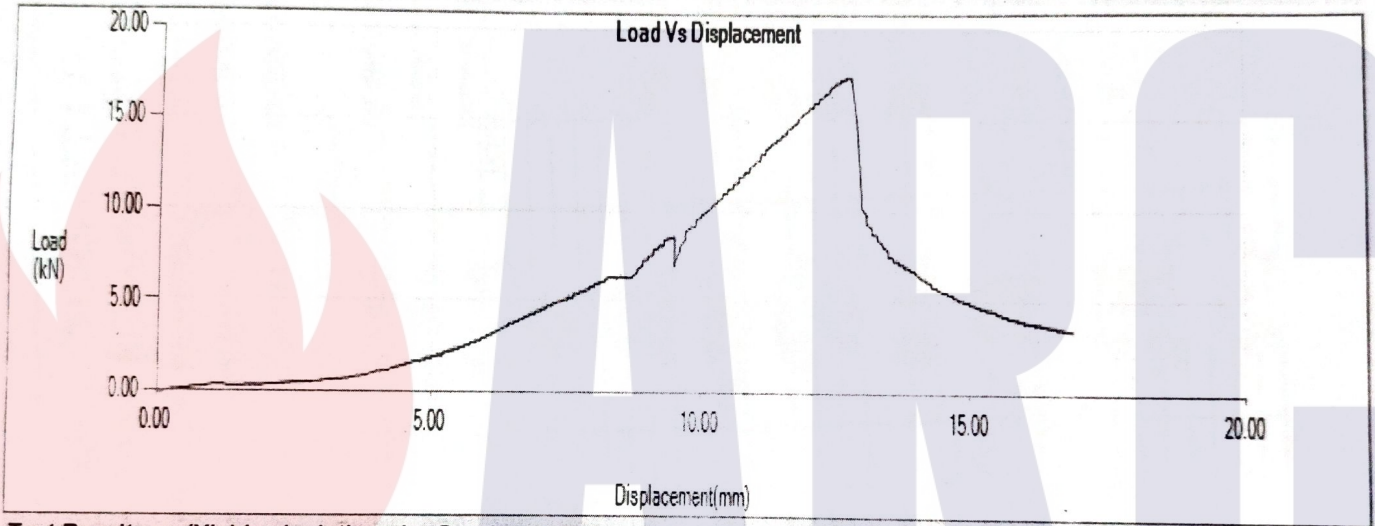
Test Parameters

Gauge Length... 120 mm
Width... 15 mm
Thickness... 2.75 mm
Area of C/S... 41.250 mm²

Final Parameters

Gauge Length... 120.1 mm
Width... 15.1 mm
Thickness... 2.76 mm
Area of C/S... 41.676 mm²

Load Vs Displacement



Test Results (Yield calculations by Graph method)

Max. Force (Fm)... 17.43 kN
Displacement Fm... 12.8 mm
Stress at Fm... 422.545 MPa
Strain at Fm... 0.107
Maximum Displacement... 16.9 mm
Tensile Strength (UTS)... 422.545 MPa
Gauge Elongation... 0.1 mm
%Elongation (A)... 0.083 %
%Area Reduction (Z)... 1.033 %

Remarks : Sample Accepted

Tested By



Authorised By

Tested On: ARC INSULATION & INSULATORS PVT.LTD.,UTK-60E, Sr. No.2010-1020





ARC

ARC INSULATIONS & INSULATORS PVT LTD

MASTER LIST OF MEASURING INSTRUMENTS & CALIBRATION RECORD

S.No.	Instrument Name	Manufactured by	Range	Least Count	Identification No.	Certificate No.	Calibration		Accredited By	ARC/MI/01
							Date	Due date		
1	Digital Pressure indicator with pressure Transducer	Multispan	0 - 99.99 bar	0.01 bar	ARC-02/PG-01	2207296/A392/BB/18	30-07-2022	30-07-2023	ESSJAY	NABL
2	Digital Pressure indicator with pressure Transducer	Multispan	0 - 99.99 bar	0.01 bar	ARC-02/PG-02	2207296/A392/BB/20	30-07-2022	30-07-2023	ESSJAY	NABL
3	Digital Pressure indicator with pressure Transducer	Multispan	0 - 99.99 bar	0.01 bar	ARC-02/PG-03	2207296/A392/BB/25	30-07-2022	30-07-2023	ESSJAY	NABL
4	Digital Pressure indicator with pressure Transducer	Multispan	0 - 99.99 bar	0.01 bar	ARC-02/PG-04	2207296/A392/BB/26	30-07-2022	30-07-2023	ESSJAY	NABL
5	Digital Pressure indicator with pressure Transducer	Multispan	0 - 99.99 bar	0.01 bar	ARC-02/PG-05	2207296/A392/BB/27	30-07-2022	30-07-2023	ESSJAY	NABL
6	Digital Pressure indicator with pressure Transducer	Multispan	0 - 99.99 bar	0.01 bar	ARC-02/PG-06	2207296/A392/BB/07	30-07-2021	30-07-2022	ESSJAY	NABL
7	Hydrometer	Multispan	1.000 - 1.500 gm/ml	0.005 gm/ml	SL.No. 093216	DCJ/K001/HYD-01/08/2022-2023	02-08-2022	02-08-2023	DEVICES CALL	DEVICE CALL
8	Pressure Gauge	WIKA	0-70 kg/cm ²	1 kg/cm ²	ARC-03/PG-01	2207296/A392/BB/10	30-07-2022	30-07-2023	ESSJAY	NABL
9	Pie Tape	Kryстал	20 Ømm to - 300 Ømm	0.1 Ømm	ARC-06	2207296/A392/BB/05	30-07-2022	30-07-2023	ESSJAY	NABL
10	Pie Tape	Kryстал	300 mm to - 700 mm	0.1 mm	ARC-07	2207296/A392/BB/06	30-07-2022	30-07-2023	ESSJAY	NABL
11	Pie Tape	Kryстал	700 mm to - 1100 mm	0.1 mm	ARC-08	2207296/A392/BB/04	30-07-2022	30-07-2023	ESSJAY	NABL
12	Pie Tape	Kryстал	1100 mm to - 1500 mm	0.1 mm	ARC-10	2207296/A392/BB/02	30-07-2022	30-07-2023	ESSJAY	NABL
13	Pie Tape	Kryстал	1300 mm to - 1800 mm	0.1 mm	ARC-09	2207296/A392/BB/03	30-07-2022	30-07-2023	ESSJAY	NABL
14	Digital thermometer	Frontier	(-50 -C to 300 -C	0.1 -C	ARC/DTH-01	2207296/A392/BB/73	30-07-2022	30-07-2023	ESSJAY	NABL
15	With sensor	Minutoyo	0 -C to 250 -C	0.1 -C	ARC/HAO-01	2007243/A392/05	08-08-2022	08-08-2023	ESSJAY	NABL
16	Outside Micrometer	Minutoyo	0 - 25 mm	0.01 mm	SL.No.-1013-101-10	2207289/A392/BB/79	30-07-2022	30-07-2023	ESSJAY	NABL
17	Muffle Furnace	SCOR INDIA Model-DIC-9681	Amb to 1000 -C (-10) to 250 -C	1 -C	ARC/MF-01	2207296/A392/BB/11	30-07-2022	30-07-2023	ESSJAY	NABL
18	Glass Thermometer	JRM	0 to 200 -C	1 -C	SL.No. 1110910	2207296/A392/BB/19	30-07-2022	30-07-2023	ESSJAY	NABL
19	Digital Balance	Dhoma Local	0 to 200 g	.0001 g	ARC-18	2207296/A392/BB/24	30-07-2022	30-07-2023	ESSJAY	NABL
20	B4 Cup (B4)	Local	0-100 ml	.....	ARC/B4-01	2207296/A392/BB/01	30-07-2022	30-07-2023	ESSJAY	NABL
21	High Voltage Breakdown Tester (AC)	UDEY Model.No. -7650	0 to 100 kV/100 mA (AC)	1 kV	S.No.- 08-359	2207296/A392/AG/17	30-07-2022	30-07-2023	ESSJAY	NABL
22	Megger	Waco, SI-280686	5000 MΩ / 2500 V	.....	S.No.- 280686	2207296/A392/AG/13	30-07-2022	30-07-2023	ESSJAY	NABL
23	Steel Scale	Omega	0 to 1000 mm	0.5 mm upto 100 mm & 1 mm above 100 mm	ARC-12	2207296/A392/BB/12	30-07-2022	30-07-2023	ESSJAY	NABL
24	Steel Tape	GJ MFL	0 - 15000 mm	1 mm	ARC-16	2207296/A392/BB/14	30-07-2022	30-07-2023	ESSJAY	NABL
25	Shore D hardness tester	Vertex -VBH2	0 to 100 Shore D	1 Shore D	105/14-15	2207296/A392/BB/09	30-07-2022	30-07-2023	ESSJAY	NABL
26	Vernier Calliper	FORBES GOKAD L.TD.	0 TO 300 mm	0.02 mm	GL807800	ISGC/ARC/CERT/0201/IGL802800/22-23	19-08-2022	19-08-2023	JAGANATHS COMPANY	NABL
27	Pressure Gauge	Fiabig	0-10.6 kg/cm ²	0.2 kg/cm ²	ARC/PG/N001	2207296/A392/BB/28	30-07-2022	30-07-2023	ESSJAY	NABL
28	Digital Temperature Controller	Fiabig	0 to 700 Degree, Type- J	1 Degree	SI.No.-1902102-038	2207296/A392/BB/21	30-07-2022	30-07-2023	ESSJAY	NABL
29	Thermocouple	Fiabig	0 to 800 Degree, J-Type	1 Degree	ARC/INS/JTH-001	2207296/A392/BB/15	30-07-2022	30-07-2023	ESSJAY	NABL
30	Hot Air Oven	Fiabig	0 to 250 Degree	10 Degree	2207296/A392/BB/16	2207296/A392/BB/16	01-06-2022	01-06-2023	CEPL	NABL
31	UTM M/c	Kryстал	600 KN	600 KN	2010/1020	CE-22-06/006/A39901N/15	30-07-2022	30-07-2023	ESSJAY	NABL
32	Pressure Gauge	Fiabig	0-42 kg/cm ²	0.2 kg/cm ²	ARC/PG/N002	2207296/A392/BB/08	30-07-2022	30-07-2023	ESSJAY	NABL
33	GLOW WIRE	Testing Instrument Mfg Company	0 - 1000 Deg C	ARC/GW/001	2207296/A392/BB/22	30-07-2022	30-07-2023	ESSJAY	NABL



Phone : 2455-8427 (LAB.)

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JAGANATHS SLIP GAUGES & COMPANY



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E-mail : jaganaths.slip@gmail.com

PAGE : 1 OF 2

MECHANICAL CALIBRATION

FRM-01

CALIBRATION CERTIFICATE ULR-CC214522000001025F

SERVICE REQUEST NO. : JSGC/DIM/CAL/ARC/574/08-22

NAME & ADDRESS OF CUSTOMER : **M/s. ARC INSULATION & INSULATOR PVT. LTD.**
VILL: RAMDEVPUR, BAWALI, BISHNUPUR-743384

CERTIFICATE NO. : JSGC/ARC/CERT/02/01/GL802800/22-23 DATED: 19.08.2022

DATE OF RECEIPT OF SAMPLE : AT OUR LAB. (17.08.2022)

DESCRIPTION OF SAMPLE : VERNIER CALIPER

MAKE : FORBES GOKAD LTD. TYPE: 'A'

RANGE : 0 - 300 mm

LEAST COUNT : 0.02 mm

SERIAL & IDENTIFICATION NO. : GL802800

BASIS OF CALIBRATION : AS PER IS: 3651 P-2 (1985) RA: 2005 INT. PROC: P - 02

CONDITION OF THE ITEM : SATISFACTORY

DATE OF CALIBRATION : 19.08.2022

DUE DATE : 19.08.2023

ENVIRONMENTAL CONDITION DURING CALIBRATION : TEMP: 20°C ± 2°C ; HUMIDITY: 50±10% Rh.

MAJOR EQUIPMENT USED : SLIP GAUGE, DIGITAL EXTERNAL MICROMETER, LONG SLIP,
SLIP GAUGE ACCESSORIES MEASURING ATTACHMENTS & ACCESSORIES.

TRACEABILITY : SLIP GAUGE TRACEABLE TO NPL VIDE CMERI
CERT.NO: MetR3/2020 - 19(2) DT. 28.09.2020 VALID UPTO: 24.09.2022

LONG SLIP TRACEABLE TO NPL VIDE CMERI
CERT.NO: MetR1/2020 - 29 DT. 21.12.2020 VALID UPTO: 21.12.2022

DIGITAL EXTERNAL MICROMETER TRACEABLE TO MICRONIX ASSOCIATES VIDE SUP
CERT.NO: S-626 DT. 29.06.2022 VALID UPTO: 29.06.2023

SLIP GAUGE ACCESSORIES TRACEABLE TO NPL VIDE CMERI
CERT. NO: MetR3/2020 - 19(3) DT. 28.09.2020 VALID UPTO: 28.09.2022

EXPANDED UNCERTAINTY : ± 13.5 µm AT 95% Confidence Level (k=2 Appx.)

LAB IDENTIFICATION : STICKER ATTACHED WITH ID. No. ON GAUGE/INSTRUMENT





ESSJAY TECHNOMEASURE PVT. LTD.

(A House of Calibration Engineering & Allied Services)

Apartment No. : D 1, 3rd Floor, 36, Kantapur 3rd Bye Lane, Howrah - 711 101

Ph.: 033 26670835, 9674756762, website : www.technomeasurenabl.com

E-mail : technomeasure@gmail.com

DOC No. : TM/CAL/104



CC-2628

Calibration Certificate

Issued to
ARC Insulation & Insulator Pvt. Ltd.
Vill- Ramdevpur, P.O.- Bawali, Bisnupur-743384

ULR No.: CC262822000029835F
Certificate No.: 2207296/A392/BB/22
Date: 05.08.2022

Date of Calibration	Recommended Due On (As agreed with Customer)	Page No. :
30.07.2022	30.07.2023	1 of 1

Location of Calibration : At Lab
Date of Receipt : 28.07.2022
Description of Instrument : Digital Temperature Controller for Glow Wire Test App.
Make: Thermotek
Range: 0°C to 1000 °C L.C: 1°C
Type : K
Identification Number of Instrument : ARC/GW/001
Basis of Calibration : As per Work Instruction WI- 01
(Sec.No.QWI-13 Rev No.04,Rev Date: 16.11.2019)

Details of Major Equipment used for Calibration

Description	Traceability Certificate No. & Issued Date	Valid upto	Calibration Agency
Multi-Product Calibrator	CR/PCAL/51650, Dated: 21.09.2021	07.09.2022	ETDC

Traceability: Standards used for calibration are traceable to National Standards through NABL accredited laboratory

Customer's Specification : Not provided by the Customer.
Environmental conditions of measurement : Temperature: 25± 2°C.
Humidity: 30% to 75%RH

Electro-Technical Calibration Calibration Results :

Sl. No.	Value of DUC in °C	Standard Value in °C	Error in °C	Uncertainty at 95% of C.L in °C (±) coverage factor(k=1.96)
1	199	200.0	-1.00	0.7
2	398	400.0	-2.00	0.7
3	797	800.0	-3.00	0.7
4	997	1000.0	-3.00	0.7

- Remarks: 1.The Instrument is visually checked & found OK, DUC*=Device Under Calibration
2.This calibration certificate refers to the value observed at the time of and under the stated conditions measured
3.This certificate should not be produced other than a full with written approval from the head of the calibration laboratory
4. Simulation Method used.
5.The above results relate only to the item calibration

-----END OF CERTIFICATE-----

Bishal Gupta
Calibrated by
Bishal Gupta
(Calibration Engineer)



Kirity Tripathi
Authorised Signatory
KIRTY TRIPATHI
Deputy Technical Manager



ESSJAY TECHNOMEASURE PVT. LTD.

(A House of Calibration Engineering & Allied Services)

Apartment No. : D 1, 3rd Floor, 36, Kantapukur 3rd Bye Lane, Howrah - 711 101

Ph.: 033 26670835, 9674756762, website : www.technomeasurenabl.com

E-mail : technomeasure@gmail.com

DOC No.: TM/CALI/04



CC-2628

Calibration Certificate

Issued to
ARC Insulation & Insulator Pvt. Ltd.
Vill- Ramdevpur, P.O.- Bawali, Bisnupur-743384

ULR No.: CC262822000029835F
Certificate No.: 2207296/A392/BB/22
Date: 05.08.2022

Date of Calibration	Recommended Due On (As agreed with Customer)	Page No. :
30.07.2022	30.07.2023	1 of 1

Location of Calibration : At Lab
Date of Receipt : 28.07.2022
Description of Instrument : Digital Temperature Controller for Glow Wire Test App.
Make: Thermotek
Range: 0°C to 1000 °C L.C: 1°C
Type : K
Identification Number of Instrument : ARC/GW/001
Basis of Calibration : As per Work Instruction WI- 01
(Sec.No.QWI-13 Rev No.04,Rev Date: 16.11.2019)

Details of Major Equipment used for Calibration

Description	Traceability Certificate No. & Issued Date	Valid upto	Calibration Agency
Multi-Product Calibrator	CR/PCAL/51650, Dated: 21.09.2021	07.09.2022	ETDC

Traceability: Standards used for calibration are traceable to National Standards through NABL accredited laboratory

Customer's Specification : Not provided by the Customer.
Environmental conditions of measurement : Temperature: 25±2°C.
Humidity: 30% to 75%RH

Electro-Technical Calibration Calibration Results :

Sl. No.	Value of DUC in °C	Standard Value in °C	Error in °C	Uncertainty at 95% of C.L in °C (±) coverage factor(k=1.96)
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5.The above results relate only to the item calibration

-----END OF CERTIFICATE-----

Bishal Gupta
Calibrated by
Bishal Gupta
(Calibration Engineer)



Kirity Tripathi
Authorised Signatory
KIRTY TRIPATHI
Deputy Technical Manager



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CC-2628

Calibration Certificate

Issued to
ARC Insulation & Insulator Pvt. Ltd.
Vill- Ramdevpur, P.O.- Bawali, Bisnupur-743384

ULR No.: CC262822000029835F
Certificate No.: 2207296/A392/BB/22
Date: 05.08.2022

Date of Calibration	Recommended Due On (As agreed with Customer)	Page No. :
30.07.2022	30.07.2023	1 of 1

Location of Calibration : At Lab
 Date of Receipt : 28.07.2022
 Description of Instrument : Digital Temperature Controller for Glow Wire Test App.
 Make: Thermotek
 Range: 0°C to 1000 °C L.C: 1°C
 Type : K
 Identification Number of Instrument : ARC/GW/001
 Basis of Calibration : As per Work Instruction WI- 01
 (Sec.No.QWI-13 Rev No.04,Rev Date: 16.11.2019)

Details of Major Equipment used for Calibration

Description	Traceability Certificate No. & Issued Date	Valid upto	Calibration Agency
Multi-Product Calibrator	CR/PCAL/51650, Dated: 21.09.2021	07.09.2022	ETDC
Traceability: Standards used for calibration are traceable to National Standards through NABL accredited laboratory			

Customer's Specification : Not provided by the Customer.
 Environmental conditions of measurement : Temperature: 25± 2°C.
 Humidity: 30% to 75%RH

Electro-Technical Calibration Calibration Results :

Sl. No.	Value of DUC in °C	Standard Value in °C	Error in °C	Uncertainty at 95% of C.L in °C (±) coverage factor(k=1.96)
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 5.The above results relate only to the item calibration

-----END OF CERTIFICATE-----

Bishal Gupta
Calibrated By
Bishal Gupta
(Calibration Engineer)



Kirity Tripathi
Authorised Signatory
KIRTY TRIPATHI
Deputy Technical Manager



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E-mail : jaganaths.slip@gmail.com



CERTIFICATE NO: CC-2145

PAGE : 1 OF 2

MECHANICAL CALIBRATION

FRM-01

CALIBRATION CERTIFICATE **ULR-CC214522000001025F**

SERVICE REQUEST NO. : JSGC/DIM/CAL/ARC/574/08-22

NAME & ADDRESS OF CUSTOMER : **M/s. ARC INSULATION & INSULATOR PVT. LTD.**
VILL: RAMDEVPUR, BAWALI, BISHNUPUR-743384

CERTIFICATE NO. : JSGC/ARC/CERT/02/01/GL802800/22-23 DATED: 19.08.2022

DATE OF RECEIPT OF SAMPLE : AT OUR LAB. (17.08.2022)

DESCRIPTION OF SAMPLE : VERNIER CALIPER

MAKE : FORBES GOKAD LTD. TYPE: 'A'

RANGE : 0 - 300 mm

LEAST COUNT : 0.02 mm

SERIAL & IDENTIFICATION NO. : GL802800

BASIS OF CALIBRATION : AS PER IS: 3651 P-2 (1985) RA: 2005 INT. PROC: P - 02

CONDITION OF THE ITEM : SATISFACTORY

DATE OF CALIBRATION : 19.08.2022

DUE DATE : 19.08.2023

ENVIRONMENTAL CONDITION DURING CALIBRATION : TEMP: 20°C ± 2°C ; HUMIDITY: 50±10% Rh.

MAJOR EQUIPMENT USED : SLIP GAUGE, DIGITAL EXTERNAL MICROMETER, LONG SLIP,
SLIP GAUGE ACCESSORIES MEASURING ATTACHMENTS & ACCESSORIES.

TRACEABILITY : SLIP GAUGE TRACEABLE TO NPL VIDE CMERI
CERT.NO: MetR3/2020 - 19(2) DT. 28.09.2020 VALID UPTO: 24.09.2022

LONG SLIP TRACEABLE TO NPL VIDE CMERI
CERT.NO: MetR1/2020 - 29 DT. 21.12.2020 VALID UPTO: 21.12.2022

DIGITAL EXTERNAL MICROMETER TRACEABLE TO MICRONIX ASSOCIATES VIDE SUP
CERT.NO: S-626 DT. 29.06.2022 VALID UPTO: 29.06.2023

SLIP GAUGE ACCESSORIES TRACEABLE TO NPL VIDE CMERI
CERT. NO: MetR3/2020 - 19(3) DT. 28.09.2020 VALID UPTO: 28.09.2022

EXPANDED UNCERTAINTY : ± 13.5 µm AT 95% Confidence Level (k=2 Appx.)

LAB IDENTIFICATION : STICKER ATTACHED WITH ID. No. ON GAUGE/INSTRUMENT





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 E-mail : jaganaths.slip@gmail.com

PAGE : 1 OF 2

MECHANICAL CALIBRATION

FRM-01

CALIBRATION CERTIFICATE **ULR-CC214522000001025F**

SERVICE REQUEST NO. : JSGC/DIM/CAL/ARC/574/08-22

NAME & ADDRESS OF CUSTOMER : **M/s. ARC INSULATION & INSULATOR PVT. LTD.**
VILL: RAMDEVPUR, BAWALI, BISHNUPUR-743384

CERTIFICATE NO. : JSGC/ARC/CERT/02/01/GL802800/22-23 DATED: 19.08.2022

DATE OF RECEIPT OF SAMPLE : AT OUR LAB. (17.08.2022)

DESCRIPTION OF SAMPLE : VERNIER CALIPER

MAKE : FORBES GOKAD LTD. TYPE: 'A'

RANGE : 0 - 300 mm

LEAST COUNT : 0.02 mm

SERIAL & IDENTIFICATION NO. : GL802800

BASIS OF CALIBRATION : AS PER IS: 3651 P-2 (1985) RA: 2005 INT. PROC: P - 02

CONDITION OF THE ITEM : SATISFACTORY

DATE OF CALIBRATION : 19.08.2022

DUE DATE : 19.08.2023

ENVIRONMENTAL CONDITION DURING CALIBRATION : TEMP: 20°C ± 2°C ; HUMIDITY: 50±10% Rh.

MAJOR EQUIPMENT USED : SLIP GAUGE, DIGITAL EXTERNAL MICROMETER, LONG SLIP,
 SLIP GAUGE ACCESSORIES MEASURING ATTACHMENTS & ACCESSORIES.

TRACEABILITY : SLIP GAUGE TRACEABLE TO NPL VIDE CMERI
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