



GHAZIABAD TESTING LABORATORIES PVT. LTD.

TEST REPORT

ULR No. : TC-120482410000301F

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Name & Address of the Customer : M/s. PANNA & SONS
1826/1, Old Amarnath Building, Bhagirath
Place Delhi-110006

Factory Address : A-176 Harit Vihar Pepsi Road , Busari

Reference No./Date : Nil/ Dated : 17/06/2024

Sample Code No./ Report No. : TC12048-240619-301

Report Date : 24/06/2024

Sample Received On : 19/06/2024

Analysis Date : 20/06/2024 To 24/06/2024

Report Prepared On : 24/06/2024

Sampled By : Customer

Sample Description : 33kV, 3 Phase 1600 Amp. Isolator with Earth Switch.

Test Specification : [As per Customer requirement & Generally Test Procedure was followed as per IS: 9921 (Part-4) 1985 (R.A.-2007)/ IEC: 62271 (Part-102):2018]

Condition of the Sample on receipt : Sample Received in good condition

Drawing No. : "10010"



Auth. Signatory

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Plot No. 29, Prem Vihar, Bisrakh Road, Chhapraula,
Ghaziabad Uttar Pradesh - 201009 (India)



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1. Dry Lightning Impulse Voltage Withstand Test. IEC 62271 (Part-102) (15 Consecutive Impulse of 1.2/50 μ s applied)

S. No.	Insulator Position	Test Voltage	Voltage Applied to	Earth Connected to	Results
I	Close	170 kV _p	Aa	BCbc F	Withstood both (+ve) & (-ve) Polarities
II	Close	170 kV _p	Bb	ACac F	Withstood both (+ve) & (-ve) Polarities
III	Close	170 kV _p	Cc	ABab F	Withstood both (+ve) & (-ve) Polarities
IV	Open	195 kV _p	A	BCabc F	Withstood both (+ve) & (-ve) Polarities
V	Open	195 kV _p	B	ACabc F	Withstood both (+ve) & (-ve) Polarities
VI	Open	195 kV _p	C	ABabc F	Withstood both (+ve) & (-ve) Polarities
VII	Open	195 kV _p	a	A	Withstood both (+ve) & (-ve) Polarities
VIII	Open	195 kV _p	b	B	Withstood both (+ve) & (-ve) Polarities
IX	Open	195 kV _p	c	C	Withstood both (+ve) & (-ve) Polarities

2. One Minute Power Frequency Voltage Withstand Test. Dry

S. No.	Insulator Position	Test Voltage	Voltage Applied to	Earth Connected to	Results
I	Close	70 kV _{rms}	Aa	BCbc F	Withstood both (+ve) & (-ve) Polarities
II	Close	70 kV _{rms}	Bb	ACac F	Withstood both (+ve) & (-ve) Polarities
III	Close	70 kV _{rms}	Cc	ABab F	Withstood both (+ve) & (-ve) Polarities
IV	Open	80 kV _{rms}	A	BCabc F	Withstood both (+ve) & (-ve) Polarities
V	Open	80 kV _{rms}	B	ACabc F	Withstood both (+ve) & (-ve) Polarities
VI	Open	80 kV _{rms}	C	ABabc F	Withstood both (+ve) & (-ve) Polarities
VII	Open	80 kV _{rms}	a	A	Withstood both (+ve) & (-ve) Polarities
VIII	Open	80 kV _{rms}	b	B	Withstood both (+ve) & (-ve) Polarities
IX	Open	80 kV _{rms}	c	C	Withstood both (+ve) & (-ve) Polarities



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3. One Minute Power Frequency Voltage Withstand Test (Wet)

S. No.	Insulator Position	Test Voltage	Voltage Applied to	Earth Connected to	Results
I	Close	70 kV _{rms}	Aa	BCbc F	Withstood both (+ve) & (-ve) Polarities
ii	Close	70 kV _{rms}	Bb	ACac F	Withstood both (+ve) & (-ve) Polarities
III	Close	70 kV _{rms}	Cc	ABab F	Withstood both (+ve) & (-ve) Polarities
Iv	Open	80 kV _{rms}	A	BCabc F	Withstood both (+ve) & (-ve) Polarities
v	Open	80 kV _{rms}	B	ACabc F	Withstood both (+ve) & (-ve) Polarities
Vi	Open	80 kV _{rms}	C	ABabc F	Withstood both (+ve) & (-ve) Polarities
VII	Open	80 kV _{rms}	a	A	Withstood both (+ve) & (-ve) Polarities
VIII	Open	80 kV _{rms}	b	B	Withstood both (+ve) & (-ve) Polarities
IX	Open	80 kV _{rms}	c	C	Withstood both (+ve) & (-ve) Polarities

4.	Visual Examination	Visual Checked	Free from any Physical defects within tolerance.
5.	Verification of Dimensions	Sample dimensions verified with drawing no. "10010"	Dimension verified & found Within tolerance as per drawing no. "10010"



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S. No.	Tests	Results
6.	Measurement of contact resistance (By Milli Volt Drop Test) [Before Temperature Rise Test] Test Current 100 Amps D.C	Phase 1 9.40 mV
		Phase 2 9.28 mV
		Phase 3 9.35 mV
7.	Temperature Rise Test Test Current 1600 Amps , 50 Hz	Max. Temperature rises above ambient temperature of 25.4 °C : (i) Terminal - 39 °C (ii) Terminal s- 42 °C (iii) Contact - 38 °C -Within sp. Limit
8.	Measurement of contact resistance (By Milli Volt Drop Test) [After Temperature Rise Test] Test Current 100 Amps D.C	Phase 1 9.50 mV
		Phase 2 9.34 mV
		Phase 3 9.48 mV
9.	Mechanical Endurance Test The test was done manually by operating 1000 operating cycles without voltage & current. After the test all parts including of the Isolator found in good condition and no undue wear seen. Hence sample is satisfactory in mechanical endurance test.	Withstood Satisfactory

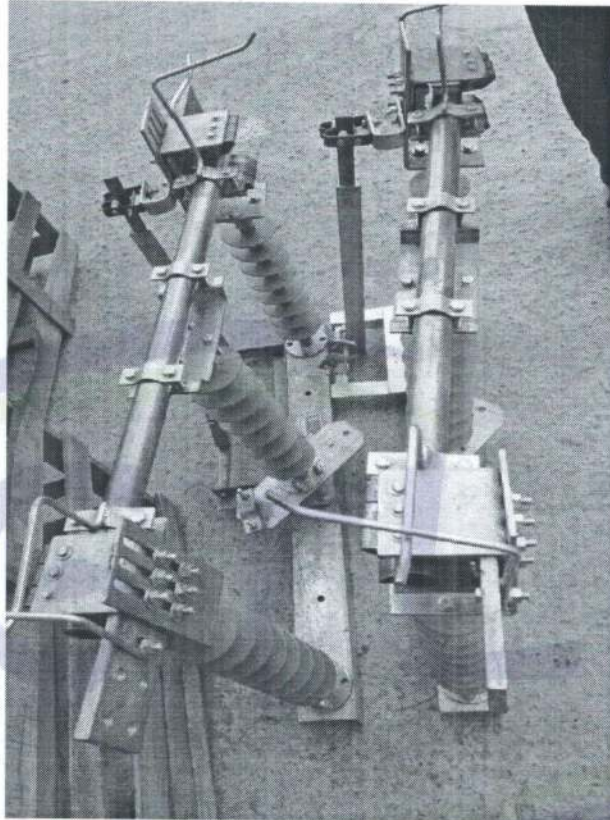


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Photograph of Sample



Remarks: Sample meets the requirement as per specified limits as laid down in IS / IEC: as observed for the above test parameters only.

*****End of Report*****

Note:

- ❖ This Test report conforms to above test parameters only submitted for testing.
- ❖ Decision Rule applied- Yes/ No $UM \pm$
- ❖ The sample description is not verified in all cases and is given as described by the customer.
- ❖ Samples not drawn by us and the analysis conducted as received basis unless specified otherwise.
- ❖ Tested sample will be disposed off after 30 days from the date of issue of test report unless until specified by customer.
- ❖ Complaints about this report should be communicated in writing within seven days of issue date of this report.
- ❖ This report is not to be reproduced wholly or in part and cannot be used as an evidence in the Court of law and shall not be used in the advertising media without our prior permission from the Director.
- ❖ Laboratory shall maintain the confidentiality of all information related to the samples & Test Reports.

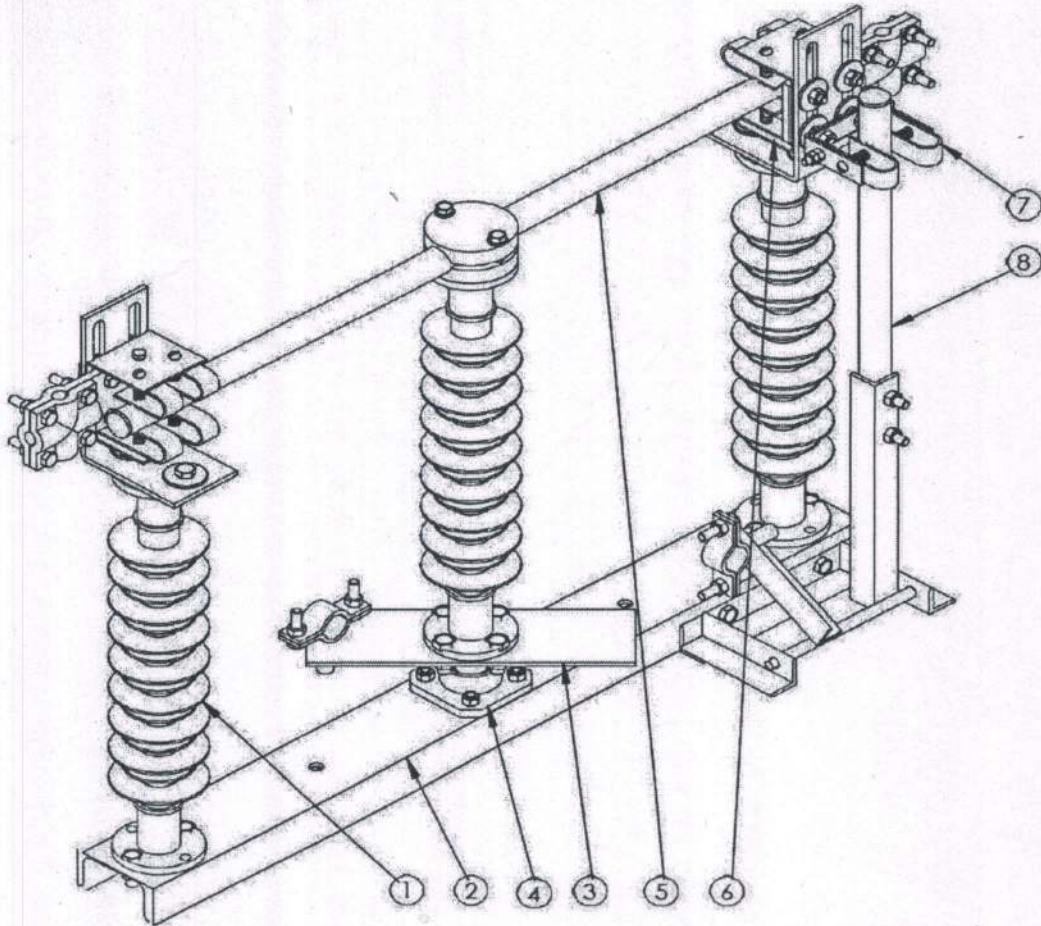


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PANNA & SONS

1826/1, OLD AMARNATH BUILDING, BHAGIRATH PLACE, DELHI - 110006



BILL OF MATERIALS(FOR A SET OF 3)			
ITEM NO.	DESCRIPTION	MATERIAL	QTY.
1	Polymer Post Insulator 33KV	Polymer	9
2	Base Channel : C channel	M.S. (H.D.G.)	3
3	Rotating stool base with lever clamp and arm	M.S. (H.D.G.)	3
4	Bearing Mount	CI Part	3
5	Moving Contact Assy.		3
6	Fixed Contact Assy.		6
7	Fixed Contact Assy. : Earth Switch		3
8	Moving Contact Assy. : Earth Switch		3



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General Tolerances: +/-10%

PANNA & SONS ALL DIMENSIONS ARE IN mm. UNLESS OTHERWISE STATED		PANNA & SONS NEW DELHI		
		TITLE 33 KV ISOLATOR 1600 Amp. WITH EARTH SWITCH		
PROJECTION	DRAWN : Vinod DATE : 22-06-24	CHKD SCALE NTS	DRAWING NO. 10010	REV. A