ANNEXURE-01

TECHNOCRAFTS JOB ID - 3283

CLIENT: M/S MODI PROPERTIES PVT. LTD.

LOCATION : GV RESEARCH CENTERS PVT LTD

33kV, 1250A, 25kA/1SEC, INDOOR VCB 2-PANEL SWITCHBOARD

PANEL S.NO & TYPE	BREAKER SR NO	P127 & P111 (SCHNEIDER)	VAJH13 & VAX31 (ALSTOM)	DIGITAL MULTIFUNCTION METER (SECURE)	AMMETER & VOLTMETER (SCHNEIDER)	POWER PACK, ANNUNCIATOR, HOOTER (ALAN)	CT (PRAGATI)	PT (PRAGATI)
PNLNO: 21093283-00/01 INCOMING PANEL	1VYN020221003494	**P127** 39768019	**VAJH13** 35399193 **VAX31** 35406214	X1696606	**AMMETER** 54212350446 **VOLTMETER** 54211060653	**POWER PACK** PP21022876 **ANNUNCIATOR** AN210905492 **HOOTER** EH210806493	21/601157 21/601156 21/601158	21/601153 21/601155 21/601154
PNLNO: 21093283-00/02 OUTGOING PANEL	1VYN020221003506	**P111** 500025448	**VAJH13** 35399185 **VAX31** 35406222	X1696634	**AMMETER** 54213120216	**ANNUNCIATOR** AN210905814	21/601160 21/601161 21/601159	N/A

TSPL (100-06)

TECHNOCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

Date : 23/08/2021
Test Report No. : 003506

ROUTINE TEST CERTIFICATE

Purchaser's Name : TECHNOCRAFTS SWITCHGEARS PVT LTD

Sale Order No. 4202384303

Type of Breaker	VD4/W 36.12.32	
Serial Number of Breaker	1VYN020221003506	
Rated Voltage	36	kV
Insulation Level	70/170	kV/kVpk
Rated Current	1250	A
Breaking Capacity	31.5	kA
Rated Frequency	50	Hz
Mass	300	Kg
Rated Control Voltage for Trip Coil	24	V DC
Rated Control Voltage for Close Coil	24	V DC
Rated Control Voltage for Motor	230	V AC
Year of Manufacture	2021	

ROUTINE TESTS ACCORDING TO IEC 62271-100

1. MECHANICAL OPERATION TESTS : Satisfactory.

1.1 5 closing and 5 opening operations at 110% of control voltage

1.2 5 closing and 5 opening operations at 85% of control voltage

1.3 5 closing and 5 opening operations at rated control voltage

1.4 5 opening operations at 70% control voltage

1.5 5 closing - opening operations at 100% of control voltage

1.6 5 opening - 0.3 sec- closing operations at 100% control voltage

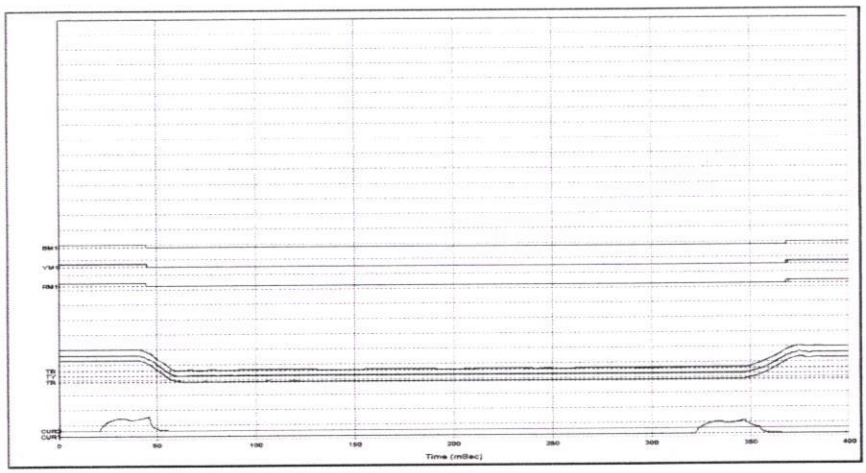
P.T.O

TECHNOCRAFTS SWITCHGEARS PVT. LTD. ★ REVIEWED

Date : 23/08/2021
Test Report No: 003506

1.7 Opening - 0.3 sec - closing operation at rated control voltage.

1.7.1 Travel and contact diagrams 1 DIV = 10mm



1.7.2	Operating Speed (m/s)			
	Perameter	R	Y	B
	Open	1.36	1.33	1.3
	Close	1.15	1.18	1.13

1.7.3	Operating time (ms)		
Pole	R	Y	B
Open	44.6	44.9	44.6
Close	68.2	67.9	68.2

1.7.4	Travel (mm)	R	Y	B
	Total Travel	21.86	20.99	21.27
	Max. Over Travel on Opening	19.86	18.39	19.01
	Max. Over Travel on Closing	4.71	4.49	4.37
	Max. Bounce on Opening	0.3	0.34	0.28
	Contact Spring Travel	3.69	3.64	3.69

2. RESISTANCE OF MAIN CIRCUIT : Satisfactory
Resistance in micro Ohms measured at 100A DC.

R - Pole =	26	Y - Pole =	27	B - Pole =	26

3. DIELECTRICAL TESTS : Satisfactory

3.1 Main circuit : 70 kV, 50Hz for 60s

Breaker Position	Test Voltage connected to	Earth connected to
Close	R and B-poles	Frame and Y-pole
Close	Y - pole	Frame, R and B-pole
Open	Top Terminal	Frame and Bottom terminal
Open	Bottom Terminal	Frame and Top terminal

3.2 Auxiliary circuits : 2 kV, 50 Hz, for 60 s (Motor disconnected)

4. VISUAL INSPECTION : Satisfactory

The Circuit Breaker has been successfully tested and accepted as described above

Digitally signed by ABB
Date: 2021.08.23 13:39:10 +05:30
Location: Nashik

INBT-007

Toll Free no: 18004200707
Email:ppmvsupport@in.abb.com

Note: This is Computer generated RTC. No Signature is required.

ABB

Date : 23/08/2021
Test Report No. : 003506

ROUTINE TEST CERTIFICATE

Purchaser's Name : TECHNOCRAFTS SWITCHGEARS PVT LTD

Sale Order No. 4202384303

Type of Breaker	VD4/W 36.12.32	
Serial Number of Breaker	1VYN020221003506	
Rated Voltage	36	kV
Insulation Level	70/170	kV/kVpk
Rated Current	1250	A
Breaking Capacity	31.5	kA
Rated Frequency	50	Hz
Mass	300	Kg
Rated Control Voltage for Trip Coil	24	V DC
Rated Control Voltage for Close Coil	24	V DC
Rated Control Voltage for Motor	230	V AC
Year of Manufacture	2021	

ROUTINE TESTS ACCORDING TO IEC 62271-100

1. MECHANICAL OPERATION TESTS : Satisfactory.

1.1 5 closing and 5 opening operations at 110% of control voltage

1.2 5 closing and 5 opening operations at 85% of control voltage

1.3 5 closing and 5 opening operations at rated control voltage

1.4 5 opening operations at 70% control voltage

1.5 5 closing - opening operations at 100% of control voltage

1.6 5 opening - 0.3 sec- closing operations at 100% control voltage

P.T.O

TECHNOCRAFTS SWITCHGEARS PVT. LTD. ★ REVIEWED

Date : 23/08/2021
Test Report No. : 003494

ROUTINE TEST CERTIFICATE

Purchaser's Name : TECHNOCRAFTS SWITCHGEARS PVT LTD

Sale Order No. 4202397676

Type of Breaker	VD4/W 36.12.32	
Serial Number of Breaker	1VYN020221003494	
Rated Voltage	36	kV
Insulation Level	70/170	kV/kVpk
Rated Current	1250	A
Breaking Capacity	31.5	kA
Rated Frequency	50	Hz
Mass	300	Kg
Rated Control Voltage for Trip Coil	24	V DC
Rated Control Voltage for Close Coil	24	V DC
Rated Control Voltage for Motor	230	V AC
Year of Manufacture	2021	

ROUTINE TESTS ACCORDING TO IEC 62271-100

1. MECHANICAL OPERATION TESTS : Satisfactory.

1.1 5 closing and 5 opening operations at 110% of control voltage

1.2 5 closing and 5 opening operations at 85% of control voltage

1.3 5 closing and 5 opening operations at rated control voltage

1.4 5 opening operations at 70% control voltage

1.5 5 closing - opening operations at 100% of control voltage

1.6 5 opening - 0.3 sec- closing operations at 100% control voltage

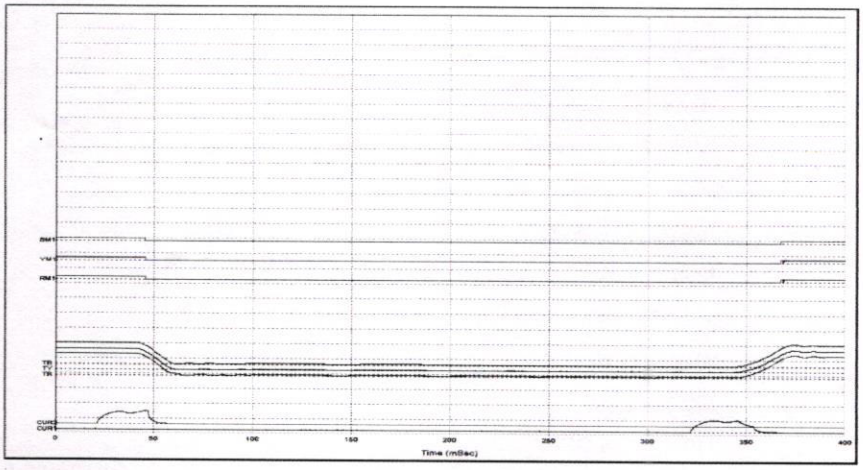
P.T.O

TECHNOCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

Date : 23/08/2021
Test Report No: 003494

1.7 Opening - 0.3 sec - closing operation at rated control voltage.

1.7.1 Travel and contact diagrams 1 DIV = 10mm



1.7.2	Operating Speed (m/s)			
	Perameter	R	Y	B
	Open	1.37	1.35	1.35
	Close	1.27	1.18	1.19

1.7.3	Operating time (ms)		
Pole	R	Y	B
Open	45.5	45.7	45.3
Close	67.2	67.2	67.4

1.7.4	Travel (mm)	R	Y	B
	Total Travel	22.02	21.5	21.77
	Max. Over Travel on Opening	19.86	18.54	19.38
	Max. Over Travel on Closing	4.98	4.7	4.69
	Max. Bounce on Opening	0.64	0.47	0.54
	Contact Spring Travel	3.65	3.75	3.63

2. RESISTANCE OF MAIN CIRCUIT : Satisfactory
Resistance in micro Ohms measured at 100A DC.

R - Pole =	26	Y - Pole =	25	B - Pole =	26

3. DIELECTRICAL TESTS : Satisfactory

3.1 Main circuit : 70 kV, 50Hz for 60s

Breaker Position	Test Voltage connected to	Earth connected to
Close	R and B-poles	Frame and Y-pole
Close	Y - pole	Frame, R and B-pole
Open	Top Terminal	Frame and Bottom terminal
Open	Bottom Terminal	Frame and Top terminal

3.2 Auxiliary circuits : 2 kV, 50 Hz, for 60 s (Motor disconnected)

4. VISUAL INSPECTION : Satisfactory

The Circuit Breaker has been successfully tested and accepted as described above

Digitally signed by ABB
Date: 2021.08.23 09:12:56 +05:30
Location: Nashik

INBT-007

Toll Free no: 18004200707
Email:ppmvsupport@in.abb.com

Note: This is Computer generated RTC, No Signature is required.

CERTIFICATE OF CONFORMITY AND TESTS

Schneider Electric

Manufacturer

Schneider Electric Power Monitoring
#12A, Attibele Industrial Ara,
Neralur (PO)
562107, Bangalore

Date of Issue 8/21/2021

The equipment detailed below has been manufactured, inspected and tested in accordance with a quality system certified to the requirements of ISO 9001:2008. Where appropriate, testing is in accordance with published data and relevant EN/IEC 60255-1.

Item Code	P111E1N0N91N1NN11N
Model	Model E
Vx	Vx=24-60V AC/DC 50/60Hz
In	In = 1A/5A (0,1In-40In)
Ion	Ion = 1A/5A (0,01Ion-2Ion)
Serial Number	SN50025448
Quantity	1

Test Summary	**Results**
1.Insulation Test	
1.1 3,11kV DC; 1s-Between each independent circuits	Passed
2.Functional Test	
2.1 Power Supply Test	Passed
2.2 Checking for Errors	Passed
2.3 Front Panel Test	Passed
2.4 Front Panel Switch Test	Passed
2.5 Output Contacts Test	Passed
2.6 Inputs Test	Passed
2.7 Current Accuracy Test	Passed
2.8 Communication Test	Passed

TECHNOCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

Regd Office
Schneider Electric India Pvt. Ltd.,
Plot Bo. B-12, Ground Floor,
Phase-1, New Delhi - 110064

Schneider Electric

Test	:	Calibration and test
Device name	:	MICOM P127
Serial number	:	39768019
Order number	:	2004779376/000020
Product code	:	P127BA0Z112GB0
Software version	:	BQ03
Operator	:	011
Date (dd/mm/yyyy)	:	27/04/2021
Result	:	ACCEPTED

STEP	MEAS.	RESULT	DESCRIPTION	VALUE OF MEASURE			MEASUREMENT	
				VALUE	TOL -	TOL +	VALUE	TOL
0		ACCEPTED	Dielectrical tests by other equip.	3000V= 1s				
1		ACCEPTED	Initialisation - Load soft					
	1	ACCEPTED	Verif Relay WD(tc1) NC closed(P125)	TRUE			TRUE	
	2	ACCEPTED	Power drain	1.500W	0.000W	2.500W	0.5616W	-62.56%
	3	ACCEPTED	Application programm loading	TRUE			TRUE	
	4	ACCEPTED	Setting product address	TRUE			TRUE	
	6	ACCEPTED	Test parameter - write	TRUE			TRUE	
	7	ACCEPTED	Communications EIA-485/RJ45	TRUE			TRUE	
	8	ACCEPTED	Test/Calibration programm loading	TRUE			TRUE	
2		ACCEPTED	Preliminary tests					
3		ACCEPTED	Calibration initialisation					
	2	ACCEPTED	Switch to calibration mode	0.000	0.000	0.000	0.000	0.000
	3	ACCEPTED	Analog circuit Ia	0.000A	0.000A	0.4000A	20.00mA	20.00mA
	4	ACCEPTED	Analog circuit Ib	0.000A	0.000A	0.4000A	2.227mA	2.227mA
	5	ACCEPTED	Analog circuit Ic	0.000A	0.000A	0.4000A	20.00mA	20.00mA
	6	ACCEPTED	Analog circuit It	0.000A	0.000A	80.00mA	0.6103mA	0.6103mA
	7	ACCEPTED	Analog circuit Va	0.000V	0.000V	2.600V	0.2500V	0.2500V
	8	ACCEPTED	Analog circuit Vb	0.000V	0.000V	2.600V	0.2381V	0.2381V
	9	ACCEPTED	Analog circuit Vc	0.000V	0.000V	2.600V	82.84mV	82.84mV
4		ACCEPTED	Current transformers cable					
	1	ACCEPTED	1A Ia	4.000A	15.00%	15.00%	3.721A	-6.97%
	2	ACCEPTED	1A Ib	2.000A	15.00%	15.00%	1.864A	-6.81%
	3	ACCEPTED	1A Ic (open)	0.000A	0.000A	0.4000A	2.500mA	2.500mA
	4	ACCEPTED	1A I0	0.5000A	15.00%	15.00%	0.4580A	-8.39%
	5	ACCEPTED	1A Ic (close)	2.000A	15.00%	15.00%	1.855A	-7.25%
	6	ACCEPTED	5A Ia	4.000A	15.00%	15.00%	3.731A	-6.72%
	7	ACCEPTED	5A Ib	2.000A	15.00%	15.00%	1.850A	-7.50%
	8	ACCEPTED	5A Ic (open)	0.000A	0.000A	0.4000A	6.250mA	6.250mA
	9	ACCEPTED	5A I0	0.5000A	15.00%	15.00%	0.4547A	-9.06%
	10	ACCEPTED	5A Ic (close)	2.000A	15.00%	15.00%	1.869A	-6.56%
5		ACCEPTED	Voltage transformers cable					
	1	ACCEPTED	Va	30.00V	25.00%	-5.00%	25.04V	-16.53%
	2	ACCEPTED	Vb	45.00V	25.00%	-5.00%	37.60V	-16.46%
	3	ACCEPTED	Vc	60.00V	25.00%	-5.00%	49.51V	-17.49%
	5	ACCEPTED	Va / Ia	0.000deg	-3.000deg	3.000deg	-16.23mdeg	-16.23mdeg
	6	ACCEPTED	Vbc / Vab	-120.0deg	-123.0deg	-117.0deg	-120.2deg	-0.1678deg
	7	ACCEPTED	Vca / Vab	120.0deg	117.0deg	123.0deg	120.6deg	0.6066deg
6		ACCEPTED	I (1A) and V calibration measure					
	1	ACCEPTED	Ia Error Gain 1 46Hz	10.50A	20.00%	20.00%	9.665A	-7.95%
	2	ACCEPTED	Ib Error Gain 1 46Hz	10.50A	20.00%	20.00%	9.690A	-7.71%
	3	ACCEPTED	Ic Error Gain 1 46Hz	10.50A	20.00%	20.00%	9.641A	-8.18%
	4	ACCEPTED	Io Error Gain 1 46Hz	5.600A	20.00%	20.00%	5.078A	-9.31%
	5	ACCEPTED	Va Error Gain 1 46Hz	125.0V	25.00%	-5.00%	103.3V	-17.36%

	6	ACCEPTED	Vb Error Gain 1 46Hz	125.0V	25.00%	-5.00%	103.4V	-17.31%
	7	ACCEPTED	Vc Error Gain 1 46Hz	125.0V	25.00%	-5.00%	102.1V	-18.29%
7		ACCEPTED	I (5A) calibration measure					
	1	ACCEPTED	Ia Error Gain 16 46Hz	8.750A	20.00%	20.00%	8.106A	-7.36%
	2	ACCEPTED	Ib Error Gain 16 46Hz	8.750A	20.00%	20.00%	8.050A	-8.00%
	3	ACCEPTED	Ic Error Gain 16 46Hz	8.750A	20.00%	20.00%	8.125A	-7.14%
	4	ACCEPTED	Io Error Gain 16 46Hz	1.750A	20.00%	20.00%	1.584A	-9.50%
8		ACCEPTED	I (1A) and V R/L calibration data calculation					
	1	ACCEPTED	Ia R/L	80.00	60.00	100.0	71.10	-11.13%
	2	ACCEPTED	Ib R/L	80.00	60.00	100.0	68.45	-14.44%
	3	ACCEPTED	Ic R/L	80.00	60.00	100.0	69.66	-12.93%
	4	ACCEPTED	Io R/L	80.00	60.00	100.0	74.25	-7.19%
	5	ACCEPTED	Va R/L	80.00	60.00	100.0	71.19	-11.01%
	6	ACCEPTED	Vb R/L	80.00	60.00	100.0	70.60	-11.75%
	7	ACCEPTED	Vc R/L	80.00	60.00	100.0	74.98	-6.27%
9		ACCEPTED	I (1A) and V K calibration data calculation					
	1	ACCEPTED	Ia K	1.000	0.9000	1.100	1.055	5.53%
	2	ACCEPTED	Ib K	1.000	0.9000	1.100	1.055	5.46%
	3	ACCEPTED	Ic K	1.000	0.9000	1.100	1.059	5.88%
	4	ACCEPTED	It K	1.000	0.9000	1.100	1.069	6.86%
	5	ACCEPTED	Va K	1.150	0.9500	1.350	1.176	2.26%
	6	ACCEPTED	Vb K	1.150	0.9500	1.350	1.176	2.25%
	7	ACCEPTED	Vc K	1.150	0.9500	1.350	1.186	3.09%
10		ACCEPTED	I (5A) K calibration data calculation					
	1	ACCEPTED	Ia R/L	80.00	60.00	100.0	76.45	-4.44%
	2	ACCEPTED	Ib R/L	80.00	60.00	100.0	66.62	-16.73%
	3	ACCEPTED	Ic R/L	80.00	60.00	100.0	68.42	-14.48%
	4	ACCEPTED	Io R/L	80.00	60.00	100.0	72.06	-9.93%
	7	ACCEPTED	Ia K	1.000	0.9000	1.100	1.050	5.01%
	8	ACCEPTED	Ib K	1.000	0.9000	1.100	1.065	6.51%
	9	ACCEPTED	Ic K	1.000	0.9000	1.100	1.053	5.35%
	10	ACCEPTED	It K	1.000	0.9000	1.100	1.077	7.73%
11		ACCEPTED	(1A) I and V angle calibration measure					
	1	ACCEPTED	Angle Ia error 60Hz	0.000deg	-15.00deg	15.00deg	-0.1186deg	-0.1186deg
	2	ACCEPTED	Angle Ib error 50Hz	0.000deg	-15.00deg	15.00deg	-0.1092deg	-0.1092deg
	3	ACCEPTED	Angle Ic error 60Hz	0.000deg	-15.00deg	15.00deg	-0.2357deg	-0.2357deg
	4	ACCEPTED	Angle It error 50Hz	0.000deg	-15.00deg	15.00deg	0.6060deg	0.6060deg
	5	ACCEPTED	Angle Va error 50Hz	0.000deg	-15.00deg	15.00deg	-0.3533deg	-0.3533deg
	6	ACCEPTED	Angle Vb error 50Hz	0.000deg	-15.00deg	15.00deg	-0.7747deg	-0.7747deg
	7	ACCEPTED	Angle Vc error 50Hz	0.000deg	-15.00deg	15.00deg	0.000deg	0.000deg
12		ACCEPTED	(5A) I angle calibration measure					
	1	ACCEPTED	Angle Ia error 50Hz	0.000deg	-15.00deg	15.00deg	0.2260deg	0.2260deg
	2	ACCEPTED	Angle Ib error 60Hz	0.000deg	-15.00deg	15.00deg	70.57mdeg	70.57mdeg
	3	ACCEPTED	Angle Ic error 60Hz	0.000deg	-15.00deg	15.00deg	-0.2830deg	-0.2830deg
	4	ACCEPTED	Angle It error 50Hz	0.000deg	-15.00deg	15.00deg	0.6288deg	0.6288deg
13		ACCEPTED	Loadind calibration data					
	1	ACCEPTED	Write + end calibration mode	TRUE			TRUE	
14		ACCEPTED	Logic inputs test					
	1	ACCEPTED	Logic input TS1/3(9) at voltage 0.8min.	5H			5H	
	2	ACCEPTED	Logic input TS2/4(8) at voltage 0.8min.	aH			aH	
	3	ACCEPTED	Logic input TS5(12) at voltage 0.8min.	10H			10H	
	4	ACCEPTED	Logic input TS6(11) at voltage 0.8min.	20H			20H	
	5	ACCEPTED	Logic input TS7(10) at voltage	40H			40H	

			0.8min.					
	7	ACCEPTED	0.25 voltage min. (10V if TS 220V)	0H			0H	
	9	ACCEPTED	1.2 voltage max. (vmax code H)	7fH			7fH	
15		ACCEPTED	Relays					
	2	ACCEPTED	Relays test without tripping	1H			1H	
	3	ACCEPTED	Tripping on relay 1+3+5+7	155H			155H	
	4	ACCEPTED	Tripping on relay 2+4+6+8	2adH			2adH	
	10	ACCEPTED	Start WATCH-DOG	0.000	0.000	0.000	0.000	0.000
16		ACCEPTED	Angles measure					
	1	ACCEPTED	Angle Ib/Ia 1A	120.0deg	117.0deg	123.0deg	119.0deg	-1.000deg
	2	ACCEPTED	Angle Ic/Ia 1A	120.0deg	117.0deg	123.0deg	119.0deg	-1.000deg
	3	ACCEPTED	Angle It/Ia 1A	-120.0deg	-123.0deg	-117.0deg	-121.0deg	-1.000deg
	4	ACCEPTED	Angle Ib/Ia 5A	120.0deg	117.0deg	123.0deg	119.0deg	-1.000deg
	5	ACCEPTED	Angle Ic/Ia 5A	120.0deg	117.0deg	123.0deg	120.0deg	0.000deg
	6	ACCEPTED	Angle It/Ia 5A	-120.0deg	-123.0deg	-117.0deg	-121.0deg	-1.000deg
	7	ACCEPTED	Angle Va/Ia	0.000deg	-3.000deg	3.000deg	-1.000deg	-1.000deg
	8	ACCEPTED	Angle Vb/Va	120.0deg	117.0deg	123.0deg	119.0deg	-1.000deg
	9	ACCEPTED	Angle Vc/Va	-120.0deg	-123.0deg	-117.0deg	-121.0deg	-1.000deg
17		ACCEPTED	Fourier Measurement -1A 50Hz					
	1	ACCEPTED	Ia-Fourier	10.00A	0.40%	0.40%	10.00A	0.02%
	2	ACCEPTED	Ib-Fourier	10.00A	0.40%	0.40%	9.999A	-0.01%
	3	ACCEPTED	Ic-Fourier	10.00A	0.40%	0.40%	9.998A	-0.02%
	4	ACCEPTED	I0-Fourier	1.000A	0.50%	0.50%	1.001A	0.06%
18		ACCEPTED	measure I (1A) and V					
	1	ACCEPTED	Ia	1.000A	0.50%	0.50%	0.9992A	-0.08%
	2	ACCEPTED	Ib	1.000A	0.50%	0.50%	0.9992A	-0.08%
	3	ACCEPTED	Ic	1.000A	0.50%	0.50%	1.000A	0.04%
	4	ACCEPTED	I0	0.2500A	0.50%	0.50%	0.2503A	0.03%
	5	ACCEPTED	Va	57.00V	3.00%	3.00%	57.05V	0.08%
	6	ACCEPTED	Vb	57.00V	3.00%	3.00%	57.06V	0.10%
	7	ACCEPTED	Vc	57.00V	3.00%	3.00%	57.05V	0.09%
19		ACCEPTED	measure I (5A)					
	1	ACCEPTED	Ia	5.000A	0.50%	0.50%	5.002A	0.04%
	2	ACCEPTED	Ib	5.000A	0.50%	0.50%	4.998A	-0.04%
	3	ACCEPTED	Ic	5.000A	0.50%	0.50%	5.000A	0.00%
	4	ACCEPTED	I0	1.250A	0.50%	0.50%	1.249A	-0.02%
20		ACCEPTED	Test WD and Termination					
	1	ACCEPTED	Test WD	TRUE			TRUE	
	4	ACCEPTED	Parameter - write	TRUE			TRUE	
	5	ACCEPTED	Check of Langage	1H			1H	
	7	ACCEPTED	Test no alarm Defaut setting	TRUE			TRUE	
	8	ACCEPTED	Light / Screen / Switch	TRUE			TRUE	
	9	ACCEPTED	Pr?ence cover + screw	TRUE				

19200

TECHNOCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

Test Results VAX 21,31

Order No.: 10936581		
Model No. VAX31ZG0250BA	Rating : 24/30-VX1DC,48/54-VX2DC	Serial No. : 35406222
Test Instruction VAX21/31,(For----------)	Date of test : 19 Jul 2021 04:30:40 PM	

1. Di-Electric Test

The test voltage must be applied ,ramped up and maintained for 1second and ramped down to 0V as specified in IEC60255-27.
Dielectric test voltages are applied at 50Hz.

2.5kVrms for 1 second between all groups and case.	Pass/Fail	Pass
2.5kVrms for 1 second between individual groups.	Pass/Fail	Pass
2.5kVrms for 1 second between adjacent pair of contacts.	Pass/Fail	Pass
1.25kVrms for 1 second between normally open contacts.	Pass/Fail	Pass

2. Mechanical Setting:Contact Pressure,Gap,Follow Through Checked

3. Functional Tests

		VX1	VX2
Pick-up Voltage			
Apply 40% of LNV and check whether relay is operating satisfactorily - A/RL2	Operate	NA	OK
Apply 120 % of LNV and check whether relay is operating satisfactorily - A/RL2	Operate	NA	OK
Ramp up the voltage from 10% of LNV to until the relay picks-up - A/RL2	Measured	6.96 V / PASS	13.2 V / PASS
Apply 40% of LNV and check whether relay is operating satisfactorily - B/RL3	Operate	NA	OK
Apply 120% of LNV and check whether relay is operating satisfactorily - B/RL3	Operate	NA	OK
Ramp up the voltage from 10% of LNV to until the relay picks-up - B/RL3	Measured	8.4 V / PASS	15.36 V / PASS
Apply 80% of LNV and check whether relay is operating satisfactorily - C/RL1	Operate	NA	OK
Apply 120% of LNV and check whether relay is operating satisfactorily - C/RL1	Operate	NA	OK
Ramp up the voltage from 10% of LNV to until the relay picks-up - C/RL1	Measured	16.32 V / PASS	30.48 V / PASS
Drop-off Voltage:			
Operate the relay, Ramp down the voltage from 40% to 25%, measure at drops-off	Pass/Fail	NA	NA
Operate coil current Test			
Apply 120% of H.N.V. to the operating coil and check current for RL2	Measured	0.135 A / PASS	NA
Apply 120% of H.N.V. to the operating coil and check current for RL3	Measured	0.136 A / PASS	NA
Product Specific Tests			
Drop-off time			
Apply 80% of LNV to operate the relay and check Drop off time(A&C) (ms)	Measured	NA	613.1 ms / PASS
Apply 80% of LNV to operate the relay and check Drop off time(B&C) (ms)	Measured	NA	612.9 ms / PASS
Final Checks			
Contact Continuity			
Check all contacts N/O and N/C with a 10mA 12V continuity supply.	Pass/Fail	PASS	NA
Flag operation			
Check the flag operation when relay operates.	Pass/Fail	NA	NA
Note:	**Overall Test Result**		**PASS**
L.N.V.& H.N.V refers to Lower Nominal Volts&Higher Nominal Voltage respectively			
All measured values must be within the limits specified in the Test Specification.			

Tester Name : KUMAR

Tester Signature/Stamp : 3588

GE T&D INDIA LIMITED
19/1, GST Road,
Pallavaram, Chennai-600 043, India
Tel: 044 2264 8000
ga.supportIND@ge.com

TECHNOCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

TEST AND CALIBRATION CERTIFICATE

Model Name : DM3110

Calibration Date : 04-Jun-2021

Meter Sl. No : 54212350446

Accuracy :Class 0.5

This is to certify that the meter has been tested,calibrated and found to be complying the mentioned accuracy standards.Reference meter used for this is traceable to international standards.

SCHNEIDER ELECTRIC INDIA PVT. LTD. BANGALORE 562 107

Saravana Janardhanan

Plant Director

Schneider Electric India Pvt Ltd

www.se.com

ISO 9001 : 2015 Certified
ISO 14001 : 2015 Certified
ISO 45001 :2018 Certified

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TEST AND CALIBRATION CERTIFICATE

Model Name : DM3210

Calibration Date : 06-Mar-2021

Meter Sl. No : 54211060653

Accuracy :Class 0.5

This is to certify that the meter has been tested,calibrated and found to be complying the mentioned accuracy standards.Reference meter used for this is traceable to international standards.

SCHNEIDER ELECTRIC INDIA PVT LTD BANGALORE 562 107

Saravana Janardhanan

Plant Director

TECHNOCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

ISO 9001 : 2015 Certified
ISO 14001 : 2015 Certified
ISO 45001 :2018 Certified

Schneider Electric India Pvt Ltd

www.se.com

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TEST AND CALIBRATION CERTIFICATE

Model Name : DM3110

Calibration Date : 27-Jul-2021

Meter Sl. No : 54213120216

Accuracy :Class 0.5

This is to certify that the meter has been tested,calibrated and found to be complying the mentioned accuracy standards.Reference meter used for this is traceable to international standards.

Saravana Janardhanan

Plant Director

ISO 9001 : 2015 Certified
ISO 14001 : 2015 Certified
ISO 45001 :2018 Certified

Schneider Electric India Pvt Ltd

www.se.com

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H.A. RELAY TEST SHEET

Model No. VAJH13Y1000 1BBA	Order No. 10933471	Serial No. 35393185
Order Qty. 50	Rating 24-27 VDC (LNV/HNV)*	Wiring Diagram 01VAJH13Y002

1. Model Confirmation (VAJH 13 /23 only) Tick in the appropriate box

ABA Suffix (Low Burden) - Without 25W resistor and Magnet Contact ☐

BBA Suffix (High Burden) - With 25W resistor and Magnet Contact ☑

2. Di-electric Test

2.5kV 50Hz rms for 1 second (Between earth to each terminals) ___Ok___

1.25kV 50 Hz rms for 1 second (Across N/O Contacts) ___Ok___

3. Contact Setting

2.1 Contact Pressure / Gap / Follow Through : Checked OK ☑

2.2 When flag operated, gap between the armature head and lower long contact Checked OK } Limit : 120 thou min ☑

4. Functional Test

Pick up Volts : Limit : 28% to 35% of LNV				
LH (Top) RL1	RH (Top) RL2	CTR	LH (Bottom) RL3	RH (Bottom) RL4
		7.2V.		

5. Satisfactory operation

Relay operated satisfactorily at 50% and 120% of LNV : Checked OK ☑

6. Contact Continuity Test : Checked OK ☑

Limits Reference

LNV	**24 V**	**30 V**	**48 V**	**100 V**	**110 V**	**125 V**	**200V**	**220V**	**230V**	**240 V**	**250V**
28% of LNV	6.72V	8.4V	13.44V	28V	30.8V	35V	55V	61.6V	64.4V	67.2V	70V
35% of LNV	8.4V	10.4V	16.8V	35V	38.5V	43.75V	70V	77V	80.5V	84V	87.5V
50% of LNV	12V	15V	24V	50V	55V	62.5V	100V	110V	115V	120V	125V
120% of LNV	28.8V	36V	57.6V	120V	132V	150V	240V	264V	276V	288V	300V

*(LNV – Lower nominal Voltage)

Tested By: ___

T&D

Date : 12/7/21

TECHNOCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

GE T&D India Limited,
19/1, GST Road, Pallavaram, Chennai 600 043
Tel : +91 44 2264 8000
ga.supportIND@ge.com

H.A. RELAY TEST SHEET

Model No. VAJH13Y6000 1BBA	Order No. 10933471	Serial No. 35388183
Order Qty. 50	Rating 24-27 V DC (LNV/HNV)*	Wiring Diagram 01VAJH13Y602

1. Model Confirmation (VAJH 13 /23 only) Tick in the appropriate box

ABA Suffix (Low Burden) - Without 25W resistor and Magnet Contact ☐

BBA Suffix (High Burden) - With 25W resistor and Magnet Contact ☑

2. Di-electric Test

2.5kV 50Hz rms for 1 second (Between earth to each terminals) Ok

1.25kV 50 Hz rms for 1 second (Across N/O Contacts) Ok

3. Contact Setting

2.1 Contact Pressure / Gap / Follow Through : Checked OK ☑

2.2 When flag operated, gap between the armature head and lower long contact Checked OK } Limit : 120 thou min ☑

4. Functional Test

Pick up Volts : Limit : 28% to 35% of LNV				
LH (Top) RL1	RH (Top) RL2	CTR	LH (Bottom) RL3	RH (Bottom) RL4
		8.1V.		

5. Satisfactory operation

Relay operated satisfactorily at 50% and 120% of LNV : Checked OK ☑

6. Contact Continuity Test : Checked OK ☑

Limits Reference

LNV	**24 V**	**30 V**	**48 V**	**100 V**	**110 V**	**125 V**	**200V**	**220V**	**230V**	**240 V**	**250V**
28% of LNV	6.72V	8.4V	13.44V	28V	30.8V	35V	55V	61.6V	64.4V	67.2V	70V
35% of LNV	8.4V	10.4V	16.8V	35V	38.5V	43.75V	70V	77V	80.5V	84V	87.5V
50% of LNV	12V	15V	24V	50V	55V	62.5V	100V	110V	115V	120V	125V
120% of LNV	28.8V	36V	57.6V	120V	132V	150V	240V	264V	276V	288V	300V

*(LNV – Lower nominal Voltage)

Tested By: _____ **Date :** 12/7/24

T&D

TECHNOCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

GE T&D India Limited,
19/1, GST Road, Pallavaram, Chennai 600 043
Tel : +91 44 2264 8000
ga.supportIND@ge.com

H.A. RELAY TEST SHEET

Model No. VAx31ZG0250BA	Order No : 10933497	Serial No. 3540621
Order Qty: 15	Rating : VX1 24-30 LNV/HNV* VX2 48-54 or DC LNV/HNV*	Wiring Diagram : 01VAx31ZG001

1. Di-electric Test : 2.5kV 50Hz rms for 1 second (Between earth to each terminals) ok

1.25kV 50 Hz rms for 1 second (Across N/O Contacts) ok

2. Contact setting : Contact Pressure / Gap / Follow Through: Checked OK **3. Functional test** ☑

VOLTAGE RANGE	UNIT A P/U volts (V)	UNIT A current For 24/30V @36V For 110/125V @150V	UNIT B P/U volts (V)	UNIT B current For 24/30V @36V 110/125V @150V	UNIT C P/U VOLTS (V)	D/O time A & C at 80% of LNV	D/O time B & C at 80% of LNV
Limits	Less than 40% of LNV	24/30V Vx (130-150mA) 110/125V Vx (21-26.5 mA)	Less than 40% of LNV	24/30V Vx (130-150mA) 110/125V Vx) (21-26.5 mA)	Less than 80% of LNV	Should be 350 to 800 msec	Should be 350 to 800 msec
VX1	8.6 V	130.8	8.9 V	140.6	21.7 V	NA	NA
VX2	16.1 V	NA	16.6 V	NA	26.9 V	563	569

4. Satisfactory Operation:

A&B units satisfactorily operated at 40% and 120% of LNV : Checked OK ☑

C unit satisfactorily operated at 80% and 120% of LNV : Checked OK ☑

5. Contact Continuity Test : Checked OK ☑

Voltage Limits reference	24V	30V	48V	110V	220V
40% of LNV	9.6	12	19.2	44	88
80% of LNV	19.2V	24V	38.4V	88V	176V
120% of LNV	28.8V	36V	57.6V	132V	264V

* (LNV/HNV - Lower/Higher nominal Volts)

Limits specified above are production testing only

Construction Requirement Check: OK

For regular operation, limits specified in Catalogue are applicable.

Tested By : 5022 **Date :** 21-7-21

T&D

TECHNOCRATS SWITCHGEARS PVT. REVIEWED

VAX31ZGxxxxBA (NEW) Rev 2

GE T&D India Limited,
Pallavaram Works, 19/1, GST Road, Pallavaram, Chennai 600 043
Tel : +91 44 2264 8000
ga.supportIND@ge.com

SECURE

METER TEST CERTIFICATE

Serial number : X1696606

Accuracy Class : 0.2s Ref. Standard : IEC : 62053-22

1.	AC VOLTAGE TEST	:- PASS
2.	TEST OF NO LOAD CONDITION	:- PASS
3.	TESTING OF STARTING CURRENT CONDITION	:- PASS
4.	INSULATION RESISTANCE TEST	:- PASS
5.	POWER CONSUMPTION TEST	:- PASS
6.	TEST OF METER CONSTANT	
7.	LIMITS OF ERROR	

7(a) Conditions-Vref = 57.7-240V Ib = 1-5A Amb. Temp. = 23°C +/- 2°C Relative Humidity < 70%.
7(b) Errors shown in the tables are given after accounting the error of reference meter.
7(c) Reference meter serial no. 050048407 class 0.02S traceable to national & international standards.
7(d) Errors shown in the tables are taken at Ib = 1A(100%)

IMPORT MODE ERRORS

(e) %Active Errors(Balance Mode)

Load % Ib	0.5 Lag	0.8 Lead	UPF
1000	-0.01	0.03	0.02
500	0.02	0.00	0.00
100	0.01	0.02	0.06
50	0.02	0.00	0.00
10	0.03	-0.01	0.00
5			-0.02
2	0.00	-0.10	
1			-0.16

(f) %Reactive Errors(Balance Mode)

Load % Ib	0.5 Lag	0.8 Lead
1000	0.00	0.01
500	-0.01	0.02
100	0.03	0.02
50	-0.01	0.02
10	0.00	0.04

EXPORT MODE ERRORS

(e) %Active Errors(Balance Mode)

Load % Ib	0.5 Lag	0.8 Lead	UPF
1000	0.00	0.02	0.01
500	0.01	0.00	0.00
100	0.02	0.03	0.04
50	0.01	0.00	0.00
10	0.06	0.01	0.02
5			-0.02
2	0.18	-0.02	
1			-0.01

Date :- 01/06/2021

This is a computer generated test certificate.No signature required.

Secure Meters Limited
Unit II, Village Bated,
Off Haripur Road, Barotiwala
Dist. Solan 174 103 (HP), India

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f: +91 1792 255593
e: unit2@securemeters.com

Regd. & Head Office
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Udaipur 313 003, India
CIN No: U74899RJ1987PLC029106

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f: +91 294 2492310
e: mktg@securemeters.com
www.securemeters.com

HANDICRAFTS SWITCHGEARS P... REVIEWED

SECURE

METER TEST CERTIFICATE

Serial number : X1696634

Accuracy Class : 0.2s Ref. Standard : IEC : 62053-22

1.	AC VOLTAGE TEST	:- PASS
2.	TEST OF NO LOAD CONDITION	:- PASS
3.	TESTING OF STARTING CURRENT CONDITION	:- PASS
4.	INSULATION RESISTANCE TEST	:- PASS
5.	POWER CONSUMPTION TEST	:- PASS
6.	TEST OF METER CONSTANT	:- PASS
7.	LIMITS OF ERROR	

7(a) Conditions-Vref = 57.7-240V Ib = 1-5A Amb. Temp. = 23°C +/- 2°C Relative Humidity < 70%.
7(b) Errors shown in the tables are given after accounting the error of reference meter.
7(c) Reference meter serial no. 050048407 class 0.02S traceable to national & international standards.
7(d) Errors shown in the tables are taken at Ib = 1A(100%)

IMPORT MODE ERRORS

(e) %Active Errors(Balance Mode)

Load % Ib	0.5 Lag	0.8 Lead	UPF
1000	0.00	0.02	0.02
500	0.02	0.01	0.01
100	0.00	0.01	0.07
50	0.02	0.00	0.01
10	0.03	0.00	0.01
5			0.00
2	-0.04	-0.10	
1			-0.19

(f) %Reactive Errors(Balance Mode)

Load % Ib	0.5 Lag	0.8 Lead
1000	0.00	-0.01
500	0.00	0.02
100	0.00	-0.04
50	-0.01	0.02
10	0.01	0.03

EXPORT MODE ERRORS

(e) %Active Errors(Balance Mode)

Load % Ib	0.5 Lag	0.8 Lead	UPF
1000	-0.02	0.00	0.00
500	0.01	0.00	0.01
100	-0.01	0.02	0.04
50	0.02	0.00	0.01
10	0.05	0.01	0.02
5			0.01
2	0.06	-0.07	
1			-0.15

Date :- 01/06/2021

This is a computer generated test certificate.No signature required.

Secure Meters Limited
Unit II, Village Bated,
Off Haripur Road, Barotiwala
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ELECTRONOCRAFT SWITCHGEARS PVT. LTD. REVIEWED

ALAN ELECTRONIC SYSTEMS PVT.LTD.

Test report cum Warranty Certificate
for **POWER PACK WITH BATTERY BACK-UP**

1) Model : APP-230024-60Min
2) Serial Number/Numbers : **PP 21022876** to **2879** QTY : **4** Nos.
3) Date Of Manufacturing : **FEB - 2021**
4) Visual Inspection : O.K
5) Input Voltage : 230V AC
6) Output Voltage : 24V DC
7) Max. output Voltage : 50 W Continuous Load
8) Non Stored Power : 50 Watts
9) Stored Power : 50 Watts/60 Min
10) Load Regulation : Better than 2%
11) Output Over Voltage Protection : ☑
12) Output OverLoad & Short Circuit protection : ☑
13) Visual Indication :
    ☑ Charger ON. ☑ Output switch Off.
    ☑ Battery Operation. ☑ Output Overload.
    ☑ Output ON.
14) High Voltage Test : ☑ 2KVAC for 1 minute between body to all terminals.

It is hereby certified that the equipement / equipements mentioned above has been tested and found to meet it's specifications. This equipment / These equipments carries a warranty of twelve months from the date of Installation or eighteen months from the date of despatch, whichever is earlier against any manufacturing defects only . This warranty is limited to repair or replace unit at our works only,(Excluding battery if any).

The warranty shall not apply to any product or parts which have been damaged on account of improper installation, improper connections, misuse, negligence, accident or any other abnormal conditions operation. Any attempt to tamper with the product as evidenced by disruption of warranty sticker and / or unauthorised repair / modification of the product shall render this warranty null & void.

Maingade

Mr.PANDURANG MAINGADE
Tested By

For Alan Electronic Systems Pvt.Ltd.

Akolkar

Mrs. YOGITA AKOLKAR
Authorised Signatory
(Quality Assurance)

NOTE : PLEASE MENTION SERIAL NO. OF THE UNIT IN ALL YOUR FUTURE CORRESPONDENCE .

Equipments Used for Testing	Model / Make	Sr.No	Calibration Due
1) Multi Meter	RISH MULTI 13S	14149	19-01-2022

TECHNOCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

ALAN ELECTRONIC SYSTEMS PVT.LTD.

Test report cum Warranty Certificate for ALARM ANNUNCIATOR

1) Model	: **3 D 0 B 18 S P R 0 0 0 L**			
2) Number of Windows	: **18** WINDOWS WITH RS-485			
3) Serial Number / Numbers	: **AN 210905814**	to	**5814**	Qty : **1** Nos.
4) Date of Manufacturing	: **SEP- 2021**			
5) Visual Inspection	: O.K			
6) Supply Voltage	: **18~90V DC**			
7) Window Configuration	: 5 C X 4 R			
8) Window Size	: SMALL SIZE: 34 X 32mm			
9) Operating Sequence	: M (MANUAL RESET)			
10) Fault Contact Selection	: NO/NC			
11) Audible Selection	: TRIP/GROUP1		ALL	
	: NON TRIP/GROUP2			
12) Panel Cutout	: **210** mm X **138** mm			
13) High Voltage Test	: NA			

(2.5KVAC for 1 Minute between body To all terminals shorted together.)

It is hereby certified that the equipement / equipements mentioned above has been tested and found to meet it's specifications. This equipment / These equipments carries a warranty of twelve months from the date of Installation or eighteen months from the date of despatch, whichever is earlier against any manufacturing defects only .This warranty is limited to repair or replace unit at our works only, (Excluding battery if any).

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Mr.PANDURANG MAINGADE
Tested By

For Alan Electronic Systems Pvt.Ltd.

Mrs.YOGITA AKOLKAR
Authorised Signatory
(Quality Assurance)

Note : PLEASE MENTION SERIAL NO. OF THE UNIT IN ALL YOUR FUTURE CORRESPONDENCE.

Equipments Used for Testing	Model / Make	Sr.No	Calibration Due
1) Multi meter	RISH MULTI 13S	14149	19-01-2022

TECHNOCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

ALAN ELECTRONIC SYSTEMS PVT.LTD.

Test report cum Warranty Certificate for ALARM ANNUNCIATOR

1) Model	: **1 D 0 B 8 S S R 0 0 0 L**	
2) Number of Windows	: **8** WINDOWS WITHRS-485	
3) Serial Number / Numbers	: **AN 210905492** to **5493**	Qty : **2** Nos.
4) Date of Manufacturing	: **SEP- 2021**	
5) Visual Inspection	: O.K	
6) Supply Voltage	: **18~90V DC**	
7) Window Configuration	: 2 C X 4 R	
8) Window Size	: SMALL SIZE: 34 X 32mm	
9) Operating Sequence	: M (MANUAL RESET)	
10) Fault Contact Selection	: NO/NC	
11) Audible Selection	: TRIP/GROUP1	ALL
	: NON TRIP/GROUP2	
12) Panel Cutout	: **68** mm X **138** mm	
13) High Voltage Test	: NA	

(2.5KVAC for 1 Minute between body To all terminals shorted together.)

It is hereby certified that the equipement / equipements mentioned above has been tested and found to meet it's specifications. This equipment / These equipments carries a warranty of twelve months from the date of Installation or eighteen months from the date of despatch, whichever is earlier against any manufacturing defects only .This warranty is limited to repair or replace unit at our works only, (Excluding battery if any).

The warranty shall not apply to any product or parts which have been damaged on account of improper installation, improper connections, misuse, negligence, accident or any other abnormal conditions operation. Any attempt to tamper with the product as evidenced by disruption of warranty sticker and / or unauthorised repair / modification of the product shall render this warranty null & void.

For Alan Electronic Systems Pvt.Ltd.

Mr.PANDURANG MAINGADE
Tested By

Mrs.YOGITA AKOLKAR
Authorised Signatory
(Quality Assurance)

Note : PLEASE MENTION SERIAL NO. OF THE UNIT IN ALL YOUR FUTURE CORRESPONDENCE.

Equipments Used for Testing	Model / Make	Sr.No	Calibration Due
1) Multi meter	RISH MULTI 13S	69477	06-06-2022

ELECTRONOCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

ALAN ELECTRONIC SYSTEMS PVT.LTD.

Test report cum Warranty Certificate for ELECTRONIC HOOTER

1) Model : **AUH-01**
2) Serial Number/ Numbers : **EH 210806488** to **6511** Qty : **24** Nos.
3) Date Of Manufacturing : **AUG - 2021**
4) Visual Inspection : O.K.
5) Electrical Testing :

Input Voltage	Sound Level in dB at Nominal input Voltage (1 MTR distance)								
	Tone - 1			Tone - 2			Tone - 3		
	95 - 100	100 - 105	> 105	95-100	100-105	> 105	95-100	100-105	>105
18~285 V AC	☐	✓	☐	☐	✓	☐	☐	✓	☐
18~285 V DC	☐	✓	☐	☐	✓	☐	☐	✓	☐

It is hereby certified that the equipement / equipements mentioned above has been tested and found to meet it's specifications. This equipment / These equipments carries a warranty of twelve months from the date of Installation or eighteen months from the date of despatch, whichever is earlier against any manufacturing defects only . This warranty is limited to repair or replace unit at our works only, (Excluding battery if any).

The warranty shall not apply to any product or parts which have been damaged on account of improper installation, improper connections, misuse, negligence, accident or any other abnormal conditions operation. Any attempt to tamper with the product as evidenced by disruption of warranty sticker and / or unauthorised repair / modification of the product shall render this warranty null & void.

For Alan Electronic Systems Pvt.Ltd.

Mr.PANDURANG MAINGADE
Tested By

Mrs. YOGITA AKOLKAR
Authorised Signatory
(Quality Assurance)

NOTE : PLEASE MENTION SERIAL NO. OF THE UNIT IN ALL YOUR FUTURE CORRESPONDENCE

Equipments Used for Testing	Model / Make	Sr.No	Calibration Due
1) Sound Level Meter	SL-4010	150522611	08.02.2022
2) Multi Meter	RISH MULTI 13S	14149	19.01.2022

TECHNOCRAFTS SWITCHGEARS PVT. REVIEWED

PRAGATI ELECTRICALS PVT. LTD.
Plot No. A-2/16, MIDC, Industrial Area,
Murbad-421 401. Dist - Thane (INDIA).
Telephone : 02524-660100. Fax : 02524-660131.

Test Certificate For Current Transformer

PRAGATI ELECTRICALS PVT. LTD.
ISO 9001: 2015 BR NO. 20002412

Cus Name	: Technocrafts Switchgear Private Limited	IL	: 36/70/170 kVp	WO	: A29601 Item : 2
PO No.	: PO08211652 Dt.13/08/2021	Core1	: 15 VA, Class 0.5....(At 100/1 A).	Drg	: PR-6584 Type :2
Project	: 3283	Core2	: 15 VA, Class 5P20....(At 100/1 A).	Freq.	: 50 Hz
Spec No	: 3283 1			Ins Class	: B
Ratio	: 100-200/1-1 A			STC	: 25 kA/1 Sec.
Qty	: 3 No(s)			Sec.Terminals on	: P1 Side

Type : Resin Cast, Indoor, wound primary current transformer to IS:2705/1992

Current Transformer(s) were subjected to the following tests and were found to comply with the relevant standard.
* Verification of Terminal marking, Polarity and Overall dimensions.
* H.V. Test on Primary winding 70 kV for 1 Min.
* Determination of errors according to the appropriate accuracy class.
* Overvoltage interturn Test : At rated secondary current for 1 min.
* H.V. Test on Secondary winding : 3 kV for 1 Min.

Serial Number -				21/601156		21/601156		21/601157		21/601157		21/601158		21/601158									
In (%)	Core	Burden (VA)	P.F.	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)
Ratio				100/1		200/1		100/1		200/1		100/1		200/1									
120	1	15	0.8	0.089	3.4	0.119	1.6	0.094	3.2	0.122	1.6	0.077	3.4	0.112	1.7								
100				0.078	3.9	0.116	1.7	0.083	3.7	0.119	1.7	0.065	4.0	0.109	1.9								
20				-0.033	7.3	0.082	2.9	-0.026	7.0	0.083	2.8	-0.048	7.7	0.074	3.0								
5				-0.204	11.2	0.019	4.4	-0.202	10.9	0.019	4.4	-0.219	11.7	0.011	4.6								
120		3.75	1	0.376	5.1	0.197	1.9	0.378	5.0	0.199	1.9	0.375	5.3	0.194	2.0								
100				0.373	5.2	0.197	2.0	0.376	5.1	0.198	2.0	0.373	5.5	0.193	2.1								
20				0.345	7.6	0.184	3.0	0.346	7.5	0.185	2.9	0.346	7.9	0.181	3.1								
5				0.280	11.7	0.156	4.8	0.279	11.7	0.156	4.9	0.280	12.0	0.151	4.9								
Ratio				100/1		200/1		100/1		200/1		100/1		200/1									
100	2	15	0.8	0.603	6.5	0.303	2.7	0.639	6.2	0.342	2.7	0.647	5.6	0.328	2.4								

■ PD Test

■ Composite Error Test

Serial Number	Sec. Wdg. Terminals	Sec. Wdg. Res. at (75°C) (Ohms)	Exciting Current at sec. limiting Voltage (Amp)	Composite Error (%)	P.D. Value in pC at (22.86 kV) as per IS 11322/1985

TECHNOCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

Tested By : Avinash Markad.

Checked By : Abdul Majeed.

Date : 06/09/2021

F/QI/027

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21/601156	2S1-2S2	4.9501	0.0836	0.4182	4
	2S1-2S3	0.1005	0.0157	0.0787	
21/601157	2S1-2S2	5.0317	0.0938	0.4692	4
	2S1-2S3	10.1660	0.0169	0.0846	
21/601158	2S1-2S2	4.9274	0.0753	0.3764	4
	2S1-2S3	10.0842	0.0139	0.0697	

TECHNOCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

Tested By : Avinash Markad.

Checked By : Abdul Majeed.

Date : 06/09/2021

F/QI/027

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PRAGATI ELECTRICALS PVT. LTD.
Plot No. A-2/16, MIDC, Industrial Area,
Murbad-421 401. Dist - Thane (INDIA).
Telephone : 02524-660100. Fax : 02524-660131.

Test Certificate For Current Transformer

PRAGATI ELECTRICALS PVT. LTD.
ISO 9001: 2015 BR NO. 20002412

Cus Name : Technocrafts Switchgear Private Limited
PO No. : PO08211652 Dt.13/08/2021
Project : 3283
Spec No : 3283 1
Ratio : 50/1-1 A
Qty : 3 No(s)

IL : 36/70/170 kVp
Core1 : 15 VA, Class 0.5.
Core2 : 15 VA, Class 5P20.

WO : A29601 Item : 3
Drg : PR-6584 Type :2
Freq. : 50 Hz
Ins Class: B
STC : 25 kA/1 Sec.
Sec.Terminals on : P2 Side

Type : Resin Cast, Indoor, wound primary current transformer to IS:2705/1992

Current Transformer(s) were subjected to the following tests and were found to comply with the relevant standard.
* Verification of Terminal marking, Polarity and Overall dimensions.
* H.V. Test on Primary winding 70 kV for 1 Min.
* Determination of errors according to the appropriate accuracy class.
* Overvoltage interturn Test : At rated secondary current for 1 min.
* H.V. Test on Secondary winding : 3 kV for 1 Min.

Serial Number -				21/601159		21/601160		21/601161													
In (%)	Core	Burden (VA)	P.F.	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)
Ratio				50/1		50/1		50/1													
120	1	15	0.8	0.036	4.4	0.050	4.4	0.044	4.6												
100				0.023	5.1	0.038	5.0	0.031	5.2												
20				-0.097	9.1	-0.076	8.8	-0.089	9.2												
5				-0.278	13.6	-0.249	12.9	-0.273	13.5												
120		3.75	1	0.353	6.0	0.359	5.8	0.358	6.1												
100				0.351	6.2	0.357	6.0	0.356	6.3												
20				0.322	8.9	0.329	8.5	0.325	8.9												
5				0.248	13.4	0.255	12.9	0.239	13.7												
Ratio				50/1		50/1		50/1													
100	2	15	0.8	0.520	9.6	0.539	7.9	0.654	6.3												

■ PD Test

■ Composite Error Test

Serial Number	Sec. Wdg. Terminals	Sec. Wdg. Res. at (75°C) (Ohms)	Exciting Current at sec. limiting Voltage (Amp)	Composite Error (%)	P.D. Value in pC at (22.86 kV) as per IS 11322/1985
21/601159	2S1-2S2	4.6832	0.1149	0.5745	4
21/601160	2S1-2S2	4.6526	0.1196	0.5978	4
21/601161	2S1-2S2	4.8697	0.1201	0.6007	4

Tested By : Avinash Markad

TECHNOCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

Checked By : Abdul Majeed

Date : 06/09/2021

F/QI/027

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PRAGATI ELECTRICALS PVT. LTD.
Plot No. R-230, TTC, MIDC, Indl. Area Rabale,
Navi Mumbai-400 701.(INDIA)
Telephone : 91-22-3092 3500 Fax : 91-22-2769 7225

Test Certificate For Voltage Transformer

PRAGATI ELECTRICALS PVT. LTD.
ISO 9001: 2015 BR NO. 20002412

Client Name : Technocrafts Switchgear Private Limited
PO No. : PO08211652 dt : 13/08/2021
Project : 3283
Spec No : 3283 1
Ratio : 33000/V3/110/V3/110/V3/110/3 V
Qty : 3 Nos
Type : Resin Cast, Indoor, Single Phase, Single Pole insulated 'Earthed Type' Voltage Transformer complete with Built in H.V Fuse (Phoenix Make) to IS:3156/1992.

IL 36/70/170 kVp
Sec1.: 50 VA, Class 0.5.
Sec2.: 50 VA, Class 3P.
Sec3.: 50 VA, Class 3P.

WO : A29601 Item : 1
Drg. : PR-3603 (C) Type :
V.F : 1.2 Cont. & 1.9 for 8 hrs.
Freq. : 50 Hz
Ins Class : B

Voltage Transformer(s) were subjected to the following tests and were found to comply with the relevant standard.
* Verification of Terminal marking, Polarity and Overall Dimensions
* H.V. Test on Primary winding neutral **3.0 kV for 1 min.**
* Determination of errors according to the appropriate accuracy class.
* Induced Overvoltage Test : At **70** kV and **150**Hz. for 40 Seconds
* H.V. Test on secondary Winding : **3.0 kV for 1.0 min.**

Serial Number --			**21/601153**		**21/601154**		**21/601155**																	
Vn (%)	Sec Wdg	Burden (VA)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)
120	1a - 1n	50	0.065	5.2	0.064	5.1	0.066	5.3																
100			0.080	4.7	0.078	4.6	0.080	4.7																
80			0.088	4.3	0.086	4.2	0.089	4.3																
120		12.5	0.393	3.1	0.385	3.0	0.397	3.1																
100			0.408	2.4	0.400	2.4	0.412	2.5																
80			0.415	2.1	0.407	2.1	0.419	2.2																
190	2a - 2n	50	-0.581	30.5	-0.570	29.9	-0.587	30.8																
120			-0.384	19.6	-0.376	19.2	-0.387	19.8																
5			-0.347	19.3	-0.340	18.9	-0.350	19.5																
2			-0.323	18.4	-0.317	18.0	-0.327	18.5																
190		12.5	0.079	18.8	0.077	18.4	0.079	19.0																
120			0.291	7.0	0.285	6.9	0.294	7.1																
5			0.344	6.7	0.337	6.6	0.347	6.8																
2			0.392	6.3	0.384	6.2	0.396	6.4																
190	da - dn	50	0.407	25.6	0.399	25.1	0.411	25.9																
120			0.733	11.0	0.719	10.8	0.741	11.1																
5			0.816	10.8	0.800	10.6	0.824	10.9																
2			0.831	10.6	0.815	10.4	0.839	10.7																
190		12.5	0.758	24.4	0.743	23.9	0.765	24.6																
120			1.207	5.0	1.183	4.9	1.218	5.0																
5			1.266	4.6	1.241	4.5	1.278	4.6																
2			1.297	4.3	1.272	4.2	1.310	4.3																
P.D. Value as per IS 11322/1985 22.86 kV			2pC		2pC		2pC																	

TECHNOCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

Tested By : Gajanan Nevrekar.
Checked By: Vasant Shingate.
Date : 02-09-2021

F/QI/030

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Serial Number --			21/601153		21/601154		21/601155															
Vn (%)	Sec Wdg	Burden (VA)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)	R.E. (%)	P.E. (Min.)

TESHIT SWITCHGEARS PVT. LTD. REVIEWED

Tested By : Gajanan Nevrekar.

Checked By: Vasant Shingate.

Date : 02-09-2021

CERTIFICATE OF CONFIRMITY

Ref: TSPL/COC-3283-SR

This is to certify that the following items confirm to the technical specifications and functional requirements as per Drawings and found suitable for use in the final product mentioned against the same.

S.No.	Item Description	Make	Final product
1	L/R Switch	KAYCEE	33kV HT PANEL
2	(T/N/C Switch)	KAYCEE	
4	MCB	ABB	
5	Indication Lamps	TEKNIC	
6	Push Button	TEKNIC	
7	FERRULES / STICKERS	TSPL	
8	Terminal	Connectwell	
9	5 PIN SOCKET + SWITCHES	PRESSFIT	
10	3 Point lock - BREAKER DOOR	TSPL	
11	1 Point lock - METERING DOOR	TSPL	

For TECHNOCRAFTS SWITCHGEARS PVT. LTD.,

TECHNOCRAFTS SWITCHGEARS PVT. LTD. BHIWANDI

Quality Assurance Engineer

TSI (100-07)

TECHNOCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

JSW STEEL LIMITED

Vijayanagar Works, PO- Vidyanagar, Village-Toranagallu,Dist: Bellary,Karnataka-583275,INDIA
Regd. Office: JSW Centre , Bandra Kurla Complex , Bandra (East) , Mumbai - 400 051

IS 513_PART1
CM/L - 3330339

TEST CERTIFICATE FOR COLD REDUCED LOW CARBON STEEL SHEET & STRIP

(According to EN 10204 Type 3.1)

Test Certificate : CRCA/20-21/0001820143

JC/861

Date : 10.01.2021
SO No./ Item : 401292631 / 20
Product : CRCA
PO No. : RETAIL PRIME

It is certified that the material described below fully conforms to IS 513_PART1. Chemical composition and Mechanical properties of the product, as tested in accordance with the Scheme of Testing & Inspection contained in the BIS certification marks Licence No. CM/L - 3330339 are as indicated below against each order No. Etc.

(PLEASE REFER TO IS 513_PART1 FOR DETAILS OF SPECIFICATION REQUIREMENTS)

TEST RESULTS

Specification: IS 513_PART1_2016 CR2			QTY (MT)	C %	Mn %	S %	P %	Si %	Al %	N %	YS (Mpa)	UTS (MPa)	GL (mm)	EL%	Hard (HRB)	Ra µm
Heat No.	Coil No.	Nominal Size (MM)	Min						0.020				50	31.00		0.70
Mother Coil		T X W X L	Max	0.1200	0.50	0.035	0.040		0.070	0.0070	240	370				1.60
F844727 L110840000	L110841000	2.000 X 1540.0 X Coil	14.065	0.0340	0.21	0.008	0.013	0.010	0.049	0.0030	221	338	50	45.30	50.0	1.13
Total Weight in Metric Tonnes			14.065	Grand Total of Coils/Pkt/Bundles/Slab									1			

This is to certify that the above mentioned product produced & supplied by JSW Steel Ltd do not contain any radio active element higher than the natural level and it confirms to Standard Rolling, Dimensional & Weight tolerences. The product or packing material does not contain any hazardous substances as per RoHS norms.

Delivery ID : 709581344
Invoice No. : 7103268639
GST Invoice No. : 20VJ2900396489
Mode of Transport : Rail
Vehicle No. :
I.C. No. :

Legends: Chemistry = Laddle Sample analysis; 1Mpa= 1N/mm2 ; T x W x L = Thickness x Width x Length
YS= Yield Strength ; UTS = Ultimate Tensile Strength. %El = %go Elongation on standard gauge length

Remarks :

L. G. Naidu
(L. G. NAIDU)
Authorised Signatory
For JSW Steel Ltd.

TECHCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

JSW STEEL LIMITED

Vijayanagar Works, PO- Vidyanagar, Village-Toranagallu,Dist: Bellary,Karnataka-583275,INDIA
Regd. Office: JSW Centre , Bandra Kurla Complex , Bandra (East) , Mumbai - 400 051

IS 513_PART1
CM/L - 3330339

TEST CERTIFICATE FOR COLD REDUCED LOW CARBON STEEL SHEET & STRIP

(According to EN 10204 Type 3.1)

Test Certificate : CRCA/19-20/0001547666

Date : 26.02.2020
SO No./ Item : **401143822 / 30**
Product : **CRCA**
PO No. : **RETAIL PRIME**

It is certified that the material described below fully conforms to IS 513_PART1. Chemical composition and Mechanical properties of the product, as tested in accordance with the Scheme of Testing & Inspection contained in the BIS certification marks Licence No. CM/L - 3330339 are as indicated below against each order No. Etc.

(PLEASE REFER TO **IS 513_PART1** FOR DETAILS OF SPECIFICATION REQUIREMENTS)

TEST RESULTS

J-1005

Specification: IS 513_PART1_2016 CR2			QTY (MT)	C %	Mn %	S %	P %	Si %	Al %	N %	YS (Mpa)	UTS (MPa)	GL (mm)	EL%	Hard (HRB)	Ra µm
Cast / Heat No.	Coil Number	Nominal Size (MM)	Min						0.020				50	31.00		0.70
Mother Coil		T X W X L	Max	0.1200	0.50	0.035	0.040		0.070	0.0120	240	370				1.60
A427341 K203530000	202S40509	3.000 X 1250.0 X Coil	10.535	0.0370	0.17	0.008	0.018	0.015	0.049	0.0022	191	300	50	48.00	48.3	0.98
Total Weight in Metric Tonnes			10.535													
Grand Total of Coils/Pkt/Bundles/Slab			1													

This is to certify that the above mentioned product produced & supplied by JSW Steel Ltd do not contain any radio active element higher than the natural level and it confirms to Standard Rolling, Dimensional & Weight tolerences. The product or packing material does not contain any hazardous substances as per RoHS norms.

Delivery ID	: 708516159
Invoice No.	: 7102613533
GST Invoice No	: 19VJ2900541476
Mode of Transport	: Normal Trailor
Vehicle No.	: KA51AE4827

Legends: Chemistry = Laddle Sample analysis; 1Mpa= 1N/mm2 ; T x W x L = Thickness x Width x Length
YS= Yield Strength ; UTS = Ultimate Tensile Strength, %EL= %ge Elongation on standard gauge length

Remarks :

TECHNOCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

L. G. naidu
(L. G. NAIDU)
Authorised Signatory
For JSW Steel Ltd.

JSW STEEL LIMITED

Vijayanagar Works, PO- Vidyanagar, Village-Toranagallu,Dist: Bellary,Karnataka-583275,INDIA
Regd. Office: JSW Centre , Bandra Kurla Complex , Bandra (East) , Mumbai - 400 051

IS 513_PART1
CM/L - 3330339

TEST CERTIFICATE FOR COLD REDUCED LOW CARBON STEEL SHEET & STRIP

(According to EN 10204 Type 3.1)

Test Certificate : CRCA/20-21/0001836249

Date : 25.01.2021
SO No./ Item : 401300012 / 20
Product : CRCA
PO No. : RETAIL PRIME

It is certified that the material described below fully conforms to IS 513_PART1. Chemical composition and Mechanical properties of the product, as tested in accordance with the Scheme of Testing & Inspection contained in the BIS certification marks Licence No. CM/L - 3330339 are as indicated below against each order No. Etc.

(PLEASE REFER TO **IS 513_PART1** FOR DETAILS OF SPECIFICATION REQUIREMENTS)

TEST RESULTS

Specification: IS 513_PART1_2016 CR2			QTY (MT)	C %	Mn %	S %	P %	Si %	Al %	N %	YS (Mpa)	UTS (MPa)	GL (mm)	EL%	Hard (HRB)	Ra µm
Heat No.	Coil No.	Nominal Size (MM)	Min						0.020				50	31.00		0.70
Mother Coil		T X W X L	Max	0.1200	0.50	0.035	0.040		0.070	0.0120	240	370				1.60
E845698 L135020000	L135022000	2.500 X 1500.0 X Coil	13.265	0.0460	0.28	0.006	0.012	0.008	0.060	0.0023	204	315	50	48.00	47.4	1.29
Total Weight in Metric Tonnes			13.265	Grand Total of Coils/Pkt/Bundles/Slab							1					

This is to certify that the above mentioned product produced & supplied by JSW Steel Ltd do not contain any radio active element higher than the natural level and it confirms to Standard Rolling, Dimensional & Weight tolerences. The product or packing material does not contain any hazardous substances as per RoHS norms.

Delivery ID : 709635188
Invoice No. : 7103304224
GST Invoice No : 20VJ2900419677
Mode of Transport : Rail
Vehicle No. :
LC No. :

Legends: Chemistry = Laddle Sample analysis; 1Mpa= 1N/mm2 ; T x W x L = Thickness x Width x Length
YS= Yield Strength ; UTS = Ultimate Tensile Strength, %EL= %ge Elongation on standard gauge length

Remarks :

TECHCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

L. G. Naidu
(L. G. NAIDU)
Authorised Signatory
For JSW Steel Ltd.

T. C. No.:	**Apt Controls & Appliances Pvt. Ltd.** Plot No. 120, Shahpur Industrial Estate, Village Pundhe, Post Atgaon, Taluka Shahpur 421601, Dist. Thane, Maharashtra Tel: +91 251 2710161/2/3 URL: www.apt-controls.com Email: info@apt-controls.com	
ST/21-22 0574		
Date		
11/07/2021	**TEST CERTIFICATE (FOR PANEL THERMOSTAT)**	

Product Specification	**Thermostat, Mk II, 140 mm, 20 A, 230 V, 0- 75 °C with L-Bkt.**
Certificate issued to	**Technocrafts Switchgears Pvt. Ltd..**
P.O. No. & Date	**PO06210807 Dated 7-Jun-2021 PO05210374 Dated 6-May-2021 PO07211145 dated 5-Jul-2021**
Customer's Item No	**---**
Tax Invoice No. & Date	**APT/0385/21-22 Dated 11/07/2021**
Quantity	**75 Nos**

Test Details

Sr. no.	Description	Requirement	Test Method	Result
1	Visual Inspection	Surface finish, marking & dimensions	Visual check	Passed
2	Operating temperature (Contact opening temperature)	Must be within set value ± 8 °C	IS: 3017 Cl. 103.1	Passed
3	Differential temperature	Must not exceed 13 °C	IS: 3017 Cl. 103.1	Passed
4	Insulation Level	Must withstand 2kV for 1 min.	IS: 302 Cl. 13.3	Passed
Tested by	Shradha	Approved by		

TECHNOCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

T. C. No.:	**Apt Controls & Appliances Pvt. Ltd.** **Plot No. 120, Shahpur Industrial Estate, Village Pundhe, Post Atgaon, Taluka Shahpur 421601, Dist. Thane, Maharashtra** **Tel: +91 251 2710161/2/3** **URL: www.apt-controls.com** **Email: info@apt-controls.com**
PSH/21-22 0573	
Date	
10/07/2021	**TEST CERTIFICATE** **(FOR PANEL SPACE HEATER)**

Product Specification	**Panel Space Heater, Mk II A, 100 W, 240 V, BE.**
Certificate issued to	**Technocrafts Switchgears Pvt. Ltd..**
P.O. No. & Date	**PO05210671 Dated 31-May-2021**
Customer's Item No	**----**
Tax Invoice No. & Date	**APT/0380/21-22 Dated 10/07/2021**
Quantity	**50 Nos.**

Test Details

Sr. no.	Description	Requirement	Test Method	Result
1	Visual Inspection	Surface finish, marking & dimensions	Visual check	Passed
2	Input at rated voltage	Must be within ± 5% of rated Wattage	IS: 302 Cl.10.1	Passed
3	Leakage Current	Must not exceed 210 µ Amps	IS: 302 Cl.13.2	Passed
4	Insulation Level	Must withstand 2kV for 1 min.	IS: 302 Cl. 13.3	Passed
Tested by	Shradha	Approved by	Sujit	

TECHNOCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

T. C. No.:	**Apt Controls & Appliances Pvt. Ltd.** **Plot No. 120, Shahpur Industrial Estate, Village Pundhe, Post Atgaon,** **Taluka Shahpur 421601, Dist. Thane, Maharashtra** **Tel: +91 251 2710161/2/3** **URL: www.apt-controls.com** **Email: info@apt-controls.com**	
PSH/21-22 0580		
Date		
11/07/2021	**TEST CERTIFICATE** **(FOR PANEL SPACE HEATER)**	

Product Specification	**Panel Space Heater, Mk II A, 200 W, 240 V, BE.**
Certificate issued to	**Technocrafts Switchgears Pvt. Ltd..**
P.O. No. & Date	**PO06210807 Dated 7-Jun-2021** **PO05210374 Dated 6-May-2021** **PO07211145 Dated 5-Jul-2021**
Customer's Item No	----
Tax Invoice No. & Date	**APT/0385/21-22 Dated 11/07/2021**
Quantity	**46 Nos.**

Test Details

Sr. no.	Description	Requirement	Test Method	Result
1	Visual Inspection	Surface finish, marking & dimensions	Visual check	Passed
2	Input at rated voltage	Must be within ± 5% of rated Wattage	IS: 302 Cl.10.1	Passed
3	Leakage Current	Must not exceed 210 µ Amps	IS: 302 Cl.13.2	Passed
4	Insulation Level	Must withstand 2kV for 1 min.	IS: 302 Cl. 13.3	Passed
Tested by	Shivaji	Approved by		

TECHNOCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

POLYCAB
Connection Zindagi Ka

POLYCAB INDIA LIMITED
TYPE TEST CERTIFICATE

CUSTOMER :-
INVOICE NO :-
SIZE: 1 CORE X 1.5 SQ. MM **TYPE :Y (FR-LSH)** **DATE:** 10.07.2020
COIL LENGTH: 100 Mtrs.
Voltage Grade:- 1100 VOLTS
DESCRIPTION:-Polycab make 1100V,Flexible copper conductor,Type "D" FR-LSH PVC insulated single core unsheathed cable.

SR. NO.	DESCRIPTION	UNITS	REQUIREMENTS	OBSERVATIONS	
1	**CONDUCTOR**				
a.	Resistance at 20°C	Ohm/Km	Max.13.30	13.248	
b.	Annealing Test for Cu.*	%	Min: 13.5	21	
2	**INSULATION**				
2.1	**Thickness**				
a.	Minimum	mm	Min. 0.44	0.55	
b.	Average	mm	Min. 0.60	0.63	
2.2	**Without Ageing.**				
a.	Tensile Strength	N/Sq.mm	Min.10.0	14.83	
b.	Elongation at break	%	Min.150	235	
2.3	**After Ageing in air oven.**** (70 ± 2° C for 168 Hrs.)				
a.	Tensile Strength	N/Sq.mm	Min.10.0	15.33	
b.	Variation in T.S.	%	Max. ± 20	-3.37	
c.	Elongation at break	%	Min.150	227	
d.	Variation in Elong.	%	Max. ± 20	3.40	
2.4	**Loss of mass test **** (80 ± 2°C for 168 Hours)	Mg/Cm^2	Max. 2	0.17	
2.5	**Shrinkage Test.** (150 ± 2°C for 15 Min.)	%	Max. 6	1.00	
2.6	**Heat Shock Test.** (150 ± 2°C for 1 Hour)	-	No Sign's of cracks or scales	PASS	
2.7	**Hot Deformation Test.** (80 ± 2°C for 4 Hours) Depth of Indentation	%	Max.65	14.49	
2.8	**Thermal stability test** (200 ± 0.5°C)	Minutes	Min. 80	106	
2.9	**Cold bend test (for OD<12.5 mm)** (- 15°C for 2 Hours)	-	No Signs of cracks or scales	PASS	
2.10	**Volume Resistivity**				
a.	At 27°C	Ohm-cm	Min.1 X 10^{12}	6.94	X 10^{13}
b.	At 70°C	Ohm-cm	Min.1 X 10^{9}	15.84	X 10^{10}
2.11	**Insulation Resistance Constant**				
a.	At 27°C	MΩ-km	Min. 3.67	256	
b.	At 70°C	MΩ-km	Min. 0.004	0.638	
3.0	**High Voltage Test (3 Kv AC for 5 Minutes/On line spark Testing)**	kV	Break down should not occur		
3.1	**High Voltage Test ** Water Immersion A.C. Followed by D.C**		6. kV AC For 5 Minutes 1.2 kV D.C. for 240 Hours	WITHSTOOD	
4.0	**Flammability Test**	Seconds	Period of burning after removal of flame:Max. 60 seconds	1	
		mm	Unaffected length Min.50 mm.	354	
5.0	**Overall Diameter (OD)**	mm	Approx. 2.67	2.78	
6.0	**ADDITIONAL TEST - FR-LSH PVC**				
a.	Oxygen index test-ASTMD2863-77	%	Min. 29	30.5	
b.	Temperature Index-ASTMD2863	°C	Min.250	356	
c.	Smoke density test -ASTMD2843	%	Max.60	53.61	
d.	HCL Gas Emission IEC-754-1	%	Max.20	13.71	
e.	Swedish Chimney SS 424 1475F3	mm	Unaffected length from the top 300 mm	491	

Note: The Cable has been tested for above tests and found meeting the requirements , as per IS 694-2010.
*Before stranding / **Batch Test.

Tested By:

Polycab India Limited Q. A. *Daman*

Approved By:

CRAFTS SWITCHGEA... REVIEWED ...CHNO...

POLYCAB
Connection Zindagi Ka

POLYCAB INDIA LIMITED
TYPE TEST CERTIFICATE

CUSTOMER :-
INVOICE NO :- **DATE:** 14.07.2020
SIZE: 1 CORE X 2.5 SQ. MM **TYPE :Y (FR-LSH)** **COIL LENGTH:** 100 Mtrs.
Voltage Grade:- 1100 VOLTS
DESCRIPTION:-Polycab make 1100V,Flexible copper conductor,Type "D" FR-LSH PVC insulated single core unsheathed cable.

SR. NO.	DESCRIPTION	UNITS	REQUIREMENTS	OBSERVATIONS
1	**CONDUCTOR**			
a.	Resistance at 20°C	Ohm/Km	Max.7.98	7.917
b.	Annealing Test for Cu.*	%	Min: 13.5	22
2	**INSULATION**			
2.1	**Thickness**			
a.	Minimum	mm	Min. 0.53	0.63
b.	Average	mm	Min. 0.70	0.76
2.2	**Without Ageing.**			
a.	Tensile Strength	N/Sq.mm	Min.10.0	14.84
b.	Elongation at break	%	Min.150	246
2.3	**After Ageing in air oven.**** (70 ± 2°C for 168 Hrs.)			
a.	Tensile Strength	N/Sq.mm	Min.10.0	15.36
b.	Variation in T.S.	%	Max. ± 20	-3.50
c.	Elongation at break	%	Min.150	235
d.	Variation in Elong.	%	Max. ± 20	4.47
2.4	**Loss of mass test **** (80 ± 2°C for 168 Hours)	Mg/Cm^2	Max. 2	0.24
2.5	**Shrinkage Test.** (150 ± 2°C for 15 Min.)	%	Max. 6	1.26
2.6	**Heat Shock Test.** (150 ± 2°C for 1 Hour)	-	No Sign's of cracks or scales	PASS
2.7	**Hot Deformation Test.** (80 ± 2°C for 4 Hours) Depth of Indentation	%	Max.65	19.73
2.8	**Thermal stability test** (200 ± 0.5°C)	Minutes	Min. 80	116
2.9	**Cold bend test (for OD<12.5 mm)** (- 15°C for 2 Hours)	-	No Signs of cracks or scales	PASS
2.10	**Volume Resistivity**			
a.	At 27°C	Ohm-cm	Min.1 X 10^{12}	8.67 X 10^{13}
b.	At 70°C	Ohm-cm	Min.1 X 10^{9}	23.87 X10^{10}
2.11	**Insulation Resistance Constant**			
a.	At 27°C	MΩ-km	Min. 3.67	271
b.	At 70°C	MΩ-km	Min. 0.004	0.638
3.0	**High Voltage Test (3 Kv AC for 5 Minutes/On line spark Testing)**	kV	Break down should not occur	WITHSTOOD
3.1	**High Voltage Test **** **Water Immersion** **A.C. Followed by D.C**		6. kV AC For 5 Minutes 1.2 kV D.C. for 240 Hours	WITHSTOOD
4.0	**Flammability Test**	Seconds mm	Period of burning after removal of flame:Max. 60 seconds Unaffected length Min.50 mm.	1 352
5.0	**Overall Diameter (OD)**	mm	Approx. 3.3	3.39
6.0	**ADDITIONAL TEST - FR-LSH PVC**			
a.	Oxygen index test-ASTMD2863-77	%	Min. 29.0	30.5
b.	Temperature Index-ASTMD2863	°C	Min.250	356
c.	Smoke density test -ASTMD2843	%	Max.60	51.76
d.	HCL Gas Emission IEC-754-1	%	Max.20	12.61
e.	Swedish Chimney SS 424 1475F3	mm	Unaffected length from the top 300 mm	492

Note: The Cable has been tested for above tests and found meeting the requirements , as per IS 694-2010.
*Before stranding / **Batch Test.

Tested By:

Polycab India Limited Q.A. Daman

Approved By:

DCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

BANCO ALUMINIUM LIMITED

BIL NR.BHAILI RAILWAY STATION,,PADRA ROAD, DIST
VADODARA, Gujarat (IN), India
Phone : +91 265 2477200 Fax : +91 265 2477462
Email : sales@bancoaluminium.com Website: http://www.bancoaluminium.com

BANCO
50 YEARS OF EXCELLENCE

TEST CERTIFICATE FOR EXTRUSION

CUSTOMER	Technocrafts Switchgears Private Limited	TC NO	TCE/21908
ORDER NO	PO06210993B	DATE	17/07/2021
ORDER DATE	30-06-2021	INVOICE NO	2102833
ORDER QUANTITY	135.0	INVOICE DATE	17/07/2021
ALLOY & TEMPER	63401 & WP R1		

S.NO	DRAWING NO / SECTION NO	LENGTH IN MM	QUANTITY.PACKED PCS(KG)
1	FBR-2006170 2006170 Flat Bar 50 X 10 R5	3,660 MM	24 PCS 116.60 KGS

CHEMICAL COMPOSITION(PERCENTAGE)

CAST NO	DESCRIPTION	Si	Mg	Fe	Mn	Cu	Zn	Cr	Ti	Al
8400	Required Values	0.300 0.700	0.400 0.900	0.000 0.500	0.000 0.030	0.000 0.050	0.000 0.100	0.000 0.030	0.000 0.100	Rem
	Actual Values	0.427	0.487	0.176	0.012	0.003	0.002	0.002	0.016	98.860

MECHANICAL PROPERTIES

CAST NO	DESCRIPTION	U.T.S(KG/MM2)	% ELONGATION IN 2 INCH	0.2% YIELD STRENGTH(KG/MM2)
8400	Required Values	17.340 0.000	12.000	13.770 0.000
	Actual Values	18.3	19.1	15.45

DIMENSIONAL INSPECTION :

OTHER TEST IF ANY :

IDENTIFICATION OF EXTRUSION :

We hereby certify that items mentioned above have been tested and inspected in our presence and are found to be in accordance with the drawing specification and purchase order.

REMARKS : AS PER IS-5082

Actual Conductivity= 56.50 %IACS

TECHNOCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

BANCO ALUMINIUM LTD. P.O. BOX 2563 VADODARA

AUTHORISED SIGNATURE (QAD)

Note : This is a system generated document, no need of signature.

SUDAL INDUSTRIES LTD.

A-5, MIDC, AMBAD, NASHIK-422010

TEST CERTIFICATE

Q - 14

SERIAL NO : 5463 DATE : 24/01/2021

INVOICE NO : SILG 202114453 DATE : 24/01/2021

PARTY NAME : TECHNOCRAFTS SWITCHGEAR PVT LTD

ORDER NO : PO12202373 ORDER DATE : 11/12/2020

STANDARD : IS5082:1998

SECTION NO : F60038 SIZE : AL. FLAT 40.0 X 10.0 MM A/T : 6101 T6E91 (63401/WP

QUANTITY

NO. OF PCS. :	448			
QTY IN KGS :	1643.0			
CUT LENGTH :	3660 MM			

CHEMICAL COMPOSITION IN %

Si	Fe	Mn	Mg	Cu	Ti	Zn	Cr	Al
0.486	0.269	0.015	0.553	0.045	0.0089	0.034	0.012	REMAINDER
REQUIRED :								
0.3-0.7	0.50 MAX	0.03 MAX	0.4-0.9	0.05 MAX	0.10 MAX	0.10 MAX	0.03 MAX	REMAINDER

MECHANICAL & ELECTRICAL PROPERTIES

UTS Kg/mm^2	0.2%P.S. Kg/mm^2	% ELONG	CONDUCTIVITY	HARDNESS
24.727	22.349	15.42	57.8	56,57,58 BHN
REQUIRED :				
20.40 MIN	17.34 MIN	10 % MIN	55 % IACS MI	55 BHN MIN

REMARKS : CAST NO. A55

FOR, SUDAL INDUSTRIES LTD.

CIN NO : L21541MH1979PLC021541

This Certificate is computer generated no Signature required.

PREPARED BY QUALITY ASSURANCE ENGINEER QUALITY ASSURANCE MANAGER

TECHNOCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

ISO 9001:2015
ID:150001928

BHARAT INDUSTRIES

MFG.BRASS & COPPER BUSBAR/ SHEETS OF ALLGRADE
Plot no 46, Ramtekadi Industrial Estate, Hadapsar,Pune - 411013
Ph. Telefax: (020) 26811119
bharatindustries00@ymail.com

MATERIAL TEST CERTIFICATE

Customer Name	Technocrafts Switchgears (P) Ltd BHIWANDI	TC NO	T/720/ 20/21	DATED	04.12.2020
		INVOICE NO	720	DATED	04.12.2020
		PO NO	8200932/1019	DATED	25.08.2020 28.08.2020
		QUANTITY	610.400 KGS	NOS	15 BDLS
		BATCH NO	12/11/EC/1219/1/	DATED	12.11.2020

SPECIFICATION: - ETP GRADE COPPERIS: 191 PART V
Material Description: COPPER ROD / BUSBAR/ SQUARE
Temper: Half Hard in Straight Length

A) Chemical Composition :-

Elements	Cu	Pb	Bi	Others	Remark
Specified	99.90 min	0.005 max	0.001 max	0.03 max	OK
Observed	99.97	0.003	0.001	0.026	OK

B) Dimensional Report :

Dimension ->	20X3		30X6		NA	
Parameters	Specified	Observed	Specified	Observed	Specified	Observed
Width	20.00	19.97	30.00	29.93	NA	NA
Thickness	3.00	2.97	6.00	6.01	NA	NA
Radius	R1	R1	FR	FR	NA	NA

C) Mechanical Properties:-

Parameter	Specified	Observed	Specified	Observed	Specified	Observed
Hardness	70 - 90 HV	88.10	70 - 90 HV	89.80	70 - 90 HV	NA
Bend Test	OK	OK	OK	OK	OK	NA

D) Electrical Properties :-

Parameter	Specified	Observed	Remark
Conductivity in % IACS	97 min	98.8 -99.3 %	OK
Visual Remark	OK		

Checked By :- R GAJENDRA

Authorised Signatory

TECHNOCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

B-34, Nand Bhavan Industrial Estate,
Mahakali Caves Road, Andheri (East),
Mumbai - 400 093. INDIA
Email : pristine.engg@gmail.com
info@pristineengg.in
Tel.: 022 28398848/49/50
CIN No. : U51521MH2011PTC219234

Pristine
ENGG SERVICES PVT. LTD.
SOLUTION IN ELECTRICAL ENGG.
TRANSFORMER • CABLE JTG. KITS / ACCESORRIES
• MV/HV/DC SWITCHGEAR • CROMPTON OLTC

Hongshang

QUALITY CERTIFICATE OF HEAT SHRINKABLE TUBING

Product Name: HBTM			Quantity: 255	
Product Size: Φ50.0/20.0			LOT No: 186471/210	
Colour: Red			Customer: Technocrafts Switchgears (P) Ltd.	
Item		Standard Value	Check Value	Check result
AS Supplied	ID(mm)	≥50.0	51.90	PASS
	Eccentricity(%)	≤30	20	PASS
After Shrinking	ID(mm)	≤20.0	19.95	PASS
	Wall thickness(mm)	≥2.5	2.8	PASS
L/C(%)		±10%	-0.4	PASS
Tensile strength(Mpa)		≥11.0	12.0	PASS
Ultimate Elongation(%)		≥200	650	PASS
Minimum Shrink Temperature		110°C	110°C	PASS
Appearance		No defects	No defects	PASS
Color		Homogenous	Homogenous	PASS

QC	Cheched by

PRISTINE ENGINEERING SERVICES PVT. LTD. MUMBAI REGD. NO. 219234

TECHNOCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

Date: 11.11.2020

BARODA BUSHINGS & INSULATORS LLP
"EPOXY HOUSE", 746/1-2, G.I.D.C. Estate, Makarpura Road, Vadodara - 390 010.
WORKS : A-2/628-629 G.I.D.C. Estate, Makarpura Road, Vadodara - 390 010.
Phone : (0265) 2642878/2641083
Fax : (0265) 2640821
E-mail : bbi@epoxyhouse.com
Web. : www.epoxyhouse.com

T.C. NO. : BBI/TC/DA/21-22/01425 **DATE : 12/06/2021**

TEST CERTIFICATE

CUSTOMER NAME : M/s. TECHNOCRAFT SWITCHGEAR PRIVATE LIMITED

ITEM DESCRIPTION : 36 kV EPOXY INSULATOR WITH BRASS INSERT

DRAWING NO. : EPI : B4 : 578 , REV. : 01

PURCHASE ORDER NO. : PO05210681, DATE : 31/05/2021

QUANTITY SUPPLIED : 34 Nos.

OUR CHALLAN NO. : DA/21-22/01425, DATE : 12/06/2021

TESTS : AS PER IS 9431 - 1979 & SPECIFICATION MENTIONED IN DRAWING.

Sr. No.	Description of Tests Carried Out	Qty. Tested	Required Value	Observed Value	Instruments Used For the Tests
1)	Dry Power Frequency Voltage Withstand Test	34 Nos.	95 kV for one minute	Withstood	HV Tester
2)	Cantilever Withstand Load Test	01 Nos.	800 Kgs	Withstood upto 930Kgs	UTM
3)	Tensile Withstand Load Test	01 Nos.	5000 Kgs	Withstood upto 5320Kgs	UTM
4)	Creepage Distance	01 Nos.	1150 mm	1232 mm	By Cello Tape & Ruler scale
5)	Dimensional checking	02 Nos.	As per Drawing	Dimensions found within tolerances as per drg.	By Vernier Caliper & Height Gauge.
6)	Visual Inspection / Surface Finish	34 Nos.	Insulator should be free from Cracks, Pin holes, Blow holes, Moulding defects etc. Surface finish should be smooth.	No cracks, Pin holes, Blow holes & other moulding defects observed on the surface of insulators.	Visual

NOTE : We Guarantee the performance of the items as per above details for a period of 18 Months from date of despatch or 12 Months from the date of commissioning whichever is earlier and if any defect is noticed during this period we agree to give free replacement.

TESTED BY
DIMPLE PUWAR

APPROVED BY
HARISH MACHHI

TECHNOCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

PRESSGEL INSULATIONS PRIVATE LIMITED.

System Manual Level - II (Q.C.I function)
FINISH PRODUCT TEST REPORT

Doc.No.:	Q.C.D./F/02/01
Rev.No.:	01
Effe. Date:	01/02/2005
Page No.:	01 OF 01

Customer Name: TECHNOCRAFTS SWITCHGEARS PVT.LTD,
Purchase Order No.: PO 06210847 dtd.09-jun-21
Description: 33KV EPOXY INSULATOR WITH MS INSERT SIZE: 70X300 PG 02
MGP NO. 139 Date: 25-06-2021 Inv.No.: 139 Qty.: 152 NOS

Sr No.	Parameters to be checked		Required	Observed	Remarks
1	Dimensions	Height	300 MM	300.07 MM	OK
		Diameter	70MM	70.03 MM	OK
2	Creepage Distance		410 MM	411MM	OK
3	H.V.Test		72 KV/1 MIN	100%	OK
4	Flashover voltage test		90 KV	obtained >90kv	OK
5	Cantilever Test /Tengential Load with Stand		850 KG	961KGF	OK
6	Tensile Failing Test		_	4840KGF	OK
7	Compression Failing Test		_	_	_
8	Partial Discharge Test		_	_	_
9	Insert Threding		M10,M8,M16	CHECKING	OK
10	Rated Voltage		33 KV	100%	OK
11	Physical Apperance		100%	Satisfaction	OK
12	Finishing		Visually Good	Visually Good	OK

Approved/Rejected

Inspected by: Date: 25-06-2021 Approved by:

Note: We guarantee the performance of the items as per above details for a period of 12 months from the date of despatch or 18 months from the date of commissioning whichever is earlier if any defect is noticed during this period we agree to effect free replacement.

For PressGel Insulations Private Limited

AUTHORISED SIGNATURE

TECHNOCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

PRESSGEL INSULATIONS PRIVATE LIMITED.

System Manual Level - II (Q.C.I function)
FINISH PRODUCT TEST REPORT

Doc.No.:	Q.C.D./F/02/01
Rev.No.:	01
Effe. Date:	01/02/2005
Page No.:	01 OF 01

Customer Name: TECHNOCRAFTS SWITCHGEARS PVT.LTD,
Purchase Order No.: PO 0121643, 4/1/21, PO 12202545, 30/12/20
Description: 33 KV EPOXY INSULATOR WITH MS INSERT SIZE OF INSU. (100x300) PC 028
Challan No.: 535 Date: 07-01-21 Inv.No.: 535 Qty.: 96 NOS

No.	Parameters to be checked		Required	Observed	Remarks
1	Dimensions	Height	300 MM	300.11 MM	OK
		Diameter	100 MM	100.07 MM	OK
2	Creepage Distance		490 MM	490MM	OK
3	H.V.Test		72 KV/1 MIN	100%	OK
4	Impulse withstand Voltage		_	_	_
5	Cantilever Test /Tengential Load with Stand		1000 KGF	1020 KGF	OK
6	Tensile Failing Test		_	_	_
7	Compression Failing Test		_	_	_
8	Partial Discharge Test		_	_	_
9	Insert Threding Brass insert		M16,M10,M20	CHECKING	OK
10	Rated Voltage		33 KV	100%	OK
11	Physical Apperance		100%	Satisfaction	OK
12	Pressure Test		_	_	_
13	Finishing		Visually Good	Visually Good	OK

Approved/Rejected

Inspected by: Date: 07-01-21 Approved by

Note: We guarantee the performance of the items as per above details for a period of 12 months from the date of despatch or 18 months from the date of commissioning whichever is earlier if any defect is noticed during this period we agree to effect free replacement.

For PressGel Insulations Private Limited

AUTHORISED SIGNATURE

TECHNOCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

Certificate of Analysis

Certificate Type:
Insp. certificate "3.1" EN 10204
Date printed: DEC/03/2020

سابك
sabic

Pranav Engineering Works
Sandhya Praveen Burkule
L-5, MIDC, Amabad
Maharashtra
422010
NASHIK
India

Shipped from details:
SABIC INNOVATIVE PLASTICS INDIA PRIVATE LIMITED
Plastics Avenue
391320
VADODARA
India

Material Number	22050075
Material Description	SP-8230-2.800-1220.0-2440-000
Material Group	CARBORON™ sheet
Batch Number	0015743378
Manufacturing Plant	Vadodara
Manufacturing Date	NOV/02/2020
Sales Order	3513286
Delivery	803210701
Customer PO Number	PEW-041120-05

Characteristic	Unit	Value	Lower Limit	Upper Limit	Inspection method
GAUGE IN MM	mm	2.721	2.660	2.940	SABIC
TRANSMITTANCE	%	29.20	27.00	33.00	ASTM D1003

It is hereby stated that the material above has been found in accordance with the conditions and requirements of our standard/agreed quality specification.

General Note : This document is computer generated and does not require a signature. SABIC documents the authorized representatives and their independence necessary to release its products, according to the regulatory requirements. Contact information can be found on www.SABIC.com.

TECHNOCRAFTS INTERGEARS PVT. LTD. REVIEWED

PRODUCT DATASHEET

LEXAN™ 9034 + 903xxx SHEET

DESCRIPTION

LEXAN™ 9034 based polycarbonate sheet is the standard grade of LEXAN sheet. Inherently high impact LEXAN 9034 sheet is an excellent candidate for glazing for economical protection against breakage or intrusion. As LEXAN has better insulation properties than glass it may contribute to lower energy costs. LEXAN 9034 sheet may be thermoformed, pressure formed, cold-formed or used in flat applications.
Applicable to:
•9034* (applicable for all other uncoated LEXAN grades designated with 903xxxx nomenclature)
•9034V – with improved UL rating
•9034HO – with improved optical specifications
•90316, 90317 and 90318 – "Protect-A-Glaze" with one side textured

PRODUCT AVAILABILITY

Property	Test Method	Units	Value 9034 *	9034V	9034HO
Physical					
Specific Gravity	ASTM D792	-	1.20	1.20	1.20
Refractive Index @ 77°F	ASTM D542A	-	1.586	1.586	1.586
Light Transmission (Average at 0.118")	ASTM D1003	%	86	86	86
Initial Haze		HU	<1	<1	<1
Rockwell Hardness (M scale)	ASTM D785	-	70	70	70
Rockwell Hardness (R scale)	ASTM D785		118	118	118
Taber @ 100 cycles	ASTM D1044				
	(ANSI ZI26.1)	% haze	10	10	10
Water Absorption, 24 hrs	ASTM D570	%	0.15	0.15	0.15
Water Absorption, Equilibrium	@ 73°F	%	0.35	0.35	0.35
Mechanical					
Tensile Strength, Yield	ASTM D638	psi	9,500	9,500	9,500
Tensile Modulus	ASTM D638	psi	345,000	345,000	345,000
Flexural Strength	ASTM D790	psi	13,500	13,500	13,500
Flexural Modulus	ASTM D790	psi	345,000	345,000	345,000
Compressive Strength	ASTM D695	psi	12,500	12,500	12,500
Compressive Modulus	ASTM D695	psi	345,000	345,000	345,000
Poisson's Ratio	ASTM E132	-	0.37	0.37	0.37
Izod Impact Strength Notched @ 0.118"	ASTM D256A	ft-lbs/in	12–16	12–16	12–16
Unnotched @ 0.118"			60	60	60
			(no failure)	(no failure)	(no failure)
Shear Strength @ Yield	ASTM D732	psi	6,000	6,000	6,000
Shear Modulus	ASTM D732	psi	114,000	114,000	114,000
Thermal					
Coefficient of Thermal Expansion	ASTM D696	in/in/°F	3.75×10^{-5}	3.75×10^{-5}	3.75×10^{-5}
Coefficient of Thermal Conductivity	ASTM C177	Btu•in/hr•ft2•°F	1.35		1.35
Specific Heat @ 40°C	ASTM C351	BTU/lb-°F	0.30		0.30
Heat Deflection Temperature @ 264 psi	ASTM D648	°F	270	266	270
@ 66 psi			280		280
Brittle Temperature (on resin)	ASTM D746	°F	-211	-211	-211
Flammability					
Horizontal Burn (Flame Spread) AEB	ASTM D635	in	<1		<1
Ignition Temperature, Self		°F	>1000	>1000	>1000
UL Flammability (File # 121562) Add link to	UL94HB	Pass/Fail		>0.236¥	
the UL site	UL94VO	Pass/Fail		>0.059¥	

PRODUCT DATASHEET

LEXAN™ 9034 + 903xxx SHEET

Electrical			
Dielectric Constant @ 60 Hz	ASTM D150	—	3.17
Volume Resistivity	ASTM D257	Ohm-cm	8.2 x 1016
Dissipation Factor (@60 Hz) also known as Power Factor	ASTM D150		0.0009

◆ These typical values are not intended for specification purposes. If minimum certifiable properties are required please contact your local SABIC Innovative Plastics' representative.
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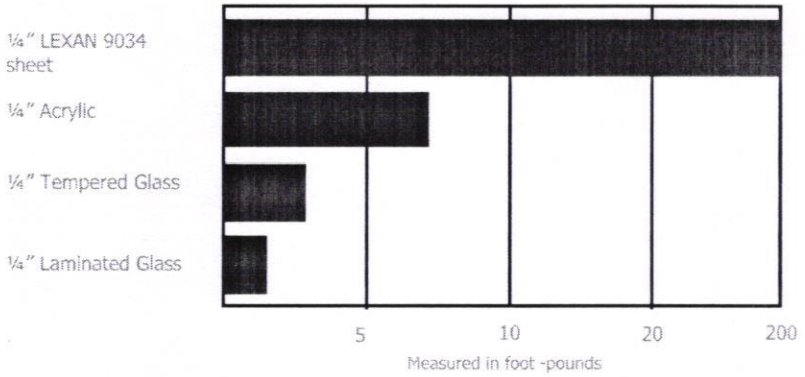
IMPACT RESISTANCE¶



¶) Drop Dart Test with a 5-lb steel dart and a 1" diameter tip.

CHEMICAL RESISTANCE

LEXAN 9034 sheet has sufficient resistance to most mineral oils, greases, aliphatic hydrocarbons and acids under low or moderate stress levels. Specific (application related) testing is always advised, especially in applications where the LEXAN 9034 sheet will come into contact with aggressive chemicals.

PROCESSING

LEXAN 9034 sheet can be used for thermoforming. It offers high, deep draw ratios, equal wall thickness distribution, and it can be formed into complex shapes using standard thermoforming equipment. Sandwich type heating systems give the best results. LEXAN 9034 sheet has a forming temperature range of 350–400°F. When forming, a draft angle of at least 3° should be allowed, and post mold shrinkage of .007–.009 in/in taken into account.

PRE-DRYING

It is important to ensure that LEXAN 9034 sheet is free of moisture prior to thermoforming. A hot air circulating oven set at 250°F is recommended. Pre-drying times vary from 3–24 hours, depending on sheet thickness.

ASSEMBLING / PAINTING

Parts made from LEXAN 9034 sheet can be assembled with plastics, metals, rubber and other materials using many types of adhesive bonding, welding and mechanical fastening techniques. Since some of these materials can cause environmental stress cracking, please consult SABIC Innovative Plastics, for advice on specific applications. A list of approved paint systems and suppliers is available upon request.

PRODUCT DATASHEET

LEXAN™ 9034 + 903xxx SHEET

CODE COMPLIANCE

Underwriters Laboratories — LEXAN 903x Sheet is listed as a Burglary-Resisting Glazing Material according to UL Standard 972.

UL File Number: E121562

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Lexan* Polycarbonate Sheet — Tough Virtually Unbreakable

* Trademark of SABIC Innovative Plastics IP BV

sabic-ip.com/sfs

ARIHANT Arihant panelfittings private limited

Date: -20/02/2021

Customer name: -Technocraft

Invoice number: -2021/04903

Invoice quantity: 500 mtr

TEST REPORT

Product Name	Clip-On Gasket EPDM Top bulb-FD 9925
Material	EPDM
Subject	Product Performance Test

EPDM SPONGE

Sr. No.	Characteristics checked	Standard Followed	Technical Spec. Specification	Technical Spec. Observed
1	Material		EPDM	EPDM
2	Specific Gravity	ISO 2781	0.65 ±0.05	0.66
3	Ozone Resistant's 50 PPHM/40 Degree/2% Strain/ 72 Hrs.	ASTM D- 1149	No Crack	No Crack

EPDM SOLID

1	Material		EPDM	EPDM
2	Hardness (Shore A)	ASTM D- 2240	75 ± 5	70
3	Tensile Strength (Kg/Cm2)	ASTM D- 412	70 Minimum	102.12
4	Elongation @ Break %	ASTM D- 412	250 Minimum	480
5	Heat Ageing Test 70 Degree/70 Hrs.			
	Change in Hardness (Shore A)	ASTM D- 2240	+10/-5	-2
	Change in Tensile Strength (Kg/Cm2)	ASTM D- 412	-25 Maximum	+9.95
	Change in Elongation %	ASTM D- 412	-35 Maximum	-20.83
6	Compression Test at 70 Degree/24 Hrs.	ASTM D-395	50 Maximum	26.55
7	Ozone Resistant's 50 PPHM/40 Degree/2% Strain/ 72 Hrs.	ASTM D- 1149	No Crack	No Crack

Authorized By,
For, Arihant panel fittings private limited

ARIHANT QUALITY DEPARTMENT

Bimal shah– Quality Engineer

TECHNOCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

Sohm Analytical Services (I) Pvt Ltd.
CIN No.: U74900MH2015PTC266186
A-101/121,B-33/35, Amargian Industrial Estate,
Pokharan Road No.1, Opp. S.T. Work Shop,
Khopat, Thane (West) - 400601
Tel No.: + 91 22 2547 1293
Cell No.: + 91 7303790999
Telefax No.: + 91 22 2547 12 95
Email : thane.support@sohmanalytical.com
Web.: www.sohmanalytical.com

Certificate No.
Chem : T-2329
Mech : T-2379

TEST CERTIFICATE

ULR-TC787920000014596F

M/s Shiv Om Fastners
Shop No.9,Matruchaya Co Hsg Soc,Sector 8 A, Airoli Navi Mumbai.
Ref. No.: SOF/20-21/05
Challan Dated: 28-09-2020
Description: Testing of Bolt sample

Lab Ref. No.:U3252
Sample Received on: 29-09-2020
Report Completed on:06-10-2020
Stamped By:
Specification:--IS 1367(PART-3) CLASS 8.8

Size	M12 X 75
Description	ZYP 8.8 BOLT

CHEMICAL ANALYSIS BY SPECTRO (OES) Test Method : ASTM E 415:2017
Eqpt. Sr. No:18006596

Elements	Result	Required Value
% Carbon	0.25	0.25-0.55
% Phosphorus	0.014	0.035 max.
% Sulphur	0.005	0.035 max.

Remarks: THE ABOVE MATERIAL CONFORMS TO IS 1367(PART-3) CLASS 8.8 WITH RESPECT TO ELEMENT ANALYSED

Hardness Test Test Method : IS 1586-1:2012
Eqpt. Sr. No:179-0211 Calibration Date: 10-09-2020 Due On: 09-09-2021

Description	Result	Required Value
Location	Surface	
Hardness In HRC	29,29,30	22-32
Remark	Satisfactory	

----------End of Report----------

FOR SOHM ANALYTICAL SERVICES (I) Pvt Ltd.

Authorised Signatory
O.P. Singh
(HOD Chemical)

Authorised Signatory
Vishal Bhapkar
(Metallurgist)

Checked by

TECHNOCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

Certificate No.
Chem : T-2329
Mech : T-2379

Sohm Analytical Services (I) Pvt Ltd.
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Web.: www.sohmanalytical.com

TEST CERTIFICATE

M/s Shiv Om Fastners
Shop No.9,Matruchaya Co Hsg Soc,Sector 8 A, Airoli Navi Mumbai.
Ref. No.: SOF/20-21/05
Challan Dated: 28-09-2020
Description: Testing of Bolt sample

ULR-TC787920000014602F
Lab Ref. No.:U3253
Sample Received on: 29-09-2020
Report Completed on:06-10-2020
Stamped By:
Specification:IS 1367(PART-3) CLASS 8.8

Size	M10 X 95
Description	ZYP 8.8 BOLT HT

Hardness Test Test Method : IS 1586-1:2012
Eqpt. Sr. No:179-0211 Calibration Date: 10-09-2020 Due On: 09-09-2021

Description	Result	Required Value
Location	Surface	
Hardness In HRC	23,24,24	22-32
Remark	Satisfactory	

----------End of Report----------

FOR SOHM ANALYTICAL SERVICES (I) Pvt Ltd.

Authorised Signatory
Vishal Bhapkar
(Metallurgist)

Checked by

TECHNOCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

Certificate No.
Chem : T-2329
Mech : T-2379

Sohm Analytical

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Web.: www.sohmanalytical.com

TEST CERTIFICATE

ULR-TC787920000014601F
Lab Ref. No.:U3254
Sample Received on: 29-09-2020
Report Completed on:06-10-2020
Stamped By:
Specification:IS 1367(PART-3) CLASS 8.8

M/s Shiv Om Fastners
Shop No.9,Matruchaya Co Hsg Soc,Sector 8 A, Airoli Navi Mumbai.
Ref. No.: SOF/20-21/05
Challan Dated: 28-09-2020
Description: Testing of Bolt sample

Size	M10 X 75
Description	ZYP 8.8 BOLT HT

Hardness Test Test Method : IS 1586-1:2012
Eqpt. Sr. No:179-0211 Calibration Date: 10-09-2020 Due On: 09-09-2021

Description	Result	Required Value
Location	Surface	
Hardness In HRC	24,24,24	22-32
Remark	Satisfactory	

----------End of Report----------

FOR SOHM ANALYTICAL SERVICES (I) Pvt Ltd.

Authorised Signatory
Vishal Bhapkar
(Metallurgist)

Checked by

DCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

Certificate No.
Chem : T-2329
Mech : T-2379

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TEST CERTIFICATE

M/s Shiv Om Fastners
Shop No.9,Matruchaya Co Hsg Soc,Sector 8 A, Airoli Navi Mumbai.
Ref. No.: SOF/20-21/05
Challan Dated: 28-09-2020
Description: Testing of Nut sample

ULR-TC787920000014598F
Lab Ref. No.:U3258
Sample Received on: 29-09-2020
Report Completed on:06-10-2020
Stamped By:
Specification:--

Size	M10
Description	ZYP NUT

Hardness Test Test Method : IS 1501-1:2013
Eqpt. Sr. No:2011/144 Calibration Date: 10-09-2020 Due On: 09-09-2021

Description	Result
Location	Surface
Hardness In Hv-10	202,206,206

----------End of Report----------

FOR SOHM ANALYTICAL SERVICES (I) Pvt Ltd.

Authorised Signatory
Vishal Bhapkar
(Metallurgist)

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REVIEWED

Certificate No.
Chem : T-2329
Mech : T-2379

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TEST CERTIFICATE

ULR-TC787920000014599F

M/s Shiv Om Fastners
Shop No.9,Matruchaya Co Hsg Soc,Sector 8 A, Airoli Navi Mumbai.
Ref. No.: SOF/20-21/05
Challan Dated: 28-09-2020
Description: Testing of Bolt sample

Lab Ref. No.:U3257
Sample Received on: 29-09-2020
Report Completed on:06-10-2020
Stamped By:
Specification:IS 1367(PART-3) CLASS 8.8

Size	M8 X 25
Description	GI 8.8 BOLT

Hardness Test Test Method : IS 1586-1:2012
Eqpt. Sr. No:179-0211 Calibration Date: 10-09-2020 Due On: 09-09-2021

Description	Result	Required Value
Location	Surface	
Hardness In HBW	31,31,30	22-32
Remark	Satisfactory	

----------End of Report----------

FOR SOHM ANALYTICAL SERVICES (I) Pvt Ltd.

Authorised Signatory
Vishal Bhapkar
(Metallurgist)

Checked by

TECHNOCRAFTS SWITCHGEARS PVT. LTD. REVIEWED

Notes:

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