



WARRANTY CERTIFICATE

Date of Issue: 28-06-2023

CLIENT	MODI PROPERTIES PVT. LTD.	
LOCATION	M/S.GV RESEARCH CENTERS PVT. LTD.	
CLIENT PO NO & DATE	94211/206460 dated: 22.11.2022.	
Agreed Warranty Period as per PO	12 months from the date of commissioning or 18 months from the date of dispatch, whichever is earlier.	
Invoice No. & Date	Description of Equipment	Panel Sr. NO.
TS/0700-22-23 16.03.2023	33KV,1250A,25KA/1SEC INDOOR VCB ICOG PANEL	23013603 00/01

The equipment supplied against the above invoice is covered under warranty, for faulty material and/ or workmanship issues, for the above-mentioned period.

Purchaser shall inform the supplier in writing of any defect in equipment noticed during the warranty period.

On receipt of the purchaser's written notice, the supplier shall at his option, replace or repair the faulty equipment free of cost; the Purchaser shall not return the equipment to the supplier before receiving the supplier's confirmation to this effect.

The warranty under this clause is subject to the conditions that the purchaser shall not have subjected the equipment to alteration, addition, or repair by anyone except the supplier or his authorized representative. The following things are not covered under warranty:

- Any physical damage due to transit, maloperation, or miss handling at the site is not covered.
- The consumable or destructive components like Fuses / SPDs are not covered.
- LED indicating lamps, batteries in power supply, etc component which has less design life are not covered.
- Customer is suggested to keep such items as spare in their stock if any are used in the Switchboard.

For **Technocrafts Switchgears Pvt Ltd**

(Authorized Signatory)

Technocrafts Switchgears Pvt. Ltd.

WORKS :

WB-VII, Renaissance Industrial Park, Village - Vashere, Tal: Bhiwandi
District : Thane. Maharashtra 421302.

E-mail : sales@technocrafts.net • Website : www.technocrafts.net

CIN-U29198MH1991PTC060189

HEAD OFFICE : A/1020, Oberoi Garden Estates, Chandivali Farms Road, Chandivali, Mumbai - 72 (INDIA) • Tel.: +91 -22 - 2847 9999 • Fax : +91-22-2847 9988





Date: 28.06.2023

To,

M/S. G V RESEARCH CENTRES PRIVATE LIMITED.
5-4-187/3&4 , II ND FLOOR,
SOHAM MANSION, M G ROAD,
SECUNDARABAD - 500003
CONTACT NO. 9515546784.

KIND ATTENTION – MR. MINISH PARIKH.

Dear Sir,

Sub: Submission of Final documents against Switchgear supplied.

P.O Reference No. 94211/206460 dated: 22.11.2022.

We write with reference to your above subject for the supply of switchgear panels, and are pleased to submit the following documents for your reference.

- | | |
|---|---------------------------|
| 1. Test Certificates of bought out Components | - 01 Sets ORIGINAL |
| 2. Operating Manual (CD) | - 01 Set ORIGINAL |
| 3. Warranty Certificates | - 01 Set ORIGINAL |

Thanking you and assuring best of our services at all the time, we remain.

Yours faithfully,

For **TECHNOCRAFTS SWITCHGEARS PVT LTD.**


(RAMESH S.)

Technocrafts Switchgears Pvt. Ltd.

WORKS :

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ANNEXURE-01

TECHNOCRAFTS JOB ID - 3603

CLIENT: MODI PROPERTIES PVT. LTD.

LOCATION: M/S.GV RESEARCH CENTERS PVT. LTD.

PROJECT: 33KV,1250A,25KA/1SEC INDOOR VCB ICOG PANEL-1SET

PANEL S.NO & TYPE	BREAKER SR NO ABB	MULTIFUNCTION RELAY (SCHNEIDER)	AMMETER (SCHNEIDER) & MULTIFUNCTION METER (SECURE)	TCS & TRIPPING RELAY (GE)	ANNUNCIATOR (ALAN) POWER PACK (TECHNOCRAFTS)	CT (PRAGATI)
PNL NO: 23013603 00/01 OUTGOING PANEL	1VYN020223001081	ME-2022-02-24-0002	AMMETER 54224020433 MFM X1919989	TCS 35557602 TRIPPING RELAY 36174251	ANNUNCIATOR 230117376 POWER PACK P.P.22020499	23/672657 23/672658 23/672659

ROUTINE TEST CERTIFICATE**Purchaser's Name :** TECHNOCRAFTS SWITCHGEARS PVT LTD

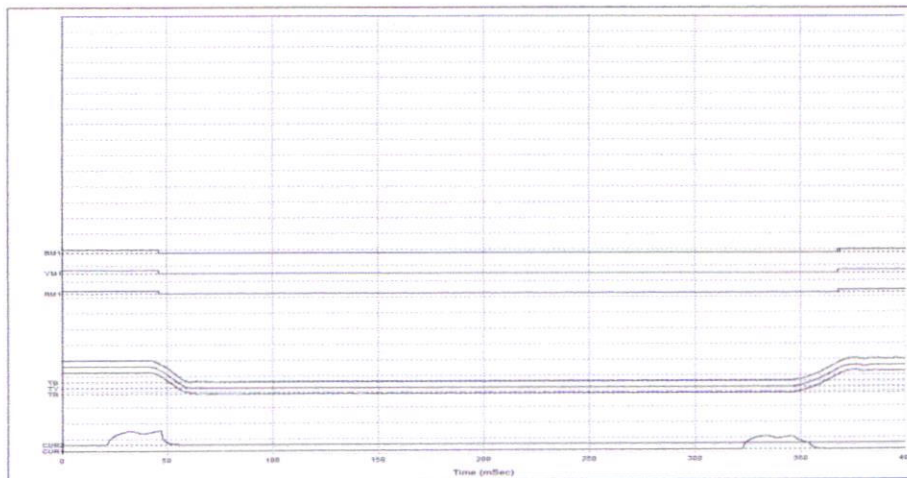
Sale Order No.	4202673983	
Type of Breaker	VD4/W 36.12.32	
Serial Number of Breaker	1VYN020223001081	
Rated Voltage	36	kV
Insulation Level	70/170	kV/kVpk
Rated Current	1250	A
Breaking Capacity	31.5	kA
Rated Frequency	50	Hz
Mass	300	Kg
Rated Control Voltage for Trip Coil	110	V DC
Rated Control Voltage for Close Coil	110	V DC
Rated Control Voltage for Motor	230	V AC
Year of Manufacture	2023	

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

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)			
Parameter	R	Y	B	
Open	1.36	1.38	1.37	
Close	1.14	1.15	1.16	

1.7.3	Operating time (ms)			
Pole	R	Y	B	
Open	45.9	46.1	46	
Close	68	67.8	67.6	

1.7.4	Travel (mm)	R	Y	B
Total Travel		21.43	21.3	21.3
Max. Over Travel on Opening		19.02	18.29	18.61
Max. Over Travel on Closing		4.7	4.45	4.69
Max. Bounce on Opening		0.24	0.17	0.14
Contact Spring Travel		3.63	3.66	3.73

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

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

Quality Control Dept.

Digitally signed by ABB
Date: 2023.02.21 13:43:27 +05:30
Location: Nashik

Testing Engineer
ABB India Limited
Nasik, INDIA

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

INBT-007



TEST AND CALIBRATION CERTIFICATE

Model Name : DM3110

Calibration Date : 27-Sep-2022

Meter SI. No : 54224020433

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.



Amarnath Kesare
Plant Director

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

Schneider Electric India Pvt Ltd

www.se.com

SYSTEM GENERATED DOCUMENT ,DOES NOT REQUIRE SIGNATURES

METER TEST CERTIFICATE



Serial number : X1919989

Accuracy Class : 0.5s Ref. Standard : IEC:62053-22

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

6(a) Conditions-Vref = 57.7-240V Ib = 1-5A Amb. Temp. = 23°C +/- 2°C Relative Humidity < 70%.

6(b) Errors shown in the tables are given after accounting the error of reference meter.

6(c) Reference meter serial no. MSTR0013 class 0.2S traceable to national standards.

6(d) Errors shown in the tables are taken at Ib = 1A(100%)

IMPORT MODE ERRORS

%Active Errors(Balance Mode)

Load % Ib	0.5 Lag	0.8 Lead	UPF
1000	0.02	0.00	0.02
100	-0.03	-0.05	-0.04
10	0.11	0.03	0.01
5			-0.02
2	0.02	-0.07	
1			-0.01

%Reactive Errors(Balance Mode)

Load % Ib	0.5 Lag	0.8 Lead
1000	0.02	0.02
100	-0.04	-0.10
10	0.09	0.17

EXPORT MODE ERRORS

%Active Errors(Balance Mode)

Load % Ib	0.5 Lag	0.8 Lead	UPF
1000	0.00	0.01	0.02
100	0.00	-0.06	-0.04
10	0.12	0.04	0.03
5			0.03
2	0.18	0.05	
1			0.20

Date :- 23/12/2022

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

p: +91 1792 255591
f: +91 1792 255593
e: unit2@securemeters.com

Regd. & Head Office
"E" Class
Pratapnagar Industrial Area
Udaipur 313 003, India
CIN No: U74899RJ1987PLC029106

p: +91 294 2492300-305
f: +91 294 2492310
e: mktg@securemeters.com
www.securemeters.com

CERTIFICATE OF CONFORMITY AND TESTS

Manufacturer:

Schneider Electric India Pvt Ltd.

#12A, Attibele Industrial Area, Hosur Main Road,
Neralur P.O., Bangalore- 562 107, Karnataka, India



The equipment detailed below has been manufactured, inspected and tested in accordance with a quality system certified to the requirements of ISO 9001: 2015

Item code: **REL15012D**

Family Name: Easergy P1

Product Name: Protection Relay P1F

Manufacturing date: 2022-02-24

Serial number: ME-2022-02-24-0002

Model

Model A

V_x=24-60V AC / 24-60V DC

I_n=1A/5A (0,1I_n-40I_n)

I_{on}=1A/5A (0,05I_{on}-12I_{on})

Test summary:

1. Insulation Test

- 1.1. 3,11kV DC; 1s-Between each independent circuits

2. Functional Test

- 2.1. Power Supply Test
- 2.2. Checking For Errors
- 2.3. Front Panel Test
- 2.4. Front Panel Switch Test
- 2.5. Output Contacts Test
- 2.6. Current Accuracy Test
- 2.7. Input Test (if exists)
- 2.8. Communication Test (if exists)

Test results:

Passed

Passed

Passed

Passed

Passed

Passed

Passed

Passed

Passed



H.A. RELAY TEST SHEET

Model No. <u>VAJH13YF 0001 BBA</u>	Order No. <u>11029711</u>	Serial No. <u>36174251</u>
Order Qty. <u>40</u>	Rating <u>24V DC</u> (LNV/HNV)*	Wiring Diagram <u>D1VAJH13YF 002</u>

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 } Limit: 120 thou min
and lower long contact Checked OK ☒

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
<u>—</u>	<u>—</u>	<u>6.9V</u>	<u>—</u>	<u>—</u>

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: C. Ashvini

Date : 7.9.22.

T&D

Test Results VAX 21,31



Model No.:	VAX31ZG0250BA	Rating :	24-26/48-50V DC	Serial No.:	35557602
Order No.:	10982387	Date:	06/01/2022	Wiring Diagram No. :	01VAX31ZG001

Test Instruction Z7MVAX21/31

1. Di-Electric Test

The test voltage must be applied, ramped up and maintained for 1 second 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	Pass/Fail	Pass

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	8.67	15.98
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	7.60	14.07
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	17.18	31.64

Drop-off Voltage:

Operate the relay, Ramp down the voltage from 40% to 25%, measure at drops-off	Pass/Fail	NA	NA
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Operate coil current Test

Apply 120% of H.N.V. to the operating coil and check current for RL2	Measured	137.45	NA
Apply 120% of H.N.V. to the operating coil and check current for RL3	Measured	135.77	NA

Product Specific Tests

Drop-off time (MVAX 21,31)

Apply 80% of LNV to operate the relay and check Drop off time(RL1+RL2)	Measured	NA	434.00
Apply 80% of LNV to operate the relay and check Drop off time(RL1+RL3)	Measured	NA	431.10

Final Checks

Contact Continuity			
Check all contacts N/O and N/C with a 10mA 12V continuity supply.	Pass/Fail	NA	Pass
Flag operation			
Check the flag operation when relay operates.	Pass/Fail	NA	NA

Note:

L.N.V. refers to Lower Nominal Volts, H.N.V refers to Higher
All measured values must be within the limits specified in the Test Specification.

Tester Name 3588

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

**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 230117376 to 17376 | Qty : 1 Nos. |
| 4) Date of Manufacturing | : FEB- 2023 | |
| 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 equipment / equipments 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.

<u>Equipments Used for Testing</u>	<u>Model / Make</u>	<u>Sr.No</u>	<u>Calibration Due</u>
1) Multi meter	RISH MULTI 13S	1673	13.02.2023



Test Certificate For Current Transformer

Work Address : Plot No. B-21, MIDC Indl. Area, Murbad - 421 401 Dist. - Thane

Cus Name : Technocrafts Switchgear Private Limited
PO No. : PO01233369 Dt.06-01-2023
Project : 3603
Spec No : 3603 01
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 : A33197 Item : 1
Drg : PR-6814 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 -		23/672657	23/672658	23/672659												
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.)	P.E. (Min.)
Ratio																
120	1	15	0.8	0.071	4.0	0.095	3.6	0.091	3.4							
100				0.061	4.4	0.085	4.0	0.081	3.8							
20				-0.043	7.4	-0.015	6.8	-0.026	6.8							
5				-0.220	10.2	-0.187	9.5	-0.204	9.8							
120		3.75	1	0.370	5.2	0.377	4.8	0.372	4.8							
100				0.368	5.4	0.375	5.0	0.370	5.0							
20				0.336	7.5	0.344	7.0	0.337	7.1							
5				0.240	11.3	0.250	10.8	0.244	11.1							
Ratio																
100	2	15	0.8	0.650	6.2	0.659	5.5	0.709	4.9							

Composite Error Test

Serial Number	Sec. Wdg. Terminals	Sec. Wdg. Res. at (75°C) (Ohms)	Exciting Current at sec. limiting Voltage (Amp)	Composite Error (%)	PD Test	P.D. Value in pC at (22.86 kV) as per IS 11322/1985
23/672657	2S1-2S2	4.6680	0.0880	0.4400		4
23/672658	2S1-2S2	4.7012	0.0852	0.4261		4
23/672659	2S1-2S2	4.6540	0.0891	0.4453		4

Tested By : Avinash Markad

Checked By : Abdul Majeed

Date : 01-02-2023

Page 1 of 1



CERTIFICATE OF CONFIRMITY

Ref: TSPL/COC-3603-SR

Date: 03-03-2023

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	SWITRON	33kV VCB Panels
2	(T/N/C Switch)	SWITRON	
3	CRM Relay	ABB	
4	MCB	ABB	
5	Indication Lamps	TEKNIC	
6	Push Button	TEKNIC	
7	Terminal	CONNECTWELL	
8	1 Point lock	TSPL	
9	2 Point lock	TSPL	
10	3POINT LOCK	TSPL	
11	5 PIN SOCKET+SWITCHES	PRESSFIT	

For TECHNOCRAFTS SWITCHGEARS PVT. LTD.,

Quality Assurance Engineer

**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

TEST CERTIFICATE FOR EXTRUSION

CUSTOMER	Technocrafts Switchgears Private Limited	TC NO	TCE/21903
ORDER NO	PO06211049B	DATE	17/12/2022
ORDER DATE	30-11-2022	INVOICE NO	2202834
ORDER QUANTITY	53.0	INVOICE DATE	17/12/2022
ALLOY & TEMPER	63401 & WP R1		

S.NO	DRAWING NO / SECTION NO	LENGTH IN MM	QUANTITY.PACKED PCS(KG)
1	FBR-2006170 2006170 Flat Bar 40 X 10 R5	3,660 MM	16 PCS 77.40 KGS

CHEMICAL COMPOSITION(PERCENTAGE)

CAST NO	DESCRIPTION	Si	Mg	Fe	Mn	Cu	Zn	Cr	Ti	Al
8400	Required Values	0.300	0.400	0.000	0.000	0.000	0.000	0.000	0.000	Rem
		0.700	0.900	0.500	0.030	0.050	0.100	0.030	0.100	
	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	12.000	13.770
		0.000		0.000
	Actual Values	18.4	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



AUTHORISED SIGNATURE (QAD)

**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

TEST CERTIFICATE FOR EXTRUSION

CUSTOMER	Technocrafts Switchgears Private Limited	TC NO	TCE/22903
ORDER NO	PO06211049B	DATE	17/01/2023
ORDER DATE	30-12-2022	INVOICE NO	2202834
ORDER QUANTITY	53.0	INVOICE DATE	17/01/2023
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	16 PCS 77.40 KGS

CHEMICAL COMPOSITION(PERCENTAGE)

CAST NO	DESCRIPTION	Si	Mg	Fe	Mn	Cu	Zn	Cr	Ti	Al
8400	Required Values	0.300	0.400	0.000	0.000	0.000	0.000	0.000	0.000	Rem
		0.700	0.900	0.500	0.030	0.050	0.100	0.030	0.100	
	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	12.000	13.770
		0.000		0.000
	Actual Values	18.4	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




AUTHORISED SIGNATURE (QAD)



BHARAT INDUSTRIES

MFG. BRASS & COPPER BUSBAR/ SHEETS OF ALL GRADE

Plot no 46, Ramtekadi Industrial Estate, Hadapsar, Pune - 411013

bharatindustries00@ymail.com

ISO 9001:2015
ID:150001928

MATERIAL TEST CERTIFICATE

P	TECHNOCRAFTS SWITCHGEARS PVT LTD.	TC NO	T/1510/22/23	DATED	19.09.2022
		INVOICE NO	1510	DATED	19.09.2022
			8221632, 9221794, 8221684	DATED	20.08.2022, 02.09.2022, 23.08.2022
		QTY (KGS)	2865.850	COILS/BDLS	56
Address:	BHIWANDI	BATCH NO	27/08/EC/1020/4	DATED	27/08/2022

Specifications ETP GRADE COPPER IS 191 :2007 (PART V)

Material Description: COPPER BUSBAR/ROD/HEXA/SQUARE

Temper: Half Hard in Straight Length

A) Chemical Composition:-

Elements	Cu	Pb	Bi	Other	Remark
Specified	99.90	0.005 max	0.001 max	0.03 max	OK
Observed	99.96	0.0025	0.0012	0.020	OK

B) Dimensional Report :

Dimension ->	50X6		40X10		20X3	
Parameters	Specified	Observed	Specified	Observed	Specified	Observed
Width	50.00	49.96	40.00	39.9	20.00	19.99
Thickness	6.00	6.01	10.00	9.96	3.00	2.98
Radius	FR	FR	FR	FR	R1	R1

C) Mechanical Properties:-

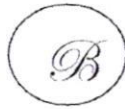
Parameter	Specified	Observed	Specified	Observed	Specified	Observed
Hardness 10HV	75 - 90 HV	89.80	75 - 90 HV	89.50	75 - 90 HV	88.90
Bend Test	OK	OK	OK	OK	OK	OK

D) Electrical Properties:-

Parameter	Specified	Observed	Remark
Conductivity in % IACS	97 min	98.00 - 98.50 %	OK
Visual Remark		OK	

Checked By :- R. GAJENDRA

Authorised Signatory



BHARAT INDUSTRIES

MFG. BRASS & COPPER BUSBAR / SHEETS OF ALL GRADE

Plot no 46, Ramtekadi Industrial Estate, Hadapsar, Pune - 411013

Ph. Telefax: (020) 26811119

bharatindustries00@ymail.com

MATERIAL TEST CERTIFICATE

Customer Name	TECHNOCRAFTS SWITCHGEARS PVT LTD. BHIWANDI	TC NO	T/2312-1/ 21/22	DATED	12.03.2022
		INVOICE NO	2312	DATED	12.03.2022
		PO NO	PO02224366	DATED	18.02.2022
		QUANTITY	3337.850 KGS	NOS	66 BDLS
		BATCH NO	11/03/EC/275/4	DATED	11.03.2022

SPECIFICATION: - ETP GRADE COPPER IS: 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 ->	50X10		60X10		40X10	
	Specified	Observed	Specified	Observed	Specified	Observed
Width	50.00	49.96	60.00	59.98	40.00	39.98
Thickness	10.00	9.98	10.00	10.05	10.00	10.07
Radius	FR	FR	FR	FR	FR	FR

C) Mechanical Properties:-

Parameter	Specified	Observed	Specified	Observed	Specified	Observed
Hardness	70 - 90 HV	89.30	70 - 90 HV	89.10	70 - 90 HV	88.80
Bend Test	OK	OK	OK	OK	OK	OK

D) Electrical Properties :-

Parameter	Specified	Observed	Remark
Conductivity in % IACS	97 min	98.0 - 98.5 %	OK
Visual Remark	OK		

Checked By :- R GAJENDRA

[Signature]
Authorised Signatory

**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/22-23/05201

DATE : 19/11/2022

TEST CERTIFICATE

CUSTOMER NAME : M/s. TECHNOCRAFT SWITCHGEAR PRIVATE LIMITED., BHIWANDI

ITEM DESCRIPTION : 33kV EPOXY INSULATOR WITH MS INSERTS

DRAWING NO. : EPI : B4 : 771 , REV. : 00

PURCHASE ORDER NO. : PO09221999, DATE : 21/09/2022

QUANTITY SUPPLIED : 135 Nos.

OUR CHALLAN NO. : DA/22-23/05201, DATE : 19/11/2022

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	135 Nos.	70 kV for one minute	Withstood	HV Tester
2)	Partial Discharge Test	135 Nos.	At 1.05 Un and 1.05 Un/ $\sqrt{3}$ less than 100 pC and 10 pC	Observe 10-12 pC at 1.05 Un & 4-6 pC at 1.05 Un/ $\sqrt{3}$	HV/PD UNIT
3)	Radiography test (X-Ray)	135 Nos.	Bushings should be free from Cracks, Pin holes, Blow holes.	No cracks, Pin holes, Blow holes observed.	By High resolution X - Ray Machine
4)	Cantilever Withstand Load Test	01 Nos.	850 Kgs	Withstood upto 960 Kgs	UTM
5)	Tensile Withstand Load Test	01 Nos.	3000 Kgs	Withstood upto 3190 Kgs	UTM
6)	Compression Withstand Load Test	01 Nos.	20000 Kgs.	Withstood upto 20160 Kgs	UTM
7)	Creepage Distance	01 Nos.	410 mm	431 mm	By Cello Tape & Ruler Scale
8)	Dimensional checking	08 Nos.	As per Drawing	Dimensions found within tolerances as per drawing.	By Vernier Caliper.
9)	Visual Inspection / Surface Finish	135 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

**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/22-23/04284

DATE : 06/10/2022

TEST CERTIFICATE

CUSTOMER NAME : M/s. TECHNOCRAFT SWITCHGEAR PRIVATE LIMITED., THANE

ITEM DESCRIPTION : Z52 BUSHING WITH GRADING RING

DRAWING NO. : 1YTW573426-100 , REV. : D

PURCHASE ORDER NO. : PO09222050 , DATE : 26/09/2022

ITEM NOTE : With Chocolate Brown Colour

QUANTITY SUPPLIED : 150 Nos.

OUR CHALLAN NO. : DA/22-23/04284 , DATE : 06/10/2022

TESTS : AS PER SPECIFICATION MENTIONED IN DRAWING.

Sr. No.	Description of Tests Carried Out	Qty. Tested	Required Value	Observed Value	Instruments Used For the Tests
1)	Dimensional checking	08 Nos.	As per Drawing	Dimensions found within tolerances as per drawing.	By Vernier Caliper.
2)	Partial Discharge Test	150 Nos.	At 1.05 Un and 1.05 Un/ $\sqrt{3}$ less than 100 pC and 10 pC	Observe 10-12 pC at 1.05 Un & 4-6 pC at 1.05 Un/ $\sqrt{3}$	HV/PD UNIT
3)	Visual Inspection / Surface Finish	150 Nos.	Bushing 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 Bushing.	Visual
4)	Radiography Test	150 Nos.	Bushings should be free from Cracks, Pin holes, Blow holes.	No cracks, Pin holes, Blow holes observed.	By High Resolution X - Ray Machine
5)	Dry Power Frequency Voltage Withstand Test	150 Nos.	70 kV for one minute	Withstood	HV Tester

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

IS 513_PART1



CM/L - 3330339

Date : 06.10.2022
SO No./ Item : 401677656 / 30
Product : CRCA
PO No. : RETAIL PRIME

JSW STEEL LIMITED

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

TEST CERTIFICATE FOR COLD REDUCED LOW CARBON STEEL SHEET & STRIP

(According to EN 10204 Type 3.1)

Test Certificate : CRCA/22-23/0002516231

To M/S. GEETA UDYOG
OFFICE NO. 404 4TH FLOOR
TALOJA - 400009 Region: 13

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: IS513_PART1_2016 CR2																	QTY (MT)										
Heat No.	Coil No.	Nominal Size (MM)					C %	Mn %	S %	P %	Si %	Al %	N %	Y/S (Mpa)	UTS (MPa)	QL (mm)	EL %	Hard (HRB)	Ra µm								
		T	X	W	X	L																					
Mother Coil F108591	M954721000	2 000 X 1500.0 X Coil					0.1200	0.50	0.035	0.040	0.070	0.0070	0.0070	240	370												
							0.0340	0.20	0.006	0.018	0.053	0.0028	228	336	50	45.60	53.0	1.34									
M954720000		Grand Total of Coils/Pkts/Bundles/Slab																	1								
Total Weight in Metric Tonnes		26.600																									

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

Delivery ID : 712260798
Invoice No. : 7104889237
GST Invoice No : 22VJ2900293789
Mode of Transport : Rail
Vehicle No. :
LC No. :

Legends:
Chemistry = Laddie 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 :



L. G. Naik
(L. G. Naik)
Authorised Signatory
For

IS 513_PART1



CM/L - 3330339

Date : 06.10.2022
 SO No./ Item : 401677077 / 10
 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.

J-1254

JSW STEEL LIMITED

Vijayanagar Works, PO- Vidyannagar, Village-Toranagalli, Dist: Bellary, Karnataka-563275, INDIA
 Regd. Office: JSW Centre, Bandra Kurla Complex, Bandra (East), Mumbai - 400 051

TEST CERTIFICATE FOR COLD REDUCED LOW CARBON STEEL SHEET & STRIP

(According to EN 10204 Type 3.1)

Test Certificate : CRCA/22-23/0002515954

To M/S. GEETA UDYOG
 OFFICE NO. 404 4TH FLOOR
 TALOJA - 400009 Region: 13

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: IS513_PART1_2016 CR2																
QTY (MT)				C %	Mn %	S %	P %	SI %	Al %	N %	YS (MPa)	UTS (MPa)	QL (mm)	EL%	Hard (HRB)	Ra µm
Min				0.020												
Max				0.1200	0.50	0.035	0.040	0.070	0.0120	240	370	50	31.00	0.70	1.60	
21.695				0.0400	0.27	0.007	0.014	0.007	0.049	0.0028	198	315	50	47.90	43.8	1.02
Grand Total of Coils/Pkt/Bundles/Slab				1												

Total Weight in Metric Tonnes																
21.695																

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

Chemistry = Ladle 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

Legends:

Delivery ID : 712259677
 Invoice No : 7104887755
 GST Invoice No : 22VJ2900292788
 Mode of Transport : Rail
 Vehicle No. :
 LC No. :

Remarks :



Authorised Signatory

For



JSW STEEL LIMITED

Vijayanagar Works, PO- Vidyanagar, Village-Toranagallu, Dist: Bellary Karnataka-583276, INDIA
Regd. Office: JSW Centre, Bandra Kurla Complex, Bandra (East), Mumbai - 400 051



TEST CERTIFICATE FOR COLD REDUCED LOW CARBON STEEL SHEET & STRIP

Test Certificate : CRCA/21-22/000030422

Date : 19.01.2022
SO No./ Item : 401499238 / 30
Product : CRCA
PO No : NAVKAR YARD STK 17.01

It is certified that the material described below fully conforms to IS 513, PART 1. 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. CML - 3330339 are as indicated below against each order No. Etc.
(PLEASE REFER TO IS 513, PART 1 FOR DETAILS OF SPECIFICATION REQUIREMENTS)

95/341

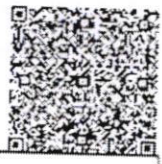
Specification: IS 513 PART1_2018 CR2																							
Cast / Heat No. Mother Coil		Coil Number	Nominal Size (MM)					QTY (MT)	TEST RESULTS														
			T	X	W	X	L		Min	Max	C %	Mn %	S %	P %	Si %	Al %	N %	YS (MPa)	UTS (MPa)	QL (mm)	EL %	Hard (HRC)	Ra µm

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 conforms to Standard Rolling, Dimensional & Weight tolerances. The product or packing material does not contain any hazardous substances as per RoHS norms.

Delivery ID : 711025625
Invoice No. : 0091135282
Mode of : Normal Trailer
Vehicle No. : MH06AC2896

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

Remarks :



L. G. Naidu
U. G. Naidu
Authorised Signatory
For JSW Steel Ltd



Date:10/01/2023

Customer name: -Technocraft

Invoicenumber:-2023/052385238

Invoice quantity: -500 Mtr

TEST REPORT

Product Name		CLIP-ON GASKET EPDM SIDE BIG FD 9931-1		
Material		EPDM		
Remarks				
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 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 50 PPHM/40 Degree/2% Strain/ 72 Hrs.	ASTM D- 1149	No Crack	No Crack
Authorized By, For, Arihant panel fittings private limited				
				
Bimal shah- Quality Engineer				

Certificate of Analysis

Certificate Type:

Insp. certificate "3.1" EN
10204

Date printed: JUL/19/2022

سابك
sabic

Pranav Engineering Works
Praveen Dattatrya Burkule
All floors, L-05, MIDC
Opp Glaxo, Nashik,
Maharashtra
422010
Maharashtra
India

Shipped from details:

C/O AVVASHYA CCI LOGISTICS PVT LTD
SABIC INNOVATIVE PLASTICS INDIA PVT
Patel W/h, Shed 1-B, Block/Sur 667
387120
Vill Hariyala, Dist. Kheda
India

Material Number	22050516
Material Description	9030P-112-3.000-2050.0-3050-000
Material Group	LEXAN™ sheet
Batch Number	0024084764
Manufacturing Plant	Vadodara
Manufacturing Date	JUN/03/2022
Sales Order	4192832
Delivery	805086506
Customer PO Number	PEW-140722-10/Sabic

Characteristic	Unit	Value	Lower Limit	Upper Limit	Inspection method
GAUGE IN MM	mm	2.940	2.850	3.150	SABIC
TRANSMITTANCE	%	88.77	82.00		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.

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[Signature]
21/07/22

QC APPROVED

TEST REPORT

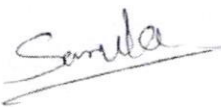
Customer Name: Arihant Enterprise

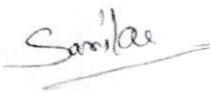
Contract No.: 20130529

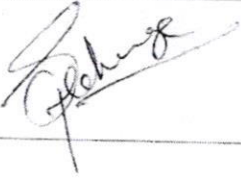
Product Name: HBT (MEDIUM WALL HALOGEN FREE BUSBAR INSULATION HEAT SHRINKABLE TUBING)

Test item	Test Method	Typical data
Operating temperature	UL 224	-55℃to+105℃
Tensile strength	ASTM D 2671	≥11.8Mpa
Elongation at break	ASTM D 2671	≥700%
Longitudinal shrinkage	ASTM D 2671	0 to -10%
Heat aging Tensile strength Ultimate elongation	120℃, 168hrs	≥10Mpa ≥500%
Dielectric strength	IEC 243	≥20kv/mm
Dielectric constant	IEC 250	3.0(max.)
Volume resistance	IEC 93	≥10 ¹³ Ω.cm
Cold bend (-40℃/4hrs.)	ASTM D 2671	No cracking,
Copper corrosion (120℃/168hrs.)	ASTM D 2671	No corrosion
Flammability(Oxygen Index)	IEC 4589	≥25
Water absorption (23℃/14days)	ISO 62	<0.5%
Check Result: Pass ☒ Reject ☐		
Inspected by: Lu Jun	Approved by: Zhou Liping 2) 品管部	



T. C. No.:	Apt Controls & Appliances Pvt. Ltd. Building 'I' Gala No. 120 / 121, Udyog Vihar Industrial Estate, Vithalwadi (West)-421003 Dist. Thane, Maharashtra Tel: +91 8657443192 URL: www.apr-controls.com Email: info@apr-controls.com			
PSH/21-22 0003				
Date				
02/04/2022	(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		PO02224294 Dated: 14-Feb-22		
Customer's Item No		-----		
Tax Invoice No. & Date		APT/0002/22-23 Dated: 02/04/2022		
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 $\pm 5\%$ 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		Approved by		

T. C. No.:	Apt Controls & Appliances Pvt. Ltd. Building 'I' Gala No. 120 / 121, Udyog Vihar Industrial Estate, Vithalwadi (West)-421003 Dist. Thane, Maharashtra Tel: +91 8657443192 URL: www.apr-controls.com Email: info@apr-controls.com			
PSH/21-22 0002				
Date				
02/04/2022	(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		PO02224294 Dated: 14-Feb-22		
Customer's Item No		-----		
Tax Invoice No. & Date		APT/0002/22-23 Dated: 02/04/2022		
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 $\pm 5\%$ 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		Approved by		

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.appt-controls.com Email: info@apt-controls.com			
PSH/21-22 0735				
Date				
25/05/2021	TEST CERTIFICATE (FOR PANEL SPACE HEATER)			
Product Specification		Panel Space Heater, Mk II A, 030 W, 240 V, BE.		
Certificate issued to		Technocrafts Switchgears Pvt. Ltd..		
P.O. No. & Date		PO 07211145, PO07211309 Date: 5-JULY-2021, 17 JULY-2021		
Customer's Item No				
Tax Invoice No. & Date		APT/0491/21-22 Dated 02/08/2021		
Quantity		150 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 $\pm 5\%$ 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		Approved by		
				

Customer : TECHNOCRAFTS SWITCHGEARS PVT LTD.	Item No. & Desc : BN3190102---1c x 2.50sqmm PVC nor 1100v BC
OA No. : SO2223/02127	Y IS Cu Black✓
PO No. : PO10222194	Invoice Qty : 3000 m
Invoice No. : MI2223/04198	Lot Qty : 12500 m
	Lot No. : J2210-0487#01
	Lot Ref. No. :

#	Test Parameter	Specification	Lower Limit	Upper Limit	Instrument	Observation					Visual Inspection	Remarks
						1	2	3	4	5		
N.A												
1	A-Compliance /ref Standard	IS 694 (2010)	0	1	..	Ok	Ok	Ok	Ok	Ok		
2	A1: Category/Code	70°C (01 CATEGORY) ROHS	0	1	..	Ok	Ok	Ok	Ok	Ok		
3	B- Insulation-color	Black	0	1	..	Ok	Ok	Ok	Ok	Ok		
4	C- Overall Diameter	3.40	3	4.1	Vernier Caliper	3.4	3.4	3.42	3.44	Ok		
5	D- Insulation-Material	Type D PVC	0	1	..	Ok	Ok	Ok	Ok	Ok		
6	E1- Insulation Thickness-Average	0.70	0.53	0.9	Microscope	0.85	0.84	0.85	0.86	Ok		
7	E2- Insulation-Thickness-Min.	0.53	0.53	0.75	Microscope	0.74	0.75	0.75	0.74	Ok		
8	F- Conductor-Material	ABC-cu	0	1	..	Ok	Ok	Ok	Ok	Ok		
9	G- Conductor-class	class-5	0	1	..	Ok	Ok	Ok	Ok	Ok		
10	H- Conductor-No. of strands	50	50	50	..	50	50	50	50	Ok		
11	I- Conductor-Individual Cu wire Size	0.25	0.22	0.26	Micrometer	0.25	0.25	0.25	0.25	Ok		
12	J- Conductor-DC Resistance at 20°C	7.98	7.4	7.98	Micro ohm meter	7.85	7.86	7.85	7.88	Ok		
13	J- Insulation resistance constant- 27°C	36.7	3.67	500	Million megaohm meter	312	330	335	318	Ok		
14	K- High Voltage Test-AC- Routine	3kv ac- 5minute-no breakdown	0	1	HVAC test set	Ok	Ok	Ok	Ok	Ok		
15	K1- HV Spark Test	6	6	6	HV Spark Tester	6	6	6	6	Ok		
16	M1- Insulation- Tensile Strength unaged	14.0	12.5	20	Tensile Tester	15.62	15.8	15.45	15.72	Ok		
17	M2- Insulation- % Elongation at break	200	150	350	Tensile tester	250	255	250	255	Ok		
18	N1- Flammability Test: unburnt length from top clamp	300	50	475	Flame app & scale	335	335	330	335	Ok		
19	N2- Flammability Test- Burning time after flame Removal	60	0	60	timer	0	0	0	0	Ok		
20	P- Marking, Print legibility & Durability	Ok	0	1	cloth soaked in water	Ok	Ok	Ok	Ok	Ok		

Remarks :

For Rolliflex Cables Private Limited

Authorised Signatory

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Customer : TECHNOCRAFTS SWITCHGEARS PVT LTD.	Item No. & Desc : BN3180103---1c x 1.50sqmm PVC nor 1100v BC
OA No. : SO2223/02127	Y IS Cu Red
PO No. : PO10222194	Invoice Qty : 3000 m
Invoice No. : MI2223/04198	Lot Qty : 1200 m
	Lot No. : J2211-0040#01
	Lot Ref. No. :

#	Test Parameter	Specification	Lower Limit	Upper Limit	Instrument	Observation					Visual Inspection	Remarks
						1	2	3	4	5		
N.A												
1	A-Compliance /ref Standard	IS 694 (2010)	0	1	..	Ok	Ok				Ok	
2	A1: Category/Code	70°C (01 CATEGORY) ROHS	0	1	..	Ok	Ok				Ok	
3	B- Insulation-color	Red	0	1	..	Ok	Ok				Ok	
4	C- Overall Diameter	2.7	2.5	3.4	Vernier Caliper	2.72	2.74				Ok	
5	D- Insulation-Material	Type D PVC	0	1	..	Ok	Ok				Ok	
6	E1- Insulation Thickness-Average	0.60	0.6	0.84	Microscope	0.74	0.75				Ok	
7	F- Conductor-Material	ABC-cu	0	1	..	Ok	Ok				Ok	
8	G- Conductor-class	class-5	0	1	..	Ok	Ok				Ok	
9	H- Conductor-No. of strands	30	30	30	..	30	30				Ok	
10	I- Conductor-Individual Cu wire Size	0.25	0.22	0.26	Micrometer	0.25	0.25				Ok	
11	Insulation-Thickness-Min.	0.44	0.44	0.7	Micrometer	0.65	0.66				Ok	
12	J- Conductor-DC Resistance at 20°C	13.3	12	13.3	Micro ohm meter	13.12	13.15				Ok	
13	J- Insulation resistance constant- 27°C	36.7	3.67	500	Million megaohm meter	312	320				Ok	
14	K- High Voltage Test-AC- Routine	3kv ac- 5minute-no breakdown	0	1	HVAC test set	Ok	Ok				Ok	
15	K1- HV Spark Test	6	6	6	HV Spark Tester	6	6				Ok	
16	M1- Insulation- Tensile Strength unaged	14.0	12.5	20	Tensile Tester	15.48	15.6				Ok	
17	M2- Insulation- % Elongation at break	200	150	350	Tensile tester	255	255				Ok	
18	Marking, Print legibility & Durability	Ok	0	1	cloth soaked in water	Ok	Ok				Ok	
19	N1- Flammability Test: unburnt length from top clamp	300	50	475	Flame app & scale	335	335				Ok	
20	N2- Flammability Test- Burning time after flame Removal	60	0	60	timer	0	0				Ok	

Remarks :

For Rolliflex Cables Private Limited

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Customer : TECHNOCRAFTS SWITCHGEARS PVT LTD.	Item No. & Desc : BN3190103---1c x 2.50sqmm PVC nor 1100v BC
OA No. : SO2223/02127	Y IS Cu Red ✓
PO No. : PO10222194	Invoice Qty : 3000 m
Invoice No. : MI2223/04198	Lot Qty : 2075 m
	Lot No. : J2208-0200#02
	Lot Ref. No. :

#	Test Parameter	Specification	Lower Limit	Upper Limit	Instrument	Observation					Visual Inspection	Remarks
						1	2	3	4	5		
N.A												
1	A-Compliance /ref Standard	IS 694 (2010)	0	1	..	Ok	Ok	Ok			Ok	
2	A1: Category/Code	70°C (01 CATEGORY)	0	1	..	Ok	Ok	Ok			Ok	
3	B- Insulation-color	Red	0	1	..	Ok	Ok	Ok			Ok	
4	C- Overall Diameter	3.4	3	4.1	Vernier Caliper	3.3	3.32	3.34			Ok	
5	D- Insulation-Material	Type D PVC	0	1	..	Ok	Ok	Ok			Ok	
6	E1- Insulation Thickness-Average	0.70	0.53	0.9	Microscope	0.84	0.84	0.85			Ok	
7	E2- Insulation-Thickness-Min.	0.53	0.53	0.75	Microscope	0.72	0.74	0.75			Ok	
8	F- Conductor-Material	ABC-cu	0	1	..	Ok	Ok	Ok			Ok	
9	G- Conductor-class	class-5	0	1	..	Ok	Ok	Ok			Ok	
10	H- Conductor-No. of strands	50	50	50	..	50	50	50			Ok	
11	I- Conductor-Individual Cu wire Size	0.25	0.22	0.26	Micrometer	0.25	0.25	0.25			Ok	
12	J- Conductor-DC Resistance at 20°C	7.98	7.4	7.98	Micro ohm meter	7.86	7.88	7.89			Ok	
13	K- High Voltage Test-AC- Routine	3kv ac-5minute-no breakdown	0	1	HVAC test set	Ok	Ok	Ok			Ok	
14	K1- HV Spark Test	6	6	6	HV Spark Tester	6	6	6			Ok	
15	L- Insulation resistance constant- 27°C	36.7	3.67	500	Million megaohm meter	312	310	318			Ok	
16	M1- Insulation- Tensile Strength unaged	14.0	12.5	20	Tensile Tester	15.62	15.7	15.82			Ok	
17	M2- Insulation- % Elongation at break	200	150	350	Tensile tester	245	250	250			Ok	
18	N1- Flammability Test: unburnt length from top clamp	300	50	475	Flame app & scale	330	330	335			Ok	
19	N2- Flammability Test- Burning time after flame Removal	60	0	60	timer	0	0	0			Ok	
20	O- Marking, Print legibility & Durability	Ok	0	1	cloth soaked in water	Ok	Ok	Ok			Ok	

Remarks :

For Rolliflex Cables Private Limited

Authorised Signatory

Rolliflex Cables Private Limited

SURVEY NO. 1404, NISARG ROYALE INDUSTRIAL PARK,
DAMAN VATAR ROAD, VATAR,
Valsad, Gujarat, 396191
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F:
E: account@rolliflex.in, admin@rolliflex.in, sales@rolliflex.in

SALES TC

TC No. : FI2223/04337
Date : 02/11/2022

Customer : TECHNOCRAFTS SWITCHGEARS PVT LTD.	Item No. & Desc : BN3190102---1c x 2.50sqmm PVC nor 1100v BC
OA No. : SO2223/02127	Y IS Cu Black✓
PO No. : PO10222194	Invoice Qty : 3000 m
Invoice No. : MI2223/04198	Lot Qty : 12500 m
	Lot No. : J2210-0487#01
	Lot Ref. No. :

#	Test Parameter	Specification	Lower Limit	Upper Limit	Instrument	Observation					Visual Inspection	Remarks
						1	2	3	4	5		
N.A												
1	A-Compliance /ref Standard	IS 694 (2010)	0	1	..	Ok	Ok	Ok	Ok	Ok		
2	A1: Category/Code	70°C (01 CATEGORY) ROHS	0	1	..	Ok	Ok	Ok	Ok	Ok		
3	B- Insulation-color	Black	0	1	..	Ok	Ok	Ok	Ok	Ok		
4	C- Overall Diameter	3.40	3	4.1	Vernier Caliper	3.4	3.4	3.42	3.44	Ok		
5	D- Insulation-Material	Type D PVC	0	1	..	Ok	Ok	Ok	Ok	Ok		
6	E1- Insulation Thickness-Average	0.70	0.53	0.9	Microscope	0.85	0.84	0.85	0.86	Ok		
7	E2- Insulation-Thickness-Min.	0.53	0.53	0.75	Microscope	0.74	0.75	0.75	0.74	Ok		
8	F- Conductor-Material	ABC-cu	0	1	..	Ok	Ok	Ok	Ok	Ok		
9	G- Conductor-class	class-5	0	1	..	Ok	Ok	Ok	Ok	Ok		
10	H- Conductor-No. of strands	50	50	50	..	50	50	50	50	Ok		
11	I- Conductor-Individual Cu wire Size	0.25	0.22	0.26	Micrometer	0.25	0.25	0.25	0.25	Ok		
12	J- Conductor-DC Resistance at 20°C	7.98	7.4	7.98	Micro ohm meter	7.85	7.86	7.85	7.88	Ok		
13	J- Insulation resistance constant- 27°C	36.7	3.67	500	Million megaohm meter	312	330	335	318	Ok		
14	K- High Voltage Test-AC- Routine	3kv ac- 5minute-no breakdown	0	1	HVAC test set	Ok	Ok	Ok	Ok	Ok		
15	K1- HV Spark Test	6	6	6	HV Spark Tester	6	6	6	6	Ok		
16	M1- Insulation- Tensile Strength unaged	14.0	12.5	20	Tensile Tester	15.62	15.8	15.45	15.72	Ok		
17	M2- Insulation- % Elongation at break	200	150	350	Tensile tester	250	255	250	255	Ok		
18	N1- Flammability Test: unburnt length from top clamp	300	50	475	Flame app & scale	335	335	330	335	Ok		
19	N2- Flammability Test- Burning time after flame Removal	60	0	60	timer	0	0	0	0	Ok		
20	P- Marking, Print legibility & Durability	Ok	0	1	cloth soaked in water	Ok	Ok	Ok	Ok	Ok		

Remarks :

For Rolliflex Cables Private Limited

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Rolliflex Cables Private Limited

SURVEY NO. 1404, NISARG ROYALE INDUSTRIAL PARK,
DAMAN VATAR ROAD, VATAR,
Valsad, Gujarat, 396191
P: 9082497399
F:
E: account@rolliflex.in, admin@rolliflex.in, sales@rolliflex.in

SALES TC

TC No. : FI2223/04343
Date : 02/11/2022

Customer : TECHNOCRAFTS SWITCHGEARS PVT LTD.	Item No. & Desc : BN3180103---1c x 1.50sqmm PVC nor 1100v BC
OA No. : SO2223/02127	Y IS Cu Red ✓
PO No. : PO10222194	Invoice Qty : 3000 m
Invoice No. : MI2223/04198	Lot Qty : 1200 m
	Lot No. : J2211-0040#01
	Lot Ref. No. :

#	Test Parameter	Specification	Lower Limit	Upper Limit	Instrument	Observation					Visual Inspection	Remarks
N.A												
1	A-Compliance /ref Standard	IS 694 (2010)	0	1	..	Ok	Ok				Ok	
2	A1: Category/Code	70°C (01 CATEGORY) ROHS	0	1	..	Ok	Ok				Ok	
3	B- Insulation-color	Red	0	1	..	Ok	Ok				Ok	
4	C- Overall Diameter	2.7	2.5	3.4	Vernier Caliper	2.72	2.74				Ok	
5	D- Insulation-Material	Type D PVC	0	1	..	Ok	Ok				Ok	
6	E1- Insulation Thickness-Average	0.60	0.6	0.84	Microscope	0.74	0.75				Ok	
7	F- Conductor-Material	ABC-cu	0	1	..	Ok	Ok				Ok	
8	G- Conductor-class	class-5	0	1	..	Ok	Ok				Ok	
9	H- Conductor-No. of strands	30	30	30	..	30	30				Ok	
10	I- Conductor-Individual Cu wire Size	0.25	0.22	0.26	Micrometer	0.25	0.25				Ok	
11	Insulation-Thickness-Min.	0.44	0.44	0.7	Micrometer	0.65	0.66				Ok	
12	J- Conductor-DC Resistance at 20°C	13.3	12	13.3	Micro ohm meter	13.12	13.15				Ok	
13	J- Insulation resistance constant- 27°C	36.7	3.67	500	Million megaohm meter	312	320				Ok	
14	K- High Voltage Test-AC- Routine	3kv ac- 5minute-no breakdown	0	1	HVAC test set	Ok	Ok				Ok	
15	K1- HV Spark Test	6	6	6	HV Spark Tester	6	6				Ok	
16	M1- Insulation- Tensile Strength unaged	14.0	12.5	20	Tensile Tester	15.48	15.6				Ok	
17	M2- Insulation- % Elongation at break	200	150	350	Tensile tester	255	255				Ok	
18	Marking, Print legibility & Durability	Ok	0	1	cloth soaked in water	Ok	Ok				Ok	
19	N1- Flammability Test: unburnt length from top clamp	300	50	475	Flame app & scale	335	335				Ok	
20	N2- Flammability Test- Burning time after flame Removal	60	0	60	timer	0	0				Ok	

Remarks :

For Rolliflex Cables Private Limited

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Customer : TECHNOCRAFTS SWITCHGEARS PVT LTD.	Item No. & Desc : BN3190103---1c x 2.50sqmm PVC nor 1100v BC
OA No. : SO2223/02127	Y IS Cu Red ✓
PO No. : PO10222194	Invoice Qty : 3000 m
Invoice No. : MI2223/04198	Lot Qty : 2075 m
	Lot No. : J2208-0200#02
	Lot Ref. No. :

#	Test Parameter	Specification	Lower Limit	Upper Limit	Instrument	Observation					Visual Inspection	Remarks
						1	2	3	4	5		
N.A												
1	A- Compliance /ref Standard	IS 694 (2010)	0	1	..	Ok	Ok	Ok			Ok	
2	A1: Category/Code	70°C (01 CATEGORY)	0	1	..	Ok	Ok	Ok			Ok	
3	B- Insulation-color	Red	0	1	..	Ok	Ok	Ok			Ok	
4	C- Overall Diameter	3.4	3	4.1	Vernier Caliper	3.3	3.32	3.34			Ok	
5	D- Insulation-Material	Type D PVC	0	1	..	Ok	Ok	Ok			Ok	
6	E1- Insulation Thickness-Average	0.70	0.53	0.9	Microscope	0.84	0.84	0.85			Ok	
7	E2- Insulation-Thickness-Min.	0.53	0.53	0.75	Microscope	0.72	0.74	0.75			Ok	
8	F- Conductor-Material	ABC-cu	0	1	..	Ok	Ok	Ok			Ok	
9	G- Conductor-class	class-5	0	1	..	Ok	Ok	Ok			Ok	
10	H- Conductor-No. of strands	50	50	50	..	50	50	50			Ok	
11	I- Conductor-Individual Cu wire Size	0.25	0.22	0.26	Micrometer	0.25	0.25	0.25			Ok	
12	J- Conductor-DC Resistance at 20°C	7.98	7.4	7.98	Micro ohm meter	7.86	7.88	7.89			Ok	
13	K- High Voltage Test-AC- Routine	3kv ac-5minute-no breakdown	0	1	HVAC test set	Ok	Ok	Ok			Ok	
14	K1- HV Spark Test	6	6	6	HV Spark Tester	6	6	6			Ok	
15	L- Insulation resistance constant- 27°C	36.7	3.67	500	Million megaohm meter	312	310	318			Ok	
16	M1- Insulation- Tensile Strength unaged	14.0	12.5	20	Tensile Tester	15.62	15.7	15.82			Ok	
17	M2- Insulation- % Elongation at break	200	150	350	Tensile tester	245	250	250			Ok	
18	N1- Flammability Test: unburnt length from top clamp	300	50	475	Flame app & scale	330	330	335			Ok	
19	N2- Flammability Test- Burning time after flame Removal	60	0	60	timer	0	0	0			Ok	
20	O- Marking, Print legibility & Durability	Ok	0	1	cloth soaked in water	Ok	Ok	Ok			Ok	

Remarks :

For Rolliflex Cables Private Limited

Authorised Signatory

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Customer : TECHNOCRAFTS SWITCHGEARS PVT LTD.	Item No. & Desc : BN3190104---1c x 2.50sqmm PVC nor 1100v BC
OA No. : SO2223/02127	Y IS Cu Yellow ✓
PO No. : PO10222194	Invoice Qty : 2000 m
Invoice No. : MI2223/04198	Lot Qty : 6000 m
	Lot No. : J2210-0485#01
	Lot Ref. No. :

#	Test Parameter	Specification	Lower Limit	Upper Limit	Instrument	Observation					Visual Inspection	Remarks
						1	2	3	4	5		
N.A												
1	A-Compliance /ref Standard	IS 694 (2010)	0	1	..	Ok	Ok	Ok			Ok	
2	A1: Category/Code	70°C (01 CATEGORY)	0	1	..	Ok	Ok	Ok			Ok	
3	B- Insulation-color	Yellow	0	1	..	Ok	Ok	Ok			Ok	
4	C- Overall Diameter	3.4	3	4.1	Vernier Caliper	3.38	3.4	3.42			Ok	
5	D- Insulation-Material	Type D PVC	0	1	..	Ok	Ok	Ok			Ok	
6	E1- Insulation Thickness-Average	0.70	0.53	0.9	Microscope	0.84	0.85	0.85			Ok	
7	E2- Insulation-Thickness-Min.	0.53	0.53	0.75	Microscope	0.74	0.75	0.74			Ok	
8	F- Conductor-Material	ABC-cu	0	1	..	Ok	Ok	Ok			Ok	
9	G- Conductor-class	class-5	0	1	..	Ok	Ok	Ok			Ok	
10	H- Conductor-No. of strands	50	50	50	..	50	50	50			Ok	
11	I- Conductor-Individual Cu wire Size	0.25	0.22	0.26	Micrometer	0.25	0.25	0.25			Ok	
12	J- Conductor-DC Resistance at 20°C	7.98	7.4	7.98	Micro ohm meter	7.85	7.86	7.88			Ok	
13	K- High Voltage Test-AC- Routine	3kv ac-5minute-no breakdown	0	1	HVAC test set	Ok	Ok	Ok			Ok	
14	K1- HV Spark Test	6	6	6	HV Spark Tester	6	6	6			Ok	
15	L- Insulation resistance constant- 27°C	36.7	3.67	500	Million megaohm meter	325	330	342			Ok	
16	M1- Insulation- Tensile Strength unaged	14.0	12.5	20	Tensile Tester	15.24	15.5	15.65			Ok	
17	M2- Insulation- % Elongation at break	200	150	350	Tensile tester	250	255	255			Ok	
18	N1- Flammability Test: unburnt length from top clamp	300	50	475	Flame app & scale	330	330	335			Ok	
19	N2- Flammability Test- Burning time after flame Removal	60	0	60	timer	0	0	0			Ok	
20	O- Marking, Print legibility & Durability	Ok	0	1	cloth soaked in water	Ok	Ok	Ok			Ok	

Remarks :

For Rolliflex Cables Private Limited

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Customer : TECHNOCRAFTS SWITCHGEARS PVT LTD.	Item No. & Desc : BN3190105---1c x 2.50sqmm PVC nor 1100v BC
OA No. : SO2223/02127	Y IS Cu Blue ✓
PO No. : PO10222194	Invoice Qty : 2000 m
Invoice No. : MI2223/04198	Lot Qty : 5120 m
	Lot No. : J2210-0486#01
	Lot Ref. No. :

#	Test Parameter	Specification	Lower Limit	Upper Limit	Instrument	Observation					Visual Inspection	Remarks
						1	2	3	4	5		
N.A												
1	A-Compliance /ref Standard	IS 694 (2010)	0	1	..	Ok	Ok	Ok			Ok	
2	A1: Category/Code	70°C (01 CATEGORY)	0	1	..	Ok	Ok	Ok			Ok	
3	B- Insulation-color	Blue	0	1	..	Ok	Ok	Ok			Ok	
4	C- Overall Diameter	3.4	3	4.1	Vernier Caliper	3.38	3.4	3.42			Ok	
5	D- Insulation-Material	Type D PVC	0	1	..	Ok	Ok	Ok			Ok	
6	E1- Insulation Thickness-Average	0.70	0.53	0.9	Microscope	0.84	0.85	0.85			Ok	
7	E2- Insulation-Thickness-Min.	0.53	0.53	0.75	Microscope	0.72	0.74	0.75			Ok	
8	F- Conductor-Material	ABC-cu	0	1	..	Ok	Ok	Ok			Ok	
9	G- Conductor-class	class-5	0	1	..	Ok	Ok	Ok			Ok	
10	H- Conductor-No. of strands	50	50	50	..	50	50	50			Ok	
11	I- Conductor-Individual Cu wire Size	0.25	0.22	0.26	Micrometer	0.25	0.25	0.25			Ok	
12	J- Conductor-DC Resistance at 20°C	7.98	7.4	7.98	Micro ohm meter	7.82	7.85	7.86			Ok	
13	K- High Voltage Test-AC- Routine	3kv ac-5minute-no breakdown	0	1	HVAC test set	Ok	Ok	Ok			Ok	
14	K1- HV Spark Test	6	6	6	HV Spark Tester	6	6	6			Ok	
15	L- Insulation resistance constant- 27°C	36.7	3.67	500	Million megaohm meter	330	345	328			Ok	
16	M1- Insulation- Tensile Strength unaged	14.0	12.5	20	Tensile Tester	15.32	15.6	15.48			Ok	
17	M2- Insulation- % Elongation at break	200	150	350	Tensile tester	250	250	255			Ok	
18	N1- Flammability Test: unburnt length from top clamp	300	50	475	Flame app & scale	335	335	330			Ok	
19	N2- Flammability Test- Burning time after flame Removal	60	0	60	timer	0	0	0			Ok	
20	O- Marking, Print legibility & Durability	Ok	0	1	cloth soaked in water	Ok	Ok	Ok			Ok	

Remarks :

For Rolliflex Cables Private Limited

Authorised Signatory

Customer : TECHNOCRAFTS SWITCHGEARS PVT LTD.	Item No. & Desc : BN3180104---1c x 1.50sqmm PVC nor 1100v EC
OA No. : S02223/01789	Y IS Cu Yellow ✓
PO No. : PO09222041	Invoice Qty : 2000 m
Invoice No. : MI2223/03607	Lot Qty : 3010 m
	Lot No. : J2209-0219#01
	Lot Ref. No. :

#	Test Parameter	Specification	Lower Limit	Upper Limit	Instrument	Observation					Visual Inspection	Remarks
						1	2	3	4	5		
N.A												
1	A- Compliance /ref Standard	IS 694 (2010)	0	1	..	Ok	Ok				Ok	
2	A- Compliance /ref Standard	IS 694 (2010)	0	1	..	Ok	Ok				Ok	
3	A1: Category/Code	70°C (01 CATEGORY)	0	1	..	Ok	Ok				Ok	
4	A1: Category/Code	70°C (01 CATEGORY)	0	1	..	Ok	Ok				Ok	
5	B- Insulation color	Yellow	0	1	Visual	Ok	Ok				Ok	
6	B- Insulation color	Yellow	0	1	Visual	Ok	Ok				Ok	
7	C- Overall Diameter	2.90	2.5	3.8	Vernier caliper	2.8	2.78				Ok	
8	C- Overall Diameter	2.90	2.5	3.8	Vernier caliper	2.78	2.8				Ok	
9	D- Insulation Material	Type D PVC	0	1	Visual	Ok	Ok				Ok	
10	D- Insulation Material	Type D PVC	0	1	Visual	Ok	Ok				Ok	
11	E1- Insulation Thickness	0.60	0.44	0.76	Microscope	0.72	0.74				Ok	
12	E1- Insulation Thickness	0.60	0.44	0.76	Microscope	0.73	0.74				Ok	
13	F- Conductor Type	Class 5 ABC	0	1	Visual	Ok	Ok				Ok	
14	F- Conductor Type	Class 5 ABC	0	1	Visual	Ok	Ok				Ok	
15	J- Conductor DC Resistance at 20°C	13.1	12.2	13.3	Microohm meter	13.05	13.08				Ok	
16	J- Conductor DC Resistance at 20°C	13.1	12.2	13.3	Microohm meter	13.05	13.08				Ok	
17	K- High Voltage Test-AC 3kV-5 Minutes	Ok	0	1	HV-AC Test Set	Ok	Ok				Ok	
18	K- High Voltage Test-AC 3kV-5 Minutes	Ok	0	1	HV-AC Test Set	Ok	Ok				Ok	
19	L- Insulation resistance constant-27°C	36.7	3.67	500	Million Megaohm Meter	280	280				Ok	
20	L- Insulation resistance constant-27°C	36.7	3.67	500	Million Megaohm Meter	290	290				Ok	
21	M1- Tensile Strength-Insulation	15.00	10	18	Tensile Tester	15.28	15.27				Ok	
22	M1- Tensile Strength-Insulation	15.00	10	18	Tensile Tester	15.23	15.28				Ok	
23	M2- % Elongation at break-Insulation	200	150	350	Tensile Tester	250	250				Ok	
24	M2- % Elongation at break-Insulation	200	150	350	Tensile Tester	250	250				Ok	
25	N1- Flammability Test: unburnt length from top clamp	300	50	475	Flame Apparatus	335	335				Ok	
26	N1- Flammability Test: unburnt length from top clamp	300	50	475	Flame Apparatus	335	335				Ok	
27	N2- Flammability Test- Burning time after flame Removal	10	0	60	Flame Apparatus	0	0				Ok	
28	N2- Flammability Test- Burning time after flame Removal	10	0	60	Flame Apparatus	0	0				Ok	
29	Z - Heat Shock Test-any cracks?	Ok	0	1	Oven	Ok	Ok				Ok	
30	Z - Heat Shock Test-any cracks?	Ok	0	1	Oven	Ok	Ok				Ok	

Customer : TECHNOCRAFTS SWITCHGEARS PVT LTD.	Item No. & Desc : BN3180105---1c x 1.50sqmm PVC nor 1100v BC
OA No. : SO2223/01789	Y IS Cu Blue ✓
PO No. : PO09222041	Invoice Qty : 2000 m
Invoice No. : MI2223/03607	Lot Qty : 20000 m
	Lot No. : J2208-0213#01
	Lot Ref. No. :

#	Test Parameter	Specification	Lower Limit	Upper Limit	Instrument	Observation					Visual Inspection	Remarks
						1	2	3	4	5		
N.A												
1	% Shrinkage-Insulation	1	0	6	Oven	1	1	1			Ok	
2	After Ageing Elongation at break-Insulation	200	150	300	Tensile tester	240	240	240			Ok	
3	After Ageing Tensile Strength-Insulation	15.0	10	20	Ageing Oven	15.42	15.42	15.42			Ok	
4	Annealing Percentage	20	13.5	32	Tensile tester	22	22	22			Ok	
5	Conductor DC Resistance at 20°C	13.1	12.2	13.3	Microohm meter	13.1	13.12	13.15			Ok	
6	Conductor Type	Class 5 ABC	0	1	Visual	Ok	Ok	Ok			Ok	
7	Diameter over conductor	1.40	1.2	1.9	Micrometer	1.4	1.42	1.42			Ok	
8	Flammability Test- Burning time after flame Removal	10	0	60	Flame Apparatus	0	0	0			Ok	
9	Flammability Test: unburnt length from top clamp	300	50	475	Flame Apparatus	330	330	330			Ok	
10	Heat Shock Test-any cracks?	Ok	0	1	Oven	Ok	Ok	Ok			Ok	
11	High Voltage Test-AC 3kV-5 Minutes	Ok	0	1	HV-AC Test Set	Ok	Ok	Ok			Ok	
12	Hot Deformation (Pressure) Test-% depth of penetration	35	0	50	Oven	32	32	32			Ok	
13	HV Water Immersion Test- AC-6kV-5mint & DC-1.2kV-240Hrs at 60°C	Ok	0	1	HV test Set	Ok	Ok	Ok			Ok	
14	Insulation color	Blue	0	1	Visual	Ok	Ok	Ok			Ok	
15	Insulation Material	Type D PVC	0	1	Visual	Ok	Ok	Ok			Ok	
16	Insulation resistance constant-27°C	36.7	3.67	500	Million Megaohm Meter	320	335	340			Ok	
17	Insulation Thickness	0.60	0.44	0.76	Microscope	0.75	0.76	0.76			Ok	
18	Loss of mass -Insulation	1.0	0	2	Weighing scale	0.92	0.92	0.92			Ok	
19	M2- % Elongation at break-Insulation	200	150	350	Tensile Tester	260	260	265			Ok	
20	Overall Diameter	2.90	2.5	3.8	Vernier caliper	2.82	2.84	2.85			Ok	
21	Tensile Strength-Insulation	15.00	10	18	Tensile Tester	16.2	16.32	16.35			Ok	

Remarks :

For Rolliflex Cables Private Limited

Authorised Signatory

Customer : TECHNOCRAFTS SWITCHGEARS PVT LTD.	Item No. & Desc : BN3180102---1c x 1.50sqmm PVC nor 1100v BC
OA No. : SO2223/01789	Y IS Cu Black ✓
PO No. : PO09222041	Invoice Qty : 9200 m
Invoice No. : MI2223/03607	Lot Qty : 1770 m
	Lot No. : J2209-0218#03
	Lot Ref. No. :

#	Test Parameter	Specification	Lower Limit	Upper Limit	Instrument	Observation					Visual Inspection	Remarks
						1	2	3	4	5		
N.A												
1	A-Compliance /ref Standard	IS 694 (2010)	0	1	..	Ok	Ok				Ok	
2	A1: Category/Code	70°C (01 CATEGORY) ROHS	0	1	..	Ok	Ok				Ok	
3	B- Insulation-color	Black	0	1	..	Ok	Ok				Ok	
4	C- Overall Diameter	2.7	2.5	3.4	Vernier Caliper	2.78	2.75				Ok	
5	D- Insulation-Material	Type D PVC	0	1	..	Ok	Ok				Ok	
6	E1- Insulation Thickness-Average	0.60	0.6	0.84	Microscope	0.74	0.72				Ok	
7	F- Conductor-Material	ABC-cu	0	1	..	Ok	Ok				Ok	
8	G- Conductor-class	class-5	0	1	..	Ok	Ok				Ok	
9	H- Conductor-No. of strands	30	30	30	..	30	30				Ok	
10	I- Conductor-Individual Cu wire Size	0.25	0.22	0.26	Micrometer	0.25	0.25				Ok	
11	Insulation-Thickness-Min.	0.44	0.44	0.7	Micrometer	0.68	0.7				Ok	
12	J- Conductor-DC Resistance at 20°C	13.3	12	13.3	Micro ohm meter	13.1	13.08				Ok	
13	J- Insulation resistance constant- 27°C	36.7	3.67	500	Million megaohm meter	280	280				Ok	
14	K- High Voltage Test-AC- Routine	3kv ac- 5minute-no breakdown	0	1	HiVAC test set	Ok	Ok				Ok	
15	K1- HV Spark Test	6	6	6	HV Spark Tester	6	6				Ok	
16	M1- Insulation- Tensile Strength unaged	14.0	12.5	20	Tensile Tester	15.2	15.24				Ok	
17	M2- Insulation- % Elongation at break	200	150	350	Tensile tester	250	250				Ok	
18	Marking, Print legibility & Durability	Ok	0	1	cloth soaked in water	Ok	Ok				Ok	
19	N1- Flammability Test: unburnt length from top clamp	300	50	475	Flame app & scale	335	335				Ok	
20	N2- Flammability Test- Burning time after flame Removal	60	0	60	timer	0	0				Ok	

Remarks :

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Customer : TECHNOCRAFTS SWITCHGEARS PVT LTD.	Item No. & Desc : BN3180101---1c x 1.50sqmm PVC nor 1100v BC Y 1S Cu L-Grey
OA No. : SO2223/01789	Invoice Qty : 4000 m
PO No. : PO09222041	Lot Qty : 5500 m
Invoice No. : MI2223/03607	Lot No. : J2209-0352#02
	Lot Ref. No. :

#	Test Parameter	Specification	Lower Limit	Upper Limit	Instrument	Observation					Visual Inspection	Remarks
						1	2	3	4	5		
N.A												
1	A-Compliance /ref Standard	IS 694 (2010)	0	1	..	Ok	Ok				Ok	
2	A1: Category/Code	70°C (01 CATEGORY)	0	1	..	Ok	Ok				Ok	
3	B- Insulation-color	Grey	0	1	..	Ok	Ok				Ok	
4	C- Overall Diameter	2.7	2.5	3.4	Vernier Caliper	2.78	2.8				Ok	
5	D- Insulation-Material	Type D PVC	0	1	..	Ok	Ok				Ok	
6	E1- Insulation Thickness-Average	0.60	0.6	0.84	Microscope	0.78	0.8				Ok	
7	E2- Insulation-Thickness-Min.	0.44	0.44	0.7	Micrometer	0.68	0.68				Ok	
8	F- Conductor-Material	ABC-cu	0	1	..	Ok	Ok				Ok	
9	G- Conductor-class	class-5	0	1	..	Ok	Ok				Ok	
10	H- Conductor-No. of strands	30	30	30	..	30	30				Ok	
11	I- Conductor-Individual Cu wire Size	0.25	0.22	0.26	Micrometer	0.25	0.25				Ok	
12	J- Conductor-DC Resistance at 20°C	13.3	12	13.3	Micro ohm meter	13.1	13.12				Ok	
13	K- High Voltage Test-AC- Routine	3kv ac-5minute-no breakdown	0	1	HVAC test set	Ok	Ok				Ok	
14	K1- HV Spark Test	6	6	6	HV Spark tester	6	6				Ok	
15	L- Insulation resistance constant- 27°C	36.7	3.67	500	Million megaohm meter	330	335				Ok	
16	M2- Insulation- % Elongation at break	200	150	350	Tensile tester	250	250				Ok	
17	M2- Insulation- Tensile Strength unaged	14.0	12.5	20	Tensile Tester	15.25	15.4				Ok	
18	N1- Flammability Test: unburnt length from top clamp	300	50	475	Flame app & scale	335	335				Ok	
19	N2- Flammability Test- Burning time after flame Removal	60	0	60	timer	0	0				Ok	
20	O- Marking, Print legibility & Durability	Ok	0	1	cloth soaked in water	Ok	Ok				Ok	

Remarks :

For Rolliflex Cables Private Limited

Authorised Signatory

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Laboratory Test Plan cum Final Product Report

Part Description	M10 X 15 HHS	FINISH	WHITE	LIR No.	SOF/21-22/88/B112
Customer	TECHNOCRAFTS SWITCHGEAR PVT.LTD.	INVOICE NO	CM3760	Product Grade	8.8
Invoice Date	18/01/2022	QTY.	3000 NOS	Batch Size	10000
Part Code					

A.Chemical Analysis

Parameter	C%		Mn%		Si%		P%		S%		Cr%		B%	
	Min	Max.	Min	Max.	Min	Max.	Min	Max.	Min.	Max.	Min.	Max.	Min.	Max.
Specified	0.18	0.28	0.90	1.20	0.000	0.35	0.000	0.25	0.00	0.025	---	----	0.000	0.003
observation	0.25		1.159		0.167		0.009		0.017		-----		0.001	

B.Mechanical testing

Nature of Test	Evaluation/Measurement Technique	Specified	Observation	Remarks
Core Hardness	Hardness Tester	23 - 34 HRC	24-25 HRC	ACCEPTED
S/F Hardness	Hardness Tester	Max(CORE+30)HV0.3	275 - 281 HV0.3	ACCEPTED

C. Surface Treatment Evaluation

Nature of Test+A37	Evaluation/Measurement Technique	Specified	Observation	Remarks
Surface Coating	Visual	WHITE	WHITE	ACCEPTED
Coating Thickness in μ m	Coating Thickness Gauge	8 - 10 MICRON	8 MICRON	ACCEPTED

D.Final Remarks :

ACCEPTED ☒ REJECTED ☐ REWORKED ☐ ACCEPTED U/D ☐

Pratik

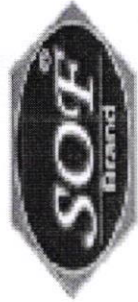
Shinde



Evaluated by
ROHIT CHAUDHARY

Checked by
SNEHA SHINDE

Approved by
SHIV OM FASTNERS



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Laboratory Test Plan cum Final Product Report

Part Description	M10 X 20 HHS	FINISH	WHITE	LIR No.	SOF/21-22/88/B113
Customer	TECHNOCRAFTS SWITCHGEAR PVT.LTD.	INVOICE NO	CM3760	Product Grade	8.8
Invoice Date	18/01/2022	QTY.	3000 NOS	Batch Size	10000
Part Code					

A.Chemical Analysis

Parameter	C%		Mn%		Si%		P%		S%		Cr%		B%	
	Min	Max.	Min	Max.	Min	Max.	Min	Max.	Min.	Max.	Min.	Max.	Min.	Max.
Specified	0.18	0.28	0.90	1.20	0.000	0.35	0.000	0.25	0.00	0.025	---	----	0.000	0.003
observation	0.25		1.159		0.167		0.009		0.017		-----		0.001	

B.Mechanical testing

Nature of Test	Evaluation/Measurement Technique	Specified	Observation	Remarks
Core Hardness	Hardness Tester	23 - 34 HRC	24-25 HRC	ACCEPTED
S/F Hardness	Hardness Tester	Max(CORE+30)HV0.3	275 - 281 HV0.3	ACCEPTED

C. Surface Treatment Evaluation

Nature of Test+A37	Evaluation/Measurement Technique	Specified	Observation	Remarks
Surface Coating	Visual	WHITE	WHITE	ACCEPTED
Coating Thickness in μ m	Coating Thickness Gauge	8 - 10 MICRON	8 MICRON	ACCEPTED

D.Final Remarks :

ACCEPTED	✓	REJECTED	REWORKED	ACCEPTED U/D
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Evaluated by ROHIT CHAUDHARY	Checked by SNEHA SHINDE	Approved by SHIV OM FASTNERS



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Laboratory Test Plan cum Final Product Report

DESCRIPTION	M12 NUT	FINISH	WHITE	LIR No.	SOF/21 - 22/88/N069
PARTY	TECHNOCRAFTS SWITCHGEAR PVT.LTD.	INVOICE NO	CM3723	Product Grade	8
DATE	27/01/2022	QTY.	3000 NOS	Batch Size	100000
PART CODE					
A.Chemical Analysis					
Parameter	C%	Mn %	Si %	P %	S %
	Min Max.	Min Max.	Min Max.	Min Max.	Min Max.
Specified	0.08 0.13	0.30 0.60	0.000 0.35	0.000 0.05	0.00 0.06
observation	0.115	0.425	0.077	0.011	0.013
Remarks : CHEMISTRY VERIFIED AND ACCEPTED					
B.Mechanical testing					
Nature of Test	Evaluation/Measurement Technique			Specified	Observation
CORE HARDNESS	Hardness Tester			200~302 HV0.3	222-338HV
PROOF LOAD	UTM			MIN870 N/mm2	applied load up to 880 N/mm2 &
C. Surface Treatment Evaluation					
Nature of Test	Evaluation/Measurement Technique			Specified	Observation
Surface Coating	Visual			WHITE	WHITE
Coating Thickness in μ m	Coating Thickness Gauge			8 - 10 MICRON	8 MICRON
D.Final Remarks :					
ACCEPTED ☒	REJECTED	REWORKED	ACCEPTED U/D		
CDR NO. (IF ACCEPTED U/D)					
ROHIT CHAUDHARY		SNEHA SHINDE		SHIV OM FASTNERS	





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Laboratory Test Plan cum Final Product Report

DESCRIPTION	M8 NUT	FINISH	WHITE	LIR No.	SOF/21 - 22/88/N070
PARTY	TECHNOCRAFTS SWITCHGEAR PVT.LTD.	INVOICE NO	CM3753	Product Grade	8
DATE	27/01/2022	QTY.	15000 NOS	Batch Size	100000
PART CODE					

A. Chemical Analysis

Parameter	C %		Mn %		Si %		P %		S %	
	Min	Max.	Min	Max.	Min	Max.	Min	Max.	Min.	Max.
Specified	0.08	0.13	0.30	0.60	0.000	0.35	0.000	0.05	0.00	0.06
observation	0.113		0.425		0.075		0.040		0.013	

Remarks : CHEMISTRY VERIFIED AND ACCEPTED

B. Mechanical testing

Nature of Test	Evaluation/Measurement Technique	Specified	Observation	Remarks
CORE HARDNESS	Hardness Tester	200~302 HV0.3	222-338HV	ACCEPTED
PROOF LOAD	UTM	MIN870 N/mm2	applied load up to 880 N/mm2 &	ACCEPTED

C. Surface Treatment Evaluation.

Nature of Test	Evaluation/Measurement Technique	Specified	Observation	Remarks
Surface Coating	Visual	WHITE	WHITE	ACCEPTED
Coating Thickness in μ m	Coating Thickness Gauge	8 - 10 MICRON	8 MICRON	ACCEPTED

D. Final Remarks :

ACCEPTED ☒	REJECTED ☐	REWORKED ☐	ACCEPTED U/D ☐	CDR NO. (IF ACCEPTED U/D)
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Evaluated by ROHIT CHAUDHARY	Checked by SNEHA SHINDE	Approved by SHIV OM FASTNERS



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Laboratory Test Plan cum Final Product Report

Part Description	M8 X 20 HHS	FINISH	WHITE	LIR No.	SOF/21-22/88/B114
Customer	TECHNOCRAFTS SWITCHGEAR PVT.LTD.	INVOICE NO	CM3723	Product Grade	8.8
Invoice Date	14/01/2022	QTY.	5000 NOS	Batch Size	10000
Part Code					

A.Chemical Analysis

Parameter	C%		Mn%		Si%		P%		S%		Cr%		B%	
	Min	Max.	Min	Max.	Min	Max.	Min	Max.	Min.	Max.	Min.	Max.	Min.	Max.
Specified	0.18	0.28	0.90	1.20	0.000	0.35	0.000	0.25	0.00	0.025	---	----	0.000	0.003
observation	0.27		1.160		0.163		0.008		0.017		-----		0.001	

B.Mechanical testing

Nature of Test	Evaluation/Measurement Technique	Specified	Observation	Remarks
Core Hardness	Hardness Tester	23 - 34 HRC	24-25 HRC	ACCEPTED
S/F Hardness	Hardness Tester	Max(CORE+30)HV0.3	275 - 281 HV0.3	ACCEPTED

C. Surface Treatment Evaluation

Nature of Test+A37	Evaluation/Measurement Technique	Specified	Observation	Remarks
Surface Coating	Visual	WHITE	WHITE	ACCEPTED
Coating Thickness in μm	Coating Thickness Gauge	8 - 10 MICRON	8 MICRON	ACCEPTED

D.Final Remarks :

ACCEPTED ☒	REJECTED ☐	REWORKED ☐	ACCEPTED U/D ☐
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Robert

Shinde



Evaluated by ROHIT CHAUDHARY	Checked by SNEHA SHINDE	Approved by SHIV OM FASTNERS
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Laboratory Test Plan cum Final Product Report

Part Description	M8 X 25 HHS	FINISH	WHITE	LIR No.	SOF/21-22/88/B115
Customer	TECHNOCRAFTS SWITCHGEAR PVT.LTD.	INVOICE NO	CM3723,CM3754, CM3836	Product Grade	8.8
Invoice Date	22/01/2022	QTY.	10000 NOS	Batch Size	10000
Part Code					

A.Chemical Analysis

Parameter	C%		Mn%		Si%		P%		S%		Cr%		B%	
	Min	Max.	Min	Max.	Min	Max.	Min	Max.	Min.	Max.	Min.	Max.	Min.	Max.
Specified	0.18	0.28			0.000	0.35	0.000	0.25	0.00	0.025	---	----	0.000	0.003
observation	0.27		0.90	1.20	0.000	0.163	0.008		0.017		-----		0.001	

B.Mechanical testing

Nature of Test	Evaluation/Measurement Technique	Specified	Observation	Remarks
Core Hardness	Hardness Tester	23 - 34 HRC	24-25 HRC	ACCEPTED
S/F Hardness	Hardness Tester	Max(CORE+30)HV0.3	275 - 281 HV0.3	ACCEPTED

C. Surface Treatment Evaluation

Nature of Test+A37	Evaluation/Measurement Technique	Specified	Observation	Remarks
Surface Coating	Visual	WHITE	WHITE	ACCEPTED
Coating Thickness in μ m	Coating Thickness Gauge	8 - 10 MICRON	8 MICRON	ACCEPTED

D.Final Remarks :

ACCEPTED ☒ REJECTED ☐ REWORKED ☐ ACCEPTED U/D

Pratik

Shinde



Evaluated by
ROHIT CHAUDHARY

Checked by
SNEHA SHINDE

Approved by
SHIV OM FASTNERS



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Laboratory Test Plan cum Final Product Report

Part Description	M8 X 40 HHS	FINISH	WHITE	LIR No.	SOF/21-22/88/B116
Customer	TECHNOCRAFTS SWITCHGEAR PVT.LTD.	INVOICE NO	CM3723	Product Grade	8.8
Invoice Date	14/01/2022	QTY.	5000 NOS	Batch Size	10000
Part Code					

A.Chemical Analysis

Parameter	C%		Mn%		Si%		P%		S%		Cr%		B%	
	Min	Max.	Min	Max.	Min	Max.	Min	Max.	Min.	Max.	Min.	Max.	Min.	Max.
Specified	0.18	0.28	0.90	1.20	0.000	0.35	0.000	0.25	0.00	0.025	---	----	0.000	0.003
observation	0.27		1.160		0.163		0.008		0.017		-----		0.001	

B.Mechanical testing

Nature of Test	Evaluation/Measurement Technique	Specified	Observation	Remarks
Core Hardness	Hardness Tester	23 - 34 HRC	24-25 HRC	ACCEPTED
S/F Hardness	Hardness Tester	Max(CORE+30)HV0.3	275 - 281 HV0.3	ACCEPTED

C. Surface Treatment Evaluation

Nature of Test+A37	Evaluation/Measurement Technique	Specified	Observation	Remarks
Surface Coating	Visual	WHITE	WHITE	ACCEPTED
Coating Thickness in μ m	Coating Thickness Gauge	8 - 10 MICRON	8 MICRON	ACCEPTED

D.Final Remarks :

ACCEPTED ☒	REJECTED ☐	REWORKED ☐	ACCEPTED U/D ☐
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Evaluated by ROHIT CHAUDHARY	Checked by SNEHA SHINDE	Approved by SHIV OM FASTNERS

**TECHNOCRAFTS SWITCHGEARS PVT. LTD.**

F-QC-INP/01	INPROCESS REPORT	Date:	
CLIENT :	M/s. MODI PROPERTIES PVT. LTD.		
EQUIPMENT DETAILS:	33kV, 1250A, 25kA/1SEC., OUTGOING PANEL.	QTY FEEDER :	1
Panel Sr. No:	23013603-00/01	Set :	1
Engineer Name:	SAGAR		
B.O.M CHECKED BY:	NISHIKANT		
SI No	Panel assembly :	REMARKS	DATE & SIGN
1	Dimension as per dwrgs : SWBD / ICOG		
2	Incoming Cable termination Height		
3	Outgoing Cable termination Height		
4	Clearance checks Ph-Ph		
5	Clearance checks Ph-E		
6	Paint shade : RAL : _____ / IS : _____		
7	Busbar check : MAIN BUSBAR :		
8	Busbar check : JUMPERS :		
9	Busbar check : EARTHING BUSBAR :		
10	Busbar Supporting Arrangement : Insulator Make		
11	Insulator Size :		
12	SLEEVE : PVC TUBING / HT INSULATED TUBING		
13	Door Alignment		
14	Frame & Module Assembly		
15	Tightness of fasteners		
16	Gasketting Effectiveness		
17	Gland Plate Provision		
18	Base Frame Assembly		
SI No	Wiring check :		
1	Mounting of Equipement		
2	Wire Termination		
3	Crimping of Lugs		
4	Ferruling as per Drawing / Asbuilt		
5	Wire/Conduit Clamping		
6	Device earthing - Panel, CT, PT, VDI, LA, control instruments etc.		
SUPERVISOR (Seal - TSPL) OR TECHNOCRAFTS SWITCHGEARS PVT. LTD.			

**TECHNOCRAFTS SWITCHGEARS PVT. LTD.**

F-QC-ITR/01	INTERNAL INSPECTION REPORT	Date:	03-03-2023
CLIENT :	M/s. MODI PROPERTIES PVT. LTD.	Job.No:	3603
EQUIPMENT DETAILS:	33kV, 1250A, 25kA/1SEC., OUTGOING PANEL.	QTY FEEDER :	1
Panel Sr. No:	23013603-00/01	Set :	1
Engineer Name:	SAGAR		
B.O.M CHECKED BY:	NISHIKANT	Date of Testing:	01-03-2022
Sr. No:	MECHANICAL CHECKS	REMARKS	DATE & SIGN
1	RACK IN RACK OUT OF CIRCUIT BREAKER	Found OK	
2	TEST AND SERVICE SELECTOR/LIMIT SWITCH WORKING	Found OK	
3	CB SHUTTER ASSEMBLY WORKING	Found OK	
4	CB/METERING DOOR ALIGNMENTS	Found OK	
5	MECHANICAL ON/OFF OF CB	Found OK	
6	MECHANICAL SPRING CHARGING INDICATION OF CB	Found OK	
7	MECHANICAL INTERLOCK OF CB IN TEST/SERVICE POSITION	Found OK	
8	RELAYS FLAG MECHANISM OPERATE & RESET BUTTONS	Found OK	
9	EMERGENCY TRIP OPERATION	Found OK	
10	PT ASSEMBLY (DRAW-OUT TYPE / FIXED TYPE)	Found OK	
11	CLEARANCE BETWEEN PHASE TO PHASE	Found OK	
12	CLEARANCE BETWEEN PHASE TOEARTH	Found OK	
13	BUSBAR TIGHTNESS CHECK	Found OK	
14	BUSBAR ARRANGEMENT CHECK	Found OK	
15	BUSBAR SLEEVE COLOR CODING	Found OK	
16	TIGHTNESS OF FASTNERS	Found OK	
17	GASKET ARRANGEMENT CHECK	Found OK	
18	BUSBAR SUPPORTING ARRANGEMENT	Found OK	
19	MOUNTING OF CT / PT	Found OK	
20	WIRING CHECK : PULL TEST	Found OK	
21	WIRE CRIMPING & TERMINATION	Found OK	
22	EQUIPMENT MOUNTING CHECK AS PER DWGRS	Found OK	
Sr. No:	ELECTRICAL CHECKS:	REMARKS	DATE & SIGN
1	AC/DC/CONTROL AUX.SUPPLY CHECKS	Found OK	
2	TEST/SERVICE LIMIT SWITCH OPEARTION	Found OK	
3	ALL LABELS, LOCATION NUMBERS FIXED	Found OK	
4	TEST & SERVICE POSITION CLOSING OF C.B	Found OK	
5	C.B CLOSE & TRIP OPERATION THROUGH T-N-C (5 TIMES)	Found OK	
6	EMERGENCY TRIP,REMOTE TRIP,MASTER TRIP,RELAY CIRCUIT	Found OK	
7	SPRING CHARGING MOTOR TESTING	Found OK	
8	TRIP CKT SUPERVISION TESTING	Found OK	
9	ANTIPUMPING CIRCUIT TEST	Found OK	
10	INDICATION LAMPS WITH RESPECT TO THEIR FUNCTION	Found OK	
11	ANNUNCIATION WINDOW & INSCRIPTION	Found OK	
12	EXTERNAL FAULT SIMULATION CHECK THROUGH AUXILIARY RELAYS	Found OK	
13	PT WIRING CHECK (THROUGH PRIMARY INJECTION)	Found OK	
14	CT, RELAY AND METERS TESTING (THROUGH PRIMARY/SECONDARY INJECTION)	Found OK	
15	INTER PANEL CIRCUIT CHECK	NA	
16	INTERLOCK OF CB IN TEST, INTERMEDIATE & SERVICE POSITION	Found OK	
17	AC/DC/PT/CT TERMINAL CHECK	Found OK	
18	SPARE TERMINAL CHECK	Found OK	
TESTING ENGINEER (Seal - TSPL) FOR TECHNOCRAFTS SWITCHGEARS PVT. LTD.			