



TC-5389

ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

(Accredited by the National Accreditation Board for Testing and Calibration Laboratories, Govt. of India)

ERDA Road, Makarpura Industrial Estate, Vadodara-390 010, India.

EPABX : +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33

Fax : +91 (0265) 2638382

E-mail : erda@erda.org

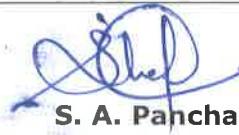
Web : <http://www.berda.org>

RP-2425-022811

ULR No.: TC538924000025451F

TEST REPORT

SHEET 1 of 8

NAME & ADDRESS OF CUSTOMER M. N. Rubber Limited, Survey No. 461/Paiky 2/A Behind Suraj Packaging Taluko Muli, At. Shekhpur, Surendranagar – 363 510. Gujarat	TEST REPORT NO. : RP-2425-022811 DATE OF ISSUE : 28-10-2024 CUSTOMER REF. NO: Letter DATED : 09-08-2024
	DATE OF SAMPLE RECEIPT 28-08-2024 DATE OF TESTING 16-10-2024 to 25-10-2024
SAMPLE DESCRIPTION (As provided by customer) Insulating Rubber hand gloves for electrical purpose Class of gloves : Class 3 Length of glove : 410 mm Size: 11" Category : RC Material : Natural rubber Make : LEEFIST HANDCARE Identification: Electrical rubber hand gloves	SAMPLE IDENTIFICATION Printing: 
TEST DETAILS As per sheet 2 of 8	TEST SPECIFICATION EN:60903:2003
REMARK : The sample conforms to all requirements of test specification for the tests at Sr. Nos. 1 to 7 as per sheet 2 of 8.	
CHECKED BY 	 S. A. Panchal APPROVED BY
<p>Note:</p> <ol style="list-style-type: none"> 1. This report relates only to the particular sample received for testing in good condition at ERDA, Vadodara. 2. This report cannot be reproduced in part under any circumstances. 3. Publication of this report requires prior permission in writing from Director, ERDA. 4. This report shall not be used for any purpose such as PR brochures, propaganda, advertisement and/or legal proceedings, unless for the granted purpose. 5. Only the tests asked for by the customer have been carried out. 6. Particulars of manufacturer/supplier, given in this report are based on information supplied by the customer, along with the test request/sample. ERDA does not assume any responsibility for the correctness of the information for above mentioned Sample Under Test (SUT). ERDA will not be responsible for any changes in SUT made after the test. This test report is given as per instrument status while testing. 7. In case of any dispute, Vadodara will be the exclusive jurisdiction & shall be construed as where the cause has arised. <p>Caution: ERDA is not responsible for the authenticity of photocopied or reproduced test reports.</p> <p>ERDA provides support to customers for verification of the authenticity of test reports issued by ERDA within 10 years of date of issue of report.</p>	

TC 3716248





TC-5389

ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

(Accredited by the National Accreditation Board for Testing and Calibration Laboratories, Govt. of India)

ERDA Road, Makarpura Industrial Estate, Vadodara-390 010, India.

EPABX : +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33

Fax : +91 (0265) 2638382

E-mail : erda@erda.org

Web : <http://www.berda.org>

ULR No.: TC538924000025451F

Discipline: Electrical

Group: Insulating Materials & Insulators

TEST REPORT NO. : RP-2425-022811

DATE OF ISSUE: 28-10-2024

SHEET 2 of 8

TEST DETAILS :

Sr. No.	Cl. No. & test specification	Particulars of tests
1	As per Cl. No. 8.2.2 of EN:60903:2003	Dimensions
2	As per Cl. No. 8.2.3 of EN:60903:2003	Thickness
3	As per Cl. No. 8.3 of EN:60903:2003	Mechanical tests
4	As per Cl. No. 8.4 of EN:60903:2003	Dielectric tests
5	As per Cl. No. 8.5 of EN:60903:2003	Ageing tests
6	As per Cl. No. 8.6 of EN:60903:2003	Thermal tests
7	As per Cl. No. 8.7 of EN:60903:2003	Tests on gloves with special properties
8	As per Cl. No. 6.2.4 of EN:60903:2003	Tear resistance test

CHECKED BY

TC 3716213



TC-5389

ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

(Accredited by the National Accreditation Board for Testing and Calibration Laboratories, Govt. of India)

ERDA Road, Makarpura Industrial Estate, Vadodara-390 010, India.

EPABX : +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33

Fax : +91 (0265) 2638382

E-mail : erda@erda.org

Web : http://www.berda.org



ULR No.: TC538924000025451F

TEST REPORT NO. : RP-2425-022811		DATE OF ISSUE: 28-10-2024	SHEET 3 of 8	
Sr. No	Particulars of test & Cl. No.	Requirement as per Specification	Obtained value	Remarks
1	Dimensions [As per Cl. No. 8.2.2 of EN:60903:2003] Length, mm	410 ± 15	422	Conforms
2	Thickness, mm [As per Cl. No. 8.2.3 of EN:60903:2003]	Max. 3.50	3.054	Conforms
3	Mechanical tests [As per Cl. No. 8.3 of EN:60903:2003] Tensile strength and elongation at break [As per Cl. No. 8.3.1 of EN:60903:2003] -Tensile strength, MPa -Elongation at break, % Resistance to mechanical puncture [As per Cl. No. 8.3.2 of EN:60903:2003] -Resistance to mechanical puncture, N/mm Tension set test [As per Cl. No. 8.3.3 of EN:60903:2003] -Tension set, %	Min. 16 Min. 600 Min. 18 Max. 15	23.6 860 Sample 1- 25.75 Sample 2- 24.81 1.50	Conforms Conforms Conforms Conforms

CHECKED BY

TC 3716214





TC-5389

ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

(Accredited by the National Accreditation Board for Testing and Calibration Laboratories, Govt. of India)

ERDA Road, Makarpura Industrial Estate, Vadodara-390 010, India.

EPABX : +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33

Fax : +91 (0265) 2638382

E-mail : erda@erda.org

Web : http://www.berda.org



ULR No.: TC538924000025451F

TEST REPORT NO. : RP-2425-022811

DATE OF ISSUE: 28-10-2024

SHEET 4 of 8

Sr. No.	Particulars of test & Cl. No.	Requirement as per Specification	Obtained value	Remarks
4	Dielectric test [As per Cl. No. 5.6 of EN:60903:2003] AC proof test -AC proof test after conditioning for moisture absorption by total immersion in water for a period of 16 hours \pm 0.5 hours [As per Cl. No. 8.4.2.1 of EN:60903:2003] -AC Proof test current at 30 kV rms, mA AC withstand test [As per Cl. No. 8.4.2.2 of EN:60903:2003] - Withstand test voltage, kV rms	Sample shall withstand 30 kV (rms) for 3 minutes Max. 22	Withstood 12 mA	Conforms Conforms
5	Ageing test [As per Cl. No. 8.5 of EN:60903:2003] (ageing at $70 \pm 2^\circ\text{C}$ for 168 h and with less than 20% relative humidity) -Tensile strength at break after ageing, % of the unaged value -Tension set after ageing, % -Dielectric proof test without being subjected to the moisture conditioning after ageing -AC Proof test current at 30 kV rms, mA	Sample shall withstand 40 kV (rms) Min. 80 Max. 15 Sample shall withstand 30 kV (rms) for 3 minutes Max. 22	Withstood 93.9 1.79 Both gloves withstood Sample 1- 10 mA Sample 2- 11 mA	Conforms Conforms Conforms Conforms

CHECKED BY

TC 3716215



ERDA

GEN/11-002



ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

(Accredited by the National Accreditation Board for Testing and Calibration Laboratories, Govt. of India)

ERDA Road, Makarpura Industrial Estate, Vadodara-390 010, India.

EPABX : +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33

Fax : +91 (0265) 2638382

E-mail : erda@erda.org

Web : <http://www.berda.org>



ULR No.: TC538924000025451F

TEST REPORT NO. : RP-2425-022811

DATE OF ISSUE: 28-10-2024

SHEET 5 of 8

Sr No	Particulars of test & Cl. No.	Requirement as per Specification	Obtained value	Remarks
6	<p>Thermal test [As per Cl. No. 8.6 of EN:60903:2003]</p> <p>Low temperature test [As per Cl. No. 8.6.1 of EN:60903:2003]</p> <p>-Low temperature test at (-25 ± 3 °C for 1 hour)</p> <p>-Dielectric proof test without being subjected to the moisture conditioning after low temperature test</p> <p>-AC Proof test current at 30 kV rms, mA</p> <p>Flame retardancy test [As per Cl. No. 8.6.2 of EN:60903:2003]</p>	<p>No tear, break or crack shall be visible on the gloves</p> <p>Sample shall withstand 30 kV (rms) for 3 minutes</p> <p>Max. 22</p> <p>Flame shall not have reached the reference line located on the test piece 55 mm from its edge, within 55 second after withdrawal of the flame</p>	<p>No tear, break or crack was visible on the gloves</p> <p>All three gloves withstood</p> <p>Sample 1- 14 mA Sample 2- 12 mA Sample 3- 14 mA</p> <p>Flame did not reach the reference line located on the test piece 55 mm from its edge, within 55 second after withdrawal of the flame</p>	<p>Conforms</p> <p>Conforms</p> <p>Conforms</p> <p>Conforms</p>

CHECKED BY

TC 3716216





ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

(Accredited by the National Accreditation Board for Testing and Calibration Laboratories, Govt. of India)

ERDA Road, Makarpura Industrial Estate, Vadodara-390 010, India.

FPARX : +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33

Fax : +91 (0265) 2638382

E-mail : erda@erda.org

Web : http://www.berda.org



ULR No.: TC538924000025451F

TEST REPORT NO. : RP-2425-022811

DATE OF ISSUE: 28-10-2024

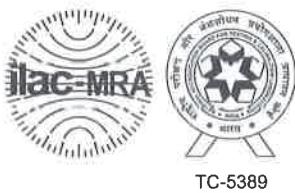
SHEET 6 of 8

Sr. No	Particulars of test & Cl. No.	Requirement as per Specification	Obtained value	Remarks
7	<p>Test on Gloves with special properties [As per Cl. No. 8.7 of EN:60903:2003]</p> <p>Category A – Acid resistance [As per Cl. No. 8.7.1 of EN:60903:2003] (after immersion in 32 °B Sulfuric Acid solution at 23 ± 2 °C for 8 ± 0.5 hrs) -Dielectric proof test without being subjected to the moisture conditioning after acid immersion -AC Proof test current at 30 kV rms, mA</p> <p>Tensile strength and elongation at break after acid immersion - Change in tensile strength, Percent of the value unexposed to acid - Change in elongation at break, Percent of the value unexposed to acid</p> <p>Category H – Oil resistance [As per Cl. No. 8.7.2 of EN:60903:2003] (after immersion in liquid 102 at 70 ± 2 °C for 24 ± 0.5 hrs) -Dielectric proof test without being subjected to the moisture conditioning after oil immersion -AC Proof test current at 30 kV rms, mA</p> <p>Tensile strength and elongation at break after oil immersion - Change in tensile strength, Percent of the value unexposed to oil - Change in elongation at break, Percent of the value unexposed to oil</p>	<p>Sample shall withstand 30 kV (rms) for 3 minutes Max. 22</p> <p>Min. 75%</p> <p>Min. 75%</p> <p>Sample shall withstand 30 kV (rms) for 3 minutes Max. 22</p> <p>Min. 50%</p> <p>Min. 50%</p>	<p>Both gloves withstood 14 mA 16 mA</p> <p>84.7</p> <p>85.2</p> <p>Both gloves withstood 17 mA 18 mA</p> <p>76.3</p> <p>76.5</p>	<p>Conforms</p> <p>Conforms</p> <p>Conforms</p> <p>Conforms</p> <p>Conforms</p>

CHECKED BY

TC 3716217





ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

(Accredited by the National Accreditation Board for Testing and Calibration Laboratories, Govt. of India)

ERDA Road, Makarpura Industrial Estate, Vadodara-390 010, India.

EPABX : +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33

Fax : +91 (0265) 2638382

E-mail : erda@erda.org

Web : http://www.berda.org



ULR No.: TC538924000025451F

TEST REPORT NO. : RP-2425-022811

DATE OF ISSUE: 28-10-2024

SHEET 7 of 8

Sr. No.	Particulars of test & Cl. No.	Requirement as per Specification	Obtained value	Remarks
1	<p>Category Z - Ozone resistance [As per Cl. No. 8.7.3 of EN:60903:2003] The gloves shall be conditioned in an oven for $3h \pm 0.5$ h at a temperature of $40^\circ C \pm 2^\circ C$ and an ozone concentration of $1mg/m^3 \pm 0.01$ at standard atmospheric pressure of 1013 mbar</p> <p>-Dielectric proof test without being subjected to the moisture conditioning</p> <p>-AC Proof test current at 30 kV rms, mA</p>	<p>After conditioning the gloves shall exhibit no cracks under visual inspection</p> <p>Sample shall withstand 30 kV (rms) for 3 minutes</p> <p>Max. 22</p>	<p>No any crack was observed in both gloves</p> <p>Both gloves Withstood</p> <p>18 mA 16 mA</p>	<p>Conforms</p> <p>Conforms</p> <p>Conforms</p>
2	<p>Category C - Extremely Low temperature resistance [As per Cl. No. 8.7.4 of EN:60903:2003] -Extremely low temperature test at $-40 \pm 3^\circ C$ for 24 ± 0.5 hours</p> <p>-Dielectric proof test without being subjected to the moisture conditioning after low temperature test</p> <p>-AC Proof test current at 30 kV rms, mA</p>	<p>No tear, break or crack shall be visible on the gloves</p> <p>Sample shall withstand 30 kV (rms) for 3 minutes</p> <p>Max. 22</p>	<p>No tear, break or crack was visible on the gloves</p> <p>All three gloves withstood</p> <p>Sample 1- 13 mA Sample 2- 12 mA Sample 3- 15 mA</p>	<p>Conforms</p> <p>Conforms</p> <p>Conforms</p>
3	<p>Tear resistance test [As per Cl. No. 6.2.4 of EN:60903:2003]</p>	Not applicable	Not applicable	-

8

CHECKED BY

TC 3716218





ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

(Accredited by the National Accreditation Board for Testing and Calibration Laboratories, Govt. of India)

ERDA Road, Makarpura Industrial Estate, Vadodara-390 010, India.

EPABX : +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33

Fax : +91 (0265) 2638382

E-mail : erda@erda.org

Web : <http://www.berda.org>

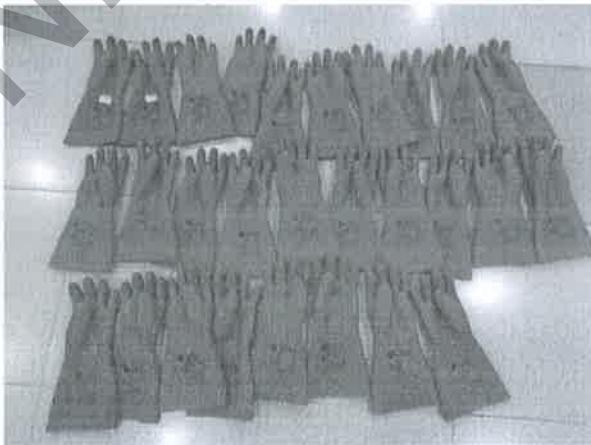
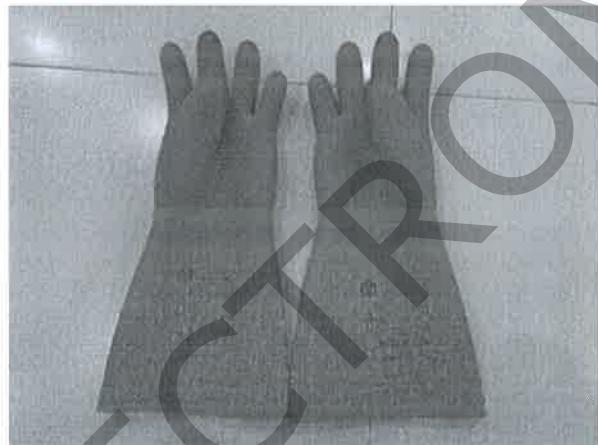


ULR No.: TC538924000025451F

TEST REPORT NO. : RP-2425-022811

DATE OF ISSUE: 28-10-2024

SHEET 8 of 8



CHECKED BY

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

TC 3716219

