



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.

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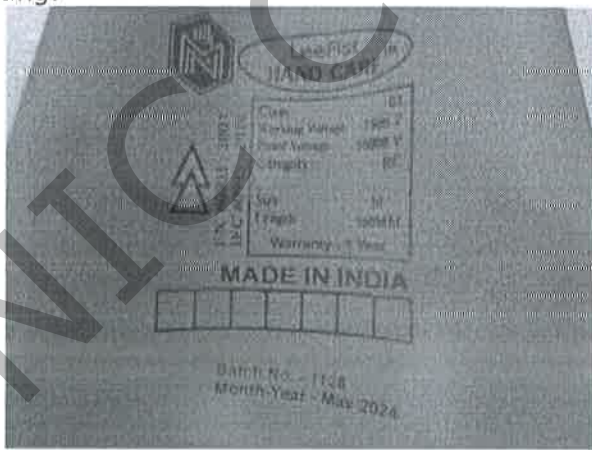


RP 2425 022818

ULR No.: TC538924000025454F

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. Shekhpar, Surendranagar – 363 510. Gujarat | TEST REPORT NO. : RP-2425-022818 DATE OF ISSUE : 28-10-2024 CUSTOMER REF. NO: Letter DATED : 09-08-2024 <table><tr><td>DATE OF SAMPLE RECEIPT</td><td>DATE OF TESTING</td></tr><tr><td>24-08-2024</td><td>16-10-2024 to 25-10-2024</td></tr></table> | DATE OF SAMPLE RECEIPT | DATE OF TESTING | 24-08-2024 | 16-10-2024 to 25-10-2024 |
| DATE OF SAMPLE RECEIPT | DATE OF TESTING | | | | |
| 24-08-2024 | 16-10-2024 to 25-10-2024 | | | | |
| SAMPLE DESCRIPTION (As provided by customer) Insulating Rubber hand gloves for electrical purpose Class of gloves : Class 1 Length of glove : 360 mm Size: 10" Category : RC Material : Natural rubber Make : LEEFIST HANDCARE Identification: Electrical rubber hand gloves | SAMPLE IDENTIFICATION Printing:  ERDA Sample Code: ERDA-00597025 | | | | |
| 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. | | | | | |

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Note:

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S. A. Panchal
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TC 3716246





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ULR No.: TC538924000025454F

Discipline: Electrical

Group: Insulating Materials & Insulators

TEST REPORT NO. : RP-2425-022818

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 |

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TEST REPORT NO. : RP-2425-022818

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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 | 360 ± 15 | 374 | Conforms |
| 2 | Thickness, mm [As per Cl. No. 8.2.3 of EN:60903:2003] | Max. 2.10 | 1.748 | 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 | Min. 16 | 23.2 | Conforms |
| | -Elongation at break, % | Min. 600 | 915 | Conforms |
| | Resistance to mechanical puncture [As per Cl. No. 8.3.2 of EN:60903:2003] -Resistance to mechanical puncture, N/mm | Min. 18 | Sample 1- 22.58 Sample 2- 22.37 | Conforms |
| | Tension set test [As per Cl. No. 8.3.3 of EN:60903:2003] -Tension set, % | Max. 15 | 1.19 | Conforms |

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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. 8.4 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 10 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 10 kV (rms) for 3 minutes Max. 16 Sample shall withstand 20 kV (rms) | Withstood 6.0 mA Withstood | Conforms 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 10 kV rms, mA | Min. 80 Max. 15 Sample shall withstand 40 kV (rms) for 3 minutes Max. 16 | 93.3 1.39 Both gloves withstood Sample 1- 5.4 mA Sample 2- 5.2 mA | Conforms Conforms Conforms Conforms |

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SHEET 5 of 8

| Sr No | Particulars of test & Cl. No. | Requirement as per Specification | Obtained value | Remarks |
|-------|--|--|---|--|
| 6 | Thermal test [As per Cl. No. 8.6 of EN:60903:2003] Low temperature test [As per Cl. No. 8.6.1 of EN:60903:2003] -Low temperature test at (-25 ± 3 °C for 1 hour) -Dielectric proof test without being subjected to the moisture conditioning after low temperature test -AC Proof test current at 10 kV rms, mA Flame retardancy test [As per Cl. No. 8.6.2 of EN:60903:2003] | No tear, break or crack shall be visible on the gloves Sample shall withstand 10 kV (rms) for 3 minutes Max. 16 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 | No tear, break or crack was visible on the gloves All three gloves withstood Sample 1- 6.6 mA Sample 2- 6.4 mA Sample 3- 6.3 mA 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 | Conforms Conforms Conforms Conforms |

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SHEET 6 of 8

| Sr. No | Particulars of test & Cl. No. | Requirement as per Specification | Obtained value | Remarks |
|--------|--|--|--|--|
| 7 | Test on Gloves with special properties [As per Cl. No. 8.7 of EN:60903:2003] 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 10 kV rms, mA 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 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 10 kV rms, mA 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 | Sample shall withstand 10 kV (rms) for 3 minutes Max. 16 Min. 75% Min. 75% Sample shall withstand 10 kV (rms) for 3 minutes Max. 16 Min. 50% Min. 50% | Both gloves withstood 7.8 mA 7.6 mA 83.3 83.6 Both gloves withstood 8.9 mA 9.1 mA 76.5 75.7 | Conforms Conforms Conforms Conforms Conforms Conforms Conforms Conforms |

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| Sr. No. | Particulars of test & Cl. No. | Requirement as per Specification | Obtained value | Remarks |
|---------|---|--|---|--|
| | 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° C \pm 2° C and an ozone concentration of 1mg/m ³ \pm 0.01 at standard atmospheric pressure of 1013 mbar -Dielectric proof test without being subjected to the moisture conditioning -AC Proof test current at 10 kV rms, mA | After conditioning the gloves shall exhibit no cracks under visual inspection Sample shall withstand 10 kV (rms) for 3 minutes Max. 16 | No any crack was observed in both gloves Both gloves Withstood 8.3 mA 8.2 mA | Conforms Conforms Conforms |
| | 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 °C for 24 \pm 0.5 hours -Dielectric proof test without being subjected to the moisture conditioning after low temperature test -AC Proof test current at 10 kV rms, mA | No tear, break or crack shall be visible on the gloves Sample shall withstand 10 kV (rms) for 3 minutes Max. 16 | No tear, break or crack was visible on the gloves All three gloves withstood Sample 1- 6.9 mA Sample 2- 7.1 mA Sample 3- 7.0 mA | Conforms Conforms Conforms |
| 8 | Tear resistance test [As per Cl. No. 6.2.4 of EN:60903:2003] | Not applicable | Not applicable | - |

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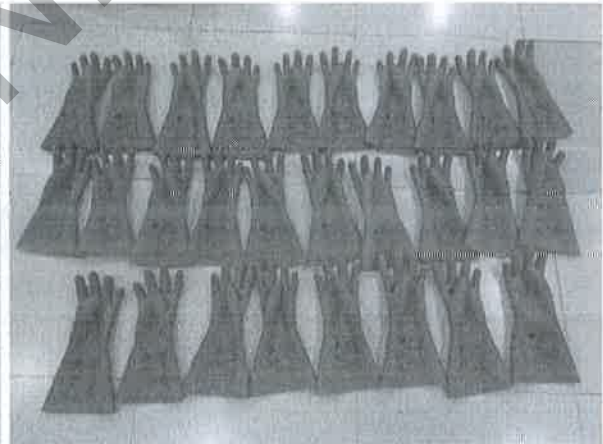
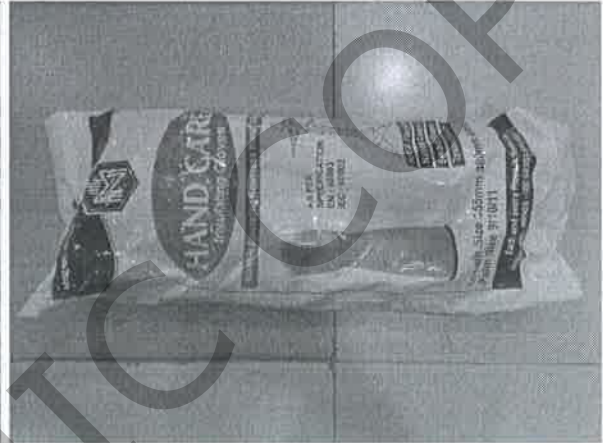


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SHEET 8 of 8



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

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