

# ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

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.erda.org



## TEST REPORT

SHEET 1 of 6

<b>NAME &amp; ADDRESS OF CUSTOMER</b>  Dahanu Rubber Gloves Mfg. Co., Jawahar Marg, Village Sarawali, Dahanu Road (East) - 401 602.  Dist. Thane, Maharashtra State.	<b>REPORT NO.</b> :	RP-1415-023651					
	<b>DATE</b> :	18-11-2014					
	<b>CUSTOMER REF. NO</b> :	MKS/14-15/009					
	<b>DATED</b> :	05-09-2014					
	<b>DATE OF SAMPLE RECEIPT</b>	<b>DATES OF TESTING</b>					
	08-09-2014	14-10-14 to 18-11-14					
<b>SAMPLE DESCRIPTION</b>  Rubber hand gloves for electrical purpose Class of gloves : 2 SIZE : 360 mm Brand : Jyot	<b>SAMPLE IDENTIFICATION</b>  <b>Printing:</b>  <b>CLASS 2</b> <b>MAX. USE VOLTAGE</b> <b>17500 V. AC, RMS</b> <b>Jyot</b> <b>MADE IN INDIA</b>  <table border="1"><tr><td> </td><td> </td><td> </td><td> </td><td> </td></tr></table> ERDA Sample Code : ERDA-00059166						
<b>TEST DETAILS</b>  As per sheet 2 of 6	<b>TEST SPECIFICATION</b>  EN 60903 : 2003						

**REMARK:** The sample conforms to the requirements for all the mentioned tests.

PREPARED BY

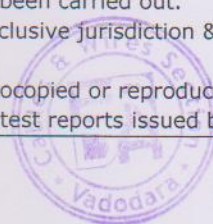
CHECKED BY

APPROVED BY

- NOTE:**
1. This report relates only to the particular sample received for testing in good condition at ERDA.
  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. Only the tests asked for by the customer have been carried out.
  5. In case of any dispute, Vadodara will be the exclusive jurisdiction & shall be construed as where the cause has arisen.

**Caution :** ERDA is not responsible for the authenticity of photocopied or reproduced test reports. ERDA provides support to consumers for verification of the authenticity of test reports issued by ERDA

1558984



# ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

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

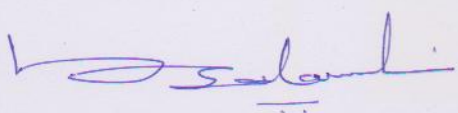

EPABX: +91 (0265) 2642942, 2642964, 2642377, 3043128 / 29 / 30 / 31 / 33,

Fax : +91 (0265) 2638382,

E-mail : erda@erda.org

Web : http://www.erda.org



REPORT NO. : RP-1415-023651		SHEET 2 of 6
DATE : 18-11-2014		
<b>TEST DETAILS :</b>		
Test Specification : EN 60903 : 2003		
Sr. No.	Cl. No.	Test Particulars
1	8.2	Visual inspection and measurements
2	8.3	Mechanical tests
3	8.4	Dielectric tests
4	8.5	Ageing test
5	8.6	Thermal tests
6	8.7	Tests on gloves with special properties
 PREPARED BY		 CHECKED BY



1558985

# ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

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.erda.org



REPORT NO. : RP-1415-023651

SHEET 3 of 6

DATE : 18-11-2014

Sr. No	Cl. No.	Test	Requirement as per Specification	Obtained value	Remarks
1	8.2	Visual inspection and measurements			
	8.2.1	Shape	The gloves shall be provided with a cuff. Gloves may be manufactured with or without cuff roll.	The gloves were manufactured with rolled cuff	Conforms
	8.2.2	Dimensions Standard length of gloves, mm	360 ± 15	350	Conforms
	8.2.3	Thickness Thickness of gloves, mm	Max. 2.30	2.17	Conforms
8.2.4	Workmanship and finish	The gloves shall be free from pinholes, cracks, blisters, cuts, conductive embedded foreign matter, creases, pinch marks, voids, prominent ripples and prominent mould marks.	Found satisfactory	Conforms	
2	8.3	Mechanical tests			
	8.3.1	Tensile strength and elongation at break			
		Tensile strength, MPa	Min. 16	26.2	Conforms
	8.3.2	Elongation at break, %	Min. 600	713	Conforms
Resistance to mechanical puncture					
8.3.3	Puncture resistance, N/mm	Min. 18	33.4	Conforms	
	Tension set, %	Max. 15	0.2	Conforms	

1558986

PREPARED BY



CHECKED BY

# ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

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.erda.org



REPORT NO. : RP-1415-023651

SHEET 4 of 6

DATE : 18-11-2014

Sr. No	Cl. No.	Test	Requirement as per Specification	Obtained value	Remarks
3	8.4	Dielectric tests			
	8.4.2.1	AC proof test after conditioning for moisture absorption by total immersion in water for a period of 16 hours	Sample shall withstand 20 kV (rms) for 3 minutes	Withstood	Conforms
		AC Proof test current at (20 kV rms), mA	Max. 18	9.2	Conforms
	8.4.2.2	AC withstand test Withstand test voltage (30 kV rms)	Sample shall withstand 30 kV (rms) for 3 minutes	Withstood	Conforms
4	8.5	Ageing test (ageing at $70 \pm 2^\circ\text{C}$ for 168 h)			
		- Tensile strength at break after heat ageing, % of the unaged	Min. 80	97	Conforms
		- Tension set after heat ageing, %	Max. 15	0.3	Conforms
		- AC proof test without being subjected to the moisture conditioning after heat ageing	Sample shall withstand 20 kV (rms) for 3 minutes	Withstood	Conforms
5	8.6	Thermal tests			
	8.6.1	Low temperature test at $-25 \pm 3^\circ\text{C}$ for 1 hour	No tear, break or crack shall be visible on the gloves	No tear, break or crack was visible on the gloves	Conforms
		- AC proof test without being subjected to the moisture conditioning after low temperature test	Sample shall withstand 20 kV (rms) for 3 minutes	Withstood	Conforms

PREPARED BY



CHECKED BY

1558967

# ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

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.erda.org



REPORT NO. : RP-1415-023651

SHEET 5 of 6

DATE : 18-11-2014

Sr. No	Cl. No.	Test	Requirement as per Specification	Obtained value	Remarks
6	8.6.2	Flame retardancy test	The flame shall not have reached the reference line located on the test piece 55 mm from its edge, within 55 sec after withdrawal of the flame	The flame did not reach the reference line located on the test piece 55 mm from its edge, within 55 sec after withdrawal of the flame	Conforms
	8.7	Tests on gloves with special properties			
	8.7.1	Category A - Acid resistance (after conditioning at $23 \pm 2$ °C for 8 hrs - AC proof test without being subjected to the moisture conditioning after acid immersion	Sample shall withstand 20 kV (rms) for 3 minutes	Withstood	Conforms
		Tensile strength and elongation at break after acid immersion - Change in tensile strength, Percent of the unaged - Change in elongation at break, Percent of the unaged	Min. 75 Min. 75	91 88	Conforms Conforms
	8.7.2	Category H - Oil resistance (after conditioning at $70 \pm 2$ °C for 24 hrs) - AC proof test without being subjected to the moisture conditioning after oil immersion	Sample shall withstand 20 kV (rms) for 3 minutes	Withstood	Conforms

1558987

PREPARED BY



CHECKED BY

# ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

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.erda.org



REPORT NO. : RP-1415-023651

SHEET 6 of 6

DATE : 18-11-2014

Sr. No	Cl. No.	Test	Requirement as per Specification	Obtained value	Remarks
		Tensile strength and elongation at break after oil immersion - Change in tensile strength, Percent of the unaged - Change in elongation at break, Percent of the unaged	Min. 50 Min. 50	72 74	Conforms Conforms
	8.7.3	Category Z - Ozone resistance (after conditioning at $40 \pm 2$ °C and an ozone concentration of $1 \text{ mg/m}^3$ at atmospheric pressure for 3 hours)	After conditioning the gloves shall exhibit no cracks under visual inspection	No crack was observed	Conforms
		- AC proof test without being subjected to the moisture conditioning after ozone concentrated	Sample shall withstand 20 kV (rms) for 3 minutes	Withstood	Conforms
	8.7.4	Category C - Extremely low temperature resistance test at $-40 \pm 3$ °C for 24 hours	No tear, break or crack shall be visible on the gloves	No tear, break or crack was visible on the gloves	Conforms
		- AC proof test without being subjected to the moisture conditioning after extremely low temperature	Sample shall withstand 20 kV (rms) for 3 minutes	Withstood	Conforms

PREPARED BY



CHECKED BY

1558988