

# ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

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

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## 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-1415-023648					
	<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 : 00 SIZE : 280 mm Brand : Jyot	<b>SAMPLE IDENTIFICATION</b>  <b>Printing:</b>  <b>CLASS 00</b> <b>MAX. USE VOLTAGE</b> <b>500 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-00059163						
<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.

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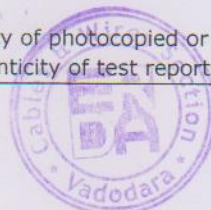
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REPORT NO. : RP-1415-023648

SHEET 2 of 6

DATE : 18-11-2014

## TEST DETAILS :

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

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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	280 ± 15	295	Conforms
	8.2.3	Thickness Thickness of gloves, mm	Max. 0.50	0.49	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	27.8	Conforms
		Elongation at break, %	Min. 600	673	Conforms
8.3.2	Resistance to mechanical puncture				
	Puncture resistance, N/mm	Min. 18	33.8	Conforms	
8.3.3	Tension set, %	Max. 15	0.7	Conforms	

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SHEET 4 of 6

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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 2.5 kV (rms) for 3 minutes	Withstood	Conforms
		AC Proof test current at (2.5 kV rms), mA	Max. 12	3.7	Conforms
	8.4.2.2	AC withstand test Withstand test voltage (5 kV rms)	Sample shall withstand 5 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	1.1	Conforms
		- AC proof test without being subjected to the moisture conditioning after heat ageing	Sample shall withstand 2.5 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 2.5 kV (rms) for 3 minutes	Withstood	Conforms

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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  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	Sample shall withstand 2.5 kV (rms) for 3 minutes  Min. 75  Min. 75	Withstood  82  81	Conforms  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 2.5 kV (rms) for 3 minutes	Withstood	Conforms

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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	Min. 50	61	Conforms
		- Change in elongation at break, Percent of the unaged	Min. 50	65	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 2.5 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 2.5 kV (rms) for 3 minutes	Withstood	Conforms

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