
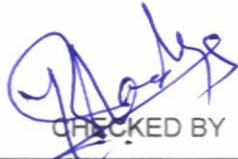





ELECTRICAL RESEARCH AND DEVELOPMENT ASSOCIATION

(Accredited by the National Accreditation Board for Testing and Calibration Laboratories, Govt. of India)
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TEST REPORT			
		SHEET 1 of 5	
NAME & ADDRESS OF CUSTOMER M/s Diamond Cables Ltd., Essen House, 5/12, BIDC, Gorwa, Baroda-390 016.	REPORT No. : ICWRWO0051741-2 DATE : 11-08-2007		
	CUSTOMER REF. NO. : Nil DATED : 06-06-2007		
	DATE OF SAMPLE RECEIPT 07-06-2007	DATES OF TESTING 17-06-07 to 11-08-07	
	SAMPLE DESCRIPTION 3 C x 25 Sq.mm +25 Sq.mm Aerial bunched cable, 1.1 kV Grade Type of Insulation : XLPE Phase conductor: Aluminium, Class-2 Covered Messenger conductor-Class 2	SAMPLE IDENTIFICATION	
	TEST DETAILS As per sheet 2 of 5	TEST SPECIFICATION IS: 14255-1995	
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.			

No 1684528





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REPORT NO. : ICWRWO0051741-2

SHEET 2 of 5

DATE : 11-08-2007

TEST DETAILS :

Test Specification: IS: 14255-1995

Sr. No.	Cl. No	Test Particulars.
1.	10.1. a	Tests on Phase/Street light conductor
	iii)	Resistance test
2.	10.1. b	Tests on Messenger conductor
	i)	Breaking load
	ii)	Elongation test
	iii)	Resistance test
3.	10.1.c	Physical tests for XLPE Insulation
	i)	Tensile strength & Elongation at break
	ii)	Ageing in air oven
	iii)	Hot set test
	iv)	Shrinkage test
	v)	Water absorption (Gravimetric)
	vi)	Carbon Black Content
4.	10.1. e	Thickness of Insulation
5.	10.1. f	Insulation resistance (Volume Resistivity) test
6.	10.1. g	High Voltage test


Prepared by


Checked by

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REPORT NO. : ICWRWO0051741-2
 DATE : 11-08-2007

SHEET 3 of 5

Sr. No.	Cl. No.	Tests	Requirement as per Specification	Obtained Value	Remarks
1.	10.1.a	TEST RESULTS Tests on Phase / Street Light conductor			
	iii)	Conductor Resistance (Corrected at 20° C), Ω/km	Max. 1.20	Core 1 1.13 Core 2 1.15 Core 3 1.17	Conforms
2.	10.1.b	Tests on Messenger conductor			
	i)	Breaking Load, kN (On Complete Conductor)	Min. 7.0	8.7	Conforms
	ii)	Elongation test	Not Applicable	-	-
	iii)	Conductor Resistance Corrected at 20 °C, Ohm/km	Max. 1.38	1.27	Conforms
3.	10.1.c	Physical tests for XLPE Insulation			
	i) A]	Tensile strength, N/mm ²	Min. 12.5	Core 1 16.9 Core 2 19.1 Core 3 17.9	Conforms
	B]	Elongation at break, %	Min. 200	Core 1 495 Core 2 500 Core 3 500	Conforms
Prepared by		Checked by			

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REPORT NO. : ICWRWO0051741-2
 DATE : 11-08-2007

SHEET 4 of 5

Sr. No.	Cl. No.	Tests	Requirement as per Specification	Obtained Value	Remarks
	ii)	After ageing in air oven (at $135 \pm 3^\circ\text{C}$ for 168 hrs.)			
	A]	Tensile strength Variation, %	Max. ± 25	Core 1 -13 Core 2 -3 Core 3 -4	Conforms
	B]	Elongation Variation, %	Max. ± 25	Core 1 -19 Core 2 -3 Core 3 -5	Conforms
	iii)	Hot Set test (at $200 \pm 3^\circ\text{C}$ for 15 min.)			
	A]	Elongation under load, %	Max. 175	Core 1 50 Core 2 55 Core 3 50	Conforms
	B]	Permanent elongation (set), %	Max. 15	Core 1 10 Core 2 10 Core 3 10	Conforms
	iv)	Shrinkage test (at $130 \pm 3^\circ\text{C}$ for 60 minutes)			
	-	Shrinkage, %	Max. 4	Core 1 1 Core 2 1 Core 3 1	Conforms
	v)	Water absorption (gravimetric) (at $85 \pm 2^\circ\text{C}$ for 14 days) Water absorbed, mg/cm^2	Max. 1	Core 1 Nil Core 2 Nil Core 3 Nil	Conforms
	vi)	Carbon Black Content	Not Applicable	-	-

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Checked by

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REPORT NO. : ICWRWO0051741-2
DATE : 11-08-2007

SHEET 5 of 5

Sr. No.	Cl. No.	Tests	Requirement as per Specification	Obtained Value	Remarks
4.	10.1.e	Thickness of Insulation, mm	Nom. Not less than 1.2/ Min. not less than 0.98	Core 1 1.4/1.27 Core 2 1.3/1.16 Core 3 1.3/1.24	Conforms
5.	10.1.f	Insulation resistance			
	-	Volume resistivity, Ohm-cm			
	A]	at 27 ± 2 °C	Min. 1x10 ¹³	Core 1 6x10 ¹⁶ Core 2 5x10 ¹⁶ Core 3 5x10 ¹⁶	Conforms
	B]	at 70 ± 2 °C	Min. 1x10 ¹¹	Core 1 3x10 ¹⁵ Core 2 5x10 ¹⁵ Core 3 6x10 ¹⁵	Conforms
6.	10.1.g	High Voltage Test -at room temperature	To withstand 3kV rms for 5 minutes for each connection.	All cores withstood	Conforms


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