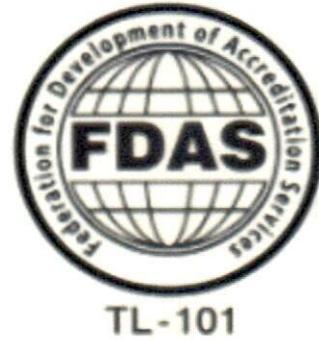




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Test Report No.: **RTRCLTL10125000415F**

Name of Client : **Kelani Cables PLC**

No. of Pages : **09 (Nine)**

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TEST REPORT

TEST REPORT NO : RTRCLTL10125000415F

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SECTION - A (GENERAL)

DATE OF RECEIPT OF TEST ITEM : 14/04/2025		DATE OF ISSUE OF TEST REPORT : 05/05/2025	
1	JOB ID NUMBER	RTRC/JC/C/25D2202F	
2	NAME OF CUSTOMER	Kelani Cables PLC	
3	ADDRESS OF CUSTOMER	P.O. Box 14, Wewelduwa, kelaniya, Sri Lanka	
4	CUSTOMER REFERENCE No. AND DATE	Request Letter dated : 21/04/2025	
5	ITEM DESCRIPTION	1C X 1.0 mm ² Cu/PVC/PVC Single core Cable	
6	MODE OF PACKING	Sample wrapped with polythene sheets and packed in ply wooden box	
7	CONDITION (WHEN RECEIVED)	Satisfactory	
8	QUANTITY OF ITEM	550 Metres (approx.) cable	
9	SEAL NUMBER (IF ANY)	Nil	
10	TESTS TO BE CONDUCTED	1. Oxygen Index test, 2. Temperature index test, 3. Flame retardance test on bunched cable - Category C, 4. Tests on electric cables under fire conditions (Vertical flame propagation test on single cable).	
11	REFERENCE SPECIFICATION	ISO 4589-2:2017, ISO 4589-3:2017, IEC 60332-3-24:2018, IEC 60332-1-2:2004 +AMD1:2015	
12	DISCIPLINE	Electrical Testing	
13	GROUP	Cables and Wires	
14	DATE OF STARTING TESTS	23/04/2025	
15	DATE OF COMPLETION OF TESTS	03/05/2025	


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16	ADDITIONS, DEVIATIONS OR EXCLUSIONS (IF ANY)	Nil
17	NAME OF FIRM	Nil
18	IDENTIFICATION	Nil
19	TEST WITNESSED BY (CUSTOMER REPRESENTATIVE)	Nil
20	TEST WITNESSED BY (OTHER THAN CUSTOMER REPRESENTATIVE)	Nil
21	TEST SUBCONTRACTED WITH ADDRESS OF THE LABORATORY	Nil
22	EMBOSSING	Nil
23	PRINTING	KELANI ELECTRIC CABLE 300/500 V 6181Y 1X1.0 SQ.MM (1/1.13) CACF 12 3 H SLS 733-2 FIRE SHIELD BROWN
24	SPECIFIC TESTS CONDITIONS (IF ANY)	Nil
25	ENCLOSURE	Nil
26	WHETHER THE RESULTS CONFORM TO SPECIFICATIONS/ISS OR NOT	The sample conforms to the requirements of the test carried out as per ISO 4589-2:2017, ISO 4589-3:2017, IEC 60332-3-24:2018, IEC 60332-1-2:2004+AMD1:2015.

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TEST REPORT NO : RTRCLTL10125000415F	Page 3 of 9
JOB ID NO. : RTRC/JC/C/25D2202F	

Sr. No.	Tests	Unit	Specified Requirement	Observed Values	Remarks
SECTION-B (TESTS)					
A)	Oxygen & temperature index test (Measuring the Minimum Oxygen Concentration to Support Candle-Like Combustion of Plastics) ISO 4589-2:2017, ISO 4589-3:2017				
i)	Test Sample (Test specimen dimensions) Cl. 7.2 of ISO 4589-2:2017, Cl. 7.2 of ISO 4589-3:2017	.....	Tests specimen type : IV (Length : 70 to 150 mm), (Width : 6.5±0.5 mm), (Thickness : 3 ± 0.25 mm)	Test specimen type IV (Dimensions satisfactory)	Satisfactory
ii)	Conditioning of test specimens Cl. 7.4 of ISO 4589-2:2017, Cl. 7.4 of ISO 4589-3:2017	.....	Test specimens shall be conditioned for at least 40 h at 23±2°C and 50±5 % relative humidity (RH) immediately prior to use	Satisfactory	Satisfactory
iii)	Environment conditions for testing	.....	Ambient temperature: 23±5°C Relative humidity: 50±5% RH	Satisfactory	Satisfactory
iv)	Calibration of Apparatus	.....	The paramagnetic oxygen analyzer was calibrated by the following:- a) When turning the nitrogen flow "on" and closing the oxygen flow, the oxygen concentration display should reads 0.0% b) When turning the oxygen flow "on" and closing nitrogen flow, the oxygen concentration display should reads 100.0% c) Environmental oxygen concentration display reading	..... 00.0% 100.0% 20.8%	..... Satisfactory Satisfactory Satisfactory
1)	Oxygen Index test (Refer Annexure - A) ISO 4589-2:2017	%	.....	30.0	.....
2)	Temperature Index test (Refer Annexure - A) ISO 4589-2:2017, ISO 4589-3:2017	°C	255

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JOB ID NO. : RTRC/JC/C/25D2202F

Sr. No.	Tests	Unit	Specified Requirement	Observed Values	Remarks
3)	Flame retardance test on bunched cable - Category C (Test for vertical flame spread of vertically-mounted bunched wires or cables - Category C)				
	Conditioning Cl. 5.1 of IEC 60332-3-24:2018	.....	The test pieces of the sample were conditioned at a temperature of 20±10°C for at least 16 hours, the test pieces are dry.	Satisfactory	Satisfactory
a)	Colour of sheath	.....	.....	Traffic purple (RAL 4006)	.....
b)	Overall diameter of cable specimen (approximate) IEC 60811-203:2012	mm	.....	3.80	.....
c)	Length of each test samples Cl. 5.1 of IEC 60332-3-24:2018	m	3.5 (Min)	3.5	Satisfactory
d)	Number of test samples Cl. 5.2, 5.3 of IEC 60332-3-24: 2018	Nos.	2 (Min)	144	Satisfactory
e)	Test Environment Cl. 4 of IEC 60332-3-10:2018				
i)	External wind speed	m/s	8 (Max)	< 1.0	Satisfactory
ii)	Temperature of inside wall Cl. 4 of IEC 60332-3-10: 2018	°C	5 to 40 (at a point approximately 1500 mm above floor level, 50 mm from a side wall, and 1000 mm from the door)	29.5	Satisfactory
f)	Total volume of non-metallic material of test sample Cl. 5.2, 9 of IEC 60332-3-24: 2018	Litre/m	1.5 (Nom) (per metre of test sample, of the test pieces)	1.5	Satisfactory



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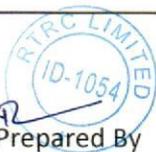
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JOB ID NO. : RTRC/JC/C/25D2202F

Sr. No.	Tests	Unit	Specified Requirement	Observed Values	Remarks
g)	Mounting of the test samples Annex A Table A.1, Cl. 5.3 of IEC 60332-3-24:2018	.....	Test pieces shall be attached to the front of the standard ladder in touching formation in one or more layers up to a maximum total width of 300 mm. There shall be a minimum distance of 50 mm between the edge of the test sample and the inside of the ladder uprights.	Satisfactory	Satisfactory
h)	Layers Cl. 5.3 of IEC 60332-3-24:2018				
	Number of layers	Nos.	.....	2	Satisfactory
	Number of test specimens in the 1 st layer	Nos.		74	Satisfactory
	Number of test specimens in the 2 nd layer	Nos.		70	Satisfactory
	Total tests specimens	Nos.	2 (Min)	144	Satisfactory
i)	Number of Burners Annex A Table A.1 of IEC 60332-3-24:2018	Nos.	One	One	Satisfactory
j)	Flame Application time Cl. 5.4 of IEC 60332-3-24:2018	Minutes	20 (Min)	20	Satisfactory
k)	Time to extinction of all burning or glowing Cl. 5.4 of IEC 60332-3-24:2018	Minutes	The flame shall be extinguished after a maximum time of 60 minutes from the completion of the test flame application time.	1	Conforms
l)	Performance requirements (The extent of damage) Cl. 7, Annex B of IEC 60332-3-24: 2018	m	The maximum extent of the charred portion measured on the sample shall not have reached a height exceeding 2.5 m above the bottom edge of the burner, neither at the front not at the rear of the ladder.	1.04	Conforms


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TEST REPORT NO : RTRCLTL10125000415F	Page 6 of 9
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Sr. No.	Tests	Unit	Specified Requirement	Observed Values	Remarks
4)	Tests on electric cables under fire conditions (Vertical flame propagation test on single cable) IEC 60332-1-2:2004 +AMD1: 2015	Before testing, all test pieces shall be conditioned at (23±5)°C for not less than 16 h at a relative humidity of (50 ±20)%.	Satisfactory	Satisfactory
		mm	The single insulated conductor or cable shall pass the test if the distance between the lower edge of the top support and the onset of charring is greater than 50 mm.	390	Conforms
		mm	In addition, a failure shall be recorded if charring extends downwards to a point greater than 540 mm from the lower edge of the top support.	478	Conforms


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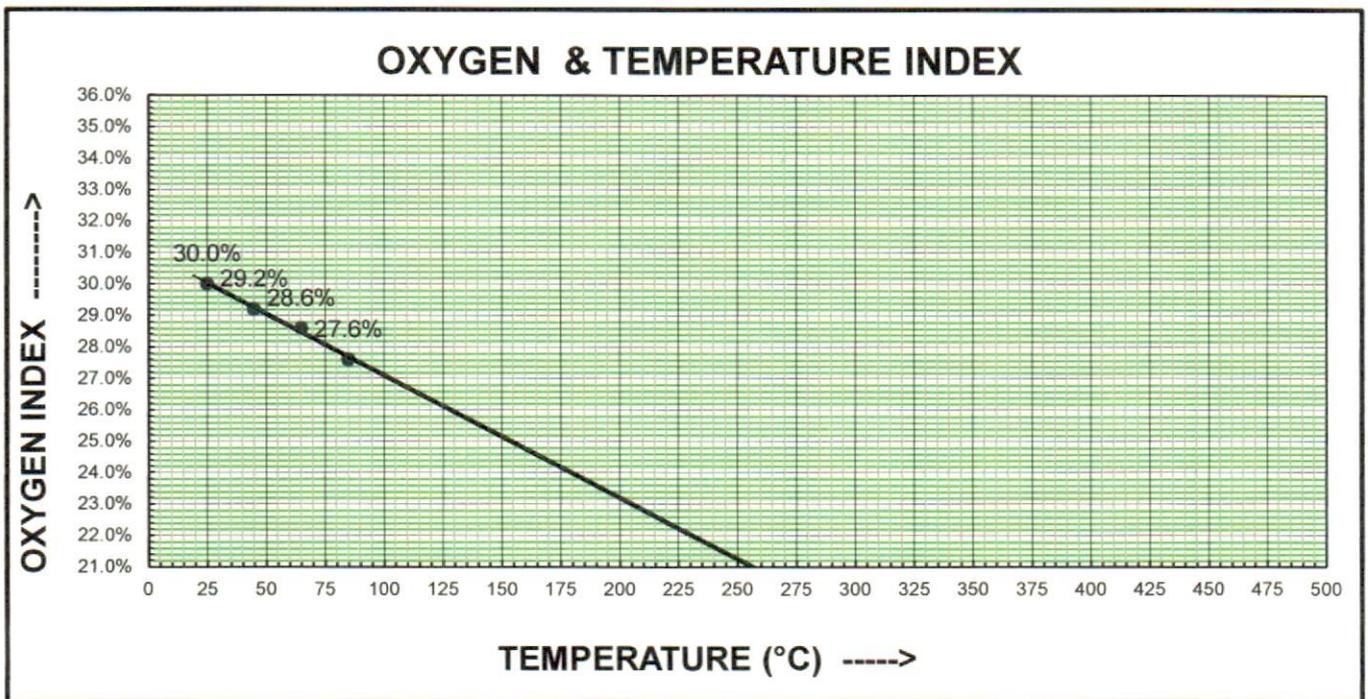
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Annex - A

Oxygen & Temperature index test on insulation material as per ISO 4589-2:2017 & ISO 4589-3:2017

Temperature (°C)	Oxygen Index (%)	Temperature Index (°C)
25	30.0%	255 (By extrapolation of the graph given below)
45	29.2%	
65	28.6%	
85	27.6%	

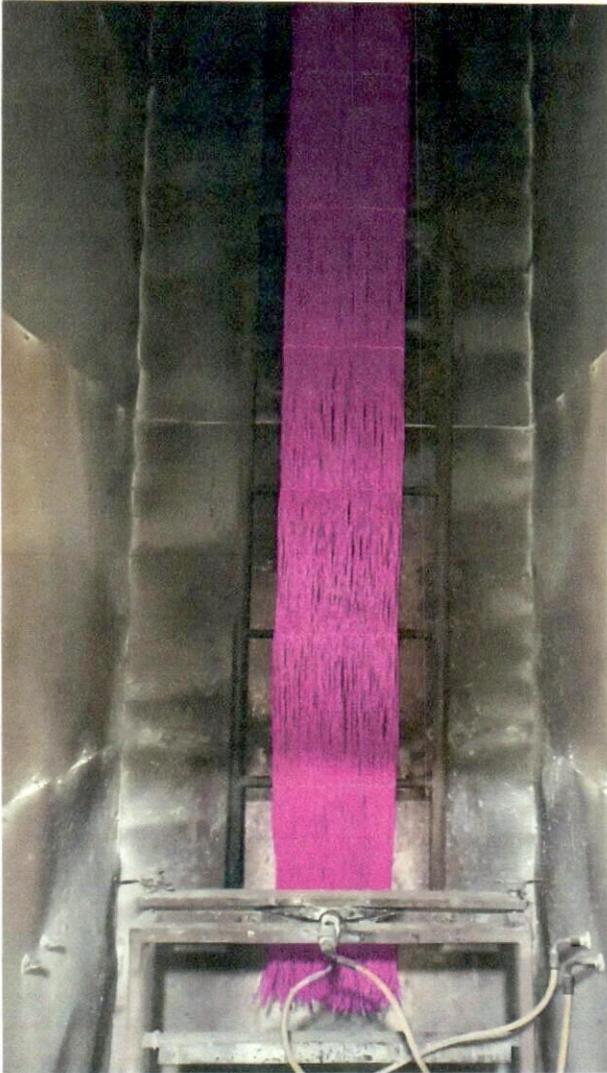


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Test for vertical flame spread of vertically-mounted bunched wires or cables - Category C



Before test



After test

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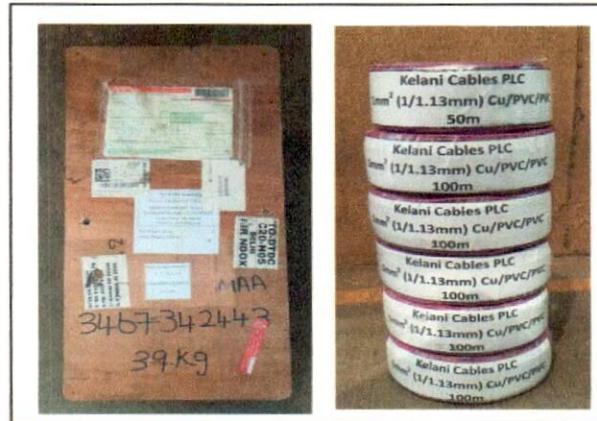


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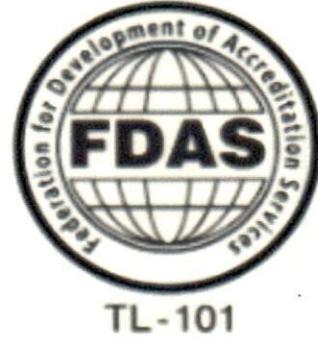

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Test Report No.: **RTRCLTL10125000416F**

Name of Client : **Kelani Cables PLC**

No. of Pages : **09 (Nine)**

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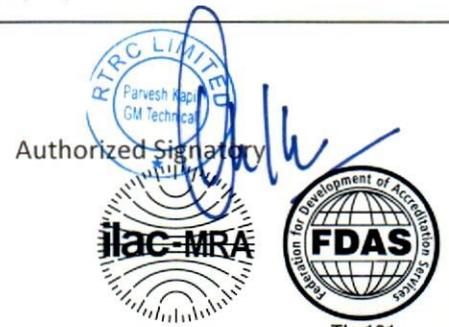
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TEST REPORT

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SECTION - A (GENERAL)

DATE OF RECEIPT OF TEST ITEM : 14/04/2025		DATE OF ISSUE OF TEST REPORT : 05/05/2025
1	JOB ID NUMBER	RTRC/JC/C/25D2203F
2	NAME OF CUSTOMER	Kelani Cables PLC
3	ADDRESS OF CUSTOMER	P.O. Box 14, Wewelduwa, kelaniya, Sri Lanka
4	CUSTOMER REFERENCE No. AND DATE	Request Letter dated : 21/04/2025
5	ITEM DESCRIPTION	2C X 1.5 mm ² Cu/PVC/PVC Flat Twin Cable
6	MODE OF PACKING	Sample wrapped with polythene sheets and packed in cartoon box
7	CONDITION (WHEN RECEIVED)	Satisfactory
8	QUANTITY OF ITEM	250 Metres (approx.) cable
9	SEAL NUMBER (IF ANY)	Nil
10	TESTS TO BE CONDUCTED	1. Oxygen Index test, 2. Temperature index test, 3. Flame retardance test on bunched cable - Category C, 4. Tests on electric cables under fire conditions (Vertical flame propagation test on single cable).
11	REFERENCE SPECIFICATION	ISO 4589-2:2017, ISO 4589-3:2017, IEC 60332-3-24:2018, IEC 60332-1-2:2004 +AMD1:2015
12	DISCIPLINE	Electrical Testing
13	GROUP	Cables and Wires
14	DATE OF STARTING TESTS	23/04/2025
15	DATE OF COMPLETION OF TESTS	02/05/2025



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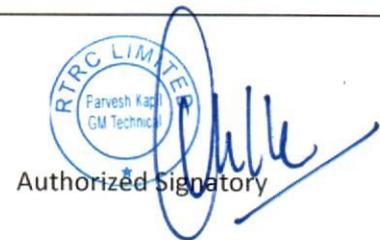
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JOB ID NO. : RTRC/JC/C/25D2203F	

16	ADDITIONS, DEVIATIONS OR EXCLUSIONS (IF ANY)	Nil
17	NAME OF FIRM	Nil
18	IDENTIFICATION	Nil
19	TEST WITNESSED BY (CUSTOMER REPRESENTATIVE)	Nil
20	TEST WITNESSED BY (OTHER THAN CUSTOMER REPRESENTATIVE)	Nil
21	TEST SUBCONTRACTED WITH ADDRESS OF THE LABORATORY	Nil
22	EMBOSSING	Nil
23	PRINTING	KELANI ELECTRIC CABLE 300/500 V 6192Y 2X1.5 SQ.MM (7/0.53) CACF 13 2 H SLS 733-2 FIRE SHIELD 00664 M 00664 M
24	SPECIFIC TESTS CONDITIONS (IF ANY)	Nil
25	ENCLOSURE	Nil
26	WHETHER THE RESULTS CONFORM TO SPECIFICATIONS/ISS OR NOT	The sample conforms to the requirements of the test carried out as per ISO 4589-2:2017, ISO 4589-3:2017, IEC 60332-3-24:2018, IEC 60332-1-2:2004+AMD1:2015.

Note :- Hologram is fixed on each page of the test report





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TEST REPORT NO : RTRCLTL10125000416F	Page 3 of 9
JOB ID NO. : RTRC/JC/C/25D2203F	

Sr. No.	Tests	Unit	Specified Requirement	Observed Values	Remarks
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SECTION-B (TESTS)

A)	Oxygen & temperature index test (Measuring the Minimum Oxygen Concentration to Support Candle-Like Combustion of Plastics) ISO 4589-2:2017, ISO 4589-3:2017				
i)	Test Sample (Test specimen dimensions) Cl. 7.2 of ISO 4589-2:2017, Cl. 7.2 of ISO 4589-3:2017	.....	Tests specimen type : IV (Length : 70 to 150 mm), (Width : 6.5±0.5 mm), (Thickness : 3 ± 0.25 mm)	Test specimen type IV (Dimensions satisfactory)	Satisfactory
ii)	Conditioning of test specimens Cl. 7.4 of ISO 4589-2:2017, Cl. 7.4 of ISO 4589-3:2017	.....	Test specimens shall be conditioned for at least 40 h at 23±2°C and 50±5 % relative humidity (RH) immediately prior to use	Satisfactory	Satisfactory
iii)	Environment conditions for testing	.....	Ambient temperature: 23±5°C Relative humidity: 50±5% RH	Satisfactory	Satisfactory
iv)	Calibration of Apparatus	.....	The paramagnetic oxygen analyzer was calibrated by the following:-	.....	.....
			a) When turning the nitrogen flow "on" and closing the oxygen flow, the oxygen concentration display should reads 0.0%	00.0%	Satisfactory
			b) When turning the oxygen flow "on" and closing nitrogen flow, the oxygen concentration display should reads 100.0%	100.0%	Satisfactory
			c) Environmental oxygen concentration display reading	20.8%	Satisfactory
1)	Oxygen Index test (Refer Annexure - A) ISO 4589-2:2017	%	.....	29.9	.....
2)	Temperature Index test (Refer Annexure - A) ISO 4589-2:2017, ISO 4589-3:2017	°C	255

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TEST REPORT NO : RTRCLTL10125000416F

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JOB ID NO. : RTRC/JC/C/25D2203F

Sr. No.	Tests	Unit	Specified Requirement	Observed Values	Remarks
3)	Flame retardance test on bunched cable - Category C (Test for vertical flame spread of vertically-mounted bunched wires or cables - Category C)				
	Conditioning: Cl. 5.1 of IEC 60332-3-24:2018	.....	The test pieces of the sample were conditioned at a temperature of 20±10°C for at least 16 hours, the test pieces are dry.	Satisfactory	Satisfactory
a)	Colour of sheath	.....	.....	Traffic purple (RAL 4006)	.....
b)	Overall dimensions of cable specimen (HxW) (approximate) IEC 60811-203:2012	mm	.....	4.80 x 7.45	.....
c)	Length of each test samples Cl. 5.1 of IEC 60332-3-24:2018	m	3.5 (Min)	3.5	Satisfactory
d)	Number of test samples Cl. 5.2, 5.3 of IEC 60332-3-24: 2018	Nos.	2 (Min)	54	Satisfactory
e)	Test Environment Cl. 4 of IEC 60332-3-10:2018				
i)	External wind speed	m/s	8 (Max)	< 1.0	Satisfactory
ii)	Temperature of inside wall Cl. 4 of IEC 60332-3-10: 2018	°C	5 to 40 (at a point approximately 1500 mm above floor level, 50 mm from a side wall, and 1000 mm from the door)	29	Satisfactory
f)	Total volume of non-metallic material of test sample Cl. 5.2, 9 of IEC 60332-3-24: 2018	Litre/m	1.5 (Nom) (per metre of test sample, of the test pieces)	1.5	Satisfactory


ID-1054
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ID-1051
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TL-101

TEST REPORT NO : RTRCLTL10125000416F

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JOB ID NO. : RTRC/JC/C/25D2203F

Sr. No.	Tests	Unit	Specified Requirement	Observed Values	Remarks
g)	Mounting of the test samples Annex A Table A.1, Cl. 5.3 of IEC 60332-3-24:2018	.....	Test pieces shall be attached to the front of the standard ladder in touching formation in one or more layers up to a maximum total width of 300 mm. There shall be a minimum distance of 50 mm between the edge of the test sample and the inside of the ladder uprights.	Satisfactory	Satisfactory
h)	Layers Cl. 5.3 of IEC 60332-3-24:2018				
	Number of layers	Nos.	.....	2	Satisfactory
	Number of test specimens in the 1 st layer	Nos.		36	Satisfactory
	Number of test specimens in the 2 nd layer	Nos.		18	Satisfactory
	Total tests specimens	Nos.	2 (Min)	54	Satisfactory
i)	Number of Burners Annex A Table A.1 of IEC 60332-3-24:2018	Nos.	One	One	Satisfactory
j)	Flame Application time Cl. 5.4 of IEC 60332-3-24:2018	Minutes	20 (Min)	20	Satisfactory
k)	Time to extinction of all burning or glowing Cl. 5.4 of IEC 60332-3-24:2018	Minutes	The flame shall be extinguished after a maximum time of 60 minutes from the completion of the test flame application time.	1	Conforms
l)	Performance requirements (The extent of damage) Cl. 7, Annex B of IEC 60332-3-24: 2018	m	The maximum extent of the charred portion measured on the sample shall not have reached a height exceeding 2.5 m above the bottom edge of the burner, neither at the front not at the rear of the ladder.	1.10	Conforms





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JOB ID NO. : RTRC/JC/C/25D2203F

Sr. No.	Tests	Unit	Specified Requirement	Observed Values	Remarks
4)	Tests on electric cables under fire conditions (Vertical flame propagation test on single cable) IEC 60332-1-2:2004 +AMD1: 2015	.....	Before testing, all test pieces shall be conditioned at $(23\pm 5)^{\circ}\text{C}$ for not less than 16 h at a relative humidity of $(50 \pm 20)\%$.	Satisfactory	Satisfactory
		mm	The single insulated conductor or cable shall pass the test if the distance between the lower edge of the top support and the onset of charring is greater than 50 mm.	395	Conforms
		mm	In addition, a failure shall be recorded if charring extends downwards to a point greater than 540 mm from the lower edge of the top support.	488	Conforms



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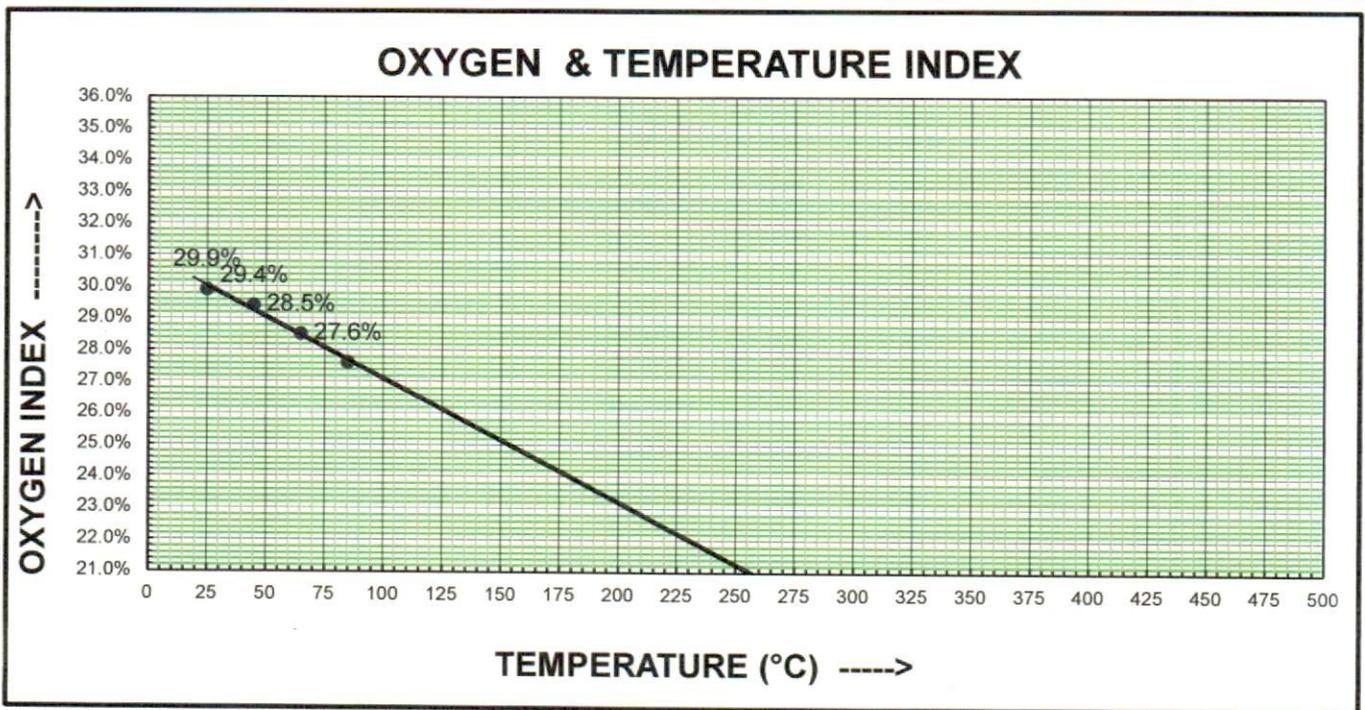
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Annex - A

Oxygen & Temperature index test on insulation material as per ISO 4589-2:2017 & ISO 4589-3:2017

Temperature (°C)	Oxygen Index (%)	Temperature Index (°C)
25	29.9%	255 (By extrapolation of the graph given below)
45	29.4%	
65	28.5%	
85	27.6%	




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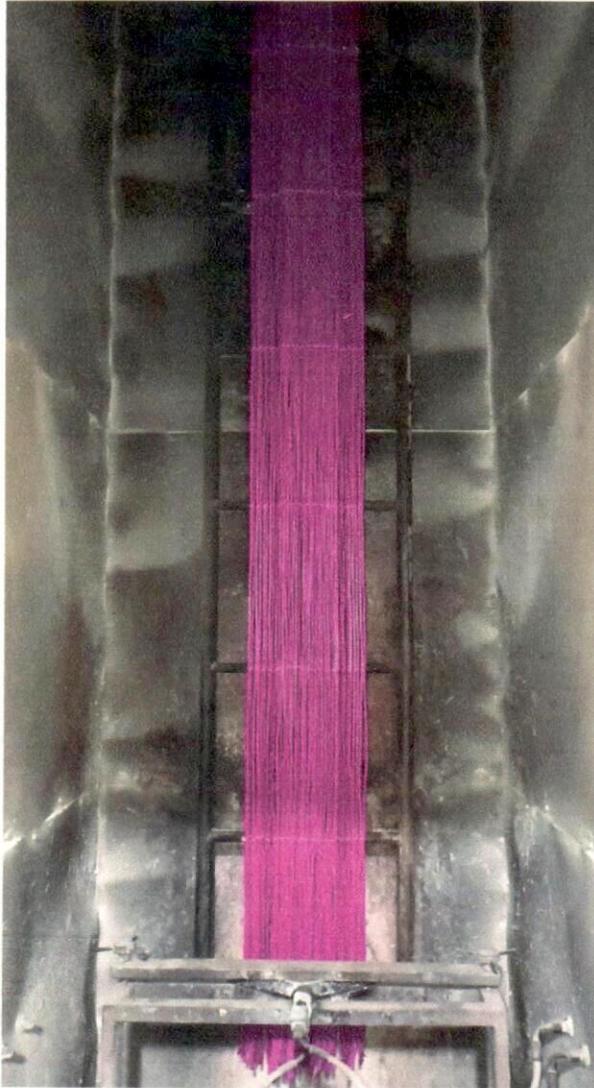


TEST REPORT NO : RTRCLTL10125000416F

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JOB ID NO. : RTRC/JC/C/25D2203F

Test for vertical flame spread of vertically-mounted bunched wires or cables - Category C



Before test



After test


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****End of Report****

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