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2439635

# TEST REPORT



| NAME & ADDRESS OF CUSTOMER | | |
|---|---|---|
| Finecab wires & cables Pvt Ltd.,<br>2-3-465/7, Minister road,<br>Secunderabad – 500003,<br>Telangana state,<br>India | **REPORT No.** : | RP-1415-040370 |
| | **DATE** : | 28-03-2015 |
| | **CUSTOMER REF No.** : | FWCPL/2014-2015/ D.NO.365 |
| | **DATED** : | 07-02-2015 |
| | **DATE OF SAMPLE RECEIPT** | **DATES OF TESTING** |
| | 10-02-2015 | 03-03-15 to 28-03-15 |

| SAMPLE DESCRIPTION | SAMPLE IDENTIFICATION |
|---|---|
| 3Cx185 sq.mm HT XLPE insulated and Black colour PVC outer sheathed armoured A2XCEFY cable.<br>Type of insulation : XLPE<br>Type of PVC outer sheath : ST2<br>Class of stranded Aluminium conductor : 2<br>Cable code : A2XCEFY<br>Voltage grade : 6.35/11 kV (E) | Printing : FinECAB 6.35/11 KV IS:7098 PART-2 [ISI] CM/L 6530160 3CX185 SQ MM A2XCEFY<br>Embossing : FinECAB 6.35/11 KV HT XLPE IS 7098 (P-2) [ISI] CM/L-6530160<br><br>ERDA Sample Code : ERDA-00079184 |
| **TEST DETAILS** | **TEST SPECIFICATION** |
| As per sheet 2 of 18 | IS:7098 (Pt.2)-2011 |

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

PREPARED BY

CHECKED BY

APPROVED BY
Mr. N. R. Pandya
(HOS)

**NOTE:**
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REPORT NO : RP-1415-040370
DATE : 28-03-2015



**TEST DETAILS :**

Test Specification : IS:7098 (Pt.2)-2011

| Sr. No. | Cl. No | Test Particulars. |
|---|---|---|
| 1 | 19.1 (i) | Test on conductor |
| 2 | 19.1 (ii) | Tests for armouring wires/formed wires |
| 3 | 19.1 (iii) | Physical tests for insulation |
| 4 | 19.1 (iv) | Test for thickness of insulation (eccentricity) and sheath |
| 5 | 19.1 (v) | Test on extruded semi conducting screens |
| 6 | 19.1 (vi) | Physical tests for outer sheath |
| 7 | 19.1 (vii) | Thermal ageing test for complete cable |
| 8 | 19.1 (xi) | Insulation resistance (Volume resistivity) test |
| 9 | 19.1 (xv) | Flammability test for PVC sheathed cables |
| 10 | 19.1 (viii) | Partial discharge test |
| 11 | 19.1 (ix) | Bending test |
| 12 | 19.1 (x) | Dielectric power factor test |
| 13 | 19.1 (xii) | Heating cycle test |
| 14 | 19.1 (xiii) | Impulse withstand test |
| 15 | 19.1 (xiv) | High voltage test |

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| Sr. No. | Cl. No. | Tests | Requirement as per Specification | Obtained value | Remarks |
|---|---|---|---|---|---|
| 1 | 19.1 (i) | Test on conductor | | | |
| | a) | Annealing test (for copper) | Not applicable | Not applicable | - |
| | b) | Tensile test (for aluminium) | Not applicable | Not applicable | - |
| | c) | Wrapping test (for aluminium) | Not applicable | Not applicable | - |
| | d) | Conductor resistance test (Corrected at 20°C,ohm/km) | Max. 0.164 | Red 0.160<br>Yellow 0.155<br>Blue 0.157 | Conforms |
| 2 | 19.1 (ii) | Tests for armouring wires/formed wires * | | | |
| | 1) | Dimensions, mm | A 4.0 ± 0.4<br>C 0.8 ± 0.08<br>R 10 ± 1 | 3.9<br>0.79<br>10 | Conforms |
| | 2) | - Tensile strength, $N/mm^2$ | Max. 500<br>Min. 300 | 485 | Conforms |
| | | - Elongation at break, % | Min. 10 | 10 | Conforms |
| | 3) | Wrapping test | The formed wire shall withstand 8 turns without breaking or splitting on being wrapped on cylindrical mandrel. | Withstood | Conforms |
| | 4) | Resistivity test (corrected at 20°C), Ω-cm | Max. $14.5 \times 10^{-6}$ | $12.7 \times 10^{-6}$ | Conforms |
| | 5) | Mass of zinc coating, $gm/m^2$ | Min. 110 | 165 | Conforms |
| | 6) | Uniformity of zinc coating | No red scale shall be observed | No red scale was observed | Conforms |
| | 7) | Adhesion test | The zinc coating shall not crack or flake off to such an extent that the same may be removed by rubbing with bare finger. | The zinc coating did not crack or flake off to such an extent that the same may be removed by rubbing with bare finger. | Conforms |

* As per the customer request, testing was carried out as per IS:3975-1999.

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DATE : 28-03-2015

| Sr. No. | Cl.No. | Tests | Requirement as per Specification | Obtained Value | | Remarks |
|---|---|---|---|---|---|---|
| 3 | 19.1 (iii) | Physical tests for insulation | | | | |
| | a) | Tensile strength and elongation at break | | | | |
| | | -Tensile strength, $N/mm^2$ | Min. 12.5 | Red | 19.0 | Conforms |
| | | | | Yellow | 18.6 | |
| | | | | Blue | 20.4 | |
| | | -Elongation at break, % | Min. 200 | Red | 560 | Conforms |
| | | | | Yellow | 553 | |
| | | | | Blue | 545 | |
| | b) | Ageing in air oven (at 135 ± 3 °C for 7 days) Variation, % | | | | |
| | | -Tensile strength | Max. ± 25 | Red | -7 | Conforms |
| | | | | Yellow | -7 | |
| | | | | Blue | +7 | |
| | | -Elongation at break | Max. ± 25 | Red | -1 | Conforms |
| | | | | Yellow | +2 | |
| | | | | Blue | -2 | |
| | d) | Hot Set test (at 200 ± 3 °C for 15 min with mechanical stress of 20 $N/cm^2$) | | | | |
| | | -Elongation under load, % | Max. 175 | Red | 65 | Conforms |
| | | | | Yellow | 65 | |
| | | | | Blue | 65 | |
| | | -Permanent elongation(set),% | Max. 15 | Red | 0 | Conforms |
| | | | | Yellow | 0 | |
| | | | | Blue | 0 | |
| | e) | Shrinkage test (at 130 ± 3 °C for 1 hour) | | | | |
| | | -Shrinkage, % | Max. 4 | Red | 1.6 | Conforms |
| | | | | Yellow | 1.7 | |
| | | | | Blue | 1.7 | |
| | f) | Water absorption test (gravimetric) (at 85 ± 2 °C for 14 days) | | | | |
| | | -Water absorbed, $mg/cm^2$ | Max. 1 | Red | 0.02 | Conforms |
| | | | | Yellow | 0.02 | |
| | | | | Blue | 0.02 | |

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DATE : 28-03-2015



| Sr. No. | Cl.No. | Tests | Requirement as per Specification | Obtained Value | Remarks |
|---|---|---|---|---|---|
| 4 | 19.1 (iv) | Test for thickness of insulation (eccentricity) and sheath Thickness, mm | | | |
| | | - Insulation | Nom./ Min. 3.6 / 3.14 | Red 4.2/3.96<br>Yellow 4.2/3.89<br>Blue 3.7/3.41 | Conforms |
| | | - Eccentricity of the insulation, % | Max. 15 | Red 11.9<br>Yellow 14.0<br>Blue 11.7 | Conforms |
| | | - Ovality of the core, % | Max. 15 | Red 1.6<br>Yellow 1.6<br>Blue 1.0 | Conforms |
| | | - Inner sheath | Min. 0.7 | 0.7 | Conforms |
| | | - Outer sheath | Min. 2.36 | 2.38 | Conforms |
| 5 | 19.1 (v) | Test on extruded semi conducting screens | | | |
| | a) | Test for strippability of semiconducting strippable insulation screen | Not applicable | Not applicable | - |
| | b) | Volume resistivity | | | |
| | | Resistivity test for semi-conducting screen (at 90 ± 2 °C)* | | | |
| | | - Resistivity of conductor screen, Ohm-meter | Max. 1000 | Red 3.8<br>Yellow 4.1<br>Blue 3.9 | Conforms |
| | | - Resistivity of core screen, Ohm-meter | Max. 500 | Red 3.2<br>Yellow 3.7<br>Blue 3.2 | Conforms |

* As per the customer request the testing was carried out at 90 ± 2 °C.

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DATE : 28-03-2015

| Sr. No. | Cl.No. | Tests | Requirement as per Specification | Obtained Value | Remarks |
|---|---|---|---|---|---|
| 6 | 19.1 (vi) | Physical tests for outer sheath | | | |
| | a) | Tensile strength and elongation at break | | | |
| | | -Tensile strength, $N/mm^2$ | Min. 12.5 | 14.1 | Conforms |
| | | -Elongation at break, % | Min. 150 | 298 | Conforms |
| | b) | Ageing in air oven (at 100 ± 2 °C for 7 days) | | | |
| | | -Tensile strength, $N/mm^2$ | Min. 12.5 | 14.5 | Conforms |
| | | -Elongation at break, % | Min. 150 | 318 | Conforms |
| | | Variation, % | | | |
| | | -Tensile strength | Max. ± 25 | -3 | Conforms |
| | | -Elongation at break | Max. ± 25 | -7 | Conforms |
| | c) | Shrinkage test (at 150 ± 2 °C for 15 min.) | | | |
| | | -Shrinkage, % | Max. 4 | 0.8 | Conforms |
| | d) | Hot deformation test (at 80 ± 2 °C for 6 hrs.) | | | |
| | | -Depth of indentation, % | Max. 50 | 34.7 | Conforms |
| | e) | Loss of mass in air oven (at 100 ± 2 °C for 7 days) | | | |
| | | -Loss of mass, $mg/cm^2$ | Max. 2 | 1.0 | Conforms |
| | f) | Heat shock test (at 150 ± 2 °C for 1 hr.) | No sign of crack or scale shall be observed | No sign of crack or scale was observed | Conforms |
| | g) | Thermal stability test ( at 200 ± 0.5 °C), minutes | Min. 80 | 93 | Conforms |

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| Sr. No. | Cl.No. | Tests | Requirement as per Specification | Obtained Value | Remarks |
|---|---|---|---|---|---|
| 7 | 19.1 (vii) | Thermal ageing test for complete cable sample (at 100 ± 2 °C for 168 hrs) | | | |
| | (1) | Tensile strength and elongation at break for insulation and outer sheath | | | |
| | | **Insulation** | | | |
| | | Variation, % | | | |
| | | -Tensile strength | Max. ± 25 | Red -4<br>Yellow -2<br>Blue +3 | Conforms |
| | | -Elongation at break | Max. ± 25 | Red +1<br>Yellow +1<br>Blue -1 | Conforms |
| | | **Outer sheath** | | | |
| | | -Tensile strength, $N/mm^2$ | Min. 12.5 | 14.2 | Conforms |
| | | -Elongation at break, % | Min. 150 | 308 | Conforms |
| | | Variation, % | | | |
| | | -Tensile strength | Max. ± 25 | -1 | Conforms |
| | | -Elongation at break | Max. ± 25 | -3 | Conforms |
| | (2) | Test on extruded semi conducting screens | | | |
| | | Volume resistivity | | | |
| | | Resistivity test for semi-conducting screen (at 90 ± 2 °C)* | | | |
| | | - Resistivity of conductor screen, Ohm-meter | Max. 1000 | Red 4.2<br>Yellow 4.4<br>Blue 4.2 | Conforms |
| | | - Resistivity of core screen, Ohm-meter | Max. 500 | Red 3.4<br>Yellow 3.9<br>Blue 3.4 | Conforms |

* As per the customer request the testing was carried out at 90 ± 2 °C.

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| Sr. No. | Cl.No. | Tests | Requirement as per Specification | Obtained Value | Remarks |
|---|---|---|---|---|---|
| 8 | 19.1 (xi) | Insulation resistance (Volume resistivity) test Volume resistivity, Ohm-cm | | | |
| | | -at 27 °C | Min. 1 x $10^{14}$ | Red 1.7 x $10^{17}$<br>Yellow 1.5 x $10^{17}$<br>Blue 1.7 x $10^{17}$ | Conforms |
| | | -at 90 °C | Min. 1 x $10^{12}$ | Red 1.0 x $10^{16}$<br>Yellow 8.6 x $10^{15}$<br>Blue 9.2 x $10^{15}$ | Conforms |
| 9 | 19.1 (xv) | Flammability test for PVC sheathed cables | | | |
| | | -Period of burning after removal of flame, seconds | Max. 60 | 10 | Conforms |
| | | -Unaffected portion from the lower edge of the top clamp, mm | Min. 50 | 290 | Conforms |

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**DATE** : 28.03.2015

| Sr. No. | Particulars of tests and cl. No. | Requirement as per specifications | Obtained Value | Remarks |
|---|---|---|---|---|
| 10. | **Partial discharge test:** [As per cl. no. 19.1(viii) of IS : 7098 (Part 2) – 2011] | The test voltage shall be applied and raised to 1.98Uo and maintained for not more than 1 minute between conductor and screen.<br><br>The voltage shall then be reduced to the measuring voltage level of 1.73Uo.<br><br>The measured partial discharge quantity at 1.73Uo shall not exceed 5 pC.<br><br>Sensitivity of the test circuit shall be less than 5 pC.<br><br>The test specimen temperature shall be maintained at ambient temperature. | The test voltage was applied and raised to 1.98Uo (i.e. 12.57 kV) and maintained for not more than 1 minute between conductor and screen.<br><br>The voltage was then reduced to the measuring voltage level of 1.73Uo (i.e. 10.98 kV).<br><br>The measured partial discharge quantity at 1.73Uo (i.e. 10.98 kV) was<br>R phase: 1 pC<br>Y phase: 1 pC<br>B phase: 1 pC<br>Where Uo= 6.35 kV<br>Sensitivity of the test circuit = 1 pC.<br><br>The test specimen temperature was 28.5 °C. | Conforms |
| 11. | **Bending test:** [As per cl. no. 19.1(ix) of IS : 7098 (Part 2) – 2011] | The sample shall be subjected to 3 bending cycles at ambient temperature.<br><br>The diameter of the test cylinder shall be 20D±5%.<br><br>Where,<br>D=Overall diameter of complete cable sample (mm)<br><br>After completing the bending operations, the test sample shall conform the partial discharge test. | The sample was subjected to 3 bending cycles at ambient temperature of 30.0 °C.<br><br>The diameter of the test cylinder was 1260 mm.<br><br>Where,<br>D=Overall diameter of complete cable sample=62.95 mm(Avg.)<br><br>After completing the bending operations, the test sample was subjected to partial discharge test. | Conforms |

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**DATE** : 28.03.2015



| Sr. No. | Particulars of tests and cl. No. | Requirement as per specifications | Obtained Value | Remarks |
|---|---|---|---|---|
| | - **Partial discharge test after bending test** [As per cl. no. 19.1(viii) of IS : 7098 (Part 2) – 2011] | The test voltage shall be applied and raised to 1.98Uo and maintained for not more than 1 minute between conductor and screen. | The test voltage was applied and raised to 1.98Uo (i.e. 12.57 kV) and maintained for not more than 1 minute between conductor and screen. | |
| | | The voltage shall then be reduced to the measuring voltage level of 1.73Uo. | The voltage was then reduced to the measuring voltage level of 1.73Uo. (i.e. 10.98 kV) | |
| | | The measured partial discharge quantity at 1.73Uo shall not exceed 5 pC. | The measured partial discharge quantity at 1.73Uo (i.e. 10.98 kV) was<br>R phase: 1 pC<br>Y phase: 1 pC<br>B phase: 1 pC<br>Where Uo= 6.35 kV | |
| | | Sensitivity of the test circuit shall be less than 5 pC. | Sensitivity of the test circuit = 1 pC. | |
| | | The test specimen temperature shall be maintained at ambient temperature. | The test specimen temperature was 26.0 °C. | |
| 12. | **Dielectric power factor test:** [As per cl. no. 19.1(x) of IS : 7098 (Part 2) – 2011] **a) As a function of voltage:** | The measured value of tan δ at Uo shall not exceed 0.004. | The measured value of tan δ at Uo was<br>R phase : 0.000461<br>Y phase : 0.000384<br>B phase : 0.000564 | Conforms |
| | | The increment of tan δ between 0.5Uo and 2Uo shall not exceed 0.002. | The increment of tan δ between 0.5Uo and 2Uo was<br>R phase : 0.000028<br>Y phase : 0.000023<br>B phase : 0.000027<br>Where, Uo= 6.35 kV | |
| | | The test specimen temperature shall be maintained at ambient temperature. | The test specimen temperature was 26.0 °C | |

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**DATE** : 28.03.2015

| Sr. No. | Particulars of tests and cl. No. | Requirement as per specifications | Obtained Value | Remarks |
|---|---|---|---|---|
| | **b) As a function of temperature** | The measured value of tan δ at 2 kV and at ambient temperature shall not exceed 0.004. | The measured value of tan δ at 2 kV and at ambient temperature of 26.0 °C was<br><br>R phase : 0.000445<br>Y phase : 0.000372<br>B phase : 0.000548 | |
| | | The measured value of tan δ at 2 kV and at 5°C to 10°C above the max. continuous operating conductor temperature (i.e.90°C) shall not exceed 0.008. | The measured value of tan δ at 2 kV and at 97 °C was<br><br>R phase : 0.00487<br>Y phase : 0.00416<br>B phase : 0.00479 | |
| 13. | **Heating cycle test:**<br>[As per cl. no. 19.1(xii) of IS : 7098 ( Part 2 ) – 2011] | The sample shall be subjected to 20 heating cycles (including 5 hrs. heating followed by 3 hrs. cooling in natural air).<br>The conductor temperature shall be maintained 5°C to 10°C above the maximum conductor temperature for at least 2 hrs. of each heating period. | The sample was subjected to 20 heating cycles (including 5 hrs. heating followed by 3 hrs. cooling in natural air).<br>Stable conductor temperature during last 2 hours of each heating cycle was maintained between 95 ° C to 100 °C. | Conforms |
| | | After completing the last heating cycle, the test sample shall conform to the partial discharge & dielectric power factor test. | After completing the last heating cycle, the test sample was subjected to the partial discharge test and dielectric power factor test. | |
| | - **Partial discharge test after heating cycle test:**<br>[As per cl. no. 19.1(viii) of IS : 7098 (Part 2) – 2011] | The test voltage shall be applied and raised to 1.98Uo and maintained for not more than 1 minute between conductor and screen. | The test voltage was applied and raised to 1.98Uo (i.e. 12.57 kV) and maintained for not more than 1 minute between conductor and screen. | |
| | | The voltage shall then be reduced to the measuring voltage level of 1.73Uo. | The voltage was then reduced to the measuring voltage level of 1.73Uo (i.e. 10.98 kV). | |

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**DATE** : 28.03.2015

| Sr. No. | Particulars of tests and cl. No. | Requirement as per specifications | Obtained Value | Remarks |
|---|---|---|---|---|
| | | The measured partial discharge quantity at 1.73Uo shall not exceed 5 pC. | The measured partial discharge quantity at 1.73Uo (i.e. 10.98 kV) was<br>R phase: 1 pC<br>Y phase: 1 pC<br>B phase: 1 pC<br>Where Uo= 6.35 kV | |
| | | Sensitivity of the test circuit shall be less than 5 pC. | Sensitivity of the test circuit is 1 pC. | |
| | | The test specimen temperature shall be maintained at ambient temperature. | The test specimen temperature was 29.5 °C. | |
| | - **Dielectric power factor test as a function of voltage after heating cycle test**<br>[As per cl. no. 19.1(x)(a) of IS : 7098 (Part 2) – 2011] | The measured value of tan δ at Uo shall not exceed 0.004. | The measured value of tan δ at Uo was<br>R phase : 0.000683<br>Y phase : 0.000483<br>B phase : 0.000698 | |
| | | The increment of tan δ between 0.5Uo and 2Uo shall not exceed 0.002. | The increment of tan δ between 0.5Uo and 2Uo was<br>R phase : 0.000091<br>Y phase : 0.000009<br>B phase : 0.000015 | |
| | | The test specimen temperature shall be maintained at ambient temperature. | The test specimen temperature was 29.5 °C. | |

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**TEST REPORT NO.:** RP-1415-040370 **SHEET NO. :** 13 OF 18
**DATE :** 28/03/2015

## 14) IMPULSE WITHSTAND TEST

(As per Cl. No. 19.1(xiii) of IS:7098 (Part-2)-2011)

**Atmospheric Conditions**

Test Temperature : 95.0 °C

**TEST PARAMETERS**

Voltage Grade : 6.35/11 kV
Test Voltage : 75 kVp
No. of shots applied :10 +ve & 10 -ve polarity shots on each phase
No. of shots recorded :Calibration, First & Last shot for both polarities for each phase

**Calibration Pulse Details**

Peak Magnitude : 47.89 kVp
Waveshape : 1.370/46.42 µs

| Sr.No. | Test Voltage Applied in kVp | | | | | |
|---|---|---|---|---|---|---|
| | Phase-R | | Phase-Y | | Phase-B | |
| | (+)ve | (-)ve | (+)ve | (-)ve | (+)ve | (-)ve |
| 1 | 75.06 | 75.55 | 73.97 | 74.97 | 76.87 | 74.20 |
| 2 | 75.10 | 76.20 | 76.92 | 74.00 | 75.12 | 76.32 |
| 3 | 75.82 | 76.40 | 75.10 | 73.83 | 75.82 | 77.12 |
| 4 | 75.92 | 75.90 | 73.92 | 74.72 | 75.92 | 75.92 |
| 5 | 74.10 | 75.50 | 75.72 | 75.10 | 74.12 | 75.50 |
| 6 | 74.12 | 76.50 | 75.82 | 74.40 | 74.16 | 76.52 |
| 7 | 73.92 | 75.82 | 74.70 | 75.72 | 73.92 | 75.82 |
| 8 | 74.30 | 75.32 | 73.32 | 75.62 | 74.30 | 75.30 |
| 9 | 74.52 | 75.91 | 73.32 | 75.00 | 74.20 | 75.90 |
| 10 | 73.82 | 76.16 | 74.09 | 74.63 | 75.72 | 75.05 |

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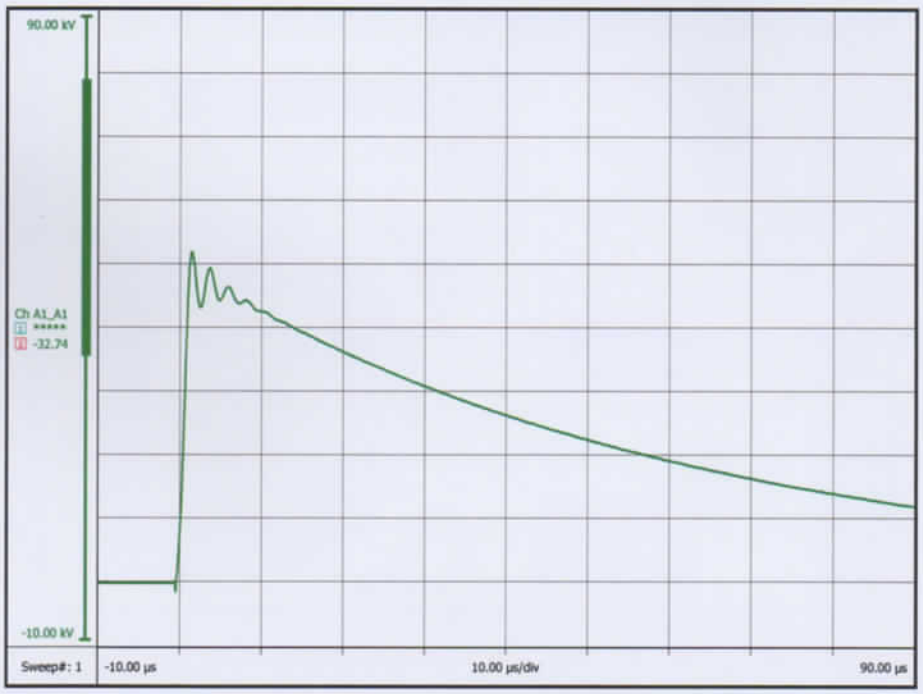
**TEST REPORT NO.:** RP-1415-040370 **SHEET NO.:** 14 OF 18
**DATE** : 28/03/2015

## IMPULSE WITHSTAND TEST ON HT XLPE CABLE

### CALIBRATION PULSE




| | |
|---|---|
| T1 1.370 µs | T2 46.42 µs |
| Up 47.89 kV | |

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**TEST REPORT NO.:** RP-1415-040370 **SHEET NO.:** 15 OF 18
**DATE** : 28/03/2015

## IMPULSE WITHSTAND TEST ON HT XLPE CABLE (PHASE-R)

### POSITIVE POLARITY

**FIRST SHOT**

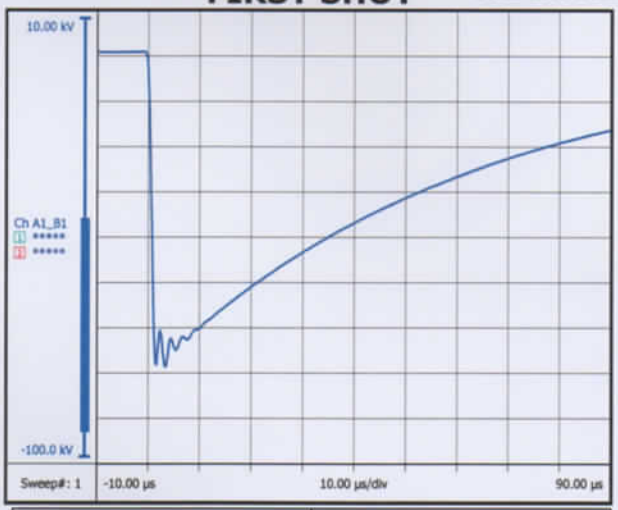

| | |
|---|---|
| T1 1.449 µs | T2 45.66 µs |
| Up 75.06 kV | |

**LAST SHOT**


| | |
|---|---|
| T1 1.451 µs | T2 45.63 µs |
| Up 73.82 kV | |

### NEGATIVE POLARITY

**FIRST SHOT**




| | |
|---|---|
| T1 1.435 µs | T2 45.94 µs |
| Up -75.55 kV | |

**LAST SHOT**


| | |
|---|---|
| T1 1.463 µs | T2 45.56 µs |
| Up -76.16 kV | |

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**TEST REPORT NO.:** RP-1415-040370 **SHEET NO.:** 16 OF 18
**DATE** : 28/03/2015

## IMPULSE WITHSTAND TEST ON HT XLPE CABLE (PHASE-Y)

### POSITIVE POLARITY

**FIRST SHOT**


| | |
|---|---|
| T1 1.463 µs | T2 45.16 µs |
| Up 73.97 kV | |

**LAST SHOT**


| | |
|---|---|
| T1 1.433 µs | T2 45.20 µs |
| Up 74.09 kV | |

### NEGATIVE POLARITY

**FIRST SHOT**


| | |
|---|---|
| T1 1.462 µs | T2 45.32 µs |
| Up -74.97 kV | |

**LAST SHOT**


| | |
|---|---|
| T1 1.461 µs | T2 45.23 µs |
| Up -74.63 kV | |

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**TEST REPORT NO.:** RP-1415-040370 **SHEET NO.:** 17 OF 18
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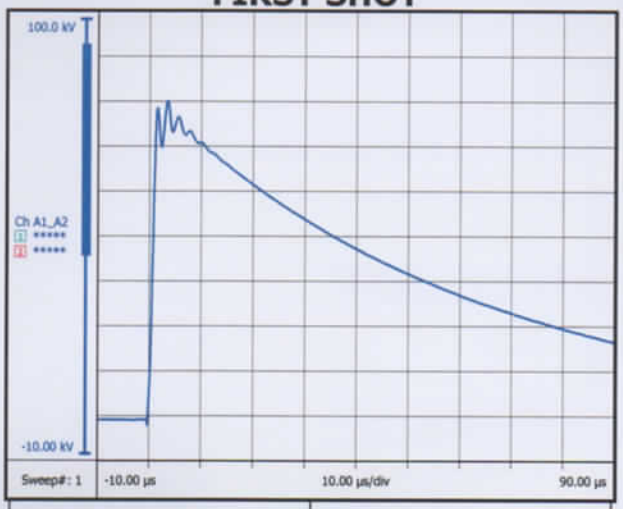
## IMPULSE WITHSTAND TEST ON HT XLPE CABLE (PHASE-B) POSITIVE POLARITY

### FIRST SHOT



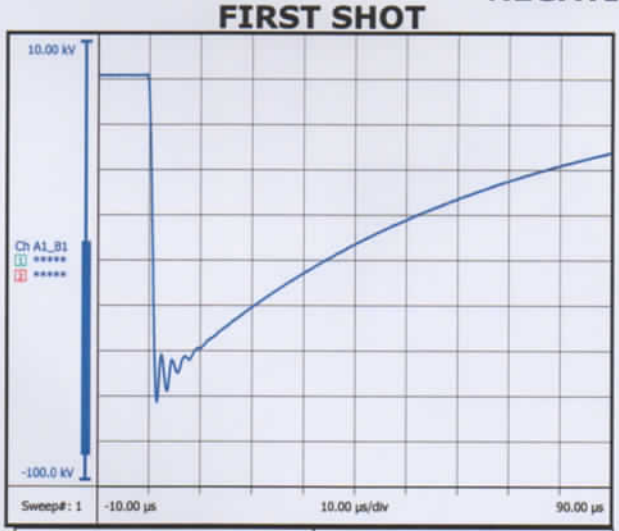

| | |
|---|---|
| T1 1.526 µs | T2 45.54 µs |
| Up 76.87 kV | |

### LAST SHOT


| | |
|---|---|
| T1 1.320 µs | T2 46.55 µs |
| Up 75.72 kV | |

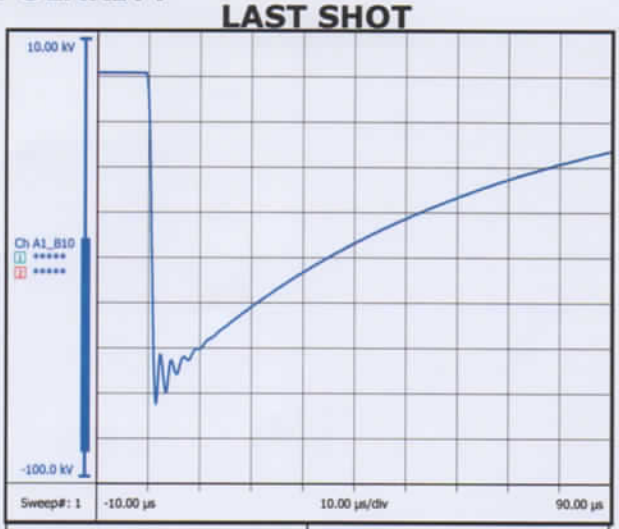
## NEGATIVE POLARITY

### FIRST SHOT




| | |
|---|---|
| T1 1.319 µs | T2 46.55 µs |
| Up -74.20 kV | |

### LAST SHOT




| | |
|---|---|
| T1 1.312 µs | T2 46.47 µs |
| Up -75.05 kV | |

**REMARKS:** The above sample **"CONFORMS"** to the requirements of aforesaid reference standard with respect to the test carried out.

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**REPORT NO.** : RP-1415-040370 **SHEET**: 18 of 18
**DATE** : 28.03.2015

| Sr. No. | Particulars of tests and cl. No. | Requirement as per specifications | Obtained Value | Remarks |
|---|---|---|---|---|
| 15. | **High voltage test:** [As per cl. no. 19.1(xiv) of IS : 7098 ( Part 2 ) – 2011] | The cable sample shall withstand the power frequency voltage of 4Uo for 4 hours without any breakdown.<br><br>The test specimen temperature shall be maintained at ambient temperature. | The cable sample withstood the power frequency voltage of 4Uo (i.e. 25.4 kV) for 4 hours without any breakdown.<br><br>Where, Uo = 6.35 kV<br><br>The test specimen temperature was 33.5 °C. | Conforms |

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