केन्द्रीय विद्युत अनुसंधान संस्थान
(भारत सरकार की सोसाइटी, विद्युत मंत्रालय)
प्रो सर सी. वी. रामन रोड़, सदाशिवनगर डाक घर, पो. बा. सं. 8066, बेंगलूर - 560 080
CENTRAL POWER RESEARCH INSTITUTE
(A Govt of India Society under Min. of Power)
Prof. Sir C.V. Raman Road, Sadashivanagar P.O., P.B. No. 8066, Bangalore - 560 080, India
वेबसाइट/website : http://www.cpri.in

E-mail :mallik@cpri.in

BY SPEED POST

DIAGNOSTIC, CABLES & CAPACITORS DIVISION

CABLES LAB

2/1/DCCD/CAB/2012-13 Date:16.10.2012

M/s.National Cables Industry
P.O. Box 27472, Al Sajja Industrial Area,
Al Dhaid Road, Sharjah, UAE

Dear Sir,

Kind Attention: . Mr. Altaf Ahmed

This has reference to your request regarding type testing of 3 x240 mm² AL/XLPE/LAT/SWA/PE 6.35/11(12) kV Cable.

As requested, the tests have been completed and our test report No. DCCD-12833 dated 01.10.2012 is enclosed.

In order to prevent tampering of test report, CPRI has introduced hologram on the first page of the test report with effect from 01.10.2007.

Any discrepancy in these test reports may be brought to notice within forty five days from the date of issue of test reports. Please acknowledge the receipt of the test report.

Thanking you

Yours faithfully

(K.Mallikarjunappa)
Joint Director

CPRI

TEST REPORT

Central Power Research Institute

(A Govt.of India Society,)
P.B. No.8066, Sadashivanagar Post Office
Prof. Sir.C.V. Raman Road,
Bangalore - 560 080(INDIA)

CENTRAL POWER RESEARCH INSTITUTE

CPRI

TYPE TEST REPORT

Test Report Number : DCCD- 12833 **Dated**: 01.10.2012

Name & Address of the Customer : M/s.National Cables Industry
P.O. Box 27472, Al Sajja Industrial Area,
Al Dhaid Road, Sharjah, UAE

Name & Address of the Manufacturer : M/s.National Cables Industry
P.O. Box, 27472 Al Sajja Industrial Area,
Al Dhaid Road, Sharjah, UAE

Particulars of sample tested : 3x240 mm² AL/XLPE/LAT/SWA/PE 6.35/11(12) kV Cable
Condition of the sample on receipt : New
Type : XLPE cable
Designation :

Conductor Material	:	Aluminum
Size	:	240 mm^2
Number of cores	:	Three
Insulation	:	XLPE
Inner Sheath	:	PVC
Armour	:	Galvanized Steel Round Wire
Outer Sheath	:	PE with Graphite coating
Voltage Rating	:	6.35/11(12) kV
Embossing	:	DEWA ELECTRIC CABLE 11000 V, 3X240 SQ.MM AL/XLPE/LAT/SWA/PE, IEC 60502-2, NATIONAL CABLES INDUSTRY, SHARJAH, UAE CONTRACT NO: DEWA/CE/0616A/2011/PO: 3411200155, 2012

Serial Number : DRUM # 50845561
Number of Samples Tested : One
Date(s) of Test(s) : 23.08.2012 to 26.09.2012
CPRI Sample Code no(s) : DCCDCAB12S0150
Particulars of test conducted : Type Test
Test in accordance with
Standard /Specification : As per IEC 60502-2 -2005 and DEWA Specification
Sampling plan : Not Applicable
Customer's requirement : As per IEC 60502-2 -2005 and DEWA specification
Deviation if any : Nil
Name of the witnessing persons
Customer's representatives : Mr. Altaf Ahmed & Mr. K. Radhakrishnan
Other than customer's representatives : Mr. Ashraf Moatasim Abdel Monem,
Mr. Humaid Bakhit Humaid Al Shamsi Alshami &
Mr. Tammam Ahmad Chami of DEWA

Test subcontracted with address
of the laboratory : Nil
Documents constituting this report (in words)
Number of sheets : Twelve (One report of 3 sheets)
Number of oscillogram/s : Twelve (Three Sheets)
Number of graphs : Nil
Number of photos : Nil
Number of test circuit diagrams : Nil
Number of drawings : One

(Thirumurthy)
TEST ENGINEER

(K.Mallikarjunappa)
Joint Director

DIAGNOSTIC CABLES & CAPACITORS DIVISION
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TEST REPORT

Test Report Number: DCCD- 12833 **Dated**: 01.10.2012

TEST RESULTS

I. TESTS ON CONDUCTOR

1. Conductor Resistance Test:

Sl. No	Core Identification	Resistance in Ω/Km at 20°C	
		Observed Values	Specified value (Max)
1.	Red	0.1240	0.125
2.	Yellow	0.1240	
3.	Blue	0.1240	

2. Conductor Examination:

Sl. No	Core Identification	Number of Strands in Conductor	
		Observed Values	Specified value (Min)
1.	Red	37	30
2.	Yellow	37	
3.	Blue	37	

II. TEST ON ARMOUR

1. Test for dimensions:

a) Type: Galvanized steel round wire
b) Specified Nominal Diameter : 3.15 – 5 % mm
c) Observed Nominal Diameter : 3.13 mm

2. D.C Resistance of Cable Armour:

a) Observed Resistance in Ω/Km at 20°C : 0.235 Ω/Km at 20°C

III. TESTS ON INSULATION

1. Test for Thickness of Insulation

Sl. No	Core Identification	Observed Values (mm)		Specified Values (mm)	
		Minimum	Nominal	Minimum	Nominal
1.	Red	3.418	3.640	2.96	3.40
2.	Yellow	3.402	3.501		
3.	Blue	3.413	3.503		

2. Tensile Strength and Elongation at Break

A. Before Ageing:

Sl.No	Core Identification	Observed Values		Specified Values(Min)	
		Tensile Strength (N/mm²)	Elongation at Break (%)	Tensile Strength (N/mm²)	Elongation at Break (%)
1.	Red	17.21	505.0	12.5	200
2.	Yellow	16.96	530.0		
3.	Blue	19.39	550.0		

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TEST RESULTS

B. Ageing:

Sample	Temperature	Duration
Dumb- bell Specimens	135 ± 3 ^{0} C	168 Hours

C. After Ageing:

Sl.No	Core Identification	Observed Values	
		Tensile Strength (N/mm²)	Elongation at Break (%)
1.	Red	20.04	560.0
2.	Yellow	15.12	530.0
3.	Blue	14.84	565.0

D. Variations Observed From Before Ageing Samples:

Sl.No	Core Identification	Observed % Variations		Specified % Variations (Max)	
		Tensile Strength (%)	Elongation at Break (%)	Tensile Strength (%)	Elongation at Break (%)
1.	Red	-16.42	10.89	± 25	± 25
2.	Yellow	-10.86	0.00		
3.	Blue	-23.50	2.73		

E. After Completed Cable Ageing:

(i) Ageing :

Sample	Temperature	Duration
200 mm of Completed Cable	100 ± 2°C	168 Hours

(ii) Tensile Strength & Elongation at Break after Completed Cable Ageing:

Sl.No	Core Identification	Observed Values	
		Tensile Strength (N/mm²)	Elongation at Break (%)
1.	Red	16.18	555.0
2.	Yellow	15.23	535.0
3.	Blue	15.36	560.0

iii) Variations Observed from Before Ageing Samples

Sl.No	Core Identification	Observed % Variations		Specified % Variations (Max)	
		Tensile Strength (%)	Elongation at Break (%)	Tensile Strength (%)	Elongation at Break (%)
1.	Red	-6.02	9.90	± 25	± 25
2.	Yellow	-10.23	0.94		
3.	Blue	-20.78	1.82		

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TEST RESULTS

3. Water Absorption Test (Gravimetric)

a) Temperature : 85 ± 2 Deg.C
b) Duration : 336 Hours

Sl.No	Core Identification	Water absorbed in (mg/cm²)	
		Observed Values	Specified Value (Max)
1.	Red	0.12	1.0
2.	Yellow	0.16	
3.	Blue	0.13	

4. Shrinkage Test:

a) Temperature : 130 ± 3 Deg.C
b) Duration : One Hour

Sl.No	Core Identification	Shrinkage in Percentage (%)	
		Observed Values	Specified Value(Max)
1.	Red	1.24	4.0
2.	Yellow	0.54	
3.	Blue	0.82	

5. Hot Set Test:

Sl. No.	Core Identification	Observed Values (%)		Specified Values (Max) (%)	
		Hot set Elongation at 200°C	Permanent set Elongation	Hot set Elongation at 200°C	Permanent set Elongation
1.	Red	120.0	0.55	175	15
2.	Yellow	120.0	0.95		
3.	Blue	117.5	0.70		

6. Thickness of Primary PE sheath over the cores:

Sl. No	Core Identification	Observed Values (mm)		Specified Values (mm)	
		Minimum	Nominal	Minimum	Nominal
1.	Red	1.84	1.99	----	1.20
2.	Yellow	2.04	2.08		
3.	Blue	1.92	2.09		

7. Thickness of Laminated Aluminium Tape over the cores:

Sl. No	Core Identification	Observed Values (mm)		Specified Values (mm)	
		Minimum	Nominal	Minimum	Nominal
1.	Red	0.412	0.45	----	0.20
2.	Yellow	0.348	0.39		
3.	Blue	0.423	0.45		

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TEST RESULTS

IV. TESTS ON SEMICONDUCTING SCREEN

1(a). Test for Thickness of Conductor Semiconducting Screen:

Sl. No.	Core Identification	Observed Values (mm)		Specified Values (mm)	
		Minimum	Nominal	Minimum	Nominal
1.	Red	1.008	1.105	---	0.60
2.	Yellow	1.109	1.228		
3.	Blue	1.067	1.177		

1(b). Test for Thickness of insulation Semiconducting screen

Sl. No	Core Identification	Observed Values (mm)		Specified Values (mm)	
		Minimum	Nominal	Minimum	Nominal
1.	Red	1.233	1.374	1.0	----
2.	Yellow	1.312	1.387		
3.	Blue	1.214	1.356		

2. Resistivity of Semiconducting Conductor Screen

Sl. No	Core Identification	Resistivity of Conductor Screen in Ω-m at 90°C			
		Observed Values		Specified Value (max)	
		Unaged Sample	Aged sample	Unaged sample	Aged sample
1.	Red	4.202	1.640	1000	1000
2.	Yellow	2.381	2.649		
3.	Blue	4.363	5.586		

3. Resistivity of Semiconducting Insulation Screen

Sl. No	Core Identification	Resistivity of Insulation Screen in Ω-m at 90°C			
		Observed Values		Specified Value (Max)	
		Unaged Sample	Aged sample	Unaged Sample	Aged Sample
1.	Red	37.72	9.02	500	500
2.	Yellow	31.03	11.72		
3.	Blue	47.99	10.47		

4. Stripability Test for Insulation Screen:

a) Specified force required to remove 10 mm strip from the insulation : Between 4N to 45 N

b) Observed values:

Sl.No.	Core Identification	Observed Force required to remove 10 mm strip for a length of 100 mm (N)	
		Unaged Sample	Aged Sample
1	Red	21.53	21.35
2	Yellow	21.06	17.07
3	Blue	18.91	15.67

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Test Report Number: DCCD- 12833 **Dated**: 01.10.2012

TEST RESULTS

V. TESTS ON PE OUTERSHEATH

1. Thickness:

i) Specified Minimum : 2.52 mm
ii) Observed Minimum : 3.53 mm

2. Tensile Strength and Elongation at Break:

A. Before Ageing:

Tensile Strength in (N/mm²)		Elongation (%)	
Specified (min)	Observed	Specified (min)	Observed
12.5	22.91	300.0	850

B. Ageing:

Sample	Temperature	Duration
Dumb-bell Sample	110 ± 2°C	240 Hours

C. After Ageing

Observed Tensile Strength in (N/mm²)	Elongation (%)	
	Specified (min)	Observed
21.68	300.0	745.0

D. Completed Cable Ageing:

(i) Ageing

Sample	Temperature	Duration
200 mm of completed Cable	100 ± 2°C	168 Hours

Observed Tensile Strength in (N/mm²)	Elongation (%)	
	Specified (min)	Observed
22.50	300.0	907.50

3. Shrinkage Test:

a) Temperature : 80± 2°C
b) Heating Period : 5 Hours
c) No. of Heating Cycles : 5
d) Specified Percentage shrinkage (Max) : 3.0 %
e) Observed Percentage shrinkage : 2.0 %

4. Carbon Black Content:

a) Specified Carbon Black Content : 2.5 ± 0.5 %
b) Observed Carbon Black Content : 2.058 %

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TEST RESULTS

5. Pressure Test at High Temperature:

a) Temperature : 110 ± 2°C
b) Specified Percentage depth of indentation : 50% (Max)
c) Observed Percentage depth of indentation : 4.43%

VI. TESTS ON PVC INNER SHEATH: (BEDDING)

1. Thickness:

i) Specified minimum : 1.24 mm
ii) Observed Minimum : 1.84 mm

2. Tensile Strength and Elongation at Break

A. Before Ageing:

Tensile Strength in (N/mm²)		Elongation (%)	
Specified (min)	Observed	Specified (min)	Observed
12.5	15.66	150.0	290.0

B. Ageing:

Sample	Temperature	Duration
Dumb-bell Sample	100 ± 2°C	168 Hours

C. After Ageing

Tensile Strength in (N/mm²)		Elongation (%)	
Specified (min)	Observed	Specified (min)	Observed
12.5	14.94	150.0	255.0

D. Variations Observed from Before Ageing samples

Specified (%) Variations (Max)	Observed (%) Variations	
	Tensile Strength	Elongation (%)
±25%	-4.58	-12.07

E. Completed Cable Ageing:

(i) Ageing

Sample	Temperature	Duration
200 mm of completed Cable	100 ± 2°C	168 Hours

(ii) Tensile Strength & Elongation at Break after Completed Cable Ageing:

Tensile Strength in (N/mm²)		Elongation (%)	
Specified (min)	Observed	Specified (min)	Observed
12.5	15.63	150.0	280.0

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(iii) Variations Observed from Before Ageing samples

Specified (%) Variations (Max)	Observed (%) Variations	
	Tensile Strength	Elongation (%)
±25%	-0.17	-3.45

3. Loss of Mass:

Sample	Duration	Temperature	Loss of mass in mg/cm²	
			Specified (max)	Observed
Dumb-bell Specimens	168 Hours	100 ±2°C	1.5	0.34

4. Heat Shock Test:

a) Temperature : 150 ± 3°C
b) Requirement : No Cracks or any other abnormalities should be observed after test.
c) Result : No Cracks or any other abnormalities were observed after test.

5. Elongation Test at Low Temperature:

a) Specified Elongation at Break at -15 ± 2°C : 20% (min)
b) Observed Elongation at Break at -15 ± 2°C : 102%

VII. ELECTRICAL TESTS

The following electrical tests were carried out in the order of sequence.

1. Bending Test

a) Outer dia of conductor : 19.96 mm
b) Outer dia. of Cable : 94.44 mm
c) Diameter of test cylinder : 2220 mm
d) Number of bending cycles : Three

2. Partial Discharge Test

a) Length of the sample : 11.5 metres
b) Sensitivity of the detector : 5 pC
c) Method of connection : High voltage applied to test core conductor and other cores shorted to grounded screen and armour.
d) Measuring voltage (1.73 U_0) : 11 kV ac
e) Specified discharge magnitude at 1.73 U_0 (Max) : 5 pC
f) Observed Discharge magnitude :

Sl.No.	Core Identification	Discharge magnitude in pC
1.	Red	Less than 5 pC
2.	Yellow	Less than 5 pC
3.	Blue	Less than 5 pC

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TEST REPORT

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TEST RESULTS

3. Tan Delta measurement as a function of Temperature:

a) Temperature of the conductor during test : 95-100°C
b) Test Voltage during measurement : 2 kV ac
c) Specified Tan delta (Max) : 0.004
d) Observed Values:

Sl.No.	Core Identification	Capacitance in pF	Tan delta At 98°C
1.	Red	4179.5	0.00080
2.	Yellow	4247.3	0.00067
3.	Blue	4295.7	0.00045

4. Heating Cycle Test:

a) Conductor Temperature during Heating Cycle : 95 -100°C
b) Total Duration of Heating Cycle : 8 hours
c) Heating period after attaining Temperature : 2 hours
d) Natural Cooling Period : 3 hours
e) Number of heating cycles : 20 Only

5. Partial Discharge Test:

a) Length of the sample : 11.5 metres
b) Sensitivity of the detector : 5 pC
c) Method of connection : High voltage applied to test core conductor and other cores shorted to grounded screen and armour
d) Measuring voltage (1.73 Uo) : 11 kV ac
e) Specified discharge magnitude at 1.73 Uo (Max) : 5 pC
f) Observed Discharge magnitude :

Sl.No.	Core Identification	Discharge magnitude in pC
1.	Red	Less than 5 pC
2.	Yellow	Less than 5 pC
3.	Blue	Less than 5 pC

6. Impulse Withstand Test:

Test Voltage kV_{peak}	Temperature of Conductor during Test (°C)	Ambient Temperature (°C)		No. of Impulses
		Dry Bulb	Wet Bulb	
75	95-100	29	26	10 Positive & 10 Negative

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TEST RESULTS

Test Connection	The impulse source was connected to the conductor of the particular core (ends shorted) under test and the screen connected to ground. The conductors of the other two cores which were not under test were shorted together with screen and connected to ground.
Test Result	The three cores of cable withstood ten positive and ten negative polarity lightning impulse voltage applications of 75 kV peak.

Core	Polarity	Shot Number	Oscillogram Number
Red	Positive	First	1214
		Tenth	1221
	Negative	First	1224
		Tenth	1230
Yellow	Positive	First	1237
		Tenth	1244
	Negative	First	1249
		Tenth	1257
Blue	Positive	First	1305
		Tenth	1311
	Negative	First	1314
		Tenth	1320

(OSCILLOGRAMS ENCLOSED)

7. High Voltage Test: (After Impulse Test)

a) Test connection : High voltage connected to test core conductor, screen and armour grounded

b) Test Voltage : 21 kV ac

c) Duration of test : Fifteen Minutes

d) Ambient Temperature : 28°C

e) Length of Sample : 11.5 metres

f) Result :

Sl.No.	Core Identification	Remarks
1.	Red	WITHSTOOD
2.	Yellow	WITHSTOOD
3.	Blue	WITHSTOOD

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TEST REPORT

Test Report Number: DCCD- 12833 **Dated**: 01.10.2012

TEST RESULTS

8. High Voltage Test: (Type Test)

a) Test connection : High voltage connected to test core conductor, screen and armour grounded
b) Test Voltage : 25.4 kV ac
c) Duration of test : Four Hours
d) Ambient Temperature : 28°C
e) Length of Sample : 11.5 metres
f) Result

Sl.No.	Core Identification	Remarks
1.	Red	WITHSTOOD
2.	Yellow	WITHSTOOD
3.	Blue	WITHSTOOD

VIII. Longitudinal Water Tightness Test:

i) Bending test:

A Six metre length of completed cable was subjected for bending test under the following parameters:

a) Outer dia of conductor : 19.96 mm
b) Outer dia. of Cable : 94.44 mm
c) Diameter of test cylinder : 2220 mm
d) Number of bending cycles : Three

ii) A three metre long cable was cut from the cable sample which has been subjected to the bending test and placed horizontally all external covering up to the bedding was removed and three individual cores were subjected to water tightness test as given below.

A ring approx. 50 mm wide was removed from the centre of the length up to the conductor. A suitable water enclosure with tube of 10 mm diameter was so arranged as to position the tube vertically above the ring. The enclosure was filled with water so that the water level in the tube was maintained at 1 metre height above the cable axis. The sample was subjected to heating cycle as given below, after allowing it to remain for 24 hours.

a) Length of cable : 3 metres
b) No. of heating cycles : 10
c) Duration of heating : 5 hours
d) Temperature of the Conductor during heating cycle : 95- 100°C
e) Duration of cooling : 3 hours
f) Result : No traces of water were observed at the ends of the sample during the test and after the test.

IX. Conclusion: The sample meets all the type test requirement of specification IEC 60502-2-2005 & DEWA Specification.

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Test Report Number: DCCD- 12833 **Dated**: 01.10.2012

NOTE

a) The test results relate only to the item(s) tested.

b) Publication or reproduction of this test report in any form other than by complete set of the whole report and in the language written is not permitted without the written consent of CPRI.

c) Any Correction/erasure invalidates the test report.

d) NABL has Accredited this laboratory as per ISO 17025-2005 standard for the tests carried out.

e) Any anomaly/discrepancy in this test report should be brought to the notice of CPRI within 45 days from the date of issue.

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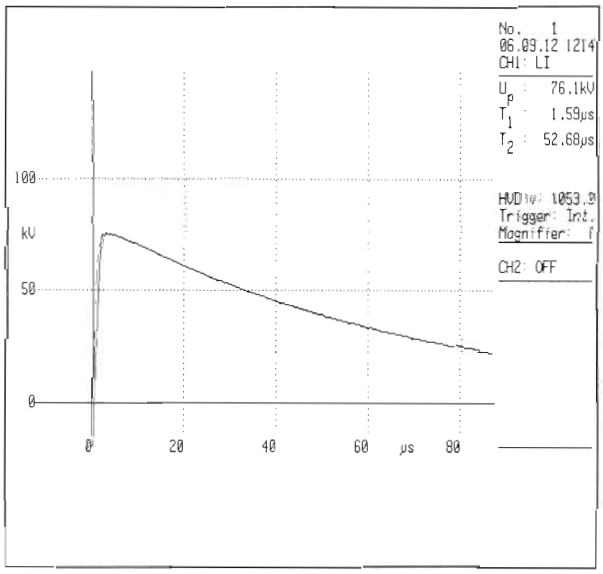
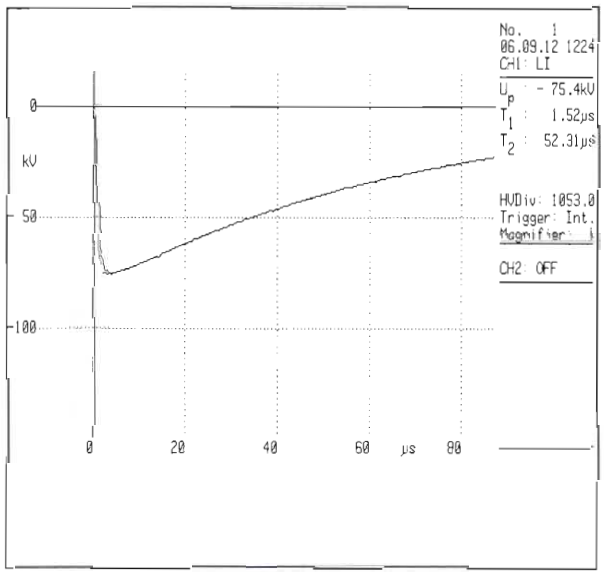
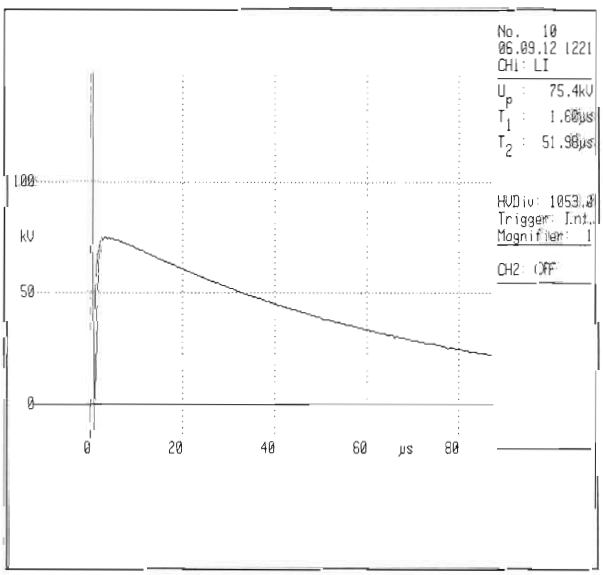
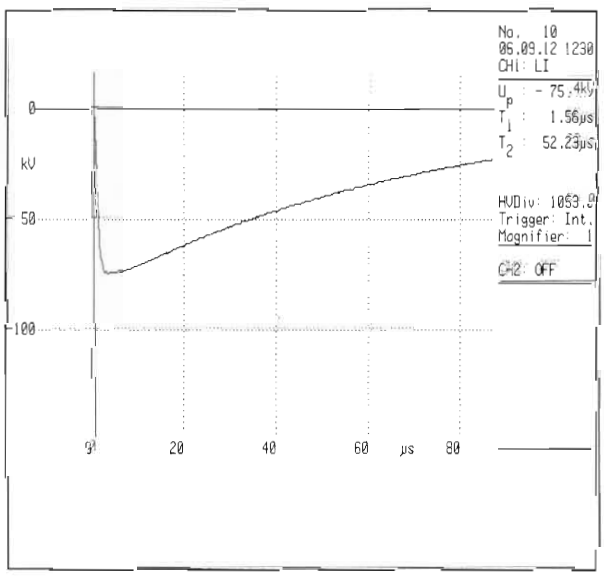
CPRI

Customer : M/s. National Cables Industry., Sharjah
Test Report No.& Date : DCCD-12833 Dated 01.10.2012
Sample Code : DCCDCAB12S0150
Core : Red









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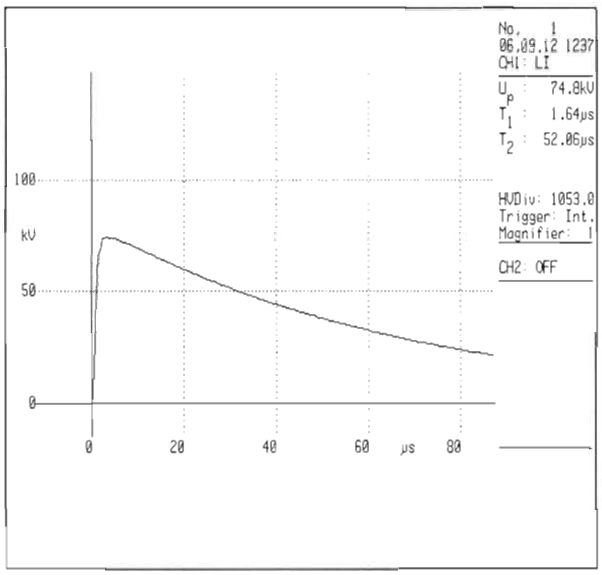
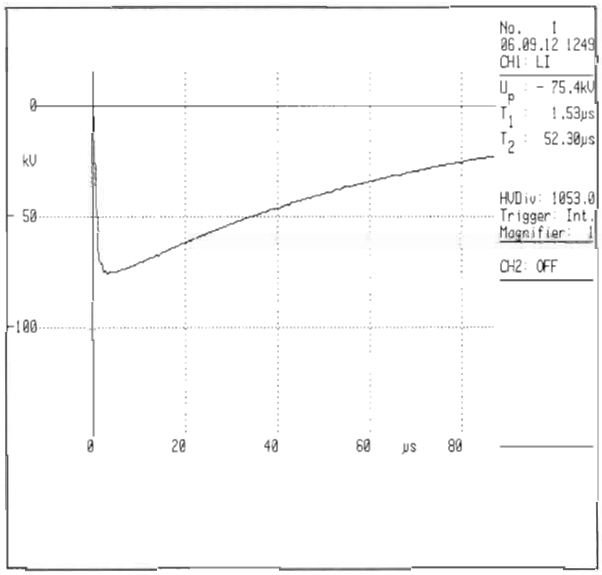
Phone : +91 (0) 80-23604435, Fax : +91 (0) 80 – 23601213

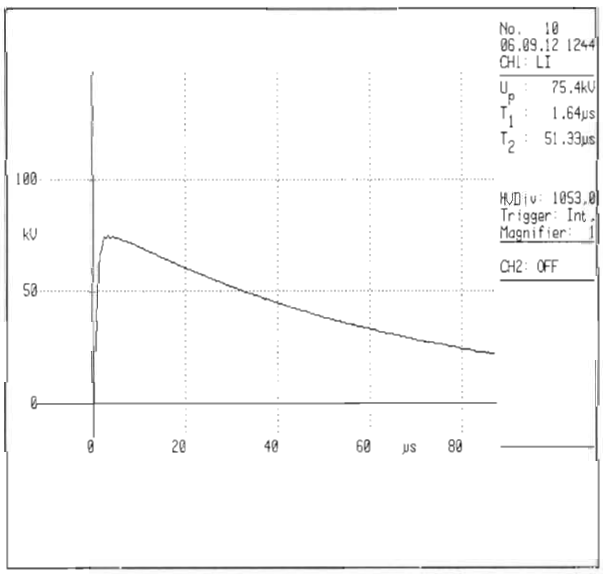
CENTRAL POWER RESEARCH INSTITUTE

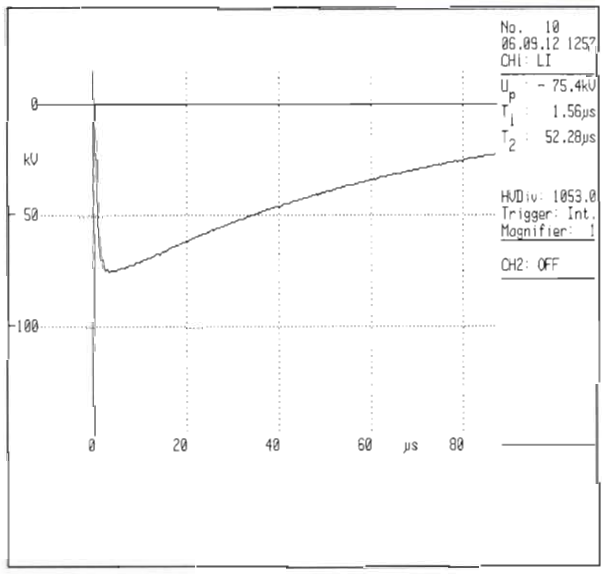
CPRI

Customer : M/s. National Cables Industry., Sharjah
Test Report No.& Date : DCCD-12833 Dated 01.10.2012
Sample Code : DCCDCAB12S0150
Core : Yellow









(Thirumurthy)
TEST ENGINEER

DIAGNOSTIC, CABLES & CAPACITORS DIVISION
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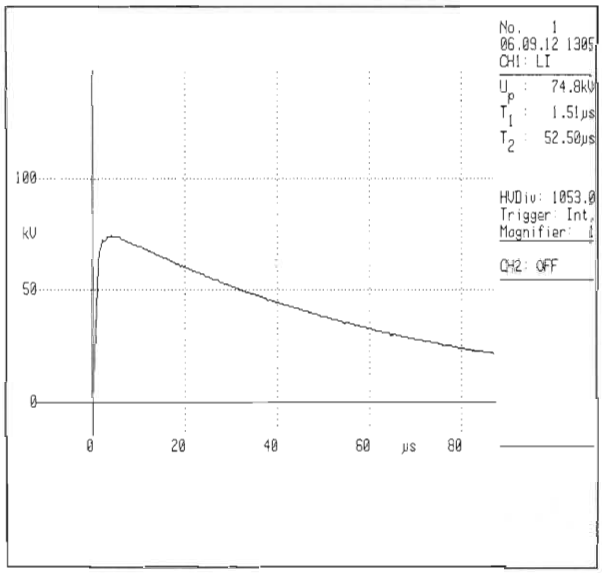
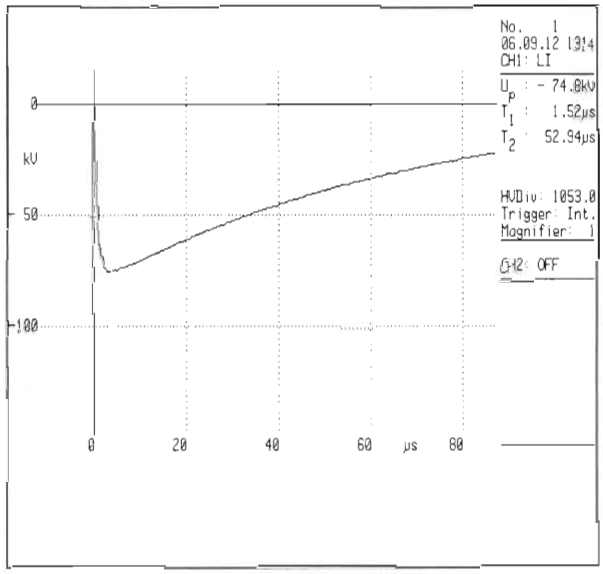
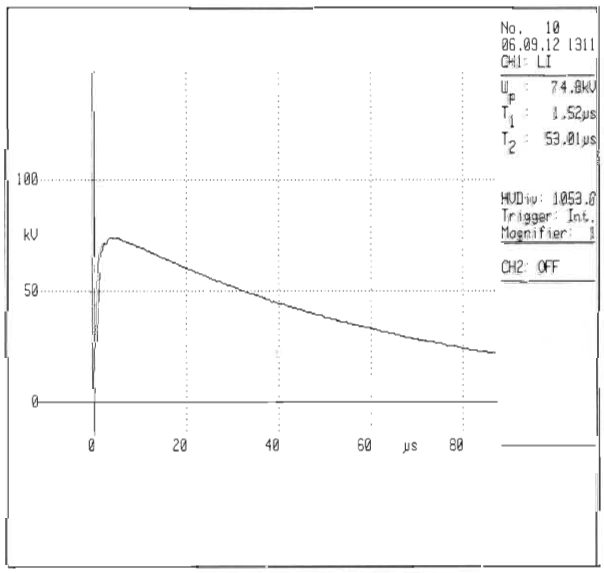
CENTRAL POWER RESEARCH INSTITUTE

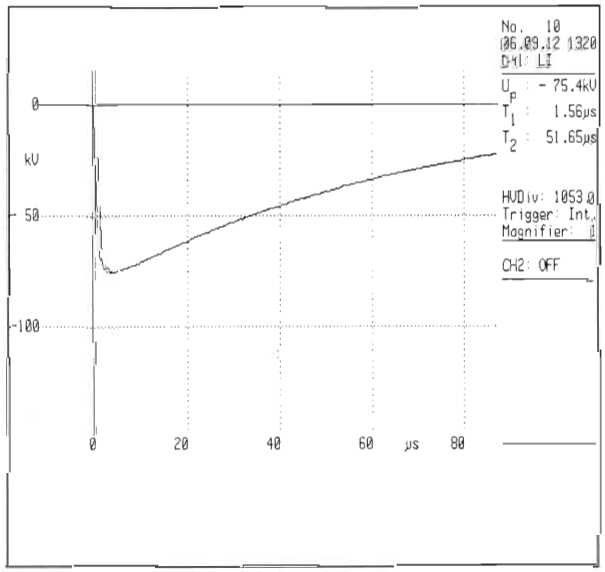
CPRI

Customer : M/s. National Cables Industry., Sharjah
Test Report No.& Date : DCCD-12833 Dated 01.10.2012
Sample Code : DC DCAB12S0150
Core : Blue









(Thirumurthy)
TEST ENGINEER

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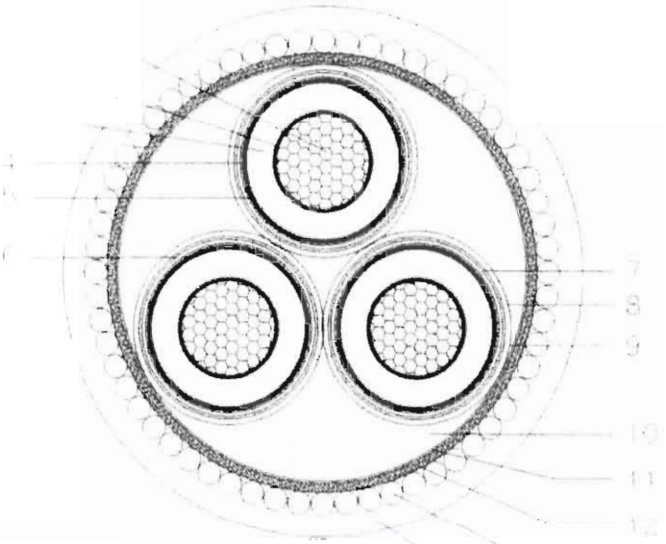
الوطنيـــة لصناعـــة الكابلات
NCI NATIONAL CABLES INDUSTRY

11 kV, 3x240 mm² AL/XLPE/LAT/SWA/PE CABLE

Reference Standard: **IEC Publication No. 60502-2 & DEWA Specs. 1.5.1.3.4.03-Rev.0**



TECHNICAL & QC NCI DEPT

S. No	DESCRIPTION	DETAILS	Nom. thick (mm)	Approx. dia (mm)
01	Conductor	Aluminium - Round stranded compacted, water tight (with water swellable tapes).		18.4
02	Conductor Screen	Extruded semi-conductive compound (Bonded type)	0.6	20.5
03	Insulation	Extruded Cross-linked Polyethylene (XLPE)	3.4	27.3
04	Insulation Screen	Extruded semi-conductive compound (Strippable Type)	Min 1.0	29.5
05	Longi. water barrier	Water swellable tape (semi-conductive)	0.3	30.5
06	Metallic Screen	Copper tapes applied with 20% overlap	0.075	30.8
07	Longi. water barrier	Water swellable tape (semi-conductive)	0.3	31.9
08	Radial water barrier	PE Laminated Aluminium Tape	0.2	32.8
09	Primary Sheath	Extruded Polyethylene	1.2	35.2
10	Assembly / Fillers	Polypropylene Strings	-	76.0
11	Binding Tape	Polypropylene Tape	0.125	76.5
12	Inner Sheath	Extruded Polyvinyl Chloride (PVC)	Min 1.24	79.5
13	Armour	Galvanized Steel Wires	3.15	85.8
14	Outer Sheath	Extruded Polyethylene (PE ST7) Black with Graphite powder coating.	Min 2.52	93

Embossing on the outer sheath, along Two Lines:

DEWA ELECTRIC CABLE 11000 V, 3x240 MM² AL/XLPE/LAT/SWA/PE, IEC 60502-2, NATIONAL CABLES INDUSTRY, SHARJAH U.A.E, CONTRACT NO: DEWA/CE/0616A/2011/PO: 3411200155, 2012

P.O. Box: 27472, Sharjah, U.A.E. Tel: 06-5311888 Fax: 06-5311577
E-mail: n_c_i@emirates.net.ae Website: www.nci.ae

DUBAI QUALITY APPRECIATION PROGRAM

THIS DRAWING PERTAINS TO CPRI TEST REPORT
No. DCCD: 12833
Dated: 01.10.2012
Test Engineer

CENTRAL POWER RESEARCH INSTITUTE

TEST REPORT

Test Report Number	: DMDPOL12G0112.
Dated	: 26.09.2012.
Name & Address of the Customer	: M/s. National Cables Industry, P. O. Box, 27472, Al Sajja industrial Area, Al Dhaid Road, Sharjah.
Customer Reference & Date	: 2/1/DCCD(Cab)/1, dtd. 20.09.2012.
Name & Address of the Manufacturer	: M/s. National Cables Industry, P. O. Box, 27472, Al Sajja industrial Area, Al Dhaid Road, Sharjah, UAE.
Particulars of Sample tested	: PE Outersheath of 3 X 240 sq. mm Aluminium Conductor, XLPE Insulated, PVC innersheathed, PE Outersheathed 6.35/11 kV Cable.
Condition of Sample on Receipt	: New
Type	: Nil
Designation	: PE Outersheath of 3 X 240 sq. mm Aluminium Conductor, XLPE Insulated, PVC innersheathed, PE Outersheathed 6.35/11 kV Cable.
Serial No.	: Nil
No. of Samples tested	: One only.
Sample(s) received on	: 20.09.2012.
Date(s) of Test(s)	: 25.09.2012.
CPRI Sample Code No.	: DCCDCAB12S0150.
Particulars of tests conducted	: Carbon Black Content using TGA method.
Tests in accordance with standard/Specification	: As per IEC 60502-2-2005.
Sampling Plan	: - - - - -
Customer's requirement	: As per above standard
Deviation if any	: Nil
Name of the witnessing persons	
Customer's Representatives	: None
Other than customer's representatives	: None
Test Subcontracted with address of the laboratory	: None
Documents constituting this report (in words)	:
Number of sheets	: Three only.
Number of Oscillogram/s	: Nil
Number of graphs	: Nil
Number of photos	: Nil
Number of Test Circuit Diagrams	: Nil
Number of Drawings	: Nil

(Dr. P. Thomas)
Test Engineer

(V. V. Pattanshetti)
Joint Director

DIELECTRIC MATERIALS DIVISION
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CENTRAL POWER RESEARCH INSTITUTE

TEST REPORT

Test report No. & Date : DMDPOL12G0112, dtd. 20.09.2012.

Identification of the sample : Received the samples in plastic cover labeled as PE Outersheath of 3 X 240 sq. mm Aluminium Conductor, XLPE Insulated, PVC innersheathed, PE Outersheathed 6.35/11 kV Cable.=DMDPOL12G0112.

Sl. No.	Particulars of the Test	Sample No.
		DMDPOL12G0101
1.	Carbon Black Content*, Wt%	2.058

[*Instrument Used : Thermogravimetric Analyser, Model : Q 500, Make : TA Instruments, Test Temperature : up to 850^{0}C under N_2 atmosphere & 20 deg/min Heating Rate and then from 850 to 950 ^{0}C under Synthetic Air atmosphere & 20 Deg/min Heating Rate, Flow Rate: 60 ml/min]

(Dr. P. Thomas)
Test Engineer

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CENTRAL POWER RESEARCH INSTITUTE

CPRI

NOTE

Test report No. & Date : DMDPOL12G0112, dtd. 26.09.2012.

a) The Test results relate only to the item(s) tested.

b) Publication or reproduction of the test report/Certificate in any form other than by complete set of the whole test report/ Certificate and in the language written is not permitted without the written consent of CPRI.

c) Any Corrections / erasure invalidates the test Report/Certificate.

d) Any anomaly/discrepancy in the test report/Certificate should be brought to the notice of CPRI within 45 days from the date of issue.

(Dr. P. Thomas)
Test Engineer

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