



CPRI

CABLES LABORATORY
DIAGNOSTIC, CABLES & CAPACITORS DIVISION
CENTRAL POWER RESEARCH INSTITUTE
P.B.No.8066, SADASIVANAGAR SUB P.O
PROF.SIR C.V.RAMAN ROAD,BANGALORE-560 080, INDIA
Phone : +91 (0) 80-23604435, Fax : +91 (0) 80-23601213



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Cert No.T- 0010

Sheet 1 of 12

TEST REPORT

Test Report Number : DCCD-11900(A) Date : 17.02.2011
Name & Address of the Customer : M/s. Gala Shrik Fit.,
Plot No. 24, Vasai Taluka Industrial Co. Op. Society,
Gaurapada, Vasai(East) Thane.
Name & Address of the Manufacturer : M/s. Gala Shrik Fit.,
Plot No. 24, Vasai Taluka Industrial Co. Op. Society,
Gaurapada, Vasai (East) Thane.
Particulars of sample tested : 6.35/11 kV Heat Shrink Straight Through Joint , Heat Shrink Indoor
Terminations & Heat Shrink Outdoor terminations mounted on
3 X 185 mm² 6.35/11 kV XLPE Cable.
Condition of the sample on receipt : New
Type : "CAB LINK" Brand
Designation : Cable -
3 X 185 sq.mm, Aluminium conductor, XLPE insulated, PVC Sheathed
6.35/11 KV Cable
Accessories : (In two loops)
No. of joints: Two (One on each loop)
Type: CAB LINK Heat Shrink
No. of terminations: Two Indoor & Two Outdoor
Type: CAB LINK Heat Shrink
Voltage Rating : 6.35/11 KV
One loop with One straight through joint and Two Heat shrink
indoor terminations (DCCDCAB10S0106)
One loop with One straight through joint and Two Heat shrink
Outdoor terminations (DCCDCAB10S0107)
Serial Number : Nil
Number of Samples tested : Two loops
Date(s) of Test(s) : 06.10.2010 to 21.01.2011
CPRI Sample Code no(s) : DCCDCAB10S0106, DCCDCAB10S0107
Particulars of test conducted : Type Test (Sequence A1, B1 II & 1.1,2.1)
Test in accordance with
Standard /Specification : As per IEC 60502-4- 2005 , Sequence 1.1 & 2.1
CENELEC HD 629-1-1996, Sequence A1 & B1 II
Sampling plan : Not Applicable
Customer's requirement : Nil
Deviation if any : Nil

(K.P.Meena)
Test Engineer



(A.sudhindra)
Additional Director

AUTHORISED SIGNATORIES



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TEST REPORT

Test Report No.:DCCD-11900(A)

Date:17.02.2011

Name of the witnessing persons


Customer's representatives : Mr. Ashwin Kumar Attawar

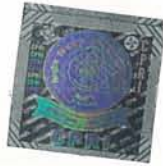
Other than customer's representatives : Mr. Mohammed Al Shehi(CS Manager, Musandam), RAECO-Oman
Mr. Mazin Ali Al Salmani(Maintenance Engineer) MEDC, Oman
Mr. Sulaiman Isaa Al Balushi(PA, Senior Engineer), DCRP, Oman
Mr. Rishi Mehra (Asst. Manager (sales)), M/s Golden International, Oman

Test subcontracted with address
of the laboratory : Nil

Documents constituting this Certificate (in words)

Number of sheets : Twelve
Number of oscillogram/s : Forty Eight (Twelve pages)
Number of graphs : Nil
Number of photos : Two
Number of test circuit diagrams : Nil
Number of drawings : Three.
1. Drg.No.: GTSPL/001/08/10
2. Drg.No: GTSPL/002/08/10
3. Drg.No: GTSPL/003/08/10


(K.P.Meena)
Test Engineer




(A.Sudhindra)
Additional Director

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TEST REPORT
TEST RESULTS

Test Report No.:DCCD-11900(A) Date:17.02.2011

1. DC HIGH VOLTAGE TEST (Dry):

- a) Test connection : Between test core and other cores shorted to grounded shield and armour
- b) Test Voltage : 38 kV ac
- c) Duration of test : Fifteen Minutes
- d) Ambient Temperature : 27 °C
- e)

Length of the sample	DCCDCAB10S0106	DCCDCAB10S0107
	10.0 metres	10.0 metres

f) Result :

Sl. No.	Core Identification	Remarks	
		DCCDCAB10S0106	DCCDCAB10S0107
1.	Red	WITHSTOOD	WITHSTOOD
2.	Yellow	WITHSTOOD	WITHSTOOD
3.	Blue	WITHSTOOD	WITHSTOOD

2. AC HIGH VOLTAGE TEST (Dry):

- a) Test connection : Between test core and other cores shorted to grounded shield and armour
- b) Test Voltage : 29 kV ac
- c) Duration of test : Five Minutes
- d) Ambient Temperature : 27 °C
- e)

Length of the sample	DCCDCAB10S0106	DCCDCAB10S0107
	10.0 metres	10.0 metres

f) Result :

Sl. No.	Core Identification	Remarks	
		DCCDCAB10 S0106	DCCDCAB10 S0107
1.	Red	WITHSTOOD	WITHSTOOD
2.	Yellow	WITHSTOOD	WITHSTOOD
3.	Blue	WITHSTOOD	WITHSTOOD

3. AC HIGH VOLTAGE TEST (Wet): Only for Outdoor terminations

- a) Test connection : Between test core and other cores shorted to grounded shield and armour
- b) Test Voltage : 25.4 kV ac
- c) Duration of test : One Minute
- d) Ambient Temperature : 24 °C
- e) Length of sample : 10.0 metres
- f) Result :

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

Meena
(K.P.Meena)
TEST ENGINEER



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Test Report No.:DCCD-11900(A)
TEST RESULTS

Date:17.02.2011

4. PARTIAL DISCHARGE TEST:

- a) Sensitivity of the discharge detector : 5 pC
- b) Test connection : Between test core and other cores shorted with grounded shield & armour
- c) Specified maximum discharge magnitude: 10 pC
- d) Measurement of discharge magnitude at 11 kV ac
- e)

Length of the sample	DCCDCAB10S0106	DCCDCAB10S0107
	10.0 metres	10.0 metres

- f) Observed Discharge magnitudes at 11 kV ac:

Sl.No	Core Identification	Discharge magnitude in pico Coulombs	
		DCCDCAB10S0106	DCCDCAB10S0107
1	Red	Less than 5 pC	Less than 5 pC
2	Yellow	Less than 5 pC	Less than 5 pC
3	Blue	Less than 5 pC	Less than 5 pC

5. INSULATION RESISTANCE MEASUREMENT BEFORE IMPACT TEST:

- a) Test Voltage : 500 V dc
- b) Electrification time : One minute
- c) Ambient Temperature : 26 °C
- d) Specified Value : 10³ MΩ

Length of sample	DCCDCAB10S0106	DCCDCAB10S0107
	10.0 metres	10.0 metres

- f) Observed Values(in MΩ) :

Sl. No.	Core Identification	Insulation resistance in MΩ	
		DCCDCAB10S0106	DCCDCAB10S0107
1.	Red	8.54 X 10 ⁵	8.16 X 10 ⁵
2.	Yellow	9.16 X 10 ⁵	7.99 X 10 ⁵
3.	Blue	8.92 X 10 ⁵	8.85X 10 ⁵

6. IMPACT TEST

The joint was placed on a hard base floor. A wedge shaped mass of 4 kg having a right angle edge with a 2 mm radius impacting edge was dropped three times from a height of 2 metres on the joint such that the impacting edge is horizontal and at right angles to the axis of the joint

No. of Impacts: Three (One in the middle of the joint, and one at each ends f the joints)

RESULT:

Sample Code	Result
DCCDCAB10S0106	No visual damage observed to affect the performance of the joint
DCCDCAB10S0107	No visual damage observed to affect the performance of the joint

After the impact test, the joints were immersed in a water bath for 24 hours and insulation resistance was measured.

(K.P.Meena)
(K.P.Meena)
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Date:17.02.2011

7. INSULATION RESISTANCE TEST AFTER IMPACT TEST: (Immersed)

- a) Test Voltage : 500 V dc
- b) Electrification time : One minute
- c) Ambient Temperature : 26 °C
- d)

Length of sample	DCCDCAB10S0106	DCCDCAB10S0107
	10.0 metres	10.0 metres

f) Observed Values(in MΩ) :

Sl. No.	Core Identification	Insulation resistance in MΩ	
		DCCDCAB10S0106	DCCDCAB10S0107
1.	Red	8.60 X 10 ⁵	8.64 X 10 ⁵
2.	Yellow	9.15X 10 ⁵	8.10 X 10 ⁵
3.	Blue	8.90 X 10 ⁵	8.80 X 10 ⁵

8. IMPULSE WITHSTAND TEST :

Sample Identification	Temperature of conductor during Test	Ambient temperature in °C		No. of Impulses	Test Voltage (kV Peak)
		Dry Bulb	Wet Bulb		
DCCDCAB10S0106	95 to 100 °C	28.0	28.0	10 Positive & 10 Negative	95.0
DCCDCAB10S0107	95 to 100 °C	28.0	26.0	10 Positive & 10 Negative	95.0

Test Connection	The impulse source was connected to the conductor of the particular phase (ends shorted) under test and the screen connected to ground. The conductors of the other two phases which were not under test were shorted together with their screen and connected to ground.
-----------------	---

Phase	Polarity	Shot Number	Oscillogram Number		Result
			DCCDCAB10S0106	DCCDCAB10S0107	
Red	Positive	First	1529	1108	Withstood
		Tenth	1535	1115	
	Negative	First	1541	1118	
		Tenth	1549	1124	
Yellow	Positive	First	1553	1129	Withstood
		Tenth	1559	1134	
	Negative	First	1602	1138	
		Tenth	1607	1144	
Blue	Positive	First	1612	1149	Withstood
		Tenth	1617	1155	
	Negative	First	1620	1158	
		Tenth	1626	1204	

(Oscillograms enclosed)

(Signature)
(K.P.Meena)
TEST ENGINEER



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9. HEATING CYCLE TEST IN AIR:

1. The following test conditions were maintained during each load cycle.
 - i) Total duration of heating cycle voltage test : 8 hours
 - ii) Duration of heating period : 5 hours
 - iii) Duration of natural Cooling Period : 3 hours
 - iv) Temperature of the conductor during Heating Cycle :95 to 100 ° C
 - v) AC voltage applied through out the heating cycle voltage test :16 kV ac

2.Number of cycles : 3

3. Results

	DCCDCAB10S0106	DCCDCAB10S0107
Result	WITHSTOOD	WITHSTOOD

10. PARTIAL DISCHARGE TEST AT ELEVATED TEMPERATURE:

- a) Sensitivity of the discharge detector : 5 pC
- b) Test connection : Between test core and other cores shorted with grounded shield & armour
- c) Specified maximum discharge magnitude: 10 pC
- d) Measurement of discharge magnitude at 11 kV ac
- e)

Length of the sample	DCCDCAB10S0106	DCCDCAB10S0107
	10.0 metres	10.0 metres

f) Conductor temperature during test : 95 to 100 ° C

g) Observed Discharge magnitudes at 11 kV ac:

Sl.No	Core Identification	Discharge magnitude in pico Coulombs	
		DCCDCAB10S0106	DCCDCAB10S0107
1	Red	Less than 5 pC	Less than 5 pC
2	Yellow	Less than 5 pC	Less than 5 pC
3	Blue	Less than 5 pC	Less than 5 pC

11. PARTIAL DISCHARGE TEST AT AMBIENT TEMPERATURE:

- a) Sensitivity of the discharge detector : 5 pC
- b) Test connection : Between test core and other cores shorted with grounded shield & armour
- c) Specified maximum discharge magnitude: 10 pC
- d) Measurement of discharge magnitude at 11 kV ac
- e)

Length of the sample	DCCDCAB10S0106	DCCDCAB10S0107
	10.0 metres	10.0 metres

f) Ambient temperature : 28 °C

Muneen
(K.P.Meena)
TEST ENGINEER



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g) Observed Discharge magnitudes at 11 kV ac:

Sl.No	Core Identification	Discharge magnitude in pico Coulombs	
		DCCDCAB10S0106	DCCDCAB10S0107
1	Red	Less than 5 pC	Less than 5 pC
2	Yellow	Less than 5 pC	Less than 5 pC
3	Blue	Less than 5 pC	Less than 5 pC

12. HEATING CYCLE TEST IN AIR:

1. The following test conditions were maintained during each load cycle.
 - i) Total duration of heating cycle voltage test : 8 hours
 - ii) Duration of heating period : 5 hours
 - iii) Duration of natural Cooling Period : 3 hours
 - iv) Temperature of the conductor during Heating Cycle :95 to 100 ° C
 - v) AC voltage applied through out the heating cycle voltage test :16 kV ac

2.Number of cycles : 60

3. Results

	DCCDCAB10S0106	DCCDCAB10S0107
Result	WITHSTOOD	WITHSTOOD

13. HEATING CYCLE TEST IN WATER:

1. The joint was immersed in water with a height of 1.0 metre above the top surface of the joint and subjected to heating cycle test ,maintaining the following conditions during each load cycle.
(Both Indoor and outdoor terminations in Air)
 - i) Total duration of heating cycle voltage test : 8 hours
 - ii) Duration of heating period : 5 hours
 - iii) Duration of natural Cooling Period : 3 hours
 - iv) Temperature of the conductor during Heating Cycle :95 to 100 ° C
 - v) AC voltage applied through out the heating cycle voltage test :16 kV ac

2.Number of cycles : 63

3. Results

	DCCDCAB10S0106	DCCDCAB10S0107
Result	WITHSTOOD	WITHSTOOD

Muney
(K.P.Meena)
TEST ENGINEER



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14. IMMERSION TEST FOR OUTDOOR TERMINATIONS:

1.The outdoor terminations were immersed in water at ambient temperature with a height of water 0.03 metre above every part of termination and subjected to heating cycle test , maintaining the following conditions during each load cycle.

- i) Total duration of heating cycle voltage test : 8 hours
- ii) Duration of heating period : 5 hours
- iii) Duration of natural Cooling Period : 3 hours
- iv) Temperature of the conductor during Heating Cycle :95 to 100 ° C

2.Number of cycles : 10

15. PARTIAL DISCHARGE TEST AT ELEVATED TEMPERATURE:

- a) Sensitivity of the discharge detector : 5 pC
- b) Test connection : Between test core and other cores shorted with grounded shield & armour
- c) Specified maximum discharge magnitude: 10 pC
- d) Measurement of discharge magnitude at 11 kV ac
- e)

Length of the sample	DCCDCAB10S0106	DCCDCAB10S0107
	10.0 metres	10.0 metres

f) Conductor temperature during test : 95 to 100 ° C

g) Observed Discharge magnitudes at 11 kV ac:

Sl.No	Core Identification	Discharge magnitude in pico Coulombs	
		DCCDCAB10S0106	DCCDCAB10S0107
1	Red	Less than 5 pC	Less than 5 pC
2	Yellow	Less than 5 pC	Less than 5 pC
3	Blue	Less than 5 pC	Less than 5 pC

16. PARTIAL DISCHARGE TEST AT AMBIENT TEMPERATURE:

- a) Sensitivity of the discharge detector : 5 pC
- b) Test connection : Between test core and other cores shorted with grounded shield & armour
- c) Specified maximum discharge magnitude: 10 pC
- d) Measurement of discharge magnitude at 11 kV ac
- e)

Length of the sample	DCCDCAB10S0106	DCCDCAB10S0107
	10.0 metres	10.0 metres

f) Ambient temperature : 26 ° C

g) Observed Discharge magnitudes at 11 kV ac:

Sl.No	Core Identification	Discharge magnitude in pico Coulombs	
		DCCDCAB10S0106	DCCDCAB10S0107
1	Red	Less than 5 pC	Less than 5 pC
2	Yellow	Less than 5 pC	Less than 5 pC
3	Blue	Less than 5 pC	Less than 5 pC

Meena
(K.P.Meena)
TEST ENGINEER



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17. IMPULSE WITHSTAND TEST :

Sample Identification	Temperature of conductor during Test	Ambient temperature in °C		No. of Impulses	Test Voltage (kV Peak)
		Dry Bulb	Wet Bulb		
DCCDCAB10S0106	Ambient	28.0	26.0	10 Positive & 10 Negative	95.0
DCCDCAB10S0107	Ambient	28.0	26.0	10 Positive & 10 Negative	95.0

Test Connection	The impulse source was connected to the conductor of the particular phase (ends shorted) under test and the screen connected to ground. The conductors of the other two phases which were not under test were shorted together with their screen and connected to ground.
-----------------	---

Phase	Polarity	Shot Number	Oscillogram Number		Result
			DCCDCAB10S0106	DCCDCAB10S0107	
Red	Positive	First	1440	1217	Withstood
		Tenth	1446	1222	
	Negative	First	1449	1225	
		Tenth	1454	1232	
Yellow	Positive	First	1459	1237	Withstood
		Tenth	1505	1243	
	Negative	First	1507	1247	
		Tenth	1513	1253	
Blue	Positive	First	1518	1258	Withstood
		Tenth	1523	1303	
	Negative	First	1527	1307	
		Tenth	1533	1312	

(Oscillograms enclosed)


(K.P.Meena)
TEST ENGINEER



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TEST RESULTS

18. AC HIGH VOLTAGE TEST (Dry):

- a) Test connection : Between test core and other cores shorted to grounded shield and armour
- b) Test Voltage : 16 kV ac
- c) Duration of test : Fifteen minutes
- d) Ambient Temperature : 26 °C
- e)

Length of the sample	DCCDCAB10S0106	DCCDCAB10S0107
	10.0 metres	10.0 metres

f) Result :

Sl. No.	Core Identification	Remarks	
		DCCDCAB10S0106	DCCDCAB10S0107
1.	Red	WITHSTOOD	WITHSTOOD
2.	Yellow	WITHSTOOD	WITHSTOOD
3.	Blue	WITHSTOOD	WITHSTOOD

19. EXAMINATION:

On completion of the tests, the joints were examined.

Remarks: No cracking in the filling, moisture path across primary seal, or corrosion and /or tracking observed.

Meena
(K.P.Meena)
TEST ENGINEER



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TEST RESULTS



Photograph before Impact Test



Photograph after Impact Test

Muney
(K.P.Meena)
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TEST REPORT

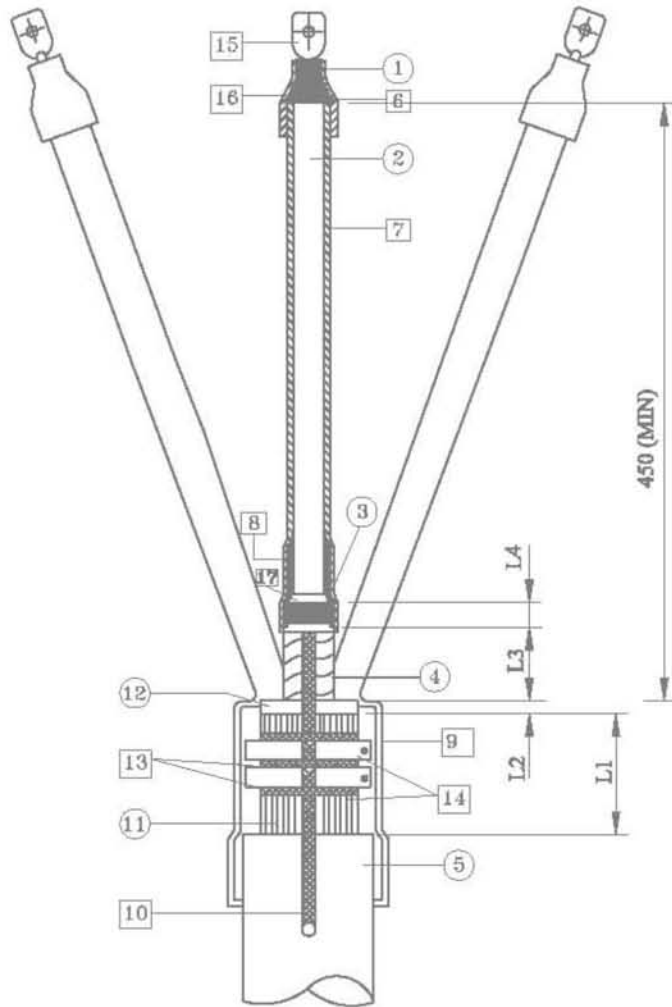
Test Report No.:DCCD-11900(A)

Date: 17.02.2011

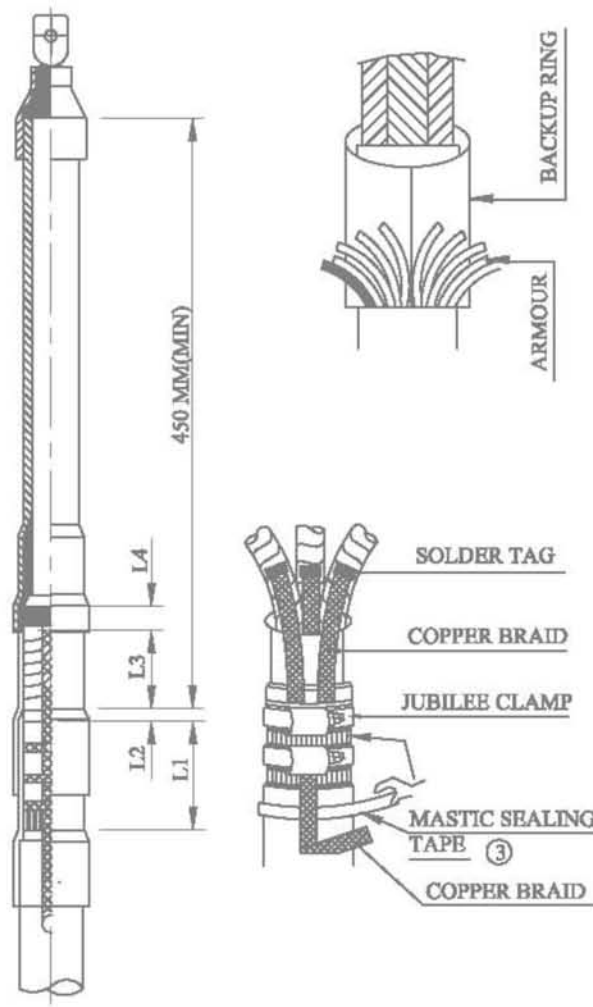
NOTE

- a) The Test results relate only to the item(s) tested.
- b) Publication or reproduction of this 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 Corrections/erasure invalidates this test report.
- d) Any anomaly/discrepancy in this test report should be brought to our notice within 45 days from the date of issue.

(K.P.Meena)
TEST ENGINEER



3 Core XLPE Cable



1 Core XLPE / AB Cable

○	CABLE COMPONENTS
□	KIT CONTENTS (MAJOR PARTS)
△	KIT CONTENTS (INSTALLATION AIDS)
L4	LENGTH OF SEMI CONDUCTING SCREEN OF CORE
L3	LENGTH OF METALLIC SHIELDING OF CORE
L2	LENGTH OF INNER SHEATH
L1	LENGTH OF ARMOUR
LEGENDS	

△21	MOPPING CLOTH
△20	ALOXITE EMERY TAPE
△19	NYLON STRING
△18	SILICON GREASE
17	STRESS CONTROL MASTIC
16	LUG SEALING MASTIC RED
15	TERMINAL LUG
14	MASTIC SEALING TAPE
13	JUBILEE CLAMPS
12	INNER SHEATH
11	ARMOUR
10	TINNED COPPER EARTH BRAID (MAIN EARTH)
9	ANTI TRACKING CABLE BREAK OUT
8	STRESS CONTRL TUBING
7	ANTI TRACKING WEATHER RESISTANT TUBING
6	TERMINAL SLEEVE
5	OUTER SHEATH
4	METAL SHIELD
3	SEMI CONDUCTING SCREEN
2	INSULATION
1	CONDUCTOR
S.No.	DESCRIPTION

Ref. Document No. :- 103

CABLE SIZE (Sq.mm)	L1	L2	L3	L4	CABLE CUTTING DIMENSIONS FOR 1 CORE CABLES				
					CABLE SIZE (Sq.mm)	L1	L2	L3	L4
240-400	65	10	150	30	800-1000	65	10	150	30
150-185	50	10	150	30	400-630	65	10	150	30
70-120	40	10	150	30	185-300	65	10	150	30
16-50	40	10	150	30	70-150	40	10	150	30
					16-50	40	10	150	30



Gala Shrink Fit
MUMBAI - 401 105 (INDIA)

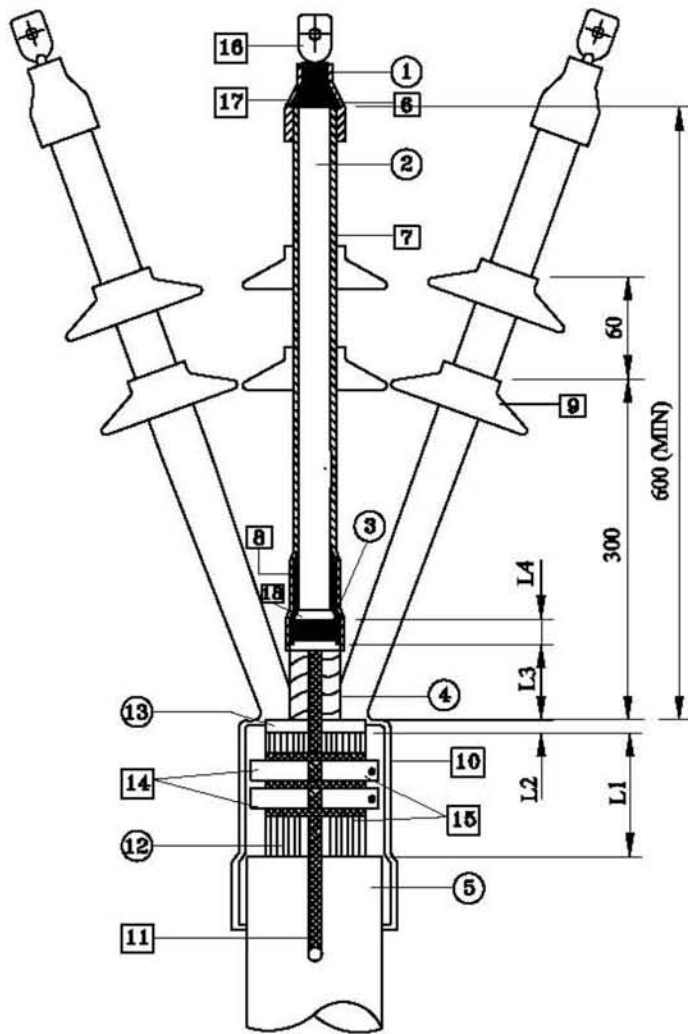


Title :-
**Heat Shrinkable Indoor Termination
for 6.6/6.6KV, 6.35/11.0KV (U max:
12KV) 3&1 Core XLPE & AB Cable**

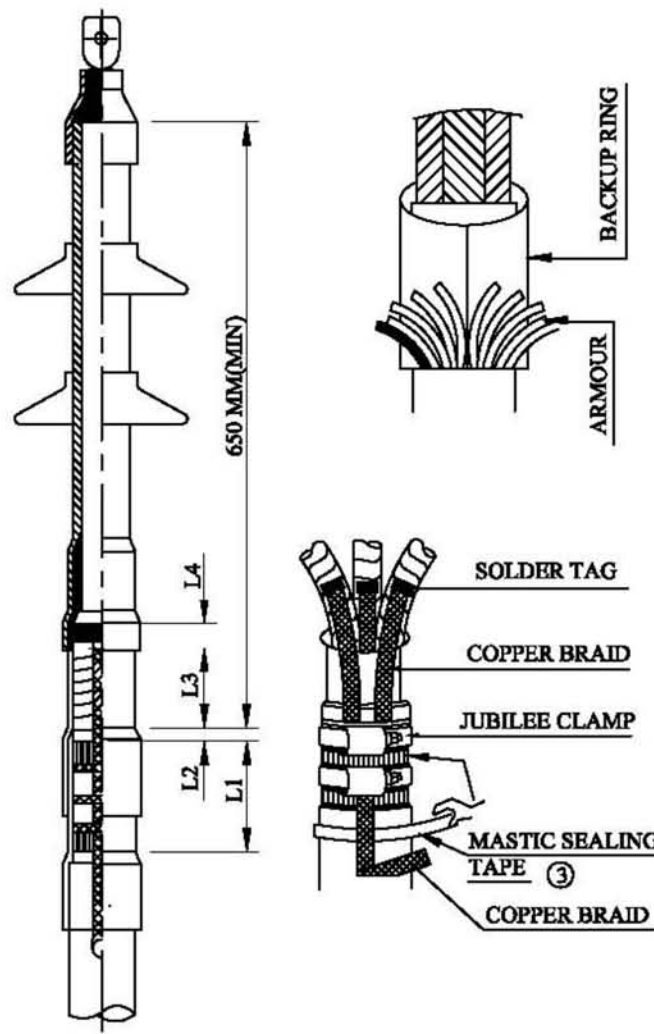
Drawn. By S. Kumar	CHKD. BY	APPD. BY	DATE 26/08/10
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SCALE : NTS
ERSTION No. : 00
DRG. No.
GTSP/L/002/08/10



3 Core XLPE Cable



1 Core XLPE / AB Cable

○	CABLE COMPONENTS
□	KIT CONTENTS (MAJOR PARTS)
△	KIT CONTENTS (INSTALLATION AIDS)
L4	LENGTH OF SEMI CONDUCTING SCREEN OF CORE
L3	LENGTH OF METALLIC SHIELDING OF CORE
L2	LENGTH OF INNER SHEATH
L1	LENGTH OF ARMOUR
LEGENDS	

22	MOPPING CLOTH
21	ALOXITE EMERY TAPE
20	NYLON STRING
19	SILICON GREASE
18	STRESS CONTROL MASTIC
17	LUG SEALING MASTIC RED
16	TERMINAL LUG
15	MASTIC SEALING TAPE
14	JUBILEE CLAMPS
13	INNER SHEATH
12	ARMOUR
11	TINNED COPPER EARTH BRAID (MAIN EARTH)
10	ANTI TRACKING CABLE BREAK OUT
9	RAIN SHED
8	STRESS CONTRL TUBING
7	ANTI TRACKING WEATHER RESISTANT TUBING
6	TERMINAL SLEEVE
5	OUTER SHEATH
4	METAL SHIELD
3	SEMI CONDUCTIN SCREEN
2	INSULATION
1	CONDUCTOR

S.No.	DESCRIPTION
-------	-------------

CABLE SIZE (Sq.mm)	L1	L2	L3	L4	CABLE CUTTING DIMENSIONS FOR 3 CORE CABLES				
					800-1000	65	10	150	30
240-400	65	10	150	30	800-1000	65	10	150	30
150-185	50	10	150	30	400-630	65	10	150	30
70-120	40	10	150	30	185-300	65	10	150	30
16-50	40	10	150	30	70-150	40	10	150	30
					16-50	40	10	150	30
CABLE SIZE (Sq.mm)	L1	L2	L3	L4	CABLE SIZE (Sq.mm)	L1	L2	L3	L4
CABLE CUTTING DIMENSIONS FOR 3 CORE CABLES					CABLE CUTTING DIMENSIONS FOR 1 CORE CABLES				



Gala Shrink Fit
MUMBAI - 401 105 (INDIA)



Title :- **Heat Shrinkable Outdoor Termination For 6.6/6.6KV, 6.35/11.0KV(U max: 12 KV) 3&1 Core XLPE & AB Cables**

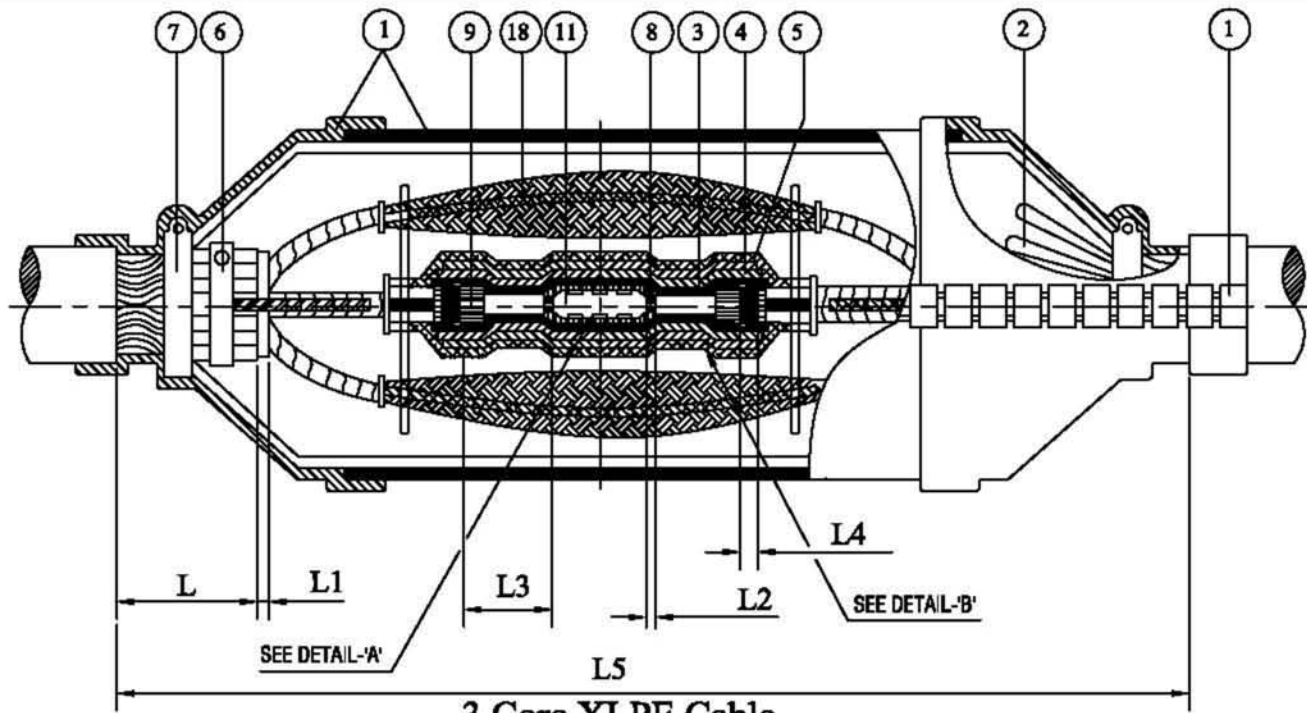
Drawn. By S. Kumar	CKD. BY	APPD. BY	DATE 26/08/10
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SCALE : NTS

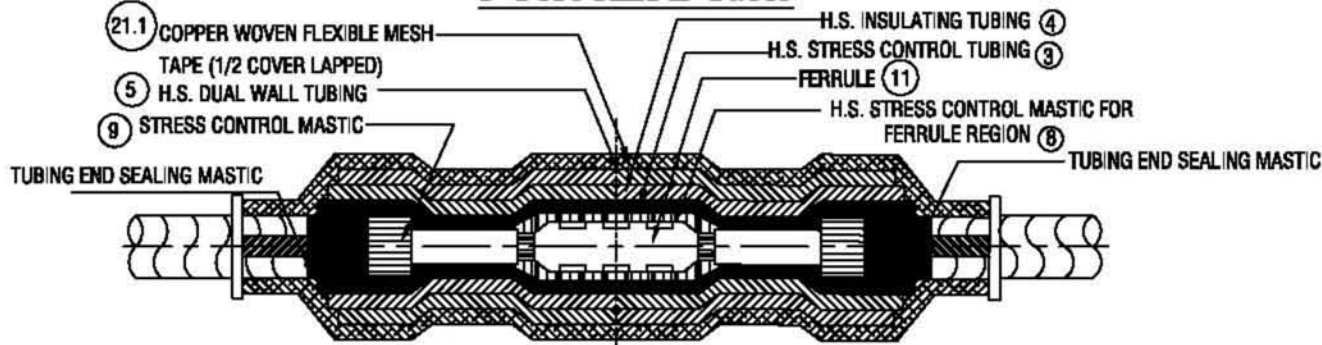
ESITION No. : 00

DRG. No.
GTSP/001/08/10

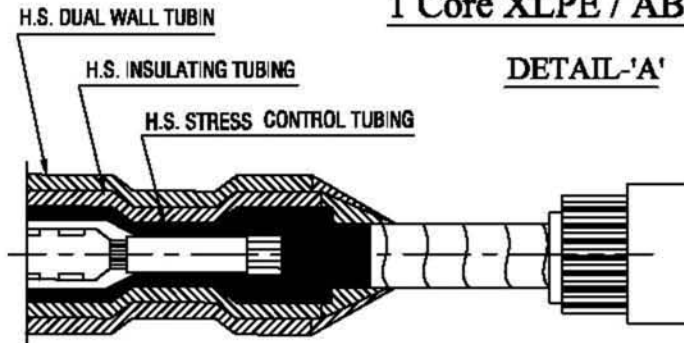




3 Core XLPE Cable



1 Core XLPE / AB Cable



DETAIL-A'

L4	LENGTH OF SEMI CONDUCTING SCREEN
L3	LENGTH OF XLPE INSULATION
L2	LENGTH OF BARE CONDUCTOR BETWEEN FERRULE AND XLPE INSULATION
L1	LENGTH OF INNER SHEATH
L	LENGTH OF ARMOUR

LEGEND

400-500	80	10	10	75	60	1475
240-300	80	10	10	75	60	1425
120-185	80	10	10	75	60	1300
70-95	80	10	10	75	60	1250
16-50	80	10	10	75	60	1250
Cable size sq. mm	L	L1	L2	L3	L4	L5

Cable Cutting Dimensions for 3 Core XLPE Cables

800-1000	60	10	10	75	55	1220
400-630	60	10	10	75	55	1200
150-300	60	10	10	75	55	1100
70-120	60	10	10	75	55	1050
25-50	60	10	10	75	55	1000
Cable size sq. mm	L	L1	L2	L3	L4	L5

Cable Cutting Dimensions for 1 Core XLPE Cables

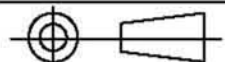
19	DETAILED INSTRUCTION MANUAL
18	METAL SCREEN CONTINUITY SYSTEM CONSISTING OF COPPER WOVEN FLEXIBLE MESH TAPE + SMALL COPPER BRAID+ SOLDER + FLUX+COPPER BINDING WIRE
17	CLEANING TISSUES
16	MOPPING CLOTH
15	PVC ADHESIVE TAPE
14	ALOXIDE EMERY TAPE
13	NYLON STRING
12	MASTIC SEALING TAPES
11	INLINE CONNECTORS (FERRULE)
10	SILICON GREASE
9	STRESS CONTROL MASTIC FOR CUT END
8	STRESS CONTROL MASTIC FOR FERRULE REGION
7	JUBILEE CLAMPS FOR FIXING OVER THE PROTECTIVE COVER (CANNISTER)
6	ARMOUR EARTHING MATERIAL (BACKUP RING -2 NOS.+ TINNED COPPER BRAID + JUBILEE CLAMP - 2 NOS.)
5	HEAT SHRINKABLE DUAL WALL TUBINGS (RED + BLACK)
4	HEAT SHRINKABLE INSULATION TUBINGS (RED)
3	HEAT SHRINKABLE STRESS CONTROL TUBINGS (BLACK)
2	GALVANISED WRAP AROUND JOINT CASE (CANNISTER)
1	HEAT SHRINKABLE OUTER JACKETING SLEEVE
S.No.	DESCRIPTION OF KIT CONTENTS



Gala Shrink Fit
MUMBAI - 401 105 (INDIA)



TITLE :-
HEAT SHRINKABLE STRAIGHT THROUGH JOINT
SUITABLE FOR 6.6/6.6KV, 6.35/11.0KV (U max:
12KV) 3 & 1 CORE XLPE & AB CABLES



SCALE : NTS

ESITION No. : 00

Drawn. By
S. Kumar

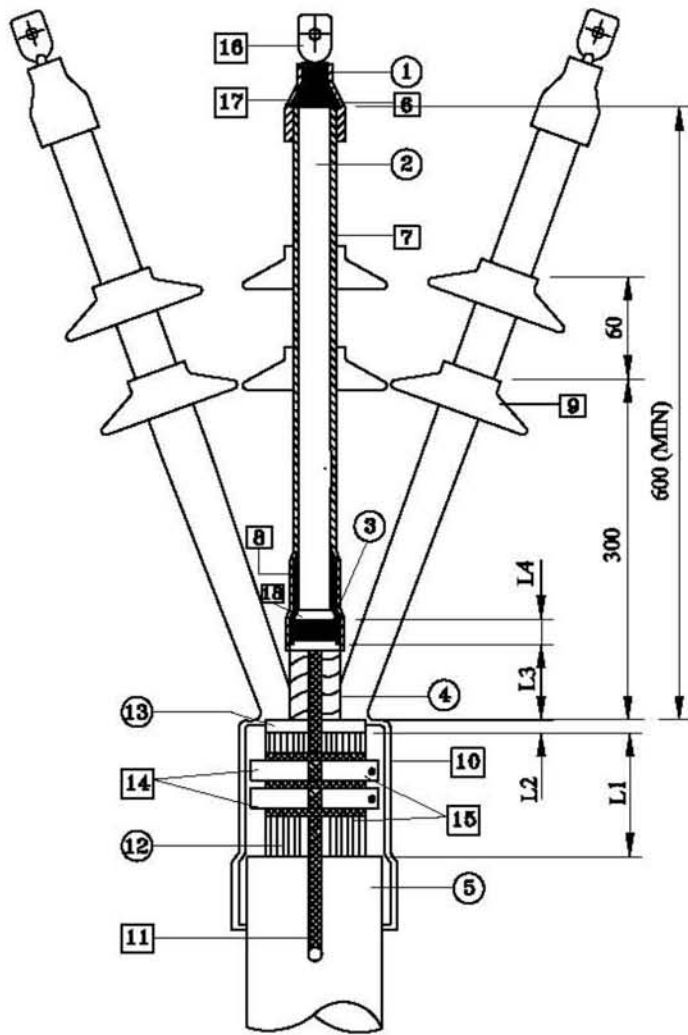
CKD. BY

APPD. BY

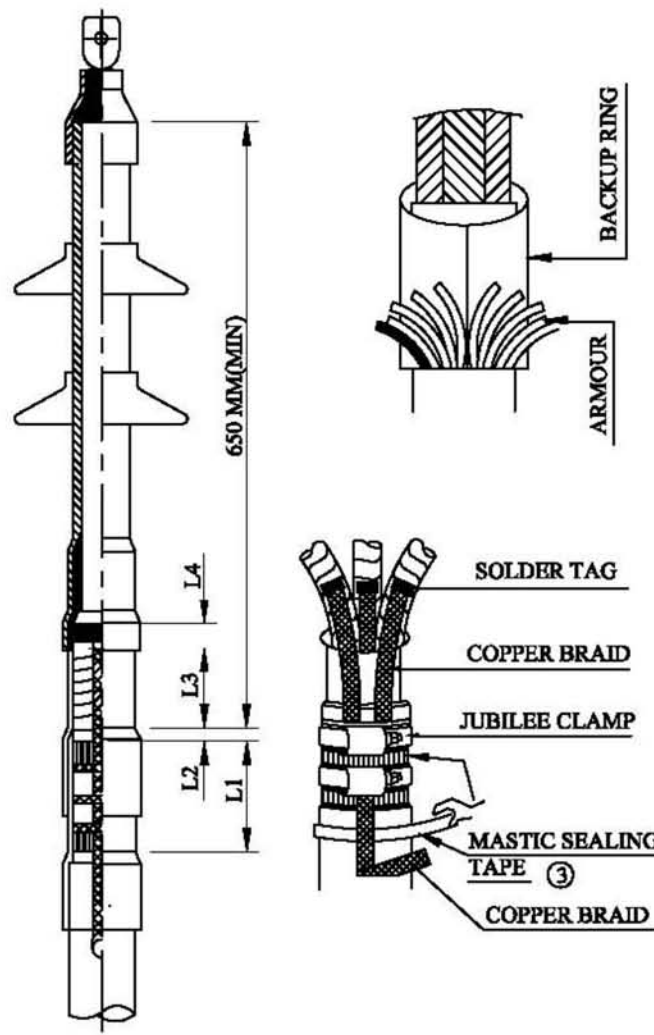
DATE
26/08/10

DRG. No.
GTSPL/003/08/10

SEE DETAIL 'B'
H.S. STRESS CONTROL MASTIC FOR



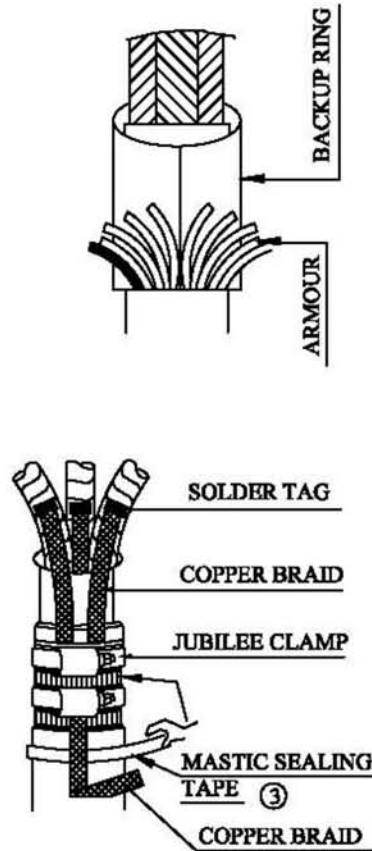
3 Core XLPE Cable



1 Core XLPE / AB Cable

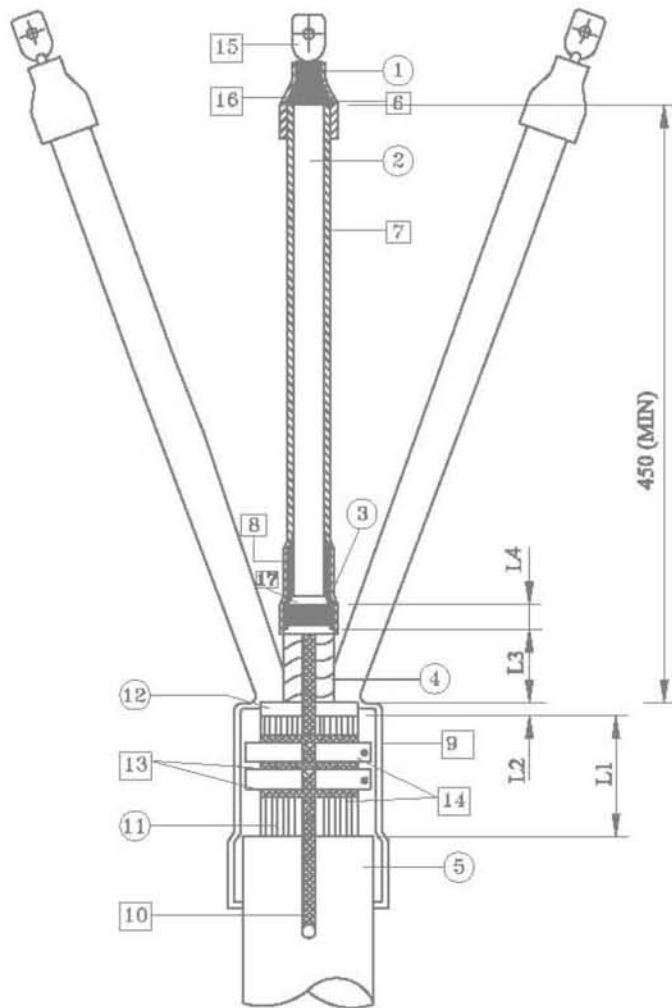
○	CABLE COMPONENTS
□	KIT CONTENTS (MAJOR PARTS)
△	KIT CONTENTS (INSTALLATION AIDS)
L4	LENGTH OF SEMI CONDUCTING SCREEN OF CORE
L3	LENGTH OF METALLIC SHIELDING OF CORE
L2	LENGTH OF INNER SHEATH
L1	LENGTH OF ARMOUR
LEGENDS	

△22	MOPPING CLOTH
△21	ALOXITE EMERY TAPE
△20	NYLON STRING
△19	SILICON GREASE
18	STRESS CONTROL MASTIC
17	LUG SEALING MASTIC RED
16	TERMINAL LUG
15	MASTIC SEALING TAPE
14	JUBILEE CLAMPS
13	INNER SHEATH
12	ARMOUR
11	TINNED COPPER EARTH BRAID (MAIN EARTH)
10	ANTI TRACKING CABLE BREAK OUT
9	RAIN SHED
8	STRESS CONTRL TUBING
7	ANTI TRACKING WEATHER RESISTANT TUBING
6	TERMINAL SLEEVE
5	OUTER SHEATH
4	METAL SHIELD
3	SEMI CONDUCTIN SCREEN
2	INSULATION
1	CONDUCTOR

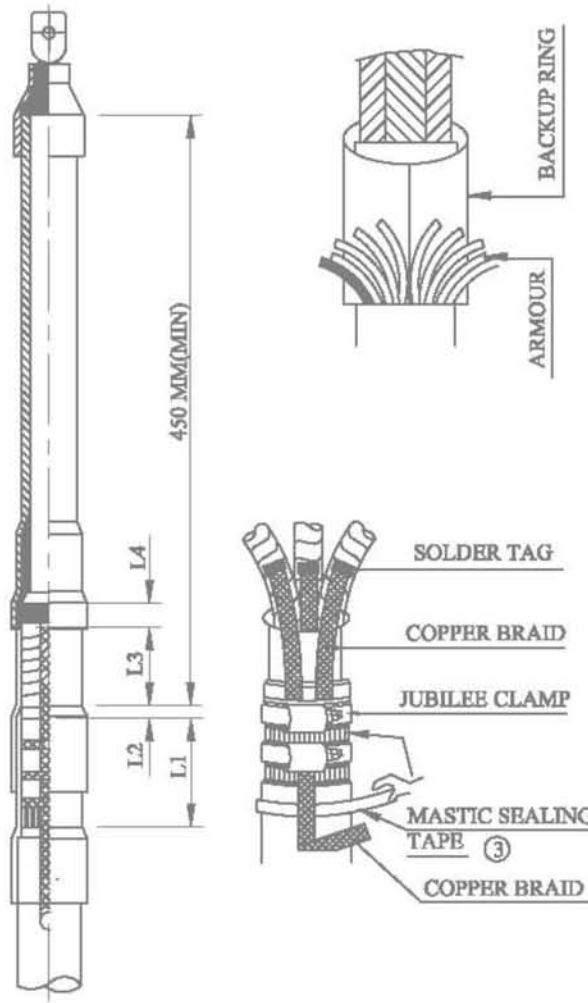


CABLE CUTTING DIMENSIONS FOR 3 CORE CABLES					CABLE CUTTING DIMENSIONS FOR 1 CORE CABLES				
CABLE SIZE (Sq.mm)	L1	L2	L3	L4	CABLE SIZE (Sq.mm)	L1	L2	L3	L4
240-400	65	10	150	30	800-1000	65	10	150	30
150-185	50	10	150	30	400-630	65	10	150	30
70-120	40	10	150	30	185-300	65	10	150	30
16-50	40	10	150	30	70-150	40	10	150	30
					16-50	40	10	150	30

S.No.	DESCRIPTION
Gala Shrink Fit MUMBAI - 401 105 (INDIA)	
Title :- Heat Shrinkable Outdoor Termination For 6.6/6.6KV, 6.35/11.0KV(U max: 12 KV) 3&1 Core XLPE & AB Cables	
Drawn. By S. Kumar	CKD. BY APPD. BY DATE 26/08/10
SCALE : NTS ESITION No. : 00 DRG. No. GTSP/001/08/10	



3 Core XLPE Cable



1 Core XLPE / AB Cable

○	CABLE COMPONENTS
□	KIT CONTENTS (MAJOR PARTS)
△	KIT CONTENTS (INSTALLATION AIDS)
L4	LENGTH OF SEMI CONDUCTING SCREEN OF CORE
L3	LENGTH OF METALLIC SHIELDING OF CORE
L2	LENGTH OF INNER SHEATH
L1	LENGTH OF ARMOUR
LEGENDS	

△21	MOPPING CLOTH
△20	ALOXITE EMERY TAPE
△19	NYLON STRING
△18	SILICON GREASE
17	STRESS CONTROL MASTIC
16	LUG SEALING MASTIC RED
15	TERMINAL LUG
14	MASTIC SEALING TAPE
13	JUBILEE CLAMPS
12	INNER SHEATH
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10	TINNED COPPER EARTH BRAID (MAIN EARTH)
9	ANTI TRACKING CABLE BREAK OUT
8	STRESS CONTRL TUBING
7	ANTI TRACKING WEATHER RESISTANT TUBING
6	TERMINAL SLEEVE
5	OUTER SHEATH
4	METAL SHIELD
3	SEMI CONDUCTING SCREEN
2	INSULATION
1	CONDUCTOR
S.No.	DESCRIPTION

Ref. Document No. :- 103

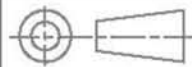
CABLE SIZE (Sq.mm)	L1	L2	L3	L4	CABLE CUTTING DIMENSIONS FOR 1 CORE CABLES				
					CABLE SIZE (Sq.mm)	L1	L2	L3	L4
240-400	65	10	150	30	800-1000	65	10	150	30
150-185	50	10	150	30	400-630	65	10	150	30
70-120	40	10	150	30	185-300	65	10	150	30
16-50	40	10	150	30	70-150	40	10	150	30
					16-50	40	10	150	30



Gala Shrink Fit
MUMBAI - 401 105 (INDIA)



Title :-
**Heat Shrinkable Indoor Termination
for 6.6/6.6KV, 6.35/11.0KV (U max:
12KV) 3&1 Core XLPE & AB Cable**



SCALE : NTS
ESITION No. : 00

Drawn By
S. Kumar

CHKD. BY

APPD. BY

DATE
26/08/10

DRG. No.
GTSP/L/002/08/10

CPRI

TEST REPORT



Central Power Research Institute

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



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HIGH VOLTAGE DIVISION
CENTRAL POWER RESEARCH INSTITUTE
P.B. NO.8066, SADHASHIVANAGAR SUB P.O.
PROF. SIR. C.V.RAMAN ROAD, BANGALORE - 560 080, INDIA.
Phone: +91 (0) 080-23601917 Fax: +91 (0) 080 - 23601213, 23601917
MEMBER STL

Sheet 1 of 5

TEST REPORT

Test Report Number : 43/1/2011-HV/8853/GSFPL **Dated:** 03-02-2011

Name & address of the customer : M/s. Gala Shrink Fit
Plot No. 24, Vasai Taluka Industrial Co.op Society,
Gouraiпада, Vasi (East), Thane - 401 208, India.
Ref: File No. 2/1/DCCD(Cab)/1 **Dated:** 29/11/2010

Name & address of the manufacturer : M/s. Gala Shrink Fit
Plot No. 24, Vasai Taluka Industrial Co.op Society,
Gouraiпада, Vasi (East), Thane- 401 208, India.

Particulars of sample tested

Condition of the sample on receipt : New.

Type : Nil.

Designation : 3 X 185 sq.mm, Aluminium conductor, XLPE insulated,
PVC sheathed 6.35/11kV Cable with two "CABLINK" Heat
Shrink Outdoor terminations.

Serial Number : Nil.

Number of samples tested : One.

Date(s) of Test(s) : 13-12-2010 to 24-01-2011

CPRI Sample Code Number : DCCDCAB10S0109

Particulars of tests conducted : Artificial Pollution test by Salt-fog method.

Test in accordance with standard/ specification : As per IEC - 60502-4/2005 & CENELEC HD 629.1 S1:1996

Sampling plan : Not Applicable.

Customer's requirement : Nil.

Deviations 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 : Five.


Number of oscillogram/s : Nil.

Number of graph/s : Nil.

Number of photo/s : Three.

Number of test circuit diagram/s : One.

Number of drawing/s : Nil.


(Dr. N.Vasudev)
Test Engineer




(Dr. R.S.Shiva Kumara Aradhya)
Additional Director

AUTHORISED SIGNATORIES



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Sheet 2 of 5

Test Report No. 43/1/2011-HV/8853/GSFPL

Dated: 03-02-2011

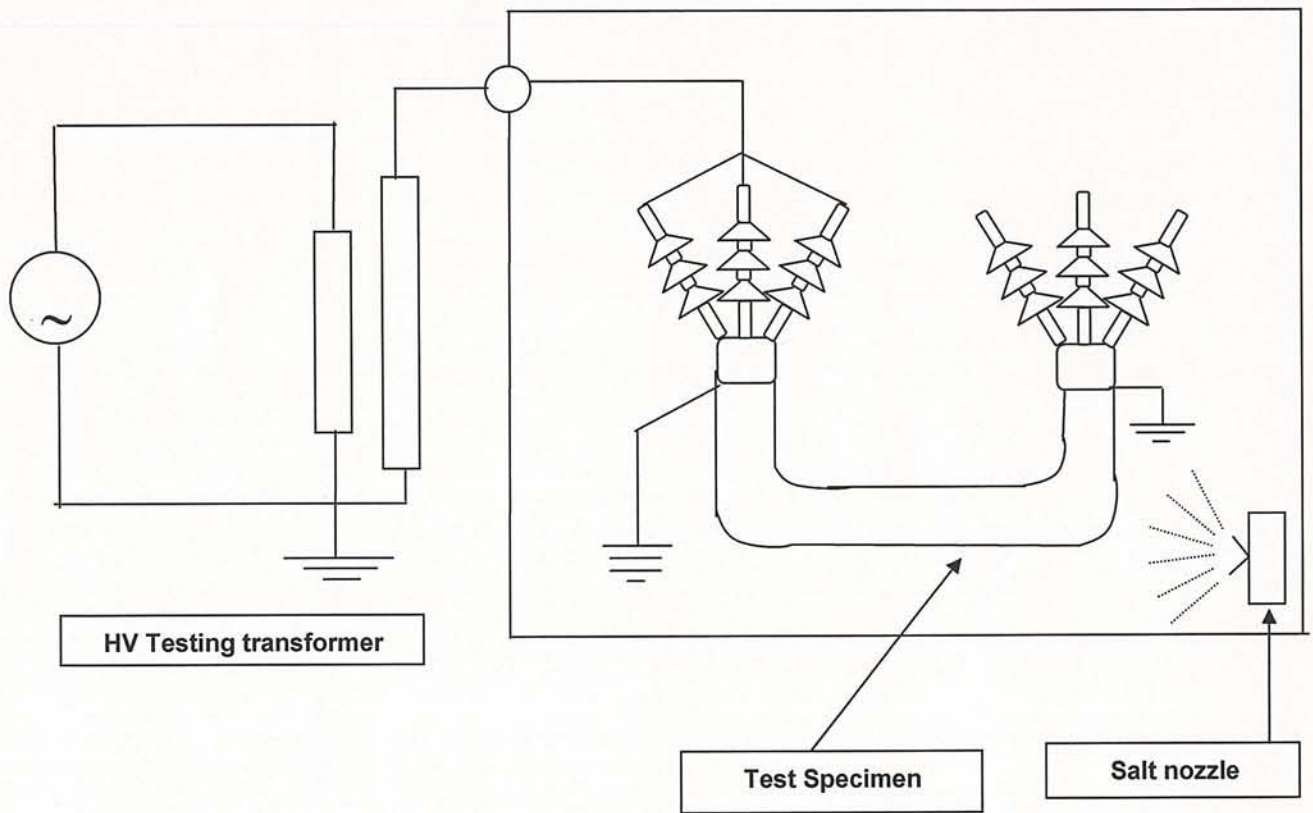


Fig.1 – Schematic diagram of the test set-up / test lay-out

(Dr. N.Vasudev)
Test Engineer



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Sheet 3 of 5

Test Report No. 43/1/2011-HV/8853/GSFPL

Dated: 03-02-2011

Salt Fog Test

Test Connection: The 6.35/11kV Cable with two "CABLINK" Heat Shrink Outdoor end terminations of the UG cable was subjected to Salt-Fog test. High voltage was applied to all the three cores of the UG cable. The screen and the armour were earthed as shown in the test setup. The voltage applied was $(1.25 \times U_0 = 1.25 \times 6.35kV = 7.94kV-rms)$.

Sl. No.	Date	Applied Voltage (kV-rms)	Conductivity @ 20°C (milli Semens/cm)
1	13-12-2010	7.94	16.2
2	17-12-2010	7.94	16.0
3	21-12-2010	7.94	16.4
4	23-12-2010	7.94	16.3
5	27-12-2010	7.94	16.1
6	31-12-2010	7.94	16.3
7	04-01-2011	7.94	16.0
8	08-01-2011	7.94	16.1
9	12-01-2011	7.94	16.3
10	16-01-2011	7.94	16.2
11	20-01-2011	7.94	16.0
12	24-01-2011	7.94	16.3

Remarks: The 3 X 185 sq.mm, Aluminium conductor, XLPE insulated, PVC sheathed 6.35/11kV Cable with two "CABLINK" Heat Shrink Outdoor end terminations has Withstood the 1000 hours Salt-fog test as per the standard. No over current trip out, No tracking or erosion on the surface, No pin-hole discharges, the core is not visible.

(Dr. N.Vasudev)
Test Engineer



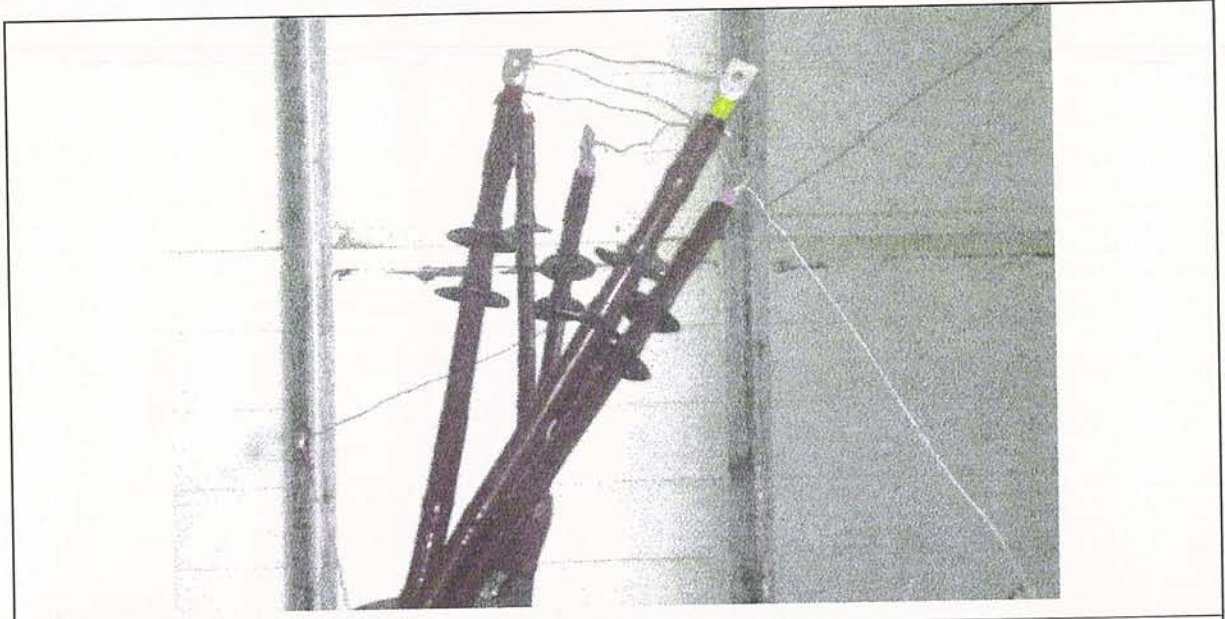
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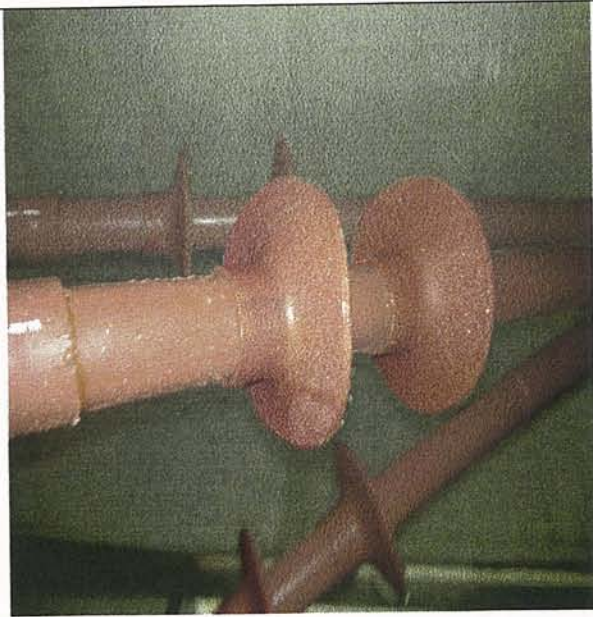
Sheet 4 of 5

Test Report No. 43/1/2011-HV/8853/GSFPL

Dated: 03-02-2011



Photograph showing the virgin sample with two "CABLINK" Heat Shrink Outdoor terminations.



Photograph showing the sample with two "CABLINK" Heat Shrink Outdoor terminations after 1000 hours Salt-Fog test.

(Dr. N.Vasudev)
Test Engineer



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PROF. SIR. C.V.RAMAN ROAD, BANGALORE - 560 080, INDIA.
Phone: +91 (0) 080-23601917 Fax: +91 (0) 080 - 23601213, 23601917
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Sheet 5 of 5

Test Report No. 43/1/2011-HV/8853/GSFPL

Dated: 03-02-2011

NOTE

- a) The test results relate only to the item(s) tested.
- b) Publication or reproduction of this test report/certificate 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 corrections/erasure invalidates this test report/certificate.
- d) Any anomaly/discrepancy in this test report/certificate should be brought to our notice within 45 days from the date of issue.
- e) The verification of the sample drawings by CPRI is limited to dimensional checks only wherever possible.

(Dr. N.Vasudev)
Test Engineer

CPRI

TEST REPORT



Central Power Research Institute

(A Govt. of India Society)

**P.B.No. 8066, Sadashivanagar Post Office,
Sir C.V. Raman Road,
Bangalore - 560 080 (INDIA)**



**SHORT CIRCUIT LABORATORY
CENTRAL POWER RESEARCH INSTITUTE
(Member of STL)**

P.B.NO.8066, SADASHIVANAGAR POST OFFICE
SIR C.V.RAMAN ROAD, BANGALORE - 560 080 (INDIA)
Phone : +91 (0) 80 - 23602662 Fax : +91 (0) 80 - 23601213



T-0010
Sheet 1 of 4

CPRI

TEST REPORT

Test Report Number SC11032A **Dated:** 11th February, 2011

Name & Address of the Customer M/s. Gala Shrink Fit,
Plot No. 24, Sector 1,
Vasai Taluka Industrial Co. Op. Society,
Gauripada, Vasi (East),
Thane – 401 208, India

Name & Address of the Manufacturer M/s. Gala Shrink Fit,
Plot No. 24, Sector 1,
Vasai Taluka Industrial Co. Op. Society,
Gauripada, Vasi (East),
Thane – 401 208, India

Particulars of sample tested **XLPE Cable with accessories -Terminations & Joint**
Condition of the sample on receipt **Good**

Type **XLPE (Cable), Heat shrink (Accessories)**
Designation **AZXFY, CABLINK**
Serial number ---
Number of samples tested One
Date (s) of test (s) 21st January, 2011
CPRI sample code no(s) DCCDCAB10S0108

Particulars of tests conducted Thermal Short-Circuit Test (Conductor)
Test in accordance with IEC 60502-4: 2005 -4: 2005 &
Standard / specification clause 11 of IEC 61442:2005 &
CENELEC HD 629.1 S1: 1996

Sampling plan Not applicable
Customer's requirement Thermal short-circuit test
Deviations if any None


Name of the witnessing persons

Customer's representative Mr. Ashwinkumar Attawar, Works Manager
Other than customer's representatives None

Test subcontracted with address of the laboratory None

Documents constituting this report (in words)

Number of sheets Four
Number of oscillograms Two
Number of graphs Nil
Number of photos Nil
Number of test circuit diagrams One
Number of drawings Nil


(R. Manohara)
Test Engineer




(D. Krishnamurthy)
Joint Director

AUTHORISED SIGNATORIES



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**SHORT CIRCUIT LABORATORY
CENTRAL POWER RESEARCH INSTITUTE
(Member of STL)**

P.B.NO.8066, SADASHIVANAGAR POST OFFICE
SIR C.V.RAMAN ROAD, BANGALORE - 560 080 (INDIA)
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T-0010

Sheet 2 of 4

Report Number: SC11032A

Description of sample tested (Ratings as assigned by the manufacturer)

Test sample	XLPE Cable with accessories -Terminations & Joint
Type	XLPE (Cable), Heat shrink (Accessories)
Designation	AZXFY, CABLINK
Serial number	---
Type of insulation	XLPE (cable)
Rated voltage	6.35/11 kV
Rated current	300 A
Frequency	50 Hz
Number of cores	Three
Type of outer sheath	PVC
Type of armour	G.I formed wire
Length of the cable	12 m
Conductor cross-section	185 sq.mm
Conductor material	Aluminium
No. of terminations/Type	Two/One indoor & one outdoor
Number of joint/Type	One/Heat shrink straight through joint
Maximum temperature when carrying normal current:	90 °C
Maximum temperature when carrying short-circuit current:	250 °C

Documents attached to this report

Oscillogram number(s)	SC11032A.S001 & SC11032A.S002
Test circuit diagram number(s)	CRTL/SC/STC-03A

Test Engineer



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Sheet 3 of 4

Report Number: SC11032A

Schedule of test

THERMAL SHORT-CIRCUIT TEST [CONDUCTOR]

Test conditions

Source Short-circuit generator
Phases Three
Frequency 50 Hz

Test sample
Condition before test Good
No. of phases Three; one end of the cable connected to the source

Test details
Test circuit drawing number CRTL/SC/STC-03A
Short-circuit applied On the other end of the cable
Short-circuit point Grounded

Table with 5 columns: Oscillogram No., Current (kA-rms), Duration (s), Conductor temperature prior to the short circuit test (°C), Observation. It contains two rows of test data (SC11032A.S001 and SC11032A.S002).

Physical Inspection

Cable : No visible damage
Terminations : No visible damage
Straight through joint : No visible damage

Handwritten signature of the Test Engineer

Test Engineer



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Phone : +91 (0) 80 - 23602662 Fax : +91 (0) 80 - 23601213



Sheet 4 of 4
Report Number: SC11032A

NOTE

- a) This is not a certificate of rating. A certificate of rating is not issued as only limited tests as requested by the customer were carried out.
- b) The test results relate only to the item(s) tested.
- c) Publication or reproduction of this report in any form other than by complete set of the whole report and in the language written, is not permitted without the written approval of CPRI.
- d) Corrections / erasings invalidate the test report.
- e) Any anomaly / discrepancy in the test report should be brought to our notice within 45 days from the date of issue.
- f) # Indicates that for such tests there is no formal NABL accreditation and the tests are conducted as per the relevant applicable National / International standard or as per the specific customer requirement.

Additional Information:

CPRI issues following types of reports/certificates:

Test Report:

The test report contains the record of the values of test parameters as obtained during testing, the physical condition of the sample during / after the test(s) and copy of oscillogram(s). Test report is issued when partial tests are performed as against the complete test requirement for proving specific ratings.

Sealed Certificate:

The sealed certificate is issued, on request and payment of the prescribed charges thereof only when the sample of particular type and rating has satisfactorily passed all the specified tests in compliance with the condition stipulated in a published National / International standard.

CPRI issues the following type test certificates based generally on STL Guidelines:

- I. Type test certificate of Short Circuit Performance.
- II. Type test certificate of Switching Performance.
- III. Type test certificate of Temperature Rise Performance.
- IV. Type test certificate of Dielectric Performance.
- V. Type test certificate of complete type test.

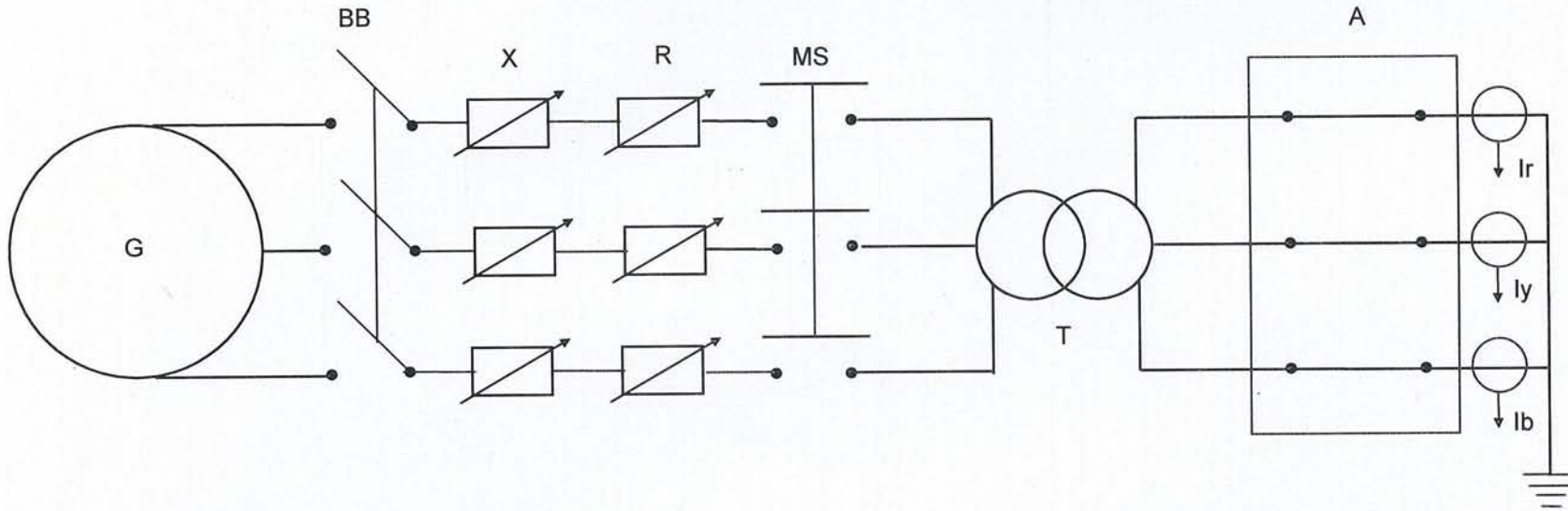
Test Engineer



CPRI

Schematic of main & measurement circuits - Three phase test

Circuit Number: CRTL/SC/STC-03A



G Short-circuit Generator
BB Back Up Circuit Breaker
X Reactor
R Resistor

T Transformer
A Sample under test
Ir, Iy & Ib Current sensors
MS Make Switch

Test Engineer



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



NABL Accredited
Laboratory
Cert No.T- 0010

Sheet 1 of 5

TEST REPORT

Test Report Number : DCCD-11900(B) Date : 17.02.2011

Name & Address of the Customer : M/s. Gala Shrik Fit.,
Plot No. 24, Vasai Taluka Industrial Co. Op. Society,
Gaurai pada, Vasai(East) Thane.

Name & Address of the Manufacturer : M/s. Gala Shrik Fit.,
Plot No. 24, Vasai Taluka Industrial Co. Op. Society,
Gaurai pada, Vasai(East) Thane.

Particulars of sample tested : **6.35/11 kV Heat Shrink Straight Through Joint , Heat Shrink Indoor Terminations & Heat Shrink Outdoor terminations mounted on 3 X 185 mm² 6.35/11 kV XLPE Cable.**

Condition of the sample on receipt : New
Type : "CAB LINK" Brand
Designation : **Cable -**
3 X 185 sq.mm, Aluminium conductor, XLPE insulated, PVC Sheathed
6.35/11 KV Cable
: **Accessories : (In One loop)**
No. of joints: One
Type: CAB LINK Heat Shrink
No. of terminations: One Indoor & One Outdoor
Type: CAB LINK Heat Shrink
Voltage Rating : 6.35/11 KV
One loop with One end Heat Shrink Indoor terminations, One End Heat shrink outdoor terminations & One Straight through Joint.

Serial Number : Nil
Number of Samples tested : One loop
Date(s) of Test(s) : 13.01.2011 to 02.02.2011
CPRI Sample Code no(s) : DCCDCAB10S0108

Particulars of test conducted : Type Test (Sequence 1.2,2.2 & A2, B2 I-III)
Test in accordance with Standard /Specification : As per IEC 60502-4- 2005 , Sequence 1.2 & 2.2
CENELEC HD 629-1-1996, Sequence A2 & B2 I-III

Sampling plan : Not Applicable
Customer's requirement : Nil
Deviation if any : Nil

Muney
(K.P.Meena)
Test Engineer



A.Sudhindra
(A.Sudhindra)
Additional Director

AUTHORISED SIGNATORIES



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**NABL Accredited
Laboratory**
Cert No.T- 0010

Sheet 2 of 5

TEST REPORT

Test Report No.:DCCD-11900(B)

Date:17.02.2011

Name of the witnessing persons


Customer's representatives : None
Other than customer's representatives : None.

Test subcontracted with address
of the laboratory : Nil


Documents constituting this Certificate (in words)

Number of sheets : Five + One Report of Four Pages
Number of oscillogram/s : Twelve (Three pages)
Number of graphs : Nil
Number of photos : Nil
Number of test circuit diagrams : Nil
Number of drawings : Three.

1. Drg.No.: GTSPL/001/08/10
2. Drg.No: GTSPL/002/08/10
3. Drg.No: GTSPL/003/08/10


(K.P.Meena)
Test Engineer




(A.Sudhindra)
Additional Director

AUTHORISED SIGNATORIES



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**NABL Accredited
Laboratory
Cert No.T- 0010**

Sheet 3 of 5

TEST REPORT

Test Report No.:DCCD-11900(B)

Date:17.02.2011

TEST RESULTS

1. DC HIGH VOLTAGE TEST :

- a) Test connection : Between test core and other cores shorted to grounded shield and armour
- b) Test Voltage : 38 kV dc
- c) Duration of test : Fifteen Minutes
- d) Ambient Temperature : 27 °C
- e) Length of the Sample : 12 metres
- f) Test Result :

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

2. AC HIGH VOLTAGE TEST (Dry):

- a) Test connection : Between test core and other cores shorted to grounded shield and armour
- b) Test Voltage : 28.6 kV ac
- c) Duration of test : Five Minutes
- d) Ambient Temperature : 27 °C
- e) Length of the Sample : 12 metres
- f) Test Result :

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

3. Thermal Short Circuit Test :

As per SC lab Test Report No. SC11032A Dated 11.02.2011 (Attached).

4. IMPULSE WITHSTAND TEST :

Temperature of conductor during Test	Ambient temperature in °C		No. of Impulses	Test Voltage (kV Peak)
	Dry Bulb	Wet Bulb		
Ambient	26.0	22.0	10 Positive & 10 Negative	95.0

Test Connection	The impulse source was connected to the conductor of the particular phase (ends shorted) under test and the screen connected to ground. The conductors of the other two phases which were not under test were shorted together with their screen and connected to ground.
-----------------	---

Meena
(K.P.Meena)
TEST ENGINEER



CPRI

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CENTRAL POWER RESEARCH INSTITUTE**

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Sheet 4 of 5

TEST REPORT

Test Report No.:DCCD-11900(B)

Date:17.02.2011

TEST RESULTS

Phase	Polarity	Shot Number	Oscillogram Number	Result
Red	Positive	First	1744	Withstood
		Tenth	1753	
	Negative	First	1756	
		Tenth	1802	
Yellow	Positive	First	1809	Withstood
		Tenth	1815	
	Negative	First	1818	
		Tenth	1823	
Blue	Positive	First	1829	Withstood
		Tenth	1835	
	Negative	First	1838	
		Tenth	1843	

(Oscillograms enclosed)

5. AC HIGH VOLTAGE TEST (Dry):

- a) Test connection : Between test core and other cores shorted to grounded shield and armour
- b) Test Voltage : 16 kV ac
- c) Duration of test : Fifteen minutes
- d) Ambient Temperature : 27 °C
- e) Length of the Sample : 12.0 metres
- f) Test Result :

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

6. EXAMINATION:

On completion of the tests, the joints were examined.

Remarks: No cracking in the filling, moisture path across primary seal, or corrosion and /or tracking observed.

K.P.Meena
**(K.P.Meena)
TEST ENGINEER**



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Sheet 5 of 5

TEST REPORT

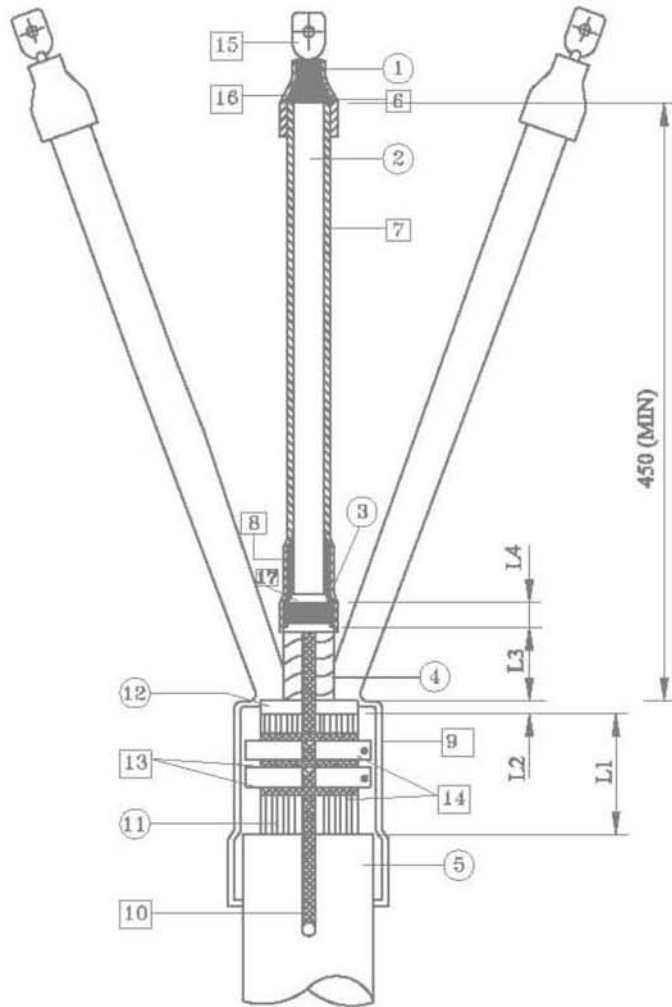
Test Report No.:DCCD-11900(B)

Date: 17.02.2011

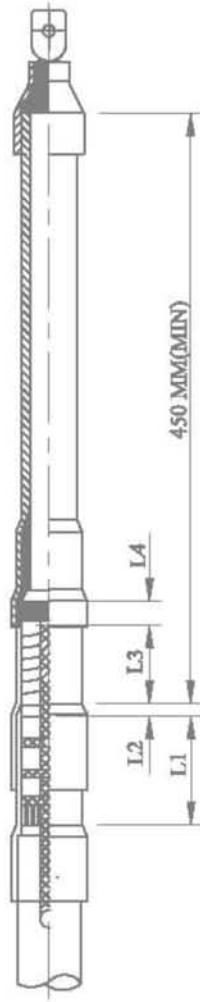
NOTE

- a) The Test results relate only to the item(s) tested.
- b) Publication or reproduction of this 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 Corrections/erasure invalidates this test report.
- d) Any anomaly/discrepancy in this test report should be brought to our notice within 45 days from the date of issue.

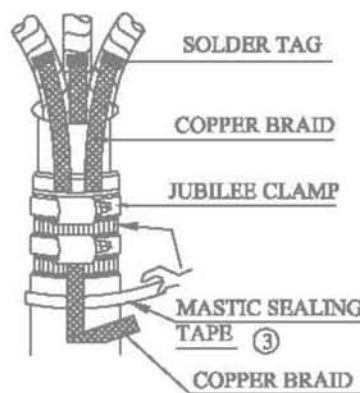
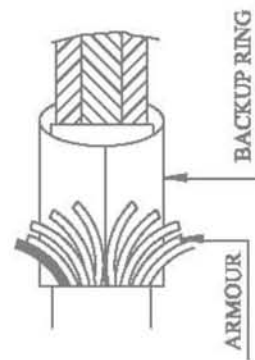

(K.P.Meena)
TEST ENGINEER



3 Core XLPE Cable



1 Core XLPE / AB Cable



○	CABLE COMPONENTS
□	KIT CONTENTS (MAJOR PARTS)
△	KIT CONTENTS (INSTALLATION AIDS)
L4	LENGTH OF SEMI CONDUCTING SCREEN OF CORE
L3	LENGTH OF METALLIC SHIELDING OF CORE
L2	LENGTH OF INNER SHEATH
L1	LENGTH OF ARMOUR
LEGENDS	

21	MOPPING CLOTH
20	ALOXITE EMERY TAPE
19	NYLON STRING
18	SILICON GREASE
17	STRESS CONTROL MASTIC
16	LUG SEALING MASTIC RED
15	TERMINAL LUG
14	MASTIC SEALING TAPE
13	JUBILEE CLAMPS
12	INNER SHEATH
11	ARMOUR
10	TINNED COPPER EARTH BRAID (MAIN EARTH)
9	ANTI TRACKING CABLE BREAK OUT
8	STRESS CONTRL TUBING
7	ANTI TRACKING WEATHER RESISTANT TUBING
6	TERMINAL SLEEVE
5	OUTER SHEATH
4	METAL SHIELD
3	SEMI CONDUCTING SCREEN
2	INSULATION
1	CONDUCTOR
S.No.	DESCRIPTION

Ref. Document No. :- 103

CABLE SIZE (Sq.mm)	L1	L2	L3	L4	CABLE CUTTING DIMENSIONS FOR 1 CORE CABLES				
					CABLE SIZE (Sq.mm)	L1	L2	L3	L4
240-400	65	10	150	30	800-1000	65	10	150	30
150-185	50	10	150	30	400-630	65	10	150	30
70-120	40	10	150	30	185-300	65	10	150	30
16-50	40	10	150	30	70-150	40	10	150	30
					16-50	40	10	150	30



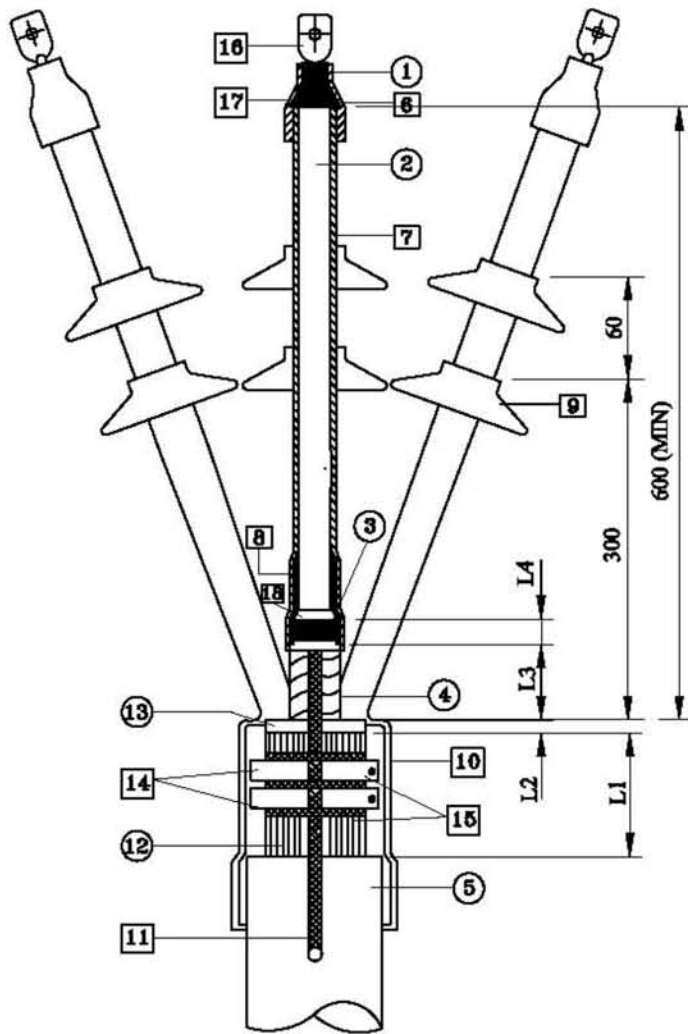
Gala Shrink Fit
MUMBAI - 401 105 (INDIA)



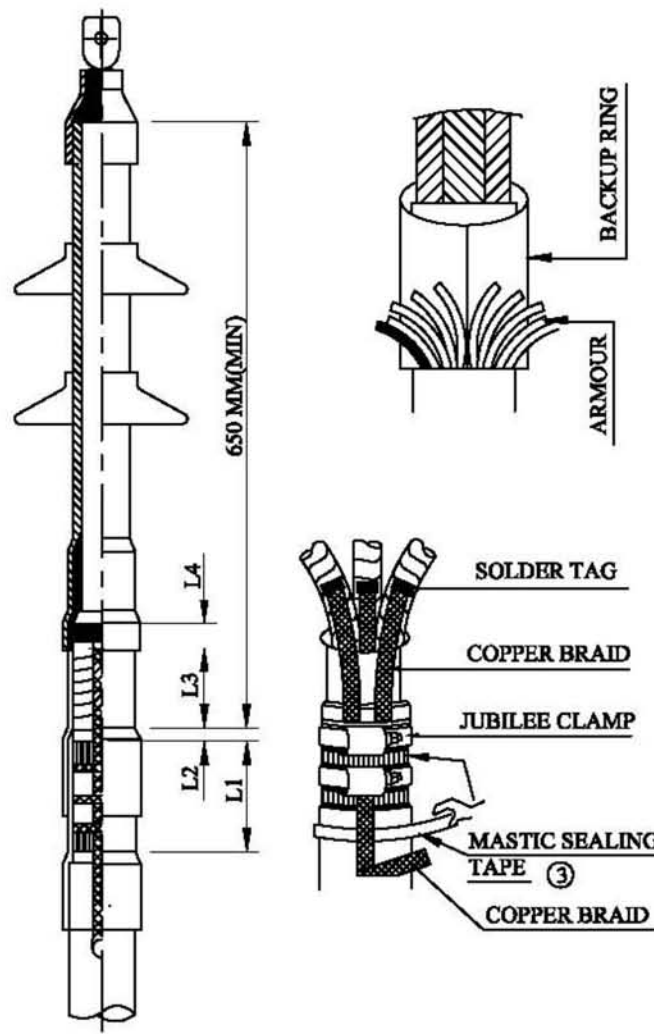
Title :-
**Heat Shrinkable Indoor Termination
for 6.6/6.6KV, 6.35/11.0KV (U max:
12KV) 3&1 Core XLPE & AB Cable**

Drawn By S. Kumar	CHKD. BY	APPD. BY	DATE 26/08/10
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SCALE : NTS
ESITION No. : 00
DRG. No.
GTSP/L/002/08/10



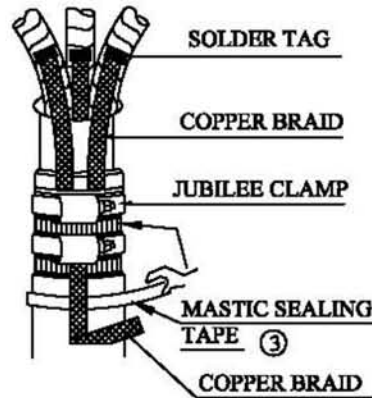
3 Core XLPE Cable



1 Core XLPE / AB Cable

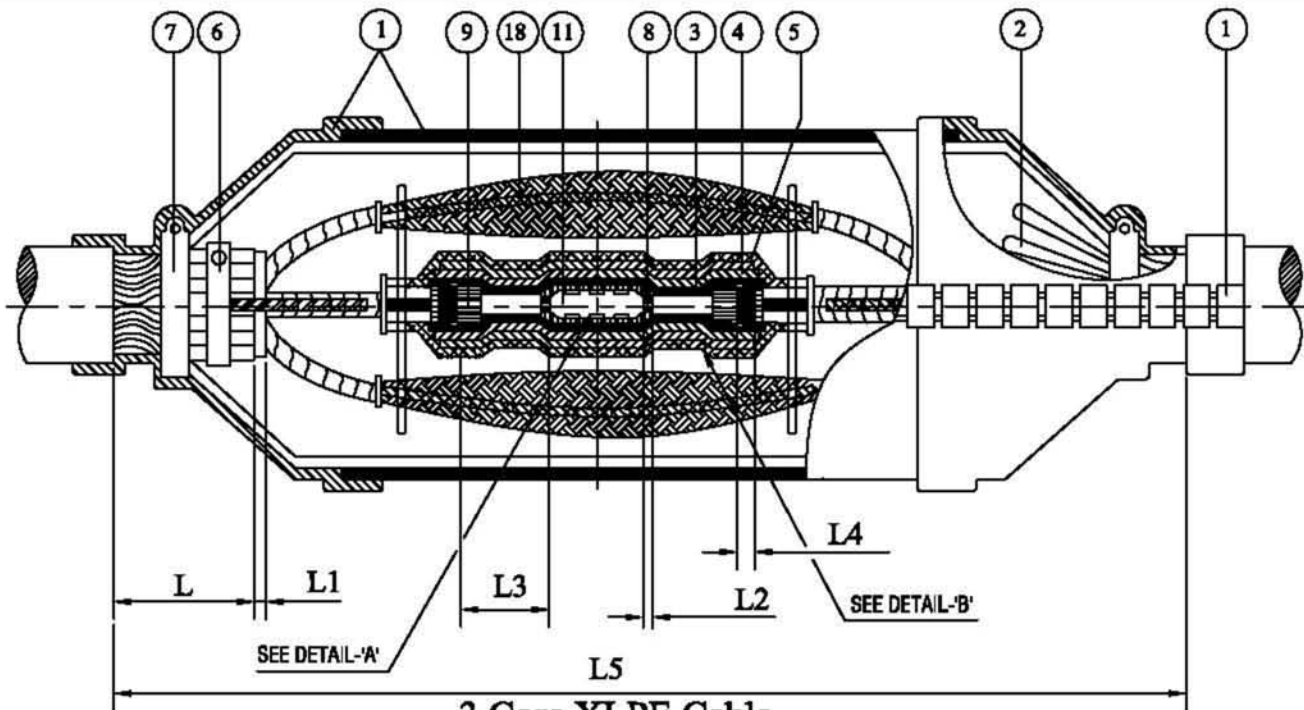
○	CABLE COMPONENTS
□	KIT CONTENTS (MAJOR PARTS)
△	KIT CONTENTS (INSTALLATION AIDS)
L4	LENGTH OF SEMI CONDUCTING SCREEN OF CORE
L3	LENGTH OF METALLIC SHIELDING OF CORE
L2	LENGTH OF INNER SHEATH
L1	LENGTH OF ARMOUR
LEGENDS	

22	MOPPING CLOTH
21	ALOXITE EMERY TAPE
20	NYLON STRING
19	SILICON GREASE
18	STRESS CONTROL MASTIC
17	LUG SEALING MASTIC RED
16	TERMINAL LUG
15	MASTIC SEALING TAPE
14	JUBILEE CLAMPS
13	INNER SHEATH
12	ARMOUR
11	TINNED COPPER EARTH BRAID (MAIN EARTH)
10	ANTI TRACKING CABLE BREAK OUT
9	RAIN SHED
8	STRESS CONTRL TUBING
7	ANTI TRACKING WEATHER RESISTANT TUBING
6	TERMINAL SLEEVE
5	OUTER SHEATH
4	METAL SHIELD
3	SEMI CONDUCTIN SCREEN
2	INSULATION
1	CONDUCTOR

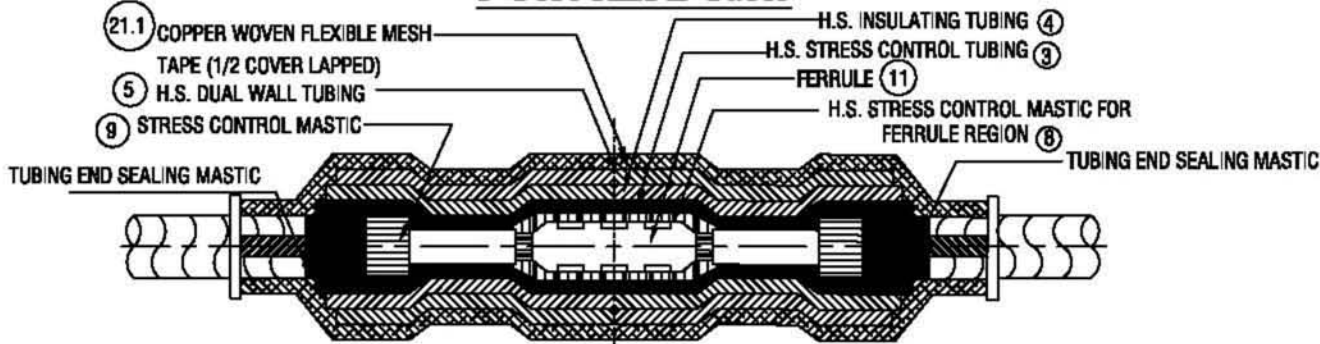


CABLE CUTTING DIMENSIONS FOR 3 CORE CABLES					CABLE CUTTING DIMENSIONS FOR 1 CORE CABLES				
CABLE SIZE (Sq.mm)	L1	L2	L3	L4	CABLE SIZE (Sq.mm)	L1	L2	L3	L4
240-400	65	10	150	30	800-1000	65	10	150	30
150-185	50	10	150	30	400-630	65	10	150	30
70-120	40	10	150	30	185-300	65	10	150	30
16-50	40	10	150	30	70-150	40	10	150	30
					16-50	40	10	150	30

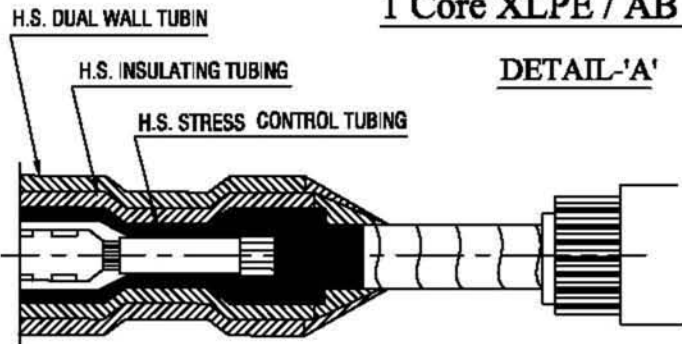
S.No.	DESCRIPTION
Gala Shrink Fit	
MUMBAI - 401 105 (INDIA)	
Title :- Heat Shrinkable Outdoor Termination For 6.6/6.6KV, 6.35/11.0KV(U max: 12 KV) 3&1 Core XLPE & AB Cables	
Drawn. By S. Kumar	CKD. BY APPD. BY DATE 26/08/10
SCALE : NTS ESITION No. : 00 DRG. No. GTSP/001/08/10	



3 Core XLPE Cable



1 Core XLPE / AB Cable



DETAIL-'A'

L4	LENGTH OF SEMI CONDUCTING SCREEN
L3	LENGTH OF XLPE INSULATION
L2	LENGTH OF BARE CONDUCTOR BETWEEN FERRULE AND XLPE INSULATION
L1	LENGTH OF INNER SHEATH
L	LENGTH OF ARMOUR

LEGEND

400-500	80	10	10	75	60	1475
240-300	80	10	10	75	60	1425
120-185	80	10	10	75	60	1300
70-95	80	10	10	75	60	1250
16-50	80	10	10	75	60	1250
Cable size sq. mm	L	L1	L2	L3	L4	L5

Cable Cutting Dimensions for 3 Core XLPE Cables

800-1000	60	10	10	75	55	1220
400-630	60	10	10	75	55	1200
150-300	60	10	10	75	55	1100
70-120	60	10	10	75	55	1050
25-50	60	10	10	75	55	1000
Cable size sq. mm	L	L1	L2	L3	L4	L5

Cable Cutting Dimensions for 1 Core XLPE Cables

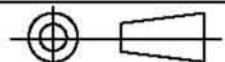
19	DETAILED INSTRUCTION MANUAL
18	METAL SCREEN CONTINUITY SYSTEM CONSISTING OF COPPER WOVEN FLEXIBLE MESH TAPE + SMALL COPPER BRAID+ SOLDER + FLUX+COPPER BINDING WIRE
17	CLEANING TISSUES
16	MOPPING CLOTH
15	PVC ADHESIVE TAPE
14	ALOXIDE EMERY TAPE
13	NYLON STRING
12	MASTIC SEALING TAPES
11	INLINE CONNECTORS (FERRULE)
10	SILICON GREASE
9	STRESS CONTROL MASTIC FOR CUT END
8	STRESS CONTROL MASTIC FOR FERRULE REGION
7	JUBILEE CLAMPS FOR FIXING OVER THE PROTECTIVE COVER (CANNISTER)
6	ARMOUR EARTHING MATERIAL (BACKUP RING -2 NOS.+ TINNED COPPER BRAID + JUBILEE CLAMP - 2 NOS.)
5	HEAT SHRINKABLE DUAL WALL TUBINGS (RED + BLACK)
4	HEAT SHRINKABLE INSULATION TUBINGS (RED)
3	HEAT SHRINKABLE STRESS CONTROL TUBINGS (BLACK)
2	GALVANISED WRAP AROUND JOINT CASE (CANNISTER)
1	HEAT SHRINKABLE OUTER JACKETING SLEEVE
S.No.	DESCRIPTION OF KIT CONTENTS



Gala Shrink Fit
MUMBAI - 401 105 (INDIA)



TITLE :-
HEAT SHRINKABLE STRAIGHT THROUGH JOINT
SUITABLE FOR 6.6/6.6KV, 6.35/11.0KV (U max:
12KV) 3 & 1 CORE XLPE & AB CABLES



SCALE : NTS

ESITION No. : 00

Drawn. By
S. Kumar

CKD. BY

APPD. BY

DATE

26/08/10

DRG. No.

GTSPL/003/08/10

SEE DETAIL-'B'

H.S. STRESS CONTROL MASTIC FOR



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NABL Accredited
Laboratory
Cert No.T- 0010

Sheet 1 of 5

TEST REPORT

Test Report Number : DCCD-11900(C) Date : 17.02.2011

Name & Address of the Customer : M/s. Gala Shrik Fit Pvt.Ltd.,
Plot No. 24, Vasai Taluka Industrial Co. Op. Society,
Gauripada, Vasai(East) Thane.

Name & Address of the Manufacturer : M/s. Gala Shrik Fit Pvt.Ltd.,
Plot No. 24, Vasai Taluka Industrial Co. Op. Society,
Gauripada, Vasai(East) Thane.

Particulars of sample tested : **6.35/11 kV Heat Shrink Indoor Terminations and outdoor Terminations mounted on 3 X 185 mm² 6.35/11 kV XLPE Cable.**

Condition of the sample on receipt : New
Type : "CAB LINK" Brand
Designation : **Cable -**
3 X 185 sq.mm, Aluminium conductor, XLPE insulated, PVC Sheathed
6.35/11 KV Cable
: **Accessories : (In two loops)**
No. of terminations: Two Indoor , Two Outdoor
Type: CAB LINK Heat Shrink
Voltage Rating : 6.35/11 KV
One loop with two ends Heat shrink Indoor
Terminations (DCCDCAB10S0135)
One loop with two ends Heat shrink Outdoor
Terminations (DCCDCAB10S0109)

Serial Number : Nil
Number of Samples tested : Two loops
Date(s) of Test(s) : 18.01.2011 to 31.01.2011
CPRI Sample Code no(s) : DCCDCAB10S0109, DCCDCAB10S0135

Particulars of test conducted : Humidity Test on Indoor terminations and Salt fog Test on outdoor terminations

Test in accordance with Standard /Specification : As per IEC 60502-4- 2005 , Sequence 1.5
CENELEC HD 629-1-1996, Sequence A3

Sampling plan : Not Applicable
Customer's requirement : Nil
Deviation if any : Nil

Muneey
(K.P.Meena)
Test Engineer



A.Sudhindra
(A.Sudhindra)
Additional Director

AUTHORISED SIGNATORIES



CPRI

**CABLES LABORATORY
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CENTRAL POWER RESEARCH INSTITUTE**

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**NABL Accredited
Laboratory
Cert No.T- 0010**

Sheet 2 of 5

TEST REPORT

Test Report No.:DCCD-11900(C)

Date:17.02.2011

Name of the witnessing persons

Customer's representatives

: Mr. Ashwin Kumar Attawar

Other than customer's representatives

: Mr. Mohammed Al Shehi(CS Manager, Musandam), RAECO-Oman
Mr. Mazin Ali Al Salmani(Maintenance Engineer) MEDC, Oman
Mr. Sulaiman Isaa Al Balushi(PA, Senior Engineer), DCRP, Oman
Mr. Rishi Mehra (Asst. Manager (sales)), M/s Golden International, Oman

Test subcontracted with address
of the laboratory

: Nil

Documents constituting this Certificate (in words)

Number of sheets

: Five + One Report of Five Pages

Number of oscillogram/s

: Nil

Number of graphs

: Nil

Number of photos

: Two

Number of test circuit diagrams

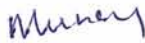
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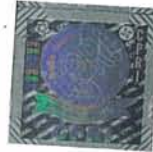
Number of drawings

: Two

1. Drg.No.: GTSPL/001/08/10

2. Drg.No: GTSPL/002/08/10


(K.P.Meena)
Test Engineer




(A..Sudhindra)
Additional Director

AUTHORISED SIGNATORIES



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Sheet 3 of 5

Test Report No.:DCCD-11900(C)

TEST REPORT

Date:17.02.2011

TEST RESULT

1. HUMIDITY TEST FOR INDOOR TERMINATIONS:
(DCCDCAB10S0135)

The indoor termination was kept in a chamber where the water was sprayed continuously from an atomiser. The conductivity of spraying water was maintained between 70 ± 0.1 mS/metre through out the test. A test voltage of 8 KV ac between the conductors shorted and grounded shield was maintained for 300 hours.

Result : Withstood. No flashover or tripping occurred during test.
After the test no tracking or erosion or mechanical damage observed
(Photographs of terminations before after humidity Test enclosed)

2. SALT FOG TEST FOR OUTDOOR TERMINATIONS:
(DCCDCAB10S0109)

As per Test Report No. 43/1/2011-HV/8853/GSFPL dated 03.02.2011.
(Enclosed)


(K.P.Meena)
TEST ENGINEER



CPRI

CABLES LABORATORY
DIAGNOSTIC, CABLES & CAPACITORS DIVISION
CENTRAL POWER RESEARCH INSTITUTE
P.B.No.8066, SADASIVANAGAR SUB P.O
PROF.SIR C.V.RAMAN ROAD,BANGALORE-560 080, INDIA
Phone : +91 (0) 80-23604435, Fax : +91 (0) 80-23601213



NABL Accredited
Laboratory
Cert No.T- 0010

Test Report No.:DCCD-11900(C)

TEST REPORT

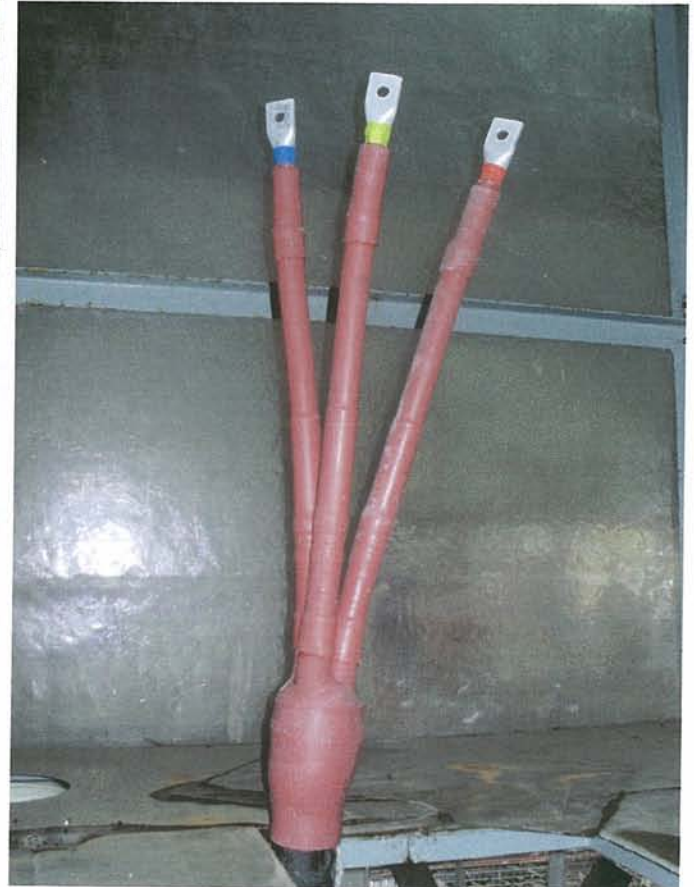
TEST RESULT

Sheet 4 of 5

Date:17.02.2011



**Photograph of Indoor terminations
Before Humidity Test**



**Photograph of Indoor terminations
after Humidity Test**


(K.P.Meena)
TEST ENGINEER



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Sheet 5 of 5

TEST REPORT

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NOTE

- a) The Test results relate only to the item(s) tested.
- b) Publication or reproduction of this 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 Corrections/erasure invalidates this test report.
- d) Any anomaly/discrepancy in this test report should be brought to our notice within 45 days from the date of issue.

Meena
(K.P.Meena)
TEST ENGINEER