

Electrical Test Division

**Type Test Report
(As Per IEC - 60502 & IEC - 60230)**

1. **Test Report no & Date** : ELECTRICAL/HV/ACCESSORIES/1404
Dated 10/12/2008
2. **Name & Address of Client** : A-1 Electricals, Plot No. 47, Balaji Industrial Estate,
Survey No 172/1, Opp. Krishna Park Hotel,
Gondal Road, Kotharia, Rajkot - 360005, Gujarat, India
4. **Product Description** : Heat Shrinkable Terminations and Straight through Joint
5. **Test Specimen Details** : 36 KV 3 x 630 Sq MM XLPE
Screened, armoured cable having Heat Shrinkable
Indoor Termination at one end, Outdoor Termination
At other end and Heat Shrink Straight Joint
In the middle
6. **No of Specimen Tested** : One
7. **Particulars Of Test Conducted** : Conductor Resistance Test
AC Voltage withstand test 1 minute
AC Voltage withstand test 5 minute
Impulse Voltage Withstand Test
Load Cycle Test for 15 Minutes
Load Cycle Test for 500 Hours
Humidity and salt fog test
High Voltage Test (DC)
Partial Discharge Test
8. **Test Results** : Specimen withstood all the tests

9. Conductor Resistance Test :

- Specified Value (max) : 0.206 Ohm/KM at 20 Degree Centigrade
- Observed Value :

S. No.	Core Identification	Resistance in Ohm/Km at 20 Degree Cent
1	Core 1	0.200
2	Core 2	0.198
3	Core 3	0.200



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10. AC High Voltage Test for 1 Minute Duration.

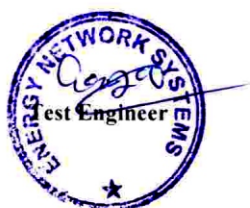
S.No	Test Description	Test Voltage	Duration	Results
1	Core 1 against other two cores shorted and grounded	76 KV	1 Minute	Withstood
2	Core 2 against other two cores shorted and grounded	76 KV	1 Minute	Withstood
3	Core 3 against other two cores shorted and grounded	76 KV	1 Minute	Withstood

11. AC High Voltage Test for 5 minute Duration

S.No	Test Description	Test Voltage	Duration	Results
1	Core 1 against other two cores shorted and grounded.	76 KV	5 Minute	Withstood
2	Core 2 against other two cores shorted and grounded	76 KV	5 Minute	Withstood
3	Core 3 against other two cores shorted and grounded	76 KV	5 Minute	Withstood

12. Impulse Voltage Withstand Test

- Dry Temperature : 26 Degree Centigrade
- Wet Temperature : 20 Degree Centigrade
- No Of Impulse Positive and Negative : 10 Each
- Peak Value of Impulse Voltage :170 KV
- Results : Withstood



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13. Load Cycle Test (15 Minutes and then 500 Hours)

The following test conditions were maintained during each load cycle test

- a) Total Duration of the load cycles = 8 hours
- b) Duration Of Heating Cycles = 5 Hour
- c) Duration of cooling period = 3 hours
- d) Max temperature of the conductor during heating cycle = 100 degree centigrade
- e) Voltage applied throughout load cycle test = 40 KV (AC)
- g) Result: Withstood.

14. AC High Voltage Test under influence of Humidity and moisture

The terminations were kept in a chamber where water was sprayed continuously from an atomizer. The conductivity of the spraying water was maintained between 600 to 800 micro siemens through out the test. The salt fog atmospheres with UV rays have been maintained in the chamber. A test voltage of 25 KV between the conductor shorted and grounded shield was maintained for 1000 Hours. There had been No Flashover and any type of visible damage.

15. DC High Voltage Test .

- A). Test Voltage: 144 KV DC
- B). Test Duration: 30 Min.
- C). Test Connection: Between test core and other two cores shorted and grounded with copper screen and armour

16. Partial Discharge Test :

- Sensitivity of the discharge Detector : 5 Pc
- Test Connection : Between Test Core and other cores shorted with grounded shield and armour
- Specimen maximum discharge magnitude : 10 pc
- Measurement of Discharge Magnitude at : 33 KV
- Observed Discharge Magnitude at 33 KV

S.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

