

TECHNICAL SPECIFICATION OF UNARMoured FLAT 1100 VOLTS L.T.PVC INSULATED TWIN FLAT CORE 2.5mm² CABLE WITH ROUND ALUMINIUM CONDUCTOR BLACK SHEATHED.

I. SCOPE:

This specification covers Manufacture, testing at works, supply and delivery of unarmoured flat LT PVC insulated and PVC sheathed cables, twin core 2.5mm² of H2 Grade aluminum conductor to any stores in Gujarat.

II. CLIMATIC CONDITIONS:

The unarmoured L.T. PVC cables are required to be laid outdoors either for giving power supplies to domestic and commercial consumers. The climatic conditions will be as under.

- a) Temperature Variation : 5°C to 55°C
- b) Relative humidity : Up to 95%
- c) Altitude : 0 to 1000 Mtrs.
- d) No. of tropical monsoon months : 3 (Three)
- e) Max. Wind pressure : 150 Kg/cm²
- f) Average annual rainfall : 750/800mm
- g) Average thunderstorm base per annum. : 15
- h) Terrain : Coastal saline, desert chemically polluted, Heavily/moderate Polluted and normal atmosphere.

III. INSTALLATIONS:

These cables are required to be laid indoor or outdoor between LT Dist. Poles and the consumer's premises i.e. as LT overhead lines supported between poles and houses/shops, Commercial establishment. These cables are required to be laid overhead, hung, expose to atmosphere in a climatic condition as maintained above.

IV. APPLICABLE STANDARDS:

1. IS - 694 of 2010
2. IS - 5831 of 1984 Re-affirmed 1991
3. IS - 8130 of 1984 "
4. IS - 10810 of 1984 (Methods of test for cable) Re-affirmed - 1991

Date:

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The above standards with latest amendment/revision in force on date of tender shall be applicable. However, for type test certificates, samples submitted for type testing will have to be got tested at Govt. approved laboratory as per the **IS-694:2010** with latest amendment/revision as in force on the date of inviting tender. All acceptance and routine tests on offered lots shall be carried according to **IS-694:2010** with latest amendment revision in force on date of inviting tender during the execution or order placed and till complete supply is over.

V. TECHNICAL PARTICULARS:

a) Voltage Class and Al. Conductor Grade :

PVC insulated cable shall be PVC insulated and PVC sheathed flat LT cable for working voltage Up to and including 1100 Volts confirming standard mentioned above and with ISI mark having aluminum H2 Grade round conductor 2 core with colour coded of each core as specified in the relevant IS.

b) Insulation and Sheath:

The type of insulation shall be Type-A as per IS-5831 of 1984 (with latest amendment/revision).

Similarly the type of sheath shall be type ST-1 as per IS-5831 of 1984 (with latest amendment/revision). For UV Protection, 1% Carbon black shall be added in sheath material, accordingly colour of outer sheath shall be black.

VI. PACKING AND MARKING/EMBOSSING:

The LT PVC cable shall be packed in a polythene straps each of 100 Meters length, marking should be done on the label attached to be each coils as per Clause No.18 of **IS 694:2010**

The following words shall be duly embossed on sheath of every meter length of cables. The embossing should be clear and visible.

- a) Tender no. UGVCL/SP/ _____
- b) Voltage Grade
- c) Year of Manufacture
- d) Trade Mark of Supplier
- e) IS Number
- f) Batch no. / Lot no.
- g) The marking (i.e. numbers 1, 2, 3...) showing the continuous length of the cable should be done on outer sheath of cable at interval of every one meter length.

Date:

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VII. STANDARD LENGTH:

Cable i.e. 2 Core 2.5mm² shall be supplied in standard length of 100 Mtr. Length (Length up to $\pm 1/2\%$ of standard length shall be acceptable). Non-standard length will not be acceptable.

VIII. SUBMISSION OF ISI LICENSE FOR IS 694:2010 FOR OUT DOOR CABLE AND G.T.P. :

The tenderers are required to submit duly attested zerox copy of the valid ISI License up to the date of delivery for supply of these cables/wires and they should submit GTP along with the tender failing which, the offer would be ignored.

IX. SUBMISSION OF TYPE TEST CERTIFICATE:

The duly attested copy of Type Test Certificate not more than five years old as per IS: 694/2010 be submitted on Yellow/Black colour sheath. Unarmoured cable from any Govt. approved laboratory. The Type Test Certificate shall cover the entire test from table no.8 &"additional aging test" as par IS 694/90 with latest amendment/revision in operation on date of inviting tender.

X. SEALING:

Each coil is to be provided with lead seals with seal wire.

XI. INSPECTION AND TESTING:

a) Testing will be carried out at the works of manufacturer's in presence of purchaser's representative at the firm's cost according to IS-694:2010 with latest amendment/revisions if any or date of inviting tender.

Material shall not be dispatch by the supplier without having being inspected and test certificate approved by purchaser's representative and obtaining of specific dispatch instructions in writing.

b)The Purchaser reserves the right to select sample from any offered/inspected lot against the A/T to be issued which will be get type tested at any Government approved laboratory as decided by the the purchaser.

The results of this type tested sample shall be applicable for the entire quantity of the particular lot offered or supplied by the supplier. The purchaser shall bear the testing charges if sample passes all the tests and if sample fails in any one of the tests, supplier shall have to bear testing charges, same are recoverable from the supplier's any pending bill, security deposit, Bank Guarantee or by any suitable means, whichever deem fit be the purchaser.

Date:

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In case of sample failing in aforesaid type tests, supplier shall have to replace the whole lot materials, which should pass through the type tests, the re-testing charges will have to be paid by supplier. If any quantity against the particular lot is consumed by the purchaser, Supplier will agree for any penalty/deduction in price as decided by the competent authority of purchaser. Decision of competent authority in case of any dispute will be final and binding to supplier.

XII. MACHINE/METER CALIBRATION:

All machines and meters to be used in testing shall be calibrated within valid time limit either at the Laboratory of manufacturer or machine/meter of at Govt. recognized laboratory. The machine/ meter to be used in testing shall be in tolerance limit as per their accuracy class.

XIII. IMPORTANT:

In absence of valid ISI License/GTP duly filled in/and copy of type test certificate duly attested by authorized person, offer will be liable to be ignored without any further correspondence.

XIV. The material supplied shall be confirming to Indian Standard Specification and also with ISI marking and even after inspection of the lot, if the materials received at site is found without ISI marking, the lot shall be rejected and no further correspondence shall be entertained in this regard.

Manufacturer's Name:

Address:

Date:

Seal & Signature of Tenderer

GUARANTEED TECHNICAL PARTICULARS (G.T.P.)

Technical information and Guaranteed Technical Particulars for supply of 2 Core 2.5 mm² Flat, unarmoured, L.T. PVC Cable having colour of sheath Black.

PART - A

A bidder has to confirm following important requirements:

Sr.	Particulars	confirmation
1.	Cable shall be manufactured and Supplied Confirming to IS: 694:2010 with latest Amendment if any and UGVCL's specification	YES
2.	Label on coil of Cable shall bear ISI Mark	YES
3.	Colour of Sheath - Black	YES
4.	Size: 2 Core, 2.5 sq. mm.	YES
5.	Shape - Flat	YES
6.	ISI License shall remain valid till order is completed	YES
7.	Standard length 100 Mtrs.± 0.5 %	YES
8.	Non-Standard length not acceptable	YES
9.	Packing shall contain only one standard Length.	YES
10.	Packing material-Polythene straps	YES
11.	Following shall be embossed on cable	
	a. Tender no. UGVCL/SP/____	YES
	b. 1100 Volts	YES
	c. IS: 694/2010	YES
	d. Year of manufacture	YES
	e. Trade Mark of supplier	YES
	f. Batch no. / Lot no.	YES
	g. Progressive running length at every one Mtr.	YES
12.	Marking on label shall be as per IS: 694	YES

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13. Conductor - Aluminum Class I	YES
Solid circular Grade- H2.	YES
14. Conductor resistance at 20°C 12.1 ohms/km	YES
15. Thickness of insulation	
a. Average - 0.70 mm or more	YES.
b. Minimum - 0.53 mm or more	YES
16. Thickness of sheath	
a. Average - 1.00 mm or more	YES
b. Minimum - 0.75 mm or more	YES
17. Volume resistivity of insulation	
a. AT 27°C - 1×10^{13} Ohm. cm. Min.	YES
b .At 70°C - 1×10^{10} Ohm. cm. Min.	YES
18. 1% Carbon black shall be added in sheath material for UV Protection	YES

PART - B

Bidders has to furnish below details about material for information		
Sr. No.	Particulars	Confirmation
1	Copy of ISI License for IS:694	
	a. Number	
	b. Date of expiry	
2	Approximate weight of 100 meters length (Weight in KG.)	
	a. Aluminum	
	b. PVC	
	c. Total	

Date:

Seal & Signature of Tenderer

PART - C (ENCLOSURES)

A Bidder has to enclose following documents and has to confirm for the Same		
Sr.No.	Particulars	Confirmation
1.	ISI License	Yes
2.	Proof if applied for renewal of ISI License	Yes/No
3.	Type test certificate from any Govt. approved Laboratory (for all core) with Yellow/Black colour Sheath	Yes
	a. Name of Lab. & city Name	
	b. T.R. No.	
	c. Date	
4.	List of plant and machinery	Yes
5.	List of testing facility available	Yes
6.	List of orders pending/executed	
a.	with GUVNL or their Subsidiary Companies (i.e. UGVCL/PGVCL/DGVCL/MGVCL)	Yes
b.	with agencies other than GUVNL or their Subsidiary Companies (i.e. UGVCL/PGVCL/DGVCL/MGVCL)	Yes

PART - D

A Bidder has to mention below deviation if any, quoting relevant clause of specification.

Date:

Seal & Signature of Tenderer