

TECHNICAL SPECIFICATION

Technical specification for providing XLPE coating on 34mm² Weasel Conductors.

I. Scope:

This specification covers providing XLPE coating on 34 mm² AAA conductor, testing at works supply in presence of UGVCL engineer.

II. Climatic Conditions:

The armored 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/cm ² |
| f) Average annual rainfall | : | 750/800mm |
| g) Average thunderstorm base
Per annum. | : | 15 |
| h) Terrain | : | Coastal, saline, Desert, chemically
polluted,
Heavily/moderately polluted and
normal, Atmosphere. |

III. Installations:

These XLPE coated conductor are required to be installed outdoor expose to atmosphere in a climatic condition as maintained above, Supported on Pole, hugs or overhead either for any narrow crossing etc. where adequate electrical clearance for bare conductor is not possible.

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IV Applicable Standards:

- 1 IS- 7098 (II) with latest amendment
- 2 IS- 10418 of 1982 (For wooden Drums)
- 3 IS- 10810 of 1984 (Method of test for cable)

The above standards with latest amendment/revision in force on date of tender shall be applicable. All acceptance and routine tests for amendment/revision in force on date of inviting tender during the execution or order placed and till complete supply is over.

V Technical Particulars :

XLPE coating shall be provided on 34 mm² AAA conductor confirming IS: 7098 (part-II) with latest amendment if any and as per UGVCL's specification.

VI Inspection and Testing of XLPE Coating :

- 1) Testing will be carried out at the works of manufacturer's in presence of representative of UGVCL according to IS- 7098 (Part-II) with latest amendment /revision.
- 2) Material shall not be dispatched by supplier without having been inspected.

VII Machine/ Meter calibration:

All machines and meters to be used in testing shall be calibrated within valid time by Govt. approved laboratory.

VIII IMPORTANT:

In absence of GTP duly filled & certificate duly attested by authorized person, offer will be liable to be ignored without any further correspondence.

IX Bidders have to enclose following documents and has to confirm for the same.

<u>Sr. no.</u>	<u>Particular</u>	<u>Confirmation</u>
1.	List of Plant and machinery	
2.	List of testing facility available	
3.	List of orders pending/Executed a) With UGVCL/MGVCL/DGVCL/PGVCL b) With agencies other than DISCOM	

Signature & Seal of the Tenderer

PART-A

Bidders have to confirm following important requirements:

Sr. No.	Particulars	Confirmation									
1	Coating shall be provided on 34mm ² Weasel Conductor confirming to IS:7098 (II) with latest Amendment if any and UGVCL's specification	Yes									
2	Colour of XLPE Insulation - Black	Yes									
3	Standard length in case 1000 mtrs. Length acceptable after coating	Yes									
4	Packing shall contain only one length	Yes									
5	Packing material: Wooden drums as per IS:10418/1982 duly painted	Yes									
6	Following information shall be embossed on coating of conductor: a. UGVCL b. Year of coating c. Trade mark	Yes Yes Yes									
7	Thickness of Insulator: <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th>Insulation thickness</th> <th>Confirmation</th> </tr> </thead> <tbody> <tr> <td>Nom.</td> <td>1.6mm</td> <td>Yes</td> </tr> <tr> <td>Min.</td> <td>1.6mm</td> <td>Yes</td> </tr> </tbody> </table>		Insulation thickness	Confirmation	Nom.	1.6mm	Yes	Min.	1.6mm	Yes	
	Insulation thickness	Confirmation									
Nom.	1.6mm	Yes									
Min.	1.6mm	Yes									

Signature & Seal of the Tenderer

Tests for XLPE Coating:

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Sr. No.	Property	Requirement	Confirmation
a.	Tensile Strength	12.5 N / mm ² min.	Yes
b.	Elongation at break	200% min.	Yes
c.	Ageing in air oven		
	i) Treatment Temperature Duration	(AT 135±3 ⁰ C for 168 Hrs.)	Yes
	ii) Tensile strength variation	±25% Max.	Yes
	iii) Elongation variation	±25% Max.	Yes
d.	Hot Set		
	i) Treatment Temperature Time under load Mechanical stress	200 ± 3 ⁰ C 15 minutes 20 N / cm ²	Yes
	ii) Elongation under load	175% Max.	Yes
	iii) Permanent Elongation (set) after cooling	15% Max.	Yes
e	Shrinkage		
	I) Treatment Temperature Duration	130 ± 3 ⁰ C 1hr.	Yes
	II) Shrinkage	4% Max	Yes
f	Water absorption (gravimetric)		
	i) Treatment - Temperature Duration	85 ± 2 ⁰ C 14 days	Yes
	ii) Water absorbed	1 mg / cm ² max.	Yes
	Volume Resistivity 1. At 27 ⁰ C 2. At 90 ⁰ C	1 x 10 ¹⁴ Ohm. Meter 1 x 10 ¹³ Ohm. meter	Yes

PART-B

Bidders have to furnish below details about material for information.

Sr. No.	Particulars	Confirmation		
	Approximate weight of 1000/ meters length			
		Alum.	XLPE	Total
	a. 34mm ² Weasel conductor			
Date		Signature & Seal of the Tenderer		