

	<b>PASCHIM GUJARAT VIJ COMPANY LIMITED</b>
	REGD. & CORPORATE OFFICE:- "PASCHIM GUJARAT VIJ SEVA SADAN" OFF NANA MAVA MAIN ROAD, LAXMINAGAR, RAJKOT-360004 CIN U40102GJ2003SGC042908 Telephone Nos:-0281-2380425/427/2360182 Website:-www.pgvcl.com
	Fax No:-0281-2368175 E-mail:-proc.pg@gebmail.com

**TECHNICAL SPECIFICATION OF ARMoured 1100 VOLTS L.T.PVC INSULATED TWIN CORE 2.5mm<sup>2</sup> CABLE WITH ROUND ALUMINIUM CONDUCTOR YELLOW SHEATHED.**

**I. SCOPE:**

This specification covers Manufacture, testing at works, supply and delivery of armored LT PVC insulated and PVC sheathed cables, twin core 2.5mm<sup>2</sup> of H2 Grade aluminum conductor to any PGVCL's stores in Gujarat.

**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 <sup>2</sup>   |
| f) Average annual rainfall                 | : | 750/800mm  |
| g) Average thunderstorm base<br>Per annum. | : | 15   |
| h) Terrain                                 | : | Coastal, saline, Desert, chemically<br>polluted, Heavily/moderately polluted<br>and normal atmosphere. |

**III. Installations:**

These cables are required to be laid indoor or outdoor between LT Distribution 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 - 1554 of 1988 (Part-1)(Re affirmed 2005)
2. IS - 5831 of 1984 (Re-affirmed 1991)
3. IS - 8130 of 1984 (Re-affirmed 1991)
4. IS - 10810 of 1984 (Methods of test for cable - Reaffirmed 1991)
5. IS - 1554 of 1988
6. IS - 3975 of 1979 (Test for armouring)
7. IS - 10462 of 1983 (Part-1)

Signature of Tenderer

Company's Round Seal

Date:

Place:

## TENDER NOTICE No.: PGVCL/PROC/2Cx2.5sqmm Armoured Cable/1018

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 Government approved laboratory as per the IS-1554/1988 (Part-1) with latest amendment/revision as in force on the date of inviting tender. All acceptance and routine tests on offered lots shall be carried out according to IS-1554 of 1988 (Part-1) 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 Aluminum Conductor Grade :

PVC insulated cable shall be PVC insulated and PVC sheathed LT cable for working voltage Up to and including 1100 Volts confirming standards 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).

Similar the type of sheath shall be type ST-1 as per IS-5831 of 1984 (with latest amendment/revision) and colour of sheath is yellow.

c) Armouring shall be of galvanized round steel wire complying the requirements of IS 3975-1979 and conforming to IS-1554 (Part-I) of 1998

### VI. Packing and Marking/Embossing:

The LT PVC cable shall be packed in polythin strip of 100 Meters length, marking should be done on the label attached to be each Coil as per Clause No.18 of IS 1554 (Part-I/1988 )

The word PGVCL, voltage Grade, IS Number and year of manufacturing and Trade mark, shall be embossed on every meter length. Also 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.

### VII. Standard Length:

Cable i.e. 2 Core 2.5mm<sup>2</sup> shall be supplied in standard length Of 100 Mtr Length (deviation up to  $\pm \frac{1}{2}\%$  of standard length shall be acceptable). Non-standard length will not be acceptable.

### VIII. Submission of ISI License for IS 1554/1988 for out door cable and G.T.P:

The tenderers are required to submit duly attested phtocopy 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.

Signature of Tenderer

Company's Round Seal

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**IX. Submission of Type Test Certificate:**

The duly attested copy of Type Test Certificate not more than five years old as per IS: 1554/1988 be submitted on yellow colour sheath. armoured cable from Government approved laboratory. The Type Test Certificate shall cover all tests AS PER CLAUSE 15 of IS: 1554/1988 with latest amendment/revision in operation on date of inviting tender.

**X. Inspection and Testing :**

a) Testing will be carried out at the works of manufacturer's in presence of PGVCL's representative at the firm's cost according to IS : 1554 / 1988 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 PGVCL's representative and obtaining of specific dispatch instructions in writing.

b) The PGVCL 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 PGVCL. 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 PGVCL 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 PGVCL. 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 PGVCL. Supplier will agree for any penalty/deduction in price as decided by the competent authority of PGVCL. Decision of competent authority in case of any dispute will be final and binding to supplier.

**XI. 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.

**XII. 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.

**Manufacturer's Name:  
Manufacture's Address:**

Signature of Tenderer	Company's Round Seal	Date:	Place:
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**TENDER NOTICE No.: PGVCL/PROC/2Cx2.5sqmm Armoured Cable/1018****GUARANTEED TECHNICAL PARTICULARS**

Technical information and Guaranteed Technical Particulars For supply of 2 Core 2.5 mm<sup>2</sup> armoured round L.T. PVC Cable having colour of sheath yellow confirming to IS : 1551 (Part -1) 1988

**PART - A**

**Bidders have to confirm following important requirements:**

Sr.No.	Particulars		Confirmation
1	Cable shall be manufactured and Supplied Confirming to IS: 1554/1988 with latest Amendment if any and PGVCL's specification	:	YES
2	Label on drum of Cable shall bear ISI Mark	:	YES
3	Colour of outer sheath - Yellow	:	YES
4	Size: 2 Core, 2.5 mm <sup>2</sup>	:	YES
5	Shape - Round	:	YES
6	ISI License shall remain valid till order is completed	:	YES
7	Standard length 100 Mtrs.± 0.5 % Overall tolerance in total length ± 2% Non-Standard length not acceptable	:	YES
8	Packing shall contain only one standard Length.	:	YES
9	Packing material - Polythin	:	YES
10	Following shall be embossed on cable	:	YES
	a. "PGVCL"	:	YES
	b. "1100 Volts"	:	YES
	c. "IS : 1554/1988"	:	YES
	d. Year of Manufacture	:	YES
	e. Trade Mark	:	YES
11	Marking on label shall be as per IS : 1554 / 1988	:	YES
12	Conductor - Aluminum Class - I , Solid Circular Grade - H2	:	YES
13	Conductor Resistance at 20 °C - 12.1 Ω / km	:	YES
14	Thickness of insulation - 0.9 mm	:	YES
15	Thickness of Sheath (Outer)	:	YES
	Minimum - 1.24 mm	:	YES
16	Thickness of inner sheath 0.3 mm	:	YES
17	Volume Resistivity of Insulation		
	a. At 27 °C - 1 x 10 <sup>13</sup> Ω - cm min	:	YES
	b. At 70 °C - 1 x 10 <sup>10</sup> Ω - cm min	:	YES
18	Armour : Armour (GI wire) Diameter 1.40 mm as per IS	:	YES

Signature of Tenderer

Company's Round Seal

Date:

Place:

**TENDER NOTICE No.: PGVCL/PROC/2Cx2.5sqmm Armoured Cable/1018****PART - B****Bidders has to furnish below details about material for information**

Sr. No.	Particulars			Confirmation
1	BIS License for IS:1554 Part-I/1988 (Re affirmed 2005)			Yes
1a	Number			
1b	Date of expiry			
2	Approximate weight of 1000 meters length (Weight in Kg.)			
2a	Alum.	PVC	Armour (Steel)	Total

**PART - C (ENCLOSURES)****Bidders have 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 Government approved Laboratory (for all cores) with yellow colour Sheath for IS 1554 (Part-1) 1988	:	YES
	a. Name of Laboratory		
	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	:	YES
	a. with GEB/GUVNL/PGVCL/MGVCL/UGVCL/DGVCL	:	YES
	b. with agencies other than GUVNL & Group of Companies	:	YES

Signature of Tenderer

Company's Round Seal

Date:

Place:

**PART - D**

Bidders have to mention below deviation if any, quoting relevant clause of specification.

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**PART - E**

**DETAILS OF ROUTINE TEST & TYPE TEST FOR PVC CABLE**

**(A) ROUTINE TEST**

SR. NO.	NAME OF TEST	CONFIRMATION
1	CONDUCTOR RESISTANCE TEST	YES
2	HIGH VOLTAGE TEST	YES
3	ANY OTHER INFORMATION	YES

**(B) TYPE TESTS**

SR. NO.	NAME OF TEST	CONFIRMATION
1	TENSILE TEST FOR ALUMINIUM	YES
2	WRAPPING TEST (ALLUMINIUM)	YES
3	CONDUCTOR RESISTANCE TEST	YES
4	TEST FOR ARMOUR WIRES	YES
5	TEST FOR THICKNESS OF INSULATION AND SHEATH	YES
6	PHYSICAL TESTS FOR INSULATION AND SHEATH	YES
7	TEST FOR BLEEDING AND BLOOMING OF PIGMENTS	YES
8	INSULATION RESISTANCE TEST	YES
9	HIGH VOLTAGE TEST(WATER IMMERSION TEST)	YES
10	FLEMIBILITY TEST	YES
11	THERMAL STABILITY TEST	YES

REMARK: TEST CERTIFICATE OF GOVT. APPROVED LABORATORY FOR ABOVE MENTIONED DATA SHOULD BE ATTACHED WITH THE TENDER(THE TEST REPORT MUST NOT BE OLD LESS THAN FIVE YEAR FROM THE DATE OF OPENING THE TENDER

Signature of Tenderer	Company's Round Seal	Date:	Place:
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