

STANDARD TECHNICAL SPECIFICATION COVER SHEET

Specification No. : ENG-LV-3018

Specification Name : Technical Specification For LT Stay (Guy) Insulator

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1. SCOPE:

This specification covers the design, manufacture, testing and supply of porcelain LT Guy Strain Insulators for use in Distribution system. Scope also includes transportation & unloading at store / site.

2. APPLICABLE STANDARDS:

The equipment covered by this specification shall unless otherwise stated, be designed, manufactured and tested in accordance with the latest editions of the following Indian, International Standards and shall conform to the regulations of the local authorities:

Ref IS	Description
IS 5300	Porcelain Guy Strain Insulators

3. CLIMATIC CONDITIONS OF THE INSTALLATION:

1	Maximum ambient temperature	50 deg C
2	Max. Daily average ambient temp	35 deg C
3	Min Ambient Temperature	0 deg C
4	Maximum Humidity	95%
5	Average Annual Rainfall	150cm
6	Average No. of rainy days per annum	120
7	Altitude above MSL not exceeding	1000m
8	Wind Speed	300 Km/hr
9	Earthquakes of an intensity in horizontal direction	equivalent to seismic acceleration of 0.3g
10	Earthquakes of an intensity in vertical direction	equivalent to seismic acceleration of 0.15g (g being acceleration due to gravity)

TPCODL/ TPNODL/ TPWODL/ TPSODL service area has heavy saline conditions along the coast and High cyclonic Intensity winds with speed upto 300 Kmph. The atmosphere is generally laden with mild acid and dust in suspension during the dry months and is subjected to fog in cold months.

4. GENERAL TECHNICAL REQUIREMENTS:

SL. NO.	TECHNICAL PARTICULARS	DESIRED VALUE
1	Manufacturer's Name	To be specified by Bidder
2	Type of insulator	Designation A
3	Standard Specification to which the material shall confirm	As per IS: 5300
4	ELECTRICAL CHARACTERISTICS	
(a)	Dry one minute power frequency Flashover voltage	24 kV
(b)	Wet one minute power frequency Flashover voltage	10 kV
(c)	Dry one minute power frequency Withstand voltage	18 kV
(d)	Wet one minute power frequency Withstand voltage	8 kV
5	Minimum Failing Load	44 KN
6	DIMENSIONS	
(a)	Length	90 mm
(b)	Width	65 mm
(c)	Cable Hole Dia	16 mm (+/- 1.5 mm)
7	Creepage Distance	41 mm
8	Type of Glaze	Brown / Dark Brown
9	Weight per piece	0.45 Kg approx.

5. GENERAL CONSTRUCTION:

- The porcelain shall be sound, free from defects, thoroughly vitrified and smoothly glazed.
- The design of the insulators shall be such that the stresses due to expansion and contraction in any part of the insulator shall not lead to its deterioration.
- The glaze shall be brown in color for insulators. The glaze shall cover the entire porcelain surface parts except those areas that serve as supports during firing.
- The standard guy strain insulators shall be of designation, 'A' as per IS: 5300/1969 or its latest revision. The recommended type of guy strain insulators for use on guy wires of LT overhead line is Type-A.

6. MARKING:

Following distinct non-erasable embossing is to be made on each Insulator to be supplied to TPCODL/ TPNODL/ TPWODL/ TPSODL under this Tender.

- "TPCODL/ TPNODL/ TPWODL/ TPSODL"
- Failing Load in KN
- Manufacturer Name/ Trade Mark
- Year of manufacturing, Country of manufacturing

7. TESTS:

The bidder shall be required to submit complete set of the following test reports along with the

offer: -

7.1 ACCEPTANCE TESTS

- i) Verification of Dimensions.
- ii) Temperature cycle test
- iii) Mechanical strength test
- iv) Porosity test

7.2 ROUTINE TESTS

- i) Visual examination

7.3 TYPE TESTS

- i) Visual examination
- ii) Verification of dimensions
- iii) Temperature cycle test
- iv) Dry one-minute power frequency withstand test
- v) Wet one-minute power frequency withstand test
- vi) Mechanical strength test
- vii) Porosity test

8. TYPE TEST CERTIFICATES:

The Bidder shall furnish the type test certificates for the tests as mentioned above as per the corresponding standards. All tests shall be conducted at **CPRI / ERDA / Other Government Labs** as per relevant IS. Type tests should have been conducted in certified Test laboratories during the period not exceeding 5 years from the date of opening the bid. In the event of any discrepancy in the test reports, i.e. any test report not acceptable, same shall be carried out without any cost implication to TPCODL/ TPNODL/ TPWODL/ TPSODL.

9. PRE-DISPATCH INSPECTION:

The material shall be subject to inspection by a duly authorized representative of the TPCODL/ TPNODL/ TPWODL/ TPSODL. Inspection may be made at any stage of manufacture at the discretion of the purchaser and the equipment, if found unsatisfactory as to workmanship or material, the same is liable to rejection. Bidder shall grant free access to the places of manufacture to TPCODL/ TPNODL/ TPWODL/ TPSODL's representatives at all times when the work is in progress. Inspection by the TPCODL/ TPNODL/ TPWODL/ TPSODL or its authorized representatives shall not relieve the bidder of his obligation of furnishing equipment in accordance

with the specifications. Material shall be dispatched after specific MDCC (Material Dispatch Clearance Certificate) is issued by TPCODL/ TPNODL/ TPWODL/ TPSODL.

Following documents shall be sent along with material.

- a) Test reports
- b) MDCC issued by TPCODL/ TPNODL/ TPWODL/ TPSODL
- c) TPCODL/ TPNODL/ TPWODL/ TPSODL Invoice in duplicate
- d) Packing list
- e) Drawings & catalogue
- f) Guarantee / Warrantee card
- g) Delivery Challan
- h) Other Documents (as applicable).

10. INSPECTION AFTER RECEIPT AT STORE:

The material received at TPCODL/ TPNODL/ TPWODL/ TPSODL, Odisha store will be inspected for acceptance and shall be liable for rejection, if found different from the reports of the pre-dispatch inspection and one copy of the report shall be sent to Engineering department.

11. GUARANTEE:

Bidder shall stand guarantee towards design, materials, workmanship & quality of process/ manufacturing of items under the contract for due and intended performance of the same, as an integrated product delivered under this contract. In the event any defect is found by the Company up to a period of 54 months from the date of commissioning or 60 months from the date of last supplies made under the contract, whichever is earlier, supplier shall be liable to undertake to replace/rectify such defects at his own costs. within mutually agreed timeframe, and to the entire satisfaction of the Company, failing which the Company will be at liberty to get it replaced/rectified at supplier's risks and costs and recover all such expenses plus the Company's own charges (@ 20% of expenses incurred), from the supplier or from the "Security cum Performance Deposit" as the case may be.

12. PACKING:

Supplier shall ensure that all material covered by this specification shall be prepared for rail/road transport (local equipment) and be packed in such a manner as to protect it from damage in transit. The materials are to be packed in crates or boxes for rough handling. Packing shall be marked with the strength and voltage ratings. The bidder shall provide instructions regarding handling and storage precautions to be taken at site.

13. TENDER SAMPLE:

Bidder shall submit the sample of material during submission of Bids.

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14. QUALITY CONTROL:

The bidder shall submit QAP indicating the various stages of inspection, the tests and checks which will be carried out on the material of construction, components during manufacture and bought out items and fully assembled component and equipment after finishing. As part of the plan, a schedule for stage and final inspection within the parameters of the delivery schedule shall be furnished. The Purchaser's engineer or its nominated representative shall have free access to the manufacturer's/sub-supplier's works to carry out inspections.

15. TESTING FACILITIES:

Supplier/ Manufacturer shall have adequate in house testing facilities for carrying out all routine tests & acceptance tests as per relevant Indian standards.

16. MANUFACTURING FACILITIES:

The successful bidder shall submit the bar chart for various manufacturing activities clearly elaborating each stage, with quantity. This bar chart should be in line with the Quality assurance plan submitted with the offer.

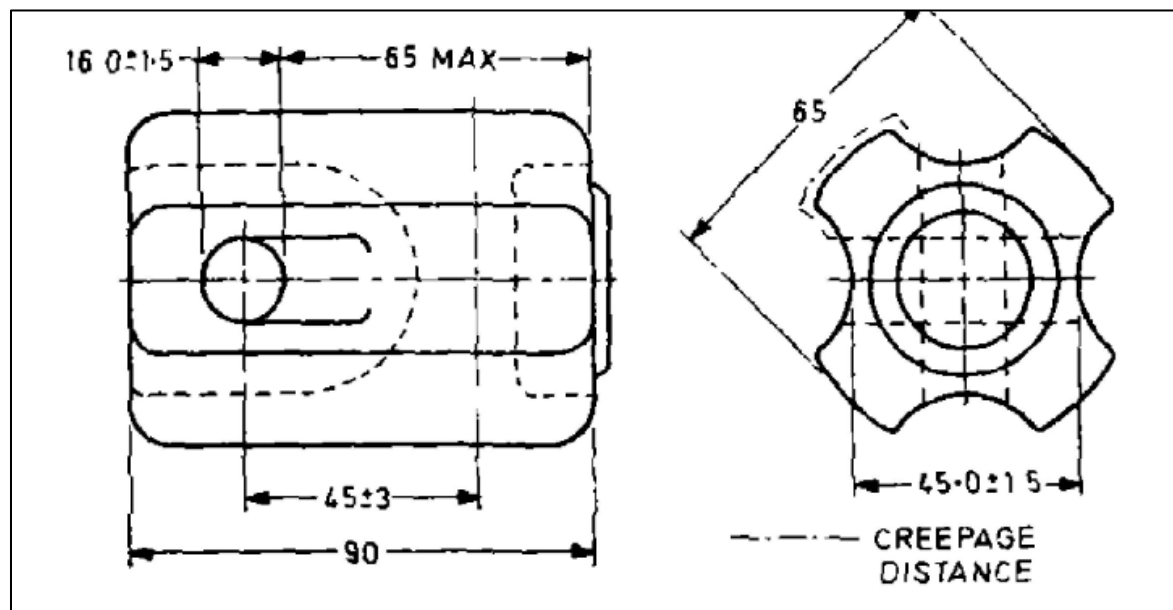
17. SPARES, ACCESSORIES AND TOOLS:

Not applicable.

18. DRAWINGS AND DOCUMENTS:

Following drawings and documents shall be submitted in line with the requirement of Tender specifications:

- a) Completely filled in Schedule "A" Guaranteed Technical Particulars.
- b) Work Experience details
- c) Type test certificates.
- d) Drawing (3 sets) of Guy Insulator containing complete information about manufacturing & fabrication etc.



Note: -All Dimensions are in mm unless noted otherwise specified. This is an indicative drawing of Guy Insulator used for tender purpose only.

19. SCHEDULE- "A" GUARANTEED TECHNICAL PARTICULARS:

SL. NO.	TECHNICAL PARTICULARS	To be furnished by Bidder
1	Manufacturer's Name	
2	Type of insulator	
3	Standard Specification to which the material shall confirm	
4	ELECTRICAL CHARACTERISTICS	
(a)	Dry one minute power frequency Flashover voltage	
(b)	Wet one minute power frequency Flashover voltage	
(c)	Dry one minute power frequency Withstand voltage	
(d)	Wet one minute power frequency Withstand voltage	
5	Minimum Failing Load	
6	Power Frequency Punctured withstand voltage	
7	DIMENSIONS	
(a)	Length	
(b)	Width	
(c)	Cable Hole Dia	
8	Creepage Distance	
9	Type of Glaze	
10	Weight per piece	

20. SCHEDULE "B" DEVIATIONS:

(TO BE ENCLOSED WITH TECHNICAL BID)

All deviations from this specification shall be set out by the Bidders, clause by Clause in this schedule. Unless specifically mentioned in this Schedule, the tender shall be deemed to confirm the purchaser's specifications:

SL. No	Clause No.	Details of deviation with justifications

We confirm that there are no deviations apart from those detailed above.

Seal of the Company:

Signature

Designation