

TECHNICAL SPECIFICATION FOR THE LT SHACKLE INSULATORS

1. SCOPE:

The specification provides for manufacture, testing before dispatch, supply and delivery of LT Shackle Insulators as per the particulars given in the "Schedule of Requirements" attached.

2. STANDARDS:

The LT Shackle Insulators shall conform to IS:1445/1977 (the latest issue thereof) and shall be brown glazed. The tenders shall go through the above IS thoroughly before making their offer. The material shall be for use in moderately hot and humid tropical climate, conducive to rust and fungus growth.

3. GENERAL REQUIREMENT:

- i) The porcelain shall be sound, free from defects thoroughly vitrified and smoothly glazed.
- ii) The design of Insulator should be such that, stresses due to expansion or and contraction in any part of the insulator shall not lead to its deterioration.
- iii) The glaze shall be Brown in colour –except for the screw threads and the top portion on which the conductor is supported during firing which may be left unglazed, all other surfaces of the insulator shall be effectively, glazed.

4. TESTS :

The Insulator shall comply with the following routine, type and acceptance tests as per IS:1445/1977 (the latest issue thereof).

4.1. **Routine Test :** Visual Examination

Type Test :

The firm shall submit the type test report shall be from any NABL accredited laboratory not more than 5 years old along with offer .The following type tests are to be carried out on sample in the order mentioned bellow as per IS 5300/69.

- a) Visual examination.
- b) Verification of dimensions.
- c) Dry one minute power frequency withstand test.
- d) Wet one minute power frequency withstand test.
- e) Temperature Cycle test.
- f) Mechanical strength test
- g) Porosity test.
- h) Power frequency puncture withstand test

NOTE : The identification marks of firm provided on the insulator should be invariably mentioned in the type test certificate.

Acceptance Tests : (to be conducted in the following order)

- a) Visual examination.

- b) Verification of dimensions.
- c) Temperature Cycle test.
- d) Mechanical strength test.
- e) Porosity test (Applicable only to HT Guy Insulator Type-C).

5. MARKING:

The Insulators shall be legibly and indelibly marked as shown below.

- a) Name and trade-mark of the manufacturer.
- b) Month and year of manufacture and.
- c) “APEPDCL” (Name of the purchaser)

Markings on porcelain shall be printed and shall be applied before firing.

6. TYPE AND DIMENSIONS:

The dimensions shall be of size 90X75 mm and construction of the LT Shackle Insulators should be as per IS 1445/1977 and shall be brown glazed.

7. TEST AND TEST CERTIFICATES:

The test shall be carried out as per the IS before dispatch and the test certificates shall be furnished for approval.

Copies of type test certificates of identical materials for each type with dimensional drawings shall invariably accompany the tender.

The type tests as specified in the IS should be carried out not later than 10 years from the date of opening of bid.

8. PACKING :

This shall be done in wooden crates suitable for rough handling.

9. SAMPLES :

Two Nos. samples of LT Shackle Insulators shall invariably accompany the tender. Tenders for which samples are not received by the stipulated date will be rejected.

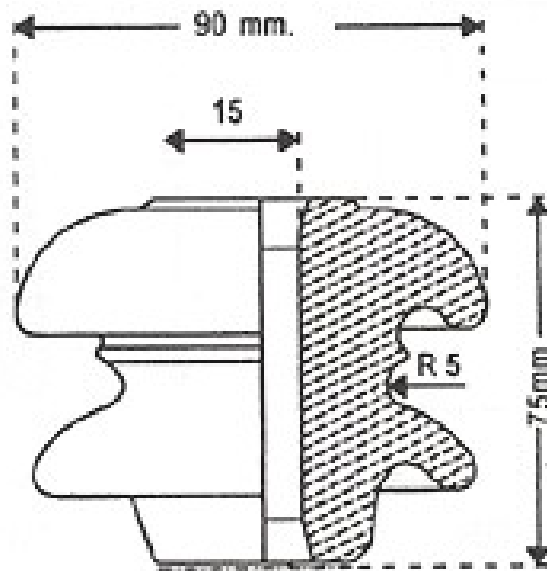
10. GUARANTEED TECHNICAL PARTICULARS :

The technical particulars as specified in the IS shall be guaranteed and a statement of guaranteed particulars shall be furnished along with the tender.

GUARANTEED TECHNICAL PARTICULARS

Sl. No.	Details	Guaranteed particulars	Details to be furnished by bidder
1.	Name of the Manufacturer		
2.	i) Rating of shackle insulators	1.1 KV	
	ii) Electric characteristics of Insulators		
	a) Normal system voltage KV	1.1 KV	
	b) Highest system voltage KV	1.1 KV	
	c) Visible discharge test voltage (Power Frequency) KV (RMS)	---	
	d) Dry one minute withstand voltage KV (RMS)	23 KV	
	e) Wet Power Frequency withstand voltage KV (RMS)	10 KV	
	f) Power frequency puncture withstand voltage KV (RMS)	1.3 X the actual dry flashover voltage	
	g) Impulse withstand voltage (1/50 micro second wave KV (Peak)	---	
	h) Impulse flash over voltage (1/50 micro second negative voltage KV (Peak)	---	
	i) Impulse flashover voltage (1/50 micro second negative voltage KV (Peak)	----	
3.	j) Dry flashover voltage KV	---	
	k) Wet flashover voltage KV	---	
	Mechanical characteristics of insulators		
	a) Min. failing load KN	15 KN (Transfer strength)	
	b) Min. creepage distance	66mm	
4.	Colour of glaze	Brown	
5.	Weight per unit	---	
6.	Size of Insulator	Height 75 mm	
7.	Material of thimble	---	
8.	Whether pin insulator is suitable for use with small steel head/large steel head	---	
9.	Standard to which the insulator will be manufactured and tested	IS-1445/1977	
10.	Contents of each package and packed weight	50 Nos. in each bag grass packing with Bag/38 Kgs.	
11.	Tolerance in dimensions, if any	As per Standard	
12.	Other particulars, if any	Nil	
13.	Marking Details	Make, Month & Year of Manufacture and AP PDCL	

LT SHACKLE INSULATOR



STANDARD PARTICULARS	IS 1445:1977
Type	IS type 1
Mechanical strength	11.5
Dry Power frequency withstand voltage (kv)	23
Wet power frequency withstand voltage (kv)	10
Power frequency puncture voltage(kv)	1.3 times of actual flashover voltage