

TECHNICAL SPECIFICATION FOR THE 33 KV POST TYPE INSULATORS

1. SCOPE: The specification covers design, manufacture, testing at manufacturer's works before despatch, supply and delivery of 33 KV Post Type Insulators given in the "Schedule of Requirements" attached.

2. STANDARDS: The Post Insulators shall conform to IS 2544 -1973 and IS – 5350 part – III – 1971 (Latest issue). The tenderers shall go through the above IS thoroughly before making his offer.

3. TYPE AND DIMENSIONS: The dimensions and construction of the 33 KV Post Insulators shall be as per the designation PA 170 of table 5 of IS 5350 Part – III/1971 (latest issue).

4. GENERAL REQUIREMENT:

The porcelain shall be sound, free from defects thoroughly verified and smoothly glazed.

i. The glaze shall be brown in colour. The glaze shall cover all the exposed porcelain parts of the insulators except those areas, which serve, as supports during firing are required to be left un-glazed.

ii. Precautions shall be taken during design and manufacture to avoid the following :

- a) Stresses due to expansion and contraction, which may lead to deterioration.
- b) Stress concentration due to direct engagement of the porcelain with the metal fitting.
- c) Retention of water in recesses of metal fittings, and
- d) Shapes, which do not facilitate easy cleaning by normal methods.

5. TESTS AND TEST CERTIFICATES:

The tests shall be carried out as per the IS before dispatch and the test certificates shall be furnished for approval. Copies of **type test certificates** showing the results of type tests conducted on identical materials as per the IS with **dimensional drawings** shall invariably accompany the tender.

TESTS TO BE CONDUCTED:

- a. H.V. Power Frequency withstand tests (dry) & (Wet).
- b. H.V. Power Frequency flashover tests (dry) & (wet).
- c. H.V. Impulse withstand test.
- d. H.V. 50% impulse Flashover test.
- e. H.V. Visible discharge.
- f. Visual Examination and verification of Dimensions.
- g. Temperature Cycle test.
- h. Porosity.
- i. Galvanizing.
- j. Mechanical withstand tests for
 - i) Bending Load.
 - ii) Tensile Load
 - iii) Torsion Load.
 - iv) Compression Load.

6. GUARANTEED TECHNICAL PARTICULARS: The technical particulars as specified in the IS shall be guaranteed and a statement of guaranteed particulars shall be furnished as per Annexure along with the tenderer.

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

8. SAMPLES: Two samples shall be submitted along with the tender.

9. Embossing: The insulators shall be engraved with your trade mark, year of manufacturing and “APEPDCL” name shall be inscribed on insulator similar to supplier name

10. Performance security clause:

The successful bidder shall furnish 10% of contract value towards performance security which includes 5% delivery performance. In case there are delivery delays, from the available amount up to 5% shall be recovered for not adhering to the scheduled deliveries as per the purchase order obligations and the supplier should recoup the amount so deducted by DD or BG again up to extent of 10% till warranty period is applicable as part of performance guarantee .

**GUARANTEED TECHNICAL PARTICULARS FOR 33 KV POST TYPE
INSULATORS:**

- a. Maker's Name and Company.
- b. Type of insulators :
- c. Highest system voltage.
- d. Size of insulators
 - i) Diameter
 - ii) Height.
- e. PCD of top and bottom metal fittings.
- f. Total creepage distance.
- g. Dry withstand voltage.
- h. Wet withstand voltage
- i. Impulse withstand voltage.
- j. Visible discharge voltage.
- k. Puncture voltage
- l. Cantilever failing load (upright)
- m. Tensile failing load.
- n. Torsional failing load.
- o. Compression failing load.
- p. Weight of unit (approx)
- q. Standard testing specification IS-2544/1973.
- r. Reference Drawing.