

SCHEDULE - II

TECHNICAL SPECIFICATION OF EPOXY CAST RING TYPE LT CURRENT TRANSFORMERS

1. SCOPE

This specification covers design, manufacturing, testing and supply of indoor Epoxy Cast Ring type 433 volt AC (phase to phase) current transformers for use to meter three phase power supply to consumers.

2. TECHNICAL REQUIREMENTS:

The current transformers shall comply with the Indian Standard Specification IS:2705 of 1992 (Part-I & II) with its latest amendments thereof and also subject to following details:-

3. RATING AND PERFORMANCE REQUIREMENT:

Rated Voltage	433 Volts AC (Normal) phase to phase having variation of +9% to -13.5%
Type of supply	3 phase 4 wire AC
System of earthing	Neutral Solidly Earthed
Type	Ring type
Insulation	Epoxy Resin
Frequency	50 Hertz \pm 5%
Transformation ratio	As per price schedule-I.
Rated Secondary Current	5 Amps
Accuracy Class/Rated Output	1.0 class, 2.5 VA burden
Temperature rise over ambient	40° Centigrade
Insulation Level	3 KV (rms)
Short time thermal current and its duration	13.1 KA for 1 second
Service condition	For indoor Installation under factory premises/having normal room temperature

4. CONSTRUCTION

- (i) **The internal diameter of the CTs shall be as per GTP to easily accommodate rated PVC Cables.**
- (ii) **The polarity marking on the CT should be engraved/embossed.**
- (iii) **Mounting plate should be of MS heavily electroplated to avoid rusting.**
- (iv) **For making connections on resin block on secondary side, the secondary terminal should be integral part of CT casting. Brass nuts of sufficient length should be provided in the cast body of CT. Thread of Nut and screw should be of at least M5 size. Secondary terminals should be provided with a terminal cover with sealing facility.**
- (v) **One sealing bolt, shall be provided with at least two nuts and washers one for tightening the block and the other for cover. Further, for sealing purposes, a small hole should be provided on the sealing bolt across it and the cover shall also have two projections with holes in alignment to the hole of the sealing bolt.**

5. INSULATION MATERIAL AND TERMINALS:

The CT should be resin casted. The terminal block should also be resin casted, holding two terminals of secondary connections firmly and one sealing bolt. The diameter of the terminal bolts, made of brass, should not be less than 5 mm with two nos. of standard nuts and washers. The terminal block and cover should be casted in such a way that the cover should not

rotate about the sealing bolt to avoid any chance of shorting the secondary leads/ terminals. Further, the sealing bolt shall be insulated with fiber/PVC sleeve to avoid chances of short circuiting or barrier between secondary terminal and sealing bolt should be provided.

6. MOUNTING ARRANGEMENTS:

As stated above, it is necessary to provide suitable non-magnetic mounting plate of adequate size and thickness for easy mounting of CTs.

7. RATING PLATE:

Every current transformer shall have the following particulars indelibly marked on it:

- (a) **Reference to IS**
- (b) **Manufacturer's name and country of origin**
- (c) **Year of manufacturer, serial number and type design etc.**
- (d) **Rated transformation ratio**
- (e) **Rated frequency**
- (f) **Highest system voltage**
- (g) **Insulation level**
- (h) **Rated short time thermal current with associated rated dynamic current**
- (i) **Rated output**
- (j) **Accuracy class**
- (k) **Rated instrument security current**

8. TESTS

The CTs shall be subjected to the following tests as per IS:2705:1992 with latest amendment thereof:-

TYPE TESTS

The following shall comprise the type tests

- a) **Short time current test**
- b) **Temperature rise test**
- c) **Accuracy test**
- d) **Instrument security current test**

The type test should have been conducted at an independent NABL accredited Laboratory. The type test shall not be more than 5 years.

ROUTINE TESTS

The following shall constitute the routine tests:-

- a) **Verification of the terminal markings and polarity**
- b) **High voltage power frequency dry withstand tests on secondary (CT) winding.**
- c) **Over voltage inter-turn test**
- d) **Determination of errors or other characteristics according to the requirements of appropriate accuracy class.**

Each CT shall be subjected to routine tests as specified in IS:2705 and routine test certificate of each CT shall have to be submitted before supply. Test reports should be got approved from the purchaser before dispatching the CTs. If desired by the purchaser, routine test on all the CTs may be conducted in presence of purchaser's representative at firm's works, apart from acceptance tests of the lot during pre-dispatch inspection.

9. GUARANTEED TECHNICAL PARTICULARS

Guaranteed Technical Particulars as furnished in Schedule-III shall be adhered to.

10. The CTs shall have guarantee of 18 months from the date of supply or 12 months from the date of use, which ever is earlier against any

O/o CMD(EZ) Jabalpur

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manufacturing defect. During performance guarantee period if any defect is observed in CTs, the same shall be replaced by the supplier free of cost within 30 days of intimation.

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