

TECHNICAL SPECIFICATION FOR SMC LT AMR METER BOXES MANUFACTURED FROM THERMOSETTING PLASTIC

1.0 SCOPE:

- 1.1 This specification covers the design, manufacturing & testing of anti-corrosive, dust proof, rust proof, shock proof, self extinguishing property, resistant to heat, vermin & water proof, Ultra violet Stabilized and pilfer resistant SMC LT AMR Meter boxes made Thermosetting Plastic i.e Glass Reinforced Polyester Sheet Moulding Compound (SMC) Confirming to IS : 13410 (1992) and attached technical specification, drawing and IS : 14772:2000.

2.0 CONSTRUCTION:

- 2.1 The SMC LT AMR meter Box shall comprise of Moulded single Base and door. The construction of the Box shall be of Single Base type.
- 2.2 The SMC LT AMR meter box shall generally comply with the provision of IS 14772. The boxes shall be suitable for outdoor/indoor application.
- 2.3 SMC LT AMR Meter box shall have minimum inside size of 810(H) x 350(W) x 230(D)mm and thickness minimum 2 mm. as per enclosed drawing. Colour of the Box Shall be Off White/ Admiral Grey.
- 2.4 The thickness of the box shall not be less than 2.0 mm on all sides including door.
- 2.5 The top surface of SMC LT AMR Meter box shall have tapering shape for easy flow of rainwater.
- 2.6 The meter box shall have a groove all round to hold soft rubber gasket with Corresponding tongue in door to ensure tongue & Groove type sealing arrangement in addition to Gasket sealing for protection against entry of dust and water.
- 2.7 The door shall rest on the base of box in such a way that any access from outside to the meter is not possible. The door in closed position should be overlapped on collar of base such that direct entry of screwdriver or tool is not possible
- 2.8 The Box shall confirm to ingress protection level IP-53.
- 2.9 All corners of the Meter box should be round and not pointed ones. Meter compartments of the box shall be fitted with raised SMC/Hylam Mounting Sheet of 4 mm thickness so as to facilitate mounting of meter as shown in drawing.

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- 2.10 Provision of mounting of GSM Modem along side meter by modem tray on right hand side space as well as a modem self on top of meter should be provided as shown in drawing. MS Plates of 70x70 mm shall also be fitted at 2 places as shown in drawing of facilitate Yagi Antenna fixing.
- 2.11 Bottom compartment should be use for LT CT which is in the scope of department, top compartment for meters.
- 2.12 SMC LR AMR Meter box cover shall be fitted to base by concealed Stainless Steel Strip hinges.
- 2.13 The SMC LT AMR Meter boxes shall be closed by S.S. 'U' Clamp of minimum 0.8mm ($\pm$ 0.1mm) thickness for holding and locking of the door. The "U" Clamp shall have 4mm diameter hole through which it is possible to seal the box for sealing purpose.
- 2.14 For meter reading the box should have a window with Toughened/Triplex Glass Fixed with S.S. frame from inside. The window should be provided with a LH side hinged flap to cover it. The flap shall be made out of Thermosetting Plastic. The box should have a window of size 280mm x 180mm provided with Glass as shown in the drawing.
- 2.15 4Nos wall/pole mounting SMC brackets having holes 8mm diameter shall be provided on back side of Meter Box for fixing of box on the wall/pole.
- 2.16 1 no. hole for cable entry and left side 4 nos. holes having dia of each hole of 25 mm for cable exit purpose shall be provided on right side walls of box with good quality polymeric gland having dia of 25 mm as shown in the drawing.
- 2.17 One nos Earth bolt of 6mm diameter x 25mm length with 2 Nos Nuts and 2 nos. washers plus a spring washer shall be provided. The earthing arrangement shall be of M.S. with Zinc passivated. Earthing symbol is to be provided near the earthing bolt.
- 2.18 All metal parts shall be Zinc passivated. If not mentioned specifically.

3.0 GUARANTEED TECHNICAL PARTICULARS:

- 3.1 Guaranteed Technical particulars are given in enclosed Annexure A and B. Bidder shall submit the data in given Performa.

Signature of Tenderer	Company's Round Seal	Date:	Place:
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4.0 TYPE TEST CERTIFICATE :

4.1 The bidder shall submit type test report as per IS- 14772-2000 & IS-13410 :1992 from CIPET, Ahmedabad/ERDA, Baroda along with the offer. Type Test Certificate should not be older than 5 years as on the date of tender opening.

5.0 ROUTINE TEST:

5.1 Manufacturer has to carryout routine test during production to check the essential requirements which are likely to vary during production. Manufacturer has to keep records of the same and to be produced for verification of inspector when asked at the time of inspection of lot.

6.0 ACCEPTANCE TEST:

6.1 The acceptance tests shall be carried out on randomly selected samples as per Annexure-B.

7.0 TYPE TEST

7.1 Type test report as per requirement of this Specifications shall be furnished before commencement of supply.

8.0 RAW MATERIALS

8.1 The manufacturer has to submit the test certificate for the material used in the lot offered and document for purchase of raw material.

9.0 FACILITY

9.1 The bidder shall have facility to test the box for routine tests and acceptances as per IS-14772: 2000 and IS -13410 at their works. The bidder has to submit list of Machinery & Equipment/ Testing instrument etc.

10.1 INSPECTION AND TESTING

10.1 The bidder has to offer the boxes for inspection at his works before dispatch. The manufacture will offer all facilities to inspectors without any charge.

11.0 DESPATCH

11.1 The SMC AMR Meter boxes shall be so dispatched as to ensure that no damage occurs during transport where they may be subject to rough handling.

12.0 TENDER SAMPLE

12.1 Two samples as per specifications will have to be submitted for the tender to The , Deputy Engineer, Divisional Store Office, Madhya Gujarat Vij Company Ltd., Lal baug division office , Opposite Pratpnagar Railway Station, Pratapnagar , Vadodara - 390 004.

13.0 Destination:

13.1 The above material shall be supplied to RSO, Store of MGVCL.

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ANNEXURE - A			
GUARANTEED TECHNICAL PARTICULARS FOR SMC LT AMR METER BOX			
SR NO	PARTICULARS	DETAILED PARTICULARS	TO BE OFFERED BY BIDDER
1	Maker's name	To be intimated by the supplier	
2	Material	Glass reinforced polyester sheet moulding compound	
3	Grade of Material	SMC confirming to IS:13410:1992 Grade S 1	
4	Properties of Material of Construction of Meter Box		
	Flame Retardant test	As per IS-11731 (Min. FV0)	
	Exposure to flame (Ref Std IS:4249)	Self-extinguishing	
	Degree of protection	IP-53 as per IS-12063 / 87	
	Heat distortion temp.	150° C (Min) as per IS:13411	
5	Inside dimension of Meter Box	To be mentioned by the supplier	
	a. Height	810 mm (min)	
	b. Width	350 mm (min)	
	c. Depth	230 mm (min)	
	d. Thickness	02 mm (min)	
6	Earthing Arrangement		
	Earthing bolt	One no. of Earthing bolt of MS with 2 nuts and 2 washers shall be provided on RH side of box. Earthing sign has to be provided near to Earthing bolt.	
	Dia & Length of Earthing bolts	Dia 6 mm Length 25 mm	
7	Locking arrangement	For Holding & Locking of door with base two nos (min.) of "U" shaped clamps to be provided	
8	Manufacturer short name & MGVCL company logo shall be printed on the front side of the box	To be provided on the front side of the box	
9	Sealing arrangement	Holes for wire seal	
10	Cable entry holes	Cable Entry holes with ø25 Polymeric Gland on both side walls	
11	Colour of box	Off White	
12	Window having Triplex Glass	Window Size 280 mm x 180 mm	
13	Fixing of Glass	Fitted from inside in such a way that it can not be replaced without opening door (with S.S. frame all around)	

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ANNEXURE B

TEST REQUIREMENT FOR SMC 3 PH CT METER BOX	Reference Standards
ROUTINE TEST	
Protection against electric shock	IS 14772
Provision for earthing	- Do -
ACCEPTANCE TESTS (Random samples 10 nos. to be selected)	
Marking (Name, Trade mark)	- Do -
Protection against electric shock	- Do -
Provision for earthing	- Do -
Construction and Dimension verification	- Do -
Heat distortion temperature (min 150°C) (On any one sample)	IS: 13411
TYPE TEST	
Marking	IS: 14772
Dimensions	- Do -
Protection against electric shock	- Do -
Provision for earthing	- Do -
Construction	- Do -
Resistance to ageing, to humid conditions, ingress of Solid objects and to harmful ingress of water	- Do -
Mechanical strength	- Do -
Resistance to heat	- Do -
Resistance to insulating material to abnormal heat and fire	- Do -
Resistance to rusting	- Do -
Resistance of tracking	- Do -
Heat distortion temperature (min 150°)	IS 13360 (Part VI Sec III)
Self Extinguishing	IS: 4249
Material Identification	CIPET

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