

ANNEXURE-VOL-3.12.1
TECHNICAL SPECIFICATION FOR SMC HT AMR Meter Box
Made FROM THERMOSETTING PLASTIC

1.0	<p>SCOPE: This specification covers the design, manufacturing and 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 Meter Box made from Glass Reinforced Polyester Sheet Moulding Compound (SMC) confirming to IS: 13410 (1992) and attached technical specification, drawing and IS 14772:2000.</p>
2.0	<p>QUALIFYING REQUIERMENTS: --NA--</p>
3.0	<p>CONSTRUCTION:</p> <p>3.1. The SMC HT AMR meter Box shall comprise of Moulded single Base and doors. The construction of the Box shall be of Single Base type.</p> <p>3.2. The SMC HT AMR meter box shall generally comply with the provision of IS 14772. The boxes shall be suitable for outdoor/indoor application.</p> <p>3.3. SMC HT 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.</p> <p>3.4. The thickness of the box shall not be less than 2.0 mm on all sides including door.</p> <p>3.5. The top surface of SMC HT AMR Meter box shall have tapering shape for easy flow of rainwater.</p> <p>3.6. 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.</p> <p>3.7. 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.</p> <p>3.8. The Box shall confirm to ingress protection level IP-53.</p> <p>3.9. All corners of the Meter box should be round and not pointed ones. In the box shall be fitted Z.P. M.S. Sliding arrangement so as to facilitate mounting of meter and TTB as shown in drawing.</p> <p>3.10. Thickness of horizontal Strips in sliding arrangement for mounting of meter and TTB shall be 2.0 mm(± 0.02 mm).</p> <p>3.11. Provision of mounting of GSM Modem so as to facilitate mounting modem tray on 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 Modem Antenna fixing.</p> <p>3.12. SMC HT AMR Meter box door shall be fitted to base by concealed Stainless Steel Strip hinges.</p> <p>3.13. The SMC HT AMR Meter boxes shall be closed by S.S. 'U' Clamp (04no.) of minimum 0.8mm (± 0.1mm) thickness for holding and locking of the door. The "U" Clamp (02no.) shall have 4mm diameter hole through which it is possible to seal the box for</p>

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	<p>sealing purpose.</p> <p>3.14. For meter reading the box should have a window with Toughened/Triplex Glass Fixed with S.S. frame from inside. The box should have a window of size 280mm x 180mm provided with Glass as shown in the drawing.</p> <p>3.15. 4Nos wall/pole mounting SMC Flat having holes 12 mm diameter shall be provided on back side of Meter Box for fixing of box on the wall/pole.</p> <p>3.16. For cable entry shall be provided at Bottom of box with good quality dia 25mm brass double compression gland as shown in the drawing.</p> <p>3.17. 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 G.I.bolt. Earthing symbol is to be provided near the earthing bolt.</p>
4.0	<p>GUARANTEED TECHNICAL PARTICULARS: Guaranteed Technical Particulars are given in enclosed Annexure A and B. Bidder shall submit the data in given Proforma.</p>
5.0	<p>TYPE TEST CERTIFICATE: The bidder shall submit type test report as per IS-14772-2000 & IS-13410:1992 from CIPET, Ahmadabad/ERDA, Baroda along with the offer. Type Test Certificate should not be older than 5 years as on the date of tender opening.</p>
6.0	<p>ROUTINE TEST: Manufacturer has to carry out 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.</p>
7.0	<p>ACCEPTANCE TEST: The acceptance tests as per IS 14772-2000 shall be carried out on sample box selected as per sampling criteria specified in IS.</p>
8.0	<p>RAW MATERIALS: The manufacturer has to submit the test certificate for the material used in the lot offered and document for purchase of raw material.</p>
9.0	<p>FACILITY: The bidder shall have facility to test the box for routine tests and acceptance as per IS-14772:2000 and IS-13410 at their works. The bidder has to submit list of Machinery & Equipment / Testing instruments etc.</p>
10.0	<p>INSPECTION AND TESTING: The bidder has to offer the boxes for inspection at his works before dispatch. The manufacturer will offer all facilities to inspector without any charge.</p>
11.0	<p>DISPATCH: The meter boxes shall be so dispatched as to ensure that no damage occurs during transport where they may be subject to rough handling.</p>

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**ANNEXURE -A
GUARANTEED TECHNICAL PARTICULARS FOR SMC HT AMR Box**

	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.FVO)	
	Glow wire test at 650 C	As per IS - 11000 Part-2/sec-1	
	Degree of protection	IS-42 as per IS-12063 / 87	
	Fire Retardancy	Self Extinguishing as per IS:4249	
	Heat Distortion temp	180° C (min) as per IS: 13411	
	Dielectric Strength at 90 °C in oil	9 KV / mm (min) as per IS:6262-1971	
	Tensile Strength	50 Mpa (Min) as per Annex-F of IS-8543 (P-4/Sec-1) 1984	
	Flexural strength	155 Mpa (Min) as per Annex-F of IS-13411-1992	
	Izod Impact strength (Notched)	45 KJ/M2 (Min) as per Annex-E of IS-13410-1992	
5	Inside dimension of Meter Box		
	a. Height	810 mm (min)	
	b. Width	350 mm (min)	
	c. Depth	230 mm (min)	
	d. Thickness of SMC	02 mm (min)	
6	Window having Triplex Glass	Window Size 280 mm x 180 mm with Triplex glass.	
7	Fixing of Glass	Fitted from inside in such a way that it cannot be replaced without opening door (with S.S. frame all around)	
8	Locking arrangement	For holding & locking of door with base "U" shaped clamps to be provided with arrangement for sealing of box	
9	Manufacturer short name & PGVCL company logo shall be embossed/printed on the front side of the box.	To be provided on the front side of the box	
10	Cable entry holes	Cable entry hole with 1 no. good	

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		quality dia 25 mm brass double compression gland	
11	Colour of box	Off White	
12	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.	
13	Accessories	6 no. of 3 mm MS nut bolts with 2 washers to be provided with SMC AMR Box	
12	Box weight: (in grams)		
	a. Weight of SMC material	Give weight of thermosetting plastic.	
	b. Total weight of offered SMC Box	Give total weight including thermosetting plastic, glass, metal parts etc.	

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ANNEXURE - B TESTING

- 1.0 Ordered goods should be type tested at NABL approved test house for tests and parameters given in GTP/IS. The test report of more than 3 years before order date will not be accepted. The test report should be submitted to purchaser before completion of order.
- 2.0 Lot wise sampling plan: 1 no. selected randomly from lot for testing at manufacturer's works.

SR. NO.	TEST REQUIREMENT FOR METER BOX	REFERENCE STANDARDS
(A)	Marking	IS:14772
(B)	Dimensions and Construction	IS:14772
(C)	Melting Point (To test up to 400 °C)	IS:13360

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