



**ELECTRICAL LABORATORY- TEST REPORT**  
**Empty Enclosures for Low-Voltage switchgear & Control gear**  
**Assemblies General Requirements**

Test Report N° .....  
Date of issue..... 28-02-2014  
Sample date in..... 10-12-2013  
Date of performance..... 11-12-2013 to 28-02-2014  
Applicant.....  
Customer.....

Sample description..... SS 304 ENCLOSURES-1200\*1000\*350mm  
Customer reference..... N/A  
Trade mark / Manufacturer..  
Model / Type / Reference.... N/A  
Ratings..... N/A  
Test method(s)..... IEC 62208:2011

Overall verdict      Pass        
   Fail     

**REMARKS:** This report is governed by, and incorporates by reference, the Condition of testing as posted at its date of issuance and is intended for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. **This report sets forth solely our findings with respect to the test samples identified herein.** It includes all of the test requested by you and the results thereof based upon the information that you provided us with. You have 10 calendar days from the date of issuance of this report to notify us of any material error or omission; provided, however, that such notice shall be written and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Tests are destructive and non reversible, the submitted samples will not return to their original conditions. The client acknowledges that any remaining part of the sample will be discarded if not retrieved in a period of 30 calendar days from the date of issuance of this report.

# INSTITUTE OF TESTING AND CERTIFICATION (INDIA) PVT. LTD.

Clauses	Requirement – Test	Results – Remarks	Verdict
6	Information to be given regarding the enclosure		
6.1	The following information shall be given by the manufacturer.		P
6.2	The enclosure shall be identifiable, making it possible for the final assembler to obtain relevant information from the enclosure manufacturer. Such identification shall comprise:		P
	– either the name, trade mark or identification mark of the enclosure manufacturer;	Provided	P
	– type designation or identification number of the enclosure		P
	The marking shall be durable and easily legible and may be inside the enclosure.	In Compliance	P
	Compliance is checked according to the test of 9.3 and by inspection.	In Compliance	P
	Marking for the recycling of plastic parts shall be as stated in ISO 11469		N/A
6.3	Documentation		P
6.3.1	General		P
	The manufacturer's documentation shall include all relevant constructional, mechanical characteristics, the enclosure classification (see clause 4) and any instruction necessary for the correct handling, assembling, mounting and service conditions of the enclosure as well as reference to this standard.		P
	a) Dimensions	1200*1000*350 mm	P
	b) Mounting arrangements		N/A
	c) Permissible loads	In Compliance	P
	d) Lifting devices, if necessary		N/A
	e) Provision for protection against electric shock		N/A
	f) Applicable services conditions		P
	g) Location and size of protected space		P
	h) Data of thermal power dissipation capability;		N/A
	l) Rated insulation voltage of enclosures constructed of an insulating material;		N/A
	j) Degree of protection	IP 65,IK 10	P

Institute of Testing & Certification  
(India) Pvt. Ltd.

Test Report No.-

Page 3 of 17

  
 Authorised Signatory

# INSTITUTE OF TESTING AND CERTIFICATION (INDIA) PVT. LTD.

Clauses	Requirement – Test	Results – Remarks	Verdict
6.3.2	<b>Dimensions</b>		
	The dimensions shall be given in millimeters. The external dimensions: height, width and depth are nominal values and shall be indicated in the catalogue of the enclosure manufacturer. The projection of cable gland plates, removable covers and handles shall not be included in the external nominal dimensions. The dimensions of such shall be included in them manufacturer's documentation.	1200*1000*350 mm	P
6.3.3	<b>Mounting arrangements</b>		P
	The means and location of the enclosure mounting shall be defined in the enclosure manufacturer's documentation. The location of the equipment mounting surfaces and their means of fixing shall be defined in the enclosure manufacturer's documentation.		P
6.3.4	<b>Permissible loads</b>		P
	The permissible loads that the enclosure and its doors are able to carry shall be defined in the enclosure manufacturer's documentation	In compliance	P
6.3.5	<b>Lifting and transport support</b>		N/A
	Where required, the correct location and installation of lifting and transport support and the thread size of lifting devices, if applicable, shall be in the enclosures manufacturer's documentation or in the introductions on how the enclosures has to be handled.		N/A
6.3.6	<b>Protective circuit</b>		
	The enclosures manufacturer's shall indicate the technical documentation. If the enclosures ensures electrical continuity throughout by the conductive structural parts of the enclosure or if and how separate protective conductors to the protective circuits of the installation shall be carried out		P
7	<b>Service conditions</b>		
1	<b>General</b>		
	Enclosures conforming to this standard are intended for use under the following service conditions. The enclosure manufacturer shall specify the locations for which the enclosure is intended.		P


Institute of Testing & Certification  
(India) Pvt. Ltd.

Authorised Signatory

Test Report No.-

Page 4 of 17

# INSTITUTE OF TESTING AND CERTIFICATION (INDIA) PVT. LTD.

9.11	continuity of the protective circuit		P
	<p>It shall be verified that the different exposed conductive parts of the enclosure are effectively connected to the earthing terminal or contact of the protective circuit and that the resistance of the circuit does not exceed 0,1 <math>\Omega</math>.</p> <p>Verification shall be made using a resistance measuring instrument or arrangement which is capable of driving a current of at least 10 A (a.c. or d.c.). The current is passed between each exposed conductive part and the earthing termination point. The voltage drop between these points is measured. The resistance calculated from the current and this voltage drop shall not exceed 0,1 <math>\Omega</math>.</p>	 <p>Satisfactorily result found. R<sub>mea</sub> - &lt;0.1<math>\Omega</math></p>	P
9.12	Resistance to ultra – violet (UV) radiation		N/A
	<p>This test applies only to enclosures and external parts of enclosures intended to be installed outdoors and which are constructed of insulating materials or metals that are entirely coated by synthetic material. Representative samples of such parts shall be subjected to the following test:</p> <p>UV test according to ISO 4892-2 method A, cycle '1 with a total test period of 500 hr.</p>		N/A
	<p>For enclosures constructed of insulating materials Compliance is checked by verification that the flexural strength (according to ISO 178) and charpy impact (according to ISO 179) of insulating materials have 7Q% minimum retention. For the test carried out accordance with ISO 178 the surface of the sample exposed to uv shall be turned face down and the pressure applied to the non exposed surface. For the test carried out in accordance with ISO 179 no grooves shall be cut into the sample and the impact shall be applied to the exposed surface. After the test, samples shall be subjected to the glow-wire test of 9.9.3.</p> <p>For compliance, enclosures constructed of metals entirely coated by synthetic material, the adherence of the insulating material shall have a minimum retention of category 3 according to ISO 2409 (a cross-cut area greater than 15 %, but not greater than 35 % is affected).</p> <p>Samples shall not show cracks or deterioration visible to normal or corrected vision without additional magnification.</p>		N/A

Institute of Testing & Certification  
(India) Pvt. Ltd.

Authorised Signatory

Test Report No.-

Page 5 of 17

# INSTITUTE OF TESTING AND CERTIFICATION (INDIA) PVT. LTD.

Clauses	Requirement – Test	Results – Remarks	Verdict
9.13	Resistance to corrosion		P
9.13.1	General		P
	<p>Ferrous Metallic enclosures and external Ferrous metallic parts of insulating and combined enclosures shall be tested to verify that they ensure protection against corrosion.</p> <p>If it is not possible to carry out the test on the enclosure, the test shall be carried out on enclosure elements showing the same constructional detail as the enclosure itself: material, thickness, layer of coating, etc. In all cases hinges, locks and fastenings shall be tested.</p> <p>The enclosure subjected to the test shall be mounted as for normal use according to the manufacturer's instructions.</p> <p>The enclosure or samples shall be new and in a clean condition.</p>		P
9.13.1	Test procedure		
	Enclosures shall be subjected to the following test:		
	a) Enclosures or metallic parts intended to be installed indoors and internal parts of enclosures intended to be installed outdoors		N/A
	<p>–□ six cycles of 24 h, damp heat cycling test according to test Db of IEC 60068-2-30 at 40 °C and relative humidity of 95 %;</p> <p>–□ two cycles of 24 h, salt mist test according to test Ka of IEC 60068-2-11 at a temperature of (35 ± 2) °C.</p>		N/A
	b) Enclosures or metallic parts intended to be installed outdoors		P
	<p>–□ 12 cycles of 24 h, damp heat cycling test according to test Db of IEC 60068-2-30 at 40 °C and relative humidity of 95 %;</p> <p>–□ 14 cycles of 24 h, salt mist test according to test Ka of IEC 60068-2-11 at a temperature of (35 ± 2) °C.</p>		P
9.13.3	Results to be obtained		
	After the test, the enclosure or samples shall be washed in running tap water for 5 min, rinsed in distilled or demineralized water then shaken or subjected to air blast to remove water droplets. The specimen under test shall then be stored under normal service conditions for 2 h.		P

Institute of Testing & Certification  
(India) Pvt. Ltd.

Test Report No.-

Page 6 of 17

  
 Authorised Signatory