भारतीय मानक ब्यूरो
(केंद्रीय मुहर विभाग III)

हमारा संदर्भ : सी एम डी- III/16 : आई एस / आई ई सी 60947-3:2012 **14 03 2018**

विषय : आई एस / आई ई सी 60947-3:2012 के अनुपालन हेतु एस टी आई।

इसे उपरोक्त विषय का संदर्भ प्राप्त है ।
सक्षम प्राधिकारी ने उपरोक्त एस टी आई को अनुमोदित कर दिया है ।
सभी क्षेत्रीय और शाखा कार्यालयों से अनुरोध है की उपरोक्त एस टी आई का अनुपालन सुनिश्चित करें ।

औरोस्मिता कबिराज
वैज्ञानिक बी (सी एम डी-III)

प्रमुख (सी एम डी-III)
सभी क्षेत्रीय/शाखा कार्यालय
आई टी एस विभाग – बीआईएस इंट्रानेट पर डालने हेतू

BUREAU OF INDIAN STANDARDS
(Central Marks Department-III)

Our Ref: CMD-III/16 : IS/IEC 60947-3:2012 **14 03 2018**

Subject: STI for implementation of IS/IEC 60947-3:2012, "Low Voltage Switchgear And Controlgear PART 3 Switches, Disconnectors, Switch-Disconnectors and Fuse Combination Units"

This has reference to the subject mentioned above.
The Competent Authority has approved the STI for implementation of IS/IEC 60947-3:2012.
All ROs/BOs are requested to ensure the implementation of the above STI.

Aurosmita Kabiraj
Sc-B (CMD-III)

Head (CMD-III)

Circulated to: All ROs/BOs

Copy to: ITS – for hosting on Intranet please

SCHEME OF TESTING AND INSPECTION FOR CERTIFICATION OF LOW VOLTAGE SWITCHGEAR AND CONTROLGEAR PART 3 Switches, Disconnectors, Switch-Disconnectors and Fuse Combination Units According to IS/IEC 60947-3:2012

1. LABORATORY

1.1 A laboratory shall be maintained which shall be suitably equipped and staffed, where different tests given in the Specification shall be carried out in accordance with the methods given in the Indian Standard.

1.2 All test equipments shall be periodically checked and calibrated and records of such checks/ calibration shall be maintained.

2. TEST RECORDS

2.1 All records of tests as per this Scheme of Testing and Inspection shall be kept in suitable forms approved by the Bureau.

2.2 Copies of any records and other connected papers that may be required by BIS shall be made available at any time on request.

3. QUALITY CONTROL

3.1 It is recommended that, as far as possible, Statistical Quality Control (SQC) methods may be used for controlling the quality of the product during production as envisaged in this Scheme [see IS 397 (various parts)].

3.2 In addition, effort should be made to gradually introduce a Quality Management System in accordance with IS/ISO 9001.

4. STANDARD MARK

4.1 The Standard Mark, as given in Column (1) of the First Schedule of the licence, shall be applied to each Equipment provided always that the Equipment to which the Standard Mark is so applied conforms to every requirement of the specification.

4.2 The Standard Mark may be incorporated in a name plate. The name plate shall be affixed in a manner and at a place such that there is no possibility of its being removed from the Equipment and applied on some other sub-standard Equipment.

5. MARKING

5.1 In addition, the provisions of clause 5 of IS/IEC 60947 -3 shall also apply.

6. LEVELS OF CONTROL

6.1 The tests as indicated in Table 1, and at the levels of control specified therein, shall be carried out on the whole production of the factory covered by this scheme and appropriate records maintained in accordance with clause 2 above and charts may be maintained as per clause 3 above. All the production which conforms to the Indian Standard and covered by this licence shall be marked with Standard Mark.

7. CONTROL UNIT

7.1 For the purpose of this scheme, all Equipments of the same type and design manufactured in a day shall constitute a control unit. As and when the type or design of the product is changed, BIS shall be duly informed.

7.2 If Equipments of more than one type and design are manufactured in a day, they shall constitute a separate control unit.

7.3 On the basis of the test and inspection results, decision regarding conformity or otherwise of the Equipments to the requirements of the Specification shall be taken.

7.4 In respect of all other clauses of the Specification and at all stages of manufacture, the factory shall maintain appropriate control and checks to ensure that the product conforms to various requirements of the Specification.

8. RAW MATERIALS/COMPONENT

8.1 The raw material/component used shall conform to the relevant Indian Standard wherever they exist. Wherever the raw material/component used is under the Mandatory Certification of BIS, the raw material shall necessarily be ISI marked and no further testing is required. Wherever the raw material used is not under the Mandatory Certification of BIS, no further testing is required if accompanied with the Test Certificate or ISI marked.

9. REJECTIONS

9.1 A separate record shall be maintained giving information on quantity, serial no. of the product etc. relating to the rejection of the production not conforming to the requirements of the Specification and the method of disposal. Such material shall in no case be stored together with that conforming to the Specification and shall be destroyed beyond use.

10. SAMPLES

10.1 The licensee shall supply, free of charge, the samples required in accordance with the Bureau of Indian Standards (Certification) Regulations, 1988, as amended from time to time, from the factory or godown. BIS may draw samples from the open market, if available.

11. REPLACEMENT

11.1 Whenever a complaint is received soon after the goods with Standard Mark have been purchased and used, and if there is adequate evidence that the goods have not been misused, defective goods shall be replaced free of cost by the licensee in case the complaint is found to be genuine and the warranty period (where applicable) has not expired. The final authority to judge the conformity of the product to the Indian Standard shall be with BIS.

11.2 In the event of any damage caused by the goods bearing the Standard Mark, or any claim being filed by the consumers against BIS Standard Mark and not "conforming to" the relevant Indian Standard, entire liability arising out of such non-conforming product shall be of the licensee and BIS shall not in any way be responsible in such case.

12. STOP MARKING

12.1 The marking of the product shall be stopped under intimation to BIS if, at any time, there is some difficulty in maintaining the conformity of their product to the Specification, or the testing equipment goes out of order or due to any other reason. The marking may be resumed as soon as the defects are removed under intimation to BIS.

12.2 The marking of the product shall be stopped immediately if directed to do so by BIS for any reason. The marking may then be resumed only after permission by BIS. The information regarding resumption of marking shall also be sent to BIS.

13. PRODUCTION DATA

The licensee shall send to BIS a statement of quantity produced, marked and exported by him and the value thereof at the end of each operative year of the licence as per the enclosed proforma which has to be authenticated by a Chartered Accountant.

IS/IEC 60947-3:2012
LOW VOLTAGE SWITCHGEAR AND CONTROLGEAR
PART 3 Switches, Disconnectors, Switch-Disconnectors and Fuse Combination Units
TABLE 1 LEVELS OF CONTROL
(Para 6 of the Scheme of Testing and Inspection)

TEST DETAILS				LEVELS OF CONTROL		
Cl.	**Requirement**	**Test Methods**		**No. of samples**	**Frequency**	**Remarks**
		Clause	**Reference**			
General Requirements:						
5.2	Marking	5.2	IS/IEC 60947-3	Every equipment	---	---
7.1	Constructional Requirements (except those covered under type tests)	7.1	-do-	Two	Once in a week for each type and design	As per the details declared by manufacturer
Routine Tests:						
8.1.3.2	Mechanical Operation	8.1.3.2	-do-	Every equipment	---	---
8.1.3.3	Dielectric test	8.1.3.3	-do-	Every equipment	---	---
Type Tests for constructional requirements:						
8.2	Constructional type tests	8.2	-do-	One	Once in six months for each type and design	----
Type Tests for performance requirements:						

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Cl.	**Requirement**	**Test Methods**		**No. of samples**	**Frequency**	**Remarks**
		Clause	**Reference**			
Test Sequence I —General performance characteristics (Table 11):						
8.3.3.1	Temperature-rise	8.3.3.1	IS/IEC 60947-3			
8.3.3.2	Dielectric properties	8.3.3.2	-do-			
8.3.3.3	Making and breaking capacities	8.3.3.3	-do-			
8.3.3.4	Dielectric verification	8.3.3.4	-do-	One	Once in six months for each type & design	(* *)
8.3.3.5	Leakage current	8.3.3.5	- do-			
8.3.3.6	Temperature-rise verification	8.3.3.6	-do-			
8.3.3.7	Strength of actuator mechanism	8.3.3.7	-do-			
Test Sequence II — Operational performance capability (Table 13)						
8.3.4.1	Operational performance	8.3.4.1	IS/IEC 60947-3	One	Once in six months for each type and design	(**)
8.3.4.2	Dielectric verification	8.3.4.2	-do-			
8.3.4.3	Leakage current	8.3.4.	-do-			
8.3.4.4	Temperature rise verification	8.3.4.4	-do-			

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Cl.	**Requirement**	**Test Methods** Clause Reference	**No. of samples**	**Frequency**	**Remarks**
Test Sequence III — Short-circuit performance capability (Table 14)					
8.3.5.1	Short—time withstand current	8.3.5.1 IS/IEC 60947-3	One	Once in five years for each type & design	(**)
8.3.5.1	Short-circuit making capacity	8.3.5.2 -do-			
8.3.5.3	Dielectric verification	8.3.5.3 -do-			
8.3.5.4	Leakage current	8.3.5.4 -do-			
8.3.5.5	Temperature-rise verification	8.3.5.5 -do-			
Test Sequence IV — Conditional short-circuit current (Table 15)					
8.3.6.2.1a)	Fuse protected short-circuit withstand	8.3.6.2.1a) IS/IEC 60947-3	One	Once in five years for each type & design	(**)
8.3.6.2.1b)	Fuse protected short-circuit making	8.3.6.2.1 b) -do-			
8.3.6.3	Dielectric verification	8.3.6.3 -do-			
8.3.6.4	Leakage current	8.3.6.4 -do-			
8.3.6.5	Temperature-rise verification	8.3.6.5 -do-			

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TEST DETAILS				LEVELS OF CONTROL		
Cl.	**Requirement**	**Test Methods**		**No. of samples**	**Frequency**	**Remarks**
		Clause	**Reference**			
Test Sequence V — Overload performance capability (Table 16)						
8.3.7.1	Overload test	8.3.7.1	IS/IEC 60947—3	One	Once in two years for each type & design	(**)
8.3.7.2	Dielectric verification	8.3.7.2	-do-			
8.3.7.3	Leakage current	8.3.7.3	-do-			
8.3.7.4	Temperature rise verification	8.3.7.4	-do-			
8.4 Immunity test (Table 6) and Emission tests (Table 7) for equipment incorporating electronic circuits						
	Electrostatic discharge	7.3.2	IS/IEC 60947—3	One	Once in two years for each type & design	(**)
	Radiated RF Electromagnetic Field	7.3.2	-do-			
	Fast transient/ burst	7.3.2	-do-			
	Surge	7.3.2	-do-			
	Conducted disturbances induced by RF fields	7.3.2	-do-			
	Emission	7.3.3	-do-			

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Cl.	**Requirement**	**Test Methods**		**No. of samples**	**Frequency**	**Remarks**
		Clause	**Reference**			
Special tests						
8.5.1	Mechanical durability *	8.5.1	IS/IEC 60947-3	As per agreement between manufacturer and user	As per agreement between manufacturer and user	*Total no.of operating cycles shall be as declared by the manufacturer
8.5.2	Electrical durability *	8.5.2	-do-			

(**) If the sample fails in one or more requirements, the marking of that particular rating shall be immediately stopped. After taking necessary corrective actions, two more samples of the rating shall be tested for all the tests of that sequence. Marking shall be resumed on passing of both the samples.

PROFORMA FOR OBTAINING PRODUCTION DETAILS

Period covered	
Name of Licensee CM/L No.	
Name of Articles (s)	IS No.
Grade/Type/Size/Variety/Class/Rating	
Brand/Trade/Name(s) of Product covered under BIS Certification Mark	
Total production of the articles(s) licensed for certification marking	
Total production of the article(s) conforming to Indian Standard	
Production covered with BIS Certification Mark and its Value : a) Quantity b) Value (Rs.)	
Brand Name used on production covered under BIS Certification Mark	
Calculation of marking fee on unit-rate basis; Marking Fee per unit a) Unit b) Quantity covered with BIS Certification Mark c) Marking fee rounded off in whole rupees as obtained by applying unit rates given in (a) on quantity given in (b) **NOTE:** In case a clause is not applicable, suitable remarks may be given against it	
Quantity not covered with BIS Certification Mark, if any.	
Reasons for such non-coverage	
Brand Name under which non-ISI goods were sold	
Quantity exported with BIS Standard Mark and its value	
Brand Name under which BIS Certified goods are exported	
Authentication by Chartered Accountant	