भारतीय मानक ब्यूरो
(उपभोक्ता मामले, खाद्य एवं सार्वजनिक वितरण मंत्रालय, भारत सरकार)
BUREAU OF INDIAN STANDARDS
(Ministry of Consumer Affairs, Food & Public Distribution, Govt. of India)
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Review Document

Basic Details

1.	Sectional Committee No. & Title:	TED 11 - Automotive Electrical Equipment and Instruments
2.	IS No :	IS 4063 : 1982
3.	Title :	Specification for fuse box for automobiles (First Revision)
4.	Date of Previous Review:	January, 2021

Review Analysis

5.1 Status of standard(s), if any from which assistance had been drawn in the formulation of this IS.

S.No.	Standard (No.)	Standard (Title)	Whether the standard has since been revised	Major changes	Action proposed
1	IS/IEC 60068-2-1 : 2007	Environmental Testing Part 2 Tests Section 1 Test A: Cold	Yes	IS/IEC 60068-2-1 : 2007 was adopted by the Bureau of Indian Standards on recommendation of the Environmental Testing Procedures Sectional Committee and approval of the Electronics and Information Technology Division Council. IS 9000 (Part 2/Sec 1 to 4) : 1977, IS 9001 (Part 2) : 1977 and IS 9002 (Part 1) : 1977 were based on IEC Publication 68-2-1 : 1974. The superseding of these Standards has been undertaken to align it with the latest version of IEC 60068-2-1 : 2007. This part of IEC 60068 deals with cold tests applicable to both non heat-dissipating and heatdissipating specimens. For non heat-dissipating specimens, Tests Ab and Ad do not deviate essentially from earlier issues. Test Ae has been added primarily for testing equipment that requires being operational throughout the test, including the conditioning periods. The object of the cold test is limited to the determination of the ability of components, equipment or other articles to be used, transported or stored at low temperature. Cold tests cover by this standard do not enable the ability of specimens to withstand or operate during the temperature variations to be assessed. In this case, it would be necessary to use IEC 60068-2-14. The cold tests are subdivided as follows: â Cold tests for non heat-dissipating specimens âe with gradual change of temperature, Ab; â Cold test for heat-dissipating specimens âe with gradual change of temperature, Ad, âe with gradual change of temperature, specimen powered throughout, Ae. The procedures given in this standard are normally intended for specimens that achieve temperature stability during the performance of the test procedure. Temperature chamber(s) are constructed and verified in accordance with specifications IEC 60068-3-5 and IEC 60068-3-7.	Latest revised standard to be incorporated in the standard.
2	IS/IEC 60068-2-14 : 2009	Environmental testing Part 2 Tests Section 14 Test N: Change of temperature	Yes	IS 9000 (Part 14/Sec 1 to 3) : 1988 â Basic environmental testing procedures for electronic and electrical items Part 14 test n: change of temperature â was published in 1978 and revised in 1988 and was technically equivalent to IEC Pub 68-2-14:1984. IS 9001 (Part 3):1978 â Guidance for environmental testing: Part 3 change of temperature â was published in 1978 and was technically equivalent to IEC Pub 68-2-33 : 1971. IEC 60068-2-33 : 1971 has been withdrawn and replaced by IEC 60068-2-14:2009. The superseding of these Standards has been undertaken to align it with the latest version of IEC 60068-2-14:2009. This part of IEC 60068 provides a test to determine the ability of components, equipment or other articles to withstand rapid changes of ambient temperature. The exposure times adequate to accomplish this will depend upon the nature of the specimen. A change of temperature test is intended to determine the effect on the specimen of a change of temperature or a succession of changes of temperature. It is not intended to show effects which are due only to high or low temperatures. For these effects, the dry heat test or the cold test should be used. The effect of such tests is determined by â values of high and low conditioning temperature between which the change is to be effected, â the conditioning times for which the test specimen is kept at these temperatures, â the rate of change between these temperatures, â the number of cycles of conditioning, â the amount of heat transfer into or from the specimen. Guidance on the choice of suitable test parameters for inclusion in the detail specification is given throughout the standard.	Latest revised standard to be incorporated in the standard.

5.2 Status of standard referred in the IS.

S.No.	Referred standards (No.)	Referred standards (Title)	Since revised IS no. of the corresponding IS	Changes in the referred Standards since last review of IS	Changes in the referred standard which are affecting the standard under review	Action proposed
1	IS : 9000 (Part III/Sec 3)-1977	Specification for basic environmental testing procedure for electronic and electrical itemes : Part III Dry heat trt, Section 3 Dry heat test for non heat dissipating item with gradual change of temperature.	No	nil	nil	No action to be taken
2	IS : 9000 (part II/Sec 3)-1977	Specification for basic environmental testing procedure for electronic and electrical itemes : Part II Cold test, Section 3 Cold test for non heat dissipating items with gradual change of temperature	Yes, IS/IEC 60068-2-1 : 2007 Environmental Testing Part 2 Tests Section 1 Test A: Cold	IS/IEC 60068-2-1 : 2007 was adopted by the Bureau of Indian Standards on recommendation of the Environmental Testing Procedures Sectional Committee and approval of the Electronics and Information Technology Division Council. IS 9000 (Part 2/Sec 1 to 4) : 1977, IS 9001 (Part 2) : 1977 and IS 9002 (Part 1) : 1977 were based on IEC Publication 68-2-1 : 1974. The superseding of these Standards has been undertaken to align it with the latest version of IEC 60068-2-1 : 2007. This part of IEC 60068 deals with cold tests applicable to both non heat-dissipating and heatdissipating specimens. For non heat-dissipating specimens, Tests Ab and Ad do not deviate essentially from earlier issues. Test Ae has been added primarily for testing equipment that requires being operational throughout the test, including the conditioning periods. The object of the cold test is limited to the determination of the ability of components, equipment or other articles to be used, transported or stored at low temperature. Cold tests cover by this standard do not enable the ability of specimens to withstand or operate during the temperature variations to be assessed. In this case, it would be necessary to use IEC 60068-2-14. The cold tests are subdivided as follows: â Cold tests for non heat-dissipating specimens â¢ with gradual change of temperature, Ab; â Cold test for heat-dissipating specimens â¢ with gradual change of temperature, Ad, â¢ with gradual change of temperature, specimen powered throughout, Ae. The procedures given in this standard are normally intended for specimens that achieve temperature stability during the performance of the test procedure. Temperature chamber(s) are constructed and verified in accordance with specifications IEC 60068-3-5 and IEC 60068-3-7.	IS/IEC 60068-2-1 : 2007 was adopted by the Bureau of Indian Standards on recommendation of the Environmental Testing Procedures Sectional Committee and approval of the Electronics and Information Technology Division Council. IS 9000 (Part 2/Sec 1 to 4) : 1977, IS 9001 (Part 2) : 1977 and IS 9002 (Part 1) : 1977 were based on IEC Publication 68-2-1 : 1974. The superseding of these Standards has been undertaken to align it with the latest version of IEC 60068-2-1 : 2007. This part of IEC 60068 deals with cold tests applicable to both non heat-dissipating and heatdissipating specimens. For non heat-dissipating specimens, Tests Ab and Ad do not deviate essentially from earlier issues. Test Ae has been added primarily for testing equipment that requires being operational throughout the test, including the conditioning periods. The object of the cold test is limited to the determination of the ability of components, equipment or other articles to be used, transported or stored at low temperature. Cold tests cover by this standard do not enable the ability of specimens to withstand or operate during the temperature variations to be assessed. In this case, it would be necessary to use IEC 60068-2-14. The cold tests are subdivided as follows: â Cold tests for non heat-dissipating specimens â¢ with gradual change of temperature, Ab; â Cold test for heat-dissipating specimens â¢ with gradual change of temperature, Ad, â¢ with gradual change of temperature, specimen powered throughout, Ae. The procedures given in this standard are normally intended for specimens that achieve temperature stability during the performance of the test procedure. Temperature chamber(s) are constructed and verified in accordance with specifications IEC 60068-3-5 and IEC 60068-3-7.	Latest revised standard to be incorporated in the standard.
3	IS : 9000 (Part V/Sec 2)-1981	Specification for basic environmental testing procedure for electronic and electrical itemes : Part V Damp heat (cycle) test, Section 2 12 x 12 h cycle	no	nil	nil	No action to be taken
4	IS : 9000 (Part XIV)-1978	Specification for basic environmental testing procedure for electronic and electrical itemes : Part XIV Change of temperature	Yes, IS/IEC 60068-2-14 : 2009	IS 9000 (Part 14/Sec 1 to 3) : 1988 â Basic environmental testing procedures for electronic and electrical items Part 14 test n: change of temperatureâ was published in 1978 and revised in 1988 and was technically equivalent to IEC Pub 68-2-14:1984. IS 9001 (Part 3):1978 â Guidance for environmental testing: Part 3 change of temperatureâ was published in 1978 and was technically equivalent to IEC Pub 68-2-33 : 1971. IEC 60068-2-33 : 1971 has been withdrawn and replaced by IEC 60068-2-14:2009. The superseding of these Standards has been undertaken to align it with the latest version of IEC 60068-2-14:2009. This part of IEC 60068 provides a test to determine the ability of components, equipment or other articles to withstand rapid changes of ambient temperature. The exposure times adequate to accomplish this will depend upon the nature of the specimen. A change of temperature test is intended to determine the effect on the specimen of a change of temperature or a succession of changes of temperature. It is not intended to show effects which are due only to high or low temperatures. For these effects, the dry heat test or the cold test should be used. The effect of such tests is determined by â values of high and low conditioning temperature between which the change is to be effected, â the conditioning times for which the test specimen is kept at these temperatures, â the rate of change between these temperatures, â the number of cycles of conditioning, â the amount of heat transfer into or from the specimen. Guidance on the choice of suitable test parameters for inclusion in the detail specification is given throughout the standard.	IS 9000 (Part 14/Sec 1 to 3) : 1988 â Basic environmental testing procedures for electronic and electrical items Part 14 test n: change of temperatureâ was published in 1978 and revised in 1988 and was technically equivalent to IEC Pub 68-2-14:1984. IS 9001 (Part 3):1978 â Guidance for environmental testing: Part 3 change of temperatureâ was published in 1978 and was technically equivalent to IEC Pub 68-2-33 : 1971. IEC 60068-2-33 : 1971 has been withdrawn and replaced by IEC 60068-2-14:2009. The superseding of these Standards has been undertaken to align it with the latest version of IEC 60068-2-14:2009. This part of IEC 60068 provides a test to determine the ability of components, equipment or other articles to withstand rapid changes of ambient temperature. The exposure times adequate to accomplish this will depend upon the nature of the specimen. A change of temperature test is intended to determine the effect on the specimen of a change of temperature or a succession of changes of temperature. It is not intended to show effects which are due only to high or low temperatures. For these effects, the dry heat test or the cold test should be used. The effect of such tests is determined by â values of high and low conditioning temperature between which the change is to be effected, â the conditioning times for which the test specimen is kept at these temperatures, â the rate of change between these temperatures, â the number of cycles of conditioning, â the amount of heat transfer into or from the specimen. Guidance on the choice of suitable test parameters for inclusion in the detail specification is given throughout the standard.	Latest revised standard to be incorporated in the standard.
5	IS : 2106 (Part XI)-1965	Specification for environmental tests for electronics and electrical equipment : Part XI Water spray test	Yes, IS 9000 (Part 16) : 1983	The differences in environmental testing procedures for component type items and equipment type items are fast disappearing in the context of technological developments. It is, therefore, felt necessary to have uniform testing procedures wherever possible. This series of standards on environmental testing procedures (IS : 9000) has been prepared with this objective. This is also in line with the principle adopted by IEC/TC 50 ' Environmental testing â in developing unified series of standards on environmental testing procedures by the International Electrotechnical Commission. It is proposed to withdraw the existing Indian Standards, namely, IS : 589-1961 and IS : 2106 series dealing with environmental tests for electronic components and equipment respectively, as soon as the tests mentioned therein are covered in the new series (IS : 9000). While preparing this standard, assistance is derived from JSS 55555- 1977 Environmental test methods for electronic and electrical equipment. Directorate of Standardization, Ministry of Defence, India	The differences in environmental testing procedures for component type items and equipment type items are fast disappearing in the context of technological developments. It is, therefore, felt necessary to have uniform testing procedures wherever possible. This series of standards on environmental testing procedures (IS : 9000) has been prepared with this objective. This is also in line with the principle adopted by IEC/TC 50 ' Environmental testing â in developing unified series of standards on environmental testing procedures by the International Electrotechnical Commission. It is proposed to withdraw the existing Indian Standards, namely, IS : 589-1961 and IS : 2106 series dealing with environmental tests for electronic components and equipment respectively, as soon as the tests mentioned therein are covered in the new series (IS : 9000). While preparing this standard, assistance is derived from JSS 55555- 1977 Environmental test methods for electronic and electrical equipment. Directorate of Standardization, Ministry of Defence, India	Latest revised standard to be incorporated in the standard.
6	IS : 9000 (Part VII/Sec 3)-1979	Specification for basic environmental testing procedure for electronic and electrical itemes : Part VII Impact test, Section 3 Drop and topple	Yes	Drop and topple is extended to Rough handling shock tests. Rough handling shocks can be simulated by one or more of the following tests: a) Drop and topple b) Free fall â Procedure 1 c) Free fall â Procedure 2 (Free fall- Procedure 12 are added) Drop and topple intends to assess the effects of knocks or jolts likely to be received primarily by equipment-type specimens during repair work or rough handling on a table or bench. The drop and topple test includes three distinct procedures: i) dropping on to a face (5.1.3.1); ii) dropping on to an edge or a corner (5.1.3.2); iii) toppling (or pushover) (5.1.3.3) The topple test need not be applied to specimens which have dimensions which make them stable while being handled. When considering the applicability of the topple test, two dimensional ratios are important: 1) the ratio of the height of the centre of gravity from the base, to the smaller dimension of the base, hereinafter referred to as the c â g ratio; 2) the ratio of the height of the specimen to the smaller dimension of the base, hereinafter referred to as the height ratio.	Drop and topple is extended to Rough handling shock tests. Rough handling shocks can be simulated by one or more of the following tests: a) Drop and topple b) Free fall â Procedure 1 c) Free fall â Procedure 2 (Free fall- Procedure 12 are added) Drop and topple intends to assess the effects of knocks or jolts likely to be received primarily by equipment-type specimens during repair work or rough handling on a table or bench. The drop and topple test includes three distinct procedures: i) dropping on to a face (5.1.3.1); ii) dropping on to an edge or a corner (5.1.3.2); iii) toppling (or pushover) (5.1.3.3) The topple test need not be applied to specimens which have dimensions which make them stable while being handled. When considering the applicability of the topple test, two dimensional ratios are important: 1) the ratio of the height of the centre of gravity from the base, to the smaller dimension of the base, hereinafter referred to as the c â g ratio; 2) the ratio of the height of the specimen to the smaller dimension of the base, hereinafter referred to as the height ratio.	Latest test method to be incorporated in the standard.
7	IS : 269-1976	specification for ordinary and low heat Portland cement	Yes,IS 269 : 2015	This standard was first published in 1951 and subsequently revised in 1958, 1967, 1976, 1989 and 2013. This fifth revision incorporates the experience gained with the use of this specification and brings the standard in line with the latest developments in this field. In this revision, the Indian Standard specifications pertaining to 43 and 53 grade ordinary Portland cement have been included which were previously covered separately in the Indian Standards, IS 8112 : 2013 Ã Ordinary Portland Cement, 43 grade Ã Specification Ã and IS 12269 : 2013 Ã Ordinary Portland Cement, 53 grade Ã Specification Ã, respectively. IS 8112 and IS 12269 shall stand withdrawn subsequently. Further, following are the significant modifications incorporated in this revision: a) Use of industrial by-products from copper, steel and zinc industries and from oil refinery as performance improvers has been specified based on the extensive experimental research. b) Manufacture of cement by interblending process by intimately and uniformly blending the individually ground materials has been permitted. c) Uniform value of insoluble residue of not more than 5 percent has been specified irrespective of the grade of cement. d) Provisions for railway sleeper cement have been modified. e) Requirement of marking the Ã best before date Ã of cement has been introduced. Quantity of cement packed in bags and the tolerance requirements for the quantity of cement packed in bags shall be in accordance with the relevant provisions of the Standards of Weights and Measures (Packaged Commodities) Rules, 2011 and B-1. Any modification in these rules in respect of tolerance on quantity of cement would apply automatically to this standard. This standard contains Table 2, Sl No. (viii) and 13.2.1 which give option to the purchaser and Table 3, Sl No. (v) and 10.2, 10.3, 10.4 and 10.4.3, which call for agreement between the purchaser and the supplier.	This standard was first published in 1951 and subsequently revised in 1958, 1967, 1976, 1989 and 2013. This fifth revision incorporates the experience gained with the use of this specification and brings the standard in line with the latest developments in this field. In this revision, the Indian Standard specifications pertaining to 43 and 53 grade ordinary Portland cement have been included which were previously covered separately in the Indian Standards, IS 8112 : 2013 Ã Ordinary Portland Cement, 43 grade Ã Specification Ã and IS 12269 : 2013 Ã Ordinary Portland Cement, 53 grade Ã Specification Ã, respectively. IS 8112 and IS 12269 shall stand withdrawn subsequently. Further, following are the significant modifications incorporated in this revision: a) Use of industrial by-products from copper, steel and zinc industries and from oil refinery as performance improvers has been specified based on the extensive experimental research. b) Manufacture of cement by interblending process by intimately and uniformly blending the individually ground materials has been permitted. c) Uniform value of insoluble residue of not more than 5 percent has been specified irrespective of the grade of cement. d) Provisions for railway sleeper cement have been modified. e) Requirement of marking the Ã best before date Ã of cement has been introduced. Quantity of cement packed in bags and the tolerance requirements for the quantity of cement packed in bags shall be in accordance with the relevant provisions of the Standards of Weights and Measures (Packaged Commodities) Rules, 2011 and B-1. Any modification in these rules in respect of tolerance on quantity of cement would apply automatically to this standard. This standard contains Table 2, Sl No. (viii) and 13.2.1 which give option to the purchaser and Table 3, Sl No. (v) and 10.2, 10.3, 10.4 and 10.4.3, which call for agreement between the purchaser and the supplier.	Latest revised standard to be incorporated in the standard.

5.3 Any other standards available related to the subject & scope of the standard being reviewed (International/regional/other national/association/consortia, etc or of new or revision of existing Indian Standard).

S.No.	Standard (No.)	Standard (Title)	Provisions that could be relevant while reviewing the IS	Action proposed
1	IS/IEC 60068-2-1 : 2007	Environmental Testing Part 2 Tests Section 1 Test A: Cold	IS/IEC 60068-2-1 : 2007 was adopted by the Bureau of Indian Standards on recommendation of the Environmental Testing Procedures Sectional Committee and approval of the Electronics and Information Technology Division Council. IS 9000 (Part 2/Sec 1 to 4) : 1977, IS 9001 (Part 2) : 1977 and IS 9002 (Part 1) : 1977 were based on IEC Publication 68-2-1 : 1974. The superseding of these Standards has been undertaken to align it with the latest version of IEC 60068-2-1 : 2007. This part of IEC 60068 deals with cold tests applicable to both non heat-dissipating and heatdissipating specimens. For non heat-dissipating specimens, Tests Ab and Ad do not deviate essentially from earlier issues. Test Ae has been added primarily for testing equipment that requires being operational throughout the test, including the conditioning periods. The object of the cold test is limited to the determination of the ability of components, equipment or other articles to be used, transported or stored at low temperature. Cold tests cover by this standard do not enable the ability of specimens to withstand or operate during the temperature variations to be assessed. In this case, it would be necessary to use IEC 60068-2-14. The cold tests are subdivided as follows: â Cold tests for non heat-dissipating specimens â¢ with gradual change of temperature, Ab; â Cold test for heat-dissipating specimens â¢ with gradual change of temperature, Ad, â¢ with gradual change of temperature, specimen powered throughout, Ae. The procedures given in this standard are normally intended for specimens that achieve temperature stability during the performance of the test procedure. Temperature chamber(s) are constructed and verified in accordance with specifications IEC 60068-3-5 and IEC 60068-3-7.	Latest revised standard to be incorporated in the standard.
2	IS/IEC 60068-2-14 : 2009	Environmental testing Part 2 Tests Section 14 Test N: Change of temperature	IS 9000 (Part 14/Sec 1 to 3) : 1988 â Basic environmental testing procedures for electronic and electrical items Part 14 test n: change of temperatureâ was published in 1978 and revised in 1988 and was technically equivalent to IEC Pub 68-2-14:1984. IS 9001 (Part 3):1978 â Guidance for environmental testing: Part 3 change of temperatureâ was published in 1978 and was technically equivalent to IEC Pub 68-2-33 : 1971. IEC 60068-2-33 : 1971 has been withdrawn and replaced by IEC 60068-2-14:2009. The superseding of these Standards has been undertaken to align it with the latest version of IEC 60068-2-14:2009. This part of IEC 60068 provides a test to determine the ability of components, equipment or other articles to withstand rapid changes of ambient temperature. The exposure times adequate to accomplish this will depend upon the nature of the specimen. A change of temperature test is intended to determine the effect on the specimen of a change of temperature or a succession of changes of temperature. It is not intended to show effects which are due only to high or low temperatures. For these effects, the dry heat test or the cold test should be used. The effect of such tests is determined by â values of high and low conditioning temperature between which the change is to be effected, â the conditioning times for which the test specimen is kept at these temperatures, â the rate of change between these temperatures, â the number of cycles of conditioning, â the amount of heat transfer into or from the specimen. Guidance on the choice of suitable test parameters for inclusion in the detail specification is given throughout the standard.	Latest revised standard to be incorporated in the standard.

5.4 Technical comments on the standard received, if any.

S.No.	Source	Clause of IS	Comment	Action proposed
No entry made in this table				

5.5 Information available on relevant technical developments				
S.No.	Source	Development	Relevant clause of the IS under review that is likely to be impacted (Clause & IS No.)	Action proposed
No entry made in this table				

5.6 Issues arising out of changes in any related IS or due to formulation of new Indian Standard.					
S.No.	Related IS (revised or new)	Related IS Title	Provision in the IS under review that would be impacted & the clause no. or addition of new clause/provision	Changes that may be necessary in the Standards under review	Action proposed
No entry made in this table					

5.7 Any consequential changes to be considered in other IS.			
S.No.	Related IS to get impacted	Related IS Title	Requirements to be impacted
No entry made in this table			

Other Details		
6.	Any other observation:	Based on observations from all the recently published standards: (1) Scope to be clearly defined (2) List of referred Indian standards i.e Reference clause to be added (3) Testing clause to be added which covers all test under IS 4063 : 1982.(4)) IS under review(IS 4063 : 1982) to be updated with the latest year and title of all referred IS.
7.	Upload Supporting Document(s)	

7.1 ARP Report	67_10702_231204125129_ARP_Report.docx
7.2 Draft Document	67_10702_231130062839_Draft_Document.docx

8.	Recommendations - On the basis of the analysis of the info available as mentioned above consideration of sectional committee is solicited on the following aspects of the IS under review:	Many referred standards mentioned in the ISS are revised so (1) The standard may be revised with all the changes observed in standards referred. (2) Changes in some clauses like reference , testing clause etc (3) Revision of many referred standard.