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INTERNATIONAL ELECTROTECHNICAL COMMISSION

TECHNICAL COMMITTEE NO. 61: SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES

Guidance for Updating Part 2 Standards to be Aligned to IEC 60335-1 Edition 6

This Guide is circulated to National Committees for information only. However, comments on it may be sent to the Secretary at any time.

This guidance document concerning the updating of Part 2 Standards to align with IEC 60335-1 ED 6 was prepared by IEC TC 61/EG1 and was introduced under agenda item 50, Report of EG1, during the TC 61 web meetings held via Zoom from 31 May to 16 June 2021. It is considered to be necessary for the uniform development of precise and clear requirements by TC 61 and its Subcommittees: SC 61B, SC 61C, SC 61D, SC 61H and SC 61J which shall refer and apply this document for the updating of their standards to **IEC 60335-1 Edition 6.**

The guidance document includes revisions as discussed under agenda item 21, Report of EG1, during the TC61 web meetings in November 2021, agenda item 45, Report of EG1, during the TC61 web meetings in June/July 2022 and agenda item 60, Report of EG1, during the TC61 Meeting in San Francisco in October/November 2022. Additional updates (shown in red) have been made in version D to address IEC Editor comments and issues addressed by EG1.

This document will be published on www.iec.ch/tc61/supportingdocuments.

General

When preparing Part 2 Standards, all clauses of the Part 1 Standard must obviously be considered with regard to their relevancy. However, the following references in the new edition are to be given particular consideration when preparing individual Part 2 Standards to refer to the 6th Edition of the Part 1.

☐ Annexes referenced throughout the Part 2 now include (Normative) or (Informative). See 5.1 and 5.17 of Part 1 as examples.

☐ Review all Notes to determine if they should be converted to normative text, modified or deleted. See IEC Part 2 Directives (24.5) for guidance. Shall, should and may are not considered suitable for NOTES. However, in Clause 3, Notes to entry are considered normative text and are encouraged to keep the definition concise so that it can be substituted for the term in the body of the standard.

☐ Dated references in the Part 1 and Part 2 now included the complete dated reference whenever referenced in the body of the Part 2. See 15.1.1 of Part 1 for example of format for dated reference to IEC 60529.

☐ Review standards for subjective words, such as sufficient, adequate, safely, hazard, hazardous, proper, properly, safe operation, significant, similar, abnormal situations, normal (other than normal operation and normal use), normally, typically, usually, likely, expected, anticipated, reliable, reliably, excessive, slight, as quickly as possible, no damage and affected. These terms have been identified as subjective statements that could be interpreted so they should be deleted, explained or revised so that the requirements can be applied objectively.

- There are no plans to modify the title of the standards to remove ‘similar’. Similar use is defined by the second paragraph of the Scope.

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- EG1 plans to submit a DC to include definitions of ‘normal use’ and ‘steady conditions’ in Part 1.
- The wording in the Introduction is not an issue since it is not normative text.
- If the wording is better defined by the compliance criteria, this is acceptable without any additional modifications.
- A Part 1 addition to Clause 5 is recommended by EG1 to indicate how ‘most unfavourable conditions’ are determined and that testing can be conducted under each condition to determine which is most unfavourable. For example, the most unfavourable condition in Clause 11 testing would be the condition resulting in the highest temperatures and during the test of 20.1, it would be the least stable condition. When multiple compliance criteria are applicable, it may not be clear what the most unfavourable condition is and testing under various conditions can be necessary to determine the most unfavourable condition.

☐ Review use of may (by permission of the standard) vs can (possibility that exists).

☐ Review use of Modifications.

Replacement is only used when an entire clause or subclause is replaced by the Part 2 standard.

Modification is used to modify or replace a portion of a subclause. In this case, it needs to be clear what is being modified or replaced in the Part 1. For long subclauses, it may be helpful to indicate the paragraph number along with the starting phrase of that paragraph.

Examples

– Replace the first paragraph with the following:

- Replace the eighth paragraph starting with “After the appliance has been operated” with the following:

- Replace “Other **heating appliances** and other **combined appliances**” with “Other appliances” in the fourth paragraph.

Addition is used to add new text to a subclause. Existing text of the Part 1 is still applicable.

Example – If the test of 15.101 has to be carried out, three additional samples are needed.

NOTE - If a requirement in the part 1 is “modified” for some types of appliances in a Part 2, the Part 1 requirement is still applicable for other types of appliances. Therefore, this should be an Addition, or the Modification should include the requirement for both types of appliances.

Table of contents

☐ Update to reflect Part 1 revisions titles of Clause 12, Annex B, Annex S and Annex U. Verify Annexes are identified as informative or normative as indicated in the Part 1, unless modified by the Part 2.

☐ Update Figure and Table numbers to align with the order of their first reference within the Part 2.

☐ Update to reflect a possible “Index of defined terms”.

Foreword

☐ Check “in some country” notes to make sure that they are referring to the correct subclause, figure, table if subclauses, figures or tables were renumbered or deleted.

☐ Indicate Part 2 developed on the basis of the Part 1, 6th Edition. The following wording shall be used (see 61/6154/INF):

This part 2 is to be used in conjunction with the latest edition of IEC 60335-1 and its amendments unless that edition precludes it; in that case, the latest edition that does not preclude it is used. It was established on the basis of the sixth edition (2020) of that standard.

Introduction

☐ Add the following to the Introduction:

Guidance documents concerning the application of the safety requirements for appliances can be accessed via TC 61 supporting documents on the IEC website

https://www.iec.ch/tc61/supportingdocuments

This information is given for the convenience of users of this International Standard and does not constitute a replacement for the normative text in this standard.

☐ Where a Subcommittee has guidance documents under Supporting Documents on the SC61X dashboard, this link may also be provided.

☐ Update Note 2 to align with Part 1:

NOTE 2 Horizontal publications, basic safety publications and group safety publications covering a hazard are not applicable since they have been taken into consideration when developing the general and particular requirements for the IEC 60335 series of standards.

☐ Add Note 3 from Part 1:

NOTE 3 Standards dealing with non-safety aspects of household appliances are:

- IEC standards published by TC 59 concerning methods of measuring performance;
- CISPR 11, CISPR 14-1 and relevant IEC 61000-3 series standards concerning electromagnetic emissions;
- CISPR 14-2 concerning electromagnetic immunity;
- IEC standards published by TC 111 concerning environmental matters.

1 Scope

☐ Align with Part 1. For example, adding ‘including direct current (DC) supplied appliances and battery-operated appliances’ to the end of the first paragraph and Notes for products not covered have been relocated as normative text.

NOTE Battery-operated appliances may not be included in the Scope for appliance types that are not expected to be battery-operated such as commercial catering appliances. In this case the other modifications are made as noted in this Guidance Document except the Scope and Annex B is not modified, so that battery-operated appliances are not excluded from the standard but are also not specifically included.

☐ Replace “International Standard” with “part of IEC 60335”.

☐ Appliances not intended for normal household use but that nevertheless ~~may~~ can be a source of danger to the public

☐ For appliances intended to be used in vehicles or on board ships or aircraft, additional requirements ~~may~~ can be necessary

2 Normative References

☐ Check for newer editions. Determine the need for a dated reference or updates due to a newer edition. See 10.4 and 10.5 of the ISO/IEC Directives Part 2 for guidance on when a dated reference is needed.

☐ Check for normative references in Annexes and include all referenced standards in Clause 2 of the main body of the standard.

3 Terms and definitions

☐ Reformat Part 2 Clause 3 to locate any new Part 2 definitions (3.1XX) in the sections as in the Part 1 and include the headings before each sub-section:

3.1 Definitions relating to physical characteristics (3.1.1XX)
3.2 Definitions relating to means of connection (3.2.1XX)
3.3 Definitions relating to protection against electric shock (3.3.1XX)
3.4 Definitions relating to extra-low voltage (3.4.1XX)
3.5 Definitions relating to types of appliances (3.5.1XX)
3.6 Definitions relating to parts of an appliance (3.6.1XX)
3.7 Definitions relating to safety components (3.7.1XX)
3.8 Definitions relating to miscellaneous matters (3.8.1XX)
3.9 Definitions relating to electronic circuits (3.9.1XX)
3.10 Definitions relating to battery charging and discharging (3.10.1XX)
3.11 Definitions relating to remote functionality (3.11.1XX)

☐ Check for definitions in Annexes and include all definitions in Clause 3 of the main body of the standard. However, modification in a Part 2 standard to definitions in Annexes of Part 1 are to remain in the Annex until the Part 1 is changed. Modifications to definitions in another referenced standard within in Annex are to remain within the Annex.

☐ **3.1.9** Part 2 should be *Modification to replace the first paragraph* instead of *Replacement* to retain the normal operation for charging. Any Notes to entry in the Part 2 should be numbered Note 101 to entry, etc.

For a Modification in a proposed new edition, the term (normal operation) should not be included in the Part 2 because it is already in the Part 1.

3.1.9 *Modification:*

Replace the first paragraph with the following:

operation of the appliance under the following conditions:

In earlier Part 2 standards, it may be necessary to correct 3.1.9 in an amendment as follows. For a Modification in an amendment, the term (normal operation) should not be included in the Part 2 because it is already in the Part 1.

3.1.9 *Replace "Replacement" with the following (and delete the term "*normal operation*"):*

Modification:

Replace the first paragraph with the following:

operation of the appliance under the following conditions:

According to ISO/IEC Directives Part 2, the form of a definition must be such that it can replace the term in context.

☐ Review new definitions in Part 2 standards to ensure they comply with the above

☐ 3.1.9 in the Part 1, 6th edition and many Part 2 standards is our one exception to this rule. Review 3.1.9 in Part 2 standards to determine if the operating conditions can be specified in dashed items or in 3.1.9.101 – 3.1.9.1XX and then 3.1.9 and then replace the first paragraph with

operation of the appliance under the conditions specified in 3.1.9.101 to 3.1.9.1XX

☐ Check for newly defined terms in Part 1 to be bold in Part 2 (outlet load, cell, battery, detachable battery, separable battery (review use of 'battery box', if used), integral battery, room temperature (also check for ambient temperature), 3.10, 3.11).

☐ **3.X.10X** Check Part 2 definitions where the term is also used in the Part 1 to verify that there is not a conflict and the definition is appropriate for the term as used in the Part 1 also. If there is a conflict, consider changing the term used in the Part 2.

☐ Verify Notes in Clause 3 are identified as "Note to entry".

5 General conditions for the tests

☐ Review Part 2 additions. "Unless otherwise specified" is not necessary due to the introductory statement for Clause 5 in the Part 1.

☐ Clauses in Part 1 were renumbered after 5.17. Check for correlation in the Part 2.

☐ **5.21** Check all references to probes to determine if a force should be specified (based on IEC 61032) or if the default of 1 N (no appreciable force) is acceptable. Where 1 N is currently specified, it can now be removed.

7 Marking and instructions

☐ Check for when markings and instructions are the substance of the wording to be provided or when it is information to be included and separate these appropriately. The "substance of" should only be used when the actual wording of the marking or in the instructions is provided. This allows the use of equivalent wording to the wording provided in the standard.

☐ When the "substance of" the marking or instructions is provided, defined terms should NOT be in bold type.

8 Protection against access to live parts

☐ **8.1.1** Review the addition of test probe 18 for accessibility of live parts. For example, the part 2 may clarify if commercial appliances covered by the Part 2 are considered to be installed in an area open to the public or if household appliances are located more than 1,8 m from the floor, like a ceiling fan, so as to be out of reach of children. (*Consult AG4 if not specified*)

☐ **8.1.1** Review the need for test probe 19 to be added to the Part 2 standard for appliances accessible to children up to 3 years old. (*Consult AG4 if not specified*)

☐ **8.1.3** For Part 2 standards with appliances with visibly glowing heating elements, include the following Addition when test probe 19 is added to 8.1.1.

8.1.3 *Addition:*

Test probe 19 of IEC 61032 is not applied.

11 Heating

☐ **11.7** Part 2 requirement should be a *Modification* to replace the first paragraph instead of *Replacement* to retain the duration for charging and the loading of accessible outlets. For appliances for short or intermittent operation, the first dashed item may also need to be modified regarding continuous operation of the appliance for 1 hour while charging.

☐ **11.8** When the external surface temperature Table is added, the Part 2 requirement should typically be a Modification to replace the first paragraph so that it refers to Table 3 and Table 10X.

☐ For appliances with adjustable vents or shutters, the following wording is also included in 11.8 as an Addition:

The temperature rises for handles or grips of vents and air shutters shall not exceed the value specified in Table 3 for surfaces of handles, knobs, grips and similar parts which are held for short periods only in normal use.

Table 10X for Maximum temperature rises for specified external accessible surfaces under normal operating conditions:

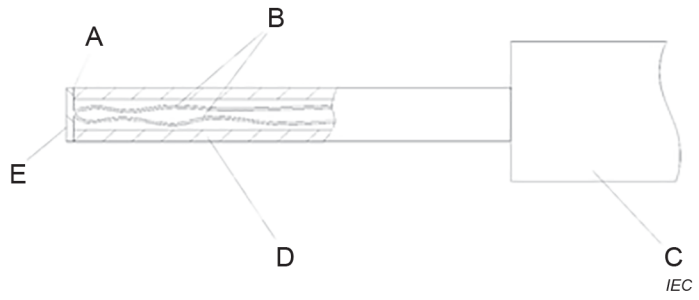
☐ The NOTE should be updated to include handles to align with the entry in Table 3 as follows:

NOTE The temperature rise limits of handles, knobs, grips, keyboards, keypads and similar parts are specified in Table 3.

☐ If the 75 mm diameter probe is referenced in footnote (a) for determining which surfaces are to be measured, the force of 1 N can be deleted as it is covered by 5.21 of Part 1.

☐ In the footnote concerning coatings, “made of enamel, powder or …”

☐ **Figure 10X** for surface temperatures – Update to latest figure from IEC CO below. Remove ‘(chrome alumel)’ from item B of the Key and verify the flat contact face is included in item E of the Key.



Key
A adhesive
B thermocouple wires 0,3 mm diameter to IEC 60584-1 Type K
C handle arrangement permitting a contact force of 4 N ± 1 N
D polycarbonate tube: inside diameter 3 mm, outside diameter 5 mm
E tinned copper disc: 5 mm diameter, 0,5 mm thick with flat contact face

Figure 101 – Probe for measuring surface temperatures

12 Charging of metal-ion batteries

☐ Update the title of this Clause and add “This clause of Part 1 is applicable.”

15 Moisture resistance

☐ **15.2** Update reference to the ‘spillage solution’ in Part 1. However, the original salt-water solution may be used for overfill testing of appliances intended to be filled with water only for intended use, such as kettles. This is decided on a Part 2 basis.

18 Endurance

☐ Unless the Part 2 standard includes requirements for Clause 18, the Part 2 should indicate “This clause of Part 1 is not applicable.”

19 Abnormal operation

☐ Where the tests of 19.11.4.1 to 19.11.4.7 are referenced for evaluation of electronic circuits relied upon for compliance with requirements typically in clauses 20, 22 and 24, add the following (from 19.11.4):

The tests are carried out with surge protective devices disconnected, unless they incorporate spark gaps.

NOTE – It has been decided that "protective device" should not be bold when referring to a "surge protective device". Alternative wording is being considered.

20 Stability and mechanical hazards

☐ **20.2** Review the addition of test probe 18 for accessibility of moving parts. For example, the part 2 may clarify if commercial appliances covered by the Part 2 are considered to be installed in an area open to the public or if household appliances are located more than 1.8 m from the floor, like a ceiling fan, so as to be out of reach of children. (*Consult AG4 if not specified*)

☐ **20.2** Review the need for test probe 19 to be added to the Part 2 standard for appliances accessible to children up to 3 years old. (*Consult AG4 if not specified*)

☐ **20.1XX** (**22.1XX**) Review any additional Part 2 requirements referring to test probe B to see if test probe 18 and 19 should be introduced. (*Consult AG4 as needed*)

22 Construction

☐ **22.6** Review of 22.6 of Part 2 standards with drain hole dimension requirements to align with decision for IEC 60335-2-15 (61/6482/DC, 61/6572A/INF):

> A drain hole that is needed to comply with the standard shall be at least 5 mm in diameter or 20 mm^2 in area with a width of at least 3 mm. Holes that do not meet these dimensions are considered to be blocked when determining compliance.

This does not include the similar requirement for apertures to prevent pressure build-up within an appliance (22.7).

☐ **22.40, 22.49, 22.50, 22.51, 22.62** Review requirements for remote operation of appliances and remote software updates to determine if any revisions are needed in the Part 2 to address:

- hazards related to remote operation, including limitations on the types of appliance or constructions that may be remotely operated, and related to unattended use of appliances that are typically considered to be attended during normal use; and
- verifications of compliance for conditions for clauses 8-32 to fulfil requirements of 22.62.a 2nd bullet. (Consult AG23 if not specified)

30 Resistance to Heat and Fire

☐ **30.2** Review requirements for remote operation of appliances to determine if any revisions are needed in the Part 2 to address requirements related to unattended use of appliances that are typically considered to be attended during normal use. (Consult AG23 if not specified)

☐ **30.2.3** Review where 30.2.3 is indicated that it is not applicable due to conflict with statement in 30.2 regarding appliances for remote operation and during charging being tested to 30.2.3. Therefore, the entry for 30.2.3 will be deleted and the following Modification will be added for 30.2.

> **30.2** *Modification*:
> Replace the two dashed items in the compliance criteria with the following:
>
> - *for 'appliances', 30.2.2 is applicable.*
>
> [Where 'appliances' is replaced by the products covered in the Part 2 standard, such as 'sewing machines' for -2-28, etc.]

Annexes General

☐ Correct the numbering of double-letter Annexes in parts 2. New order is Annexletters.clause.subclause older numbering was clause.Anexxletters.subclause. (e.g. Old 22.AA.101 has to be changed to AA.22.101).

The clause numbers without an Annex letter prefix refer to the clause numbers in the main part of this standard that are modified or replaced. Clauses that are new or additional to the clauses in the main part of this standard are identified by adding the Annex letter followed by the numbering starting at 1, e. g. 19.1 refers to 19.1 in the main body and B19.1 is a new clause in Annex B.

Annex B

☐ Annex B was completely rewritten. Any existing modifications in Part 2 standards should be reviewed to verify the subclause/paragraph references are correct.

☐ Note the numbering of subclauses in Annex B also changed as noted above. The clause numbers without a B-prefix refer to the clause numbers in the main part of this standard that are modified or not applicable. Clauses that are additional to the clauses in the main part of this standard are identified by adding the Annex letter with the numbering starting at 1, e. g. 19.1 refers to 19.1 in the main body and B19.1 is a new clause in Annex B.

☐ Check if existing content in Annex B of a Part 2 is charging related and needs to be transferred into the main part of the standard.

☐ **B.3.1.1** Any entries for 3.1.9 in Annex B of a Part 2 should be reviewed and, if necessary, relocated to B.3.1.1 for operation of the battery-operated appliance and 3.1.9 of the body of the standard for charging. (*Consult MT31 as needed*)

☐ **B.11.1** (*Consult MT31 as needed*) For appliances for short or intermittent operation:

- the first paragraph may need to be modified to specify the operating time or cycling
- for appliances with a specified operating time or a limited number of cycles, the second paragraph may need to modified to indicate that operation is continued for the specified operating time or specified number of cycles. If the appliance ceases operation before that time due to depletion of the battery, the depleted battery is immediately replaced with another battery that is fully charged; and
- for appliances for intermittent operation, the third paragraph may need to be modified to delete ‘continuously’.

☐ **B.22.3, B.22.4** Align use of accessibility probes with decisions made for Clause 8.

NOTE For B.22.4, the text should refer to “**batteries**” instead of “appliances”.

Annex R

☐ If compliance with Annex R is referenced in Part 2 requirements such as Clauses 20 or 22, R.2.2.5 and R.2.2.9 should be updated to include these subclauses in addition to Clause 19, e.g. “before compliance with Clause 19, 20.101 or 22.101 is impaired.”

NOTE – The referenced requirements should be separated by an “or” instead of “and”.

Annex S

☐ Annex S from the 5th edition was incorporated into Annex B, so any existing modifications in a Part 2 standard may need to be relocated to Annex B.

☐ Review revisions to existing Part 1 Annexes also to verify proper numbering format and references.

Index of defined terms

☐ The Part 2 Standard may include an Index of defined terms arranged alphabetically.