INTERNATIONAL ELECTROTECHNICAL COMMISSION

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IEC 60335-1
Edition 6.0 2020-09

Household and similar electrical appliances - Safety - Part 1: General requirements

INTERPRETATION SHEET 2

This interpretation sheet has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances.

The text of this interpretation sheet is based on the following documents:

DISH	Report on voting
61/7436/DISH	61/7464/RVDISH

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Full information on the voting for the approval of this interpretation sheet can be found in the report on voting indicated in the above table.

IEC 60335-1:2020/ISH2:2025
https://standards.iteh.ai/catalog/standards/iec/f1ad17e6-f23b-4e6b-851a-57ea81af5a09/iec-60335-1-2020-ish2-2025

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TC 61 interpretation sheet on: Mechanical shock and vibration testing on large metal-ion batteries of IEC 60335-1:2020

INTRODUCTION

Currently the standard mentions:

> **B.24.1** *The relevant standards for non-acid based electrolyte **cells** employed in **batteries** are IEC 62133-1:2017 for nickel systems and IEC 62133-2:2017 for lithium systems.*
>
> NOTE The requirement for **cells** does not extend to the **battery** itself.
>
> *A **battery** that uses metal-ion chemistry shall additionally be subjected to the tests of Subclauses 7.3.8.1 (vibration) and 7.3.8.2 (mechanical shock) of IEC 62133-2:2017.*

When Annex B was written for the IEC 60335-1 edition 6, the batteries foreseen were for portable applications and rather lightweight. The IEC 62133-2:2017 standard referred to is applicable to portable lithium batteries only.

ICS 13.120, 97.030

IEC 60335-1:2020-09/ISH2:2025-08(en-fr)

For non-portable and/or large batteries (mass > 12 kg), the tests of IEC 62133-2 for mechanical shock and vibration are not suitable.

QUESTION:

What test sequence for mechanical shock and vibration can be followed for large batteries?

ANSWER:

For practical reasons, IEC 60335-1 should follow the same differentiation as the UN 38.3 transport test or IEC 62281 standard (Safety of primary and secondary lithium cells and batteries during transport).

For larger batteries with a mass exceeding 12 kg, Subclauses 6.4.3 (Test T-3: Vibration) and 6.4.4 (Test T-4: Shock) of IEC 62281:2019, including AMD1:2021 and AMD2:2023, may be applied.

NOTE 1 The tests are technically identical to Test T.3 and Test T.4 of the UN manual of tests and criteria, section 38.3 rev.8 (2023).

NOTE 2 In accordance with Table 5 of IEC 62281:2019, testing is carried out on the battery without packaging.

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