

# INTERNATIONAL STANDARD

# NORME INTERNATIONALE

AMENDMENT 1  
AMENDEMENT 1

**Household and similar electrical appliances – Safety –  
Part 2-74: Particular requirements for portable immersion heaters**

<https://standards.iteh.ai>

**Appareils électrodomestiques et analogues – Sécurité –  
Partie 2-74: Exigences particulières pour les thermoplongeurs mobiles**

[IEC 60335-2-74:2021/AMD1:2024](https://standards.iteh.ai/catalog/standards/iec/cc7e6211-184f-4e38-a637-5e7d53f3b2eb/iec-60335-2-74-2021-amd1-2024)

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IEC Secretariat  
3, rue de Varembe  
CH-1211 Geneva 20  
Switzerland

Tel.: +41 22 919 02 11  
[info@iec.ch](mailto:info@iec.ch)  
[www.iec.ch](http://www.iec.ch)

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INTERNATIONAL  
ELECTROTECHNICAL  
COMMISSION

COMMISSION  
ELECTROTECHNIQUE  
INTERNATIONALE

ICS 13.120, 97.040.50

ISBN 978-2-8327-0028-0

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –  
SAFETY –**

**Part 2-74: Particular requirements for portable immersion heaters**

**AMENDMENT 1**

**FOREWORD**

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Amendment 1 to IEC 60335-2-74:2021 has been prepared by IEC technical committee 61: Safety of household and similar electrical appliances.

The text of this Amendment is based on the following documents:

|              |                  |
|--------------|------------------|
| Draft        | Report on voting |
| 61/7297/FDIS | 61/7345/RVD      |

Full information on the voting for its approval can be found in the report on voting indicated in the above table.

The language used for the development of this Amendment is English.

This document was drafted in accordance with ISO/IEC Directives, Part 2, and developed in accordance with ISO/IEC Directives, Part 1 and ISO/IEC Directives, IEC Supplement, available at [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs). The main document types developed by IEC are described in greater detail at [www.iec.ch/publications/](http://www.iec.ch/publications/).

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## 1 Scope

*Add, at the end of the first paragraph, the following:*

"including direct current (DC) supplied appliances and **battery-operated appliances**."

*In the last paragraph, delete the last dashed item for battery-operated appliances.*

## 2 Normative references

*Replace the text with the following:*

This clause of Part 1 is applicable except as follows:

*Addition:*

IEC 60584-1, *Thermocouples – Part 1: EMF specifications and tolerances*

## 3 Terms and definitions

**3.1.9** *Replace "Replacement" with "Modification" and add the following before the first paragraph:*

*Replace the first paragraph with the following:*

## 11 Heating

Add the following new subclause:

### 11.3 Addition:

Where the external **accessible surfaces** are suitably flat and access permits, then the test probe of Figure 101 is used to measure the temperature rises of external **accessible surfaces** specified in Table 101. The probe is applied with a force of  $4\text{ N} \pm 1\text{ N}$  to the surface in such a way that the best possible contact between the probe and the surface is ensured. The measurement is performed after a contact period of 30 s.

The probe may be held in place using a laboratory stand clamp or similar device. Any measuring instrument giving the same results as the probe may be used.

### 11.7 Replace the text with the following:

Modification:

Replace the first paragraph with the following:

Appliances are operated for 15 min after the water temperature has reached 95 °C. However, if this temperature cannot be attained, the immersion heater is operated for 15 min after the water temperature has stabilized, or for 15 min after a thermal control has operated.

Replace the first dashed item of the third paragraph with the following:

- the **battery** that has been **fully discharged** is charged, while the appliance is operated for 1 h or the time specified, whichever is less, performing its intended function, if allowed by the construction of the appliance;

Add the following new subclause:

### 11.8 Modification:

Replace the first paragraph with the following:

During the test, the temperature rises are monitored continuously and shall not exceed the values shown in Table 3 and Table 101.

Add the following new table:

**Table 101 – Maximum temperature rises  
 for specified external accessible surfaces under normal operating conditions**

| Surface  | Temperature rise of external accessible surfaces <sup>a</sup> |
|--|---|
|  | K   |
| Bare metal   | 42  |
| Coated metal <sup>b</sup>                            | 49  |
| Glass and ceramic                                    | 56  |
| Plastic and plastic coating > 0,4 mm <sup>c, d</sup> | 62  |

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

<sup>a</sup> Temperature rises are not measured on surfaces that are immersed during normal use or inaccessible to a 75 mm diameter probe having a hemispherical end.

<sup>b</sup> Metal is considered coated when a coating having a minimum thickness of 90 µm made of enamel, powder or non-substantially plastic coating is used.

<sup>c</sup> The temperature rise limit of plastic also applies for plastic material having a metal finish of thickness less than 0,1 mm.

<sup>d</sup> When the thickness of the plastic coating does not exceed 0,4 mm, the temperature rise limits of coated metal for underlying metal apply or the temperature rise limits for glass or ceramic material for underlying glass or ceramic material apply.

## 12 Charging of metal-ion batteries

Delete "not".

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## 30 Resistance to heat and fire

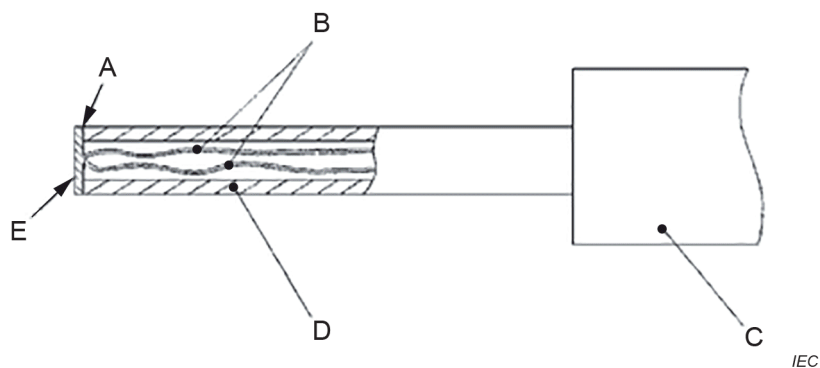
30.2 Replace the text with the following:

Modification:

Replace the two dashed items with the following:

- for appliances intended to prevent water from freezing in animal troughs and appliances that maintain a liquid at a set temperature, 30.2.3 is applicable;
- for other appliances, 30.2.2 is applicable.

Add the following new figure:



**Key**

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

**Figure 101 – Probe for measuring surface temperatures**

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## Annexes

*Replace the text with the following:*

The annexes of Part 1 are applicable except as follows.

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## **Annex B** (normative)

### **Battery-operated appliances, separable batteries and detachable batteries for battery-operated appliances**

Annex B of Part 1 is applicable except as follows:

#### **B.11.1 Replacement:**

*Battery-operated appliances are tested under the conditions of normal operation.*

*For appliances operated with detachable batteries or separable batteries that are disconnected from the appliance for charging purposes, the appliance is operated as specified in 11.7 until it no longer operates due to depletion of the battery. If the battery is depleted before the appliance completes the duration of the test, the depleted battery is immediately replaced with another battery that is fully charged, the battery being the model or type reference of the battery provided or indicated in the instructions. The test is continued until the appliance completes the duration of the test as specified or it no longer operates due to depletion of the battery.*

*For appliances incorporating integral batteries or separable batteries not disconnected from the appliance for charging purposes, and that cannot perform their intended function while the batteries are being charged, the appliance is operated as specified in 11.7 until it cannot perform its intended function due to the depletion of the batteries.*

*For appliances operated with batteries that are replaceable, including integral batteries that are replaceable, or non-rechargeable batteries, the appliance is operated until the minimum capacity of the battery as specified in Table B.1 has been delivered or the appliance completes the duration of the test as specified in 11.7 whichever occurs first.*

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