

# INTERNATIONAL STANDARD

# IEC 60335-2-50

Third edition  
2000-03

---

---

## Safety of household and similar electrical appliances –

### Part 2-50: Particular requirements for commercial electric bains-marie

*Sécurité des appareils électrodomestiques et analogues –*

*Partie 2-50:  
Règles particulières pour les bains-marie électriques  
à usage collectif*

© IEC 2000 — Copyright - all rights reserved

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from the publisher.

International Electrotechnical Commission  
Telefax: +41 22 919 0300

3, rue de Varembe Geneva, Switzerland  
e-mail: [inmail@iec.ch](mailto:inmail@iec.ch) IEC web site <http://www.iec.ch>



Commission Electrotechnique Internationale  
International Electrotechnical Commission  
Международная Электротехническая Комиссия

---

---

## CONTENTS

	Page
FOREWORD .....	3
Clause	
1 Scope .....	5
2 Definitions .....	5
3 General requirement .....	6
4 General conditions for the tests .....	7
5 Void .....	7
6 Classification .....	7
7 Marking and instructions .....	7
8 Protection against access to live parts .....	9
9 Starting of motor-operated appliances .....	9
10 Power input and current .....	10
11 Heating .....	10
12 Void .....	10
13 Leakage current and electric strength at operating temperature .....	10
14 Void .....	11
15 Moisture resistance .....	11
16 Leakage current and electric strength .....	13
17 Overload protection of transformers and associated circuits .....	14
18 Endurance .....	14
19 Abnormal operation .....	14
20 Stability and mechanical hazards .....	14
21 Mechanical strength .....	14
22 Construction .....	15
23 Internal wiring .....	16
24 Components .....	17
25 Supply connection and external flexible cords .....	17
26 Terminals for external conductors .....	17
27 Provision for earthing .....	18
28 Screws and connections .....	18
29 Creepage distances, clearances and distances through insulation .....	18
30 Resistance to heat, fire and tracking .....	18
31 Resistance to rusting .....	18
32 Radiation, toxicity and similar hazards .....	18
Annexes .....	20
Figure 101 – Splash apparatus .....	19

## INTERNATIONAL ELECTROTECHNICAL COMMISSION

### SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –

#### Part 2-50: Particular requirements for commercial electric bains-marie

### FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of the IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
- 3) The documents produced have the form of recommendations for international use and are published in the form of standards, technical specifications, technical reports or guides and they are accepted by the National Committees in that sense.
- 4) In order to promote international unification, IEC National Committees undertake to apply IEC International Standards transparently to the maximum extent possible in their national and regional standards. Any divergence between the IEC Standard and the corresponding national or regional standard shall be clearly indicated in the latter.
- 5) The IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with one of its standards.
- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60335-2-50 has been prepared by subcommittee 61E: Safety of electrical commercial catering equipment, of IEC technical committee 61: Safety of household and similar electrical appliances.

It forms the third edition of IEC 60335-2-50 and replaces the second edition, published in 1995, its amendment 1 (1996) and amendment 2 (1998).

The text of this standard is based on the second edition, amendments 1 and 2 and the following documents:

FDIS	Report on voting
61E/351/FDIS	61E/364/RVD

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

This part 2 is to be used in conjunction with the latest edition of IEC 60335-1 and its amendments. It was established on the basis of the third edition (1991) of that standard.

This part 2 supplements or modifies the corresponding clauses in IEC 60335-1, so as to convert it into the IEC standard: Safety requirements for commercial electric bains-marie.

Where a particular subclause of part 1 is not mentioned in this part 2, that subclause applies as far as is reasonable. Where this standard states "addition", "modification" or "replacement", the relevant text in part 1 is to be adapted accordingly.

NOTE 1 The following print types are used:

- requirements: in roman type;
- *test specifications: in italic type;*
- notes: in small roman type;

Words in **bold** in the text are defined in clause 2.

NOTE 2 Subclauses, figures and notes which are additional to those in part 1 are numbered starting from 101.

A bilingual version of this standard may be issued at a later date.

Withdrawn

## SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES –

### Part 2-50: Particular requirements for commercial electric bains-marie

#### 1 Scope

This clause of part 1 is replaced by:

This standard deals with the safety of electrically operated **bains-marie** not intended for household use, their **rated voltage** being not more than 250 V for single-phase appliances connected between one phase and neutral, and 480 V for other appliances.

NOTE 1 These appliances are used, for example, in restaurants, canteens, hospitals and similar commercial enterprises.

The electrical part of appliances making use of other forms of energy is also within the scope of this standard.

So far as is practicable, this standard deals with the common hazards presented by these types of appliances.

NOTE 2 Attention is drawn to the fact that

- for appliances intended to be used in vehicles or on board ships or aircraft, additional requirements may be necessary;
- for appliances intended to be used in tropical countries, special requirements may be necessary;
- in many countries additional requirements are specified by the national health authorities, the national authorities responsible for the protection of labour, the national water supply authorities and similar authorities;
- for appliances intended to be used outdoors, additional requirements may be necessary.

This standard does not apply to

- appliances designed exclusively for industrial purposes;
- appliances intended to be used in locations where special conditions prevail, such as the presence of a corrosive or explosive atmosphere (dust, vapour or gas);
- continuous process appliances for the mass production of food.