

# INTERNATIONAL STANDARD

# IEC 60335-2-41

2002

AMENDMENT 1  
2004-01

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Amendment 1

**Household and similar electrical appliances –  
Safety –**

**Part 2-41:  
Particular requirements for pumps**

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PRICE CODE

**D**

*For price, see current catalogue*

## FOREWORD

This amendment 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:

FDIS	Report on voting
61/2537/FDIS	61/2581/RVD

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

The committee has decided that the contents of the base publication and its amendments will remain unchanged until 2006. At this date, the publication will be

- reconfirmed;
- withdrawn
- replaced by a revised edition, or
- amended.

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## FOREWORD

*Add the following to the list of differences existing in some countries:*

- 6.1: Class II table fountain pumps are not allowed (USA).

## INTRODUCTION

*Replace the second sentence of the second paragraph by the following:*

It also covers abnormal situations that can be expected in practice and takes into account the way in which electromagnetic phenomena can affect the safe operation of appliances.

## 1 Scope

*Add the following item to Note 1:*

- shower-boost pumps;

## 2 Normative references

*Add the following:*

IEC 60364-7-701, *Electrical installations of buildings – Part 7: Requirements for special installations or locations – Section 701:Locations containing a bath tub or shower basin*

### 3 Definitions

Add the following:

#### 3.104

##### **shower-boost pump**

pump for installation in the water supply system to increase the water flow for showering purposes

### 6 Classification

6.1 Add the following to the second paragraph:

Table fountain pumps for indoor use may also be **class II** as long as their **rated power input** does not exceed 25 W.

6.2 Add the following new paragraph after the second paragraph:

**Shower-boost pumps** intended for installation outside of zones 1 and 2, as specified in IEC 60364-7-701, shall be at least IPX2.

### 11 Heating

11.7 Replace the existing text by the following:

*Replacement:*

*Pumps are operated with the liquid maintained at the temperature marked on the pump. They are operated until steady conditions are established unless they are marked with a maximum period of operation. In this case, they are operated for the marked period followed by the rest period specified in the instructions, the test being carried out for three cycles of operation. **Shower-boost pumps** that are also supplied with cold water are operated with the cold water at 15 °C ± 2 °C.*

*Pumps, other than **shower-boost pumps**, marked with a maximum period of operation are also operated with the liquid maintained at 35 °C until steady conditions are established.*

### 15 Moisture Resistance

Add the following:

15.1.1 Addition:

**Shower-boost pumps** are subjected to the appropriate test of IEC 60529 both at rest and in operation while supplied at **rated voltage**.

15.1.2 Replace the second dashed item by the following:

- 1,3 times the pressure occurring at
  - the maximum operating depth, or
  - 15 m, if this is higher.

## 21 Mechanical Strength

*Replace the text by the following:*

### 21.1 Modification:

*For pumps, other than **shower-boost pumps**, the impact energy is increased to 1,0 J.*

## 22 Construction

### 22.6 Add the following paragraph:

**Shower-boost pumps** having a separate enclosure shall have a drain hole in the enclosure positioned so that the water can drain out without impairing electrical insulation, unless water cannot accumulate within the enclosure in normal use. The hole shall be at least 5 mm in diameter or 20 mm<sup>2</sup> in area with a width of least 3 mm.

*Add the following subclause:*

**22.106 Shower-boost pumps** shall be constructed so that they can be permanently connected to the water supply.

**Shower-boost pumps** for wall mounting shall be constructed so that they can be securely fixed independently of the connection to the water supply.

*Compliance is checked by inspection.*

NOTE Keyhole slots, hooks and similar means, without any further means to prevent the pump from being inadvertently lifted off the wall, are not considered to be adequate means for fixing the pump securely.

## 25 Supply connection and external flexible cords

**25.7** *In the second paragraph, replace “aquarium pumps and **class III pumps**” by “aquarium pumps, **shower-boost pumps** and **class III pumps**”.*

### 25.14 Replace the text by the following:

**Portable pumps**, except table fountain pumps and aquarium pumps, are subjected to the test.

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