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**Safety of household and similar electrical appliances - Part 2: Particular requirements for portable electric heating tools and similar appliances (IEC 335-2-45:1986, modified)**

Safety of household and similar electrical appliances -- Part 2: Particular requirements for portable electric heating tools and similar appliances

Sicherheit elektrischer Geräte für den Hausgebrauch und ähnliche Zwecke -- Teil 2: Besondere Anforderungen für ortsveränderliche Elektrowärmewerkzeuge und ähnliche Geräte  
(standards.iteh.ai)

SÉCURITÉ DES APPAREILS ÉLECTRODOMESTIQUES ET SIMILAIRES -- Partie 2: Règles particulières pour les outils chauffants électroportatifs et appareils analogues  
SIST EN 60335-2-45:1995  
<https://standards.iteh.ai/catalog/standards/sist/1025a91-1cc1-48ca-9451-020112000000/sist-en-60335-2-45-1995>

**Ta slovenski standard je istoveten z: EN 60335-2-45:1990/A51:1993**

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**ICS:**

13.120	Varnost na domu	Domestic safety
25.140.20	Električna orodja	Electric tools

**SIST EN 60335-2-45:1995** en

**iTeh STANDARD PREVIEW**  
**(standards.iteh.ai)**

[SIST EN 60335-2-45:1995](#)

<https://standards.iteh.ai/catalog/standards/sist/1cf23a91-fce1-48ca-9451-d12c1f4ca612/sist-en-60335-2-45-1995>

EUROPEAN STANDARD  
NORME EUROPEENNE  
EUROPÄISCHE NORM

EN 60335-2-45

April 1990

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UDC 621.365:64-621-83:64:614.8.004.1-777:621.396.669.8

Descriptors: Household electrical appliance, portable electric heating tool,  
protection against electric shock, protection against fire risk,  
protection against mechanical hazard

English version

**SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES**  
**PART 2: PARTICULAR REQUIREMENTS FOR PORTABLE ELECTRIC**  
**HEATING TOOLS AND SIMILAR APPLIANCES**  
(IEC 335-2-45:1986, modified)

Sécurité des appareils électrodomestiques et analogues	Sicherheit elektrischer Geräte für den Hausgebrauch und ähnliche Zwecke
Deuxième partie:	Teil 2:
Règles particulières pour les outils chauffants	Besondere Anforderungen für ortsveränderliche
électroportatifs et	Elektrowärmewerkzeuge
appareils analogues	und ähnliche Geräte
(CEI 335-2-45:1986, modifiée)	(IEC 335-2-45:1986, modifiziert)

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(standards.itech.ai)  
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This European Standard was approved by CENELEC on 12 June 1989. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue Bréderode 2, B - 1000 Brussels

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Ref. No. EN 60335-2-45:1990 E

### BRIEF HISTORY

The proposal to endorse the first edition of IEC Publication 335-2-45, document CENELEC/TC 61 (SEC) 522, was circulated under the enquiry procedure in February 1987.

This proposal was discussed during the Brussels meeting in December 1987 when it was decided to submit a draft for EN 60335-2-45 to the voting procedure. This procedure started in December 1988.

The text of this draft was ratified by the CENELEC Technical Board on the 12th of June 1989.

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## **iTeh STANDARD PREVIEW** **(standards.iteh.ai)**

SIST EN 60335-2-45:1995

<https://standards.iteh.ai/catalog/standards/sist/1cf23a91-fce1-48ca-9451-d12c1f4ca612/sist-en-60335-2-45-1995>

FOREWORD

R This European Standard has been prepared by the Secretariat of CENELEC Technical Committee 61.

The following dates are applicable:

- date of announcement (doa) 1990-01-01
- date of latest publication (dop) 1990-07-01
- date of withdrawal of conflicting national standards (dow) 1993-07-01

For products which have complied with the relevant national standard before 1993-07-01, as shown by the manufacturer or by a Certification Body, this previous standard may continue to apply for production until 1998-07-01.

This document supplements or modifies the corresponding clauses of IEC 335-2-45:1986 so as to convert that standard into the European Standard EN 60335-2-45.

This standard has to be used in conjunction with EN 60335-1:1988, Safety of household and similar electrical appliances, Part 1: General requirements, including its Amendment 2:1988.

Where a particular sub-clause of Part 1 is not mentioned in this Part 2, that sub-clause applies as far as is reasonable. Where this standard states "addition", "modification" or "replacement", the relevant requirement, test specification or explanatory matter in Part 1 is to be adapted accordingly.

Sub-clauses which are in addition to those in IEC 335-1 are numbered starting with 101.

There are no special national conditions (snc) causing a deviation from this European Standard, other than those listed in Annex ZX of EN 60335-1.

National deviations from this European Standard are listed in Annex ZY and are in addition to those in EN 60335-1.

r The following print types are used:

- R - requirements proper: in roman type (indicated in this document in the margin by R);
- i - test specifications: in italic type (indicated in this document in the margin by i);
- r - explanatory matter: in smaller roman type (indicated in this document in the margin by r).

Instructions for modification of the reference document are in italic type and are indicated in this document in the margin by i.

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ENDORSEMENT NOTICE

R IEC 335-2-45:1986 applies, taking into account the following common modifications.

## COMMON MODIFICATIONS

i Foreword Delete.

Preface Delete.

## 1. SCOPE

i 1.1 Add to the list of examples of tools that are within the scope of this standard:

r - fire lighters;

i Add:

r Additional requirements for fire lighters are under consideration.

STANDARD PREVIEW  
(standards.iteh.ai)

## 7. MARKING

i 7.12 Replace the last sentence by:  
[https://standards.iteh.ai/catalog/standards/sist/1cf23a91-fce1-48ca-9451-](https://standards.iteh.ai/catalog/standards/sist/1cf23a91-fce1-48ca-9451-d12c1f4ca612/sist-en-60335-2-45-1995)

R Any transformer used for the power supply must be a safety isolating transformer which is at least splash proof.

## 11. HEATING

i 11.4 Replace the addition by:

Soldering guns and other tools with a heating element supplied at extra-low voltage from an incorporated transformer or from a transformer delivered with the tool, are operated at a voltage equal to 1.06 times rated voltage.

Add:

11.10 Modification:  
For tools incorporating a motor, p = 2000.

## COMMON MODIFICATIONS

13. **ELECTRICAL INSULATION AND LEAKAGE CURRENT AT OPERATING TEMPERATURE**
- i 13.1 Replace the addition by:
- Soldering guns and other tools with a heating element supplied at extra-low voltage from an incorporated transformer or from a transformer delivered with the tool, are operated at a voltage equal to 1.06 times rated voltage.
- r If the temperature of the heated part of the tool has to be controlled during the test, the sensing element is not to be fixed to an oxidized part.
- i Add:
- 13.3 Addition:  
For Class I soldering guns and other Class I tools with a heating element supplied at safety extra-low voltage from a transformer, the test voltage is applied between the primary circuit and the secondary circuit, the latter being connected to the core of the transformer and to accessible metal parts.
19. **ABNORMAL OPERATION**
- i 19.2 Add: [SIST EN 60335-2-45:1995](https://standards.iteh.ai/catalog/standards/sist/1cf23a91-fce1-48ca-9451-d12c14ca612/sist-en-60335-2-45-1995)  
Addition: <https://standards.iteh.ai/catalog/standards/sist/1cf23a91-fce1-48ca-9451-d12c14ca612/sist-en-60335-2-45-1995>  
Tools supplied from a transformer are operated at rated voltage or at the upper limit of the rated voltage range. During the test, the temperature of transformer windings, other than secondary windings of transformers of soldering guns, shall not exceed the values specified for motor windings in Sub-clause 19.6. For tools provided with a biased-off switch, the values specified for appliances to be operated for 30 s or 5 min apply.
22. **CONSTRUCTION**
- i 22.1 Delete the first and third paragraphs of the requirement.
- Add:
- R 22.2 Addition:  
Transformers delivered with dehorning tools shall be at least splash proof.

## COMMON MODIFICATIONS

24. **COMPONENTS**
- i Add:
- R 24.11 Not applicable.
25. **SUPPLY CONNECTION AND EXTERNAL FLEXIBLE CABLES AND CORDS**
- i 25.6 Replace "245 IEC 53" by "H05 RR-F" and "227 IEC 52" by "H03 VV-F or H03 VVH2-F".
- Replace the addition by:
- R For dehorning tools, the length of the cord between the transformer and the tool shall be at least 4 m.
- i 25.10 Add:
- Addition:  
Class III tools having a rated voltage not exceeding 24 V are not subjected to this test.
26. **TERMINALS FOR EXTERNAL CONDUCTORS**  
(standards.iteh.ai)
- i Replace the text by:
- R <https://standards.iteh.ai/catalog/standards/sist/1cf23a91-fce1-48ca-9451-d12cf4ca612/sist-en-60335-2-45-1995>  
This clause of Part 1 is applicable except as follows:
- i 26.7 Modification:  
Instead of the first line in the table, the following applies:
- |                               |                   |     |     |     |
|-------------------------------|-------------------|-----|-----|-----|
| Up to and including 3         | 2.5               | 2.5 | 1.8 | 0.5 |
| over 3 up to and including 6  | 2.8               | 2.8 | 1.9 | 0.5 |
| over 6 up to and including 10 | 3.0 <sup>1)</sup> | 3.0 | 2.0 | 0.6 |
- i 26.8 Modification:  
Instead of the first line in the table, the following applies:
- |                               |                   |     |     |     |     |
|-------------------------------|-------------------|-----|-----|-----|-----|
| Up to and including 3         | 2.5               | 3.0 | 1.2 | 2.5 | 1.4 |
| over 3 up to and including 6  | 2.5               | 3.5 | 1.2 | 3.0 | 1.8 |
| over 6 up to and including 10 | 3.0 <sup>1)</sup> | 3.5 | 1.5 | 3.0 | 1.8 |



## COMMON MODIFICATIONS

- i 26.9 Modification:  
Instead of the first line in the table, the following applies:
- |   |                               |                   |     |     |
|---|-------------------------------|-------------------|-----|-----|
| R | Up to and including 3         | 2.5               | 0.3 | 3.0 |
|   | over 3 up to and including 6  | 3.0 <sup>1)</sup> | 0.4 | 3.5 |
|   | over 6 up to and including 10 | 3.0 <sup>1)</sup> | 0.4 | 4.0 |
- i 26.10 Modification:  
Instead of the first line in the table, the following applies:
- |   |                              |    |
|---|------------------------------|----|
| R | Up to and including 3        | 30 |
|   | over 3 up to and including 6 | 40 |
27. **PROVISION FOR EARTHING**
- i Replace the text by:
- R This clause of Part 1 is applicable except as follows:
- i 27.2 Addition: **STANDARD PREVIEW**  
Class II soldering irons intended to be used for soldering electronic equipment may be provided with equipotential bonding terminals without dimensional requirements.
30. **RESISTANCE TO HEAT, FIRE AND TRACKING**  
SIST EN 60335-2-45:1995  
<https://standards.iteh.ai/catalog/standards/sist/1cf23a91-fce1-48ca-9451-d12c14ca012/sist-en-60335-2-45-1995>
- i Replace the text by:
- R This clause of Part 1 is applicable except as follows:
- i 30.4 Addition:  
For soldering irons not provided with a biased-off switch, the glow-wire test referred to in Appendix K is made at a temperature of 750 °C.

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ANNEX ZY (informative)

## National deviations

R This document was compiled by CENELEC Technical Committee 61. It contains national deviations from the content of the European Standard EN 60335-2-45. These deviations are in addition to those in EN 60335-1 and could not yet be removed. They are only applicable in the countries concerned.

1. NATIONAL DEVIATIONS DUE TO LEGAL REQUIREMENTS

There are no national deviations due to legal requirements other than those listed in Annex ZY of EN 60335-1.

2. NATIONAL DEVIATIONS DUE TO PARTICULAR TECHNICAL REQUIREMENTS PERMITTED TO BE MAINTAINED UNTIL THE DATE SPECIFIED

7.12 FRANCE 1993-07-01

The last paragraph of the addition applies to Class III dehorning tools only.

22.1 FRANCE 1993-07-01

Class II dehorning tools are allowed.  
<https://standards.iteh.ai/catalog/standards/sist/1c125a91-fce1-48ca-9451-d12c1f4ca612/sist-en-60335-2-45-1995>

25.6 FRANCE 1993-07-01

For Class II dehorning tools, the length of the power supply cord shall be at least 6 m.

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EUROPEAN STANDARD  
NORME EUROPEENNE  
EUROPÄISCHE NORM

EN 60335-2-45/A1

December 1992

UDC 64.06-83:621.7-65:621.3-65:614.8

Descriptors: Household electrical appliances, soldering irons, portable electric tools, safety requirements, protection against electric shock, fire protection, protection against mechanical hazard

Amendment A1 to the English version of EN 60335-2-45

**SAFETY OF HOUSEHOLD AND SIMILAR ELECTRICAL APPLIANCES  
PART 2: PARTICULAR REQUIREMENTS FOR PORTABLE ELECTRIC  
HEATING TOOLS AND SIMILAR APPLIANCES**

(Amendment 1:1990 to IEC 335-2-45:1986, modified)

Sécurité des appareils  
électrodomestiques  
et analogues

Deuxième partie:

Règles particulières pour les  
outils chauffants électroportatifs  
et appareils analogues

(Amendement 1:1990 à la

CEI 335-2-45:1986, modifié)

Sicherheit elektrischer  
Geräte für den Hausgebrauch  
und ähnliche Zwecke

Teil 2:

Besondere Anforderungen für  
ortsveränderliche Elektrowärme-  
werkzeuge und ähnliche Geräte

(Änderung 1:1990 zu

IEC 335-2-45:1986, modifiziert)

This amendment A1 modifies the European Standard EN 60335-2-45:1990. It was approved by CENELEC on 9 December 1992. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment the status of a national standard without any alteration.

Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CENELEC member.

This amendment exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CENELEC member into its own language and notified to the Central Secretariat has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CENELEC

European Committee for Electrotechnical Standardization  
Comité Européen de Normalisation Electrotechnique  
Europäisches Komitee für Elektrotechnische Normung

Central Secretariat: rue de Stassart 35, B - 1050 Brussels

Page 2

EN 60335-2-45:1990/A1:1992

FOREWORD

R The proposal to endorse amendment 1:1990 to IEC 335-2-45:1986, document CLC/TC (SEC) 777, was circulated under the enquiry procedure in March 1990.

This proposal was discussed during the Brussels meeting in November 1991, when it was decided to submit a draft for an amendment to EN 60335-2-45 to the voting procedure. This draft was circulated as prAA in April 1992 and was ratified by CENELEC as amendment A1 on 9 December 1992.

This amendment has been prepared by the secretariat of CENELEC Technical Committee TC 61.

The following dates are applicable:

- latest date of publication  
of an identical national standard (dop) 1993-10-01
- date of withdrawal of  
conflicting national standards (dow) 1995-10-01

For products which have complied with EN 60335-2-45:1990 before 1995-10-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 2000-10-01.

EN 60335-2-45:1990, including this amendment, has to be used in conjunction with EN 60335-1:1988, including its amendments A2:1988, A5:1989, A6:1989, A51:1991, A52:1992, A53:1992 and A54:1992.

There are no special national conditions (snc) causing a deviation from this amendment.

There are no national deviations from this amendment.

Other publication quoted in this amendment:

EN 60529:1991 Degrees of protection provided by enclosures (IP code)

r NOTE: The UDC and descriptors of this amendment replace those of EN 60335-2-45:1990.

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ENDORSEMENT NOTICE

R The text of amendment 1:1990 to the International Standard IEC 335-2-45:1986 was approved by CENELEC as an amendment to the European Standard with common modifications as given below.

## COMMON MODIFICATIONS

p Prefaces Delete.

p Add:

18 **ENDURANCE**

i Replace the text by:

R This clause of Part 1 is applicable.

22 **CONSTRUCTION**

p 22.2 Replace "IEC 529" by "EN 60529".

24 **COMPONENTS** [SIST EN 60335-2-45:1995](https://standards.iteh.ai/catalog/standards/sist/1cf23a91-fce1-48ca-9451-174c2257-60335-2-45:1995)

p 24.1 In the first paragraph, replace "tools" by "the hand-held part of tools".

Replace "IEC Publication 742" by "EN 60742".

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