

INTERNATIONAL STANDARD

IEC
60245-1

Fourth edition
2003-12

**Rubber insulated cables –
Rated voltages up to and including 450/750 V –
Part 1:
General requirements**

*This **English-language** version is derived from the original **bilingual** publication by leaving out all French-language pages. Missing page numbers correspond to the French-language pages.*



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International Electrotechnical Commission, 3, rue de Varembe, PO Box 131, CH-1211 Geneva 20, Switzerland
Telephone: +41 22 919 02 11 Telefax: +41 22 919 03 00 E-mail: inmail@iec.ch Web: www.iec.ch



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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**RUBBER INSULATED CABLES –
RATED VOLTAGES UP TO AND INCLUDING 450/750 V –****Part 1: General requirements**

FOREWORD

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International Standard IEC 60245-1 has been prepared by IEC technical committee 20: Electric cables.

This fourth edition cancels and replaces the third edition, published in 1994, and its amendments 1 and 2, both published in 1997.

The principal change with respect to the previous edition is the replacement of insulation IE 1 with IE 4. This fourth edition does not constitute a full technical revision.

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

FDIS	Report on voting
20/659/FDIS	20/679/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 publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

IEC 60245 consists of the following parts, under the general title *Rubber insulated cables – Rated voltages up to and including 450/750 V*:

Part 1: General requirements

Part 2: Test methods

Part 3: Heat resistant silicone insulated cables

Part 4: Cords and flexible cables

Part 5: Lift cables

Part 6: Arc welding electrode cables

Part 7: Heat resistant ethylene-vinyl-acetate rubber insulated cables

Part 8: Cords for applications requiring high flexibility

Parts 3 to 8 are for particular types of cable and should be read in conjunction with Part 1 and Part 2. Further parts may be added as other types are standardized.

The committee has decided that the contents of this publication will remain unchanged until 2009. At this date, the publication will be

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- withdrawn;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

RUBBER INSULATED CABLES – RATED VOLTAGES UP TO AND INCLUDING 450/750 V –

Part 1: General requirements

1 General

1.1 Scope

This part of IEC 60245 applies to rigid and flexible cables with insulation, and sheath if any, based on vulcanized rubber of rated voltages U_0/U up to and including 450/750 V used in power installations of nominal voltage not exceeding 450/750 V a.c.

NOTE For some types of flexible cables the term 'cord' is used.

The particular types of cables are specified in IEC 60245-3, IEC 60245-4, etc. The code designations of these types of cables are given in Annex A.

The test methods specified in Parts 1 to 8 are given in IEC 60245-2, IEC 60332-1 and in the relevant parts of IEC 60811.

1.2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

IEC 60173:1964, *Colours of the cores of flexible cables and cords*

IEC 60228:1978, *Conductors of insulated cables*

IEC 60245-2:1994, *Rubber insulated cables – Rated voltages up to and including 450/750 V – Part 2: Test methods*

IEC 60245-3:1994, *Rubber insulated cables – Rated voltages up to and including 450/750 V – Part 3: Heat resistant silicone insulated cables*

IEC 60245-4:1994, *Rubber insulated cables – Rated voltages up to and including 450/750 V – Part 4: Cords and flexible cables*

IEC 60245-7:1994, *Rubber insulated cables – Rated voltages up to and including 450/750 V – Part 7: Heat resistant ethylene-vinyl-acetate rubber insulated cables*

IEC 60332-1:1993, *Tests on electric cables under fire conditions – Part 1: Test on a single vertical insulated wire or cable*

IEC 60811-1-1:1993, *Common test methods for insulating and sheathing materials of electric cables – Part 1: Methods for general application – Section 1: Measurement of thickness and overall dimensions – Tests for determining the mechanical properties*

IEC 60811-1-2:1985, *Common test methods for insulating and sheathing materials of electric cables – Part 1: Methods for general application – Section Two: Thermal ageing methods*

IEC 60811-1-4:1985, *Common test methods for insulating and sheathing materials of electric cables – Part 1: Methods for general application – Section Four: Tests at low temperature*

IEC 60811-2-1:1998, *Insulating and sheathing materials of electric and optical cables – Common test methods – Part 2-1: Methods specific to elastomeric compounds – Ozone resistance, hot set and mineral oil immersion tests*

IEC 60811-3-1:1985, *Common test methods for insulating and sheathing materials of electric cables – Part 3: Methods specific to PVC compounds – Section One: Pressure test at high temperature – Tests for resistance to cracking*