# IEC 60245-4

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# INTERNATIONAL STANDARD

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

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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# Rubber insulated cables - Rated voltages up to and including 450/750 V - Part 4: Cords and flexible cables

## FOREWORD

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International Standard IEC 60245-4 has been prepared by IEC technical committee TC 20: Electric cables. It is an International Standard.

This fourth edition of IEC 60245-4 cancels and replaces the third edition published in 2011. This edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

a) reference to tests according to IEC 60245-2 has been deleted and replaced by IEC 63294;
b) normative references have been updated.

The text of this International Standard is based on the following documents:

| Draft | Report on voting |
|---|---|
| 20/2273/FDIS | 20/2282/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 International Standard 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. The main document types developed by IEC are described in greater detail at www.iec.ch/publications.

This document is to be used in conjunction with IEC 60245-1:2026.

A list of all the parts in the IEC 60245 series, published under the general title *Rubber insulated cables - Rated voltages up to and including 450/750 V*, can be found on the IEC website.

The committee has decided that the contents of this document will remain unchanged until the stability date indicated on the IEC website under webstore.iec.ch in the data related to the specific document. At this date, the document will be

– reconfirmed,
– withdrawn, or
– revised.

## 1 Scope

This part of IEC 60245 defines the particular requirements for rubber insulated and braided cords and for rubber insulated and rubber or polychloroprene or other equivalent synthetic elastomer sheathed cords and flexible cables of rated voltages up to and including 450/750 V which apply in addition to the general requirements specified in IEC 60245-1, which apply to all cables.

The tests for cables specified in the IEC 60245 series are described in IEC 63294.

## 2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 60228, *Conductors of insulated cables*

IEC 60245-1:2026, *Rubber insulated cables - Rated voltages up to and including 450/750 V - Part 1: General requirements*

IEC 60245-8:2026, *Rubber insulated cables - Rated voltages up to and including 450/750 V - Part 8: Cords for applications requiring high flexibility*

IEC 60719, *Calculation of the lower and upper limits for the average outer dimensions of cables with circular copper conductors and of rated voltages up to and including 450/750 V*

IEC 60811-401, *Electric and optical fibre cables - Test methods for non-metallic materials - Part 401: Miscellaneous tests - Thermal ageing methods - Ageing in an air oven*

IEC 60811-403, *Electric and optical fibre cables - Test methods for non-metallic materials - Miscellaneous tests - Ozone resistance test on cross-linked compounds*

IEC 60811-404, *Electric and optical fibre cables - Test methods for non-metallic materials - Miscellaneous tests - Mineral oil immersion tests for sheaths*

IEC 60811-412, *Electric and optical fibre cables - Test methods for non-metallic materials - Part 412: Miscellaneous tests - Thermal ageing methods - Ageing in an air bomb*

IEC 60811-501, *Electric and optical fibre cables - Test methods for non-metallic materials - Mechanical tests - Tests for determining the mechanical properties of insulating and sheathing compounds*

IEC 60811-504, *Electric and optical fibre cables - Test methods for non-metallic materials - Mechanical tests - Bending tests at low temperature for insulation and sheaths*

IEC 60811-505, *Electric and optical fibre cables - Test methods for non-metallic materials - Mechanical tests - Elongation at low temperature for insulations and sheaths*

IEC 60811-507, *Electric and optical fibre cables - Test methods for non-metallic materials - Mechanical tests - Hot set test for cross-linked materials*

IEC 62440, *Electric cables with a rated voltage not exceeding 450/750 V - Guide to use*

IEC 63294:2021, *Test methods for electric cables with rated voltage up to and including 450/750 V*

## 3 Terms and definitions

For the purposes of this document, the terms and definitions given in IEC 60245-1 and the following apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

– IEC Electropedia: available at https://www.electropedia.org/

– ISO Online browsing platform: available at https://www.iso.org/obp

**3.1**
**type test**
**T**
test required before supplying a type of cable covered by this document on a general commercial basis, in order to demonstrate satisfactory performance characteristics to meet the intended application

Note 1 to entry: Type tests are of such a nature that, after they have been carried out, they do not have to be repeated unless changes are made in the cable materials or design which can change the performance characteristics.

**3.2**
**sample test**
**S**
test carried out on samples of a completed cable, or components taken from a completed cable, to check that the finished product meets the design standard

## 4 Braided cord

Braided cord is described in IEC 60245-8:2026, Clause 6.

## 5 Ordinary tough rubber sheathed cord

### 5.1 Code designation

60245 IEC 53.

### 5.2 Rated voltage

300/500 V.

### 5.3 Construction

#### 5.3.1 Conductors

Number of conductors: 2, 3, 4 or 5.

The conductors shall comply with the requirements given in IEC 60228 for class 5 conductors. The wires can be plain or tinned.

#### 5.3.2 Separator

A separator of material can be applied around each conductor.