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Rubber insulated cables - Rated voltages up to and including 450/750 V - Part 6: Arc welding electrode cables

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CONTENTS

FOREWORD 2
1 Scope 4
2 Normative references 4
3 Terms and definitions 5
4 Arc welding electrode cable 5
4.1 Code designation 5
4.2 Rated voltage 5
4.3 Construction 5
4.3.1 Conductors 5
4.3.2 Separator 5
4.3.3 Covering 6
4.3.4 Overall diameter 6
4.4 Tests 6
4.5 Guidance on use of the cables 6
Bibliography 8

Table 1 – General data for types 60245 IEC 81 and 60245 IEC 82 6
Table 2 – Tests for types 60245 IEC 81 and 60245 IEC 82 7

INTERNATIONAL ELECTROTECHNICAL COMMISSION

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Rubber insulated cables - Rated voltages up to and including 450/750 V - Part 6: Arc welding electrode cables

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IEC 60245-6 has been prepared by IEC technical committee TC 20: Electric cables. It is an International Standard.

This third edition cancels and replaces the second edition published in 1994. This edition constitutes a technical revision.

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

a) reference to IEC 60245-2 for the tests has been deleted and replaced by IEC 63294
b) reference to lift cable according to IEC 60254-5 has been deleted
c) normative references have been updated

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

Draft	Report on voting
20/2274/FDIS	20/2283/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 arc welding electrode 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 60332-1-2, *Tests on electric and optical fibre cables under fire conditions - Part 1-2: Test for vertical flame propagation for a single insulated wire or cable - Procedure for 1 kW pre-mixed flame*

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

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*

IEC60811-412, *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 - Part 507: Mechanical tests - Hot set test for cross-linked materials*

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

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 Arc welding electrode cable

4.1 Code designation

– for rubber sheathed arc welding electrode cable: 60245 IEC 81;

– for polychloroprene or other equivalent synthetic elastomer sheathed arc welding electrode cable: 60245 IEC 82.

4.2 Rated voltage

As this cable type is intended exclusively for welding purposes, no rated voltage is given.

4.3 Construction

4.3.1 Conductors

Number of conductors: 1.

The conductor shall comply with the requirements given in Table 1. The wires can be plain or tinned.

4.3.2 Separator

A separator of material shall be applied around the conductor.