INTERNATIONAL STANDARD

IEC 60227-1
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Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V –
Part 1: General requirements

Conducteurs et câbles isolés au polychlorure de vinyle, de tension nominale au plus égale à 450/750 V –
Partie 1: Exigences générales
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

POLYVINYL CHLORIDE INSULATED CABLES
OF RATED VOLTAGES UP TO AND
INCLUDING 450/750 V –

Part 1: General requirements

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International Standard IEC 60227-1 has been prepared by IEC technical committee 20: Electric cables.

The text of this standard is based on the second edition, its amendments 1 and 2, and the following documents:

<table>
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<tr>
<th>FDIS</th>
<th>Report on voting</th>
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<tbody>
<tr>
<td>20/903/FDIS</td>
<td>20/910/RVD</td>
</tr>
</tbody>
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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.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "http://webstore.iec.ch" in the data related to the specific publication. At this date, the publication will be

- reconfirmed,
- withdrawn,
- replaced by a revised edition, or
- amended.
POLYVINYL CHLORIDE INSULATED CABLES
OF RATED VOLTAGES UP TO AND
INCLUDING 450/750 V –

Part 1: General requirements

1 General

1.1 Scope

This part of International Standard IEC 60227 applies to rigid and flexible cables with insulation, and sheath if any, based on polyvinyl chloride, of rated voltages $U_r/U$ 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 60227-3, IEC 60227-4, etc. The code designations of these types of cables are given in Annex A.

The test methods specified in Parts 1, 3, 4, etc. are given in IEC 60227-2, IEC 60332-1-2 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, Colours of the cores of flexible cables and cords

IEC 60227-2, Polyvinyl chloride insulated cables of rated voltage up to and including 450/750 V – Part 2: Test methods

IEC 60227-3, Polyvinyl chloride insulated cables of rated voltage up to and including 450/750 V – Part 3: Non-sheathed cables for fixed wiring

IEC 60227-4, Polyvinyl chloride insulated cables of rated voltage up to and including 450/750 V – Part 4: Sheathed cables for fixed wiring

IEC 60227-5, Polyvinyl chloride insulated cables of rated voltages up to and including 450/750 V – Part 5: Flexible cables (cords)

IEC 60228, Conductors of insulated cables

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 60811-1-1, Common test methods for insulating and sheathing materials of electric cables and optical cables – Part 1: Methods for general application – Measuring of thickness and overall dimensions – Tests for determining the mechanical properties
Definitions

For the purpose of this standard the following definitions shall apply.

2.1 Definitions relating to insulating and sheathing materials

2.1.1 Polyvinyl chloride compound (PVC)
Combination of materials suitably selected, proportioned and treated, of which the characteristic constituent is the plastomer polyvinyl chloride or one of its copolymers. The same term also designates compounds containing both polyvinyl chloride and certain of its polymers.

2.1.2 Type of compound
The category in which a compound is placed according to its properties, as determined by specific tests. The type designation is not directly related to the composition of the compound.

2.2 Definitions relating to the tests

2.2.1 Type tests (symbol T)
Tests required to be made before supplying a type of cable covered by this standard on a general commercial basis in order to demonstrate satisfactory performance characteristics to meet the intended application. These tests are of such a nature that, after they have been made, they need not be repeated unless changes are made in the cable materials or design which might change the performance characteristics.

2.2.2 Sample tests (symbol S)
Tests made on samples of completed cable or components taken from a completed cable, adequate to verify that the finished product meets the design specifications.

2.3 Rated voltage
The rated voltage of a cable is the reference voltage for which the cable is designed and which serves to define the electrical tests.

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1 In preparation.
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