
Varnishes used for electrical insulation - Part 2: Methods of test (IEC 60464-2:2001)

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EUROPEAN STANDARD

EN 60464-2

NORME EUROPÉENNE

EUROPÄISCHE NORM

October 2001

ICS 17.220.99;29.035.01

English version

Varnishes used for electrical insulation
Part 2: Methods of test
(IEC 60464-2:2001)

Vernis utilisés pour l'isolation électrique
Partie 2: Méthodes d'essai
(CEI 60464-2:2001)

Elektroisolierlacke
Teil 2: Prüfverfahren
(IEC 60464-2:2001)

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This European Standard was approved by CENELEC on 2001-10-01. 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, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Malta, 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

Foreword

The text of document 15C/1224/FDIS, future edition 2 of IEC 60464-2, prepared by SC 15C, Specifications, of IEC TC 15, Insulating materials, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60464-2 on 2001-10-01.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2002-07-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 2004-10-01

Annexes designated "normative" are part of the body of the standard.
Annexes designated "informative" are given for information only.
In this standard, annex ZA is normative.
Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60464-2:2001 was approved by CENELEC as a European Standard without any modification.

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Annex ZA (normative)

Normative references to international publications with their corresponding European publications

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

NOTE When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60050-212	1990	International Electrotechnical Vocabulary (IEV) Chapter 212: Insulating solids, liquids and gases	-	-
IEC 60068-2-10	1988	Basic environmental testing procedures Part 2: Tests - Test J and guidance: Mould growth	HD 323.2.10 S3	1988
IEC 60093	1980	Methods of test for volume resistivity and surface resistivity of solid electrical insulating materials	HD 429 S1	1983
IEC 60216	Series	Electrical insulating materials - Properties of thermal endurance	EN 60216	Series
IEC 60243-1	1998	Electrical strength of insulating materials - Test methods Part 1: Tests at power frequencies	EN 60243-1	1998
IEC 60250	1969	Recommended methods for the determination of the permittivity and dielectric dissipation factor of electrical insulating materials at power, audio and radio frequencies including metre wavelengths	-	-
IEC 60296	1982	Specification for unused mineral insulating oils for transformers and switchgear	-	-
IEC 60464	Series	Varnishes used for electrical insulation	EN 60464	Series
IEC 60641-3-1	1992	Specification for pressboard and presspaper for electrical purposes Part 3: Specifications for individual materials -- Sheet 1: Requirements for pressboard, types B.0.1, B.2.1, B.2.3, B.3.1, B.3.3, B.4.1, B.4.3, B.5.1, B.6.1 and B.7.1	EN 60641-3-1	1994

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60851-4	1996	Winding wires - Test methods Part 4: Chemical properties	EN 60851-4	1996
IEC 61033	1991	Test methods for the determination of bond strength of impregnating agents to an enamelled wire substrate	-	-
IEC 61099	1992	Specification for unused synthetic organic esters for electrical purposes	EN 61099	1992
ISO 291	1997	Plastics - Standard atmospheres for conditioning and testing	-	-
ISO 558	1980	Conditioning and testing - Standard atmospheres - Definitions	-	-
ISO 1144	1973	Textiles - Universal system for designating linear density (Tex system)	-	-
ISO 1513	1992	Paints and varnishes - Examination and preparation of samples for testing	EN ISO 1513	1994
ISO 1514	1993	Paints and varnishes - Standard panels for testing	EN ISO 1514	1997
ISO 1519	1973	Paints and varnishes - Bend test (cylindrical mandrel)	EN ISO 1519	1995
ISO 1520	1999	Paints and varnishes - Cupping test	EN ISO 1520	2001
ISO 1523	1983	Paints, varnishes, petroleum and related products - Determination of flashpoint - Closed cup equilibrium method	-	-
ISO 2078	1993	Textile glass - Yarns - Designation	EN ISO 2078	1994
ISO 2113	1996	Reinforcement fibres - Woven fabrics - Basis for a specification	-	-
ISO 2431	1993	Paints and varnishes - Determination of flow time by use of flow cups	EN ISO 2431	1996
ISO 2555	1989	Plastics - Resins in the liquid state or as emulsions or dispersions - Determination of apparent viscosity by the Brookfield test method	EN ISO 2555	1999
ISO 2578	1993	Plastics Determination of time-temperature limits after prolonged exposure to heat	EN ISO 2578	1998
ISO 2592	2000	Determination of flash and fire points - Cleveland open cup method	EN ISO 2592	2001
ISO 2808	1997	Paints and varnishes - Determination of film thickness	EN ISO 2808	1999

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
ISO 2811	Series	Paints and varnishes - Determination of density	EN ISO 2811	Series
ISO 2812-1	1993	Paints and varnishes - Determination of resistance to liquids Part 1: General methods	EN ISO 2812-1	1994
ISO 3219	1993	Plastics - Polymers/resins in the liquid state or as emulsions or dispersions - Determination of viscosity using a rotational viscometer with defined shear rate	EN ISO 3219	1994
ISO 3251	1993	Paints and varnishes - Determination of non-volatile matter of paints, varnishes and binders for paints and varnishes	EN ISO 3251	1995
ISO 3679 (mod.)	1983	Paints, varnishes, petroleum and related products - Determination of flashpoint - Rapid equilibrium method	EN 456	1991
ISO 15528	2000	Paints, varnishes and raw materials for paints and varnishes - Sampling	EN ISO 15528	2000

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NORME
INTERNATIONALE
INTERNATIONAL
STANDARD

CEI
IEC

60464-2

Deuxième édition
Second edition
2001-07

Vernis utilisés pour l'isolation électrique –

**Partie 2:
Méthodes d'essai**

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Varnishes used for electrical insulation –

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Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

CODE PRIX
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For price, see current catalogue*

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

VARNISHES USED FOR ELECTRICAL INSULATION –

Part 2: Methods of test

FOREWORD

- 1) The IEC (International Electrotechnical Commission) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of the IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, the IEC publishes International Standards. Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. The IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
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- 6) Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. The IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60464-2 has been prepared by subcommittee 15C: Specifications, of IEC technical committee 15: Insulating materials.

This second edition cancels and replaces the first edition, published in 1974, and constitutes a technical revision.

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

FDIS	Report on voting
15C/1224/FDIS	15C/1253/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 3.

The committee has decided that the contents of this publication will remain unchanged until 2005. At this date, the publication will be

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