SLOVENSKI STANDARD

SIST EN 60426:2007

01-december-2007

Elektriļ ni izolacijski materiali - Ugotavljanje elektrolitske korozije, ki jo povzroļ ajo izolacijski materiali ï Preskuġevalne metode (IEC 60426:2007)

Electrical insulating materials - Determination of electrolytic corrosion caused by insulating materials - Test methods (IEC 60426:2007)

Elektroisolierstoffe - Prüfungen zur Bestimmung der elektrolytischen Korrosionswirkung von Isoliermaterialien (IEC 60426:2007)

Matériaux isolants électriques - Détermination de la corrosion électrolytique en présence de matériaux isolants - Méthodes d'essais (IEC 60426:2007)

Ta slovenski standard je istoveten z: **EN 60426:2007**

ICS:

17.220.99	Drugi standardi v zvezi z elektriko in magnetizmom	Other standards related to electricity and magnetism
29.035.01	Izolacijski materiali na splošno	Insulating materials in general

SIST EN 60426:2007 **en,de**

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 60426

February 2007

ICS 17.220.99; 29.035.01

English version

Electrical insulating materials - Determination of electrolytic corrosion caused by insulating materials - Test methods

(IEC 60426:2007)

Matériaux isolants électriques - Détermination de la corrosion électrolytique en présence de matériaux isolants - Méthodes d'essais (CEI 60426:2007)

Elektroisolierstoffe - Prüfungen zur Bestimmung der elektrolytischen Korrosionswirkung von Isoliermaterialien (IEC 60426:2007)

This European Standard was approved by CENELEC on 2007-02-01. 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, Bulgaria, Cyprus, the Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the 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

Ref. No. EN 60426:2007 E

Foreword

The text of document 112/45/FDIS, future edition 2 of IEC 60426, prepared by IEC TC 112, Evaluation and qualification of electrical insulating materials and systems, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as EN 60426 on 2007-02-01.

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)	2007-11-01
– latest date by which the national standards conflicting with the EN have to be withdrawn	(dow)	2010-02-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of the International Standard IEC 60426:2007 was approved by CENELEC as a European Standard without any modification.

Annex ZA
(normative)

Normative references to international publications with their corresponding European publications

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.

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

Publication	Year	Title	EN/HD	Year
IEC 60068-3-4	2001	Environmental testing – Part 3-4: Supporting documentation and guidance - Damp heat tests	EN 60068-3-4	2002
IEC 60454-2	- [1)]	Specifications for pressure-sensitive adhesive tapes for electrical purposes – Part 2: Methods of test	-	-

[1)] At draft stage.

INTERNATIONAL STANDARD

IEC 60426

Second edition
2007-01

Electrical insulating materials –

Determination of electrolytic corrosion caused by insulating materials – Test methods

International Electrotechnical Commission, 3, rue de Varembé, 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

Commission Electrotechnique Internationale
International Electrotechnical Commission
Международная Электротехническая Комиссия

PRICE CODE U

For price, see current catalogue

CONTENTS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

ELECTRICAL INSULATING MATERIALS –

DETERMINATION OF ELECTROLYTIC CORROSION CAUSED BY INSULATING MATERIALS – TEST METHODS

FOREWORD

1) The International Electrotechnical Commission (IEC) 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, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). 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. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested National Committees.
3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
5) IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with an IEC Publication.
6) All users should ensure that they have the latest edition of this publication.
7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.
9) Attention is drawn to the possibility that some of the elements of this IEC Publication may be the subject of patent rights. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 60426 has been prepared by IEC technical committee 112: Evaluation and qualification of electrical insulating materials and systems.

This second edition cancels and replaces the first edition, published in 1973, and constitutes a technical revision.

The main changes with respect to the previous edition are listed below:

- experience has indicated the need for improved description of the experimental method. It describes a revised procedure for the visual and tensile strength test method that overcomes the limitations of the first edition;
- one older method of the first edition has partly been maintained in the informative annex.

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

FDIS	Report on voting
112/45/FDIS	112/55/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.

A bilingual version of this publication may be issued at a later date.

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.

INTRODUCTION

Electrical insulating materials at high atmospheric humidity and under influence of electric stress may cause corrosion of metal parts being in contact with them. Such electrolytic corrosion is dependent upon the composition of the insulating material and the character of the metal; it is influenced by temperature, relative humidity, nature of the voltage and the time of exposure. Direct voltage produces much more rapid and extensive corrosion than alternating voltage. Corrosion is more pronounced at the positive electrode.

Not only copper but also most other metals, except the noble metals such as platinum or gold, are subject to electrolytic corrosion. Electrolytic corrosion, however, is usually determined with insulating materials in contact with copper, brass or aluminium. Copper, however, is a basic metal and most frequently used in electrotechnical, teletechnical and electronic equipment, especially for current conducting parts and therefore it was chosen as a basic test metal. Other metals may be used when needed for special purposes, but the results may differ from those described in this method.

Electrolytic corrosion may cause open-circuit failure in electrical conductors and devices. It may promote low resistance leakage path across or through electrical insulation and the products of corrosion may otherwise interfere with the operation of electrical devices, i.e. may prevent operation of contacts, etc.

Electronic equipment operating under conditions of high humidity and elevated temperature may be particularly subjected to failure from electrolytic corrosion. Therefore, the selection of insulating materials, which do not produce electrolytic corrosion, is important for such applications.

The test method described in this second edition replaces two separate methods of the first edition – visual and tensile strength method. The former tensile strength method of the first edition, using copper wires, has been maintained in an informative annex. It must be emphasized that the advantage of this new method is that the same strip used for visual inspection is next used for the tensile strength test in opposite to the method described in the first edition. Therefore the correlation between tensile strength and visual examination is more obvious.