

This document is a preview generated by EVS

Test procedure for thermal endurance of insulating resins and varnishes for impregnation purposes -
Electric breakdown methods

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN IEC 60370:2018 sisaldab Euroopa standardi EN IEC 60370:2018 ingliskeelset teksti.	This Estonian standard EVS-EN IEC 60370:2018 consists of the English text of the European standard EN IEC 60370:2018.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 09.03.2018.	Date of Availability of the European standard is 09.03.2018.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 29.035.01

Standardite reprodutseerimise ja levitamise õigus kuulub Eesti Standardikeskusele

Andmete paljundamine, taastekitamine, kopeerimine, salvestamine elektroonsesse süsteemi või edastamine ükskõik millises vormis või millisel teel ilma Eesti Standardikeskuse kirjaliku loata on keelatud.

Kui Teil on küsimusi standardite autorikaitse kohta, võtke palun ühendust Eesti Standardikeskusega:
Koduleht www.evs.ee; telefon 605 5050; e-post info@evs.ee

The right to reproduce and distribute standards belongs to the Estonian Centre for Standardisation

No part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying, without a written permission from the Estonian Centre for Standardisation.

If you have any questions about copyright, please contact Estonian Centre for Standardisation:

Homepage www.evs.ee; phone +372 605 5050; e-mail info@evs.ee

English Version

Test procedure for thermal endurance of insulating resins and
varnishes for impregnation purposes - Electric breakdown
methods
(IEC 60370:2017)

Méthode d'essai pour l'évaluation de l'endurance thermique
des résines et vernis isolants d'imprégnation - Méthodes de
claquage électrique
(IEC 60370:2017)

Prüfverfahren zur Beurteilung des thermischen
Langzeitverhaltens von Isolierharzen und -lacken für
Imprägnierungen - Elektrische Durchschlagmethoden
(IEC 60370:2017)

This European Standard was approved by CENELEC on 2018-01-17. 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 CEN-CENELEC Management Centre 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 CEN-CENELEC Management Centre has the same status as the official versions.

CENELEC members are the national electrotechnical committees of Austria, Belgium, Bulgaria, Croatia, Cyprus, the Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.



European Committee for Electrotechnical Standardization
Comité Européen de Normalisation Electrotechnique
Europäisches Komitee für Elektrotechnische Normung

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

European foreword

The text of document 15/812/FDIS, future edition 2 of IEC 60370, prepared by IEC/TC 15 "Solid electrical insulating materials" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60370:2018.

The following dates are fixed:

- latest date by which the document has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2018-10-17
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2021-01-17

This document supersedes HD 570 S1:1990.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CENELEC shall not be held responsible for identifying any or all such patent rights.

Endorsement notice

The text of the International Standard IEC 60370:2017 was approved by CENELEC as a European Standard without any modification.

In the official version, for Bibliography, the following notes have to be added for the standards indicated:

IEC 60455-2	NOTE	Harmonized as EN 60455-2.
IEC 60464-2	NOTE	Harmonized as EN 60464-2.

Annex ZA (normative)

Normative references to international publications with their corresponding European publications

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.

NOTE 1 Where an International Publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

NOTE 2 Up-to-date information on the latest versions of the European Standards listed in this annex is available here: www.cenelec.eu.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60212	-	Standard conditions for use prior to and during the testing of solid electrical insulating materials	EN 60212	-
IEC 60216	series	Electrical insulating materials - Thermal endurance properties	EN 60216	series
IEC 60216-4-1	-	Electrical insulating materials - Thermal endurance properties -- Part 4-1: Ageing ovens - Single-chamber ovens	EN 60216-4-1	-
IEC 60216-4-2	-	Electrical insulating materials - Thermal endurance properties -- Part 4-2: Ageing ovens - Precision ovens for use up to 300 °C	EN 60216-4-2	-
IEC 60216-4-3	-	Electrical insulating materials - Thermal endurance properties -- Part 4-3: Ageing ovens - Multi-chamber ovens	EN 60216-4-3	-
IEC 60243-1	-	Electric strength of insulating materials - Test methods -- Part 1: Tests at power frequencies	EN 60243-1	-
IEC 60455-3-5	-	Resin based reactive compounds used for electrical insulation -- Part 3: Specifications for individual materials -- Sheet 5: Unsaturated polyester based impregnating resins	EN 60455-3-5	-
IEC 60464-3-2	-	Varnishes used for electrical insulation -- Part 3: Specifications for individual materials -- Sheet 2: Hot curing impregnating varnishes	EN 60464-3-2	-
IEC 60641-3-1	-	Pressboard and presspaper for electrical purposes -- Part 3: Specifications for individual materials -- Sheet 1: Requirements for pressboard, types B.0.1, B.0.3, B.2.1, B.2.3, B.3.1, B.3.3, B.4.1, B.4.3, B.5.1, B.5.3 and B.6.1	EN 60641-3-1	-
ISO 2078	-	Textile glass - Yarns - Designation	EN ISO 2078	-
ISO 2113	-	Reinforcement fibres - Woven fabrics - Basis for a specification	-	-

CONTENTS

FOREWORD.....	3
INTRODUCTION.....	5
1 Scope.....	6
2 Normative references	6
3 Terms and definitions	7
4 Methods of test.....	7
4.1 General.....	7
4.2 Method 1 – Curved electrode system	8
4.2.1 Specimen	8
4.2.2 Impregnation process	8
4.2.3 Curved electrode system	9
4.2.4 Ageing ovens and ageing temperatures	9
4.2.5 Test procedure	10
4.3 Method 2 – Ball to plate method.....	12
4.3.1 Specimen	12
4.3.2 Impregnation process	12
4.3.3 Electrode system	13
4.3.4 Ageing ovens and ageing temperatures	13
4.3.5 Test procedure	14
5 Report	16
Bibliography.....	17
Figure 1 – Curved electrode fixture	9
Figure 2 – Electric strength – Ageing time – Graph	11
Figure 3 – Thermal endurance graph	12
Figure 4 – Breakdown voltage – Ageing time – Graph	15
Figure 5 – Thermal endurance graph	15

Preview generated by EVS

INTRODUCTION

This document describes methods for thermal endurance testing. The methods described are in line with IEC 60216 (all parts). More information about the theory of thermal endurance, calculation methods and other possible methods can be found in IEC 60216 (all parts).

This document is a preview generated by EVS