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## Fasta isolermaterial – Vulkanfiber för elektriska ändamål – Del 2: Provning

Vulcanized fibre for electrical purposes – Part 2: Methods of test

Som svensk standard gäller europastandarden EN IEC 60667-2:2020. Den svenska standarden innehåller den officiella engelska språkversionen av EN IEC 60667-2:2020.

### Nationellt förord

Europastandarden EN IEC 60667-2:2020

består av:

- europastandardens ikraftsättningsdokument, utarbetat inom CENELEC
- IEC 60667-2, Second edition, 2020 Vulcanized fibre for electrical purposes Part 2: Methods of test

utarbetad inom International Electrotechnical Commission, IEC.

ICS 29.035.10

### Standarder underlättar utvecklingen och höjer elsäkerheten

Det finns många fördelar med att ha gemensamma tekniska regler för bl a mätning, säkerhet och provning och för utförande, skötsel och dokumentation av elprodukter och elanläggningar.

Genom att utforma sådana standarder blir säkerhetsfordringar tydliga och utvecklingskostnaderna rimliga samtidigt som marknadens acceptans för produkten eller tjänsten ökar.

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### SEK är Sveriges röst i standardiseringsarbetet inom elområdet

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Standardiseringsarbetet inom SEK är organiserat i referensgrupper bestående av ett antal tekniska kommittéer som speglar hur arbetet inom IEC och CENELEC är organiserat.

Arbetet i de tekniska kommittéerna är öppet för alla svenska organisationer, företag, institutioner, myndigheter och statliga verk. Den årliga avgiften för deltagandet och intäkter från försäljning finansierar SEKs standardiseringsverksamhet och medlemsavgift till IEC och CENELEC.

### Var med och påverka!

Den som deltar i SEKs tekniska kommittéarbete har möjlighet att påverka framtida standarder och får tidig tillgång till information och dokumentation om utvecklingen inom sitt teknikområde. Arbetet och kontakterna med kollegor, kunder och konkurrenter kan gynnsamt påverka enskilda företags affärsutveckling och bidrar till deltagarnas egen kompetensutveckling.

Du som vill dra nytta av dessa möjligheter är välkommen att kontakta SEKs kansli för mer information.

SEK Svensk Elstandard

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## EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM

## **EN IEC 60667-2**

July 2020

ICS 29.035.10

Supersedes HD 416.2 S1:1987 and all of its amendments and corrigenda (if any)

### **English Version**

# Vulcanized fibre for electrical purposes - Part 2: Methods of test (IEC 60667-2:2020)

Fibres vulcanisées à usages électriques - Partie 2: Méthodes d'essai (IEC 60667-2:2020) Vulkanfiber für elektrotechnische Zwecke - Teil 2: Prüfverfahren (IEC 60667-2:2020)

This European Standard was approved by CENELEC on 2020-06-17. 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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, the Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, 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

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Ref. No. EN IEC 60667-2:2020 E

### **European foreword**

The text of document 15/911/FDIS, future edition 2 of IEC 60667-2, prepared by IEC/TC 15 "Solid electrical insulating materials" was submitted to the IEC-CENELEC parallel vote and approved by CENELEC as EN IEC 60667-2:2020.

The following dates are fixed:

- latest date by which the document has to be implemented at national (dop) 2021-03-17 level by publication of an identical national standard or by endorsement
- latest date by which the national standards conflicting with the document have to be withdrawn (dow) 2023-06-17

This document supersedes HD 416.2 S1:1987 and all of its amendments and corrigenda (if any).

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 60667-2:2020 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 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: <a href="https://www.cenelec.eu">www.cenelec.eu</a>.

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 60641-2	2004	Pressboard and presspaper for electrical purposes - Part 2: Methods of tests	EN 60641-2	2004
IEC 60667-3	series	Vulcanized fibre for electrical purposes - Part 3: Specifications for individual materials	EN IEC 60667-3	series
IEC 61621	1997	Dry, solid insulating materials - Resistance test to high-voltage, low-current arc discharges	EN 61621	1997
ISO 178	2019	Plastics - Determination of flexural properties	EN ISO 178	2019
ISO 287	2017	Paper and board - Determination of moisture content of a lot - Oven-drying method	EN ISO 287	2017

## CONTENTS

FOF	REWORD	3			
INT	RODUCTION	5			
1	Scope	6			
2	Normative reference	6			
3	Terms and definitions	6			
4	General notes on tests	7			
4	1.1 Conditioning	7			
4	1.2 Drying	7			
	1.3 Result				
5	Thickness				
6	Density				
	S.1 Apparent density				
	5.2 Density in liquid (specific gravity)				
7	Tensile strength and elongation				
8	•				
9	Water absorption				
10	Electric strength up to and including 3 mm in thickness				
11	Arc resistance				
12	Chloride content	10			
13	Ash content	10			
14	Flexibility (bending)	10			
15	Moisture content	11			
16	Internal ply adhesion	11			
17	Shrinkage	12			
Figu	ure 1 – Measuring principle for the determination of the flexibility	13			
Figu	Figure 2 – Measuring device for the determination of the flexibility				
Figu	ure 3 – Ply adhesion testing jig	14			
Tab	le 1 – Conditioning time	7			
Tah	Table 2 - Drying time				

### INTERNATIONAL ELECTROTECHNICAL COMMISSION

### VULCANIZED FIBRE FOR ELECTRICAL PURPOSES –

### Part 2: Methods of test

### **FOREWORD**

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of 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.
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- 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 60667-2 has been prepared by IEC Technical Committee 15: Solid electrical insulating materials.

This second edition cancels and replaces the first edition published in 1982. This edition constitutes a technical revision.

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

- a) added Terms and definitions
- b) added General notes on tests
- c) added Thickness instead of dimension
- d) changed Apparent density from Density
- e) added Arc resistance
- f) deleted Sulphate content
- g) added method (Bending) for flexibility

- h) changed test method for internal ply adhesion
- i) added Shrinkage

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

FDIS	Report on voting
15/911/FDIS	15/919/RVD

Full information on the voting for the approval of this International Standard can be found in the report on voting indicated in the above table.

This document has been drafted in accordance with the ISO/IEC Directives, Part 2.

A list of all parts in the IEC 60667 series, published under the general title *Vulcanized fibre for electrical purposes*, can be found on the IEC website.

Future standards in this series will carry the new general title as cited above. Titles of existing standards in this series will be updated at the time of the next edition.

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

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

IMPORTANT – The 'colour inside' logo on the cover page of this publication indicates that it contains colours which are considered to be useful for the correct understanding of its contents. Users should therefore print this document using a colour printer.

### INTRODUCTION

This International Standard is one of a series which deals with vulcanized fibre sheets for electrical purposes.

The series consists of three parts:

- Part 1: Definitions and general requirements (IEC 60667-1),
- Part 2: Methods of test (IEC 60667-2),
- Part 3: Specifications for individual materials (IEC 60667-3).

### VULCANIZED FIBRE FOR ELECTRICAL PURPOSES –

### Part 2: Methods of test

### 1 Scope

This part of IEC 60667 gives methods of test for vulcanized fibre sheets for electrical purposes. Material made by combining with an adhesive several thicknesses of vulcanized fibre is not covered by this document.

Materials which conform to this specification meet established levels of performance. However, the selection of a material by a user for a specific application is based on the actual requirements necessary for adequate performance in that application and not based on this specification alone.

Safety warning: It is the responsibility of the user of the methods contained or referred to in this document to ensure that they are used in a safe manner.

#### 2 Normative reference

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 60641-2:2004, Pressboard and presspaper for electrical purposes – Part 2: Methods of tests

IEC 60667-3 (all parts), Specification for vulcanized fibre for electrical purposes – Part 3: Specifications for individual materials

IEC 61621:1997, Dry, solid insulating materials – Resistance test to high-voltage, low-current arc discharges

ISO 178:2019, Plastics – Determination of flexural properties

ISO 287:2017, Paper and board – Determination of moisture content of a lot – Oven-drying method