



**SLOVENSKI STANDARD**  
**SIST HD 416.1 S1:1998**

**01-oktober-1998**

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**Specification for vulcanized fibre for electrical purposes - Part 1: Definitions and general requirement (IEC 60667-1:1980)**

Specification for vulcanized fibre for electrical purposes -- Part 1: Definitions and general requirement

Bestimmungen für Vulkanfiber für die Elektrotechnik -- Teil 1: Definitionen und allgemeine Anforderungen

Spécification pour les fibres vulcanisées à usages électriques -- Partie 1: Définitions et prescriptions générales

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**Ta slovenski standard je istoveten z: HD 416.1 S1:1981**

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**ICS:**

29.035.10	Papirni in kartonski izolacijski materiali	Paper and board insulating materials
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# CENELEC

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## HD 416.1

ENGLISH VERSION

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Key words: Insulating material - vulcanized fibre - dimensions - requirements - classification - properties - definitions

### SPECIFICATION FOR VULCANIZED FIBRE FOR ELECTRICAL PURPOSES PART 1: DEFINITIONS AND GENERAL REQUIREMENTS

Spécifications pour les fibres  
vulcanisées à usages électriques  
Première partie: Définitions et  
prescriptions générales

Bestimmungen für Vulkanfiber für  
die Elektrotechnik  
Teil 1: Definitionen und allgemeine  
Anforderungen

#### BODY OF HD

The Harmonization Document consists of:

- IEC 667-1 (1980) edition 1 (IEC/SC 15C, not appended)

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This Harmonization Document was approved by CENELEC on 11 December 1980

The English and French versions of this HD are provided by the text of the IEC publication and the German version is the official translation of the IEC text.

According to the CENELEC Internal Regulations the CENELEC member National Committees are bound:

to announce the existence of this Harmonization Document at national level

by or before -

to publish their new harmonized national standard

by or before 1982-01-01

to withdraw all conflicting national standards

by or before 1982-01-01.

Harmonized national standards are listed on the HD information sheet, which is available from the CENELEC National Committees or from the CENELEC General Secretariat.

The CENELEC National Committees are the national electrotechnical committees of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Ireland, Italy, Luxemburg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom.

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**NORME  
INTERNATIONALE  
INTERNATIONAL  
STANDARD**

**CEI  
IEC**

**60667-1**

Première édition  
First edition  
1980-01

**Spécification pour les fibres vulcanisées  
à usages électriques**

**Première partie:  
Définitions et prescriptions générales**

**iTeh STANDARD PREVIEW**

**Specification for vulcanized fibre for  
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**Part 1:  
Definitions and general requirements**

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**SPECIFICATION FOR VULCANIZED FIBRE FOR ELECTRICAL  
PURPOSES**
**Part 1: Definitions and general requirements**

## FOREWORD

- 1) The formal decisions or agreements of the IEC on technical matters, prepared by Technical Committees on which all the National Committees having a special interest therein are represented, express, as nearly as possible, an international consensus of opinion on the subjects dealt with.
- 2) They have the form of recommendations for international use and they are accepted by the National Committees in that sense.
- 3) In order to promote international unification, the IEC expresses the wish that all National Committees should adopt the text of the IEC recommendation for their national rules in so far as national conditions will permit. Any divergence between the IEC recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.

## PREFACE

This standard has been prepared by Sub-Committee 15C: Specifications, of IEC Technical Committee No. 15, Insulating Materials.

A draft was discussed at the meeting held in Stockholm in 1977. As a result of this meeting, a draft, Document 15C(Central Office)76, was submitted to the National Committees for approval under the Six Months' Rule in February 1978.

Amendments, Document 15C(Central Office)89, the purpose of which was to delete all tolerance values and to transfer them to Part 3, were submitted to the National Committees for approval under the Two Months' Procedure in January 1979.

The National Committees of the following countries voted explicitly in favour of publication:

Austria	Japan
Belgium	Korea (Republic of)
Canada	Norway
Czechoslovakia	Romania
Denmark	South Africa (Republic of)
Egypt	Switzerland
Finland	Turkey
France	Union of Soviet
Germany	Socialist Republics
Israel	United Kingdom

# SPECIFICATION FOR VULCANIZED FIBRE FOR ELECTRICAL PURPOSES

## Part 1: Definitions and general requirements

### INTRODUCTION

This standard is one of a series which deals with vulcanized fibre for use in electrical equipment. The series will have three parts:

- Part 1: Definitions and general requirements.
- Part 2: Methods of test.
- Part 3: Specification requirements for individual materials.

### 1. Scope

This standard covers vulcanized fibre sheets, flat or corrugated, round rods and round tubes suitable for use as electrical insulation. Material made by combining with an adhesive several thicknesses of vulcanized fibre is not covered by this standard.

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### 2. Definitions

#### 2.1 *Vulcanized fibre*

Superimposed layers of specially prepared paper, chemically treated (gelatinized) so that the laminae are virtually destroyed, with the production of a homogeneous mass of converted cellulose which will not delaminate after 30 min immersion in boiling water. It is supplied in the form of rolls, sheets, tubes or rods.

#### 2.2 *Full width rolls*

Vulcanized fibre up to and including 2.5 mm thick in roll form in the full width of the machine.

### 3. Classification

#### 3.1 *Type A*

This type is characterized by greater hardness and stiffness associated with higher density. It machines more smoothly and with less tendency to separate the plies in difficult machining operations than the other types. Sheets are available in the limited thickness range of 0.8 mm to 12 mm.

#### 3.2 *Type B*

This type is considered as the general purpose type. It possesses good physical and electrical properties and can be fabricated satisfactorily by punching.

### 3.3 *Type C*

This type is intended primarily for applications involving difficult bending or forming operations. It is available in sheet and roll form only and in thicknesses from 0.1 mm to 2.5 mm (this type is often referred to as leatheroid, or fishpaper).

## 4. Forms and colours

Unless otherwise specified the material shall be supplied in the natural or grey form. The colours in which the material is normally supplied are in natural grey, black or red. In any of these colours considerable variation in the shades may be expected from batch to batch.

*Note.* — All types may be supplied in any agreed shape, for example channels. When the basic materials are used they shall comply with the requirements of this standard.

## 5. General requirements

### 5.1 *Quality*

The material shall be uniform in quality, consistent with the properties prescribed in specifications for individual materials (Part 3). It shall be free from blisters, cracks and be reasonably free from wrinkles, scratches and dents.

### 5.2 *Finish*

Sheets shall be uniformly finished with a smooth matt surface and shall be free from distortion and splitting along the edge. Sheets shall be free from internal fractures and, when specified, shall be trimmed with square edges.

Rods and tubes shall be uniformly and smoothly finished and shall be free from twisting, splitting, and excessive warping. Rods and tubes shall be supplied with the ends trimmed at right angles to the length.

## 6. Geometric requirements

### 6.1 *Preferred thicknesses of sheets*

The preferred thicknesses of the sheets are as follows:

0.10, 0.12, 0.15, 0.20, 0.25, 0.30, 0.40, 0.50, 0.60, 0.80,  
1.0, 1.2, 1.5, 2.0, 2.5, 3.0, 4.0, 5.0, 6.0,  
8.0, 10.0, 12.0, 16.0, 20.0, 25.0, 30.0, 40.0, 50.0 mm.

### 6.2 *Width of sheets*

Full width sheets or rolls are normally between 1 000 mm and 1 400 mm wide. Smaller widths may also be obtained.

### 6.3 *Length of sheets*

The full length of sheets is normally between 1 650 mm and 2 300 mm.