



SLOVENSKI STANDARD
SIST HD 416.3.1 S1:1998
01-oktober-1998

Specification for vulcanized fibre for electrical purposes - Part 3: Specifications for individual materials - Sheet 1: Flat sheets (IEC 60667-3-1:1986)

Specification for vulcanized fibre for electrical purposes -- Part 3: Specifications for individual materials -- Sheet 1: Flat sheets

Bestimmung für Vulkanfiber für elektrotechnische Zwecke -- Teil 3: Anforderungen für einzelne Erzeugnisse -- Blatt 1: Flache Tafeln bzw. Bahnen

Spécification pour les fibres vulcanisées à usages électriques -- Partie 3: Spécifications pour matériaux individuels -- Feuille 1: Feuilles planes

<https://standards.iteh.ai/catalog/standards/sist/3edbe5b-c039-46e7-86d6-41e942a59d6e/sist-hd-416-3-1-s1-1998>

Ta slovenski standard je istoveten z: HD 416.3.1 S1:1998

ICS:

29.035.10	Papirni in kartonski izolacijski materiali	Paper and board insulating materials
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en

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HD 416.3.1 S1

ENGLISH VERSION

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KEY WORDS: Electrical insulation; vulcanized fibre; flat sheet;
 specification

SPECIFICATION FOR VULCANIZED FIBRE FOR ELECTRICAL
 PURPOSES
 PART 3: SPECIFICATIONS FOR INDIVIDUAL MATERIALS
 SHEET ONE: FLAT SHEETS

Spécification pour les fibres
 vulcanisées à usages électriques
 Troisième partie: Spécifications
 pour matériaux individuels
 Feuille 1: Feuilles planes

Bestimmung für Vulkanfiber
 für elektrotechnische Zwecke
 Teil 3: Anforderungen für
 einzelne Erzeugnisse
 Blatt 1: Flache Tafeln bzw.
 Bahnen

BODY OF THE HD

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 The Harmonization Document consists of:

- IEC 667-3-1 (1986) ed. 1; IEC/SC 15C, not appended

<https://standards.iteh.ai/catalog/standards/sist/3edbe5b-c039-46e7-86d6-41e21ca59166/sist/416-3-1-1998>

This Harmonization Document was approved by CENELEC on 2 December 1987.

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

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to publish their new harmonized national standard by or before 1988-12-01

to withdraw all conflicting national standards by or before 1988-12-01.

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**NORME
INTERNATIONALE
INTERNATIONAL
STANDARD**

**CEI
IEC**

60667-3-1

Première édition
First edition
1986-09

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

**Troisième partie:
Spécifications pour matériaux individuels
Feuille 1: Feuilles planes**

STANDARD PREVIEW

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**Specification for vulcanized fibre for
electrical purposes**

[https://standards.iteh.ai/catalog/standards/sist/3edbe5b-c039-46e7-86d6-](https://standards.iteh.ai/catalog/standards/sist/3edbe5b-c039-46e7-86d6-42a59d6e/sist-hd-416-3-1-s1-1998)

Part 3:

**Specifications for individual materials
Sheet 1: Flat sheets**

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INTERNATIONAL ELECTROTECHNICAL COMMISSION

**SPECIFICATION FOR VULCANIZED FIBRE
FOR ELECTRICAL PURPOSES**
**Part 3: Specifications for individual materials
Sheet 1: Flat sheets**

FOREWORD

- 1) The formal decisions or agreements of the I E C 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 I E C expresses the wish that all National Committees should adopt the text of the I E C recommendation for their national rules in so far as national conditions will permit. Any divergence between the I E C recommendation and the corresponding national rules should, as far as possible, be clearly indicated in the latter.

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PREFACE

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

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

<https://standards.itoh.ai/catalog/standards/sist/3edbe5b-c039-46e7-86d6-41e972a99d6e/sist-hd-416.3.1-1998>

Six Months' Rule	Reports on Voting
15C(CO)169	15C(CO)183
15C(CO)182	15C(CO)206

Further information can be found in the relevant Reports on Voting, indicated in the table above.

SPECIFICATION FOR VULCANIZED FIBRE FOR ELECTRICAL PURPOSES

Part 3: Specifications for individual materials

Sheet 1: Flat sheets

INTRODUCTION

This standard is one of a series which deals with vulcanized fibre for electrical purposes.

The series will have three parts:

Part 1: Definitions and general requirements.

Part 2: Methods of test.

Part 3: Specifications for individual materials.

Part 3 will be presented in the form of separate sheets, each sheet relating to a specific form of material.

1. Scope

This sheet specifies requirements for flat vulcanized fibre sheets. This sheet is not applicable to material made by combining with an adhesive several thicknesses of vulcanized fibre sheet.

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2. Classification

SIST HD 416.3.1 S1:1998

The material shall be classified as Type A, B or C as given in Part 1.

3. Requirements

- 3.1 The sheets shall comply with the general requirements for quality, finish, etc., given in Part 1.
- 3.2 When tested by the stipulated method, as given in Part 2, the sheets shall comply with the requirements given in Table I.

TABLE I
Requirements

Property	Method in IEC Publication 667-2 (Clause/Sub-clause)	Requirements				Remarks		
		Nominal thickness (mm)	Tolerance on central value (\pm , mm)	Nominal thickness (mm)	Tolerance on central value (\pm , mm)			
Thickness	3.1	1.2	0.10	9	0.40	Tolerance on central value for nominal thicknesses up to and including 1 mm is $\pm 10\%$		
		1.5	0.15	10	0.60			
		2.0	0.20	12	0.80			
		2.5	0.25	16	0.80			
		3.0	0.25	17.5	0.80			
		4.0	0.30	20	1.00			
		5.0	0.30	25	1.00			
		6.0	0.30					
		8.0	0.40					
		Tensile strength	4	Above	Up to and including		Central value (MPa) not less than	
Type A	Type B					Type C		
0.8	0.8			MD *	MD *	MD *		
				CD **	CD **	CD **		
1.6	1.6			90	45	90		
				45	45	45		
2.5	2.5			80	45	80		
				65	35	45		
Flexural stress	7			Flexural stress (MPa)				
				Type A	Type B	Type C		
		MD *	MD **	CD **				
		≥ 85	≥ 85	≥ 75				
		≥ 85	≥ 85	≥ 75				
		Not applicable	Not applicable	Not applicable				

* MD = machine direction

** CD = cross direction

(Table continued, page 9)

TABLE I (continued)

Property	Method in IEC Publication 667-2 (Clause)	Requirements	Remarks																			
Bursting strength	11 Method 1 Method 2	<p>For sheets of Types B and C only of nominal thickness up to 0.8 mm. For sheets of Type A the test is not applicable</p> <p><i>Nominal thickness</i> (mm)</p> <table> <tr><td>0.3</td><td rowspan="4"><i>Bursting strength</i> (kPa)</td></tr> <tr><td>0.4</td></tr> <tr><td>0.5</td></tr> <tr><td>0.8</td></tr> </table> <p>≥ 500 ≥ 1 000 ≥ 1 500 ≥ 2 000</p>	0.3	<i>Bursting strength</i> (kPa)	0.4	0.5	0.8	Depth of indentation should be a minimum of 4.5 mm before break occurs														
0.3	<i>Bursting strength</i> (kPa)																					
0.4																						
0.5																						
0.8																						
Tearing resistance	12	<p>For sheets up to and including 0.8 mm nominal thickness the tearing resistance shall be as below for Types B and C. The test is not applicable to Type A</p> <p><i>Nominal thickness</i> (mm)</p> <table> <tr><td>0.3</td><td rowspan="3"><i>Tearing resistance</i> (N)</td></tr> <tr><td>0.5</td></tr> <tr><td>0.8</td></tr> </table> <p>MD * ≥ 2.0 ≥ 3.0 ≥ 4.0</p> <p>CD ** ≥ 2.5 ≥ 3.5 ≥ 4.5</p>	0.3	<i>Tearing resistance</i> (N)	0.5	0.8																
0.3	<i>Tearing resistance</i> (N)																					
0.5																						
0.8																						
Density	13	<p><i>Nominal thickness</i> (mm)</p> <table> <tr><td>Above</td><td rowspan="5"><i>Minimum permissible density</i> (g/cm³)</td></tr> <tr><td>0.8</td><td rowspan="2">Type A</td><td rowspan="2">Type B</td><td rowspan="2">Type C</td></tr> <tr><td>6</td></tr> <tr><td>12</td><td>1.25</td><td>1.15</td><td>1.10</td></tr> <tr><td>20</td><td>1.20</td><td>1.10</td><td>1.15</td></tr> <tr><td>25</td><td>—</td><td>1.10</td><td>—</td></tr> </table>	Above	<i>Minimum permissible density</i> (g/cm ³)	0.8	Type A	Type B	Type C	6	12	1.25	1.15	1.10	20	1.20	1.10	1.15	25	—	1.10	—	
Above	<i>Minimum permissible density</i> (g/cm ³)																					
0.8		Type A	Type B		Type C																	
6																						
12		1.25	1.15		1.10																	
20		1.20	1.10	1.15																		
25	—	1.10	—																			

* MD = machine direction
** CD = cross direction

(Table continued, page 11)