



**SLOVENSKI STANDARD**  
**SIST EN 60893-2:1998**

**01-junij-1998**

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**Specification for industrial rigid laminated sheets based on thermosetting resins for electrical purposes - Part 2: Methods of test (IEC 60893-2:1992)**

Specification for industrial rigid laminated sheets based on thermosetting resins for electrical purposes -- Part 2: Methods of test

Bestimmung für Tafeln aus technischen Schichtpreßstoffen auf der Basis wärmehärtbarer Harze für elektrotechnische Zwecke -- Teil 2: Prüfverfahren

Spécification pour les stratifiés industriels rigides en planches à base de résines thermodurcissables à usages électriques -- Partie 2: Méthodes d'essai

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**Ta slovenski standard je istoveten z: EN 60893-2:1994**

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**ICS:**

29.035.01	Izolacijski materiali na splošno	Insulating materials in general
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**en**

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EUROPEAN STANDARD

EN 60893-2

NORME EUROPEENNE

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July 1994

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Descriptors: Industrial laminated sheets, rigid laminated sheets,  
thermosetting sheets, specification, method of test

## ENGLISH VERSION

Specification for industrial rigid laminated  
sheets based on thermosetting resins for  
electrical purposes  
Part 2: Methods of test  
(IEC 893-2:1992)

Spécification pour les  
stratifiés industriels rigides  
en planches à base de résines  
thermodurcissables à usages  
électriques  
Partie 2: Méthodes d'essai  
(CEI 893-2:1992)

Bestimmung für technische  
Schichtpreßstofftafeln  
auf der Basis wärmehärtbarer  
Harze für elektrotechnische  
Zwecke  
Teil 2: Prüfverfahren  
(IEC 893-2:1992)

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This European Standard was approved by CENELEC on 1994-03-05.  
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,  
Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg,  
Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and 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

### FOREWORD

The CENELEC questionnaire procedure, performed for finding out whether or not the International Standard IEC 893-2:1992 could be accepted without textual changes, has shown that no common modifications were necessary for the acceptance as European Standard.

The reference document was submitted to the CENELEC members for formal vote and was approved by CENELEC as EN 60893-2 on 8 March 1994.

The following dates were fixed:

- latest date of publication of an identical national standard (dop) 1995-03-01
- latest date of withdrawal of conflicting national standards (dow) 1995-03-01

For products which have complied with the relevant national standard before 1995-03-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 2000-03-01.

Annexes designated "normative" are part of the body of the standard. In this standard, annex ZA is normative.

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ENDORSEMENT NOTICE

The text of the International Standard IEC 893-2:1992 was approved by CENELEC as a European Standard without any modification.

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## ANNEX ZA (normative)

OTHER INTERNATIONAL PUBLICATIONS QUOTED IN THIS STANDARD  
WITH THE REFERENCES OF THE RELEVANT EUROPEAN PUBLICATIONS

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies.

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

IEC Publication	Date	Title	EN/HD	Date
112	1979	Method for determining the comparative and the proof tracking indices of solid insulating materials under moist conditions	HD 214 S2	1980
167	1964	Methods of test for the determination of the insulation resistance of solid insulating materials	HD 568 S1	1990
212	1971	Standard conditions for use prior to and during the testing of solid electrical insulating materials	HD 437 S1	1984
216-1	1990	Guide for the determination of thermal endurance properties of electrical insulating materials - Part 1: General guidelines for ageing procedures and evaluation of test results	HD 611.1 S1	1992
243-1 (mod)	1988	Methods of test for electric strength of solid insulating materials - Part 1: Tests at power frequencies	HD 559.1 S1	1991
250	1969	Recommended methods for the determination of the permittivity and dielectric dissipation factor of electrical insulating materials at power, audio and radio frequencies including metre wavelengths	-	-
296	1982	Specification for unused mineral insulating oils for transformers and switchgear	-	-
426	1973	Test methods for determining electrolytic corrosion with insulating materials	-	-

IEC Publication	Date	Title	EN/HD	Date
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587	1984	Test methods for evaluating resistance to tracking and erosion of electrical insulating materials used under severe ambient conditions	HD 380 S2	1987
707	1981	Methods of test for the determination of the flammability of solid electrical insulating materials when exposed to an igniting source	HD 441 S1	1983
893-1	1987	Specification for industrial rigid laminated sheets based on thermosetting resins for electrical purposes - Part 1: Definitions, designations and general requirements	EN 60893-1	1994
893-3	series	Specification for industrial rigid laminated sheets based on thermosetting resins for electrical purposes - Part 3: Specifications for individual materials	EN 60893-3	series

## Other publications:

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ISO 62:1980 - Plastics - Determination of water absorption

ISO 178:1975 - Determination of flexural properties of rigid plastics

ISO 179:1982 - Plastics - Determination of Charpy impact strength of rigid materials

ISO 180:1982 - Plastics - Determination of Izod impact strength of rigid materials

ISO/R 527:1966 - Plastics - Determination of tensile properties

ISO 604: 1973 - Plastics - Determination of compressive properties

ISO 1183:1987 - Plastics - Methods for determining the density and relative density of non-cellular plastics

ISO 1642:1987 - Plastics - Industrial laminated sheets based on thermosetting resins - Specification

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INTERNATIONALE  
INTERNATIONAL  
STANDARD**

**CEI  
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893-2**

Première édition  
First edition  
1992-05

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**Spécification pour les stratifiés industriels  
rigides en plaques à base de résines  
thermodurcissables à usages électriques**

**Partie 2:**  
**Méthodes d'essai**  
**(standards.iteh.ai)**

**Specification for industrial rigid laminated sheets  
based on thermosetting resins  
for electrical purposes**

**Part 2:**  
**Methods of test**

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International Electrotechnical Commission  
Международная Электротехническая Комиссия

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**P**

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For price, see current catalogue*

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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

**SPECIFICATION FOR INDUSTRIAL RIGID LAMINATED SHEETS  
 BASED ON THERMOSETTING RESINS  
 FOR ELECTRICAL PURPOSES**

**Part 2: Methods of test**

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.
- 4) The IEC has not laid down any procedure concerning marking as an indication of approval and has no responsibility when an item of equipment is declared to comply with one of its recommendations.

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This part of International Standard IEC 893 has been prepared by Sub-Committee 15C: Specifications, of IEC Technical Committee No. 15: Insulating materials.

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

DIS	Report on Voting
15C(CO)251	15C(CO)297

Full information on the voting for the approval of this part can be found in the Voting Report indicated in the above table.

## INTRODUCTION

This International Standard is one of a series which deals with industrial rigid laminated sheets based on thermosetting resins for electrical purposes.

Insofar as technical considerations permit, this standard repeats (recapitulates) a classification of laminates similar to that of ISO 1642.

The series consists of three parts:

Part 1: Definitions, designations and general requirements (IEC 893-1).

Part 2: Methods of test (IEC 893-2).

Part 3: Specifications for individual materials (IEC 893-3).

This part specifies the methods of test.

NOTE - The numbering of the clauses is the same for industrial rigid laminated sheet as for laminated pressboard and for non-impregnated densified laminated wood. For this reason, some tests are mentioned but they are not applicable.

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**SPECIFICATION FOR INDUSTRIAL RIGID LAMINATED SHEETS  
BASED ON THERMOSETTING RESINS  
FOR ELECTRICAL PURPOSES**

**Part 2: Methods of test**

**1 General**

**1.1 Scope**

This International Standard gives methods of test for the materials defined in part 1 (IEC 893-1).

Not all the following methods of test will be required for inclusion in all the sheets of part 3 (IEC 893-3).

**1.2 Normative references**

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of IEC 893. At the time of publication, the editions indicated were valid. All normative documents are subject to revision, and parties to agreements based on this part of IEC 893 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. Members of IEC and ISO maintain registers of currently valid International Standards.

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IEC 112: 1979, *Method for determining the comparative and proof tracking indices of solid insulating materials under moist conditions* [standards/sist/608725c0-7daa-45f9-9679-dc6d08b25b1d/sist-en-60893-2-1998](https://standards.iteh.ai/standards/sist/608725c0-7daa-45f9-9679-dc6d08b25b1d/sist-en-60893-2-1998)

IEC 167: 1964, *Methods of test for the determination of the insulation resistance of solid insulating materials.*

IEC 212: 1971, *Standard conditions for use prior to and during the testing of solid electrical insulating materials.*

IEC 216, *Guide for the determination of thermal endurance properties of electrical insulating materials.*

IEC 216-1: 1990, *Guide for the determination of thermal endurance properties of electrical insulating materials – Part 1: General guidelines for ageing procedure and evaluation of test results.*

IEC 243-1: 1988, *Methods of test for electric strength of solid insulating materials – Part 1: Tests at power frequencies.*

IEC 250: 1969, *Recommended methods for the determination of the permittivity and dielectric dissipation factor of electrical insulating materials at power, audio and radio frequencies including metre wavelengths.*

IEC 296: 1982, *Specification for unused mineral insulating oils for transformers and switchgear.*