
Izolacijski materiali - Industrijske toge laminirane plošče iz smol s toplotnim utrjevanjem za električne namene - 3-2. del: Specifikacije za posamezne materiale - Zahteve za toge laminirane plošče na osnovi epoksidnih smol

Insulating materials - Industrial rigid laminated sheets based on thermosetting resins for electrical purposes - Part 3-2: Specifications for individual materials - Requirements for rigid laminated sheets based on epoxy resins

iTeh STANDARD PREVIEW

Isolierstoffe - Tafeln aus technischen Schichtpressstoffen auf der Basis warmhärtender Harze für elektrotechnische Zwecke - Teil 3-2: Bestimmungen für einzelne Werkstoffe - Anforderungen für Tafeln aus Schichtpressstoffen auf der Basis von Epoxidharzen

[SIST EN 60893-3-2:2004/A1:2011](https://standards.iteh.ai/catalog/standards/sist/871a9628-3cbc-4fe8-b544-210000000000/sist-en-60893-3-2-2004-a1-2011)

[https://standards.iteh.ai/catalog/standards/sist/871a9628-3cbc-4fe8-b544-](https://standards.iteh.ai/catalog/standards/sist/871a9628-3cbc-4fe8-b544-210000000000/sist-en-60893-3-2-2004-a1-2011)

Matériaux isolants - Stratifiés industriels rigides en planches à base de résines thermodurcissables à usages électriques - Partie 3-2: Spécifications pour matériaux particuliers - Prescriptions pour stratifiés rigides en planches à base de résine époxyde

Ta slovenski standard je istoveten z: EN 60893-3-2:2004/A1:2011

ICS:

29.035.20 Plastični in gumeni izolacijski materiali Plastics and rubber insulating materials

SIST EN 60893-3-2:2004/A1:2011 en,fr,de

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 60893-3-2:2004/A1:2011

<https://standards.iteh.ai/catalog/standards/sist/871a9628-3cbc-4fe8-b544-82c716d39751/sist-en-60893-3-2-2004-a1-2011>

**Insulating materials -
Industrial rigid laminated sheets based on thermosetting resins for
electrical purposes -
Part 3-2: Specifications for individual materials -
Requirements for rigid laminated sheets based on epoxy resins
(IEC 60893-3-2:2003/A1:2011)**

Matériaux isolants -
Stratifiés industriels rigides en planches à
base de résines thermodurcissables à
usages électriques -
Partie 3-2: Spécifications pour matériaux
particuliers -
Prescriptions pour stratifiés rigides en
planches à base de résine époxyde
(CEI 60893-3-2:2003/A1:2011)

Isolierstoffe -
Tafeln aus technischen
Schichtpressstoffen auf der Basis
warmhärtender Harze für
elektrotechnische Zwecke -
Teil 3-2: Bestimmungen für einzelne
Werkstoffe -
Anforderungen für Tafeln aus
Schichtpressstoffen auf der Basis von
Epoxidharzen
(IEC 60893-3-2:2003/A1:2011)

[SIST EN 60893-3-2:2004/A1:2011](https://standards.iteh.ai/catalog/standards/sist/871a9628-3cbc-4fe8-b544-82c716d39751/sist-en-60893-3-2-2004-a1-2011)

[https://standards.iteh.ai/catalog/standards/sist/871a9628-3cbc-4fe8-b544-](https://standards.iteh.ai/catalog/standards/sist/871a9628-3cbc-4fe8-b544-82c716d39751/sist-en-60893-3-2-2004-a1-2011)

[82c716d39751/sist-en-60893-3-2-2004-a1-2011](https://standards.iteh.ai/catalog/standards/sist/871a9628-3cbc-4fe8-b544-82c716d39751/sist-en-60893-3-2-2004-a1-2011)

This amendment A1 modifies the European Standard EN 60893-3-2:2004; it was approved by CENELEC on 2011-07-01. CENELEC members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this amendment 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 amendment 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, 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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and the United Kingdom.

CENELEC

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

Management Centre: Avenue Marnix 17, B - 1000 Brussels

Foreword

The text of document 15/505/CDV, future amendment 1 to IEC 60893-3-2:2003, prepared by IEC TC 15, Solid electrical insulating materials, was submitted to the IEC-CENELEC parallel vote and was approved by CENELEC as amendment A1 to EN 60893-3-2:2004 on 2011-07-01.

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

The following dates were fixed:

- latest date by which the amendment has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 2012-04-01
- latest date by which the national standards conflicting with the amendment have to be withdrawn (dow) 2014-07-01

Annex ZA has been added by CENELEC.

Endorsement notice

The text of amendment 1:2011 to the International Standard IEC 60893-3-2:2003 was approved by CENELEC as an amendment to the European Standard without any modification.

(standards.iteh.ai)

SIST EN 60893-3-2:2004/A1:2011

<https://standards.iteh.ai/catalog/standards/sist/871a9628-3cbc-4fe8-b544-82c716d39751/sist-en-60893-3-2-2004-a1-2011>

Annex ZA
(normative)

**Normative references to international publications
with their corresponding European publications**

The following referenced documents are indispensable for the application 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 When an international publication has been modified by common modifications, indicated by (mod), the relevant EN/HD applies.

Addition to Annex ZA of EN 60893-3-2:2004:

<u>Publication</u>	<u>Year</u>	<u>Title</u>	<u>EN/HD</u>	<u>Year</u>
IEC 61189-2	2006	Test methods for electrical materials, printed boards and other interconnection structures and assemblies - Part 2: Test methods for materials for interconnection structures	EN 61189-2	2006
IEC 61249-2-21	2003	Materials for printed boards and other interconnecting structures - Part 2-21: Reinforced base materials, clad and unclad - Non-halogenated epoxide woven E-glass reinforced laminated sheets of defined flammability (vertical burning test), copper-clad	EN 61249-2-21	2003

[SIST EN 60893-3-2:2004/A1:2011
https://standards.iteh.ai/catalog/standards/sist/871a9628-3cbc-4fe8-b544-82c716d39751/sist-en-60893-3-2-2004-a1-2011](https://standards.iteh.ai/catalog/standards/sist/871a9628-3cbc-4fe8-b544-82c716d39751/sist-en-60893-3-2-2004-a1-2011)

iTeh STANDARD PREVIEW
(standards.iteh.ai)

SIST EN 60893-3-2:2004/A1:2011

<https://standards.iteh.ai/catalog/standards/sist/871a9628-3cbc-4fe8-b544-82c716d39751/sist-en-60893-3-2-2004-a1-2011>

INTERNATIONAL STANDARD

NORME INTERNATIONALE

AMENDMENT 1
AMENDEMENT 1

**Insulating materials – Industrial rigid laminated sheets based on thermosetting resins for electrical purposes –
Part 3-2: Specifications for individual materials – Requirements for rigid laminated sheets based on epoxy resins**

[SIST EN 60893-3-2:2004/A1:2011
https://standards.iteh.ai/catalog/standards/sist/871a9628-3cbc-4fe8-b544-997f1111-997f1111](https://standards.iteh.ai/catalog/standards/sist/871a9628-3cbc-4fe8-b544-997f1111-997f1111)

**Matériaux isolants – Stratifiés industriels rigides en planches à base de résines thermodurcissables à usages électriques –
Partie 3-2: Spécifications pour matériaux particuliers – Prescriptions pour stratifiés rigides en planches à base de résine époxyde**

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

COMMISSION
ELECTROTECHNIQUE
INTERNATIONALE

PRICE CODE
CODE PRIX

J

FOREWORD

This amendment 1 of IEC 60893-3-2 has been prepared by IEC technical committee 15: Solid electrical insulating materials.

This amendment introduces new/improved limits of CHARPY impact strength and IZOD impact strength for all types of rigid laminated sheets based on epoxy resins and new/improved limits of breakdown voltage to all EP GC types and a new/improved limit of flexural strength for the EP PC 301 and a new limit of proof tracking index for the EP GC 306 type. This amendment also introduces new types of rigid laminated sheets based on epoxy resins.

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

CDV	Report on voting
15/505/CDV	15/632/RVC
15/540/CDV	15/592A/RVC

Full information on the voting for the approval of this standard can be found in the reports on voting indicated in the above table.

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

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

- reconfirmed, [SIST EN 60893-3-2:2004/A1:2011](https://standards.iteh.ai/catalog/standards/sist/871a9628-3cbc-4fe8-b544-82c716d39751/sist-en-60893-3-2-2004-a1-2011)
- withdrawn, <https://standards.iteh.ai/catalog/standards/sist/871a9628-3cbc-4fe8-b544-82c716d39751/sist-en-60893-3-2-2004-a1-2011>
- replaced by a revised edition, or
- amended.

2 Normative references

Add the following references to the existing list:

IEC 61249-2-21:2003, *Materials for printed boards and other interconnecting structures – Part 2-21: Reinforced base materials, clad and unclad - Non-halogenated epoxide woven E-glass reinforced laminated sheets of defined flammability (vertical burning test), copper-clad*

IEC 61189-2:2006, *Test methods for electrical materials, printed boards and other interconnection structures and assemblies – Part 2: Test methods for materials for interconnection structures*

Table 1 – Types of industrial rigid laminated sheets based on epoxy resins

Below type designation EP GC 308, add the following new designations:

EP	GC	309	Similar to EP GC 201, but with defined mechanical strength at elevated temperature
		310	Similar to EP GC 202, but with halogen free compound
		311	Similar to EP GC 204, but with halogen free compound

Below Table 1, add the following text to the notes:

The definition of halogen free epoxy laminated sheet is given in IEC 61249-2-21:2003:

The maximum total halogens contained in the resin plus reinforcement matrix no greater than 1500 ppm with a maximum chlorine content of 900 ppm and maximum bromine content of 900 ppm. The test method for determination of the halogen content is given in IEC 61189-2:2006.

iTeh STANDARD PREVIEW
(standards.iteh.ai)

Table 2 – Tolerances on thickness

[SIST EN 60893-3-2:2004/A1:2011](http://standards.iteh.ai/catalog/standards/sist/101a3118-3cbc-4fe8-b544-82c716d39751/sist-en-60893-3-2-2004-a1-2011)

In the heading of the 4th column (EP GC), add 309, 310, 311.