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

Matériaux isolants – Stratifiés industriels rigides en planches à base de résines thermoréactives à usages électriques
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INTERNATIONAL ELECTROTECHNICAL COMMISSION

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

FOREWORD

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The technical content is therefore identical to the base edition and its amendment and has been prepared for user convenience. A vertical line in the margin shows where the base publication has been modified by amendment 1. Additions and deletions are displayed in red, with deletions being struck through.
International Standard IEC has been prepared by subcommittee 15C: Specifications, of IEC technical committee 15: Insulating materials.

The 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.

In this revision of the IEC 60893 series of specifications, new material types have been included, changes have been made to the property requirements of some existing types, a new method for testing permittivity and dissipation factor has been added, and all non-specification data for each type has been moved to a new Part 4 document – IEC 60893-4 – Typical values.

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

The committee has decided that the contents of the base publication and its amendments 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,
• withdrawn,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 publication using a colour printer.
INTRODUCTION

This part of IEC 60893 is one of a series which deals with industrial rigid laminated sheets based on thermosetting resins for electrical purposes.

This series consists of four parts:

Part 1: Definitions, designations and general requirements (IEC 60893-1)
Part 2: Methods of test (IEC 60893-2)
Part 3: Specifications for individual materials (IEC 60893-3)
Part 4: Typical values (IEC 60893-4)

IEC 60893-3-2 contains one of the specification sheets comprising Part 3, as follows:

Sheet 2: Requirements for rigid laminated sheets based on epoxy resins
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

1 Scope

This part of IEC 60893 gives the requirements for industrial rigid laminated sheets for electrical purposes based on epoxy resins and different reinforcements.

Applications and distinguishing properties are given in Table 1.

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

2 Normative references

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.

IEC 60893-1, Insulating materials – Industrial rigid laminated sheets based on thermosetting resins for electrical purposes – Part 1: Definitions, designations and general requirements

IEC 60893-2:2003, Industrial rigid laminated sheets based on thermosetting resins for electrical purposes – Part 2: Methods of test

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


3 Designation

The sheets covered by this specification are classified into types which differ in the reinforcement employed and in their distinguishing properties. The sheets are designated by:

– the IEC standard number;
– a two-letter abbreviation denoting the resin;
– a second two-letter abbreviation, denoting the reinforcement;
– a serial number;

1 To be published
nominal thickness x width x length in millimetres.

Example of designation: Industrial rigid laminated sheet of type EP GC 201 with a nominal thickness of 10 mm, 500 mm wide, 1 000 mm long:

Sheet IEC 60893-3-2 – EP GC 201 - 10 × 500 × 1 000.

The following abbreviations are used in this Part 3 sheet:

<table>
<thead>
<tr>
<th>Type of resin</th>
<th>Type of reinforcement</th>
</tr>
</thead>
<tbody>
<tr>
<td>EP Epoxy (epoxide)</td>
<td>CC Woven cotton cloth</td>
</tr>
<tr>
<td>CP Cellulosic paper</td>
<td>GC Woven glass cloth</td>
</tr>
<tr>
<td>GM Glass mat</td>
<td>PC Woven polyester fibre cloth</td>
</tr>
</tbody>
</table>

4 Requirements

In addition to the general requirements given in IEC 60893-1, the laminated sheets shall also comply with the dimensional requirements given in Tables 2, 3, and 4 as well as with the other requirements given in Tables 5, 6 and 7.
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__ ex. IEC 60893-3-2:2003+A1:2011 en Isolatiematerialen - Industriële vaste laminaat platen gebaseerd op thermohardende harsen voor elektrische doeleinden - Deel 3-2: Specificaties voor afzonderlijke materialen - Eisen voor stijve gelamineerde platen gebaseerd op epoxyhars € 100.54

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