

# TECHNICAL REPORT



**Insulating materials – Industrial rigid laminated sheets based on thermosetting resins for electrical purposes –  
Part 4: Typical values**

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INTERNATIONAL  
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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

# INSULATING MATERIALS – INDUSTRIAL RIGID LAMINATED SHEETS BASED ON THERMOSETTING RESINS FOR ELECTRICAL PURPOSES –

## Part 4: Typical values

### FOREWORD

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**This consolidated version of the official IEC Standard and its amendment has been prepared for user convenience.**

**IEC 60893-4 edition 2.1 contains the second edition (2014-10) [documents 15/705/DTR and 15/714A/RVC] and its amendment 1 (2017-09) [documents 15/768/DTR and 15/784/RVC].**

**In this Redline version, a vertical line in the margin shows where the technical content is modified by amendment 1. Additions are in green text, deletions are in strikethrough red text. A separate Final version with all changes accepted is available in this publication.**

The main task of IEC technical committees is to prepare International Standards. However, a technical committee may propose the publication of a technical report when it has collected data of a different kind from that which is normally published as an International Standard, for example "state of the art".

IEC 60893-4, which is a technical report, has been prepared by IEC technical committee 15: Solid electrical insulating materials.

This second edition constitutes a technical revision.

This edition includes the following significant technical changes with respect to the previous edition:

- a) the typical values of modulus of elasticity in flexure and of comparative tracking index of EPGC (Epoxy Glass Cloth) types have been changed;
- b) the typical values of new material types introduced in IEC 60893-3-2:2003/AMD1:2011 have been included.

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

A list of all the parts in the IEC 60893 series, published under the general title *Insulating materials – Industrial rigid laminated sheets based on thermosetting resins for electrical purposes* can be found on the IEC website.

The committee has decided that the contents of the base publication and its amendment 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.

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## 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.

The 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 60893-4 is a technical report that deals with typical value information that is not part of the requirements for these laminates.

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# INSULATING MATERIALS – INDUSTRIAL RIGID LAMINATED SHEETS BASED ON THERMOSETTING RESINS FOR ELECTRICAL PURPOSES –

## Part 4: Typical values

### 1 Scope

This part of IEC 60893 serves as a technical report and presents tables of typical values for properties that are not studied and not given in Table 5 of IEC 60893-3-2:2003/AMD1:2011, IEC 60893-3-3:2003/AMD1:2011, IEC 60893-3-4:2003/AMD1:2012, IEC 60893-3-5:2003/AMD1:2009, IEC 60893-3-6:2003/AMD1:2009, IEC 60893-3-7:2003/AMD1:2009. The purpose of these typical values is to give general guidance and should not be considered as specification requirements.

The following tables give typical values for the different types of industrial laminated sheets for electrical purposes described in the Part 3 sheets of IEC 60893.

### 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

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

IEC 60893-3-2:2003, *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/AMD1:2011

IEC 60893-3-3:2003, *Insulating materials – Industrial rigid laminated sheets based on thermosetting resins for electrical purposes – Part 3-3: Specifications for individual materials – Requirements for rigid laminated sheets based on melamine resins*  
IEC 60893-3-3:2003/AMD1:2011

IEC 60893-3-4:2003, *Insulating materials – Industrial rigid laminated sheets based on thermosetting resins for electrical purposes – Part 3-4: Specifications for individual materials – Requirements for rigid laminated sheets based on phenolic resins*  
IEC 60893-3-4:2003/AMD1:2012

IEC 60893-3-5:2003, *Insulating materials – Industrial rigid laminated sheets based on thermosetting resins for electrical purposes – Part 3-5: Specifications for individual materials – Requirements for rigid laminated sheets based on polyester resins*  
IEC 60893-3-5:2003/AMD1:2009

IEC 60893-3-6:2003, *Insulating materials – Industrial rigid laminated sheets based on thermosetting resins for electrical purposes – Part 3-6: Specifications for individual materials – Requirements for rigid laminated sheets based on silicone resins*  
IEC 60893-3-6:2003/AMD1:2009

IEC 60893-3-7:2003, *Insulating materials – Industrial rigid laminated sheets based on thermosetting resins for electrical purposes – Part 3-7: Specification for individual materials – Requirements for rigid laminated sheets based on polyimide resins*  
IEC 60893-3-7:2003/AMD1:2009

### **3 Typical values for industrial rigid laminated sheets**

#### **3.1 Typical values for industrial rigid laminated sheets based on epoxy resin**

See .

#### **3.2 Typical values for industrial rigid laminated sheets based on melamine resin**

See Table 1.

#### **3.3 Typical values for industrial rigid laminated sheets based on phenolic resin**

See Table 2.

#### **3.4 Typical values for industrial rigid laminated sheets based on polyester resin**

See Table 3.

#### **3.5 Typical values for industrial rigid laminated sheets based on silicone resin**

See Table 4.

#### **3.6 Typical values for industrial rigid laminated sheets based on polyimide resin**

See Table 5.

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