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EUROPEAN STANDARD  
NORME EUROPÉENNE  
EUROPÄISCHE NORM

**EN 60641-1**

March 1995

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ICS 29.040.20; 85.060

Supersedes HD 410.1 S1:1981

Descriptors: Pressboard, presspaper, requirements, applications, definitions

English version

**Specification for pressboard and presspaper for electrical purposes**  
**Part 1: Definitions and general requirements**  
(IEC 641-1:1979 + A1:1993)

Spécifications pour le carton comprimé  
et le papier comprimé à usages  
électriques  
Partie 1: Définitions et prescriptions  
générales  
(CEI 641-1:1979 + A1:1993)

Bestimmung für Tafel- und  
Rollenpreßspan für elektrotechnische  
Anwendungen  
Teil 1: Begriffe und allgemeine  
Anforderungen  
(IEC 641-1:1979 + A1:1993)

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This European Standard was approved by CENELEC on 1995-02-15. 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 text of the International Standard IEC 641-1:1979, prepared by SC 15C, Specifications, of IEC TC 15, Insulating materials, was approved by CENELEC as HD 410.1 S1 on 1980-12-11.

This Harmonization Document was submitted to the formal vote for conversion into a European Standard and was approved by CENELEC as EN 60641-1 on 1995-02-15.

The text of amendment 1:1993 to the International Standard IEC 641-1:1979 was submitted to the formal vote and was approved by CENELEC as amendment A1 to EN 60641-1:1995 on 1995-02-15 without any modification.

It was decided to include the text of the amendment in EN 60641-1.

The following dates were fixed:

- latest date by which the EN has to be implemented at national level by publication of an identical national standard or by endorsement (dop) 1996-03-01
- latest date by which the national standards conflicting with the EN have to be withdrawn (dow) 1996-03-01

For products which have complied with HD 410.1 S1:1981 before 1996-03-01, as shown by the manufacturer or by a certification body, this previous standard may continue to apply for production until 2001-03-01.

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Endorsement notice

The text of the International Standard IEC 641-1:1993 and its amendment 1:1993 was approved by CENELEC as a European Standard without any modification.

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COMMISSION ÉLECTROTECHNIQUE INTERNATIONALE  
NORME DE LA CEI

INTERNATIONAL ELECTROTECHNICAL COMMISSION  
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Spécification pour le carton comprimé et le papier comprimé  
à usages électriques

Première partie: Définitions et prescriptions générales

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Specification for pressboard and presspaper  
for electrical purposes

Part 1: Definitions and general requirements

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**Descripteurs:** carton comprimé, papier comprimé,  
exigences, applications, définitions.

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ments, applications, definitions.



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## INTERNATIONAL ELECTROTECHNICAL COMMISSION

SPECIFICATION FOR PRESSBOARD AND PRESSPAPER  
FOR ELECTRICAL PURPOSES

## Part 1: Definitions and general requirements

## 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.

## PREFACE

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

A draft was discussed at the meeting held in The Hague in 1975. As a result of this meeting, a draft, Document 15C(Central Office)55, was submitted to the National Committees for approval under the Six Months' Rule in May 1976.

A new draft of Clause 3 was discussed at the meeting held in Toronto in 1976. As a result of this meeting, a draft, Document 15C(Central Office)55A, was submitted to the National Committees for approval under the Six Months' Rule in October 1976.

Amendments, Document 15C(Central Office)84, were submitted to the National Committees for approval under the Two Months' Procedure in October 1978.

The following countries voted explicitly in favour of publication:

Austria	Poland
Belgium	Portugal
Canada	Romania
Czechoslovakia	South Africa (Republic of)
Denmark	Switzerland
Egypt	Turkey
France	Union of Soviet
Germany	Socialist Republics
India	United Kingdom
Israel	Yugoslavia

# SPECIFICATION FOR PRESSBOARD AND PRESSPAPER FOR ELECTRICAL PURPOSES

## Part 1: Definitions and general requirements

### INTRODUCTION

This standard is one of a series which deals with solid pressboard and presspaper, dyed or natural coloured, having a calendered or non-calendered finish and supplied in an unimpregnated condition.

Pre-compressed pressboard is included.

The series does not deal with strawboard or laminated material (made by combining two or more thicknesses of material with an adhesive).

The series will have three parts describing:

1. Definitions and general requirements.
2. Methods of test.
3. Specifications for individual materials.

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### 1. Scope

This part of the specification contains definitions related to a classification of, and the general requirements to be fulfilled by pressboard and presspaper for electrical purposes.

### 2. Definitions

#### *Pressboard*

Board made normally on an intermittent board machine from pulp made entirely from vegetable origin of high chemical purity. It is characterized by its relatively high density, even thickness, surface smoothness, high mechanical strength, flexibility and electrical insulating properties. For some purposes, the surface may be textured.

#### *Calendered pressboard*

Pressboard which is subsequently calendered.

#### *Pre-compressed pressboard*

Pressboard to which heat has been applied during pressing.

#### *Presspaper*

Multilayer paper made by a continuous process from pulp entirely from vegetable origin and of

high chemical purity. It is characterized by its density, even thickness, surface smoothness, high mechanical strength, ageing resistance and electrical insulating properties.

*Glazed (paper)*

The result of the glazing, the operation of imparting lustre to board or paper by any appropriate drying or mechanical finishing process.

*Sized (paper)*

Paper made from a stock to which materials have been added to increase its surface strength and its resistance to penetration and spreading of aqueous liquids.

*Loaded (paper)*

Paper made from stock in which a fine pigment, generally white and of mineral origin, has been incorporated.

Based on ISO vocabulary of paper terms.

3. Classification

Based on compositions and properties, this standard covers the types of pressboard or presspaper shown in Table I. To the description of the types, some examples of known applications are added without implying any kind of restriction on other possible applications.

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4. General requirements

4.1 *Composition*

Except for Types B6, B7, P6 and P7, all types of pressboard and presspaper covered by this standard shall be made entirely from vegetable fibres. Types B6, B7, P6 and P7 shall be made from vegetable fibres with the addition of the necessary loading or sizing material. All types shall be free from extraneous material and adhesive and shall, where necessary, contain a suitable dyestuff.

4.2 *Finish*

Sheets of pressboard or presspaper shall have a finish as specified in the particular sheet in Part 3.

4.3 *Machineability*

All pressboard shall be capable of being sheared. Pressboard and presspaper of a thickness of 3.0 mm or less shall also be capable of being punched without showing ragged edges. The operation shall be carried out in accordance with the recommendations of the manufacturer.



## 5. Dimensions

### *Thickness*

The nominal thickness (in millimetres) of the pressboard and presspaper shall be one of the following:

0.1 – 0.13 – 0.16 – 0.2 – 0.25 – 0.3 – 0.4 – 0.5 – 0.6 – 0.8 – 1 – 1.3 – 1.6 – 2 – 2.5 – 3 – 4 – 5 – 6 – 8.

The tolerances on these thicknesses are to be found in Part 3 of this standard.

## 6. Conditions of supply

The pressboard and presspaper shall be placed in a packing which ensures adequate protection during transport, handling and storage.

A consignment of pressboard or presspaper shall be legibly and indelibly marked with the following information:

- a) Manufacturer's name or trade mark, if any.
- b) Type of pressboard or presspaper.
- c) Nominal thickness.
- d) Sheet size and weight.
- e) Roll width and weight.

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