



Standard Specification for Pressboard for Electrical Insulating Purposes¹

This standard is issued under the fixed designation D 4063; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This specification covers pressboard for electrical insulating purposes, manufactured from kraft, cotton, or kraft and cotton pulps. This board is intended for dielectrical or structural purposes in transformers and other electrical apparatus.

1.2 Electrical insulating boards are most commonly referred to (and will be referred to herein) as pressboard. Other terms used for pressboard include transformer board, fuller board, and presspan.

1.3 This specification covers pressboard having a nominal thickness of 0.030 to 0.315 in. (0.8 to 8.0 mm). For thinner material refer to Specification D 1305.

1.4 The maximum thickness available will differ with the type and the manufacturer. The maximum sheet size will differ with the thickness, type, and manufacturer.

1.5 Pressboard shall normally be plied wet without pasting. Unless specified by the purchaser, this specification does not include pressboard comprised of two or more sheets that have been laminated together using an adhesive.

NOTE 1—The materials described in this specification are similar to corresponding types of pressboard described in IEC Specification 641-3, Sheet 1, Types B.0.1, B.2.1, B.2.3, B.3.1, and B.3.3.

2. Referenced Documents

2.1 ASTM Standards:

D 1305 Specification for Electrical Insulating Paper and Paperboard—Sulfate (Kraft) Layer Type²

D 1711 Terminology Relating to Electrical Insulation²

D 3394 Test Methods for Sampling and Testing Electrical Insulating Board³

2.2 IEC Standards-Publication:

641-3, Specification for Pressboard and Presspaper for Electrical Purposes—Part 3⁴

3. Terminology

3.1 Definitions:

¹ This specification is under the jurisdiction of ASTM Committee D-9 on Electrical and Electronic Insulating Materials, and is the direct responsibility of Subcommittee D09.19 on Dielectric Sheet and Roll Products.

Current edition approved Nov. 10, 1999. Published February 2000. Originally published as D 4063 – 81. Last previous edition D 4063 – 81 (1993)^{ε1}.

² Annual Book of ASTM Standards, Vol 10.01.

³ Annual Book of ASTM Standards, Vol 10.02.

⁴ Available from American National Standards Institute, 11 W. 42nd St., 13th Floor, New York, NY 10036.

3.1.1 For definitions of terms used in this specification refer to Terminology D 1711.

3.1.2 *calendered pressboard, n*—pressboard produced by drying without restraint and then calendering between steel rolls to obtain the desired thickness and density.

3.1.3 *cotton pulp, n*—cellulose fibers normally obtained by pulping of new cotton garment cuttings.

3.1.3.1 *Discussion*—Included in cotton pulp is pulp called cotton-linter pulp which is derived from cotton fibers adhered to cotton seed but separated from cotton seed subsequent to ginning.

3.1.4 *kraft pulp, n (unbleached sulfate pulp)*—cellulose fibers normally obtained from softwood (coniferous) trees using the sulfate kraft process of cooking.

3.1.5 *precompressed pressboard, n*—pressboard produced by press-drying between heated platens to obtain desired thickness and density.

4. Classification

4.1 This specification covers the following three types of pressboard:

4.1.1 *Type 1*—High-purity calendered pressboard.

4.1.2 *Type 2*—Normal-purity calendered pressboard.

4.1.3 *Type 3*—Precompressed pressboard.

5. Ordering Information

5.1 Orders for material furnished under this specification shall include:

5.1.1 Name of material,

5.1.2 Grade of pressboard (selected from Table 1),

5.1.3 Quantity (weight or number of sheets),

5.1.4 Dimensions (thickness, width, length), and

5.1.5 Additions or exceptions to the specification and supplementary requirements, if required, such as thermally upgraded material.

6. Materials and Manufacture

6.1 The pressboard will be manufactured from unbleached kraft pulp, cotton pulp, or a combination of unbleached kraft pulp and cotton pulp.

6.2 The proportion of cotton pulp, by weight, will be as specified in Table 1.

6.3 Cotton pulp in trace quantities in kraft pulp grades is permitted. Kraft pulp in trace quantities in cotton pulp grades is permitted.