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BRITISH STANDARD 1137 : 1949

Synthetic-resin
Bonded-paper Sheets
for use at
Power Frequencies



Price 7/6 net, post free

BRITISH STANDARDS INSTITUTION

Incorporated by Royal Charter

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THIS BRITISH STANDARD, having been approved by the Electrical Industry Standards Committee and endorsed by the Chairman of the Engineering Divisional Council, was published under the authority of the General Council on June 22nd, 1949.

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The Institution desires to call attention to the fact that this British Standard does not purport to include all the necessary provisions of a contract.

The figures in British measures are to be regarded as the standard. Approximate metric equivalents are given for the convenience of users in countries in which the metric system has been generally adopted.

In order to keep abreast of progress in the industries concerned, British Standards are subject to periodical review. Suggestions for improvements will be recorded and in due course brought to the notice of the committees charged with the revision of the standards to which they refer.

A complete list of British Standards, numbering over one thousand, indexed and cross-indexed for reference, together with an abstract of each standard, will be found in the Institution's Yearbook.

British Standards are revised, when necessary, either by the issue of amendment slips or revised editions. It is important that users of British Standards should ascertain that they are in possession of the latest amendments or edition.

Users wishing to be kept informed of any alteration to this standard should notify Sales Department of the Institution, giving the number and title of the standard.

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CO-OPERATING ORGANIZATIONS

The Electrical Industry Standards Committee,* under whose supervision this British Standard was prepared, consists of representatives from the following Government departments and scientific and industrial organizations:—

- * Admiralty
- * Air Ministry
- Association of Consulting Engineers
- Association of Supervising Electrical Engineers
- * British Electrical and Allied Manufacturers' Association
- * British Electrical and Allied Industries Research Association
- British Electricity Authority
- British Electrical Development Association
- British Railways
- Cable Makers' Association
- Electrical Contractors' Association (Incorporated)
- Electric Lamp Manufacturers' Association
- Electric Light Fittings Association
- * General Post Office
- Home Office
- Institution of Electrical Engineers
- Ministry of Fuel and Power
- * Ministry of Labour and National Service
- * Ministry of Supply
- Ministry of Works
- * National Physical Laboratory
- Public Transport Association
- * Radio Industry Council

The Government departments and scientific and industrial organizations marked with an asterisk in the above list, together with the following, were directly represented on the committee entrusted with the preparation of this British Standard:—

- British Plastics Federation
- National Federation of Associated Paint, Colour and Varnish Manufacturers

* The Electrical Industry Standards Committee is the British National Committee of the International Electrotechnical Commission.

BRITISH STANDARD SPECIFICATION FOR
SYNTHETIC-RESIN BONDED-PAPER SHEETS
 FOR USE AS
 ELECTRICAL INSULATION AT POWER FREQUENCIES

FOREWORD

This British Standard is based on technical data provided by the British Electrical and Allied Industries Research Association, and supersedes B.S. 316 and B.S. 547 in so far as they apply to sheets. A separate standard (B.S. 1314) has been issued for thermoplastic synthetic-resin bonded-paper tubes.

With a view to the reduction of testing to a minimum, this standard is divided into mandatory and optional clauses, the former being limited to the tests necessary for the rejection of inferior material.

The principal alterations in this (1949) revision of the standard are as follows:—

Three alternative types of specimen are permitted for determination of tensile strength, and details of suitable grips for holding the specimens in the testing machine are included (Appendix E).

An alternative type of electrode (tinfoil) is permitted for determination of power factor at 50 c/s. Tinfoil electrodes, attached to the specimen by petroleum jelly, are mandatory for power factor tests at 1000 c/s (Appendix J).

A separate British Standard for synthetic-resin bonded-paper material for use at high frequencies is in preparation.

SPECIFICATION

SCOPE

1. This British Standard refers only to Types I, II and III thermo-setting synthetic-resin bonded-paper sheets as defined below. The limits given in the present standard cover Types I and III sheets only, except for flatness and tolerance on thickness which apply to Type II sheets also; further investigation is required before limits for other properties can be set for Type II material.

The range of thicknesses of each type is from $\frac{1}{64}$ in. up to and including 1 in.

The sheets covered by this standard are intended for electrical insulating purposes for use with direct current, and with alternating current of frequencies up to 100 cycles per second only.

If the material is required suitable for punching, this should be stated by the purchaser with the enquiry and/or order.

It is not intended that these materials shall necessarily comply with the requirements of all the clauses in the standard. The clauses in Part One are mandatory, and material purporting to be 'British Standard' shall comply with the requirements of these clauses. Material which fulfils the requirements of the mandatory clauses shall be deemed to comply with the standard.

When a purchaser requires material to comply with any of the optional clauses of the standard, this shall be stated with the enquiry and/or