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SPECIFICATION FOR

PHENOLIC RESIN BONDED PAPER SHEETS FOR ELECTRICAL PURPOSES AT POWER FREQUENCIES

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SPECIFICATION FOR

PHENOLIC RESIN BONDED PAPER SHEETS

FOR ELECTRICAL PURPOSES AT POWER FREQUENCIES

B.S. 1137 : 1966

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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 29th December, 1966.

First published, November, 1943.
First revision, June, 1949.
Second revision, December, 1966.

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.

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 4000, fully indexed and with a note of the contents of each, will be found in the British Standards Yearbook, price 15s. The B.S. Yearbook may be consulted in many public libraries and similar institutions.

This standard makes reference to the following British Standards:

B.S. 148. Insulating oil for transformers and switchgear.
B.S. 871. Abrasive papers and cloths for general purposes.
B.S. 2076. Thermosetting synthetic-resin bonded-paper insulating sheets for use at radio frequencies.
B.S. 3718. Laboratory humidity ovens (non-injection type).

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

The following BSI references relate to the work on this standard:
Committee references ELE/16 and ELE/16/53/2
Draft for comment D64/6130

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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:

Associated Offices' Technical Committee
Association of Consulting Engineers
Association of Mining Electrical and Mechanical Engineers
Association of Supervising Electrical Engineers
*British Electrical and Allied Manufacturers' Association
British Railways Board
Crown Agents for Oversea Governments and Administrations
Electric Cable Makers' Confederation
Electric Lamp Industry Council
Electric Light Fittings Association
Electrical Contractors' Association (Incorporated)
Electrical Contractors' Association of Scotland
*Electrical Research Association
*Electricity Council, The Generating Board and the Area Boards in England and Wales
*Electronic Engineering Association
Engineering Equipment Users' Association
Institution of Electrical Engineers
*Ministry of Aviation
*Ministry of Defence, Army Department
*Ministry of Defence, Navy Department
Ministry of Labour (H.M. Factory Inspectorate)
Ministry of Power
Ministry of Public Building and Works
*Ministry of Technology
Municipal Passenger Transport Association (Incorporated)
National Inspection Council for Electrical Installation Contracting
National Physical Laboratory
Oil Companies Materials Association
*Post Office
Public Transport Association (Incorporated)
South of Scotland Electricity Board

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 Electro-Ceramic Manufacturers' Association
British Plastics Federation
Glass Textile Association
Radio and Electronic Component Manufacturers' Federation
Technical Section of the British Paper and Board Makers' Association
Telephone Manufacturers' Technical Development Committee

BRITISH STANDARD SPECIFICATION FOR

PHENOLIC RESIN BONDED PAPER SHEETS FOR ELECTRICAL PURPOSES AT POWER FREQUENCIES

FOREWORD

This British Standard, which is published under the authority of the Electrical Industry Standards Committee, is based upon information supplied by the Electrical Research Association.

In view of the considerable number of synthetic resins which have become available since the preparation of B.S. 1137 : 1949, the title of the standard has been changed to ' Phenolic resin bonded paper sheets for electrical purposes at power frequencies ' so as to describe more accurately the material covered by the specification.

Requirements for Type II material have been introduced in this revision to cover material having properties superior to those of Type III but hitherto of necessity included in that type. Some slight changes in limits have been introduced for Types I and III to allow for changes in test procedures, but the required quality of the material is the same in each case.

NOTE 1. Where metric equivalents have been given the figures in British units are to be regarded as the standard. The metric conversions are approximate. More accurate conversions should be based on the tables in B.S. 350, ' Conversion factors and tables '.

NOTE 2. In place of the customary, but incorrect, use of the pound and kilogramme as units of force, the units called pound-force (abbreviation lbf) and kilogramme-force (abbreviation kgf) have been used in this standard. These are the forces which, when acting on a body of mass one pound or one kilogramme, give it an acceleration equal to that of standard gravity.

SPECIFICATION

SCOPE

1. This British Standard specifies requirements for phenolic resin bonded paper sheets intended for electrical insulating purposes for use on power circuits with direct current and with alternating current of frequency up to 100 c/s. Material for use at radio frequencies is covered by B.S. 2076*, which includes a grade having a lower water absorption than Type I.

Three types are specified, each with different electrical, mechanical and water absorption properties, and in thicknesses from 1/64 in (0·4 mm) up to and including 1 in (25·4 mm).

* B.S. 2076, ' Thermosetting synthetic-resin bonded-paper insulating sheets for use at radio frequencies '.

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