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O Amends

BRITISH STANDARD 1323: 1946

Sup-by BS 3794:64

Synthetic-Resin Bonded-Paper Sheet (Thermosetting)

For use in The Building Industry

Price 2/- net, post free.

BRITISH STANDARDS INSTITUTION

Incorporated by Royal Charter

28 VICTORIA STREET, LONDON, S.W.1

Telegrams : Standards, Sowest, London Telephone : Abbey 3333

THIS BRITISH STANDARD, having been approved by the Plastics Industry Committee and endorsed by the chairman of the Chemical Divisional Council, was published under the authority of the General Council on 23rd August, 1946.

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 one thousand, indexed and cross-indexed for reference, together with an abstract of each standard, will be found in the Institution's Yearbook, price 2s. 0d. post free.

This British Standard requires reference to the following:

B.S. 476. Fire resistance, incombustibility and non-inflammability of building materials and structures.

B.S. 871. Abrasive papers and cloths for general purposes.

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 Publications Sales Department of the Institution, giving the number and title of the standard.

CONTENTS

CO-OPERATING ORGANISATIONS

The Chemical Divisional Council under whose supervision this British Standard was prepared consists of representatives from the following Government departments and scientific and industrial organisations :

*Admiralty
*Air Ministry
Board of Trade
Chemical Research Laboratory
Government Laboratory
Ministry of Agriculture and Fisheries
*Ministry of Works
*War Office
*Association of British Chemical Manufacturers
Association of Tar Distillers
British Chemical and Dyestuff Traders' Association
British Chemical Plant Manufacturers' Association
Ceramic Society
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*Department of Scientific and Industrial Research
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Institution of Chemical Engineers
Institution of Gas Engineers
Institution of Petroleum Technologists
International Society of Leather Trades Chemists (British Section)
London Oil and Tallow Trades' Association
National Benzole Association
National Federation of Associated Paint, Colour and Varnish Manufacturers of the United Kingdom
Paper Makers' Association
National Gas Council
Pharmaceutical Society
Pharmacopoeia Commission
*Society of Chemical Industry
Society of Dyers and Colourists
Society of Glass Technology
Society of Public Analysts

The Government departments and scientific and industrial organisations 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
Institute of the Plastics Industry
Royal Institute of British Architects

BRITISH STANDARD FOR

THERMOSETTING SYNTHETIC-RESIN BONDED-PAPER SHEET

FOR USE IN THE BUILDING INDUSTRY

FOREWORD

This specification has been prepared to meet the general demand for standards to cover all plastics in common use.

Certain physical properties considered of particular importance are the subject of qualifying clauses in the specification. Information which is not conveyed by the qualifying clauses but which may be of value to users of the materials is given below :

Sizes. The sheets are normally manufactured in certain fixed sizes between 36 in. × 36 in. and 100 in. × 50 in., but the actual sizes available from any given manufacturer will depend upon the pressing equipment at the disposal of that manufacturer.

A nominal thickness of 0·055 in. is recommended for sheet for veneering purposes and a nominal thickness of 0·156 in. (5/32 in.) is recommended for wall board applications.

Density. The density of the sheets covered by this specification will normally lie between 85 and 115 lb. to the cubic foot.

Thermal conductivity. The thermal conductivity of the sheets covered by this specification varies between 0·0005 and 0·0009 C.G.S. units (1·4 to 2·5 B.Th.U. per sq. ft. per hour per 1°F. per 1 in. thickness).

Recommended type of finish. A semi-matt or satin type of finish rather than a high gloss finish is strongly recommended for general decorative purposes except for applications where a high gloss may be associated with cleanliness, e.g., table and counter tops.

A semi-matt surface has been found to be much more durable than a glossy surface ; furthermore, it is sometimes possible to renovate a slightly damaged matt surface by hand treatment in situ. It is generally not possible to apply similar treatment to sheet of high gloss.

Action on metals. The materials covered by this specification do not cause corrosion of metals with which they may be in intimate contact.

Dimensional stability. Owing to the hardness and rigidity of thermosetting synthetic-resin bonded-paper sheet certain precautions are necessary, when fixing panels, in order to accommodate any slight move-

ment which may take place due to temperature and humidity changes. Advice on this matter is given in Code of Practice for Building No. 1. 5425. CP (R) 631 Framed Partitions

Light fastness. The light-fastness characteristics of the materials covered by this specification are referred to in clause 2, but no quantitative requirements have been included pending the development of a standard method of test.

SPECIFICATION

SCOPE

1. This specification covers thermosetting type synthetic-resin bonded-paper sheet for use in the building industry. The sheet may be supplied for use as wall board or in a form suitable for veneering on to wood or other surfaces and requires no additional decorative finish (see Foreword).

The material is not intended for load-bearing applications.

Three types are covered by this specification and are classified according to their composition under reference types 1, 2 and 3 as defined below.

The range of sheet thickness covered by the specification is from 1/32 in. to ½ in.

DEFINITIONS

TYPES OF SHEET

2. *Thermosetting synthetic-resin bonded-paper sheets.* This term denotes a sheet, board or plate made from paper or paper pulp treated with synthetic-resin and consolidated under the influence of heat and pressure.

The three types of sheet covered by this specification are :

Type 1. Sheet in which both the face and the core are impregnated with phenolic type resin.

This type of material is available in relatively dark colours and is not as stable to light as types 2 and 3, but is more resistant to moisture.

Type 2. Sheet in which the core is impregnated with phenolic resin and the face with urea or other aminoplastic type resin.

This type of sheet can be supplied in a full range of colours as well as white and possesses a high degree of stability to light.

Type 3. Sheet in which both the face and the core are impregnated with urea or other aminoplastic type resin only.

This type of sheet can be supplied in the same colours as type 2. It is not as strong as types 1 and 2 but can be supplied in a uniform colour throughout its thickness and possesses the same high degree of stability to light as type 2.

NOTE. The urea type resins are not so resistant to water as the phenolics. Some deterioration of the surface finish of type 2 and 3 sheet may therefore be experienced after contact with water, although it will generally not be sufficiently obvious to offset the advantages of the wider choice of colours available in these types.

METHOD OF ORDERING

3. *a. Finished Panels.* For the purposes of this specification finished panels are sheets which are trimmed by the manufacturer and supplied ready to be fixed without further cutting by the purchaser.

b. Sheets for fabrication. For the purposes of this specification, sheets for fabrication are sheets intended to be cut or re-trimmed by the purchaser, before fixing.

c. Placing orders. The customer shall state at the time of ordering into which of the above classes the sheets required fall.

DIRECTION OF APPLICATION OF STRESS

4. *a. Lengthwise direction.* The term ' lengthwise direction ' (or ' direction A ') denotes that the principal axis of the specimen and the direction in which the mechanical stress is applied are in the machine direction of the paper.

b. Crosswise direction. The term ' crosswise direction ' (or ' direction B') denotes that the principal axis of the specimen and the direction in which the mechanical stress is applied are at right angles to the machine direction of the paper.

NOTE. When the direction is not known, the lengthwise direction shall be assumed to be that in which the cross breaking strength of the sheet is the greater, and the crosswise direction at right angles to this. As a sheet is sometimes built up of superimposed layers having the ' grain ' at right angles, it may, therefore, have no definite lengthwise or crosswise direction.

TEST REQUIREMENTS

APPEARANCE

5. The type of surface finish, edge finish and the colour shall be as agreed between supplier and purchaser.

Sheets shall be free from detrimental local deformation and splitting and shall be supplied with trimmed edges.

NOTE. To reduce colour variation to a minimum it is recommended that sheet for any one scheme be manufactured and purchased as a single batch.