INTERNATIONAL STANDARD 1268

INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

Plastics — Preparation of glass fibre reinforced, resin bonded, low-pressure laminated plates or panels for test purposes

Matières plastiques — Préparation de plaques ou de panneaux en stratifiés verre textile-résine basse-pression pour la réalisation d'éprouvettes

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up has the right to be represented on that Committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 1268 was drawn up by Technical Committee ISO/TC 61, *Plastics*. It was submitted directly to the ISO Council, in accordance with clause 6.12.1 of the Directives for the technical work of ISO.

This International Standard cancels and replaces ISO Recommendation R 1268-1970, which had been approved by the Member Bodies of the following countries :

Australia	Hungary	South Africa, Rep. of
Austria	India	Spain
Belgium	Iran	Sweden
Bulgaria	Israel	Switzerland
Canada	Japan	Turkey
Czechoslovakia	Korea, Dem. P. Rep. of	United Kingdom
Egypt, Arab Rep. of	Korea, Rep. of	U.S.A.
France	Netherlands	Yugoslavia
Germany	Poland	
Greece	Romania	

The Member Body of the following country had expressed disapproval of the Recommendation :

Italy

Printed in Switzerland

Plastics — Preparation of glass fibre reinforced, resin bonded, low-pressure laminated plates or panels for test purposes

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies the procedure for the preparation of test plates or panels by bonding glass cloth or mats with low-pressure thermosetting resins. In this International Standard the term "low-pressure thermosetting resins" relates to resins which cure at or above room temperature either without loss of reaction products or which are not significantly altered by loss of reaction products during cure and which can be processed with a pressure up to 3,5 MPa. The purpose of this International Standard is to standardize the preparation of the plates or panels from which test specimens subsequently are machined. Standard specimens prepared in this manner may be used either for evaluating the components; i.e. the glass reinforcement, finishes, resins, catalysts, curing agents, etc., or for verifying the overall quality of the finished "composite" products.

2 PRINCIPLE

Preparation of the plates or panels by one of the following methods :

2.1 Method A

The glass reinforcement impregnated with liquid resin containing a suitable catalyst or curing agent is moulded in a press under conditions of temperature and pressure appropriate for the resin and curing system.

2.2 Method B

The glass reinforcement impregnated with resin partially cured to the B stage (prepreg), but capable of further curing, is moulded in a press at a mould temperature higher than room temperature.

2.3 Method C

The glass reinforcement is manually laminated or laid up with simultaneous impregnation with a resin containing a suitable catalyst or curing agent. The curing of the resin proceeds at room temperature or at elevated temperature. No press is required for preparation of the laminate.

3 EQUIPMENT FOR THE MAKING OF PLATES OR PANELS BY METHODS A AND B

3.1 Press

For moulding the plates or panels, use may be made of any hydraulic or mechanical press which permits

a) clamping the mould as specified in 3.2;

b) maintaining the moulding force with an accuracy of ± 5 % over the period of time required for the curing of the resin;

c) maintaining the closing speed of the mould in accordance with the requirements of 4.1.4. Generally the closing speed should be low and adjustable.

3.2 Mould

3.2.1 One of two types of moulds is chosen, depending on

a) the nature of the glass reinforcement;

b) the type of resin and curing system;

c) the purpose of testing.

3.2.2 The mould type 1 (see figure 1) or type 2 (see figure 2), shall comply with the following conditions, but in other respects the design is optional :

a) the working surface of the mould shall be a square, the dimensions of which are within the limits specified for types 1 and 2 (between 150 mm × 150 mm and 400 mm × 400 mm);

b) the active surfaces shall be hardened, ground and hard-chromium plated; the active surface of the lower die shall bear a mark which, when impressed on the moulded plate or panel, will identify the surface formed by the lower die. Care shall be taken to ensure that such marks do not influence the results of subsequent testing (types 1 and 2, see note below);

c) the type 1 mould is a two-part (open type) mould consisting of two plane parallel plates separated at constant distance during the moulding operation by means of spacers. This type of mould ordinarily is used for specification purposes;