
INTERNATIONAL STANDARD



3038

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

Corrugated fibreboard — Determination of the water resistance of the glue bond by immersion

Carton ondulé — Détermination par immersion de la résistance à l'eau des lignes de collage

First edition — 1975-05-01

UDC 676.273.3 : 676.017.63

Ref. No. ISO 3038-1975 (E)

Descriptors : corrugated cardboards, tests, adhesion tests, submerging tests.

FOREWORD

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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 3038 was drawn up by Technical Committee ISO/TC 6, *Paper, board and pulps*, and circulated to the Member Bodies in January 1973.

It has been approved by the Member Bodies of the following countries :

Belgium	India	Spain
Bulgaria	Ireland	Sweden
Czechoslovakia	Israel	Switzerland
Egypt, Arab Rep. of	New Zealand	Thailand
Finland	Norway	Turkey
France	Poland	United Kingdom
Germany	Romania	U.S.S.R.
Hungary	South Africa, Rep. of	

The Member Body of the following country expressed disapproval of the document on technical grounds :

Canada

Corrugated fibreboard — Determination of the water resistance of the glue bond by immersion

1 SCOPE

This International Standard specifies an immersion method for determining the water resistance of the glue bond of corrugated fibreboard.

2 FIELD OF APPLICATION

This method is applicable to all types of corrugated fibreboard and in particular to corrugated fibreboards in which a high degree of resistance to wet conditions is required.

3 REFERENCE

ISO/R 186, *Method of sampling paper and board for testing*.

4 PRINCIPLE

Measurement of the length of time during which a predetermined combination of glue lines, immersed in water, resists the pull of a suspended weight in the plane vertical axis of the corrugated fibreboard, perpendicular to the glue lines.

5 APPARATUS

5.1 Water tank, preferably made of glass for easy observation, large enough for the free suspension of the required number of test pieces and having a depth of not less than 250 mm. The bottom of a glass tank may be lined with a rubber sheet to prevent damage.

5.2 Rods or bars, with hooks, placed across the tank for suspension of the test pieces.

5.3 Means for proper identification of test pieces.

5.4 Soft rubber stamp, with an inking device to mark the sample of corrugated fibreboard with outlines and other details for cutting the test pieces. The design to be imprinted on the corrugated fibreboard is shown in figure 1.

5.5 Knife with a sharp, thin blade.

5.6 Straightedge.

5.7 Punch pliers.

5.8 Eyelet pliers and eyelets.

5.9 Piece of copper, fitted with a hook or a gripper, having total mass of 250 ± 1 g per test piece. A piece of a different metal may be used provided that corrections are made to the hydrostatic weight.

5.10 Adhesive tape, pressure sensitive, 20 to 30 mm width, and resistant to water under the conditions of the test.

6 SAMPLING

Sampling shall be carried out in accordance with ISO/R 186.

Individual samples shall be large enough to permit the cutting of five test pieces of 20 ± 1 mm by 150 mm (i.e. at least 100 mm X 150 mm), with the flutes at right angles to the length of the test piece.

The corrugated fibreboard to be tested shall generally be 3 days old to allow it to develop its water-resistance properties. The time will be dependent on temperature and adhesive formulation.

7 PREPARATION OF TEST PIECES

Mark at least five specimens of the corrugated fibreboard with the rubber stamp (5.4) and cut out the five test pieces from each specimen, taking care not to damage the glue bond. Unless otherwise agreed, test pieces shall be free from irregularities and damage, especially by water.

Reinforce the lower end of each test piece by winding pressure-sensitive tape (5.10) around it.

Punch two holes in each test piece, at the positions marked by the rubber stamp. Insert eyelets (5.8) into these holes and clench them.

Alternatively, a suitable clamp may be used to suspend the test pieces from the rod. A copper clamp may be used at the lower end to suspend the weight. This clamp and any additional copper weight shall have a total mass of 250 ± 1 g.