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Packaging — Complete, filled transport packages — Part VII : Compression test

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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 2872 was drawn up by Technical Committee ISO/TC 122, *Packaging*, and circulated to the Member Bodies in August 1972.

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

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

France

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Packaging — Complete, filled transport packages — Part VII : Compression test

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies two methods of testing complete, filled transport packages for compression resistance. The test may be used to assess the performance of complete, filled transport packages in terms of strength or of the protection offered to the contents when subjected to compressive forces. It may be performed either as a single test to investigate the effects (deformation, collapse or failure) of this hazard or as part of a sequence of tests designed to measure the ability of a package to withstand a distribution system that includes a compression hazard.

2 REFERENCES

ISO 2206, *Packaging — Complete, filled transport packages — Part I : Identification of parts when testing.*

ISO 2233, *Packaging — Complete, filled transport packages — Part II : Conditioning for testing.*

3 PRINCIPLE

The complete, filled transport package is placed between the platens of a compression tester. It is then compressed, the load and platen displacement being recorded until failure occurs or pre-determined values for load or displacement are reached.

4 APPARATUS

4.1 Compression tester, motor driven, mechanical or hydraulic, platen-type, capable of applying load through uniform movement of one or both platens at a relative speed of 10 ± 3 mm/min.

The platens shall be

— flat, so that when placed horizontally the difference in height between the lowest and highest points does not exceed 1 mm;

— dimensioned so as to extend over the whole area of the panels with which they are in contact;

— rigid, so as not to deform by more than 1 mm at any point when the tester is applying a load of 75 % of its maximum rating to a centrally placed 100 mm × 100 mm × 100 mm block having sufficient strength to accept this load without failure.

The lower platen shall remain horizontal, within 2 parts per 1 000 at all times during the test.

The upper platen shall be either rigidly mounted so as to remain horizontal within 2 parts per 1 000 at all times during the test, or be held by a universal joint at its centre and so be free to tilt in any direction.

4.2 Recording device with a percentage of error for loads not exceeding ± 2 % of the load and an accuracy of platen displacement of ± 1 mm.

5 CONDITIONING

The package shall be conditioned in accordance with and using one of the conditions described in ISO 2233.

6 PROCEDURE

6.1 Method 1

The test shall be carried out if possible in the same atmospheric conditions as used for conditioning, or if not the test must commence within 5 min of removing the package from those atmospheric conditions.

6.1.1 Place the test package centrally on the lower platen, in the pre-determined attitude.

6.1.2 Apply the load by relative movement of the platens until the pre-determined value is reached or until premature collapse.

NOTE — In measuring deformation, the datum zero point shall be taken as the reading corresponding to a load of 220 N.