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International Standard 7965/1

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Packaging — Sacks — Drop test — Part 1: Paper sacks

Emballages — Sacs — Essai de chute — Partie 1: Sacs en papier

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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. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 7965/1 was prepared by Technical Committee ISO/TC 122, *Packaging*.

Packaging — Sacks — Drop test — Part 1: Paper sacks

1 Scope and field of application

This part of ISO 7965 specifies a method of vertical impact testing on a filled paper sack by dropping. It may be performed either as a single test to investigate the effects of vertical impact or as part of a sequence of tests designed to measure the ability of a sack to withstand a distribution system that includes a vertical impact hazard.

This part of ISO 7965 specifies the testing procedure and how the results of tests should be presented. It is based on ISO 2248, but is specifically related to paper sacks.

2 References

ISO 2248, *Packaging — Complete, filled transport packages — Part 4: Vertical impact test by dropping.*

ISO 6599/1, *Packaging — Sacks — Conditioning for testing — Part 1: Paper sacks.*

ISO 7023, *Packaging — Sacks — Method of sampling empty sacks for testing.*

3 Principle

The filled sack is raised above a rigid plane surface and released to strike this surface after a free fall, the atmospheric conditions, the height of drop and the position of the package being set in advance.

4 Apparatus

The apparatus necessary to carry out the drop test shall include the following (examples are shown in annex A):

4.1 lifting arrangement, which will not damage the sack during either lifting or release.

4.2 means of holding the sack prior to release in its predetermined position.¹⁾

4.3 release mechanism, to release the sack in such a way that its fall is not obstructed by any part of the apparatus before striking the impact surface (4.4).

4.4 impact surface, horizontal and flat, massive enough to be immovable and rigid enough to be non-deformable under test conditions.

NOTE — In normal circumstances the impact surface provided should be:

- of one piece, with a mass at least 50 times that of the heaviest sack to be tested;
- flat, such that no two points on its surface differ in level by more than 2 mm;
- rigid, such that it will not be deformed by more than 0,1 mm when an area of 100 mm² is loaded statically with 10 kg anywhere on the surface;
- sufficiently large to ensure that the sack falls entirely upon the surface.

A plastic film may be used on the impact surface under the sack in order not to damage the sack while moving it.

5 Sampling

Sampling shall be carried out in accordance with the procedure in ISO 7023.

6 Conditioning

The empty sacks shall be conditioned in accordance with the procedure in ISO 6599/1, using one of the designated conditioning atmospheres.

7 Procedure

The various tests as described shall be carried out in the same atmospheric conditions as used for conditioning (see clause 6) or, if not, the tests shall commence within 3 min of removing the sack from the conditioning atmosphere.

1) The difference in behaviour of a sack suspended from the top or supported underneath in a butt drop can be significant, and the method of holding the sack before dropping must be included in the test report.