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Packaging – Complete, filled transport packages – Part X : Water spray 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 2875 was drawn up by Technical Committee ISO/TC 122, *Packaging*, and circulated to the Member Bodies in September 1972.

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

Australia Austria Belgium Canada Czechoslovakia Egypt, Arab Rep. of Finland France Germany Hungary India Ireland Japan Netherlands New Zealand Norway Romania South Africa, Rep. of Spain Switzerland Thailand Turkey United Kingdom U.S.A. U.S.S.R.

No Member Body expressed disapproval of the document.

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Packaging – Complete, filled transport packages – Part X : Water spray test

1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies a method of testing the resistance of a package to water spray or the protection it gives to its contents from water spray. It may also be used to pre-condition a package, prior to other tests, to investigate reduction in strength caused by exposure to liquid water.

The test is performed on the package as prepared for transport and may form part of a test sequence.

2 REFERENCE

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

3 PRINCIPLE

The package is placed in a test area and sprayed with water for a specified period at constant temperature.

4 APPARATUS

4.1 Test area, insulated and heated when necessary to allow temperature to be controlled, fitted with a floor grating and an outlet of sufficient capacity to drain off the water as it is sprayed so that the test package does not rest in standing water.

Its height shall be sufficient to give a distance of at least 2 m between the spray nozzles and the nearest point on the test package, so that the drops fall vertically. The dimensions of the floor shall be at least 50 % greater than those of the base of the test package.

4.2 Sprays, fitted with nozzles of a design that will allow $100 \pm 20 \text{ I/(m}^2 \text{ h})$ of water to fall vertically onto a horizontal area 2 m below the nozzles, sufficiently uniformly to meet the requirements of the calibration test in section 5.

4.3 System to supply water of the required temperature at the rate and pressure required by the spray nozzles.

5 CALIBRATION

The sprays shall be mounted, with nozzles directed vertically downward, 2 m above the surface of the floor.

Sufficient identical open top containers, of a design having an aperture area between 0,25 and 0,5 m² and height between 0,25 and 0,5 m, shall be placed uniformly on the surface of the floor to cover at least 25 % of its area.

The sprays shall then be turned on and the times taken for the first and last containers to fill to overflowing shall be measured.

The time taken for the first to overflow shall not exceed that represented by a rate of $120 \ l/(m^2 \cdot h)$; that of the last shall not be less than that represented by 80 $l/(m^2 \cdot h)$.

6 CONDITIONING

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

7 PROCEDURE

The test shall be commenced within 5 min of removing the package from the atmospheric conditions selected for section 6.

7.1 Operate the sprays until the entire system has reached equilibrium. Unless otherwise specified, the standard temperature of the spray water and test area shall be between 5 and 30 $^{\circ}$ C.

7.2 Place the test package centrally in the test area, in the pre-determined position so that the drops fall vertically on the test package. Operate the sprays continuously, as calibrated, for the specified period.