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# International Standard



# 2875

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

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## Packaging — Complete, filled transport packages — Water spray test

*Emballages — Emballages d'expédition complets et pleins — Essai de résistance aux projections d'eau*

Second edition — 1985-11-15

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UDC 621.798.1 : 620.165.7

Ref. No. ISO 2875-1985 (E)

Descriptors : packing, transport packing, complete- and filled packages, tests, water resistance tests, spraying.

## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 2875 was prepared by Technical Committee ISO/TC 122, *Packaging*.

ISO 2875 was first published in 1973. This second edition cancels and replaces the first edition, which has been technically revised as follows:

- a new clause on "Package preparation" has been added;
- a new sub-clause (8.3) has been added to the "Procedure".

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

# Packaging — Complete, filled transport packages — Water spray test

## 1 Scope and field of application

This International Standard specifies a method for 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 precondition a package prior to other tests, to investigate reduction in strength caused by exposure to liquid water.

The test shall be 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 — Conditioning for testing*.

## 3 Principle

Placing of the test package in a test area and spraying 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 stand in a pool of water.

Its height shall be sufficient to give a distance of at least 2 m between the spray nozzles (4.2) 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**, adjustable in height and fitted with nozzles of a design that will allow the water to fall vertically at a rate of  $100 \pm 20 \text{ l}/(\text{m}^2 \cdot \text{h})$  onto a horizontal area 2 m below the nozzles, sufficiently uniformly to meet the requirements of the calibration test in clause 7.

**4.3 System to supply water** of the required temperature at the rate and pressure required by the spray nozzles (4.2).

## 5 Package preparation

The test package shall normally be filled with its intended contents. However, simulated or dummy contents may be used, on condition that the dimensions and physical properties of such contents shall be as close as practicable to those of the intended contents.

Ensure that the test package is closed normally, as if ready for distribution. If simulated or dummy contents are used, ensure that the normal method of closure is still employed.

## 6 Conditioning

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

## 7 Calibration

The sprays shall be mounted, with nozzles directed vertically downwards, 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 m<sup>2</sup> 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  $120 \text{ l}/(\text{m}^2 \cdot \text{h})$ ; that of the last shall not be less than that represented by  $80 \text{ l}/(\text{m}^2 \cdot \text{h})$ .

## 8 Procedure

**8.1** Adjust the height of the sprays (4.2) to give a distance of at least 2 m between the spray nozzles and the nearest point on the test package. Operate the sprays until the entire system has reached equilibrium. Unless otherwise specified, the temperature of the spray water and test area (4.1) shall be between 5 and 30 °C.

**8.2** Place the test package centrally in the test area, in the predetermined position and at the predetermined temperature so that the drops fall vertically on the test package. Operate the sprays continuously, as calibrated, for the specified period.