SLOVENSKI STANDARD
SIST EN 14853:2006

01-februar-2006

Embalaža za aerosole – Preskus vžiga v zaprtem prostoru

Aerosol containers - Enclosed space ignition test

Aerosolverpackungen - Prüfung auf Bildung explosionsfähiger Gemische in einem geschlossenen Raum

Récipients pour aérosols - Essai d'inflammation en espace clos

Ta slovenski standard je istoveten z: **EN 14853:2005**

ICS:

13.220.40	Sposobnost vžiga in obnašanje materialov in proizvodov pri gorenju	Ignitability and burning behaviour of materials and products
55.130	Ploļ evinke za aerosole	Aerosol containers

SIST EN 14853:2006 **en,fr,de**

EUROPEAN STANDARD

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EN 14853

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ICS 13.230; 55.130

English Version

Aerosol containers - Enclosed space ignition test

Récipients pour aérosol - Essai d'inflammation en espace clos

Aerosolverpackungen - Prüfung auf Bildung explosionsfähiger Gemische in einem geschlossenen Raum

This European Standard was approved by CEN on 14 October 2005.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Central Secretariat or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

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Foreword

This document (EN 14853:2005) has been prepared by Technical Committee CEN/TC 261 “Packaging”, the secretariat of which is held by AFNOR.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by May 2006, and conflicting national standards shall be withdrawn at the latest by May 2006.

This draft European Standard is one of a series of thirteen related standards with the following titles:

EN 14847, *Aerosol containers — Tinplate containers — Dimensions of the 25,4 mm aperture.*

EN 14848, *Aerosol containers — Metal containers with 25,4 mm aperture — Dimensions of valve cups.*

EN 14849, *Aerosol containers — Glass containers — Dimensions of aerosol valve ferrules.*

EN 14850, *Aerosol containers — Metal containers with 25,4 mm aperture — Measurement of contact height.*

EN 14851, *Aerosol containers — Aerosol foam flammability test.*

EN 14852, *Aerosol containers — Determination of the ignition distance of the spray jet.*

EN 14853, *Aerosol containers — Enclosed space ignition test.*

EN 14854, *Aerosol containers — Glass containers — Dimensions of the neck finish*

prEN 15006, *Metal aerosol containers — Aluminium containers — Dimensions of the 25,4 mm (one inch) aperture.*

prEN 15007, *Metal aerosol containers — Tinplate containers — Dimensions of three-piece cans.*

prEN 15008, *Metal aerosol containers — Dimensions of 1-piece aluminium can with 25,4 mm aperture.*

prEN 15009, *Aerosol containers — Bicompartmented aerosol containers.*

prEN 15010, *Aerosol containers — Aluminium containers — Tolerances of the fundamental dimensions in connection with the clinch.*

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

1 Scope

This European Standard specifies a method of determining the flammability of a product emerging from an aerosol dispenser in an enclosed or confined space.

2 Principle

The contents of an aerosol dispenser are sprayed into a cylindrical test vessel containing a burning candle. If an observable ignition occurs, the elapsed time and amount discharged is noted.

3 Apparatus

3.1 Cylindrical test vessel, approximately 200 dm^3 volume, approximately 600 mm in diameter and approximately 720 mm long and open at one end, modified as specified in clause 5.

3.2 Chronometer (stopwatch), accurate to ± 0,2 s.

3.3 Calibrated laboratory scales (balance), accurate to ± 0,1 g.

3.4 Water bath, accurate to ± 1 °C and maintained at 20 °C.

3.5 Thermometer, accurate to ± 1 °C.

3.6 Hygrometer, accurate to ± 5 %.

3.7 Pressure gauge, accurate to ± 0,1 bar.

4 Test conditions

The tests shall be carried out in a draught-free environment capable of ventilation, with the temperature controlled at 20 °C ± 5 °C and relative humidity in the range of 30 % to 80 %.

5 Preparation of test vessel

Modify the test vessel (3.1) as follows:

a) attach a closure system to the open end of the vessel. The closure system shall consist of:

   1) a hinged cover or;

   2) a plastic film, 0,01 mm to 0,02 mm thick. Stretch the film over the open end of the vessel and hold it in place with an elastic band. The strength of this band shall be such that when placed around the vessel resting on its side, it stretches by only 25 mm when a mass of 0,45 kg is attached to its lowest point. Cut a 25 mm slit in the film, starting 50 mm from the edge of the vessel. Ensure that the film is taut;

b) at the other end of the vessel, drill a 50 mm diameter hole 100 mm from the edge in such a way that the hole is uppermost when the receptacle is laid down and ready for the test (see Figure 1);

Dimensions in millimetres

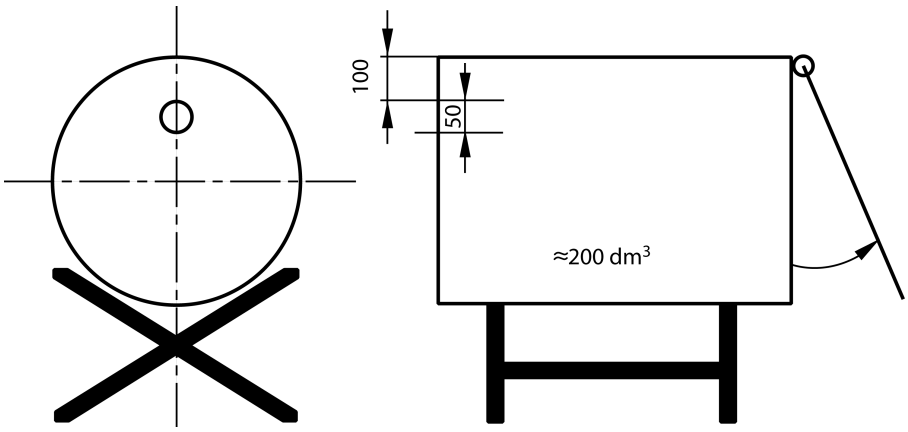

Figure 1 — Enclosed space vessel

c) on a 200 mm × 200 mm metal support, place a paraffin wax candle 20 mm to 40 mm in diameter and initially 100 mm high. The candle shall be replaced when having a height of less than 80 mm. Protect the candle's flame from the action of the spray by a deflector 150 mm wide and 200 mm high. This includes the plane inclined at 45° produced 150 mm from the base of the deflector (see Figure 2);

Dimensions in millimetres

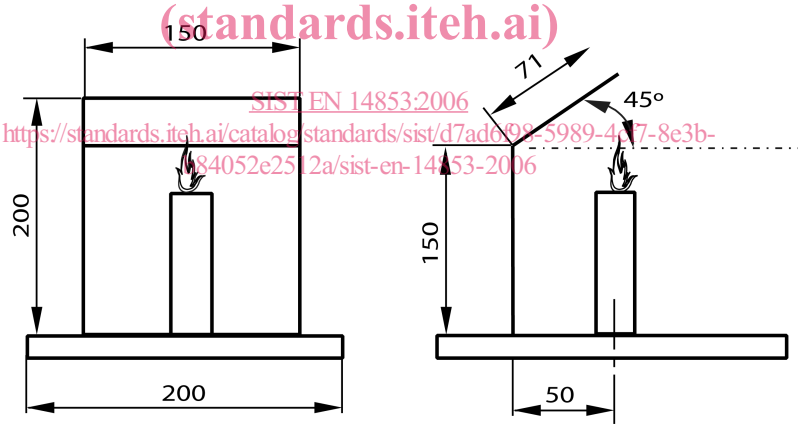

Figure 2 — Ignition source

d) position the candle placed on the metal support midway between the two ends of the vessel (see Figure 3) ;

Dimensions in millimetres

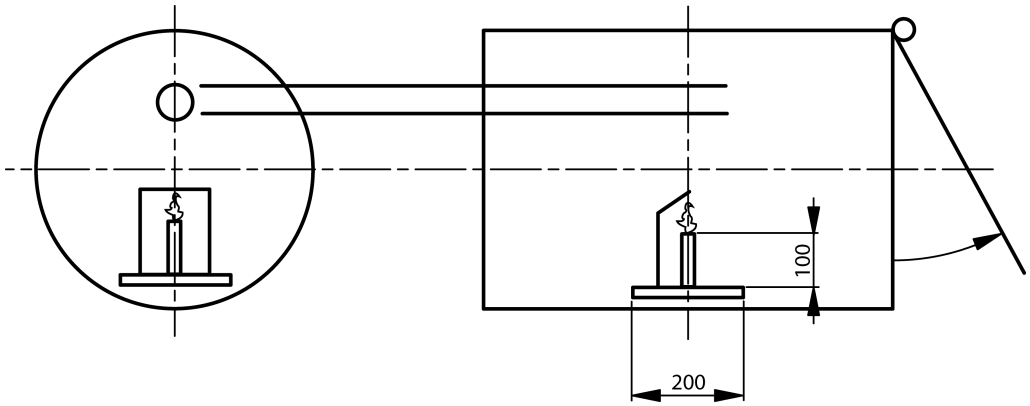

Figure 3 — Configuration of test apparatus

e) lay the vessel on the ground or on a support in an environment where the temperature is between 15 °C and 25 °C.

NOTE Usually, the product leaves the aerosol can at an angle of 90° relevant to the vertical axis of the can. The layout and procedure described refers to this kind of aerosol product. In the case of unusually operating aerosols (e.g. vertical-spray aerosol dispensers) it is obvious to record changes to equipment and procedures.

6 Test procedure

6.1 Condition a minimum of three full aerosol dispensers per product to 20 °C ± 1 °C by immersing at least 95 % of the dispenser in water at this temperature for at least 30 min before each test. Prime each aerosol dispenser by discharging for approximately 1 s.

NOTE The purpose of this action is to remove non-homogeneous material from the diptube.

6.2 Measure or calculate the actual volume of the vessel in litres.

6.3 Record the temperature and relative humidity of the environment.

6.4 Determine the internal pressure within the aerosol dispenser and initial discharge rate at 20 °C ± 1 °C. If the internal pressure or the initial discharge rate indicates that the dispenser is likely to be faulty or incompletely filled it shall not be used for the test.

6.5 Weigh one of the aerosol dispensers and note its mass.

6.6 Light the candle and apply the closure system (cover or plastic film).

6.7 Point the orifice of the aerosol dispenser actuator towards the centre of the entrance hole in the vessel, from a distance of 35 mm. Start the chronometer (stopwatch) and following the instructions for use of the product, direct the spray towards the centre of the opposite extremity (cover or plastic film). Follow strictly the instructions of use, including whether the dispenser is intended to be used in the upright or inverted position. When shaking is required, shake immediately before testing.

NOTE The aerosol is tested in the position it is designed to be used in, e.g. upright or inverted. This will usually ensure the highest discharge rate is obtained, which can affect the result of this test.