SLOVENSKI STANDARD
SIST EN 14851:2006

01-februar-2006

Embalaža za aerosole – Preskus vnetljivosti penastih aerosolov

Aerosol containers - Aerosol foam flammability test

Aerosolverpackungen - Prüfung der Brennbarkeit von Schaumprodukten

Récipients pour aérosols - Essai d'inflammation des produits moussants en aérosols

Ta slovenski standard je istoveten z: **EN 14851:2005**

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

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EUROPEAN STANDARD

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English Version

Aerosol containers - Aerosol foam flammability test

Récipients pour aérosols - Essai d'infmammation des produits moussants en aérosols

Aerosolpackungen - Prüfung der Brennbarkeit von Schaumprodukten

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.

EUROPEAN COMMITTEE FOR STANDARDIZATION
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Contents

Foreword

This document (EN 14851:2005) 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of an identical text or by endorsement, at the latest by May 2006, and conflicting national standards shall be withdrawn at the latest by May 2006.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 describes the method of determining the flammability of an aerosol product sprayed in the form of a foam, mousse, gel or paste.

2 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.1
ignition
appearance of a stable flame which is at least 4 cm high and which is maintained for at least 2 s.

3 Principle

Approximately 5 g of foam, mousse gel or paste is sprayed from the aerosol container on to a watchglass. An ignition source (candle, wax taper, match or lighter) is placed at the base of the watchglass and any ignition and sustained combustion of the foam, mousse, gel or paste is observed.

4 Apparatus

4.1 Scale for measuring height of flame, graduated in centimetres.

4.2 Support and clamp for holding the graduated scale in position.

4.3 Fire-resistant watchglass, approximately 150 mm in diameter.

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

4.5 Candle, wax taper, match or lighter.

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

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

4.8 Thermometer, accurate to ± 1 °C.

4.9 Hygrometer, accurate to ± 5 %.

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

5 Preparation of test apparatus

5.1 Place the watchglass on a fire-resistant surface within a draught-free area that can be ventilated after each test.

5.2 Position the graduated scale exactly behind the watchglass so that the origin of the scale is level with the watchglass base in a horizontal plane.

5.3 Restrain the scale vertically in this position by means of the support and clamp.

5.4 Condition a minimum of four 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.

6 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 %.

7 Test procedure

7.1 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.

7.2 Record the temperature and relative humidity of the environment.

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

7.4 Measure the discharge rate or flow rate of the aerosol product to be examined, so that the amount of test product dispensed can be more accurately gauged.

7.5 Determine the total mass of the full aerosol dispenser.

7.6 On the basis of the measured discharge or flow rate, and following the manufacturer's instructions, release approximately 5 g of the product onto the centre of the clean watchglass with the aim of producing a mound no higher than 25 mm. Follow strictly the manufacturer's instructions for use, including whether the dispenser is intended to be used in the upright or inverted position. When shaking is required, shake immediately before testing.

7.7 Within 5 s of completion of discharge, apply the source of ignition to the edge of the sample at its base and at the same time start the chronometer (stopwatch). If necessary, remove the ignition source from the edge of the sample after a few seconds in order to clearly observe if ignition has occurred. If no ignition of the sample is apparent, reapply the ignition source to the edge of the sample.

7.8 If ignition occurs, note the following:

— maximum height of the flame in centimetres above the base of the watchglass;

— flame duration in seconds.

7.9 Dry and re-weigh the aerosol dispenser and calculate the mass of the released product.

7.10 Ventilate the test area immediately after each test.

7.11 If ignition does not occur and the released product remains in the form of a foam, paste, mousse or gel throughout the test, repeat steps **7.7** to **7.10**. Allow the product to stand for 30 s, 1 min, 2 min and 4 min before applying the ignition source.

7.12 Repeat **7.5** to **7.11** twice more (a total of three) for the same can.

7.13 Repeat **7.5** to **7.12** for another two aerosol cans (three cans in total) of the same product.

8 Test report

The test report shall include the following information:

a) whether the product ignites;

b) maximum flame height in centimetres;

c) duration of flame in seconds;

d) mass of the product tested.