



SLOVENSKI STANDARD
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Fireworks - Part 13: Flash pellets - Specification and test methods

Feuerwerkskörper - Teil 13: Blitztabletten - Anforderungen und Prüfverfahren

Artifices de divertissement - Partie 13: Clignoteur pyrotechnique - Spécifications et méthodes d'essai

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Ta slovenski standard je istoveten z: EN 14035-13:2004

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und Prüfverfahren

This European Standard was approved by CEN on 29 July 2004.

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 14035-13:2004) has been prepared by Technical Committee CEN/TC 212 "Fireworks", the secretariat of which is held by NEN.

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of an identical text or by endorsement, at the latest by March 2005, and conflicting national standards shall be withdrawn at the latest by March 2005.

This European Standard is one of a series of standards as listed below.

EN 14035-1, *Fireworks - Part 1: Terminology.*

EN 14035-2, *Fireworks - Part 2: Categorisation.*

EN 14035-3, *Fireworks - Part 3: Aerial wheels - Specification and test methods.*

EN 14035-4, *Fireworks - Part 4: Bangers and banger batteries - Specification and test methods.*

prEN 14035-5, *Fireworks - Part 5: Batteries and combinations - Specification and test methods.*

EN 14035-6, *Fireworks - Part 6: Bengal flames - Specification and test methods.*

EN 14035-7, *Fireworks - Part 7: Bengal matches - Specification and test methods.*

EN 14035-8, *Fireworks - Part 8: Bengal sticks - Specification and test methods.*

EN 14035-9, *Fireworks - Part 9: Crackling granules - Specification and test methods.*

EN 14035-10, *Fireworks - Part 10: Double bangers - Specification and test methods.*

EN 14035-12, *Fireworks - Part 12: Flash bangers and flash banger batteries - Specification and test methods.*

EN 14035-13, *Fireworks - Part 13: Flash pellets - Specification and test methods.*

EN 14035-15, *Fireworks - Part 15: Fountains - Specification and test methods.*

EN 14035-17, *Fireworks - Part 17: Ground spinners - Specification and test methods.*

prEN 14035-18, *Fireworks - Part 18: Hand-held fountains - Specification and test methods.*

EN 14035-19, *Fireworks - Part 19: Hand-held sparklers - Specification and test methods.*

prEN 14035-20, *Fireworks - Part 20: Jumping crackers - Specification and test methods.*

prEN 14035-21, *Fireworks - Part 21: Jumping ground spinners - Specification and test methods.*

EN 14035-22, *Fireworks - Part 22: Mines - Specification and test methods.*

EN 14035-23, *Fireworks - Part 23: Non-hand-held sparklers - Specification and test methods.*

EN 14035-24, *Fireworks - Part 24: Novelty matches - Specification and test methods.*

prEN 14035-25, *Fireworks - Part 25: Party poppers - Specification and test methods.*

EN 14035-27, *Fireworks - Part 27: Rockets - Specification and test methods.*

EN 14035-28, *Fireworks - Part 28: Roman candles - Specification and test methods.*

EN 14035-29, *Fireworks - Part 29: Serpents - Specification and test methods.*

prEN 14035-31, *Fireworks - Part 31: Shell-in-mortars - Specification and test methods.*

prEN 14035-33, *Fireworks - Part 33: Spinners - Specification and test methods.*

EN 14035-34, *Fireworks - Part 34: Table bombs - Specification and test methods.*

prEN 14035-35, *Fireworks - Part 35: Throwdowns - Specification and test methods.*

EN 14035-36, *Fireworks - Part 36: Wheels - Specification and test methods.*

prEN 14035-37, *Fireworks - Part 37: Whistlers - Specification and test methods.*

prEN 14035-38, *Fireworks - Part38: Shot tubes - Specification and test methods.*

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.

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1 Scope

This document specifies requirements for the construction, performance, primary packaging and labelling of flash pellets and the corresponding test methods. It is applicable to fireworks which are classified as flash pellet in categories 1 and 2 in EN 14035-2 which are contained in a primary pack.

It is not applicable to flash pellets containing pyrotechnic composition that includes any of the following substances:

- arsenic or arsenic compounds;
- mixtures containing a mass fraction of chlorates greater than 80 %;
- mixtures of chlorates with metals;
- mixtures of chlorates with red phosphorus;
- mixtures of chlorates with potassium hexacyanoferrate(II);
- mixtures of chlorates with sulfur;
- mixtures of chlorates with sulfides;
- lead or lead compounds;
- mercury compounds;
- white phosphorus;
- picrates or picric acid;
- potassium chlorate with a mass fraction of bromates greater than 0,15 %;
- sulfur with an acidity, expressed in mass fraction of sulfuric acid, greater than 0,002 %;
- zirconium with a particle size of less than 40 µm.

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NOTE In EN 14035-2, flash pellets are classified as follows:

- brief description: pellet of intermittently burning pyrotechnic composition;
- principal effect: multiple flashes of light.

Schemes for type testing of flash pellets and batch testing of flash pellets are specified in annex A and annex B respectively.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

EN 1783, *Matches - Performance requirements, safety and classification*.

EN 14035-1:2003, *Fireworks — Part 1: Terminology*.

EN 14035-2, *Fireworks — Part 2: Categorisation*. EN ISO 845, *Cellular plastics and rubbers — Determination of apparent (bulk) density (ISO 845:1988)*.

EN ISO 868, *Plastics and ebonite - Determination of indentation hardness by means of a durometer (Shore hardness) (ISO 868:2003)*.

EN ISO 2439, *Flexible cellular polymeric materials - Determination of hardness (indentation technique) (ISO 2439:1997, including Technical Corrigendum 1:1998)*.

ISO 2859-1, *Sampling procedures for inspection by attributes — Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection*.

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 14035-1:2003 apply.

4 Construction

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4.1 Means of ignition

NOTE Small flash pellets usually do not have an initial fuse (producing the principal effect immediately after ignition).

The means of ignition shall be identified by a protruding fuse or an ignition head.

Conformity to this requirement shall be verified by visual examination.

4.2 Attachment of initial fuse (if any)

For flash pellets with protruding fuse, the attachment of the initial fuse to the flash pellet shall be secure when tested in accordance with 8.1.

For flash pellets with ignition head, the attachment of the ignition head to the flash pellet shall be secure when tested in accordance with 8.2.

4.3 Protection of flash pellet

The flash pellet shall be contained in a primary pack conforming to 6.

Conformity to this requirement shall be verified by visual examination.

4.4 Net explosive content

When determined in accordance with 8.4, a category 1 flash pellet shall have a net explosive content of not more than 2,0 g.

When determined in accordance with 8.4, a category 2 flash pellet shall have a net explosive content of not more than 20,0 g.

5 Performance

5.1 Initial fuse (if any)

NOTE Small flash pellets usually do not have an initial fuse (producing the principal effect immediately after ignition).

When tested in accordance with 8.3, the protruding fuse shall ignite within 10 s and the ignition shall be visible.

When tested in accordance with 8.3, the ignition head shall ignite within 10 s and the ignition shall be visible.

For flash pellets with protruding fuse, the duration of the initial fuse burning shall be 3,0 s to 8,0 s, when tested in accordance with 8.3.

5.2 Ignition of flash pellet without protruding fuse or ignition head

When tested in accordance with 8.3, the pyrotechnic composition of a flash pellet shall ignite within 10 s and the ignition shall be visible.

5.3 Principal effect

When tested in accordance with 8.3, the principal effect of the flash pellet, as given in EN 14035-2, shall be multiple flashes of light.

5.4 Explosions

When tested in accordance with 8.3, the flash pellet shall not produce an explosion.

5.5 Functioning

When tested in accordance with 8.3, all the pyrotechnic composition of the flash pellet shall burn off.

5.6 Burning matter

When tested in accordance with 8.3, any flames caused by the functioning of the flash pellets without base shall be extinguished within 5,0 s of the flash pellet ceasing to function.

When tested in accordance with 8.3, any flames caused by the functioning of the flash pellets with base shall be extinguished within 60,0 s of the flash pellet ceasing to function.

6 Primary pack

The primary pack shall completely enclose the flash pellet(s) and there shall be no holes or splits in the primary pack.

Conformity to these requirements shall be verified by visual examination.

7 Minimum labelling requirements

7.1 General

The primary packs of flash pellets shall be marked with the information specified in 7.2 to 7.5 and 7.7.

The specified information shall be given in the language(s) of the country in which the flash pellets contained in the primary packs are offered for retail sale. For each language, it shall be presented as a whole and shall not be interrupted by other text. Additional text given in another language shall not conflict with the specified information.

Conformity to the requirements specified in 7.1 to 7.5, 7.6.1 and 7.7 shall be verified by visual examination.

NOTE Examples of typical labels for bangers, for which many of the marking requirements are similar to those specified for primary packs of flash pellets in this standard, are given in EN 14035-4.

7.2 Type name and category

The type name shall be marked, in upper case, as 'FLASH PELLETS'. If a trade name is used in addition to the type name, it shall not conflict with the principal effect of a flash pellet or with the name of another type of firework.

The appropriate category shall be marked, in upper case, as 'CATEGORY 2' or 'CAT 2', for example.

7.3 Safety information

7.3.1 General

Safety information shall be emphasized by use of a heading, or bold type, or similar. If necessary, instructions in addition to those specified in 7.3.2 to 7.3.3 may be given.

7.3.2 Category 1 flash pellets

Labelling shall include at least the following safety information in the order as given:

- 'Place singly on non-flammable surface'; EN 14035-13:2004
- 'Ignite at the edge of the pellet and retire immediately at least 1 m¹⁾'; or
- 'Light fuse at its outermost end and retire immediately at least 1 m¹⁾'; or
- 'Light ignition head and retire immediately at least 1 m¹⁾'.

7.3.3 Category 2 flash pellets

Labelling shall include at least the following safety information in the order as given:

- 'For outdoor use only';
- 'Place singly on ground';
- 'Ignite at the edge of the pellet and retire immediately at least 8 m¹⁾'; or
- 'Light fuse at its outermost end and retire immediately at least 8 m¹⁾'; or
- 'Light ignition head and retire immediately at least 8 m¹⁾'.

¹⁾ Which ever is appropriate