



NSAI
Standards

Irish Standard
I.S. EN 14035-5:2006

Fireworks - Part 5: Batteries and combinations - Specifications and test methods

I.S. EN 14035-5:2006

Incorporating amendments/corrigenda/National Annexes issued since publication:

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English Version

Fireworks - Part 5: Batteries and combinations - Specification and test methods

Artifices de divertissement - Partie 5: Batteries et
combinaisons - Spécifications et méthodes d'essai

Feuerwerkskörper - Teil 5: Batterien und Kombinationen -
Anforderungen und Prüfverfahren

This European Standard was approved by CEN on 30 December 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.

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Foreword

This European Standard (EN 14035-5:2006) 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of an identical text or by endorsement, at the latest by August 2006, and conflicting national standards shall be withdrawn at the latest by August 2006.

This 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*

EN 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*

EN 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*

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

EN 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*

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EN 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*

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

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

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

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

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

EN 14035-38, *Fireworks - Part 38: 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, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

1 Scope

This European Standard specifies requirements for the construction, performance, primary packaging and labelling of batteries and combinations and the corresponding test methods. It is applicable to fireworks which are classified as batteries and combinations in categories 2 and 3 according to EN 14035-2.

It is applicable to category 2 batteries and combinations containing elements, each corresponding to a type of firework listed in EN 14035-2 and which conform to the relevant requirements of categories 1 and 2.

It is applicable to category 3 batteries and combinations containing elements, each corresponding to a type of firework listed in EN 14035-2 and which conform to the relevant requirements of categories 1, 2 and 3.

It is not applicable to banger batteries and flash banger batteries, which are specified in EN 14035-4 and EN 14035-12 respectively.

NOTE 1 The elements (types of firework) that can be included in a battery or combination are specified in Clause 4.

It is not applicable to batteries and combinations 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 as mass fraction of sulfuric acid, greater than 0,002 %;
- zirconium with a particle size of less than 40 μm .

NOTE 2 In EN 14035-2, batteries and combinations are classified as follows:

— brief description:

— battery: assembly including several elements, each of the same type and corresponding to one of the types of firework listed in EN 14035-2, with one point of ignition;

— combination: assembly including several elements, not all of the same type, each corresponding to one of the types of firework listed in EN 14035-2, with one point of ignition;

— principal effects: as for the individual elements.

Schemes for type testing of batteries and combinations and batch testing of batteries and combinations are specified in Annex A and Annex B respectively.

2 Normative references

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

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

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

EN 61672-1, *Electroacoustics — Sound level meters — Part 1: Specifications (IEC 61672-1:2002)*

EN 61672-2, *Electroacoustics — Sound level meters — Part 2: Pattern evaluation tests (IEC 61672-2:2003)*

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 European Standard, the terms and definitions given in EN 14035-1:2003 apply.

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