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Standards

Irish Standard  
I.S. EN 15947-5:2010

# Pyrotechnic articles - Fireworks, Categories 1, 2, and 3 - Part 5: Requirements for construction and performance

## I.S. EN 15947-5:2010

*Incorporating amendments/corrigenda/National Annexes issued since publication:*

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<i>This document replaces:</i> See cover page of EN.	<i>This document is based on:</i> EN 15947-5:2010	<i>Published:</i> 29 September, 2010
This document was published under the authority of the NSAI and comes into effect on: 4 October, 2010		ICS number: 71.100.30
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Údarás um Chaighdeáin Náisiúnta na hÉireann		

ICS 71.100.30

Supersedes EN 14035-7:2004, EN 14035-31:2005,  
EN 14035-35:2004, EN 14035-28:2004,  
EN 14035-36:2004, EN 14035-6:2004,  
EN 14035-24:2004, EN 14035-9:2004,  
EN 14035-23:2003, EN 14035-15:2003,  
EN 14035-12:2003, EN 14035-34:2003,  
EN 14035-29:2004, EN 14035-27:2003,  
EN 14035-38:2006, EN 14035-33:2005,  
EN 14035-20:2005, EN 14035-8:2004,  
EN 14035-10:2004, EN 14035-3:2004,  
EN 14035-22:2004, EN 14035-18:2004,  
EN 14035-13:2004, EN 14035-5:2006,  
EN 14035-4:2003, EN 14035-25:2005,  
EN 14035-17:2004, EN 14035-19:2003,  
EN 14035-21:2005

English Version

## Pyrotechnic articles - Fireworks, Categories 1, 2, and 3 - Part 5: Requirements for construction and performance

Articles pyrotechniques - Artifices de divertissement,  
Catégories 1, 2, et 3 - Partie 5: Exigences de construction  
et de performances

Pyrotechnische Gegenstände - Feuerwerkskörper,  
Kategorien 1, 2 und 3 - Teil 5: Anforderungen an  
Konstruktion und Funktion

This European Standard was approved by CEN on 21 August 2010.

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 CEN Management Centre 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 CEN Management Centre has the same status as the official versions.

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## Foreword

This document (EN 15947-5:2010) has been prepared by Technical Committee CEN/TC 212 "Pyrotechnic articles", 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 2011, and conflicting national standards shall be withdrawn at the latest by March 2011.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 14035-7:2004, EN 14035-31:2005, EN 14035-35:2004, EN 14035-28:2004, EN 14035-36:2004, EN 14035-6:2004, EN 14035-24:2004, EN 14035-9:2004, EN 14035-23:2003, EN 14035-15:2003, EN 14035-12:2003, EN 14035-34:2003, EN 14035-29:2004, EN 14035-27:2003, EN 14035-38:2006, EN 14035-33:2005, EN 14035-20:2005, EN 14035-8:2004, EN 14035-10:2004, EN 14035-3:2004, EN 14035-22:2004, EN 14035-18:2004, EN 14035-13:2004, EN 14035-5:2006, EN 14035-4:2003, EN 14035-25:2005, EN 14035-17:2004, EN 14035-19:2003, EN 14035-21:2005.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

This European Standard is one of the series of standards as listed below:

- EN 15947-1, *Pyrotechnic articles — Fireworks, Categories 1, 2 and 3 — Part 1: Terminology*
- EN 15947-2, *Pyrotechnic articles — Fireworks, Categories 1, 2 and 3 — Part 2: Categories and types of firework*
- EN 15947-3, *Pyrotechnic articles — Fireworks, Categories 1, 2 and 3 — Part 3: Minimum labelling requirements*
- EN 15947-4, *Pyrotechnic articles — Fireworks, Categories 1, 2 and 3 — Part 4: Test methods*
- EN 15947-5, *Pyrotechnic articles — Fireworks, Categories 1, 2 and 3 — Part 5: Requirements for construction and performance*

CEN/TC 212 is currently also developing European Standards for:

- Pyrotechnic articles — Fireworks Category 4;
- Pyrotechnic articles — Theatrical pyrotechnic articles;
- Pyrotechnic articles — Pyrotechnic articles for vehicles;
- Pyrotechnic articles — Other pyrotechnic articles.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, 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 the United Kingdom.

## 1 Scope

This European Standard specifies requirements for the construction, performance and primary packaging of fireworks of category 1, 2 and 3 of the following types:

- aerial wheels;
- bangers;
- batteries and combinations;
- Bengal flames;
- Bengal matches;
- Bengal sticks;
- Christmas crackers;
- crackling granules;
- double bangers;
- flash bangers;
- flash pellets;
- fountains;
- ground movers;
- ground spinners;
- hand-held sparklers;
- jumping crackers;
- jumping ground spinners;
- mines;
- mini rockets;
- non-hand-held sparklers;
- novelty matches;
- party poppers;
- rockets;
- Roman candles;
- serpents;
- shot tubes;



- snaps;
- spinners;
- table bombs;
- throwdowns;
- wheels.

This European Standard does not apply for articles containing military explosives or commercial blasting agents except for black powder or flash composition. This European Standard does not apply for articles containing pyrotechnic composition that includes any of the following substances:

- arsenic or arsenic compounds;
- hexachlorobenzene;
- mixtures containing a mass fraction of chlorates greater than 80 %;
- mixtures of chlorates with metals;
- mixtures of chlorates with red phosphorus (except when used in Christmas crackers, party poppers or snaps);
- mixtures of chlorates with potassium hexacyanoferrate(II);
- mixtures of chlorates with sulfur (these mixtures are allowed for friction heads only);
- 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 sulphuric acid, greater than 0,002 %;
- zirconium with a particle size of less than 40 µm.

## 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 15947-1:2010, *Pyrotechnic articles — Fireworks, Categories 1, 2 and 3 — Part 1: Terminology*

EN 15947-2, *Pyrotechnic articles — Fireworks, Categories 1, 2 and 3 — Part 2: Categories and types of firework*

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