ILNAS

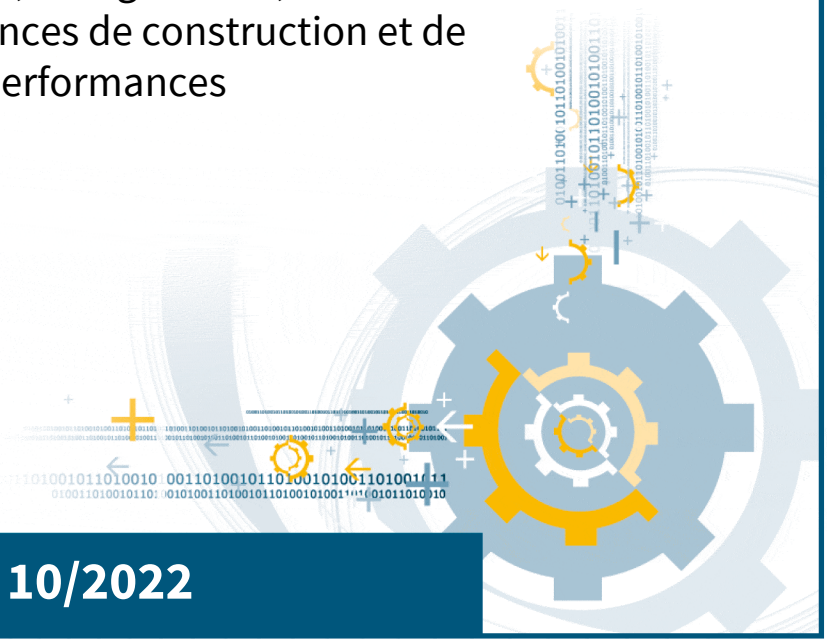
Institut luxembourgeois de la normalisation
de l'accréditation, de la sécurité et qualité
des produits et services

ILNAS-EN 15947-5:2022

Pyrotechnic articles - Fireworks, Categories F1, F2 and F3 - Part 5: Requirements for construction and performance

Pyrotechnische Gegenstände - Feuerwerkskörper, Kategorien F1, F2 und F3 - Teil 5: Anforderungen an Konstruktion und Funktion

Articles pyrotechniques - Artifices de divertissement, Catégories F1, F2 et F3 - Partie 5 : Exigences de construction et de performances



10/2022

National Foreword

This European Standard EN 15947-5:2022 was adopted as Luxembourgish Standard ILNAS-EN 15947-5:2022.

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EUROPEAN STANDARD
NORME EUROPÉENNE
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English Version

Pyrotechnic articles - Fireworks, Categories F1, F2 and F3 - Part 5: Requirements for construction and performance

Articles pyrotechniques - Artifices de divertissement, Catégories F1, F2 et F3 - Partie 5 : Exigences de construction et de performances

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This European Standard was approved by CEN on 8 August 2022.

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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-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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European foreword

This document (EN 15947-5:2022) 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of an identical text or by endorsement, at the latest by April 2023, and conflicting national standards shall be withdrawn at the latest by December 2023.

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

This document supersedes EN 15947-5:2015.

In comparison with the previous edition EN 15947-5:2015, the following essential technical modifications have been made:

— new fireworks types “report rocket” in F3 and “senko-hanabi” in F1 added with corresponding requirements;

— requirements for hand-held Bengal flame and Banger with preliminary effect have been added;

— procedure to check the labelling during type testing has been revised;

— measuring of sound pressure level during batch testing is not required, if the measured values during type testing were less than 90 dB (AI) at the respective safety distance;

— for fireworks with whistle elements no plastic tubes shall be ejected from the article during functioning;

— deletion of the requirements regarding “Integrity after function” (earlier 7.3.4);

— type testing was revised;

— requirements on elements in battery, battery requiring external support, combination and combination requiring external support has been revised;

— requirement for end closures breakability has been added;

— the requirement to use a non-metallic base plate to fix the individual fireworks for a compound firework has been removed;

— requirement removed for mounted wheels in category F3 (ex 6.4.2).

This document has been prepared under a Standardization Request (M/583) concerning pyrotechnic articles given to CEN by the European Commission and the European Free Trade Association, and supports Essential Safety requirements of Directive 2013/29/EU.

For relationship with Directive 2013/29/EU, see informative Annex ZA, which is an integral part of this document.

This document is one of the series of standards as listed below:

— EN 15947-1, *Pyrotechnic articles — Fireworks, Categories F1, F2 and F3 — Part 1: Terminology*

— EN 15947-2, *Pyrotechnic articles — Fireworks, Categories F1, F2 and F3 — Part 2: Categories and types of firework*

— EN 15947-3, *Pyrotechnic articles — Fireworks, Categories F1, F2 and F3 — Part 3: Minimum labelling requirements*

— EN 15947-4, *Pyrotechnic articles — Fireworks, Categories F1, F2 and F3 — Part 4: Test methods*

— EN 15947-5, *Pyrotechnic articles — Fireworks, Categories F1, F2 and F3 — Part 5: Requirements for construction and performance*

Any feedback and questions on this document should be directed to the users' national standards body. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organisations 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, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

1 Scope

This document specifies requirements for construction and performance of firework and primary packs and selection packs. It is applicable to firework of the categories F1, F2 and F3 as defined by Article 6 Paragraph (1) clause (a) subclause (i) to (iii) of Directive 2013/29/EU.

This document is not applicable for fireworks containing detonative explosives other than black powder or flash composition or pyrotechnic composition that includes any of the following substances:

— arsenic or arsenic compounds;

— hexachlorobenzene;

— lead or lead compounds;

— 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 sulphur (these mixtures are allowed for friction heads only);

— mixtures of chlorates with sulphides;

— mercury compounds;

— nitrocellulose with a mass fraction of nitrogen of more than 12,6 %;

— picrates or picric acid;

— potassium chlorate with a mass fraction of bromates greater than 0,15 %;

— sulphur with an acidity, expressed in mass fraction of sulphuric acid, greater than 0,002 %;

— white phosphorus;

— zirconium with a particle size of less than 40 µm.

This document does not apply to fireworks intended to be kept or used at temperatures below −20 °C or above 50 °C.