



SLOVENSKI STANDARD
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Pirotehnični izdelki - Ognjemet, kategorija F4

Pyrotechnic articles - Fireworks, Category F4

Pyrotechnische Gegenstände - Feuerwerkskörper, Kategorie 4 - Anforderungen

Articles pyrotechniques - Artifices de divertissement, Catégorie F4

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EUROPEAN STANDARD
NORME EUROPÉENNE
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DRAFT
prEN 16261

February 2026

ICS 71.100.30

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English Version

Pyrotechnic articles - Fireworks, Category F4

Articles pyrotechniques - Artifices de divertissement,
Catégorie F4

Pyrotechnische Gegenstände - Feuerwerkskörper,
Kategorie 4 - Anforderungen

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prEN 16261:2026 (E)**European foreword**

This document (prEN 16261:2026) has been prepared by Technical Committee CEN/TC 212 “Pyrotechnic articles”, the secretariat of which is held by NEN.

This document is currently submitted to CEN Enquiry.

This document will supersede EN 16261-1:2012 EN 16261-2:2013, EN 16261-3:2012 and EN 16261-4:2012.

prEN 16261:2026 includes the following changes with respect to EN 16261-1:2012, EN 16261-2:2013, EN 16261-3:2012 and EN 16261-4:2012:

- the 4 parts have been merged;
- the subclause 7.3.2 “Use of plastics” has been added;
- the Annex G has been added;
- the Annex ZA has been updated.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, see informative Annex ZA, which is an integral part of this document.

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1 Scope

This document specifies requirements for the construction, performance, protective packaging and labelling of Category F4 fireworks, as listed in Clauses 4, 5 and 6.

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

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 13763-1:2025, *Explosives for civil uses — Detonators and detonating cord relays — Part 1: Requirements*

EN 61672-1:2013, *Electroacoustics — Sound level meters — Part 1: Specifications*

EN ISO 3166-1:2020, *Codes for the representation of names of countries and their subdivisions — Part 1: Country code (ISO 3166-1:2020)*

EN ISO 13385-1:2019, *Geometrical product specifications (GPS) — Dimensional measuring equipment — Part 1: Design and metrological characteristics of callipers (ISO 13385-1:2019)*

ISO 2859-1:1999,¹ *Sampling procedures for inspection by attributes — Part 1: Sampling schemes indexed by acceptance quality limit (AQL) for lot-by-lot inspection*

ISO 22863-1:2020, *Fireworks — Test methods for determination of specific chemical substances — Part 1: General*

ISO 22863-2:2020, *Fireworks — Test methods for determination of specific chemical substances — Part 2: Hexachlorobenzene by gas chromatography*

ISO 22863-3:2020, *Fireworks — Test methods for determination of specific chemical substances — Part 3: Lead and lead compounds by atomic absorption*

ISO 22863-4:2021, *Fireworks — Test methods for determination of specific chemical substances — Part 4: Analysis of lead and lead compounds by X-ray fluorescence spectrometry (XRF)*

ISO 22863-5:2021, *Fireworks — Test methods for determination of specific chemical substances — Part 5: Analysis of lead and lead compounds by inductively coupled plasma spectrometry (ICP)*

ISO 22863-8:2021, *Fireworks — Test methods for determination of specific chemical substances — Part 8: Arsenic content by hydride generation atomic fluorescence spectrometry*

ISO 22863-9:2021, *Fireworks — Test methods for determination of specific chemical substances — Part 9: Mercury content by hydride generation atomic fluorescence spectrometry*

ISO 22863-11:2022, *Fireworks — Test methods for determination of specific chemical substances — Part 11: Phosphorus content by inductively coupled plasma optical emission spectrometry (ICP-OES)*

¹ Impacted by ISO 2859-1:1999/A1:2011

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ISO 22863-12:2022, *Fireworks — Test methods for determination of specific chemical substances — Part 12: Picrates and picric acid by high performance liquid chromatography*

3 Terms and definitions

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

3.1 General terms

3.1.1

firework assembly

assembly of individual elements that have EU-type examination certification, except components

Note 1 to entry: These elements are described in Tables 4 and 5

3.1.2

generic type

set of articles with a common, very general, design feature and/or with a common characteristic effect

3.1.3

individual item

article within a *generic type* and/or a *subtype*, for which every feature and characteristic has been fixed

Note 1 to entry: Each feature and characteristic will be specified in the *technical name* or a technical data sheet, as appropriate.

3.1.4

subtype

set of articles within a *generic type* with specific design features

3.1.5

technical documentation provided with the article

all technical information about the article to be provided for EU-type examination certification

3.1.6

technical name

general description of an *individual item*

3.1.7

trade name

description of an *individual item* from a particular supplier

3.1.8

type

sample representative of the production envisaged

3.2 Technical terms

3.2.1

acceptance quality limit

AQL

quality level that is the worst tolerable process average when a continuing series of lots is submitted for acceptance sampling

3.2.2

batch test

test performed on a sample of products taken at random from a production batch to check compliance with a given standard

Note 1 to entry: Batch testing needs all products in the production batch to comply with the characteristics the standard requires to ensure homogeneity of the whole batch. It aims at proving that all products which are placed on the market are in conformity with the type which is described in the EU-type examination certificate and have been successfully submitted to *type tests* as determined by the standard.

3.2.3

biodegradable

decomposable at the end of life in naturally occurring soil conditions

Note 1 to entry: Decomposition products can comprise carbon dioxide, water, microbial mass and minerals (non-exhaustive list).

Note 2 to entry: *Biodegradable* materials can be both biobased or fossil-based.

3.2.4

burst height

altitude of the bursting point of the effect or the article

Note 1 to entry: For single break shells, this is the height at which the bursting charge of the shell functions. For complex shells, it is the highest bursting effect.

3.2.5

calibre

external diameter of a cylindrical or spherical firework designed to be fired from a *mortar* tube or the internal diameter of a tube which contains pre-assembled items

Note 1 to entry: It is important that the internal diameter of the *mortar* tube is close to the external diameter of the firework, enabling the existence of a peripheral gap which is a compromise between the necessity of a free motion of the firework in the tube and a lowest escape of lift gases passing by the firework during its motion in the tube.

3.2.6

critical nonconforming unit

nonconforming unit with one or more critical nonconformities, with or without major or minor nonconformities

3.2.7

critical nonconformity

nonconformity that judgement and experience indicate is likely to result in hazardous or unsafe conditions

Note 1 to entry: This type of nonconformity is referred to as 'class A nonconformity' in ISO 2859-1:1999.

3.2.8

debris

part of the firework which remains after the firework has ceased to function

Note 1 to entry: Chemical products resulting from the combustion of the *pyrotechnic compositions* are not considered as "*debris*".

prEN 16261:2026 (E)**3.2.9****delay fuse**

fuse incorporated into the *initial fuse* of a firework to introduce a delay between firing and functioning or the internal *fuse* in a firework to enable sequential firing of elements of the firework

3.2.10**detonation**

reaction which propagates through an explosive at supersonic velocity in the reacting explosive

3.2.11**detonative explosive**

substance or mixture of substances which can undergo a fast internal decomposition reaction leading to a *detonation* in normal use

3.2.12**drift**

movement of a firework away from the direction of firing, as a result of the action of the wind or other effects

Note 1 to entry: For instance, an aerial wheel might *drift* away from the vertical direction in which it was fired. *Drift* can be quantified in terms of angle or distance.

3.2.13**drop**

information whether incandescent or burning matter hits the level where the firework is fired

3.2.14**drop height**

minimum distance from the ground at which the effect ends or the falling *debris* stop burning

3.2.15**effect broadness****broadness of effect**

horizontal dimension of the firework effect

3.2.16**effect dimension**

maximum horizontal extension of the effect of aquatic fireworks perpendicularly to the direction of firing

3.2.17**effect height**

maximum height achieved by the firework

Note 1 to entry: For a shell, this would equate to the *burst height* plus the burst radius of the shell. For waterfalls, this corresponds with the vertical length of the effect.

3.2.18**effect range**

horizontal distance between the firing point and the point of *explosion* (or functioning) on to the water

3.2.19**effect time**

total duration of effect from its visible and/or aural emergence until vanishing

3.2.20**end closure**

part or crimp which is designed to seal one end of a *firework case*

3.2.21**explosion**

sudden release of energy accompanied by a bang with or without a flash

3.2.22**firework case**

container which is designed to retain *pyrotechnic compositions*

Note 1 to entry: Depending on its mechanical strength, this container may intentionally (by design) influence the firework's behaviour.

3.2.23**firing angle**

angle (measured from the vertical) of an item as prepared for firing

3.2.24**flash powder**

uncompacted *pyrotechnic composition* used to produce an aural effect, with or without emission of an intense and short flash light, or used as a bursting charge or *lifting charge*

3.2.25**flying debris**

projected, propelled or dispersed part or *debris* of fireworks that are likely to end up in the environment

3.2.26**friction head**

ignition head designed to be ignited by friction

3.2.27**fuse**

small tube or cord containing a pressed or compacted *pyrotechnic composition* which burns gradually to ignite a *pyrotechnic composition* or article

Note 1 to entry: By extension, this term also applies to other types of fire transmission devices like quickmatch or blackmatch or pressed *fuse*.

3.2.28**gross mass**

total mass of the firework which does not include any frame or other ancillary equipment

3.2.29**ignition head**

initial fuse consisting of *pyrotechnic composition* only

3.2.30**initial fuse**

component of a firework which is ignited in order to start the firework functioning

prEN 16261:2026 (E)**3.2.31****initial fuse time**

burning time of the *initial fuse*

3.2.32**lifting charge**

non-consolidated *pyrotechnic composition* used to project the firework as a whole or a subcomponent of the firework into the air

3.2.33**major nonconforming unit**

nonconforming unit with one or more major nonconformities, with or without minor nonconformities, but with no critical nonconformities

3.2.34**major nonconformity**

nonconformity, other than a *critical nonconformity*, which is likely to result in failure, to reduce materially the usability of the firework, or to increase the potential hazard

Note 1 to entry: This type of *nonconformity* is referred to as 'class B nonconformity' in ISO 2859-1:1999.

3.2.35**minor nonconforming unit**

nonconforming unit with one or more minor nonconformities, but with no critical or major nonconformities

3.2.36**minor nonconformity**

nonconformity that is not likely to reduce materially the usability of the firework

Note 1 to entry: This type of nonconformity is referred to as 'class C nonconformity' in ISO 2859-1:1999.

3.2.37**mortar**

tube which is closed at the lower end and from which a firework is projected

3.2.38**net explosive content****NEC**

mass of *pyrotechnic composition* in the firework

Note 1 to entry: For the purpose of this standard series, the NEC does not include the *pyrotechnic composition* in the *initial fuse* or *transmitting fuses*, friction or *ignition heads*.

3.2.39**nonconforming unit**

firework or assembly of fireworks fused together at the manufacturing level with one or more nonconformities

3.2.40**nonconformity**

non-fulfilment of a requirement

[SOURCE: EN ISO 9000:2015, 3.6.9] [1]

3.2.41**overall duration**

time from the start of the first effect until the end of the last effect and, for an aerial wheel, the flight time from the take off until the landing

3.2.42**packaging**

wrapping or encasing in which an item is presented for transport, storage and/or sale

3.2.43**plastic**

material which contains, as an essential ingredient, a polymer and which, at some stage in its processing into finished products, can be shaped by heat and/or pressure

Note 1 to entry: *Plastics* consist mainly of polymers and minor contents of additives.

Note 2 to entry: *Plastics* comprise both thermoplastic and thermoset materials.

Note 3 to entry: Materials that are *biodegradable* are not regarded as *plastics*.

3.2.44**principal effect**

main visual and/or aural effect the firework has been designed to display

3.2.45**projected article**

article whose movement is produced by a non-consolidated *pyrotechnic composition* in a single event and a short duration

3.2.46**projected debris**

fragments projected laterally from the firework while functioning

3.2.47**propelled article**

article moved by an attached or integral motor, producing thrust over an extended period of time

3.2.48**protective pack**

package of one or more fireworks which can act as protection of the means of ignition and/or for labelling purposes

3.2.49**pyrotechnic composition**

explosive substance or mixture of explosive substances which is designed, on ignition or initiation, to produce heat, light, sound, gas or smoke or a combination of such effects through self-sustained exothermic chemical reactions

3.2.50**pyrotechnic leakage**

pyrotechnic composition released from damaged pyrotechnic articles

prEN 16261:2026 (E)**3.2.51****pyrotechnic unit**

discrete unit that is part of a firework which, upon functioning, will burn or explode to produce a visual and/or aural effect

Note 1 to entry: The effect produced by a *pyrotechnic unit* is normally part of a combination of effects produced by the firework.

3.2.52**radial effect distance**

maximum distance of the effect in any direction except in the direction of firing

3.2.53**report effect**

aural effect intended to produce a bang

3.2.54**transmitting fuse**

component of a firework which is intended to transmit ignition from one part of a firework to another, with or without a delay

3.2.55**type test**

test performed on a sample of products, representative of the production envisaged

Note 1 to entry: The successful submission to *type tests* leads to the attribution of a type-examination certificate.

3.2.56**wind speed**

measured speed of the wind at a defined height

4 List of generic types and descriptions

The list of *generic types* and descriptions is given in Table 1.

Table 1 — List of generic types and descriptions

	Generic type	Description	Comments (informative)	Principal effects
4.1	Aerial wheel	Tubes containing propellant charges and sparks-, flame- and/or noise-producing <i>pyrotechnic composition(s)</i> , the tubes being fixed to a supporting structure, designed to rotate and ascend into the air.	Some of the tubes (if not all) are fixed in such a way that the device ascends, in an unsupported manner, into the air.	Rotation and ascent, with emission of sparks and flames, producing a visual and/or aural effect.
4.2	Aquatic firework	Firework designed to be floated on or near the surface of water by means of a buoyancy device or by itself and to function on or below water.		Same as Bengal flames, fountains, mines, shells for example.

	Generic type	Description	Comments (informative)	Principal effects
4.3	Combination	Assembly including several elements, of one or more types, each corresponding to one of the types of firework listed in this table, with one or more points of ignition. <i>Firework assembly</i> should not be considered as combination.	The elements may be fused together in series or parallel, with or without <i>delay fuses</i> , to give their effects in a sequence or at the same time.	As for the individual elements.
4.4	Component	Article which is included in other fireworks, in most cases without <i>lifting charge</i> and which requires further preparation.		See "List of Components".
4.5	Fountain	Case containing sparks- and/or flame-and/or aural effect-producing <i>pyrotechnic composition</i> .		Emission of sparks and flames with aural effect other than <i>report effect</i> or without any aural effect.
4.6	Guided Firework	Article containing <i>pyrotechnic composition</i> designed to function along a rope or other guide and to produce a visual and/or aural effect.	For example, line rockets can also be used to transmit ignition to other fireworks, generally fixed on a frame located at a distance from the firing place, e.g. at the top of a steeple or a tower.	Emission of a visual and/or aural effect.
4.7	Mine	Article which can include integral <i>mortar</i> , containing propellant charge and more than one <i>pyrotechnic unit</i> , having as main effect the discharge of all the <i>pyrotechnic units</i> in a single ejection.	<i>pyrotechnic units</i> can be stars, bangers, butterflies, crackers, hummers, spinners/tourbillions, whistles, for example.	Ejection of all the <i>pyrotechnic units</i> in a single burst producing a widely dispersed visual and/or aural effect in the air.
4.8	Report	Article containing <i>pyrotechnic composition</i> designed to produce a bang.		Bang - may also include a coloured (or other effect) delay element.
4.9	Rocket	Article containing <i>pyrotechnic composition</i> and/or <i>pyrotechnic units</i> , equipped with a launching motor and stick(s) or other means for stabilization of flight, and designed to be propelled into the air.		Ascend with visual and/or aural effect.