

BS EN 15947-2:2015



BSI Standards Publication

Pyrotechnic articles — Fireworks, Categories F1, F2, and F3

Part 2: Categories and types of firework

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National foreword

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The UK participation in its preparation was entrusted to Technical Committee CII/47, Pyrotechnic articles.

A list of organizations represented on this committee can be obtained on request to its secretary.

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

Articles pyrotechniques - Artifices de divertissement,
Catégories F1, F2 et F3 - Partie 2 : Catégories et types
d'artifices de divertissement

Pyrotechnische Gegenstände - Feuerwerkskörper,
Kategorien F1, F2 und F3 - Teil 2: Kategorien und
Feuerwerkstypen

This European Standard was approved by CEN on 26 September 2015.

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European foreword

This document (EN 15947-2:2015) 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of an identical text or by endorsement, at the latest by June 2016, and conflicting national standards shall be withdrawn at the latest by June 2016.

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 15947-2:2010.

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 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.*

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1 Scope

This European Standard establishes a system for dividing fireworks into categories and types. It is applicable to fireworks in categories F1, F2 and F3.

2 Normative references

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

EN 15947-1:2015, *Pyrotechnic articles — Fireworks, Categories F1, F2 and F3 — Part 1: Terminology*

EN 15947-3:2015, *Pyrotechnic articles — Fireworks, Categories F1, F2 and F3 — Part 3: Minimum labelling requirements*

EN 15947-5:2015, *Pyrotechnic articles — Fireworks, Categories F1, F2 and F3 — Part 5: Requirements for construction and performance*

EN 16265:2015, *Pyrotechnic articles — Other pyrotechnic articles — Ignition devices*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 15947-1:2015 apply.

4 Categories

Fireworks are subdivided into categories as follows:

- **category F1:** fireworks which present a very low hazard and negligible noise level and which are intended for use in confined areas, including fireworks which are intended for use inside domestic buildings;
- **category F2:** fireworks which present a low hazard and low noise level and which are intended for outdoor use in confined areas;
- **category F3:** fireworks which present a medium hazard, which are intended for outdoor use in large open areas and whose noise level is not harmful to human health.

5 Category F1

5.1 List of articles which fall into category F1

The following articles (i.e. types of firework) fall into category F1, when meeting the requirements in EN 15947-3:2015 and EN 15947-5:2015 for category F1:

- Bengal flames;
- Bengal matches;
- Bengal sticks;

- Christmas crackers;
- crackling granules;
- flash pellets;
- fountains;
- ground spinners;
- hand-held sparklers;
- non-hand-held sparklers;
- novelty matches;
- party poppers;
- serpents;
- snaps;
- table bombs;
- throwdowns.

5.2 List of articles which do not fall into category F1

Articles (i.e. types of firework) that do not fall into category F1 are, for example:

- aerial wheels;
- bangers;
- batteries;
- batteries requiring external support;
- combinations;
- combinations requiring external support;
- compound fireworks;
- double bangers;
- flash bangers;
- ground movers;
- jumping crackers;
- jumping ground spinners;
- mines;

- mini rockets;
- rockets;
- Roman candles;
- shot tubes;
- spinners;
- wheels.

5.3 Procedure to determine whether an article falls into category F1

This procedure shall be used when a new article is presented, which does not fall into one of the types listed in 5.1.

The following questions in Table 1 shall be answered in the order given. To fall into category F1, an article shall have a negative answer to all the questions. If one answer is “Yes” the article does not fall into category F1.

Table 1 — Questions for articles that are not in category F1

Question	Answer
1) Is the article in the list of excluded articles (see 5.2)?	Yes → not in category F1
2) Does the article resemble a toy or food?	Yes → not in category F1
3) Does the sound pressure level exceed 120 dB(A _{imp}) at the safety distance of category F1 fireworks?	Yes → not in category F1
4) Is debris, burning, or incandescent matter projected laterally more than the safety distance of category F1 fireworks?	Yes → not in category F1
5) Does the article, or parts of it, move outside the safety distance of category F1 fireworks from the testing point?	Yes → not in category F1
6) Does the article lift from the ground by more than 0,5 m?	Yes → not in category F1

6 Types of firework

Fireworks are further subdivided into various types, as described in Table 2.

Table 2 — Types of firework

Type name	Brief description	Principal effect(s)
aerial wheel soucoupe volante Steigende Krone	tubes containing propellant charges and sparks-, flame- and/or noise-producing pyrotechnic compositions, the tubes being fixed to a supporting structure	rotation and ascent, with emission of sparks and flames, producing a visual and/or aural effect in the air
banger pétard à mèche Knallkörper	non-metallic case containing black powder	report
banger: see also 'double banger', 'flash banger'	-	-
battery batterie Batterie	assembly including several elements, each of the same type and corresponding to one of the types of firework listed in this part of EN 15947:2015 and in accordance with EN 15947-5:2015, 4.3, with one or two points of ignition, which does not require external support	as for the individual elements
battery requiring external support batterie nécessitant un support externe Batterie die externe Stabilisierung erfordert	assembly including several elements, each of the same type and corresponding to one of the types of firework listed in this part of EN 15947:2015 and in accordance with EN 15947-5:2015, 4.3, with one or two points of ignition, which requires external support	as for the individual elements
Bengal flame feu de Bengale Bengalfeuer	tube containing slow-burning pyrotechnic composition	emission of coloured flame
Bengal match allumette Bengale Bengalholz	short wooden stick partially coated (along one end) with slow-burning pyrotechnic composition, with a dot of friction-sensitive pyrotechnic composition at the tip, and designed to be held in the hand	emission of coloured flame and sparks
Bengal stick baguette Bengale Bengalfackel	wooden stick partially coated (along one end) with slow-burning pyrotechnic composition and designed to be held in the hand	emission of coloured flame and sparks
Christmas cracker christmas cracker Knallbonbon	paper or foil tube, crimped at each end, enclosing novelties and with one or more snaps running along the length of the tube	report when pulled apart and release of the novelties
combination combinaison Kombination	assembly including several elements, not all of the same type, each corresponding to one of the types of firework listed in this part of EN 15947:2015 and in accordance with EN 15947-5:2015, 4.3, with one or two points of ignition, which does not require external support	as for the individual elements

Type name	Brief description	Principal effect(s)
<p>combination requiring external support combinaison nécessitant un support externe Kombination die externe Stabilisierung erfordert</p>	<p>assembly including several elements, not all of the same type, each corresponding to one of the types of firework listed in this part of EN 15947:2015 and in accordance with EN 15947-5:2015, 4.3, with one or two points of ignition, which requires external support</p>	<p>as for the individual elements</p>
<p>compound firework composition d'artifices Verbundfeuerwerk</p>	<p>assembly including several separately CE marked fireworks complying with EN 15947:2015, which are securely fixed on the same base, and connected together by linking the protruding and reserve fuses of each firework, or with separately CE marked pyrotechnic cords according to EN 16265:2015, or a mixture of both, with one or two points of ignition, which does not require external support</p>	<p>as for the individual articles</p>
<p>crackling granules crépitant Knatterartikel</p>	<p>bag, or other container, enclosing small granules of pyrotechnic composition</p>	<p>crackling</p>
<p>double banger pétard aérien Doppelschlag</p>	<p>tube containing two portions of black powder connected by a delay fuse</p>	<p>report, then ascent followed by second report</p>
<p>flash banger pétard à composition flash Blitzknallkörper</p>	<p>non-metallic case containing perchlorate/metal-based or nitrate/metal-based report composition</p>	<p>report and flash of light</p>
<p>flash pellet clignoteur pyrotechnique Blitztablette</p>	<p>pellet of intermittently-burning pyrotechnic composition</p>	<p>multiple flashes of light</p>
<p>fountain fontaine Fontäne</p>	<p>non-metallic case containing sparks- and flame-producing pyrotechnic composition and designed to be placed on the ground, or to be fixed in the ground, or to be fixed to a support, or to be held in the hand</p>	<p>emission of sparks and flames with aural effect other than report or without any aural effect</p>
<p>ground mover mobile pyrotechnique Pyrodrifter</p>	<p>novelty item containing non-metallic tube or tubes with gas- or sparks- or flame producing pyrotechnic composition that is designed to move on the ground</p>	<p>movement on the ground with emission of sparks or flames, with or without aural effects (other than report)</p>
<p>ground spinner tourbillon Bodenfeuerwirbel</p>	<p>non-metallic tube or tubes containing gas- and sparks-producing pyrotechnic composition, with or without noise-producing pyrotechnic composition</p>	<p>rotation on the ground and emission of sparks and/or flames with or without aural effect (other than report)</p>

Type name	Brief description	Principal effect(s)
hand-held sparkler cierge magique Wunderkerze, in der Hand zu halten	rigid wire partially coated along one end with slow-burning pyrotechnic composition, with or without an ignition head and designed to be held in the hand	emission of sparks, with or without aural effect (other than report)
jumping cracker pétard sauteur Knallfrosch	paper tube containing black powder, folded back on itself several times and bound together	reports in succession, with jumping motions
jumping ground spinner tourbillon sauteur Sprungrad	non-metallic tube containing gas- and sparks-producing pyrotechnic composition, with or without whistling pyrotechnic composition	rotation on the ground frequently interrupted by a jumping motion, and emission of sparks and flames, with or without an aural effect (other than report)
mine pot à feu en mortier Feuertopf	tube containing propellant charge and pyrotechnic units and/or non-pyrotechnic objects and designed to be placed on the ground or to be fixed in the ground	ejection of the content in a single burst producing a widely dispersed visual and/or aural effect in the air
mini rocket mini fusée Mini-Rakete	tube containing pyrotechnic composition equipped with stick(s) and designed to be propelled in the air	ascent, with visual and/or aural effects, with or without production of aural effects in the air
non-hand-held sparkler cierge magique non tenu à la main Wunderkerze, nicht in der Hand zu halten	rigid wire partially coated along one end with slow-burning pyrotechnic composition, with or without an ignition head	emission of sparks, with or without aural effect (other than report)
novelty match allumette détonante Scherzzündholz	match with a dot of pyrotechnic composition, designed to be held in the hand	report and/or visual effect
party popper party popper Party-Knaller	device operated by a pull-string with an abrasive surface in sliding contact with a friction-sensitive pyrotechnic composition and designed to be held in the hand	report, with ejection of streamers and/or confetti
rocket fusée Rakete	tube containing pyrotechnic units and/or pyrotechnic composition with or without a bursting charge, equipped with a rocket motor and stick(s) or other means for stabilization of flight	ascent, with or without additional visual and/or aural effects, and production of visual and/or aural effects in the air
Roman candle chandelle Romaine Römisches Licht	tube containing alternate propellant charges, pyrotechnic units and transmitting fuses	ejection of the pyrotechnic units in succession, producing a series of visual and/or aural effects in the air

Type name	Brief description	Principal effect(s)
serpent serpent Schlange	preformed shape of pyrotechnic composition with or without a support	generation of expanded residue
shot tube chandelle monocoup Feuerwerksrohr	tube containing propellant charge and a pyrotechnic unit, with or without a bursting charge	ejection of the pyrotechnic unit, producing a visual and/or aural effect in the air
sparkler: see 'hand-held sparkler' and 'non-hand-held sparkler'		
snap pétard à tirette Knallziehband	two overlapping strips of cardboard or paper, or two strings, with a friction-sensitive pyrotechnic composition in sliding contact with an abrasive surface and designed to be held in the hand NOTE A snap can be a pyrotechnic unit in a Christmas cracker.	report, when device is pulled apart
spinner tourbillon volant Wirbel	tube or tubes containing pyrotechnic composition, and with or without aerofoils attached	rotation and ascent, with emission of sparks and/or flames, with or without aural effect (other than report)
table bomb bombe de table Tischfeuerwerk	paper, cardboard or plastics tube with fixed base and closed top, containing a propellant charge and non-pyrotechnic objects	report with ejection of streamers, confetti and/or novelties
throwdown pois fulminant Knallerbse	impact-sensitive pyrotechnic composition and grains of inert material wrapped in tissue paper or foil	report, when thrown onto the ground
wheel soleil Sonne	assembly including a non-metallic tube or tubes containing pyrotechnic composition and provided with a means of attaching it to a support so that it can rotate	rotation around a fixed point or axis and emission of sparks and flames, with or without aural effect(s) (other than report)

Annex ZA
(informative)
Relationship between this European Standard and the Essential Requirements of EU Directive 2013/29/EU on the harmonization of the laws of the Member States relating to the making available on the market of pyrotechnic articles

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to provide a means of conforming to Essential Requirements of the New Approach Directive 2013/29/EU on the harmonization of the laws of the Member States relating to the making available on the market of pyrotechnic articles. The Parts 1, 2, 3 and 4 of the European Standard will support Part 5 to fulfil the essential safety requirements of the Directive 2013/29/EU, Annex 1.

Once this standard is cited in the Official Journal of the European Union under that Directive and has been implemented as a national standard in at least one Member State, compliance with the clauses of this standard given in Table ZA.1 confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding Essential Requirements of that Directive and associated EFTA regulations.

Table ZA.1 — Correspondence between this European Standard and Directive 2013/29/EU on the harmonization of the laws of the Member States relating to the making available on the market of pyrotechnic articles

Clause(s)/subclause(s) of this EN	Essential Safety Requirements (ESRs) of Directive 2013/29/EU	Qualifying remarks/Notes
5.1 and 5.2	(5 A.1.a-iii)	Forbidden articles in category F1
5.3	(5 A.1a-i and ii)	Safety distance and sound level limits
Clause 6	(2 and 5 A.2)	Exclusion of dangerous construction materials, see also EN 15947-5:2015, Clauses 4 and 5

WARNING — Other requirements and other EU Directives may be applicable to the product(s) falling within the scope of this standard.

Bibliography

- [1] Directive 2007/23/EC of the European Parliament and of the Council of 23 May 2007 on the placing on the market of pyrotechnic articles
- [2] Directive 2013/29/EU of the European Parliament and of the Council of 12 June 2013 on the harmonisation of the laws of the Member States relating to the making available on the market of pyrotechnic articles

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