
Fireworks — Categories 1, 2 and 3 —
Part 2:
Categories and types

Artifices de divertissement — Catégories 1, 2 et 3 —
Partie 2: Catégories et types

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 264, *Fireworks*.

A list of all parts in the ISO 25947 series can be found on the ISO website.

Fireworks — Categories 1, 2 and 3 —

Part 2: Categories and types

1 Scope

This document establishes a system for dividing fireworks into categories and types. It is applicable to fireworks in categories 1, 2 and 3. This document does not apply to category 4 fireworks except for [Clause 4](#) and theatrical pyrotechnic articles which are designed for indoor and outdoor stage use, including film and television productions or similar use.

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.

ISO 25947-1, *Fireworks — Categories 1, 2 and 3 — Part 1: Terminology*

ISO 25947-3, *Fireworks — Categories 1, 2 and 3 — Part 3: Minimum labelling requirements*

ISO 25947-5:2017, *Fireworks — Categories 1, 2 and 3 — Part 5: Requirements for construction and performance*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 25947-1 apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

4 Categories

Fireworks are subdivided into four categories as follows:

- **category 1:** 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 2:** fireworks which present a low hazard and low noise level and which are intended for outdoor use in confined areas;
- **category 3:** 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;
- **category 4:** fireworks which present a high hazard, whose handling and use require specialist knowledge and whose noise level is not harmful to human health (this category is covered separately in the ISO 26261 series).

5 Category 1

5.1 List of articles which fall into category 1

The following articles (i.e. types of firework) fall into category 1, when meeting the requirements in ISO 25947-3 and ISO 25947-5 for category 1:

- batteries of party poppers;
- Bengal flames;
- Bengal matches;
- Bengal sticks;
- Christmas crackers;
- crackling granules;
- flash banger;
- flash pellets;
- fountains;
- ground spinners;
- ground mover;
- hand-held sparklers;
- jumping cracker;
- nezumi-hanabi;
- non-hand-held sparklers;
- novelty matches;
- party poppers;
- senko hanabi;
- serpents;
- snaps;
- table bombs;
- throwdowns;
- wheels.

5.2 List of articles which do not fall into category 1

Articles (i.e. types of firework) that do not fall into category 1, are for example:

- aerial wheels;
- bangers;
- batteries(except for batteries of party poppers);
- batteries requiring external support;

- combinations;
- combinations requiring external support;
- compound fireworks
- double bangers;
- double flash banger;
- jumping ground spinners;
- mines;
- mini rockets;
- rockets;
- roman candles;
- shot tubes;
- spinners.

5.3 Procedure to determine whether an article falls into category 1

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

Answer the questions in [Table 1](#) in the order given. To fall into category 1, an article shall have a negative answer to all the questions. If one answer is “Yes”, the article does not fall into category 1.

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

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

6 Types of firework

- Fireworks are further subdivided into various types, as described in [Table 2](#).

NOTE In China, there are eight generic types of consumer fireworks, [Annex A](#) gives their definition and their correspondence with the generic types of [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
battery batterie Batterie	assembly including several elements, each of the same type and corresponding to one of the types of firework listed in this document and in accordance with ISO 25947-5:2017, 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 document and in accordance with ISO 25947-5:2017, 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 document and in accordance with ISO 25947-5:2017, 4.3, with one or two points of ignition, which does not require external support	as for the individual elements
combination requiring external support combinaison nécessitant un support externe Kombination die externe Stabilisierung erfordert	assembly including several elements, not all of the same type, each corresponding to one of the types of firework listed in this document and in accordance with ISO 25947-5:2017, 4.3, with one or two points of ignition, which requires external support	as for the individual elements
compound firework composition d'artifices Verbundfeuerwerk	assembly including several separately type and batch tested fireworks complying with ISO 25947, which are securely fixed on the same base, and connected together by linking the protruding and reserve fuses of each firework, or with pyrotechnic cords, or a mixture of both, with one or two points of ignition, without external support	as for the individual articles

Table 2 (continued)

Type name	Brief description	Principal effect(s)
crackling granules crépitant Knatterartikel	bag, or other container, enclosing small granules of pyrotechnic composition	crackling
double banger pétard aérien Doppelschlag	tube containing two portions of black powder connected by a delay fuse	report, then ascent followed by second report
double flash banger Doppelblitzschlag	tube containing two report charges, at least one report charge contains other composition than black powder and connected by a delay fuse.	report, then ascent followed by second report.
flash banger pétard à composition flash Blitzknallkörper	non-metallic case containing perchlorate/metal-based or nitrate/metal-based report composition	report and flash of light
flash pellet clignoteur pyrotechnique Blitztablette	pellet of intermittently-burning pyrotechnic composition	multiple flashes of light
fountain fontaine Fontäne	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	emission of sparks and flames with aural effect other than report or without any aural effect
ground mover mobile pyrotechnique Pyrodrifter	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	movement on the ground with emission of sparks or flames, with or without aural effects (other than report)
ground spinner tourbillon Bodenfeuerwirbel	non-metallic tube or tubes containing gas- and sparks-producing pyrotechnic composition, with or without noise-producing pyrotechnic composition	rotation on the ground and emission of sparks and/or flames with or without aural effect (other than report)
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

Table 2 (continued)

Type name	Brief description	Principal effect(s)
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
nezumi-hanabi nezumi-hanabi nezumi-hanabi	pyrotechnic composition wrapped with paper, with or without report composition	move on the ground with or without report
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
senko-hanabi senko-hanabi senko-hanabi	pyrotechnic composition partially coated (along one end) on straw designed to be held in the hand., or pyrotechnic composition wrapped with paper designed to be held in the hand	emission of sparks from brilliant melted products after burning composition
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

Table 2 (continued)

Type name	Brief description	Principal effect(s)
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 or with a base as an integral part 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 A (informative)

Generic types and subtypes of fireworks

NOTE The use of following types is applied in China.

Table A.1 — Generic types and subtypes of fireworks

Subtype of fireworks	Brief description of subtype	Generic type of fireworks	Brief description of generic type	Types in Table 2
Black powder Banger	Firecrackers containing black powder as explosive composition	Firecracker	The main body explodes (main tube breaks or bursts) but does not rise into the air during functioning, producing aural and visual effects such as reports and flash of light.	Banger
Flash powder banger	Firecrackers containing explosive composition consisting of perchlorate or other oxidizers and metal powders			Flash banger
Ground fountain/ Aquatics fountain	Fountains that are fixed on the ground (or on water)for functioning	Fountain	Fireworks that straight emit sparks and flames with reports.	Bengal flame
Hand-held fountain/ Plug-in fountain	Fountains that are held by hand or inserted into a certain device for functioning.			Fountain
Axis ground spinners	Spinners with a fixed axis part, around which the firework revolves during functioning to produce revolving effect.	Ground spinner	Fireworks of which the main body revolves itself but does not rise into the air.	Ground spinner
Non-axis ground spinners	Spinners without a fixed axis part, which revolves without a fixed axis during functioning to produce revolving effect.			Jumping ground spinner
Rockets	Aerial fireworks equipped with an orienting device for stabilization of flight orientation.	Aerials	Fireworks of which the main body directionally launches or revolves into the air during functioning.	Wheel
Double banger	Aerial fireworks with cylindrical tubes that are filled with lift charges and explosive compositions respectively, which produce the first report when rising into the air and the second report in the air (possibly with other effects) after being lighted.			Mini rocket
				Rocket
Aerial spinners	Fireworks that revolve to rise into the air during functioning.			Double banger
				Double flash banger
				Aerial wheel
				Spinner