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Fireworks — Category 4 —

Part 1: Terminology

Artifices de divertissement — Catégorie 4 —

Partie 1: Terminologie

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Foreword

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

A list of all the parts in the ISO 26261 series can be found on the ISO website.

Fireworks — Category 4 —

Part 1: Terminology

1 Scope

This document provides terminology relating to the design, construction, primary packaging and testing of category 4 fireworks.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

3.1 General terms

3.1.1
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

3.1.2
type
sample representative of the production envisaged used in *type tests* (3.2.47)

3.1.3
generic type
set of articles with a common, very general, design feature and/or with a common characteristic effect

3.1.4
subtype
set of articles within a *generic type* (3.1.3) with specific design features

3.1.5
individual item
article within a *generic type* (3.1.3) and/or a *subtype* (3.1.4), for which every possible feature and characteristic has been fixed

Note 1 to entry: Each feature and characteristic will be specified in the *technical name* (3.1.6) or a technical data sheet, as appropriate.

3.1.6
technical name
general description of an *individual item* (3.1.5)

3.1.7
trade name
description of an *individual item* (3.1.5) from a particular supplier

3.1.8
compound firework
device in which all the individual elements have been type certified and which does not need any new specific type certification

3.2 Technical terms

3.2.1
acceptance quality level
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 assure 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 type-examination certificate and have been successfully submitted to *type tests* (3.2.47) as determined by the standard.

3.2.3
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.

3.2.4
calibre
external diameter of a firework designed to be fired from a *mortar* (3.2.31) tube (e.g. shell) or the internal diameter of a tube which contains pre-assembled items (e.g. a roman candle)

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.

3.2.5
critical nonconforming unit
nonconforming unit (3.2.33) with one or more *critical nonconformities* (3.2.6), with or without major or minor nonconformities

3.2.6
critical nonconformity
nonconformity (3.2.34) that judgment 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.

3.2.7
debris
any 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* (3.2.42) are not considered as “debris”.

3.2.8
delay fuse
fuse incorporated into the *initial fuse* (3.2.24) 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 (e.g. in a shell)

3.2.9
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.

3.2.10
effect broadness
broadness of effect
horizontal dimension of the firework effect

3.2.11
effect height
maximum height achieved by the firework

Note 1 to entry: For a shell, this would equate to the *burst height* (3.2.3) plus the burst radius of the shell. For waterfalls, this corresponds with the vertical length of the effect.

3.2.12
effect range
horizontal distance between the firing point and the point of *explosion* (3.2.15) (or functioning) on to the water

3.2.13
effect time
total duration of effect from its visible and/or aural emergence until vanishing

3.2.14
end closure
part or crimp which is designed to seal one end of a *firework case* (3.2.16)

3.2.15
explosion
sudden release of energy accompanied by a bang with or without a flash

3.2.16
firework case
container which is designed to retain *pyrotechnic compositions* (3.2.42)

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

3.2.17
firing angle
angle (measured from the vertical) of an item as prepared for firing

3.2.18
flash composition
uncompacted *pyrotechnic composition* (3.2.42) used to produce an aural effect, with or without emission of an intense and short flash light, or used as a bursting charge

3.2.19
friction head
ignition head (3.2.23) designed to be ignited by friction

3.2.20
fuse
small tube or cord containing a pressed or compacted *pyrotechnic composition* (3.2.42) 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.

Note 2 to entry: See also "*delay fuse* (3.2.8)".

3.2.21
gross mass
total mass of the firework

Note 1 to entry: This does not include any ancillary equipment (e.g. frames).

3.2.22
group
set of *individual items* (3.1.5) which will be considered together for the purposes of testing and certification

Note 1 to entry: Synonymous with "family".

3.2.23
ignition head
initial fuse (3.2.24) consisting of *pyrotechnic composition* (3.2.42) only

3.2.24
initial fuse
component of a firework which is ignited in order to start the firework functioning

3.2.25
initial fuse time
burning time of the *initial fuse* (3.2.24)

3.2.26
lifting charge
non-consolidated *pyrotechnic composition* (3.2.42) used to project the firework as a whole or a subcomponent of the firework into the air (e.g. in mine or shell)

3.2.27
major nonconforming unit
nonconforming unit (3.2.33) with one or more *major nonconformities* (3.2.28), with or without *minor nonconformities* (3.2.30), but with no *critical nonconformities* (3.2.26)

3.2.28
major nonconformity
nonconformity (3.2.34), other than a *critical nonconformity* (3.2.6), 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 a 'class B nonconformity' in ISO 2859-1:1999.

3.2.29
minor nonconforming unit
nonconforming unit (3.2.33) with one or more *minor nonconformities* (3.2.30), but with no critical or major nonconformities

3.2.30
minor nonconformity
nonconformity (3.2.34) 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.

3.2.31
mortar
tube which is closed at the lower end and from which a firework is projected

3.2.32
net explosive content
NEC
mass of *pyrotechnic composition* (3.2.42) in the firework, excluding the pyrotechnic composition in the *initial fuse* (3.2.24) or *transmitting fuses* (3.2.46), friction or *ignition heads* (3.2.23)

Note 1 to entry: Net explosive quantity (NEQ), net explosive mass (NEM) or net explosive weight (NEW) are often used to convey the same meaning.

3.2.33
nonconforming unit
firework or assembly of fireworks fused together at the manufacturing level with one or more *nonconformities* (3.2.34)

3.2.34
nonconformity
non-fulfilment of a specified requirement

[SOURCE: ISO 2859-1:1999, 3.1.5]

3.2.35
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

3.2.36
packaging
wrapping or encasing in which an item is presented for transport, storage and/or sale

3.2.37
principal effect
main visual and/or aural effect the firework has been designed to display

3.2.38
projected article
article whose movement is produced by a non-consolidated *pyrotechnic composition* (3.2.42) in a single event and a short duration

3.2.39
projected debris
fragments projected laterally from the firework while functioning

3.2.40
propelled article
article moved by an attached or integral motor, producing thrust over an extended period of time

3.2.41
protective pack
package of one or more fireworks which may act as protection of the means of ignition and/or for labelling purposes

3.2.42
pyrotechnic composition
explosive substance or explosive mixture of 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