
Pirotehnični izdelki - Ognjemetni izdelki, kategorija 4 - 1. del: Terminologija

Pyrotechnic articles - Fireworks, category 4 - Part 1: Terminology

Pyrotechnische Gegenstände - Feuerwerkskörper, Kategorie 4 - Teil 1: Begriffe

Articles pyrotechniques - Artifices de divertissement, Catégorie 4 - Partie 1: Terminologie

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**Pyrotechnic articles - Fireworks, category 4 - Part 1:
Terminology**

Articles pyrotechniques - Artifices de divertissement,
Catégorie 4 - Partie 1: Terminologie

Pyrotechnische Gegenstände - Feuerwerkskörper,
Kategorie 4 - Teil 1: Begriffe

This European Standard was approved by CEN on 20 July 2012.

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Foreword

This document (EN 16261-1:2012) 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of an identical text or by endorsement, at the latest by February 2013, and conflicting national standards shall be withdrawn at the latest by February 2013.

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 has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of Directive 2007/23/EC on the placing on the market of pyrotechnic articles.

For relationship with Directive 2007/23/EC, see informative Annex ZA, which is an integral part of this document.

EN 16261 is divided into the following parts:

- EN 16261-1, *Pyrotechnic articles — Fireworks, category 4 — Part 1: Terminology*;
- EN 16261-2, *Pyrotechnic articles — Fireworks, category 4 — Part 2: Requirements*;
- EN 16261-3, *Pyrotechnic articles — Fireworks, category 4 — Part 3: Test methods*;
- EN 16261-4, *Pyrotechnic articles — Fireworks, category 4 — Part 4: Minimum labelling requirements and instructions for use*.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, Former Yugoslav Republic of Macedonia, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

EN 16261-1:2012 (E)

1 Scope

This European Standard defines various terms relating to the design, construction, performance, labelling and testing of category 4 fireworks.

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.

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

3 Terms and definitions

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

3.1 General terms

3.1.1

type

sample representative of the production envisaged

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

subtype

set of articles within a generic type with specific design features

3.1.4

individual item

article within a generic type and/or a subtype, 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 or a technical data sheet, as appropriate.

3.1.5

technical name

general description of an individual item

3.1.6

trade name

description of an individual item from a particular supplier

3.1.7

compound firework

device in which all the individual elements have been EC-type certified and which does not need any new specific EC-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 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 EC type-examination certificate and have been successfully submitted to type tests 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 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 with one or more critical nonconformities, with or without major or minor nonconformities

3.2.6

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 a 'class A nonconformity' in ISO 2859-1.

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 are not considered as "debris".

3.2.8

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 (e.g. in a shell).

EN 16261-1:2012 (E)**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 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 (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

3.2.15**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

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 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

3.2.19**friction head**

ignition head designed to be ignited by friction

Note 1 to entry: See "Ignition head".

3.2.20**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.

Note 2 to entry: See also "delay fuse".

3.2.21**gross mass**

total mass of the firework (not including any ancillary equipment (e.g. frames))

3.2.22**group**

set of individual items 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 consisting of pyrotechnic composition 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

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3.2.26**lifting charge**

non-consolidated pyrotechnic composition used to project the firework as a whole or a sub component of the firework into the air (e.g. in mine or shell)

3.2.27**major nonconforming unit**

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

3.2.28**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 a 'class B nonconformity' in ISO 2859-1.

3.2.29**minor nonconforming unit**

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

EN 16261-1:2012 (E)**3.2.30****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 a '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 in the firework, excluding the pyrotechnic composition of the initial fuses and any transmitting fuses

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**nonconformity**

non-fulfilment of a requirement

[SOURCE: ISO 2859-1:1999]

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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

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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 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 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

3.2.43**pyrotechnic leakage**

pyrotechnic composition released from damaged pyrotechnic articles

3.2.44**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.

3.2.45**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

3.2.46**type test**

test performed on a sample of products, representative of the production envisaged, in order to demonstrate their compliance with the Essential Safety Requirements of Annex I and the relevant provisions of the Directive 2007/23/EC

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

3.2.47**wind speed**

measured speed of the wind at a defined height

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