
Eksplozivi za civilno uporabo – 1. del: Izrazje

Explosives for civil uses - Part 1: Terminology

Explosivstoffe für zivile Zwecke - Teil 1: Terminologie

Explosifs à usage civil - Partie 1: Terminologie

Ta slovenski standard je istoveten z: prEN 13857-1**oSIST prEN 13857-1:2021**

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EUROPEAN STANDARD
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Will supersede EN 13857-1:2003

English Version

Explosives for civil uses - Part 1: Terminology

Explosifs à usage civil - Partie 1: Terminologie

Explosivstoffe für zivile Zwecke - Teil 1: Terminologie

This draft European Standard is submitted to CEN members for enquiry. It has been drawn up by the Technical Committee CEN/TC 321.

If this draft becomes a European Standard, CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration.

This draft European Standard was established by CEN in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

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Recipients of this draft are invited to submit, with their comments, notification of any relevant patent rights of which they are aware and to provide supporting documentation.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (prEN 13857-1:2021) has been prepared by Technical Committee CEN/TC 321 “Explosives for civil uses”, the secretariat of which is held by UNE.

This document is currently submitted to the CEN Enquiry.

This document will supersede EN 13857-1:2003.

In comparison with the previous edition, the following technical modifications have been made:

a) addition of new terms and definitions:

— complete detonation;

— composition;

— coupling accessory;

— donor;

— evidence of reaction;

— extreme temperature;

— fuse head;

— homogeneity;

— initiate (detonator);

— initiation pulse;

— leading wire;

— means of initiation;

— misfire;

— outlier;

— PBBS test;

— primary charge;

— primer;

— receptor;

— round;

— sensitiveness to friction;

— sensitiveness to impact;

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- shell;
- b) technical revision of the definitions of the term
 - witness plate;
- c) deletion of the terms
 - range of applicability of a test method; and
 - range of validity of a test method.

This document has been prepared under a Standardization Request (M/562) annexed to the Commission Implementing Decision C(2019)6634 final as regards Explosives for civil uses given to CEN by the European Commission and the European Free Trade Association, and supports Essential Safety requirements of Directive 2014/28/EU.

For relationship with Directive 2014/28/EU, see informative Annex ZA, which is an integral part of this document.

EN 13857, *Explosives for civil uses*, is currently composed of the following parts:

- *Part 1: Terminology*
- *Part 3: Information to be provided by the manufacturer or his authorised representative to the user*

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1 Scope

This document defines the key technical terms used in the European Standards developed in the field of explosives for civil uses.

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.

3.1

abrasion resistance

ability to withstand the reduction of the thickness of the covering of detonator leading wires or of detonating cord or of shock tube by local friction

3.2

acceptor charge

charge of explosive receiving a stimulus from another charge

3.3

base charge

explosive mass contained in the base of a detonator and intended to provide the main output energy

Note 1 to entry: A base charge normally consists of a secondary explosive, for example pentaerythritol tetranitrate (PETN).

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3.4

black powder

intimate mixture of sodium nitrate or potassium nitrate with charcoal or other carbon, with or without sulphur

3.5

blasting accessory

non-explosive device used in blasting

EXAMPLE Blasting machines, circuit testers, shot firing cable.

3.6

booster

explosive device used as a donor charge to amplify the energy supplied to the acceptor charge

3.7

bridgewire

resistance wire connecting the leading wires inside an electric detonator or electro-explosive device

3.8

bulk explosive

explosive which is not cartridged and can be loaded by pouring (under gravity), pumping or pneumatic means

prEN 13857-1:2021 (E)**3.9****burning duration**

time for burning through a defined length of safety fuse

Note 1 to entry: Given in seconds (s).

3.10**cartridged explosive**

explosive enclosed in a casing (usually cylindrical) formed from paper, cardboard, plastics or other material and used in this form

3.11**complete detonation**

reaction of an explosive charge, where the entire charge is consumed as a detonation front travels through it

Note 1 to entry: One means of verifying complete detonation is the measurement of VOD where the measured VOD lies within a range for acceptance.

3.12**composition**

substance or mixture of substances designed to produce an effect by heat, gas or a combination of these, as a result of self-sustaining exothermic chemical reactions

3.13**coupling accessory**

device for transferring a shockwave which does not include an explosive charge

3.14**crimp**

compression closure at the end of a detonator to hold in place safety fuse or to secure and provide a seal for shock tube or leading wires of an electric fuse

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3.15**decomposition**

chemical reaction of a substance which is not a detonation, resulting in significant change in properties

3.16**deflagration**

reaction of combustion through a substance at sub-sonic velocity in the reacting substance

3.17**delay detonator**

detonator assembly in which a time delay between activation and detonation is included

Note 1 to entry: Delay detonators can be electronic, electric or non-electric.

3.18**delay element**

part of a delay detonator which provides a time delay between activation of the detonator and detonation of the base charge

3.19**delay interval**

difference in time between adjacent detonators in a delay series

3.20**delay number**

number given to a delay detonator to show its relative position in a given series

3.21**delay time**

elapsed time between the activation and detonation of a delay detonator

3.22**detonation**

reaction which moves through an explosive material at supersonic velocity in the reacting material

3.23**detonating cord**

article consisting of a core of detonating explosive (usually PETN) surrounded by a flexible outer covering or clad by soft metal tube

Note 1 to entry: The explosive charge in a detonating cord can vary from 1,0 g/m to 200 g/m.

3.24**detonating cord relay**

article containing tubes with charges of pyrotechnic delay composition and explosive, used to connect detonating cords and provide a defined delay in the propagation of detonating cord

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3.25**detonator**

article consisting of a small metal or plastics tube containing a primary explosives charge such as lead azide, and a secondary explosives charge such as PETN, or other combinations of explosives normally not exceeding a mass of 2 g

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3.26**donor**

exploding charge producing an impulse that impinges upon an explosive “receptor” charge

3.27**donor charge**

charge of explosive supplying a stimulus to another charge

3.28**electric detonator**

detonator assembly activated by means of an electrical current

Note 1 to entry: Electric detonators include DC and AC (magnetically coupled) systems.

3.29**electronic detonator**

detonator assembly in which the time delay is achieved by means of an electronic chip activated by electric or non-electric stimuli

prEN 13857-1:2021 (E)**3.30****evidence of reaction**

visible cracks or smoke

3.31**explosion**

sudden release of energy producing blast effect with possible projection of fragments

Note 1 to entry: The term explosion encompasses fast combustion, detonation and deflagration.

3.32**explosive**

solid or liquid substance or mixture of substances which by intrinsic chemical reaction is capable of producing an explosion

3.33**extreme conditions**

conditions of high or low temperatures and/or pressures and/or humidity outside the range of applicability of the test method

3.34**extreme temperature**

temperature below $-40\text{ }^{\circ}\text{C}$ or above $80\text{ }^{\circ}\text{C}$

Note 1 to entry: The value of $-40\text{ }^{\circ}\text{C}$ is considered the lowest temperature which may occur in Europe in mining or blasting applications. The value of $80\text{ }^{\circ}\text{C}$ is considered the highest temperature which may occur in a borehole or where hot emulsion explosives are loaded.

3.35**firing current**

constant electrical direct current required to reliably activate an electric detonator,

Note 1 to entry: Given in ampere (A).

3.36**firing impulse**

electrical energy divided by the electrical resistance of the detonator assembly which will activate an electric detonator or electro-explosive device

Note 1 to entry: Expressed in mJ/Ω .

3.37**firing time**

elapsed time between application of the firing current and the detonation of a detonator with no nominal delay time

3.38**flash-over voltage**

minimum direct voltage which will give electrical breakdown between the conductor system and metal casing of the detonator