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**Eksplzivni za civilno uporabo – 1. del: Izrazje**

Explosives for civil uses - Part 1: Terminology

Explosivstoffe für zivile Zwecke - Teil 1: Terminologie

Explosifs a usage civil - Partie 1: Terminologie

**Ta slovenski standard je istoveten z: EN 13857-1:2003**

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English version

## Explosives for civil uses - Part 1: Terminology

Explosifs à usage civil - Partie 1: Terminologie

Explosivstoffe für zivile Zwecke - Teil 1: Terminologie

This European Standard was approved by CEN on 7 May 2003.

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. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the Management Centre or to any CEN member.

This European Standard exists 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 Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and United Kingdom.

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## Foreword

This document (EN 13857-1:2003) has been prepared by Technical Committee CEN/TC 321 "Explosives for civil uses", the secretariat of which is held by AENOR.

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of an identical text or by endorsement, at the latest by January 2004, and conflicting national standards shall be withdrawn at the latest by January 2004.

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 a series of general standards on Explosives for civil uses. The other part of this series is:

EN 13857-3 Part 3: Information to be provided by the manufacturer or his authorised representative to the user.

According to the CEN/CENELEC Internal Regulations, the : Austria, Belgium, Czech Republic, Denmark, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden, Switzerland and the United Kingdom national standards organizations of the following countries are bound to implement this European Standard

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## 1 Scope

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

## 2 Terms and definitions

For the purposes of this European Standard, the following terms and definitions apply:

### 2.1

#### **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

### 2.2

#### **acceptor charge**

charge of explosive receiving a stimulus from another charge

### 2.3

#### **base charge**

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

NOTE A base charge normally consists of a secondary explosive, for example Pentaerythritol tetranitrate (PETN)

### 2.4

#### **black powder**

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

**2.5**

**blasting accessories**

non-explosive devices used in blasting

NOTE Examples of blasting accessories are blasting machines, circuit testers, shot firing cable

**2.6**

**booster**

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

**2.7**

**bridgewire**

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

**2.8**

**bulk explosive**

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

**2.9**

**burning duration**

time for burning through a defined length of safety fuse, in seconds

**2.10**

**cartridge explosive**

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

**2.11**

**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

**2.12**

**decomposition**

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

**2.13**

**deflagration**

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

**2.14**

**delay element**

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

**2.15**

**delay interval**

difference in time between adjacent detonators in a delay series

**2.16**

**delay number**

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

**2.17**

**delay time**

elapsed time between the activation and detonation of a delay detonator

**2.18**

**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 The explosive charge in a detonating cord can vary from 1,0 g/m to 200 g/m

## 2.19

### **detonation**

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

## 2.20

### **detonation velocity**

velocity at which the detonation travels through the explosive column or charge, in m/s

## 2.21

### **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

## 2.22

### **detonator, delay**

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

NOTE Delay detonators can be electronic, electric or non-electric

## 2.23

### **detonator, electric**

detonator assembly activated by means of an electrical current

NOTE Electric detonators include d.c. and a.c. (magnetically coupled) systems

## 2.24

### **detonator, electronic**

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

## 2.25

### **detonator, instantaneous**

detonator with no nominal delay time

## 2.26

### **detonator, non-electric**

detonator assembly activated by means of shock tube or other means not involving electrical stimuli as the primary mode of initiation

## 2.27

### **detonator, plain**

instantaneous detonator supplied without means of activation

NOTE Plain detonators are normally activated by means of detonating cord, safety fuse, pyrotechnic igniter, or shock tube

## 2.28

### **donor charge**

charge of explosive supplying a stimulus to another charge

## 2.29

### **explosion**

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

NOTE The term explosion encompasses fast combustion, detonation and deflagration

**2.30**

**explosive**

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

**2.31**

**extreme conditions**

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

**2.32**

**firing current**

constant electrical direct current required to reliably activate an electric detonator, in ampere (A)

**2.33**

**firing current, series**

lowest constant direct current which will reliably activate all detonators in a series-connected round

**2.34**

**firing impulse**

electrical energy divided by the electrical resistance of the detonator assembly which will activate an electric detonator or electro-explosive device, expressed in mJ/ohm

**2.35**

**firing time**

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

**2.36**

**flash-over voltage**

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

**2.37**

**gap test**

test to determine the greatest distance over which a donor charge is capable of initiating an acceptor charge

**2.38**

**high explosive**

substance or mixture of substances that can undergo a fast internal decomposition reaction leading to a detonation in its normal use

**2.39**

**initiating capability**

capacity of an explosive substance or article to transmit detonation to another substance or article under defined conditions

**2.40**

**nominal delay interval**

difference in nominal delay time between adjacent delay numbers in a series of delay detonators

**2.41**

**nominal delay time**

time defined by the manufacturer for a specific detonator in a delay series

**2.42**

**overlap probability**

statistical probability that a delay detonator of a given delay number in a delay series will detonate out of sequence



**2.43****primary explosive**

explosive substance which is sensitive to spark, friction, impact or flame and is capable of promoting initiation in an unconfined state

NOTE A primary explosive is commonly used in a detonator to initiate the secondary explosive base charge

**2.44****propagation of detonation**

ability to maintain a detonation front throughout the whole mass of an explosive

**2.45****propellant**

deflagrating explosive used for propulsion or for reducing drag of projectiles

NOTE Propellants can also be used as components of gas generators or other items

**2.46****range of applicability of a test method**

the conditions, for example temperature or pressure, over which the test method can be performed without significant modification to the apparatus and procedure described in the relevant standard

**2.47****range of validity of a test result**

the upper and lower limit of the relevant parameter, for example temperature or pressure, within which the results obtained from a test carried out under ambient conditions or the conditions specified in the test method are assumed to be applicable

**2.48****relay, detonating cord**

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

**2.49****safety fuse**

article consisting of a core of fine-grained black powder surrounded by a flexible woven fabric with one or more protective coverings

NOTE A safety fuse burns on ignition at a predetermined rate without any external explosive effect

**2.50****sensitiser**

substance used to increase susceptibility to initiation

**2.51****sensitiveness**

susceptibility of explosive to an external stimulus such as impact, flame, friction or to a temperature, pressure, humidity condition leading to a reaction or impairment of functioning

**2.52****shelf life**

time period for which an explosive or device can be stored or maintained under specific conditions before use or disposal without becoming unsafe or failing to meet specified performance criteria

**2.53****shock tube**

tube usually containing a dusting of explosive charge on the inner wall capable on activation of transmitting a shock wave from one end of the tube to the other at a constant velocity and having no external explosive effect

NOTE A shock tube is commonly used as a component of detonator assemblies