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Explosives for civil uses - Detonators and detonating cord relays - Part 1: Requirements

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 01/26

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EUROPEAN STANDARD
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ICS 71.100.30 Supersedes EN 13763-1:2004, EN 13857-3:2002

English Version

Explosives for civil uses - Detonators and detonating cord relays - Part 1: Requirements

Explosifs à usage civil - Détonateurs et relais pour cordeau détonant - Partie 1 : Exigences

Explosivstoffe für zivile Zwecke - Zünder und Sprengschnurverzögerer - Teil 1: Anforderungen

This European Standard was approved by CEN on 29 September 2025.

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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 CEN-CENELEC Management Centre has the same status as the official versions.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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European foreword

This document (EN 13763-1:2025) has been prepared by Technical Committee CEN/TC 321 “Explosives for civil uses”, the secretariat of which is held by UNE.

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of an identical text or by endorsement, at the latest by April 2026 and conflicting national standards shall be withdrawn at the latest by April 2026.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN 13763-1:2004. Together with EN 13630-1:2025, EN 13631-1:2025 and EN 13938-1:2025 this document will supersede EN 13857-3:2002.

EN 13763-1:2025 includes the following significant technical changes with respect to EN-13763-1:2004:

a) the document title has been changed from “Detonators and relays — Part 1: Requirements” to “Detonators and detonating cord relays — Part 1: Requirements”;

b) the Scope has been revised to clarify the covered explosives and to include semi-finished detonators, electronic detonators and electronic initiation systems;

c) the normative references have been updated;

d) the Clause 4 “Requirements” has been completely revised so that now for each explosive a separate subclause has been added divided into the following two sections each time:

   1) a section on the requirements on information to be provided for the explosive – these requirements have partly been moved here from EN 13857-3:2002 in revised form;

   2) a section on the requirements on properties for the explosive – these requirements have partially been taken over from the former Clause 4;

e) a differentiation between the different types of detonators has been introduced to Clause 4 – non-electric, electric, electronic, plain and semi-finished detonators;

f) the requirements on electronic detonators, semi-finished detonators and electronic initiation systems have been added;

g) the requirements on properties of the explosives covered in this document have been converted into “pass”/ “fail”-criteria and the specification on these criteria are now given in the corresponding test method standards of the EN 13763 series;

h) the former Annex A “Classification of electric detonators” has been removed;

i) a new Annex A “Specifications on reference detonators” has been added;

j) the former Annex B “Bruceton method” has been removed;

k) the Annex C is now called “PROBIT model” instead of “PROBIT TEST (PBBS test)”;

l) the former Annex D “Classification of defects” is now Annex B and has been updated to consider all explosives covered in this document;

m) the former Annex E “Range of validity of test results” has been removed;

n) the Annex ZA has been updated;

o) the Bibliography has been updated.

This document has been prepared under a standardization request addressed to CEN by the European Commission. The Standing Committee of the EFTA States subsequently approves these requests for its Member States.

For the relationship with EU Legislation, see informative Annex ZA, which is an integral part of this document.

A list of all parts in the EN 13763 series, published under the general title *Explosives for civil uses — Detonators and detonating cord relays*, can be found on the CEN website.

Any feedback and questions on this document should be directed to the users’ national standards body. A complete listing of these bodies can be found on the CEN website.

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, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Türkiye and the United Kingdom.

1 Scope

This document specifies the requirements for electric detonators, non-electric detonators, electronic detonators, plain detonators, semi-finished detonators, electronic initiation systems, surface connectors, shock tubes and detonating cord relays.

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.

EN 13763-2:2025, *Explosives for civil uses — Detonators and detonating cord relays — Part 2: Verification of thermal stability of detonators, surface connectors, detonating cord relays and shock tubes*

EN 13763-3:2025, *Explosives for civil uses — Detonators and detonating cord relays — Part 3: Verification of insensitiveness to impact of detonators, surface connectors, detonating cord relays and shock tubes*

EN 13763-4:2025, *Explosives for civil uses — Detonators and detonating cord relays — Part 4: Verification of resistance to abrasion of leading wires and shock tubes*

EN 13763-5:2025, *Explosives for civil uses — Detonators and detonating cord relays — Part 5: Verification of resistance to cutting damage of leading wires and shock tubes*

EN 13763-6:2025, *Explosives for civil uses — Detonators and detonating cord relays — Part 6: Verification of resistance to cracking of leading wires*

EN 13763-7:2025, *Explosives for civil uses — Detonators and detonating cord relays — Part 7: Verification of pull-out resistance of detonators*

EN 13763-8:2025, *Explosives for civil uses — Detonators and detonating cord relays — Part 8: Verification of resistance to vibration of plain and semi-finished detonators*

EN 13763-9:2025, *Explosives for civil uses — Detonators and detonating cord relays — Part 9: Verification of resistance to bending of detonators*

EN 13763-11:2025, *Explosives for civil uses — Detonators and detonating cord relays — Part 11: Verification of resistance to damage by dropping of detonators, detonating cord relays and surface connectors*

EN 13763-12:2025, *Explosives for civil uses — Detonators and detonating cord relays — Part 12: Verification of resistance to hydrostatic pressure of detonators, detonating cord relays and surface connectors*

EN 13763-13:2025, *Explosives for civil uses — Detonators and detonating cord relays — Part 13: Verification of the resistance to electrostatic discharge (ESD) of electric and electronic detonators*

EN 13763-15:2025, *Explosives for civil uses — Detonators and detonating cord relays — Part 15: Verification of equivalent initiating capability of electric, non-electric and electronic detonators*

EN 13763-16:2025, *Explosives for civil uses — Detonators and detonating cord relays — Part 16: Verification of delay time accuracy of electric and non-electric detonators, surface connectors and detonating cord relays*

EN 13763-17:2025, *Explosives for civil uses — Detonators and detonating cord relays — Part 17: Verification of the no-fire current of electric detonators*

EN 13763-18:2025, *Explosives for civil uses — Detonators and detonating cord relays — Part 18: Verification of the series firing current for electric detonators*

EN 13763-19:2025, *Explosives for civil uses — Detonators and detonating cord relays — Part 19: Verification of all-fire impulse and no-fire impulse of electric detonators*

EN 13763-20:2025, *Explosives for civil uses — Detonators and detonating cord relays — Part 20: Verification of total electrical resistance of electric detonators*

EN 13763-21:2025, *Explosives for civil uses — Detonators and detonating cord relays — Part 21: Verification of flash-over voltage of electric detonators*

EN 13763-22:2025, *Explosives for civil uses — Detonators and detonating cord relays — Part 22: Verification of capacitance, insulation resistance and insulation breakdown of leading wires*

EN 13763-23:2025, *Explosives for civil uses — Detonators and detonating cord relays — Part 23: Verification of the shock wave velocity of shock tubes*

EN 13763-24:2025, *Explosives for civil uses — Detonators and detonating cord relays — Part 24: Verification of electrical non-conductivity of shock tubes*

EN 13763-25:2025, *Explosives for civil uses — Detonators and detonating cord relays — Part 25: Verification of transfer capability of detonating cord relays, surface connectors and coupling accessories*

EN 13763-27:2025, *Explosives for civil uses — Detonators and detonating cord relays — Part 27: Test methods for electronic initiation systems*

EN 13857-1:2025, *Explosives for civil uses — Part 1: Vocabulary*

EN IEC 60812:2018, *Failure modes and effects analysis (FMEA and FMECA) (IEC 60812:2018)*

EN 61882:2016, *Hazard and operability studies (HAZOP studies) — Application guide (IEC 61882:2016)*

EN ISO 13849-2:2012, *Safety of machinery — Safety related parts of control systems — Part 2 Validation (ISO 13849-2:2012)*