TSIVIILKÄIBES OLEVAD LÕHKEAINED. LÕHKEAINED LÕHKETÖÖDEKS, VÕIMENDUSLAENGUD JA PLAHVATUSOHTLIKUD AINED. OSA 11: PADRUNDATUD LÕHKEAINETE DETONATSIOONI EDASIKANDUMISE MÄÄRAMINE

Explosives for civil uses - Explosives for blasting, boosters and explosive substances - Part 11: Verification of the transmission of detonation of cartridged explosives for blasting

EESTI STANDARDIMIS- JA AKREDITEERIMISKESKUS
ESTONIAN CENTRE FOR STANDARDISATION AND ACCREDITATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 13631-11:2025 sisaldab Euroopa standardi EN 13631-11:2025 ingliskeelset teksti.	This Estonian standard EVS-EN 13631-11:2025 consists of the English text of the European standard EN 13631-11:2025.
Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation.
Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 01.10.2025.	Date of Availability of the European standard is 01.10.2025.
Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	The standard is available from the Estonian Centre for Standardisation and Accreditation.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

ICS 71.100.30

EUROPEAN STANDARD

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English Version

Explosives for civil uses - Explosives for blasting, boosters and explosive substances - Part 11: Verification of the transmission of detonation of cartridged explosives for blasting

Explosifs à usage civil - Explosifs de mine, renforçateurs, et substances explosives - Partie 11: Détermination de la transmission de la détonation des explosifs

Explosivstoffe für zivile Zwecke - Sprengstoffe, Verstärkungsladungen und Explosivstoffe - Teil 11: Überprüfung der Detonationsübertragung von patronierten Sprengstoffen

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

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 CEN-CENELEC 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 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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Contents

Page

European foreword

This document (EN 13631-11:2025) 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 13631-11:2003.

EN 13631-11:2025 includes the following significant technical changes with respect to EN 13631-11:2003:

a) the document title has been changed from "High explosives — Part 11: Determination of transmission of detonation" to "Explosives for civil uses — Explosives for blasting, boosters and explosive substances — Part 11: Verification of the transmission of detonation of cartridged explosives for blasting";

b) the Scope has been revised to clarify the covered and not covered explosives;

c) the normative references have been updated;

d) the terminology entry 3.1 has been removed;

e) Clause 4 "Principle" has been revised and enlarged – it has been clarified that successful transmission is indicated by completed detonation of the acceptor charge;

f) Clause 5 "Apparatus" has been revised and enlarged;

g) Clause 6 "Test pieces" is now called "Preparation of test sample" and has been updated and further detailed; test pieces are now conditioned at the specified minimum temperature of use;

h) Clause 7 "Procedure" has been revised and enlarged to provide with separate specifications for testing without and under confinement as well as for the actual measurement procedure for the velocity of detonation with regard to complete detonation;

i) Figures 1 to 7 have been revised and partly merged;

j) Clause 8 "Expression of results" has been added;

k) the clause "Test report" does no longer require conformity with EN ISO/IEC 17025 and the information to be provided has been revised and enlarged;

l) Annex A "Range of applicability of the test method" has been removed;

m) Annex ZA has been updated;

n) the Bibliography has been added and lists EN ISO/IEC 17025:2017.

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 13631 series, published under the general title *Explosives for civil uses — Explosives for blasting, boosters and explosive substances*, 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 a test method for the verification of the transmission of detonation of cartridged explosives for blasting.

This document does not apply to blasting explosives in bulk form, boosters, black powder and explosive substances.

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 10025-2:2019, *Hot rolled products of structural steels — Part 2: Technical delivery conditions for non-alloy structural steels*

EN 10216-1:2013, *Seamless steel tubes for pressure purposes — Technical delivery conditions — Part 1: Non-alloy steel tubes with specified room temperature properties*

EN 13631-1:2025, *Explosives for civil uses — Explosives for blasting, boosters and explosive substances — Part 1: Requirements*

EN 13631-14:2025, *Explosives for civil uses — Explosives for blasting, boosters and explosive substances — Part 14: Method for the determination of the velocity of detonation of explosives for blasting*

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

3 Terms and definitions

For the purposes of this document, the terms and definitions given in EN 13857-1:2025 apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp/

— IEC Electropedia: available at https://www.electropedia.org/

4 Principle

Safe and reliable transmission of detonation of cartridged explosives for blasting from one end of the train of cartridges to the other is an important characteristic with regard to correct functioning.

The transmission of detonation is verified by testing the ability of two cartridges to transmit the detonation from one to the other. The cartridges are not in direct contact with each other. Transmission of detonation is given when complete detonation of the acceptor charge is observed. The acceptor charge is the cartridge that receives the pressure wave from the detonation of the other cartridge (donor charge) after its initiation. Complete detonation is determined by measuring the velocity of detonation and comparing it to the value specified for the cartridged explosive tested. Testing is done at the minimum temperature of use as specified for the explosive.

5 Apparatus

5.1 Means of initiation, as specified for the explosive tested in accordance with EN 13631-1:2025, 4.1.4, being a detonator, a detonating cord with a detonator or a booster with a detonator.