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LÕHKETÖÖDEKS, VÕIMENDUSLAENGUD JA
PLAHVATUSOHTLIKUD AINED. OSA 14: LÕHKEAINETE
DETONATSIOONIKIIRUSE MÄÄRAMINE

Explosives for civil uses - Explosives for blasting,
boosters and explosive substances - Part 14:
Verification of the velocity of detonation of explosives
for blasting

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 13631-14:2025 sisaldab Euroopa standardi EN 13631-14:2025 ingliskeelset teksti. Standard on jõustunud sellekohase teate avaldamisega EVS Teatajas. Euroopa standardimisorganisatsioonid on teinud Euroopa standardi rahvuslikele liikmetele kättesaadavaks 01.10.2025. Standard on kättesaadav Eesti Standardimis-ja Akrediteerimiskeskusest.	This Estonian standard EVS-EN 13631-14:2025 consists of the English text of the European standard EN 13631-14:2025. This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation and Accreditation. Date of Availability of the European standard is 01.10.2025. The standard is available from the Estonian Centre for Standardisation and Accreditation.
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English Version

**Explosives for civil uses - Explosives for blasting, boosters
and explosive substances - Part 14: Verification of the
velocity of detonation of explosives for blasting**

Explosifs à usage civil - Explosifs de mine,
renforceurs et substances explosives - Partie 14 :
Vérification de la vitesse de détonation des explosifs de
mine

Explosivstoffe für zivile Zwecke - Sprengstoffe,
Verstärkungsladungen und Explosivstoffe - Teil 14:
Überprüfung der Detonationsgeschwindigkeit von
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
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

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European foreword

This document (EN 13631-14:2025) 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 13631-14:2003.

EN 13631-14:2025 includes the following significant technical changes with respect to EN 13631-14:2003:

- a) the document title has been changed from “High explosives — Part 14: Determination of velocity of detonation” to “Explosives for civil uses — Explosives for blasting, boosters and explosive substances — Part 14: Determination of velocity of detonation of 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) Clause 4 “Principle” has been revised and enlarged;
- e) Clause 5 “Apparatus” has been updated and enlarged, especially, to include an alternative velocity of detonation measuring equipment;
- f) Clause 6 “Test pieces” is now called “Preparation of test sample” and has been revised and now provides with specification of the preparation of the test pieces for the test without (6.1) and under confinement (6.2) considering bulk and cartridged explosives;
- g) Clause 7 “Procedure” has been revised and enlarged to provide with separate specifications on the attachment of the means to measure the velocity of detonation (7.1), the attachment of the means of initiation (7.2) and the measurement (7.3);
- h) Figures 2, 3, 5 and 7 have been added to the document, the existing figures have been revised;
- i) Clause 8 “Expression of results” has been added;
- j) 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;
- k) former Annex A “Range of applicability of the test method” has been removed;
- l) Annex ZA has been updated;
- m) the Bibliography has been added and lists, e.g. 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 two test methods for the determination of the velocity of detonation of explosives for blasting.

This document does not apply to boosters and explosive substances.

NOTE This document does not apply to black powder. The burning rate of black powder is determined in accordance with EN 13938-4:2025.

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 13630-7:2025, *Explosives for civil uses — Detonating cords and safety fuses — Part 7: Verification of reliability of initiation of detonating cords*

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

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

The velocity of detonation is an important performance characteristic of explosives for blasting.

The determination of the velocity of detonation (VOD) is carried out by measuring the time it takes the detonation front to travel a distance through a test piece. The test is carried out either under confinement or without. Depending on the measuring equipment, the velocity of detonation is calculated from the measured time and the measured distance or derived from the distance over time test records.

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.

5.2 Steel tube, of steel grade S 235 in accordance with EN 10025-2:2019, Clause 4 and Tables 1, 3 and 6, and with dimensions in accordance with EN 10216-1:2013, Table 7.