TSIVIILKÄIBES OLEVAD LÕHKEAINED. LÕHKEAINED LÕHKETÖÖDEKS, VÕIMENDUSLAENGUD JA PLAHVATUSOHTLIKUD AINED. OSA 13: TIHEDUSE MÄÄRAMINE

Explosives for civil uses - Explosives for blasting, boosters and explosive substances - Part 13: Verification of density

EESTI STANDARDIMIS- JA AKREDITEERIMISKESKUS
ESTONIAN CENTRE FOR STANDARDISATION AND ACCREDITATION

EESTI STANDARDI EESSÕNA

NATIONAL FOREWORD

See Eesti standard EVS-EN 13631-13:2025 sisaldab Euroopa standardi EN 13631-13:2025 ingliskeelset teksti.	This Estonian standard EVS-EN 13631-13:2025 consists of the English text of the European standard EN 13631-13:2025.
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

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN 13631-13

October 2025

ICS 71.100.30

Supersedes EN 13631-13:2003

English Version

Explosives for civil uses - Explosives for blasting, boosters and explosive substances - Part 13: Verification of density

Explosifs à usage civil - Explosifs de mine, renforçateurs, et substances explosives - Partie 13 : Vérification de la densité

Explosivstoffe für zivile Zwecke - Sprengstoffe, Verstärkungsladungen und Explosivstoffe - Teil 13: Überprüfung der Dichte

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

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

Ref. No. EN 13631-13:2025 E

Contents

Page

European foreword

This document (EN 13631-13:2025) 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of an identical text or by endorsement, at the latest by April 2026, and conflicting national standards shall be withdrawn at the latest by April 2026.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 13631-13:2003.

EN 13631-13:2025 includes the following significant technical changes with respect to EN 13631-13:2003:

a) the document title has been changed from “Explosives for civil uses — High explosives — Part 13: Determination of density” to “Explosives for civil uses — Explosives for blasting, boosters and explosive substances — Part 13: Verification of density”;

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) the Clause 4 “Principle” has been added;

f) the Clause 5 “Apparatus” has been updated and extended;

g) the Clause 6 “Preparation of test sample” has been added;

h) the Clause “Procedure” has been revised completely to provide specification regarding the verification of the density only; the specifications of former Clause 6 have been integrated into the procedure;

i) the 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) the former Annex A “Range of applicability of the test method” has been removed;

l) the Annex ZA has been updated;

m) 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 organisations 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 method for the verification of the density of explosives for blasting, boosters and explosive substances.

This document also applies to solid gun propellants, solid rocket propellants, black powder used as propellants, as covered by EN 13938-1:2025.

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 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

Density of an explosive is a parameter for determining its loading and an important characteristic property regarding safe and reliable use.

The density is determined by measuring the volume of a given mass of an explosive and calculating the quotient. For the verification of the density, the determined density value is then compared with the value specified for the explosive.

5 Apparatus

5.1 Balance, which can be read to nearest 0,5 g.

5.2 Two measuring cylinders, having both the same capacity ≥ 250 cm^3 and can both be read to the nearest 0,5 % of the nominal capacity. For testing cartridged explosives for blasting or boosters, one measuring cylinder shall have the inner dimensions to allow for testing in accordance with 7.3.

5.3 Liquid for the replacement method, being

— water if the density to be measured is greater than 1 g/cm^3 as specified in accordance with EN 13631-1:2025, 4.1.7, 5.1.6, 6.1.6, 7.1.3 or EN 13938-1:2025, 4.1.3, 5.1.3 or 6.1.4, as applicable;

— ethanol if the density to be measured is greater than 0,85 g/cm^3 as specified in accordance with EN 13631-1:2025, 4.1.7, 5.1.6, 6.1.6, 7.1.3 or EN 13938-1:2025, 4.1.3, 5.1.3 or 6.1.4, as applicable;

— n-heptane if the density to be measured is greater than 0,75 g/cm^3 as specified in accordance with EN 13631-1:2025, 4.1.7, 5.1.6, 6.1.6, 7.1.3 or EN 13938-1:2025, 4.1.3, 5.1.3 or 6.1.4, as applicable.

5.4 Temperature measuring device, for measuring ambient air temperature, readable to the nearest 1 °C.