EESTI STANDARD EVS-EN 13631-13:2003

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Explosives for civil uses - High explosives - Part 13: Determination of density

EESTI STANDARDIKESKUS

EESTI STANDARDI EESSÕNA **NATIONAL FOREWORD**

Käesolev Eesti standard EVS-EN 13631-13:2003 sisaldab Euroopa standardi EN 13631-13:2003 ingliskeelset teksti. Käesolev dokument on jõustatud 16.05.2003 ja selle kohta on avaldatud teade Eesti standardiorganisatsiooni ametlikus väljaandes. Standard on kättesaadav Eesti standardiorganisatsioonist.	This Estonian standard EVS-EN 13631-13:2003 consists of the English text of the European standard EN 13631-13:2003. This document is endorsed on 16.05.2003 with the notification being published in the official publication of the Estonian national standardisation organisation. The standard is available from Estonian standardisation organisation.

Käsitlusala: This European Standard specifies methods for determining the density of high explosives for civil uses, in cartridged or bulk form	**Scope:** This European Standard specifies methods for determining the density of high explosives for civil uses, in cartridged or bulk form

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Explosives for civil uses - High explosives - Part 13: Determination of density

Explosifs à usage civil - Explosifs - Partie 13: Détermination de la masse volumique

Explosivstoffe für zivile Zwecke - Sprengstoffe - Teil 13: Bestimmung der Dichte

This European Standard was approved by CEN on 17 January 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.

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

Management Centre: rue de Stassart, 36 B-1050 Brussels

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Contents

Foreword

This document EN 13631-13:2003 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 October 2003, and conflicting national standards shall be withdrawn at the latest by October 2003.

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.

Annex A is informative.

This European Standard is one of a series of standards on *Explosives for civil uses – High explosives.* The other parts of this series are:

prEN 13631-1	Part 1: Requirements
EN 13631-2	Part 2: Determination of thermal stability of explosives
prEN 13631-3	Part 3: Determination of sensitiveness to friction of explosives
EN 13631-4	Part 4: Determination of sensitiveness to impact of explosives
EN 13631-5	Part 5: Determination of resistance to water
EN 13631-6	Part 6: Determination of resistance to hydrostatic pressure
prEN 13631-7	Part 7: Determination of safety and reliability at extreme temperatures
prEN 13631-10	Part 10: Verification of the means of initiation
prEN 13631-11	Part 11: Determination of transmission of detonation
prEN 13631-12	Part 12: Specifications of boosters with different initiating capability
EN 13631-14	Part 14: Determination of the velocity of detonation
prEN 13631-15	Part 15: Calculation of thermodynamic properties
prEN 13631-16	Part 16: Detection and measurement of toxic gases

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: 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.

1 Scope

This European Standard specifies methods for determining the density of high explosives for civil uses, in cartridged or bulk form.

2 Normative references

This European Standard incorporates by dated or undated reference, provisions from other publications. These normative references are cited at the appropriate places in the text, and the publications are listed hereafter. For dated references, subsequent amendments to or revisions of any of these publications apply to this European Standard only when incorporated in it by amendment or revision. For undated references the latest edition of the publication referred to applies (including amendments).

EN ISO/IEC 17025; *General requirements for the competence of testing and calibration laboratories (ISO/IEC 17025:1999).*

prEN 13857-1:2001; *Explosives for civil uses — Part 1: Terminology.*

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in prEN 13857-1:2001 and the following apply.

3.1
free-flowing explosive
solid, liquid or pasty material in such a form that it is readily transferred from one container to another by pouring to give one continuous, homogenous mass

4 Apparatus

4.1 Tank, containing a suitable inert liquid such as water or paraffin oil in which the cartridge can be immersed.

4.2 Thermometer, capable of measuring the temperature of the liquid to an accuracy of ± 1 °C.

4.3 Weighing machine, capable of weighing to an accuracy of ± 0,5 g. For cartridged explosives, a hook shall be provided for attaching the cartridge underneath.

4.4 Graduated measuring cylinder, of capacity 250 ml (or greater) capable of measuring to an accuracy of ± 1 ml.

5 Procedure

5.1 Apparent density

5.1.1 Cartridged explosives

Measure the temperature of the liquid and calculate its density.

Weigh the cartridge in air (mass M_1). Attach the cartridge to the hook and suspend it underneath the weighing machine so that the cartridge is fully immersed, without touching the bottom or sides of the tank, and reweigh (mass M_2).

5.1.2 Free-flowing explosives

Place an empty measuring cylinder on the weighing machine and record its mass (M_3). Introduce a minimum of 50 g of the explosive substance, tamp lightly (for solid explosives), record the volume of the product in the cylinder (V_1), reweigh the cylinder and contents (M_4).

5.1.3 Non-free-flowing explosives

The apparent density of non-free-flowing explosives shall be taken as the true density, determined in accordance with **5.2.1.**