SLOVENSKI STANDARD
SIST EN 13630-8:2002

01-december-2002

Eksplozivi za civilno uporabo – Detonacijske in počasi goreče vžigalne vrvice – 8. del: Ugotavljanje odpornosti detonacijskih in počasi gorečih vžigalnih vrvic proti vodi

Explosives for civil uses - Detonating cords and safety fuses - Part 8: Determination of resistance to water of detonating cords and safety fuses

Explosivstoffe für zivile Zwecke - Sprengschnüre und Sicherheitsanzündschnüre - Teil 8: Bestimmung der Wasserfestigkeit von Sprengschnüren und Sicherheitsanzündschnüren

Explosifs a usage civil - Cordeaux détonants et meches de sureté - Partie 8: Détermination de la résistance a l'eau des cordeaux détonants et meches de sureté

Ta slovenski standard je istoveten z: **EN 13630-8:2002**

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Explosives for civil uses - Detonating cords and safety fuses - Part 8: Determination of resistance to water of detonating cords and safety fuses

Explosifs à usage civil - Cordeaux détonants et mèches de sûreté - Partie 8: Détermination de la résistance à l'eau des cordeaux détonants et mèches de sûreté

Explosivstoffe für zivile Zwecke - Sprengschnüre und Sicheheitsanzündschnüre - Teil 8: Bestimmung der Wasserfestigkeit von Sprengschnüren und Sicherheitsanzündschnüren

This European Standard was approved by CEN on 11 July 2002.

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, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Contents

Foreword

This document (EN 13630-8:2002) 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 March 2003, and conflicting national standards shall be withdrawn at the latest by March 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.

This European Standard is one of a series of standards on *Explosives for civil uses – Detonating cords and safety fuses.* The other parts of this series are:

prEN 13630-1 *Part 1: Requirements.*

EN 13630-2 *Part 2: Determination of thermal stability of detonating cords and safety fuses.*

EN 13630-3 *Part 3: Determination of sensitiveness to friction of the core of detonating cords.*

EN 13630-4 *Part 4: Determination of sensitiveness to impact of detonating cords.*

prEN 13630-5 *Part 5: Determination of resistance to abrasion of detonating cords.*

EN 13630-6 *Part 6: Determination of resistance to tension of detonating cords.*

EN 13630-7 *Part 7: Determination of reliability of initiation of detonating cords.*

prEN 13630-9 *Part 9: Determination of transmission of detonation from detonating cord to detonating cord.*

WI 00321088 *Part 10: Determination of initiating capability of detonating cords.*

EN 13630-11 *Part 11: Determination of velocity of detonation of detonating cords.*

EN 13630-12 *Part 12: Determination of burning duration of safety fuses.*

Annex A of this document is informative.

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, Iceland, Ireland, Italy, Luxembourg, Malta, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and the United Kingdom.

1 Scope

This European Standard specifies a method for determining the resistance to water of flexible plastics-coated detonating cords, flexible fibrous-overbraided detonating cords and water-resistant safety fuses.

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 13630-7:2002, *Explosives for civil uses – Detonating cords and safety fuses – Part 7: Determination of reliability of initiation of detonating cords.*

EN 13630-12, *Explosives for civil uses – Detonating cords and safety fuses – Part 12: Determination of burning duration of safety fuses.*

prEN 13857-1:2001, *Explosives for civil uses – Part 1: Terminology.*

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

3 Terms and definitions

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

4 Immersion test for detonating cords

4.1 Principle

A test piece is immersed in water under tensile load for a given time and its ability to be initiated is then checked using a detonator and a witness plate.

4.2 Apparatus

4.2.1 Tank of water, open at the top, of a sufficient size. The temperature of water shall be (20 ± 10) °C.

4.2.2 Means of supporting the test piece. A suitable means is shown in Figure 1; in this case, the diameter of the pulleys shall be sufficiently large that they do not cause damage to the cover of the test piece and shall be at least 100 mm. One pulley shall be attached to the bottom of the tank.

4.2.3 Weight, or other means, to subject the test piece to a tensile load of 400^{+5}_{0} N, unless the detonating cord has been designed for use in a specific application. In the latter case, the weight, or other means, shall be that specified by the manufacturer.

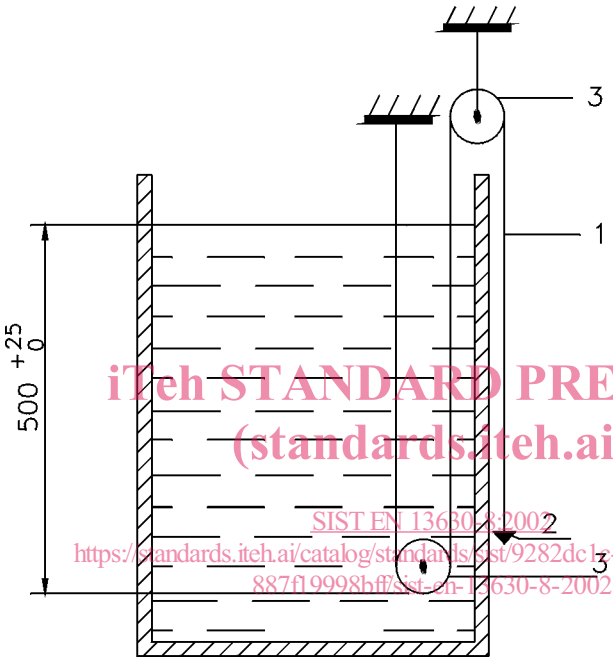
4.3 Test pieces

Select five pieces of detonating cord, at least 2 000 mm long.

4.4 Procedure

Immerse the test piece in the tank in such a way that at least 1 000 mm remain below the water level. Keep the two ends of the test piece out of the water and subject the test piece to the tensile load (4.2.3.) (see Figure 1).

Dimensions in millimetres



Key

1 Detonating cord

2 Tensile load

3 Pulley

Figure 1 – Example of arrangement for the immersion of detonating cords

Keep the test piece immersed for $24^{+0,5}_{0}$ h

Remove the test piece from the tank and exclude the length not immersed.

Test each of the five test pieces for reliability of initiation, as described in EN 13630-7:2002, subclause 7.2, using the length of detonating cord which was immersed in water.

5 Immersion test for safety fuses

5.1 Principle

A test piece is immersed in water for a given time and its performance is then checked by measuring the burning duration.

5.2 Apparatus

5.2.1 **Tank,** open at the top, of a sufficient size.

5.2.2 **Weight,** of mass (500 ± 50) g.

5.2.3 **Apparatus** for the measurement of burning duration, as described in EN 13630-12.

5.3 Test pieces

Select five lengths of safety fuse, each (1 500 ± 50) mm long.

5.4 Procedure

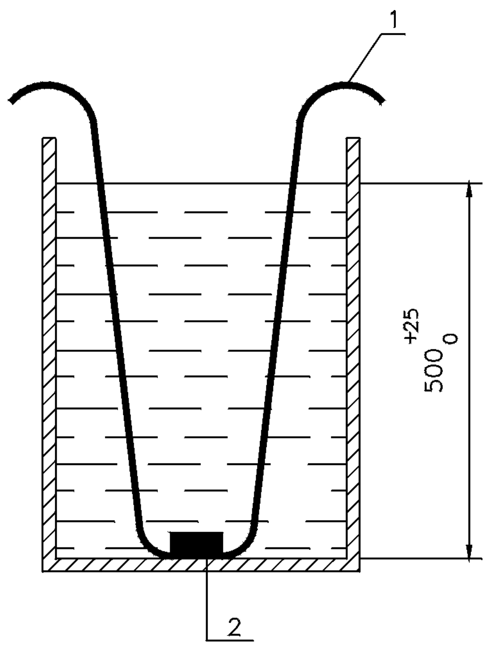
Fill the tank with water to a height of 500_{0}^{+25} mm.

Immerse the test piece in the water and position the weight (5.2.2.), so that the midpoint of the test piece is kept in contact with the bottom of the tank, as shown in Figure 2.

Keep the test piece in the water for 24 h.

Remove the test piece from the tank and cut off a (1 000 ± 5) mm length from the section which was immersed. Measure the burning duration of the immersed length using the unconfined test described in EN 13630-12.

Dimensions in millimetres



Key

1 Test piece

2 Weight

Figure 2 –Arrangement for the immersion of safety fuses

6 Test report

The test report shall conform to EN ISO/IEC 17025. In addition the following information shall be given:

a) the number of trials out of five tests in which an indentation on the witness plate was obtained for the immersion test of detonating cords;

b) the tensile load applied in the immersion test of detonating cords;

c) the burning duration of the five tests for the immersion test of safety fuses;

d) the burning duration claimed by the manufacturer.