



SLOVENSKI STANDARD

SIST EN 13630-12:2002

01-december-2002

Eksplzivni za civilno uporabo – Detonacijske in počasi goreče vžigalne vrvice – 12. del: Ugotavljanje hitrosti gorenja počasi gorečih vžigalnih vrvic

Explosives for civil uses - Detonating cords and safety fuses - Part 12: Determination of burning duration of safety fuses

Explosivstoffe für zivile Zwecke - Sprengschnüre und Sicherheitsanzündschnüre - Teil 12: Bestimmung der Brenndauer von Sicherheitsanzündschnüren

Explosifs a usage civil - Cordeaux détonants et meches de sureté - Partie 12: Détermination de la durée de combustion des meches de sureté

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Ta slovenski standard je istoveten z: EN 13630-12:2002

ICS:

71.100.30 Eksplozivi. Pirotehnika Explosives. Pyrotechnics

SIST EN 13630-12:2002

en

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ICS 71.100.30

English version

Explosives for civil uses - Detonating cords and safety fuses - Part 12: Determination of burning duration of safety fuses

Explosifs à usage civil - Cordeaux détonants et mèches de
sûreté - Partie 12: Détermination de la durée de
combustion des mèches de sûreté

Explosivstoffe für zivile Zwecke - Sprengschnüre und
Sicherheitsanzündschnüre - Teil 12: Bestimmung der
Brenndauer von 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.

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EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
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Foreword

This document (EN 13630-12:2002) 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.*

EN 13630-8 *Part 8: Determination of resistance to water of detonating cords and safety fuses.*

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.*

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: 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 methods for determining the burning duration of 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).

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 Apparatus

4.1 Climatic conditioning chamber

Climatic conditioning chamber in which temperature is regulated at (20 ± 2) °C and relative humidity at (65 ± 10) %.

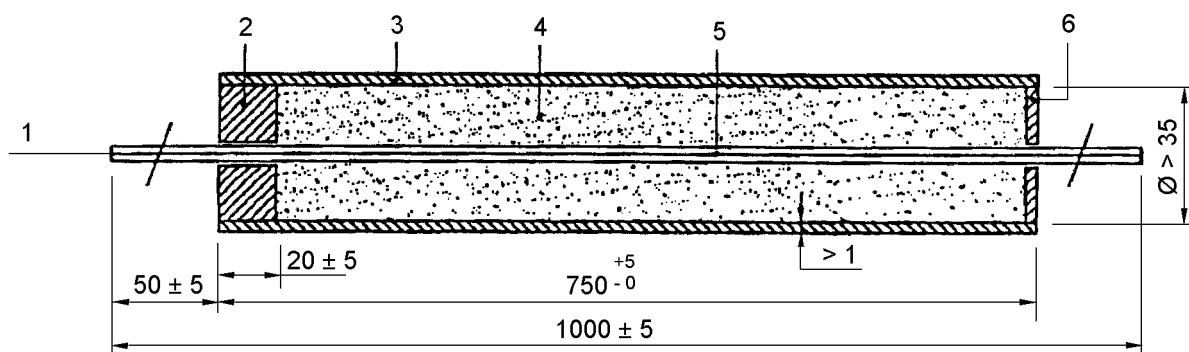
4.2 Supporting device

For example, V shaped steel gutter (for safety fuses tested without confinement), at least 1 m long, positioned horizontally.

4.3 Steel tube

Tube with a minimum diameter of 35 mm and a minimum thickness of 1 mm, for safety fuses tested with confinement (see Figure 1).

Dimensions in millimetres

**Key**

- 1 Point of ignition
- 2 Wooden plug
- 3 Steel tube
- 4 Sand
- 5 Safety fuse
- 6 Cardboard disc

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Figure 1 – Schematic of confined test

4.4 Stopwatch

Stopwatch, accurate to 0,1 s.

4.5 Sand

Quartz sand, dried and then sieved to pass a 1 mm aperture sieve.

4.6 Means of igniting the safety fuse

Means of igniting the safety fuse: for example, matches.

5 Test pieces

Select 10 pieces of (1000 ± 5) mm length.

6 Procedure

6.1 Conditioning of test pieces

Store the test pieces in the conditioning chamber (4.1) for eight days immediately prior to testing.

6.2 Unconfined test

Carry out the following procedure on five test pieces.

Extend the test piece horizontally using a supporting device (4.2) without creating a confinement. Light the test piece at one end and measure the time taken for the flame to appear at the other end using the stopwatch. Record this time or, if the test piece fails to burn along its complete length, record the result as «failed».

6.3 Confined test

Carry out the following procedure on five test pieces.

Place the test piece in the steel tube through the wooden plug so that the length of the test piece outside the tube, at the same end as the plug, is (50 ± 5) mm (see Figure 1). Fill the tube with the sand while maintaining the test piece under slight tension. Close the tube with the cardboard disc, threading the test piece through the hole of the disc. Ensure that the length of the test piece outside the tube at this end is 200 mm.

Light the test piece at the shorter end and measure the time taken for the flame to appear at the other end of the test piece using the stopwatch.

Record this time or, if the test piece fails to burn along its complete length, record the result as «failed».

7 Test report

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

- a) the atmospheric pressure during testing;
- b) the result of the five tests for each configuration (confined/unconfined) in the form of each burning duration (s) for a length of one metre, or failed.

Annex A
(informative)

Range of applicability of the test method

Range of applicability of the test method: - 30 °C to + 80 °C.

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