BRITISH STANDARD

BS EN
13630-1:2003

Explosives for civil uses — Detonating cords and safety fuses —

Part 1: Requirements

The European Standard EN 13630-1:2003 has the status of a British Standard

ICS 71.100.30

BSI
British Standards

National foreword

This British Standard is the official English language version of EN 13630-1:2003.

The UK participation in its preparation was entrusted to Technical Committee CII/61, Explosives for civil uses, which has the responsibility to:

— aid enquirers to understand the text;

— present to the responsible international/European committee any enquiries on the interpretation, or proposals for change, and keep the UK interests informed;

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Explosives for civil uses - Detonating cords and safety fuses - Part 1: Requirements

Explosifs à usage civil - Cordeaux détonants et mèches de sûreté - Partie 1: Exigences

Explosivstoffe für zivile Zwecke - Sprengschnüre und Sicherheitsanzündschnüre - Teil 1: Anforderungen

This European Standard was approved by CEN on 10 November 2003.

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Contents

Foreword

This document (EN 13630-1:2003) 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of an identical text or by endorsement, at the latest by June 2004, and conflicting national standards shall be withdrawn at the latest by June 2004.

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:

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

EN 13630-5 Part 5: Determination of resistance to abrasion of detonating cords

EN 13630-6 Part 6: Measurement 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

EN 13630-9 Part 9: Determination of transmission of detonation from detonating cord to detonating cord

prEN 13630-10 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

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 the requirements for detonating cords and safety fuses for civil uses, when subjected to the test methods defined in the standards referred to in clause 2.

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 13630-2, *Explosives for civil uses - Detonating cords and safety fuses - Part 2: Determination of thermal stability of detonating cords and safety fuses.*

EN 13630-3, *Explosives for civil uses - Detonating cords and safety fuses - Part 3: Determination of sensitiveness to friction of the core of detonating cords.*

EN 13630-4, *Explosives for civil uses - Detonating cords and safety fuses - Part 4: Determination of sensitiveness to impact of detonating cords.*

EN 13630-5, *Explosives for civil uses - Detonating cords and safety fuses - Part 5: Determination of resistance to abrasion of detonating cords.*

EN 13630-6, *Explosives for civil uses - Detonating cords and safety fuses - Part 6: Measurement of resistance to tension of detonating cords.*

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

EN 13630-8, *Explosives for civil uses - Detonating cords and safety fuses - Part 8: Determination of resistance to water of detonating cords and safety fuses.*

EN 13630-9, *Explosives for civil uses - Detonating cords and safety fuses - Part 9: Determination of transmission of detonation from detonating cord to detonating cord.*

prEN 13630-10, *Explosives for civil uses - Detonating cords and safety fuses - Part 10: Determination of initiating capability of detonating cords.*

EN 13630-11, *Explosives for civil uses - Detonating cords and safety fuses - Part 11: Determination of velocity of detonation of detonating cords.*

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

EN 13857-1:2003, *Explosives for civil uses – Part 1: Terminology.*

3 Terms and definitions

For the purposes of this European Standard, the terms and definitions given in EN 13857-1:2003 apply.

4 Requirements for detonating cords

4.1 Thermal stability

When tested in accordance with EN 13630-2, there shall be no explosion, nor other evidence of decomposition.

4.2 Sensitiveness to friction of the core of detonating cords

When tested in accordance with EN 13630-3, the sensitiveness to friction shall be not less than 30 N.

NOTE The range of validity of the test results is assumed to be from – 30 °C to + 80 °C.

4.3 Sensitiveness to impact of detonating cords

When tested in accordance with EN 13630-4, there shall be no explosion nor decomposition for any of the test pieces.

NOTE The range of validity of the test results is assumed to be from – 30 °C to + 80 °C.

4.4 Resistance to abrasion

When tested in accordance with EN 13630-5, none of the test pieces shall break and the explosive core of the detonating cord shall not be exposed.

NOTE The range of validity of the test results is assumed to be from – 30 °C to the highest temperature at which the test has been carried out.

4.5 Resistance to tension of detonating cords

When tested in accordance with EN 13630-6, none of the test pieces shall break within 30 min under tension.

The test piece shall fulfil the requirements of EN 13630-7, detonator B.

NOTE The range of validity of the test results is assumed to be from – 30 °C to + 80 °C.

4.6 Reliability of initiation

When tested in accordance with EN 13630-7, all the test pieces shall detonate completely.

NOTE The range of validity of the test results is assumed to be from – 30 °C to + 80 °C.

4.7 Resistance to water

When submitted to the test described in EN 13630-8 and tested in accordance with EN 13630-7, all the test pieces shall detonate completely.

NOTE The temperature and pressure ranges of validity of the test results are assumed to be from 0 °C to + 80 °C, and up to 300 kPa, respectively.

4.8 Transmission of detonation from detonating cord to detonation cord

When tested in accordance with EN 13630-9, all the acceptor cords shall detonate completely.

NOTE The range of validity of the test results is assumed to be from – 30 °C to + 80 °C.

4.9 Initiating capability of detonating cords

When tested in accordance with prEN 13630-10, the initiating capability (*I*) shall be at least the value claimed by the manufacturer.

NOTE The range of validity of the test results is assumed to be from – 30 °C to + 80 °C.

4.10 Velocity of detonation

When tested in accordance with EN 13630-11, the velocity of detonation of each of three test pieces shall be within ± 5% of the value claimed by the manufacturer. If one test piece fails to meet this criterion and a further five test pieces are tested, the detonation velocity of all of the eight test pieces shall be within ± 10% of the value claimed by the manufacturer.

NOTE The range of validity of the test results is assumed to be from – 30 °C to + 80 °C.

5 Requirements for safety fuses

5.1 Thermal stability

When tested in accordance with EN 13630-2, there shall be no ignition, nor decomposition.

5.2 Resistance to water

When submitted to the test described in EN 13630-8 and tested in accordance with EN 13630-12, the burning duration shall be the burning duration claimed by the manufacturer ± 10%.

NOTE The range of validity of the test results is assumed to be from 0 °C to + 50 °C.

5.3 Burning duration

When tested in accordance with EN 13630-12, the burning duration of each of the five test pieces shall be within ± 10% of the value claimed by the manufacturer for both the confined test and the unconfined test.

NOTE The range of validity of the test results for confined and unconfined is assumed to be from – 30 °C to + 50 °C.

Annex ZA
(informative)

Clauses of this European Standard addressing essential requirements or other provisions of EU Directives

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 93/15/EEC.

Compliance with this standard provides one means of conforming with the specific essential requirements of the Directives concerned and associated EFTA regulations.

WARNING: other requirements and other EU Directives may be applicable to the products falling within the scope of this standard.

The following clauses of this document are likely to support requirements of Directive 93/15/EEC, especially:

Table ZA.1

Essential requirement	Subject	Requirements of this standard
I.1, II.1(b),(d),(g)	Determination of thermal stability of detonating cords and safety fuses	4.1, 5.1
I.1, II.1(c)	Determination of sensitiveness to friction of the core of detonating cords	4.2
I.1, II.1(c), II.2.B(a)	Determination of sensitiveness to impact of detonating cords	4.3
I.1, I.2, II.1(j), II.2B(a)	Determination of resistance to abrasion of detonating cords	4.4
I.2, II.1(j), II.2B(a)	Determination of resistance to tension of detonating cords	4.5
I.2, II.2B(c)	Determination of reliability of initiation of detonating cords	4.6
I.2, II.1(f),(j), II.2B(a),(c)	Determination of resistance to water of detonating cords and safety fuses	4.7, 5.2
I.1, II.2B(c)	Determination of transmission of detonation from detonating cord to detonating cord	4.8
I.1, I.2, II.2.B(c)	Determination of initiating capability of detonating cords	4.9
I.1, I.2, II.1(a)	Determination of velocity of detonation of detonating cords	4.10
I.1, I.2, II.1(a), II.2.B(b)	Determination of burning duration of safety fuses	5.3

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