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**WINDOWS, DOORS AND SHUTTERS -  
EXPLOSION RESISTANCE - TEST METHOD -  
PART 2: RANGE TEST**

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**Windows, doors and shutters - Explosion resistance - Test  
method - Part 2: Range test**

Portes, fenêtres et fermetures - Résistance à l'explosion -  
Méthode d'essai - Partie 2: Essai en plein air

Fenster, Türen und Abschlüsse - Sprengwirkungshemmung  
- Prüfverfahren - Teil 2: Freilandversuch

This European Standard was approved by CEN on 2 January 2004.

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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 Central Secretariat has the same status as the official versions.

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## **Foreword**

This document (EN 13124-2:2004) has been prepared by Technical Committee CEN/TC 33 "Doors, windows, shutters, building hardware and curtain walling", the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by August 2004, and conflicting national standards shall be withdrawn at the latest by August 2004.

This European Standard is one of a series of standards for windows, doors and shutters.

No existing European Standard is superseded.

Annexes A and B are normative.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.

## EN 13124-2:2004 (E)

### 1 Scope

This European Standard specifies a test procedure to permit classification of the explosion resistance of windows, doors and shutters together with their infills.

This European Standard concerns a test method against blast waves in open air resulting from high explosives that can be carried by hand and placed a few metres from a target. At such close distances blast values vary across an attack face. Controlled measurement of the actual blast on the face of the test specimen being difficult, costly and subject to inaccuracy, consistency of the blast forces is therefore controlled in this European Standard by the characteristics of the explosive charge and its location (see annex A and annex B).

This European Standard covers only the behaviour of the complete unit including infill, frame and fixings as tested. It gives no information on the ability of the surrounding wall or building structure to resist the direct or transmitted forces.

If the windows, doors and shutters are intended for specific conditions of climate, specific test conditions can be required.

This European Standard gives no information on the behaviour of the units subjected to other types of loading.

### 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 13123-2: 2004, *Windows, doors and shutters – Explosion resistance – Requirements and classification – Part 2: Range test*.

### 3 Terms and definitions

For the purposes of this European Standard, the following terms and definitions apply.

#### 3.1

##### **test specimen**

sample prepared and submitted for testing

#### 3.2

##### **attack face**

face of the test specimen designed to face the explosion

#### 3.3

##### **rear face**

opposite side of the test specimen to the attack face

#### 3.4

##### **breach**

opening created by distortion in the test specimen during the test and evident after the test exceeding that specified in clause 9. Any opening created by a fragment of the specimen passing through or ejected from the test specimen

#### 3.5

##### **pressure wave**

pressure wave generated by the detonation of a high explosive charge, creating an instantaneous rise in pressure which then decays with time (see Figure B.1)

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