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# INTERNATIONAL STANDARD



# 3009

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INTERNATIONAL ORGANIZATION FOR STANDARDIZATION • МЕЖДУНАРОДНАЯ ОРГАНИЗАЦИЯ ПО СТАНДАРТИЗАЦИИ • ORGANISATION INTERNATIONALE DE NORMALISATION

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## Fire-resistance tests — Glazed elements

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## FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up has the right to be represented on that Committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 3009 was drawn up by Technical Committee ISO/TC 92, *Fire tests on building materials and structures*, and was circulated to the Member Bodies in April 1973.

It has been approved by the Member Bodies of the following countries :

Australia	India	South Africa, Rep. of
Bulgaria	Ireland	Spain
Canada	Israel	Sweden
Czechoslovakia	Italy	Thailand
Denmark	Mexico	U.S.A.
Egypt, Arab Rep. of	New Zealand	U.S.S.R.
Germany	Norway	Yugoslavia
Hungary	Romania	

The Member Bodies of the following countries expressed disapproval of the document on technical grounds :

Austria	France
Belgium	United Kingdom
Finland	

NOTE — Annexes A and B to this International Standard provide additional information but neither annex forms a mandatory part of this standard. The procedure described in annex B may be used as an optional requirement. Laboratories are advised to gain experience with this method, particularly with the aim of increasing its sensitivity to an acceptable level so that it may be included in the main body of the standard at a future revision.

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## Fire-resistance tests — Glazed elements

### 1 SCOPE AND FIELD OF APPLICATION

This International Standard specifies methods of testing and assessing the fire resistance of non-loadbearing, vertical glazed elements of construction which are intended either to provide, wholly or in part, separation between different areas in a building, or to form part of the external walls.

It is applicable to glazed separating elements such as windows, walls of glass blocks and other light-transmitting assemblies.

### 2 REFERENCE

ISO 834, *Fire-resistance tests — Elements of building construction*.

### 3 PRINCIPLE

Glazed elements are unable to provide an appreciable degree of insulation against heat transfer and therefore the normal insulation criteria of ISO 834 are not considered to be applicable. However, the radiated heat will affect the safety of people; it could also cause ignition of combustible contents and fittings. This International Standard therefore specifies means for measuring transmitted heat; the appropriate acceptance criteria are the responsibility of the national standards authorities.

### 4 FURNACE

The furnace shall be capable of subjecting one side of the test element to the heating condition specified in ISO 834, and the furnace temperature shall be measured with respect to the test element and controlled within the tolerances specified in ISO 834.

Means shall be provided for increasing and maintaining the pressure conditions within the furnace chamber to a positive value in relation to the pressure in the laboratory according to the requirements of 7.1.

### 5 PREPARATION OF TEST ELEMENT

#### 5.1 Dimensions

The complete assembly to be tested shall be full size. When either of the dimensions of the full-size construction is larger than it is possible to accommodate in the furnace, the test element shall have the maximum size that can be accommodated; in such a case the appropriate width or height shall be not less than the following :

- width : 2,0 m
- height : 2,5 m

#### 5.2 Construction

The test shall be performed on a complete assembly constructed as intended to be used in practice, incorporating all the necessary hardware<sup>1)</sup>.

A vertical test element shall be tested in a wall of the type in which it is intended to be used or, when this cannot be specified, in a wall of concrete or brick having a thickness of

- about 100 mm for a test having an anticipated duration of 2 h or less;
- about 200 mm for tests of longer duration.

The fixing of the test element in the surrounding wall (see figure 1) shall follow the recommended method for the construction and no special provision shall be made for its retention.<sup>2)</sup>

1) The term "hardware" covers such items as hinges, latches, door handles, locks, keyholes, letter plates, sliding gear, closing devices, etc.

2) Where the glazed element is mounted without structural connection to the surrounding vertical construction, its deflection from the vertical plane at the edges shall be recorded so that its compatibility with other forms of vertical construction may be judged from the deflections of those constructions when tested to ISO 834.