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**External exposure of roofs to fire —**

**Part 1:  
Test method**

*Exposition des toitures à un feu extérieur —*

*Partie 1: Méthode d'essais*



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ISO copyright office  
Case postale 56 • CH-1211 Geneva 20  
Tel. + 41 22 749 01 11  
Fax + 41 22 749 09 47  
E-mail [copyright@iso.org](mailto:copyright@iso.org)  
Web [www.iso.org](http://www.iso.org)

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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established 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. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 92, *Fire Safety*, Subcommittee SC 2, *Fire Containment*.

This second edition cancels and replaces the first edition (ISO 12468-1:2003), of which it constitutes a minor revision.

ISO 12468 consists of the following parts, under the general title *External exposure of roofs to fire*:

- *Part 1: Test method*
- *Part 2: Classification of roofs*
- *Part 3: Commentary*

## Introduction

This part of ISO 12468 specifies a test method that relates to the effects of fires on roofs. The test method described in this part of ISO 12468 represents the effect of three levels of fire exposure.

- Level A: A large burning brand coming from an adjacent building and falling onto the roof. Level A considers the effects of wind and additional radiant heat.
- Level B: A medium burning brand coming from a fire in a neighbourhood and falling onto the roof. Level B considers the effect of wind but without additional radiant heat.
- Level C: A small burning brand transported by the wind from a remote fire and falling onto the roof. Level C considers the effect of wind but without additional radiant heat.



# External exposure of roofs to fire —

## Part 1: Test method

### 1 Scope

**CAUTION —** The attention of all persons concerned with managing and carrying out this fire test is drawn to the fact that fire testing may be hazardous and that there is a possibility that toxic and/or harmful smoke and gases may be evolved during the test. Mechanical and operational hazards may also arise during the construction of the test elements or structures, their testing, and disposal of test residues. An assessment of all potential hazards and risks to health shall be made and safety precautions shall be identified and provided. Written safety instructions shall be issued. Appropriate training shall be given to relevant personnel. Laboratory personnel shall ensure that they follow written safety instructions at all times.

This part of ISO 12468 specifies a test method to determine the resistance of roofs to external exposure to fire. This method evaluates the behaviour of the roof when exposed to three types of burning brands combined with wind and with or without heat radiation, concerning

- a) the fire spread across the external surface of the roof,
- b) the fire spread within the roof,
- c) the fire penetration, and
- d) the production of flaming droplets or debris falling through the roof, from the underside of the roof, or from the exposed surface.

### 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 13943, *Fire safety — Vocabulary*

### 3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 13943 and the following apply.

#### 3.1

##### **assembly**

fabrication of materials and/or composites

EXAMPLE Sandwich panels.

#### 3.2

##### **burned material**

material that has been destroyed by combustion or pyrolysis