

Fire tests on building materials and structures —

Part 10: Guide to the principles and application of fire testing

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Department of Trade (Marine Division)	United Kingdom Atomic Energy Authority
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	Wood Wool Slab Manufacturers' Association

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Foreword

This Part of this British Standard has been prepared under the direction of the Fire Standards Committee and describes the general principles and application of the methods in this series of standards for fire testing.

Because of an increasing interest in fire testing in relation to reducing fire hazard and controlling the products and elements of construction used in buildings, and because of a desire to move away from the present approach based largely on experience and limited technical data, towards a more rational approach, the committee responsible for the methods described in this series of standards has undertaken the revision of existing methods, and the preparation of new methods.

Part numbers for the methods have been allocated in advance so that the new standards are published in a coherent manner.

The methods specific to assessment of the response to fire of building products have been allocated Part numbers 11 to 19, and those for elements of building construction from 20 to 29, with provision for miscellaneous methods from 30 onwards. The provisional titles of the Parts are as follows.

a) *Fire tests for products*

- Part 11¹⁾: *Method for assessing the heat emission from building materials;*
- Part 12²⁾: *Method for measuring the ignitability of products using direct flame impingement;*
- Part 13²⁾: *Method for measuring the ignitability of products subjected to thermal irradiance;*
- Part 14²⁾: *Method for measuring the rate of flame spread on surfaces of products;*
- Part 15²⁾: *Method for measuring the rate of heat release of products;*
- Part 16²⁾: *Method for measuring the smoke release (obscuration) of products;*
- Parts 17 to 19: *Other methods of test relating to products;*

b) *Fire tests for elements of building construction*

- Part 20²⁾: *General principles and requirements for the determination of the fire resistance of elements of building construction;*
- Part 21²⁾: *Methods for the determination of the fire resistance of load bearing elements of building construction;*
- Part 22²⁾: *Methods for the determination of the fire resistance of non-load bearing elements of building construction;*
- Part 23²⁾: *Methods for the determination of the contribution provided by components and elements to the fire resistance of a structure;*
- Part 24: *Methods for the determination of the fire resistance of elements of construction penetrated by building services;*
- Parts 25 to 29: *Other methods related to the determination of fire resistance;*

c) *Miscellaneous fire tests*

- Part 30¹⁾: *Methods for measuring the performance of flat and sloping roofs exposed to an external fire;*
- Part 31³⁾: *Methods for measuring smoke penetration through door sets and shutter assemblies.*

¹⁾ Published

²⁾ In course of preparation.

³⁾ Being issued in separately published Sections.

In order to provide continuity with the new methods, the present published series (Parts 3 to 8) will be retained for as long as is necessary, but will eventually be phased out.

Following current practice, those methods that are entirely new will normally first be issued as Drafts for Development. This provides a two year period for general assessment before the method is transformed into a standard in the new series. The first method has been issued under this policy as DD 70. Where appropriate the detailed drawings for the apparatus specified in the methods will be made available.

The methods under preparation for this series of standards, take account of work being carried out in the International Organization for Standardization (ISO), Technical Committee TC 92 "Fire tests for building materials, components and structures" and that being carried out by the EEC (Commission DG III) with a view to reducing barriers to trade between its member states. This programme includes a number of methods for fire testing, with work on fire resistance being given the first consideration. The committee responsible for this series of standards is being kept informed of progress in these matters, and an analysis of the current requirements of BS 476-8, the ISO standards and the draft EEC Directive has been published as PD 6496.

Whilst it is the intention of the Committee responsible for this series of standards to reduce and, where possible, eliminate the use of asbestos-based products in the specified methods, it is not always possible to achieve this, especially where a revision of an existing method is being prepared. In such cases, attention is drawn to the following safety warning.

CAUTION. The mechanical sawing and drilling of asbestos cement components attracts the provisions of the Asbestos Regulations 1969. Adequate methods exist to control levels of dust during such operations and these are detailed in the Control and Safety Guides issued by the Asbestos Research Council⁴.

Similarly, in preparing a new method, every effort is made to remove by design possible situations which might cause hazard to the operator. However, situations can exist that are unforeseen and therefore attention is drawn to the Health and Safety at Work etc. Act 1974, and the need to ensure that the methods described in this series of standards are carried out under suitable environmental conditions to provide adequate protection to personnel against the risk of fire, inhalation of smoke and/or toxic products of combustion.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This documents comprises a front cover, an inside front cover, pages i to iv, pages 1 to 8, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

⁴) Available from the Asbestos Information Centre, Sackville House, Piccadilly, London W1.