



BSI Standards Publication

Active fire curtain barrier assemblies –

Part 2: Code of practice for application, installation and maintenance

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Foreword

Publishing information

This part of BS 8524 is published by BSI Standards Limited, under licence from The British Standards Institution, and came into effect on 30 April 2013. It was prepared by Technical Committee FSH/25, *Smoke, heat control systems and components*. A list of organizations represented on this committee can be obtained on request to its secretary.

Relationship with other publications

This British Standard has been developed from PAS 121, which will be withdrawn on 31 July 2013. This British Standard is published in two parts:

- Part 1: *Specification*;
- Part 2: *Code of practice for application, installation and maintenance*.

Use of this document

It has been assumed in the preparation of this British Standard that the execution of its provisions will be entrusted to appropriately qualified and experienced people, for whose use it has been produced.

Assessed capability. Users of this British Standard are advised to consider the desirability of sourcing active fire curtain barrier assemblies from suppliers who operate quality systems that have been assessed and registered against the appropriate standard in the BS EN ISO 9000 series by an accredited third-party certification body.

Installation and maintenance. Users of this British Standard are advised to consider the desirability of third-party certification of installers and maintainers of active fire curtain barrier assemblies. Users seeking assistance in identifying appropriate conformity assessment bodies or schemes may ask BSI to forward their enquiries to the relevant association.

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is "should".

Comments, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

0 Introduction

0.1 Role and use of barrier assemblies

As fire-separating elements, barrier assemblies are required to provide two main functions:

- a) to maintain any compartmentation of buildings needed to limit the spread of fire and smoke;
- b) to allow access to protected escape routes, both vertical and horizontal, without any loss of fire resistance, and to limit smoke entry into these routes, i.e. protected corridors and protected shafts.

They can also be partially deployed to control the movement of fire effluent within buildings in the event of fire, prior to being fully deployed as a fire barrier.

Recommended positions and ratings for fire-separating elements for means of escape purposes are given in BS 9999, BS 9991 and BS 7974. The recommendations in BS 9999 and BS 9991 use a risk-based approach; those in BS 7974 are based on the principles of fire safety engineering.

When used as part of a fire-engineered design solution, barrier assemblies can become a critical element of that design. If barrier assemblies do not deploy to their operational position, the fire-engineered solution would be compromised. However, in the event that other fire protection systems or elements do not function, e.g. due to total power failure, the barriers in the fire-operational position will provide fire separation.

0.2 Application of barrier assemblies

Barrier assemblies used in life safety and property protection applications can be horizontal, vertical or angled. Depending upon the application, they could be used to replace fire doors, roller shutters, non-load-bearing walls, non-load-bearing ceiling glazed elements, etc. They could also be used to form fire separation, e.g. forming protected routes or lobbies. They can provide some of the functionality of a fire door, but when used only for fire and smoke control, as a fire door then different requirements apply. These requirements will be given in BS EN 16034 (currently in preparation as prEN 16034). Barrier assemblies can enable greater barrier widths and barrier movements using less space than other traditional methods.

It is essential that any proposed use of barrier assemblies is assessed in the context of the building use and perceived occupancy to ensure that it is ultimately suitable and fit for purpose, taking into consideration such factors as:

- a) fire resistance;
- b) reaction to fire;
- c) smoke leakage;
- d) occupancy type and risk profile;
- e) occupancy load;
- f) means of escape for egress;
- g) ingress for fire and rescue service;
- h) life safety and property protection objectives.

0.3 Heat transfer through barrier assemblies

In fire safety situations, it is often important to establish the heat transfer from one side of the separating element to the other in order to calculate escape route sizes and safe operating distances. This is usually established using insulation data. Due to the difficulty of measuring insulation on some barrier assemblies, guidance on the use of radiation data as an alternative is given in this standard.

NOTE National building regulations ([1] to [3]) only apply to life safety. Higher performance levels might be necessary for certain applications if property protection is required.

1 Scope

This part of BS 8524 gives recommendations for the application, installation and maintenance of active fire curtain barrier assemblies. It is applicable only to active fire curtain barrier assemblies conforming to BS 8524-1:2008 that are designed to provide fire resistance or fire and smoke resistance.

NOTE Smoke barriers, used solely for smoke control, are covered by BS EN 12101-1. Such smoke barriers are not considered to be active fire curtain barrier assemblies within the scope of BS 8524.

This part of BS 8524 is also intended to provide guidance and recommendations for designers, specifiers (e.g. architects, fire engineers), approving authorities, installers and maintainers for the following:

- a) creating compartmentation;
- b) creating protected routes for the purpose of means of escape;
- c) providing protection at the location of non-fire-resisting elements, e.g. in front of non-fire-resisting glazing and doorsets, where required for compartmentation or protecting means of escape;
- d) providing a fire- and smoke resistant barrier in conjunction with non-smoke rated products protecting openings to reduce leakage of smoke.

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.

BS 476-20, *Fire tests on building materials and structures – Part 20: Method for determination of the fire resistance of elements of construction (general principles)*

BS 476-31.1, *Fire tests on building materials and structures – Part 31: Methods for measuring smoke penetration through doorsets and shutter assemblies – Section 1: Method of measurement under ambient temperature conditions*

BS 5839-1:2002+A2:2008, *Fire detection and fire alarm systems for buildings – Part 1: Code of practice for system design, installation, commissioning and maintenance*

BS 5839-6:2004, *Fire detection and fire alarm systems for buildings – Part 6: Code of practice for the design, installation and maintenance of fire detection and fire alarm systems in dwellings*

BS 8519, *Selection and installation of fire-resistant power and control cable systems for life safety and fire-fighting applications – Code of practice*