

Regulatory Reform (Fire Safety) Order 2005

Guidance Note 3: Fire safety on sub-surface railway stations



Regulatory Reform (Fire Safety) Order 2005

Guidance Note 3: Fire safety on sub-surface railway stations

The findings in this report are those of the authors and do not necessarily represent those of the Department for Communities and Local Government

Copyright in the contents, the cover, the design and the typographical arrangement rests with the Crown. This document/publication is value added. If you wish to re-use this material, please apply for a Click-Use Licence for value added material at www.opsi.gov.uk/click-use/system/online/pLogin.asp.

Alternatively applications can be sent to:
Office of Public Sector Information
Information Policy Team
Kew
Richmond upon Thames
Surrey TW9 4DU

E-mail: licensing@opsi.gov.uk

This publication has been approved by Ministers and has official status. The contents of this publication may be reproduced free of charge in any format or medium for the purposes of private research and study or for internal circulation within an organisation. This is subject to the contents being reproduced accurately and not in a way that implies official status. Any publisher wishing to reproduce the content of this publication must not use or replicate the logo or replicate the official version's style and appearance, including the design, and must not present their publication as being an official publication as this may confuse the public. The reproduced material must be acknowledged as Crown Copyright and the title of the publication specified.

Any other use of the contents of this publication would require a copyright licence. Further information can be obtained from www.opsi.gov.uk

Communities and Local Government
Eland House
Bressenden Place
London
SW1E 5DU
Telephone: 020 7944 4400
Website: www.communities.gov.uk

© Queen's Printer and Controller of Her Majesty's Stationery office, 2009.

If you require this publication in an alternative format please email alternativeformats@communities.gsi.gov.uk

Tel: 08701 226 236
Fax: 08701 226 237
Textphone: 08701 207 405
Email: communities@capita.co.uk
Online via the Communities and Local Government website: www.communities.gov.uk

75% recycled

This is printed on
75% recycled paper

March 2009

Reference number: 08FRSD05815

ISBN: 978-1-4098-1317-0

Contents

PART 1	Overview	3
PART 2	How to comply with the 2009 Regulations	7
PART 3	Information about deleted Regulations	25
PART 4 (1)	The Fire Precautions (Sub-surface Railway Stations) England Regulations 2009	44
PART 4 (2)	Regulations transferring from 1989 Regulations to the 2009 Regulations	50
PART 4 (3)	Regulations not being transferred from the 1989 Regulations	55
Appendix 1		58
Appendix 2		60

Part 1

Overview

1. Introduction

- 1.1 In June 2008 the Government published a formal consultation about the future of the Fire Precautions (Sub-surface Railway Stations) Regulations 1989 (“the 1989 Regulations”). This was the outcome of work carried out by Government working with stakeholders to meet the outstanding commitments made by Government when the Regulatory Reform (Fire Safety) Order 2005 (“the Order”) went through Parliament.
- 1.2 At the close of the consultation, 17 responses had been received. The respondents were in favour of the 1989 Regulations being revoked and remade under the Order based on the recommendations of the stakeholder working party (see below for detail). The Government’s response, published in December 2008, confirmed that the Government would press ahead with revoking the 1989 Regulations and make new Regulations. These will be laid on 6 April 2009, with a six month transition period to follow before they come into force on 1 October 2009.
- 1.3 The majority of consultation responses were in favour of the creation of guidance to assist operators and enforcers with understanding the proposed 2009 Regulations. This document provides that guidance and has been written with the assistance of a small working group made up of stakeholders from Government, the operators, trade unions representing the employees, the enforcers and transport user groups. It has also been seen by a wider peer review group drawn from all those who either responded to the consultation or who expressed an interest in this matter.
- 1.4 This guidance is given under article 26(2) of the Order. It is set out in four parts:
 - Part 1:** an overview and introduction
 - Part 2:** guidance on how to meet the obligations set out in the 2009 Regulations
 - Part 3:** sets out the Regulations which have been deleted and where you can find guidance to meet these under the Order
 - Part 4:** includes a copy of the 2009 Regulations and tables indicating which of the 1989 Regulations have been removed or retained

- 1.5 This guidance is a tool to assist station operators who will need to ensure that their staff are familiar with the 2009 Regulations in time for 1 October 2009. It is also important for fire and rescue authority staff, as enforcers under the Order, to know about the Regulations and understand why the changes have been made.

2. Background

- 2.1 The recent reform of fire safety legislation which led to the Order simplified the obligations of both those responsible for fire safety in non-domestic premises and those responsible for enforcing fire safety legislation. All of the previous legislation which affected fire safety was repealed or revoked with the sole exception of the 1989 Regulations.
- 2.2 During the passage of the Order through Parliament, Ministers agreed to retain the 1989 Regulations and agreed to provide detailed guidance applicable to all transport premises before considering exercising powers to revoke the 1989 Regulations at a later date. This guidance, *Fire Safety Risk Assessment: transport premises and facilities*, is now available on the Communities and Local Government website.
- 2.3 In addition to the production of guidance, stakeholders drawn from the railway industry, trade unions and fire and rescue service reviewed the 1989 Regulations in the light of the Order. Stakeholders came together to form a small working party which concluded that the Order provides a similar level of protection to the 1989 Regulations for 26 of the individual provisions. However, this left 23 individual provisions where the working party considered that there was no comparable requirement in the Order. Ministers accepted the retention of the 23 provisions and the route forward to making the change in law was the subject of a three month Government consultation that ended in September 2008. The Government's response confirmed that the majority of respondents favoured the option of revoking the 1989 Regulations and remaking them.

3. Summary of changes to the 1989 Regulations

- 3.1 The general approach to changing the 1989 Regulations has been to update references that have changed as a result of the passage of time – such as references to wooden escalators. We have also taken the opportunity to modernise the legal drafting to make it more easily understood.
- 3.2 Where prescription existed in the 1989 Regulations and is covered by guidance in the Technical Risk Assessment series, regulations have generally been removed. Part 2 of this guidance provides detailed cross referencing to the Transport guide.

- 3.3 There is more detail on fire resisting construction to compensate for the removal of references to British Standards and current Building Regulations and associated guidance held in Approved Document B.
- 3.4 Certain powers of exemption remain, so that fire and rescue authorities may still grant exemption on a case by case basis from particular provisions in the 2009 Regulations.
- 3.5 A more detailed summary of the changes (published as part of the Government consultation) can be found in Part 4 of this guidance.

4. Relationship with the Regulatory Reform (Fire Safety) Order 2005

- 4.1 The Order is based on risk assessment. It applies to non-domestic premises and introduces the concept of the responsible person. Transport premises must comply with the Order. However, where the conditions provided in article 3 of the 2009 Regulations are met, then the 2009 Regulations apply as well.
- 4.2 The 2009 Regulations are prescriptive and set out additional measures that must be taken or put in place to ensure compliance. They do not replace anything that should be done under the Order, but are additional to those legal obligations.

5. General approach to raising awareness of new Regulations

- 5.1 You will be aware of the provisions within the 1989 Regulations which set out a requirement for the instruction and training of persons working within premises. These are substantially the same in the 2009 Regulations. You should consider how to update your staff about the changes in line with your obligations to train staff as set out in Regulation 9.

6. Acknowledgements

- 6.1 We are grateful for the hard work and professionalism of our contractors, Niall Rowan and Jonathan Pagan from Bodycote Warrington Fire who provided valuable technical assistance and expertise in drafting this guidance.

- 6.2 We are also grateful to the working group, formed specifically to oversee the development of this guidance: Paul Clyndes from the RMT; Nigel Firkins and John Dowsett from the London Fire Brigade; Paul Williams and Mike Shirbon from London Underground; Jimi Adeleye and Ann Bates from the Disabled Persons Transport Advisory Committee; and Peter Wise from the Chief Fire and Rescue Adviser's Unit.
- 6.3 We also offer our thanks to the wider group of stakeholders, too numerous to mention, who offered comments during the peer review stage of drafting this guidance.

Part 2

How to comply with the 2009 Regulations

This section contains commentary and guidance on provisions of the 1989 Regulations, some provisions of which have been retained under the 2009 Regulations. In most cases this is because it was considered by Government that for sub surface railway stations, a level of prescription was required over and above the risk assessment based approach of the Order. This section of the guidance explains the meaning of the retained Regulations and gives additional technical guidance where appropriate.

Reference is made to the following in this document:

OR and NR: OR stands for Old Regulation(s) and refers to those regulations which have been deleted and their provisions included in the FSO Guide. NR stands for New Regulation(s) and refers to those regulations retained from the 1989 Regulations and which have been suitably updated for 2009.

FSO Guide: This is shorthand for the Technical Risk Assessment Guide on Transport Premises and Facilities, published under the Order.

AD – B Approved Document B – Fire Safety – Volume 2 – Buildings other than dwelling houses: This is the guidance published by Communities and Local Government on how to satisfy the Building Regulations with respect to fire. It contains details of the fire performance for the materials and construction of the building.

2.1 Citation and commencement

2009 Regulations

Citation and commencement

1.—“These Regulations may be cited as the Fire Precautions (Sub-surface Railway Stations) (England) Regulations 2009 and shall come into force on 1st October 2009.”

Interpretation/Application

This provision describes how the 2009 Regulations should be cited (referenced) e.g. in a document and also states when they come into force. The 2009 Regulations were made on 6 April 2009.

2.2 Interpretation

2009 Regulations

Interpretation

2.—“In these Regulations—

“basic instruction”, means instruction in the fire precautions to be taken or observed in the station premises, so far as those precautions relate to the member of staff’s duties, and includes instruction as to—

- (a) the means of escape from the premises in case of fire;
- (b) the action to be taken in case of fire in the premises;
- (c) the location of, and method of operating, equipment provided in the premises for fighting fire; and
- (d) the location and use of the means for giving warning in case of fire in the premises;

“fire-fighter” means a fire-fighter employed by a fire and rescue authority;

“member of staff” means a person employed to work in station premises as a member of the staff of the station premises;

“public area” means a part of station premises to which members of the public have access;

“station manager” means the member of staff who is for the time being in charge of station premises; and

“station premises” means premises to which these Regulations apply.”

Interpretation/Application

This article “Interpretations” contains a list of definitions. These have been updated in the 2009 Regulations to reflect current thinking, usage and reference in other more recent documents and legislation. They are also included here as they are used in further on in the 2009 Regulations.

- The provision of ‘basic instruction’ is a new term relating to instruction that members of staff are required to have. There is no substantive change from the 1989 Regulations set out in OR9 (1)
- “fire fighter” is now the accepted and currently used term for a member of a fire and rescue service who undertakes fire fighting activities and it is used in the 2009 Regulations
- “member of staff” refers to those people who work in station premises as a member of the station staff. Note that this differentiates them from people who may work in a sub-surface railway station, but who are not members of staff e.g. contractors, shop workers, newspaper vendors, staff working in catering outlets etc
- “Public area” – No further explanation required

- “Station Manager” – Under the Order the “responsible person” is responsible for compliance with the Order, in a workplace the employer is the “responsible person” and must appoint “competent persons” to assist in undertaking the preventative and protective measures (including operation of the emergency plan). In respect of the day to day safety management of a station the station manager should be an appointed competent person
- “Station premises” – This definition relates to the physical areas which are covered by the 2009 Regulations. Where a station connects with another adjacent area (e.g. a shopping centre, office building or another station) the physical extent of the station premises would need to be agreed with the relevant authority. In deciding the extent of the station premises, account should be taken of the relevant fire precautions (e.g. fire resisting construction or smoke control) to separate the ‘enclosed underground’ platform(s) from the adjacent area. In addition, the 2009 Regulations are expected to apply to all escape routes from the ‘enclosed underground’ platform(s). The station premises would include all public and staff areas within the station, including the track adjacent to the platforms, but does not extend to the adjacent tunnel or running track beyond the length of the platforms

2.3 Application of Regulations

2009 Regulations

Application of Regulations

3.—“(1) These Regulations apply to any premises where—

- the premises are used as a railway station;*
 - members of the public have access to the premises (whether on payment or otherwise); and*
 - there is a railway platform in the premises which is an enclosed underground platform.*
- (2) *A railway platform is an enclosed platform if the platform and the permanent way to which it is adjacent are situated wholly or mainly in a tunnel or wholly or mainly within or under any building.*
- (3) *A railway platform is an underground platform if the level of the roof or ceiling immediately above the platform and the permanent way to which it is adjacent is below the level of the surface of the ground adjacent to any exit from the railway station providing a means of escape from the station in case of fire.*
- (4) *A railway platform is situated mainly in a tunnel or mainly within or under a building if the platform and the permanent way to which it is adjacent are covered by any part of a tunnel or building for more than half the length of the platform.*
- (5) *These Regulations apply to premises owned or occupied by the Crown.”*

Interpretation/Application

This provision describes where the 2009 Regulations apply. In effect they apply to all railway stations to which members of the public have access, if there is at least one “enclosed underground platform”. There is no substantive change from the 1989 Regulations set out in OR3 (1).

The definition of an “enclosed underground platform” is a platform which is both “enclosed” and “underground”.

Each platform should be assessed separately and if any one platform is both “enclosed” and “underground”, the entire station premises will come within the remit of the 2009 Regulations.

A **platform** (in the context of the 2009 Regulations) is defined as:

- an **enclosed platform** if the platform and the track are:
 - Fully or partially in a tunnel; or,
 - Fully or mainly within or under a building.
- an **underground platform** if the roof or ceiling immediately above the platform and the track are below the ground level of any fire exit
- being in a tunnel or within or under a building if more than half the length of the platform and adjacent track are covered by a tunnel or building

The 2009 Regulations apply to Crown owned or occupied property complying with paragraph 1) above.

2.4 Precautions relating to means of escape in case of fire

2009 Regulations

Doors to be kept locked

4.—*“(1) Paragraph (2) applies to any passage or other area affording a means of escape from station premises in case of fire or giving access to such a means of escape.*

(2) Every door which does not form part of, or give access to, the means of escape must be kept locked at all times when the part of the premises to which the door gives access is neither in use by any person who is at work in the premises nor available for use by members of the public.”

Interpretation/Application

This provision states that if certain areas are unoccupied and not open to the public, doors from those areas that face into escape routes should be kept locked. This is a requirement which is additional to the requirements for means of escape as covered in the FSO Guide and is in place in order to provide additional confidence in the integrity of the escape routes.

2.5 Means for fighting fire

2009 Regulations

Means for fighting fire

5.—“(1) Paragraph (2) applies to these parts of station premises—

- (a) a room containing any electricity generator, transformer or switchgear, other than one in which any machinery for operating an escalator, passenger conveyor or lift is installed;
- (b) any storage area, including an area set aside for storing refuse pending its disposal; and
- (c) any part of the premises used as a shop.

(2) The parts to which this paragraph applies must be provided with a means for fighting fire comprising a system which is activated automatically in that part of the premises if fire breaks out in that part.

(3) When any member of staff reasonably suspects that there is an outbreak of fire in the premises, immediate steps must be taken to activate the warning system referred to in regulation 6(3) and call for the assistance of the fire and rescue authority.

(4) A plan of the station premises suitable for use by fire-fighters when attending the premises for fire-fighting purposes must be kept in a part of the premises where it is accessible to fire-fighters.

(5) In this Regulation “passenger conveyor” includes any mechanically operated moving footway other than an escalator.”

Interpretation/Application

An automatic fire fighting system must be fitted to all storage rooms, shops, or any rooms containing electrical generators, transformer or switchgear. The type of suppression system should be appropriate for the type of risk within the room that it is covering.

Procedures and training should be in place to ensure that if a member of staff suspects that fire has broken out, he/she will activate the fire alarm system and that the fire and rescue service will be called.

The station manager should ensure that relevant information that fire fighters might need to assist them in dealing with a fire incident is kept in a location where the fire fighters can easily access it. The information that will be required should be agreed with the relevant fire and rescue authority, but will include plans of the station layout.

The fire and rescue authority may grant an exemption to the requirement to fit an automatic fire fighting system (NR5 (2) if it is provided with sufficient evidence that meets the criteria for an exemption see NR11 (1).

“Passenger conveyor” is used in preference to “travolator”, which is believed to be a registered trademark. Passenger conveyors have specific fire safety considerations (similar to escalators) and consequently require specific reference.

2.6 Means for detecting fire and giving warning in case of fire

2009 Regulations

Means for detecting fire and giving warning in case of fire

6.—“(1) Paragraph (2) applies to these parts of station premises—

- (a) the premises referred to in regulation 5(1);
 - (b) any office which is not separated from other parts of the premises by fire-resisting construction; and
 - (c) any staff room for persons employed to work in the premises.
- (2) The parts to which this paragraph applies must be provided with a means for detecting fire which is activated automatically in case of fire in that part.
- (3) The station premises must be provided with an electrically operated system for giving warning in case of fire.
- (4) The system referred to in paragraph (3) must—
- (a) be designed to transmit a warning to a place where it can be received by the station manager or by some other member of staff; and
 - (b) be capable of being activated both by manual operation at call points in the premises, including call points for use by members of the public, and by the means referred to in paragraph (2) above for detecting fire in the premises.
- (5) The station premises must be provided with a public address system for use by or on behalf of the occupier of the premises to give warning of fire to members of public in the premises and advise them of the action to be taken in case of fire.
- (6) Arrangements must be made to secure that in case of fire the station manager and any member of staff who is on duty in any part of the premises can communicate with each other by personal radio or by telephone.”

Interpretation/Application

An automatic fire detection system must be fitted to all:

- storage rooms including any rooms that may be used for storing refuse pending its disposal
- shops
- rooms containing electrical generators, transformers or switchgear
- offices (unless they are separated from other parts of the premises by fire resisting construction)
- staff rooms

The fire detection system should be connected to a fire alarm panel, located in a place where a member of staff can acknowledge the signal. The system should also include manual call points throughout the station.

The fire alarm system should give warning of fire via either a public address or a public address/voice alarm system. The voice messages should be chosen to ensure that the relevant instructions are provided to public and staff, depending on the nature of the incident.

In practice, a fire alarm system designed to BS 5839-1 and BS 5839-8 with automatic detection in the relevant areas should be able to achieve these criteria, although lower standards may be acceptable for older systems designed to earlier standards, as long as they meet the criteria above.

It should be noted that to comply with BS 5839-1, the evacuation signal should be given within three seconds of activation of any manual call point. However, it is common practice in railway stations in the UK to design fire alarm systems so that activation of a manual call point in the public areas initiates an investigation by staff (usually with a coded message over the PA system) rather than immediate evacuation. The investigation would usually have a specific time limit (which should be agreed with the fire and rescue authority) which, if exceeded, would result in evacuation of the station. Activation of a manual call point within staff areas would normally initiate immediate evacuation of the station (i.e. no initial investigation).

The station manager and all members of staff on duty must have a means of communicating with each other in the event of fire by e.g. personal radio or telephone.

The fire and rescue authority may grant an exemption from the requirement for automatic detection (NR6 (2) if it is provided with sufficient evidence that meets the criteria for an exemption see NR11 (1)).

2.7 Combustible matter

2009 Regulations

Combustible matter

7.—“(1) All parts of station premises must be kept clear of any accumulation of combustible refuse or other combustible matter.

(2) An area set aside for storing combustible refuse in station premises pending its disposal must be separated from other parts of the premises by fire-resisting construction.”

Interpretation/application

Refuse and other combustible materials should only be stored in locations that are specifically designed for that purpose. These areas should be fire separated from the rest of the station by one hour fire resisting construction, in addition to the requirements of other parts of the 2009 Regulations.

2.8 Materials used in internal construction of premises

2009 Regulations

Materials used in internal construction of premises

8.—“(1) Any material which is used in the construction of an internal wall or ceiling in any public area must be of limited combustibility”.

Interpretation/application

This provision refers to the materials used in the construction of an internal wall or ceiling e.g. the studs and boards in a calcium silicate board partition, or the grid and tiles of a suspended ceiling. It does not apply to any material applied to the surface of such a wall or ceiling e.g. the wall covering on a partition or the paint on a ceiling tile which is covered under 2009 Regulation 8(2) (a) and (b) below.

Applicability to existing premises

- a) Materials installed before 18.09.89 are not subject to the 1989 Regulations because they were not in force.
- b) Materials installed from 18.09.89 to 01.10.09. are subject to the 1989 Regulations. Where materials were installed in this period in breach of the 1989 Regulations, it will be possible to enforce this breach even though the 1989 Regulations are revoked.
- c) Materials installed on or after 1 October 2009 are subject to the 2009 Regulations.

Discussion

The 2009 Regulation specifies that the materials must be of limited combustibility so that if a fire develops, they will contribute only a limited amount of heat to it. Under AD-B, this requirement is only used in a limited number of areas such as the construction of escape stairs, junctions of roofs with walls, roofs surrounding roof lights and cavity barriers.

The 2009 Regulation applies the requirements to all materials used in the construction of internal walls or ceilings. These materials would not normally have such a high performance specified. However, it was felt that there needed to be a much higher level of fire safety in high risk areas such as sub-surface railway stations.

Performance

A material can be considered as being of limited combustibility if its reaction to fire performance meets the requirements of Table 1 below reproduced from Table A7 of AD-B. The fire performance of such materials may currently be demonstrated by testing to either British Standards or European Standards. Eventually it is expected that demonstrating compliance using British Standards will not be permissible as EU Directives are further implemented.

Table 1: Definitions of materials of limited combustibility

Performance determined using British Standards	Performance determined using European Standards
<p>a) Any non-combustible material listed in Table 2 (below).</p> <p>b) Any material of density 300 kg/m³ or more, which when tested to BS 476-11: 1982, does not flame and the rise in the temperature of the furnace thermocouple is not more than 20°C.</p> <p>c) Any material with a non-combustible core at least 8mm thick having combustible facings (on one or both sides) not more than 0.5mm thick. Where a flame spread rating is specified, these materials must also meet the appropriate test requirements.</p>	<p>a) Any material listed in Table 2.</p> <p>b) Any material/product classified as Class A2-s3, d2 or better in accordance with BS EN 13501-1: 2002 <i>Fire classification of construction products and building elements, Part 1 – Classification using data from reaction to fire tests</i>.</p>

Table 2 below has been reproduced from Table A6 of AD-B.

Table 2: Definitions of non-combustible materials	
Performance determined using British Standards	Performance determined using European Standards
<p>a) Any material which when tested to BS 476-11: 1982, does not flame nor cause any rise in the temperature on either the centre (specimen) or furnace thermocouples.</p> <p>b) Totally inorganic materials such as concrete, fired clay, ceramics, metals, plaster and masonry containing not more than 1% by weight or volume of organic material. (Use in buildings of combustible metals such as magnesium/aluminium alloys should be assessed in each individual case).</p> <p>c) Concrete bricks or blocks meeting BS EN 771-1: 2003.</p> <p>d) Products classified as non-combustible under BS 476-4: 1970.</p>	<p>a) Any material classified as Class A1 in accordance with BS EN 13501-1: 2002 <i>Fire classification of construction products and building elements, Part 1 – Classification using data from reaction to fire tests.</i></p> <p>b) Products made from one or more of the materials considered as Class A1 without the need for testing as defined in Commission Decision 2003/424/EC of 6th June 2003 amending Decision 96/603/EC establishing the list of products belonging to Class A1 “No contribution to fire” provided for in the Decision 94/611/EC implementing Article of the Council Directive 89/106/EEC on construction products. Non of the materials shall contain more than 1% by weight or volume (whichever is the more onerous) of homogeneously distributed organic material.</p>

2009 Regulations

8.—“(2) *To inhibit the spread of fire within the premises, any material which is applied to the surface of an internal wall or ceiling in any public area must—*

- (a) *adequately resist the spread of flame over the surface; and*
- (b) *have, if ignited, either a rate of heat release or a rate of fire growth, which is reasonable in the circumstances.”*

Application/Interpretation

This provision refers to the materials used to line or cover or coat an internal wall or ceiling e.g. the paint on a suspended ceiling tile or the wall covering on a partition.

Applicability to existing premises

The description relating to the retrospective nature of the regulations as described earlier under Regulation 8(1) also applies to Regulation 8(2).

Discussion

Building Regulations contain provisions to control the 'reaction to fire' performance of materials used in buildings. This is because when there are large areas of these e.g. when they are used to line walls and ceilings, they can be instrumental in the growth of fire from a small source such as an electrical fault or a waste paper bin to one which will involve all the contents of the room. Poorly performing wall and ceiling linings aid rapid fire growth within the room while good materials will restrict it.

The FSO guide covers the reaction to fire performance of wall and ceiling linings in Appendix B, B1 Fire – resisting separation, section headed "Décor and surface finishes of walls ceilings and escape routes", p 137. However, there is no guidance as to what constitutes national classes of performance or which equivalent European classes should be requested.

Performance

A material can be considered to adequately resist the spread of flame over the surface and will have, if ignited, either a rate of heat release or a rate of fire growth, which is reasonable in the circumstances, if it meets the requirements of National Class 0 or European Class B-s3, d2 or better as defined in Table 3 below which has been adapted from *AD-B*.

Table 3: Performance of materials which are National Class 0 or European Class B-s3, d2 or better

Performance determined using British Standards	Performance determined using European Standards
<p>1) Non – combustible materials as defined in national class of Table 2 (NR8 (1)).</p> <p>2) if the material or the surface of a composite product is either:</p> <p>a) composed throughout of materials of limited combustibility (defined in national class of Table 1 (NR8 (1))); or</p> <p>b) when tested in accordance with British Standard 476: Part 7: 1987 achieves a class 1 performance and,</p> <p>when tested in accordance with British Standard 476: Part 6: 1989, has an index of performance (I) not exceeding 12 and sub-index (i_1) not exceeding 6.</p>	<p>Any material classified as Class B-s3, d2 or better in accordance with BS EN 13501-1: 2002 <i>Fire classification of construction products and building elements, Part 1 – Classification using data from reaction to fire tests</i>.</p>

Further information on reaction to fire performance of wall and ceiling linings

Evidence of the reaction to fire performance of materials and products should be provided in test, classification or assessment reports to the appropriate standard, or be included in a certificate issued by a third party product certification body. General information on what to consider in documents demonstrating fire performance is given in Appendix 1.

The reaction to fire performance of any material or product will depend on a number of factors. Users of this guide should check that the evidence of performance for a particular material e.g. the test or classification report covers the material used in practice. Changes to substrates, facings, adhesives, coatings etc can all affect fire performance and it is important to ensure that what is installed is justified by the evidence supplied. For example, a test of a wall covering bonded to a high density substrate such as concrete, will not cover its application on a lower density one such as plasterboard.

If users of this guide are in any doubt as to the applicability of any supporting evidence they can contact the manufacturer or the organisation that produced the document e.g. the laboratory that undertook the test.

Further reassurance in the fire performance of product, including its suitability to a particular end-use application, will be obtained if the product and/or the installer is covered by a third party certification scheme. This recommendation is included in the FSO Guide under Section 8, Quality assurance of fire protection equipment and installation, p131.

2.9 Instruction and training of persons working in premises

2009 Regulations

Instruction and training of persons working in premises

9.— *“(1) Every member of staff must be given basic instruction as soon as reasonably practicable after beginning work in station premises.*

(2) Every member of staff must be given further basic instruction at least once in every period of seven months.

(3) No member of staff may be employed as the station manager unless the member of staff has been given basic instruction and, in addition, instruction—

- (a) as to supervising and controlling action to be taken in case of fire in the premises by other members of staff;*
- (b) in arrangements for calling for the assistance of the fire and rescue authority and securing that fire-fighters are directed to the source of any fire in the premises;*
- (c) as to taking action in case of fire in the premises to prevent the entry of members of the public to the premises;*

- (d) *in the use of the means for advising members of the public in the premises on the action to be taken by them in case of fire in the premises; and*
- (e) *in making arrangements for securing that the means of escape from the premises can immediately be used in case of fire and for enabling persons to leave the premises by train in case of fire.*
- (4) *A fire drill must be held for members of staff not less than once in every period of six months for the purpose of providing them with training in the action to be taken in case of fire in the premises.*
- (5) *The attendance of members of staff at a fire drill must be so organised as to secure that not less than one third of the number of those persons at work in the station premises at any one time have attended a fire drill in the preceding six months.*
- (6) *Each fire drill in station premises must be held at a time when members of the public have access to the premises.*
- (7) *A record must be made—*
- (a) *of the occasions on which instruction is given under this regulation to each member of staff; and*
- (b) *of the fire drills held in the premises under this regulation and of the names of the persons attending each fire drill.*
- (8) *A record made under paragraph (7) above in relation to station premises shall be kept in the premises for a period of not less than three years from the date on which it was made."*

Interpretation/Application

All staff must be given basic instruction as soon as is reasonably practical after commencing work in a station. Refreshers of this basic instruction shall be given to each member of staff at least every seven months. The areas covered include:

- **Means of escape in case of fire**
This would require that the members of staff know the means of escape from the relevant areas of the station to which they have access. If, for any reason, certain escape routes are not available e.g. due to out-of-hours construction work, the members of staff who are within the station should be made aware of that and of the alternative routes that are available
- **Action to be taken in the event of a fire**
This would ensure that the members of staff are fully aware of the actions that they would be expected to take in the event of a fire. This would include any assistance that they need to give in evacuating the station, or any other actions that might be necessary

- The location and use of fire fighting equipment
This would ensure that the members of staff know the location, type and usage of all fire fighting equipment that they might use in the areas of the station to which they have access. It would specifically include portable extinguishers, but need not include equipment that is solely for the use of fire fighters (unless part of that member of staff's responsibility includes showing fire fighters the location of such equipment)
- The location and operation of the means for giving warning of fire
This would ensure that the members of staff know the location and method of activating manual fire alarm call points within the station and any other method that they could use to raise the alarm

Station managers should receive the basic training as well as a more detailed training programme. The detailed training should include the procedures that the station manager would need to carry out in the event of an evacuation of the station, which would include the arrangements and procedures:

- to supervise an evacuation, including instructions and coordination of all staff within the station
- for calling the fire and rescue service
- for meeting the fire fighters when they arrive and ensuring that they are given all relevant information in order for them to deal with the incident
- for preventing members of the public from entering or re-entering the premises
- for advising members of the public on what action they should take if there is a fire (including the procedures for identifying and assisting in the evacuation of any people with disabilities)
- for ensuring that the means of escape is immediately available
- for coordinating with the train operators, especially if the trains are to be used to assist in the evacuation

If the design of the station is such that adjacent areas (such as tunnels) evacuate through the station, the training should include the relevant procedures for these eventualities.

A fire drill must be held for staff every six months (maximum) to train them in action to be taken if there is a fire.

Fire drills shall be scheduled to ensure at least one third of staff have attended one in the preceding six months

Fire drills must be held when members of the public have access to the premises i.e. when the stations are open in order to increase the realism of the drills.

Genuine evacuations e.g. due either to actual incidents or false alarms can be used in the place of a drill, as long as information on the evacuation is recorded and debriefed afterwards (in the same way as would be required for an evacuation drill).

Records shall be made and kept within the station of:

- dates when instruction has been given to staff
- dates when fire drills have been carried out and who attended them

These records shall be kept in the station for at least three years from when they are made. The fire and rescue authority may grant an exemption from this requirement if they are provided with sufficient evidence that meets the criteria for an exemption see NR11 (1)

2.10 Additional precautions to be taken

2009 Regulations

Additional precautions to be taken

10.—“(1) *All practicable steps must be taken to supervise the carrying out by persons other than members of staff of any work of construction or maintenance in the premises which presents a risk to persons in case of fire.*

(2) The periods of duty of members of staff must be so arranged as to secure that not less than two of those persons are present on duty in the premises at all times when members of the public have access to the premises.”

Interpretation/Application

The station manager should ensure that there is a procedure in place for the supervision of all contractors who are carrying out construction and maintenance work within the station.

This procedure would often involve the contractors having to submit and gain approval to their proposed method statement prior to starting work. The method statement would usually include a risk assessment process to identify and mitigate all fire risks that the works might introduce and should demonstrate that the works will not present an unacceptable risk to safety.

Depending on the work that is being carried out, it may be advisable to carry out a ‘pre-start’ meeting with the fire and rescue authority in order to cover any fire safety issues before the work starts. In particular, it would identify any exemptions (either temporary or permanent) that may be required under the 2009 Regulations.

At any time that members of the public have access to station, there shall be not less than two members of staff present on duty.

It should be noted that it is possible for the fire and rescue authority to grant an exemption to the requirement for two members of staff being on duty within the station if it is provided with sufficient evidence that meets the criteria for an exemption NR11 (1).

2.11 Exemption from requirements

2009 Regulations

Exemption from requirements

11.— *“(1) Paragraph (2) applies where a fire and rescue authority is satisfied in respect of any particular station premises that compliance with a requirement of any of the provisions of regulations 5(2), 6(2), 9(8) and 10(2) above is inappropriate, unnecessary or not reasonably practicable.*

(2) Where this paragraph applies the fire and rescue authority may by notice in writing to the occupier of the premises grant exemption from compliance with the requirement to such extent as is reasonable having regard to all the circumstances of the case and in particular to the risk in case of fire to persons in the premises.

(3) A fire and rescue authority may grant an exemption under paragraph (2) above subject to such conditions as may be specified in the notice granting the exemption.

(4) A fire and rescue authority may by notice in writing to the occupier of the premises withdraw an exemption under paragraph (2) above if the occupier fails to comply with any condition subject to which the exemption was granted.”

Interpretation/Application

It is possible for the fire and rescue authority to grant an exemption against certain provisions within the 2009 Regulations. These provisions are: 5(2), 6(2), 9(8), and 10(2).

- 5(2) Requirement to fit an automatic fire fighting system
- 6(2) Requirement to fit an automatic fire detection system
- 9(8) Requirement to retain records for at least three years in the station to which they relate
- 10(2) Requirement to have at least two persons on duty in the station at all times that members of the public are present

In order to grant the exemption, it would be necessary to prove to the fire and rescue authority that the relevant requirement would be inappropriate, unnecessary or impractical. If an exemption is granted, the fire and rescue authority might impose additional compensatory requirements. It would be necessary for the station manager to ensure that they comply with all relevant requirements.

A fire and rescue authority may withdraw an exemption under paragraph (2) by notice in writing to the occupier of the premises if the occupier fails to comply with any condition subject to which it was granted.

The fire and rescue authority can provide exemptions that are either permanent or are limited to a particular timescale e.g. for the duration of building work that is being carried out. If the exemption has a limited timescale, the relevant documentation should clearly state the dates during which it applies.

Any exemptions that were granted under the 1989 Regulations will be deemed to also apply to the comparable provisions within the 2009 Regulations (by virtue of the general savings provisions in s 17(2)(b) of the Interpretation Act 1978). Replacing the 1989 Regulations with the 2009 Regulations will therefore not require any reapplications or changes to previous exemptions.

Any exemptions which were granted against provisions of the 1989 Regulations which do not appear in the 2009 Regulations are deemed to be null and void once the 2009 Regulations come into effect.

The numbering changed between the 1989 and the 2009 Regulations, so for clarity, a summary of the transferred exemptions is shown below.

Table 4: Summary of transferred exemptions

Exemptions under the 1989 Regulations:	Will automatically be considered as an exemption to the 2009 Regulations
4(1)	Does not exist
4(3)	Does not exist
5(4)	Does not exist
5(5)	5(2)
6(1)	Does not exist
6(3)	6(2)
7(1)	Does not exist
8(2)	Does not exist
10(2)	Does not exist
10(4)	10(2)
11(2)	9(8)

2.12 Contravention

2009 Regulations

Contravention of requirements

12.— *“The requirements of regulations 4 to 10 above are imposed on the occupier of the station premises to which those regulations apply and, subject to any exemption granted (and not withdrawn) under regulation 11, the occupier of the premises shall be responsible for any contravention of the provisions of those regulations.”*

Interpretation/Application

The occupier of the station is responsible for satisfying the provisions of the 2009 Regulations (subject to any exemption under Regulation 11) and for any contravention of them.

The “occupier” would be the same person as defined as the “responsible person” under the Order.

All enforcement of the 2009 Regulations (including dealing with any contravention of the requirements or the removal of exemptions if necessary) should be carried out in accordance with the relevant procedures under the Order.

Revocation

13.— *“The following instruments are revoked so far as they apply to England—*

- (a) the Fire Precautions (Sub-surface Railway Stations) Regulations 1989(a);*
- (b) the Fire Precautions (Sub-surface Railway Stations) (Amendment) Regulations 1994(b)”*

Interpretation/Application

This regulation is relatively self explanatory, in that it revokes the 1989 Regulations (including the 1994 amendment to them).

Part 3

Information about deleted regulations

A number of the individual requirements of the 1989 Regulations have been omitted from the 2009 Regulations. In most cases this was to avoid overlap between the 2009 Regulations and the fire risk assessments that are required under the Order. This section has been written to give the background and evidence to demonstrate why they were omitted. The intention of this is to inform and assist those people who will be updating their fire safety procedures in line with the 2009 Regulations.

3.1 (OR2) Interpretation

Deleted provision

“machine room” means a room containing any electricity generator, transformer or switchgear, or in which any machinery for operating an escalator, passenger conveyor or lift is installed;”

Application/interpretation

The 1989 Regulations sometimes used “machine rooms” as defined above but then listed those types of rooms excluded from the provision which was confusing. Under the 2009 Regulations provisions are simply made for rooms containing specific items of equipment. Consequently, the definition for machine room has been deleted because it is not required.

The removal of the term “machine room” does not make any changes to the technical provisions within the 2009 Regulations; it is simply intended to make them easier to read.

The term machine room is also used in the FSO Guide, but without any definition. Where there is a reference to a machine room in this guidance, the type of room referred to will be specified in each case.

3.2 (OR4) Precautions relating to means of escape in case of fire

Deleted provision

4.— (1) *“All parts of station premises providing means of escape from the premises in case of fire, including railway platforms, escalators, travolators and lifts, shall be kept free from obstruction at all times when members of the public have access to the premises and shall be so maintained as to secure that they can be safely used as such means of escape at those times.”*

Application/interpretation

This means that all escape routes and the main public circulation spaces within stations shall be kept free from obstruction while members of the public have access. They must also be maintained as escape routes i.e. there must be within the fire safety management of the station suitable procedures e.g. daily checks, to ensure these do not become blocked.

Specific reference is made to escalators, passenger conveyors, lifts and station platforms.

The requirement to keep escape routes clear is covered in the FSO Guide under:

- Part 1 Fire risk Assessment part 1, paragraph 3.4.3 *Escape routes – management of escape routes*, paragraph at bottom of p 30

Specific reference to: escalators, passenger conveyors, lifts and other means of escape is made in the FSO Guide under:

- Section 4 Further guidance on escape routes, section 4.1 General principles p 72 second set of bullet points right hand column

Deleted provision

4.— (2) – partial “... *combustible refuse stored in the premises pending its disposal shall be stored in an area set aside for that purpose.*”

Application/interpretation

This means that combustible refuse e.g. normal rubbish such as newspapers, food and drink packaging should be stored until removal in a location which has been designed for that purpose.

This is covered in the FSO Guide under:

- Section 1 *Further guidance on fire risks and preventative measures*, paragraph headed “*Refuse*”, p 49
- Part 2 paragraph 1.9 *Restricting the spread of fire and smoke*, section headed “*fire resisting structures*”, second column p 55

Deleted provision

4.— (3) “*At all times when members of the public have access to station premises, and at other times when persons are at work in the premises, the door of, or barrier in, any doorway or exit through which a person might have to pass in order to leave the premises shall not be so locked or fastened that it cannot be easily and immediately opened in case of fire in the premises.*”

Application/interpretation

This means that any doors or barriers on escape routes must be unlocked when the public have access to the station and when any persons are at work in the station. Any door or barrier that is kept closed e.g. by a self closing device must be able to be opened easily and immediately.

This is covered in the FSO Guide under:

- Section 4 *Further guidance on escape routes*, paragraph header “Fastening on doors”, p 95

Deleted provision

4.— (4) *“Where a door in station premises is designed to be held open by an electromagnetic or electromechanical device to which this paragraph applies, the door and the means for holding open and closing the door shall be maintained in efficient working order and the door shall not be held open by any device or object other than the electromagnetic or electromechanical device.”*

Application/interpretation

This means that any self closing door and electromagnetic or electromechanical ‘hold-open/release device’ for a self closing door in a station must be maintained in working order (and implies this must be considered within the overall fire safety maintenance procedures). It also forbids the use of other devices or objects e.g. wedges to hold doors open. This is a general ‘good maintenance’ issue. The FSO guide contains several references to the fact that fire safety systems should be maintained in good operating order and where appropriate by a competent person.

If any doors across an escape route are fitted with these types of devices, it is normally good practice to delay the closure of the door until the majority of evacuees would have been expected to have passed that location. This is because the occupants would normally see these routes as unobstructed and if the doors close immediately it might discourage or delay the evacuation of people through them.

It is not a requirement of the 2009 Regulations, but it is normally good practice to have a local switch adjacent to the door which will release it.

The requirement that doors held open and designed to close in a fire emergency are in operating order is covered in the FSO Guide under:

- Paragraph 3.4.6 p 35
- *Monthly checks* p 36
- Top Checklist p 37
- Section 4 *Further guidance on escape routes*, paragraph 4.1, last paragraph on p 72

The requirement to keep fire doors open and not to prevent them self-closing e.g. by being held open by objects such as wedges is covered in the FSO Guide under:

- Checklist p 33 (penultimate bullet point)
- 1.1 *housekeeping*, p 49
- 1.7 *Managing building work and alterations*, p 54
- Appendix A.1 *Example of fire safety maintenance checklist* p 132 and 133
- Section 4 *Further guidance on escape routes*, paragraph 4.1, last paragraph on p 72

Deleted provision

4.—(5) *“Paragraph (4) above applies to an electromagnetic or electromechanical device which allows a door held open by it to be operated manually at all times and to close automatically on each or any of the following occurrences, that is to say:*

- (a) the operation of a system for giving warning in case of fire;*
- (b) the manual operation of a switch for releasing the device;*
- (c) a failure in the supply of electricity to the device.”*

Application/interpretation

This paragraph specifies the conditions under which electromagnetic or electromechanical hold-open devices must ‘fail safe’ i.e. allow the self-closing device to shut the door. The conditions when this must occur are:

- if a fire alarm is activated
- if the device is operated manually
- if the power supply fails

This is covered in the FSO Guide under:

- Appendix B2 Fire resisting doors, paragraph headed *“Automatic door hold-open/ release devices for self-closing fire doors”*, p 140

The FSO Guide states that the conditions under which these devices shall operate are:

- the detection of smoke by an automatic detector
- the actuation of the fire detection and alarm system by manual means, e.g. operation of a break-glass call point
- any failure of the fire detection and alarm system, or
- any electrical power failure

One slight change is that the FSO Guide omits the term “the manual operation of a switch for releasing the device” used in the 1989 Regulations. In practice these devices are often (but not always) fitted with such switches located at each door complying with the relevant standard for electromagnetic door holders (EN 1155). The ability to manually release the doors is provided either by operating the switch or manually releasing the door from the electromagnetic holder by pulling on the door. In any case, the removal of the need for a switch should not have any impact on fire safety as the doors would release on activation of the fire alarm system.

Deleted provision

4.— (7) *“Every doorway or other exit affording a means of escape from the station premises in case of fire or giving access to such a means of escape, including the means of exit in ordinary use by members of the public, shall be distinctively and conspicuously marked by a notice indicating that it is an ordinary means of exit or (as the case may be) an emergency exit from the premises.”*

Application/interpretation

This means that exits (including doors) used for means of escape must be labelled appropriately.

This issue is dealt with under article 14 of the Order, and BS 5499-1. In particular, it is covered in the FSO Guide under:

- 3.4.5 Signs and notices, first paragraph, p.34
- Checklist, p 35
- Section 6 further guidance on signs and notices, 4th paragraph, p 113, several references in text and bullet points

Deleted provision

4.— (8) *“All parts of station premises forming part of the means of escape from the premises in case of fire shall be provided with artificial lighting capable of providing sufficient illumination of those parts of the premises and any notice required by paragraph (7) above to enable persons in the premises to leave the premises safely in case of fire”.*

(9) *“The lighting required by paragraph (8) above shall be provided by electricity supplied from two independent sources of supply so controlled that, so far as is reasonably practicable, the requirements of that paragraph continue to be met in the event of any failure in the supply of electricity from one of the two sources of supply.”*

Application/interpretation

This means that adequate artificial lighting must be provided to:

- parts of premises forming means of escape
- any exit signage as required under previous provisions

The 2009 Regulations only give limited specifications of the standards that would be required for the artificial lighting (e.g. lux levels or resilience in the event of fire). Any artificial lighting which is designed to the standard of emergency lighting (as specified in BS 5266-1) would be considered to be adequate. Artificial lighting which does not meet that standard would need to be assessed on a case-by-case basis.

This issue is covered under current guidance on emergency lighting (BS 5266-1). In particular, this is covered in the FSO Guide under:

- Part 1 Fire risk assessment Step 3, *Evaluate, remove reduce and protect from risk*, paragraph 3.4.3 *Escape routes*, p 32, fifth bullet point
- Section 4 – *further guidance on escape routes*, paragraph 4.1 *General principles* second paragraph top of p 72, 7th bullet point

The need for secondary power supplies for emergency lighting and signage is covered under BS 5266-1 and BS 5499-1. In particular, the specific reference requiring two independent power sources for emergency lighting is covered in the FSO Guide under:

- Part 2 Section 4 – *further guidance on escape routes*, paragraph 4.1 *General principles* second bulleted paragraph, p 73

General provisions for emergency escape lighting are given in:

- Part 1 Fire risk assessment Step 3, *Evaluate, remove reduce and protect from risk*, paragraph 3.4.4 *Emergency escape lighting*, p 33
- Part 1 Fire risk assessment Step 3, *Evaluate, remove reduce and protect from risk*, paragraph 3.4.6 *Installation, testing and maintenance*, p 36 *Monthly tests and checks and annual tests and checks*
- Part 2 Section 5 *Further guidance on emergency escape lighting*, p 111

3.3 (OR5) Means for fighting fire

Deleted provision

5.— (1) “Subject to the provisions of this regulation, station premises shall be provided with such means for fighting fire as are appropriate and adequate in relation to the risk to persons in case of fire in the premises.”

Interpretation/application

Appropriate and adequate fire fighting equipment such as portable fire extinguishers shall be provided in the station premises. The amount and level of equipment that shall be provided will be appropriate to the risk. This paragraph applies to both the equipment that is needed for first-aid fire fighting by occupants (such as portable extinguishers) as well as equipment for the use of the fire and rescue service.

This is covered under the FSO Guide in:

- 3.4.2 *Fire fighting equipment and facilities*, p 26 -28
- Part 2, Section 3 *Further guidance on fire fighting equipment and facilities* p63. This includes number, type, frequency and location, p 63 – 69
- Checklist, p 132, 133 and 134 under heading “fire fighting equipment”

Deleted provision

5.—(2) *“The location of each fire hydrant in station premises shall be indicated by a distinctive and conspicuous notice in a position above or adjacent to the fire hydrant.”*

This is covered under the FSO Guide in:

- Paragraph 3.4.5 – first paragraph, p 34
- Paragraph 3.4.5 – checklist, p 35
- Paragraph 3.3 – *Other fire fighting facilities* first bullet point, p 69

These references relate to the need to provide notices or signs for fire fighting equipment generally, which would include fire hydrants. This is also covered under section 42(1) of the Fire and Rescue Services Act 2004, which requires hydrants to be marked.

Deleted provision

5.—(3) *“The outlet connection of every fire hydrant in station premises shall be of such a type as is compatible with the type of attachment of hoses used by the fire brigade for the purpose of drawing water from fire hydrants.”*

Interpretation/application

Connections for fire mains have been standardised throughout the country for a number of years as detailed in BS 5306-1 and BS 9990 (which has recently replaced BS5306-1). The connections in all existing sub-surface railway stations should comply with these criteria (as required under the 1989 Regulations) and any new mains would be designed to BS 9990. This requirement is therefore now considered to be unnecessary.

However, it is recommended that consultation be carried out with the fire and rescue authority before making any changes to existing fire safety facilities within sub-surface railway stations.

Deleted provision

5.—(4) *“Every escalator and travelator in station premises shall be provided with a means for fighting fire comprising a water sprinkler system which is activated automatically on the operation of the means for detecting fire with which the escalator or travelator is provided under regulation 6(1) below.”*

Interpretation/application

Combined with Regulation 6(1), this required that all escalators and passenger conveyors should be fitted with:

- Means of detecting fire
- Sprinklers to fight fire

This requirement was originally included in the 1989 Regulations because they were produced in response to the fire in Kings Cross Underground Station which originated in refuse located under a wooden escalator.

Escalators

Modern escalators usually differ significantly in a number of ways from those that were installed in Kings Cross Underground Station. In practice there are two main types currently used within stations, although it should be noted there can be several variations within these groups:

- a) Heavy duty escalators
- (b) Compact escalators

Heavy duty escalators are the type that is commonly used within London Underground (LU) and are provided with a machine room below them. These machine rooms can be large and can contain a number of pieces of equipment. With this type of design it is necessary to rely on good standards of management to ensure that there is no build-up of combustible waste or storage of combustible materials within the room. Because the machine room is below the escalators, the only separation between it and the public areas is provided by the treads of the escalators themselves. Due to their nature, the treads of the escalators cannot be designed to hold back fire or smoke.

Compact escalators are the type of escalators that are typically used in other facilities such as shopping centres, airports and non-LU stations. The escalators are driven by an electric motor which is located within a small pit under the head or foot (or both) of the escalators. The pit usually only contains a motor, control equipment and the dust tray (which collects refuse that has fallen off the ends of the escalator treads as they rotate).

In both types of escalators, the majority of the construction (in particular the treads and skirtings) are primarily of metal construction, with very few combustible items. However, escalator design can vary, and depending on the design there could be a potential for the build-up of combustible materials (such as grease, oil or rubbish) in certain locations unless a management system is in place to prevent this.

As such, the fire risk presented by modern escalators is very different from that which was present in the old timber escalators and so the previous, universal requirement for sprinklers is no longer appropriate.

A fire risk assessment should therefore be carried out to determine whether an automatic suppression system is required within the escalator.

If the fire risk assessment identifies that there is a reasonable chance that a fire could occur within the escalator e.g. due to equipment failure or a break-down in the cleaning procedures resulting in a build-up of combustible materials or from the electrical or mechanical equipment associated with the escalator and that the fire could cause a risk to life, an automatic suppression system may be required in order to reduce the risk to an acceptable level.

There are a number of older stations which only have a single exit route from the platforms. In those cases, even a relatively small fire within that escape route would prevent anyone escaping from those platforms. In that situation, it is very likely that the risk assessment would require automatic suppression within any escalators located within that escape route.

The type and coverage of the suppression system should be designed based on the type of risk that is being covered.

It should be emphasised that the summary above does not mean that sprinklers are unnecessary within escalators, and in particular it does not mean that existing sprinkler systems within escalators can be removed or disconnected. The text above is intended to emphasise that each case should be assessed on its own merits.

If it is intended to remove an existing sprinkler system, the situation should be carefully assessed and approval gained from the fire and rescue authority prior to the work being carried out.

Passenger conveyors

Passenger conveyors are similar to the compact escalator design, with motors located in a pit at one or other end of the conveyor. The construction of passenger conveyors tends to be similar to escalators, and primarily metal. The FSO Guide does not mention any need for automatic suppression in passenger conveyors.

For conventional passenger conveyors that meet the criteria shown above it is not normally necessary to provide an automatic suppression system. However, if a different design is used which includes significant amounts of combustible materials, or if they are situated with the only escape route from part of the station this may not be the case and a suppression system may be required.

Means of detecting fire is covered under the FSO Guide under:

- Part 2. Paragraph 2.2 – *Requirement for automatic fire detection for escalators and Travolators (passenger conveyors)*, p 59 2nd bullet point lower group. Although not compulsory, it says this ‘may be needed’
- 7.2 Emergency planning, p 123 *Sub-surface railway station management planning* third bullet point. Again, although not compulsory, it says this is ‘usually provided’

Sprinklers for fighting fire are covered under the FSO Guide under:

- 7.2 Emergency planning, p 123 *Sub-surface railway station management planning* 6th bullet point (escalators only). Although not compulsory, it says this is ‘typically provided’

Deleted provision

5.—(6) “*All means for fighting fire in station premises shall be maintained in efficient working order and all portable equipment for fighting fire in the premises shall be so placed as to be readily available for use.*”

Interpretation/application

There are two aspects to this provision. The first aspect states that fire fighting equipment should be well maintained. The FSO Guide contains several statements regarding good maintenance of fire safety equipment. Article 38 of the Order also contains specific references to the responsible person ensuring that any facilities, equipment and devices for use by fire fighters are subject to a suitable system of maintenance so that they are maintained in an efficient state, in efficient order and in good repair.

The second aspect is in relation to fire fighting equipment being located in areas where it can be accessed easily when required. This issue is dealt with under the FSO Guide in paragraphs covering the provision of portable fire fighting equipment.

The specific references in the FSO Guide are:

- *Background to Fire Safety Order*, p8 penultimate bullet point
- Paragraph 3.4.6 *installation, testing and maintenance*, p 35 and 36
- Checklist, p 37
- Paragraph 3.2 *portable fire fighting equipment Maintenance of extinguishers*, p 65 (top)
- Paragraph 3.2 *fixed fire fighting installations Maintenance of hose reels*, p 65
- Paragraph 3.2 *fixed fire fighting installations need for a competent person to undertake maintenance*, p 65

- Paragraph 3.2 *fixed fire fighting installations paragraph on Sprinkler systems*, sprinkler maintenance, p 65 second paragraph
- Paragraph 3.3 *Other facilities (Including those for fire fighters) paragraph on maintenance of fire main inlets*, p 68
- Paragraph 3.3 *Other facilities (Including those for fire fighters) paragraph Other fire fighting facilities*, p 69 – catch all statement on maintenance of facilities to assist fire fighters

3.4 (OR6) Means for detecting fire and giving warning in case of fire

Deleted provision

6.—(1) *“Every escalator and travolator in station premises shall be provided with a means for detecting fire comprising a linear heat detector system.”*

Application/interpretation

This issue is closely linked with that covered by 1989 Regulation 5(4) which relates to automatic suppression systems in escalators and passenger conveyors.

This was included in the 1989 Regulations to ensure that if a fire similar to the one in the Kings Cross Underground Station occurred, it would be detected rapidly. However, it is a very restrictive requirement and modern developments in detection systems and escalator design may result in more appropriate systems. In particular, a linear heat detector may not be the most appropriate type of detection in all types of escalators as the technology has developed significantly and there are several different types of detection available for the designer.

The FSO Guide states that automatic detection can be included in escalators and passenger conveyors, and it is then up to the designer to specify the most appropriate type of detection, based on the specific design of the escalator or passenger conveyor.

The specific references in the FSO Guide are:

- Section 2 *Further guidance on fire detection and warning systems* paragraph 2.2 automatic fire detection 2nd bullet point, p 59. Although not compulsory, it says this is ‘can be included’ for escalators and passenger conveyors
- Paragraph 7.2 *Emergency plans Paragraph headed “subsurface railway station management planning”*, 3rd bullet point, p 123. Although not compulsory, it says this is ‘typically provided’ for escalators

Deleted provision

6.—(2) *“Any machine room in station premises in which machinery for operating an escalator, travolator or lift is installed shall be provided with a means for detecting the presence of smoke in the room.”*

Application/interpretation

The need for appropriate automatic fire detection at these locations is covered in the FSO Guide in:

- Section 2 *Further guidance on fire detection and warning systems* paragraph 2.2 automatic fire detection 2nd bullet point, p 59. Although not compulsory, it says this is ‘can be included’ for escalators and passenger conveyors
- Paragraph 7.2 *Emergency plans* paragraph headed “subsurface railway station management planning”, 3rd bullet point, p 123. Although not compulsory, it says this is ‘typically provided’ for escalators

It should be noted that the Order uses the term “automatic fire detection” rather than “smoke detection” as it allows the selection of the most appropriate type of detection based on the fire risks and technology available (such as multi-head detectors or other types of detection).

Deleted provision

6.—(5) *“Where a call point for a system for giving warning in case of fire is situated in a part of station premises to which members of the public have access, there shall be displayed at or near the call point a notice giving information as to how to use the call point to activate the system.”*

Interpretation/application

This provision states that manual call points in public areas should include a notice explaining how to use that call point. All conventional manual call points designed to BS EN 54-11 would include that information. In addition, manual call points in stations are often incorporated into larger ‘help points’ which include further information. This provision is therefore unnecessary.

Deleted provision

6.—(7) *“All means for detecting fire and for giving warning in case of fire in station premises shall be maintained in efficient working order.”*

Interpretation/application

All fire detection equipment shall be available for use and maintained in working order.

This is covered in the FSO Guide under:

- *Background to Fire Safety Order*, p 8 penultimate bullet point
- Paragraph 3.4.6 *installation, testing and maintenance*, p 35 and 36
- *Checklist*, p 37
- Section 2 *Further Guidance on fire detection and warning systems* paragraph 2.6 *Testing and Maintenance*, p 61 – 62
- Part 2 Appendix A1 *Example fire safety maintenance checklist*, p 132 – 134

Records of above

- *Records of maintenance* paragraph 4.4, Step 5 review, p 45
- Section 7.1 *Further guidance on recording, planning, informing, instructing and training* – first and third paragraphs, p 116
 - 3rd and 7th bullet points (maintenance of fire warning systems and ‘other fire safety equipment)
 - 10th bullet point maintenance of any systems to help the fire service;
- 12th bullet point
- Part 2 Appendix A1 *Example fire safety maintenance checklist*, p 132 – 134

3.5 (OR7) Fire resisting construction in premises

Deleted Provisions

7.—(1) *“A part of station premises to which this paragraph applies shall, so far as is reasonably practicable, be separated by fire-resisting construction from other parts of the premises, including any other part of the premises to which this paragraph applies.”*

(2) *“Paragraph (1) above applies to the following parts of station premises, that is to say a machine room, any storage area other than an area referred to in paragraph (3) or (4) below, and a staff room for persons employed to work in the premises.”*

(3) *“Any explosive or highly flammable materials kept in station premises shall be stored in an area separated from other parts of the premises by fire-resisting construction.”*

(6) *“Any reference in this regulation to fire-resisting construction is a reference to construction of such a nature as to be capable of providing resistance to fire for a period of not less than one hour”.*

Interpretation/application

Combined with later provisions, these provisions require any room containing an electricity generator, transformer, switchgear, or machinery for operating an escalator, passenger conveyor or lift, or storage to be separated from other parts of the station by one hour fire resisting construction. It also requires one hour fire separation between public and staff areas.

The FSO Guide states that fire resisting construction is usually provided to isolate “*machine rooms, sub-stations, transformer rooms, electrical or signal rooms, rooms containing cooking facilities and staff rooms*”. It also states that store rooms containing “*explosive or highly flammable materials and areas set aside for storing combustible refuse*” should be enclosed in fire rated construction.

One difference between the FSO Guide and the 1989 Regulations is that for rooms which are used for storing non-combustible materials, the 1989 Regulations require a fire rated enclosure, whereas the FSO Guide does not (except that it would normally be classified as a ‘staff room’ and so would need to be separated from other ‘non staff rooms’). To comply with the FSO Guide fire resisting construction would need to be provided to separate the store room from non-staff areas, but not from other staff areas.

In terms of fire safety, this is unlikely to cause a fire safety risk. However, if there are any rooms which are specified as being for storage of non-combustible materials (and hence not designed with a fire resisting enclosure) it would be essential to ensure that combustible materials are not stored there. This would typically require appropriate signage and management procedures for the room.

The FSO Guide does not specifically recommend the need to provide a fire rated enclosure around machinery for operating an escalator or passenger conveyor. In practice, this is a requirement of the 1989 Regulations which was not achievable because, as described earlier, for most types of escalators, the machinery is directly below the treads of the escalator, so the treads form part of the enclosure of the machine room. It would not be possible to design escalator or passenger conveyor treads to be fire resisting. The removal of this requirement will therefore not affect the actual fire precautions within sub-surface railway stations.

The specific references in the FSO Guide are:

- Section 1 *Further guidance on fire risks and preventative measures*, paragraph 1.9 on fire resisting structures (p 55):
 - first paragraph (recommendation to separate public and non-public areas by fire resisting construction)
 - second paragraph (recommendation to enclose plant rooms, machine rooms, store rooms for explosive or highly flammable materials and areas for combustible refuse with fire resisting construction)
- Section 7 *Further guidance on recording, planning, informing, instructing and training*, 7.2 Emergency plans, paragraph on sub-surface railway station management planning (p 123) (assumption that fire resisting construction is usually provided to separate machine rooms, substations, transformer rooms, electrical rooms, rooms containing cooking facilities and staff rooms)

- Appendix B, p 138 third paragraph (recommendation for fire resisting construction to be 1 hour in sub-surface railway stations)

The requirement to provide fire resisting construction for areas set aside for storing combustible refuse is retained under NR7 (2).

General information on what to consider in documents demonstrating fire performance is given in Appendix 1. Specific information on how to evaluate evidence of performance of fire resisting construction is given in Appendix 2.

Further general information on fire resisting construction is given in Appendix B of the FSO Guide.

Further controls on dangerous substances are given in Dangerous Substances and Explosive Atmospheres Regulations 2002.

Deleted Provision

7.—(5) *“Where a door forms part of any fire-resisting construction required by this regulation, the door shall be fitted with a self-closing device and each face of the door shall have affixed to it a notice displaying the words “FIRE DOOR—KEEP SHUT”.”*

Interpretation/application

The requirement for fire doors to be fitted with a self-closing device is covered in the FSO Guide under:

- Section 1 *Further guidance on fire risks and preventative measures*, paragraph 1.9, on Fire resisting structures third paragraph (p 55)
- Appendix B *Technical information on fire-resisting separation, fire doors and door fastenings, Fire-resisting door furniture* (p140 top self-closing devices)

The requirement to label fire doors with a ‘keep shut’ notice is covered in the FSO Guide under:

- Section 1 *Further guidance on fire risks and preventative measures*, paragraph 1.9 on Fire resisting structures (p 55)
- Section 6 *Further guidance on signs and notices*, paragraph on Escape sign design, (p 114)

3.6 (OR8) Materials used in internal construction of premises

Deleted Provisions

8.—(2) *“The material of which any balustrade, decking or skirting board of an escalator or travelator in station premises is constructed, and the material of which any display panel for advertisements or notices in an escalator shaft in the premises is constructed, shall offer adequate resistance to the spread of flame over the surface of the material and shall have, if ignited, a reasonable rate of heat release.”*

(3) “The material of which the treads and risers in the steps of any escalator in station premises are constructed shall offer adequate resistance to the spread of flame over the surface of the material and shall have, if ignited, a reasonable rate of heat release.”

Interpretation/application

These provisions require specific reaction to fire performance of materials used in the construction of the following specific items:

- Balustrades, decking, treads, risers and skirting boards of escalators and passenger conveyors
- Advertising materials or notices in escalator shafts. These now include LCD screens and electromechanically operated roller blind type devices in addition to conventional advertising notices

It should be noted that an earlier provision relating to the reaction to fire performance of wall and ceiling materials will remain within the 2009 Regulations (8(2) (a) and (b)).

Discussion

Building Regulations contain provisions to control the ‘reaction to fire’ performance of materials used in buildings. This is because when there are large areas of these e.g. when they are used to line walls and ceilings, they can be instrumental in the growth of fire from a small source such as an electrical fault or a waste paper bin to one which will involve all the contents of the room. Poorly performing wall and ceiling linings aid rapid fire growth within the room while good materials will restrict it.

In most Regulations including AD-B, these requirements are not usually extended to items with a small area such as skirtings, stairways, window and door frames, etc because there is not a large enough area for them to significantly affect fire growth.

However, the 1989 Regulations use the requirements for large areas of wall and ceilings from AD-B and applied them to the items prescribed in the 1989 Regulation above. These are relatively small areas compared to wall and ceiling linings and would not normally be expected to have such a high performance specified. However, it was felt that there needed to be a much higher level of fire safety in a high risk area such as sub-surface railway stations.

The FSO guide does not cover the reaction to fire performance of these items other than a brief mention of evaluating advertising materials as a source of fuel (paragraph 1.2 identify sources of fuel, p17). Consequently, guidance is provided here.

Performance

A material can be considered to offer adequate resistance to the spread of flame over the surface and will have, if ignited, a reasonable rate of heat release, if it meets the requirements of National Class 0 or European Class B-s3, d2 or better as defined in Table 5 below which is adapted from AD-B.

The fire performance of such materials may be demonstrated by testing to either British Standard or European Standards and the Table shows the requirements for each. The fire performance of such materials may currently be demonstrated by testing to either British Standards or European Standards. Eventually it is expected that demonstrating compliance using British Standards will not be permissible as EU Directives are further implemented.

Table 5: Performance of materials which are National Class 0 or European Class B-s3, d2 or better

Performance determined using British Standards	Performance determined using European Standards
<p>1) Non – combustible materials as defined in national class of Table 2 (NR8 (1)).</p> <p>2) if the material or the surface of a composite product is either:</p> <p>a) composed throughout of materials of limited combustibility (defined in national class of Table 1 (NR8 (1))); or</p> <p>b) when tested in accordance with British Standard 476: Part 7: 1987 achieves a class 1 performance and,</p> <p>when tested in accordance with British Standard 476: Part 6: 1989, has an index of performance (I) not exceeding 12 and sub-index (i_1) not exceeding 6.</p>	<p>Any material classified as Class B-s3, d2 or better in accordance with BS EN 13501-1: 2002 <i>Fire classification of construction products and building elements, Part 1 – Classification using data from reaction to fire tests.</i></p>

More information on the reaction to fire performance of materials and products is given under NR8 – *Materials used in internal construction of premises* p 12 and 13 of this guide. General information on what to consider in documents demonstrating fire performance is given in Appendix 1.

3.7 (OR9) Instruction and training of persons working in premises

Deleted provision

9.—(3) *“A person who is employed to work in station premises otherwise than as a member of the staff of the station premises shall be given instruction in the fire precautions to be observed by him in the course of his work in the premises and the action to be taken by him in case of fire in the premises.”*

Interpretation/application

This provision requires people who are working on the station, but who are not members of the staff of the station to be given relevant fire instruction before entering the station. This would apply to contractors, staff of tenanted areas (such as retail) and similar professions.

This is covered in the FSO guide under:

- Identification of persons at risk within the premises, including contractors, p 18 – 20
- Section 4, first paragraph, p 41
- Section 7.3, p 125 – 126

3.8 (OR10) Additional precautions to be taken

Deleted provision

10.—(1) *“The occupier of station premises shall prepare and keep up to date an emergency plan setting out details of the action to be taken in the event of an outbreak of fire in the premises by persons employed to work in the premises and the procedure to be followed for the evacuation of members of the public from the premises in that event”.*

Interpretation/application

This provision requires that an emergency plan shall be prepared and regularly updated by the “occupier”. This shall detail the actions to be taken in the event of a fire by station staff, including the evacuation procedures to be followed for members of the public.

It should be noted that the word “occupier” is not defined in the 1989 Regulations, but the closest similar phrasing under the FSO Guide is “responsible person”.

This is covered in the FSO Guide under numerous locations, the main ones being:

- Part 1 *Fire risk assessment* – step 4- section 4.2 Emergency plan, p 40 – numerous references and checklist at end of section 4.2
- Section 7 *Further guidance on recording, planning, informing, instructing and training* section 7.2 emergency plans, p 121 – 125

Deleted provision

10.—(2) *“All practicable steps shall be taken to prevent smoking by persons in any part of station premises which is a machine room, storage area or part of the premises used as a shop or to which members of the public have access.”*

Interpretation/application

This provision states that there shall be appropriate measures taken to prevent smoking by any person in a machine room, storage area, shop or any area to which the public have access.

This requirement has since been superseded by more extensive legislation (The Smoke-free (Premises and Enforcement) Regulations 2006) which came into force on 1st July 2007 banning smoking in public buildings including all areas of stations.

The FSO Guide was written before the legislation and is therefore out of date on this subject e.g. it refers to ‘smoking areas’ in stations which are not permitted now and consequently, no further guidance is required.

PART 4 (1)

The Fire Precautions (Sub-surface Railway Stations) England Regulations 2009

STATUTORY INSTRUMENTS

2009 No.782

FIRE PRECAUTIONS, ENGLAND

The Fire Precautions (Sub-surface Railway Stations) (England) Regulations 2009

<i>Made</i>	- - - -	<i>24th March 2009</i>
<i>Laid before Parliament</i>		<i>31st March 2009</i>
<i>Coming into force</i>	-	<i>1st October 2009</i>

These Regulations are made in exercise of the powers conferred by article 24 of the Regulatory Reform (Fire Safety) Order 2005(1).

In accordance with article 24(4) of that Order the Secretary of State has consulted such persons or bodies of persons as appeared to the Secretary of State to be appropriate.

The Secretary of State makes the following Regulations:

Citation and commencement

1. These Regulations may be cited as the Fire Precautions (Sub-surface Railway Stations) (England) Regulations 2009 and shall come into force on 1st October 2009.

Interpretation

2. In these Regulations—

“basic instruction” means instruction in the fire precautions to be taken or observed in the station premises, so far as those precautions relate to the member of staff’s duties, and includes instruction as to—

- (a) the means of escape from the premises in case of fire;
- (b) the action to be taken in case of fire in the premises;

(1) S.I. 2005/1541; amended by S.I. 2006/484.

- (c) the location of, and method of operating, equipment provided in the premises for fighting fire; and
 - (d) the location and use of the means for giving warning in case of fire in the premises;
- “fire-fighter” means a fire-fighter employed by a fire and rescue authority;
- “member of staff” means a person employed to work in station premises as a member of the staff of the station premises;
- “public area” means a part of station premises to which members of the public have access;
- “station manager” means the member of staff who is for the time being in charge of station premises; and
- “station premises” means premises to which these Regulations apply.

Application of Regulations

- 3.—(1) These Regulations apply to any premises where—
- (a) the premises are used as a railway station;
 - (b) members of the public have access to the premises (whether on payment or otherwise); and
 - (c) there is a railway platform in the premises which is an enclosed underground platform.
- (2) A railway platform is an enclosed platform if the platform and the permanent way to which it is adjacent are situated wholly or mainly in a tunnel or wholly or mainly within or under any building.
- (3) A railway platform is an underground platform if the level of the roof or ceiling immediately above the platform and the permanent way to which it is adjacent is below the level of the surface of the ground adjacent to any exit from the railway station providing a means of escape from the station in case of fire.
- (4) A railway platform is situated mainly in a tunnel or mainly within or under a building if the platform and the permanent way to which it is adjacent are covered by any part of a tunnel or building for more than half the length of the platform.
- (5) These Regulations apply to premises owned or occupied by the Crown.

Doors to be kept locked

- 4.—(1) Paragraph (2) applies to any passage or other area affording a means of escape from station premises in case of fire or giving access to such a means of escape.
- (2) Every door which does not form part of, or give access to, the means of escape must be kept locked at all times when the part of the premises to which the door gives access is neither in use by any person who is at work in the premises nor available for use by members of the public.

Means for fighting fire

- 5.—(1) Paragraph (2) applies to these parts of station premises—
- (a) a room containing any electricity generator, transformer or switchgear, other than one in which any machinery for operating an escalator, passenger conveyor or lift is installed;

- (b) any storage area, including an area set aside for storing refuse pending its disposal; and
- (c) any part of the premises used as a shop.

(2) The parts to which this paragraph applies must be provided with a means for fighting fire comprising a system which is activated automatically in that part of the premises in case of fire in that part.

(3) When any member of staff reasonably suspects that there is an outbreak of fire in the premises, immediate steps must be taken to activate the warning system referred to in regulation 6(3) and call for the assistance of the fire and rescue authority.

(4) A plan of the station premises suitable for use by fire-fighters when attending the premises for fire-fighting purposes must be kept in a part of the premises where it is accessible to fire-fighters.

(5) In this Regulation “passenger conveyor” includes any mechanically operated moving footway other than an escalator.

Means for detecting fire and giving warning in case of fire

6.—(1) Paragraph (2) applies to these parts of station premises—

- (a) those referred to in regulation 5(1);
- (b) any office which is not separated from other parts of the premises by fire-resisting construction; and
- (c) any staff room for persons employed to work in the premises.

(2) The parts to which this paragraph applies must be provided with a means for detecting fire which is activated automatically in case of fire in that part.

(3) The station premises must be provided with an electrically operated system for giving warning in case of fire.

(4) The system referred to in paragraph (3) must—

- (a) be designed to transmit a warning to a place where it can be received by the station manager or by some other member of staff; and
- (b) be capable of being activated both by manual operation at call points in the premises, including call points for use by members of the public, and by the means referred to in paragraph (2) for detecting fire in the premises.

(5) The station premises must be provided with a public address system for use by or on behalf of the occupier of the premises to give warning of fire to members of the public in the premises and advise them of the action to be taken in case of fire.

(6) Arrangements must be made to secure that in case of fire the station manager and any member of staff who is on duty in any part of the station premises can communicate with each other by personal radio or by telephone.

Combustible matter

7.—(1) All parts of station premises must be kept clear of any accumulation of combustible refuse or other combustible matter.

(2) Any area set aside for storing combustible refuse in station premises pending its disposal must be separated from other parts of the premises by fire-resisting construction.

Materials used in internal construction of premises

8.—(1) Any material which is used in the construction of an internal wall or ceiling in any public area must be of limited combustibility.

(2) To inhibit the spread of fire within the premises, any material which is applied to the surface of an internal wall or ceiling in any public area must—

- (a) adequately resist the spread of flame over the surface; and
- (b) have, if ignited, either a rate of heat release or a rate of fire growth, which is reasonable in the circumstances.

Instruction and training of persons working in premises

9.—(1) Every member of staff must be given basic instruction as soon as reasonably practicable after beginning work in station premises.

(2) Every member of staff must be given further basic instruction at least once in every period of seven months.

(3) No member of staff may be employed as the station manager unless the member of staff has been given basic instruction and, in addition, instruction—

- (a) as to supervising and controlling action to be taken in case of fire in the premises by other members of staff;
- (b) in making arrangements for calling for the assistance of the fire and rescue authority and securing that fire-fighters are directed to the source of any fire in the premises;
- (c) as to taking action in case of fire in the premises to prevent the entry of members of the public to the premises;
- (d) in the use of the means for advising members of the public in the premises on the action to be taken by them in case of fire in the premises; and
- (e) in making arrangements for securing that the means of escape from the premises can immediately be used in case of fire and for enabling persons to leave the premises by train in case of fire.

(4) A fire drill must be held for members of staff not less than once in every period of six months for the purpose of providing them with training in the action to be taken in case of fire in the premises.

(5) The attendance of members of staff at a fire drill must be so organised as to secure that not less than one third of the number of those persons at work in the station premises at any one time have attended a fire drill in the preceding six months.

(6) Each fire drill in station premises must be held at a time when members of the public have access to the premises.

(7) A record must be made—

- (a) of the occasions on which instruction is given under this regulation to each member of staff; and
- (b) of the fire drills held in the premises under this regulation and of the names of the persons attending each fire drill.

(8) A record made under paragraph (7) above in relation to station premises must be kept in the premises for a period of not less than three years from the date on which it was made.

Additional precautions to be taken

10.—(1) All practicable steps must be taken to supervise the carrying out by persons other than members of staff of any work of construction or maintenance in the premises which presents a risk to persons in case of fire.

(2) The periods of duty of members of staff must be so arranged as to secure that not less than two of them are present on duty in the premises at all times when members of the public have access to the premises.

Exemption from requirements

11.—(1) Paragraph (2) applies where a fire and rescue authority is satisfied in respect of any particular station premises that compliance with a requirement of any of the provisions of regulations 5(2), 6(2), 9(8) and 10(2) is inappropriate, unnecessary or not reasonably practicable.

(2) Where this paragraph applies the fire and rescue authority may by notice in writing to the occupier of the premises grant exemption from compliance with the requirement to such extent as is reasonable having regard to all the circumstances of the case and in particular to the risk in case of fire to persons in the premises.

(3) A fire and rescue authority may grant an exemption under paragraph (2) subject to such conditions as may be specified in the notice granting the exemption.

(4) A fire and rescue authority may by notice in writing to the occupier of the premises withdraw an exemption under paragraph (2) if the occupier fails to comply with any condition subject to which the exemption was granted.

Contravention of requirements

12. The requirements of regulations 4 to 10 above are imposed on the occupier of the station premises to which those regulations apply and, subject to any exemption granted (and not withdrawn) under regulation 11, the occupier of the premises shall be responsible for any contravention of the provisions of those regulations.

Revocation

13. The following instruments are revoked so far as they apply to England—

- (a) the Fire Precautions (Sub-surface Railway Stations) Regulations 1989(2);
- (b) the Fire Precautions (Sub-surface Railway Stations) (Amendment) Regulations 1994(3).

Signed by authority of the Secretary of State for Communities and Local Government

Sadiq Khan

Parliamentary Under Secretary of State

24 March 2009

Department for Communities and Local Government

(2) S.I. 1989/1401. The enabling powers for those Regulations – the Fire Precautions Act 1971 (c.40), ss 12(1), (3) and (4), 37(2) and (3) and 40(1) – were repealed by the Regulatory Reform (Fire Safety) Order 2005 (S.I. 2005/1541), Sch 2 para 8 – but the 1989 Regulations were preserved in effect as if made under art 24 of that Order, by virtue of the Interpretation Act 1978 (c.30), s 17(2)(b). The powers of the Secretary of State under the Regulatory Reform (Fire Safety) Order 2005 were transferred, so far as they are exercisable in relation to Wales, to the National Assembly for Wales under the National Assembly for Wales (Transfer of Functions) Order 2006 (S.I. 2006/1458).

(3) S.I. 1994/2184.

EXPLANATORY NOTE

(This note is not part of the Regulations)

These Regulations revoke and partially replace the Fire Precautions (Sub-surface Railway Stations) Regulations 1989 (S.I. 1989/1401; “the 1989 Regulations”), which set out the specific requirements as to fire precautions at sub-surface railway stations. Provisions in relation to general fire precautions governing sub-surface railway stations are found in the Regulatory Reform (Fire Safety) Order 2005 (S.I. 2005/1541; “the 2005 Order”).

These Regulations, which are made under article 24 of the 2005 Order and apply only to England, include the following provisions:

- (a) a requirement to lock doors giving access to fire escapes (regulation 4(2));
- (b) requirements to provide means for fighting fires and detection and warning systems for certain parts of stations (regulations 5 and 6);
- (c) requirements for stations to be kept clear of combustible refuse and for areas for storing such refuse to be separated by fire-resisting construction (regulation 7);
- (d) requirements in relation to materials used in the internal construction of station premises (regulation 8);
- (e) requirements as to instruction and training of members of staff (regulation 9);
- (f) exemptions from the requirements of the Regulations in certain circumstances (regulation 11).

A full impact assessment of the effect that this instrument will have on the costs of business and the voluntary sector is available at www.communities.gov.uk/fire.

PART 4 (2)

Regulations transferring from 1989 Regulations to the 2009 Regulations

No.	Regulations to be retained
1 (1)	These Regulations may be cited as the Fire Precautions (Sub-surface Railway Stations) Regulations 1989.
1 (2)	These Regulations, with the exception of the provisions specified in paragraph (3) below, shall come into force on 18th September 1989.
1 (3)	Regulations 6(3) and 7(1) and (2) shall come into force on 1st January 1990, regulations 5(4) and (5) and 6(4), (6) and (8) shall come into force on 1st January 1991 and regulation 8(3) shall come into force on 1st January 1996.
2	<p>In these Regulations:</p> <p>“fire brigade” means a fire brigade maintained by a fire authority;</p> <p>“machine room” means a room containing any electricity generator, transformer or switchgear, or in which any machinery for operating an escalator, travolator or lift is installed;</p> <p>“station manager” means the person employed to work in station premises who is for the time being in charge of the premises;</p> <p>“station premises” means the premises to which these Regulations apply by virtue of regulation 3 below; and</p> <p>“travolator” includes any mechanically operated moving footway other than an escalator.</p>
3	These Regulations apply to any premises used as a railway station to which members of the public have access (whether on payment or otherwise) and in which any railway platform is an enclosed underground platform.
3 (2)	<p>For the purposes of paragraph (1) above a railway platform:</p> <p>(a) is an enclosed platform if the platform and the permanent way to which it is adjacent (whether with or without one or more other railway platforms) are situated wholly or mainly in a tunnel or wholly or mainly within or under any building; and</p> <p>(b) is an underground platform if the level of the roof or ceiling immediately above the platform and the permanent way to which it is adjacent is below the level of the surface of the ground adjacent to any exit from the railway station providing a means of escape from the station in case of fire, and a railway platform shall be regarded as situated mainly in a tunnel or mainly within or under a building if the platform and the permanent way to which it is adjacent are covered by any part of a tunnel or building for more than half the length of the platform.</p>

No.	Regulations to be retained
3 (3)	In their application to the premises referred to in paragraph (1) above these Regulations apply, subject to regulation 13(4) below, to any part of the premises which is owned or occupied by the Crown.
4 (2)	All parts of station premises shall be kept clear of any accumulation of combustible refuse or other combustible matter.
4 (6)	In any passage or other area affording a means of escape from station premises in case of fire or giving access to such a means of escape, every door of a doorway which does not form part of, or give access to, the means of escape shall be kept locked at all times when the part of the premises to which the doorway gives access is neither in use by any person who is at work in the premises nor available for use by members of the public.
5 (5)	<p>The following parts of station premises shall be provided with a means for fighting fire comprising a system which is activated automatically in such a part of the premises in the event of any outbreak of fire in that part of the premises, that is to say:</p> <p>(a) a machine room, other than a machine room in which machinery for operating an escalator, travelator or lift is installed;</p> <p>(b) any storage area, including an area set aside for storing refuse pending its disposal;</p> <p>(c) any part of the premises used as a shop.</p>
5 (7)	When any person employed to work in station premises reasonably suspects that there is an outbreak of fire in the premises, immediate steps shall be taken to activate the system for giving warning in case of fire referred to in regulation 6(4) below and to call for the assistance of the fire brigade.
5 (8)	A plan of the station premises suitable for use by members of the fire brigade when attending the premises for fire fighting purposes shall be kept in, or affixed to, a part of the premises where it is accessible to members of the fire brigade in such an event.
6 (3)	<p>The following parts of station premises shall be provided with a means for detecting fire which is activated automatically in case of fire in such a part of the premises, that is to say:</p> <p>(a) every part of the premises required by regulation 5(5) above to be provided with the means for fighting fire referred to in that provision;</p> <p>(b) any office which is not separated from other parts of the premises by fire-resisting construction within the meaning of regulation 7(6) below;</p> <p>(c) any staff room for persons employed to work in the premises.</p>

No.	Regulations to be retained
6 (4)	<p>The station premises shall be provided with an electrically operated system for giving warning in case of fire which:</p> <p>(a) is designed to transmit any such warning to a place where it can be received by the station manager or by some other person employed by the occupier of the premises; and</p> <p>(b) is capable of being activated both by manual operation at call points in the premises, including call points for use by members of the public, and by any of the means referred to in paragraphs (1) to (3) above for detecting fire or the presence of smoke in the premises.</p>
6 (6)	<p>The station premises shall be provided with a public address system for use by or on behalf of the occupier of the premises to give warning of fire to members of the public in the premises and advise them of the action to be taken by them in case of fire.</p>
6 (8)	<p>In station premises arrangements shall be made to secure that in case of fire the station manager and any person employed to work as a member of the staff of the station premises who is on duty in any part of the premises can communicate with each other by personal radio or by telephone.</p>
7 (4)	<p>An area set aside for storing combustible refuse in station premises pending its disposal shall be separated from other parts of the premises by fire-resisting construction.</p>
7 (6)	<p>Any reference in this regulation to fire-resisting construction is a reference to construction of such a nature as to be capable of providing resistance to fire for a period of not less than one hour.</p>
8 (1)	<p>Any material which is used on or after 18th September 1989 in the construction of an internal wall or ceiling in any part of station premises to which members of the public have access shall be non-combustible or have low heat emission, and any material which is applied on or after that date to the surface of an internal wall or ceiling in such a part of the premises shall offer adequate resistance to the spread of flame over the surface of the material and shall have, if ignited, a reasonable rate of heat release.</p>
8 (4)	<p>For the purposes of this regulation material shall be regarded:</p> <p>(a) as non-combustible if it is material deemed non-combustible according to the test criteria specified in British Standard 476: Part 4: 1970 (as amended by amendment slips AMD 2483 and AMD 4390);</p> <p>(b) as having low heat emission if it is of such a nature that if tested in accordance with British Standard 476: Part 11: 1982 it would not flame and would produce no rise in temperature on either the specimen or the furnace thermocouples;</p> <p>(c) as offering adequate resistance to the spread of flame over its surface and having a reasonable rate of heat release if the material or, where it is bonded throughout to a substrate, the material combined with the substrate, is of such a nature that it would comply with the test criteria set out in relation to Class 1 in British Standard 476: Part 7: 1987 and, when tested in accordance with British Standard 476: Part 6: 1989, would have an index of performance (I) not exceeding 12 and sub-index (ii) not exceeding 6.</p>

No.	Regulations to be retained
9 (1)	<p>Every person employed to work in station premises as a member of the staff of the station premises shall be given instruction in the fire precautions to be taken or observed there, so far as those precautions relate to his duties, including instruction as to:</p> <ul style="list-style-type: none"> (a) the means of escape from the premises in case of fire; (b) the action to be taken by him in case of fire in the premises; (c) the location of, and method of operating, equipment provided in the premises for fighting fire; and (d) the location and use of the means for giving warning in case of fire in the premises, and he shall be given such further instruction at least once in every period of seven months as is necessary to ensure that he is familiar with those matters.
9 (2)	<p>No person employed to work in station premises shall be employed as the station manager unless he has been given instruction in the matters specified in paragraph (1) above and, in addition, instruction:</p> <ul style="list-style-type: none"> (a) as to supervising and controlling action to be taken in case of fire in the premises by other persons employed to work there as members of the staff of the station premises; (b) in arrangements for calling for the assistance of the fire brigade and securing that members of the fire brigade are directed to the source of any fire in the premises; (c) as to taking action in case of fire in the premises to prevent the entry of members of the public to the premises; (d) in the use of the means for advising members of the public in the premises on the action to be taken by them in case of fire in the premises; and (e) in arrangements for securing that the means of escape from the premises can be immediately used in case of fire and for enabling persons to leave the premises by train in case of fire.
9 (4)	<p>A fire drill for persons employed to work in station premises as members of the staff of the station premises shall be held there not less than once in every period of six months for the purpose of providing those persons with training in the action to be taken in case of fire in the premises.</p>
9 (5)	<p>The attendance at a fire drill of the persons referred to in paragraph (4) above shall be so organised as to secure that not less than one third of the number of those persons at work in the station premises at any one time have attended a fire drill in the preceding six months.</p>
9 (6)	<p>Each fire drill in station premises shall be held at a time when members of the public have access to the premises.</p>
10 (3)	<p>All practicable steps shall be taken to supervise the carrying out by persons other than members of the staff of station premises of any work of construction or maintenance in the premises which presents a risk to persons in case of fire.</p>

No.	Regulations to be retained
10 (4)	The periods of duty of the persons employed to work in station premises as members of the staff of the station premises shall be so arranged as to secure that not less than two of those persons are present on duty in the premises at all times when members of the public have access to the premises.
11 (1)	A record shall be made: (a) of all work of maintenance done in station premises in pursuance of regulations 4(4), 5(6) and 6(7) above; (b) of the occasions on which instruction is given in pursuance of regulation 9 above to each person employed to work in the premises; and (c) of the fire drills held in the premises in pursuance of regulation 9 above and of the names of the persons attending each fire drill.
11 (2)	A record made under paragraph (1) above in relation to station premises shall be kept in the premises for a period of not less than three years from the date on which it was made.
12 (1)	Where a fire authority are satisfied in respect of any particular station premises that compliance with a requirement of any of the provisions of regulations 4(1) and (3), 5(4) and (5), 6(1) and (3), 7(1), 8(2), 10(2) and (4) and 11(2) above is inappropriate, unnecessary or not reasonably practicable, they may by notice in writing to the occupier of the premises grant exemption from compliance with the requirement to such extent as is reasonable having regard to all the circumstances of the case and in particular to the risk in case of fire to persons in the premises.
12 (2)	A fire authority may grant an exemption under paragraph (1) above subject to such conditions as may be specified in the notice granting the exemption and the authority may by notice in writing to the occupier of the premises withdraw the exemption if the occupier fails to comply with any condition subject to which the exemption was granted.
13 (1)	The requirements of regulations 4 to 11 above are imposed on the occupier of the station premises to which those regulations apply and, subject to any exemption granted (and not withdrawn) under regulation 12 above and to paragraph (2) below, the occupier of the premises shall be responsible for any contravention of the provisions of those regulations.
13 (2)	The requirements of regulations 4(8), 4(9) and 5(3) above shall be deemed to be satisfied in station premises in Scotland if the premises comply with the provisions, respectively, of regulations E15, E16 and E22(1) of the Building Standards (Scotland) Regulations 1981 to 1987.
13 (3)	If any provision of regulations 4 to 11 above is contravened the person who under this regulation is responsible for the contravention shall be guilty of an offence under section 12 of the Fire Precautions Act 1971.
13 (4)	Paragraph (3) above shall not apply to the Crown.

PART 4 (3)

Regulations not being transferred from the 1989 Regulations

1989 Regulation number	Regulation to be deleted
4 (1)	All parts of station premises providing means of escape from the premises in case of fire, including railway platforms, escalators, travolators and lifts, shall be kept free from obstruction at all times when members of the public have access to the premises and shall be so maintained as to secure that they can be safely used as such means of escape at those times.
4 (2) – partial	... combustible refuse stored in the premises pending its disposal shall be stored in an area set aside for that purpose.
4 (3)	At all times when members of the public have access to station premises, and at other times when persons are at work in the premises, the door of, or barrier in, any doorway or exit through which a person might have to pass in order to leave the premises shall not be so locked or fastened that it cannot be easily and immediately opened in case of fire in the premises.
4 (4)	Where a door in station premises is designed to be held open by an electromagnetic or electromechanical device to which this paragraph applies, the door and the means for holding open and closing the door shall be maintained in efficient working order and the door shall not be held open by any device or object other than the electromagnetic or electromechanical device.
4 (5)	Paragraph (4) above applies to an electromagnetic or electromechanical device which allows a door held open by it to be operated manually at all times and to close automatically on each or any of the following occurrences, that is to say: (a) the operation of a system for giving warning in case of fire; (b) the manual operation of a switch for releasing the device; (c) a failure in the supply of electricity to the device.
4 (7)	Every doorway or other exit affording a means of escape from the station premises in case of fire or giving access to such a means of escape, including the means of exit in ordinary use by members of the public, shall be distinctively and conspicuously marked by a notice indicating that it is an ordinary means of exit or (as the case may be) an emergency exit from the premises.

1989 Regulation number	Regulation to be deleted
4 (8)	All parts of station premises forming part of the means of escape from the premises in case of fire shall be provided with artificial lighting capable of providing sufficient illumination of those parts of the premises and any notice required by paragraph (7) above to enable persons in the premises to leave the premises safely in case of fire.
4 (9)	The lighting required by paragraph (8) above shall be provided by electricity supplied from two independent sources of supply so controlled that, so far as is reasonably practicable, the requirements of that paragraph continue to be met in the event of any failure in the supply of electricity from one of the two sources of supply.
5 (1)	Subject to the provisions of this regulation, station premises shall be provided with such means for fighting fire as are appropriate and adequate in relation to the risk to persons in case of fire in the premises.
5 (2)	The location of each fire hydrant in station premises shall be indicated by a distinctive and conspicuous notice in a position above or adjacent to the fire hydrant.
5 (3)	The outlet connection of every fire hydrant in station premises shall be of such a type as is compatible with the type of attachment on hoses used by the fire brigade for the purpose of drawing water from fire hydrants.
5 (4)	Every escalator and travolator in station premises shall be provided with a means for fighting fire comprising a water sprinkler system which is activated automatically on the operation of the means for detecting fire with which the escalator or travolator is provided under regulation 6(1) below.
5 (6)	All means for fighting fire in station premises shall be maintained in efficient working order and all portable equipment for fighting fire in the premises shall be so placed as to be readily available for use.
6 (1)	Every escalator and travolator in station premises shall be provided with a means for detecting fire comprising a linear heat detector system.
6 (2)	Any machine room in station premises in which machinery for operating an escalator, travolator or lift is installed shall be provided with a means for detecting the presence of smoke in the room.
6 (5)	Where a call point for a system for giving warning in case of fire is situated in a part of station premises to which members of the public have access, there shall be displayed at or near the call point a notice giving information as to how to use the call point to activate the system.
6 (7)	All means for detecting fire and for giving warning in case of fire in station premises shall be maintained in efficient working order.

1989 Regulation number	Regulation to be deleted
7 (1)	A part of station premises to which this paragraph applies shall, so far as is reasonably practicable, be separated by fire-resisting construction from other parts of the premises, including any other part of the premises to which this paragraph applies.
7 (2)	Paragraph (1) above applies to the following parts of station premises, that is to say a machine room, any storage area other than an area referred to in paragraph (3) or (4) below, and a staff room for persons employed to work in the premises.
7 (3)	Any explosive or highly flammable materials kept in station premises shall be stored in an area separated from other parts of the premises by fire-resisting construction.
7 (5)	Where a door forms part of any fire-resisting construction required by this regulation, the door shall be fitted with a self-closing device and each face of the door shall have affixed to it a notice displaying the words "FIRE DOOR—KEEP SHUT" .
8 (2)	The material of which any balustrade, decking or skirting board of an escalator or travolator in station premises is constructed, and the material of which any display panel for advertisements or notices in an escalator shaft in the premises is constructed, shall offer adequate resistance to the spread of flame over the surface of the material and shall have, if ignited, a reasonable rate of heat release.
8 (3)	The material of which the treads and risers in the steps of any escalator in station premises are constructed shall offer adequate resistance to the spread of flame over the surface of the material and shall have, if ignited, a reasonable rate of heat release.
9 (3)	A person who is employed to work in station premises otherwise than as a member of the staff of the station premises shall be given instruction in the fire precautions to be observed by him in the course of his work in the premises and the action to be taken by him in case of fire in the premises.
10 (1)	The occupier of station premises shall prepare and keep up to date an emergency plan setting out details of the action to be taken in the event of an outbreak of fire in the premises by persons employed to work in the premises and the procedure to be followed for the evacuation of members of the public from the premises in that event.
10 (2)	All practicable steps shall be taken to prevent smoking by persons in any part of station premises which is a machine room, storage area or part of the premises used as a shop or to which members of the public have access.

Appendix 1

General guidance on checking test, classification and assessment reports and certificates of fire performance

Those responsible for checking the performance of fire protection products are often presented with a variety of documents as evidence. In addition, sometimes the evidence does not match the product or the product is used in a different way from that stated in the report. Approving a poor performing product could significantly increase the severity of a real fire.

This appendix explains the different types of document that can be supplied as evidence. If in doubt, the organisation that prepared the test, assessment or classification report or the certification body that produced the certificate can confirm whether the evidence is satisfactory for the claims made for the product.

Supporting evidence usually comes in the following forms:

Certificates of approval: These are documents detailing the fire performance of a particular material or product following a programme of testing, assessment and a thorough evaluation of factory production control and quality systems. They include all the variations in the product that are covered under the certification and are consequently the most thorough and comprehensive supporting evidence available.

Test reports: These are documents reporting how an individual material or product has performed when tested to a particular standard. A test report only covers the items tested. Any variation is only covered if it is included in the test report.

Classification reports (European tests only): These contain the European class determined from the results of several tests. Any variation is only covered if it is included in the classification report.

Certificates, test and classification reports should be issued by UKAS accredited organisations in the UK and Notified Bodies if emanating from the rest of Europe.

Assessments: These are documents giving an opinion on how variations in an individual material, product or structure will perform if it were to be tested to a particular standard.

Assessments should be issued by UKAS accredited laboratories or suitably qualified fire safety engineers from the UK and Notified Bodies if emanating from the rest of Europe.

Further information on the suitability of organisations qualified to undertake these activities is given in the introduction to Appendix A of *AD-B*.

For all types of evidence the following should be checked:

Does the evidence cover the product as installed?

The document should relate to the product as installed.

Example 1: a test report describing a timber fire door tested in a timber frame cannot be used to substantiate the performance of the same door installed in a steel frame.

Example 2: a classification report for a material bonded to a substrate will not cover its application when stretched over a frame with an air gap behind it.

This is the most important consideration. If you are not sure that the evidence covers the product as installed, you should seek expert opinion. A UKAS accredited laboratory or certification body can provide this.

Is the documentation sufficiently authoritative?

Indicative tests/letter reports are often used for small scale or product development. They should never be used for approval.

Is the documentation complete and unaltered?

Check that all the pages are present and that there are no signs of tampering or alteration.

Are there any age limitations?

A certificate will usually have a time limitation on it. Assessments currently contain a statement that they should be reviewed after 5 years. Although there are no limitations for test or classification reports, the organisation that produced them can review its relevance and applicability if they are over 5 years old.

A more in-depth consideration of the routes to demonstrating the performance of passive fire protection products can be found on the following website:

www.pfpp.org.uk/Demonstrating_Performance_PFP_products.pdf

Appendix 2

Further information on fire resisting construction including evaluation of evidence of performance

Fire resistance is the ability of elements of building construction such as doors, walls, floors etc to 'resist' (withstand) a fully developed fire for a period of time. The element to be tested is built into a specially designed furnace and subjected to a standard heating regime that simulates a fully developed (post-flashover) fire. During the heating period, the element is evaluated with respect to a number of criteria, the main ones being:

- **Loadbearing capacity** – the ability to withstand an applied load without collapsing or deflecting above prescribed limits
- **Integrity** – the ability to withstand the passage of flames and hot gases
- **Insulation** – the ability to restrict the temperature rise on the non-fire side to within prescribed limits.

The periods of time for which elements in buildings have to satisfy the criteria above are laid down in the Building Regulations (Approved Document B). In the case of sub-surface railways stations, a period of 60 minutes is generally required for all elements.

Fire resistance can be evaluated by both British Standard and European Standard test/classification methods. This means that users of this guide may have to consider evidence of performance for building elements in both European and British formats. Eventually it is expected that demonstrating compliance using British Standards will not be permissible as EU Directives are further implemented.

Sometimes the results of tests are expressed in terms of time in minutes until failure against each criterion, alternatively results of tests are converted into classifications which express the fire performance for the relevant criteria rounded down to the nearest classification period (90, 60, 30 minutes etc). The Table below provides some examples.

Example 1: Performance of a loadbearing internal wall expressed in British and European standards

	British Standards	European Standards	
Test or classification standard	BS 476: part 21 1987 (test)	BS EN 1365-1 (test)	BS EN 13501-2: 2003 <i>Fire classification of construction products and building elements, Part 2 – Classification using data from resistance to fire tests</i> (classification)
Loadbearing capacity	86 min	86 min	REI 60
Integrity	72 min	72 min	
Insulation	61 min	61 min	

Example 2: A non-loadbearing internal wall e.g. a glazed partition

	British Standards	European Standards	
Test or classification standard	BS 476: part 22 1987 (test)	BS EN 1364-1 (test)	BS EN 13501-2: 2003 <i>Classification using data from resistance to fire tests</i> (classification)
Loadbearing capacity	n/a	n/a	EI 30
Integrity	52 min	52 min	
Insulation	38 min	38 min	

Example 3: A fire door – without smoke seals

	British Standards		European Standards	
Test or classification standard	BS 476: part 22 1987 (test)	AD-B (classifies fire doors)	BS EN 1634-1 (test)	BS EN 13501-2: 2003 <i>Classification using data from resistance to fire tests</i> (classification)
Integrity	72 min	FD 60	72 min	EI 60
Insulation	61 min		61 min	

–with smoke seals

Integrity	72 min	FD 60S	72 min	EI 60Sa
Insulation	61 min		61 min	

Note: some doors tested to European standards may have additional classes e.g. EI₍₁₎ 60 or, EI₍₂₎ 60S. In this case, the I₍₁₎ or, I₍₂₎ refers to the door's insulation performance which is not required in the UK and can be ignored.

General information on what to consider in documents providing evidence of fire performance is given in Appendix 1. Specific considerations for fire resisting construction are:

Size – The product should have been tested at full size. If the installed product is much larger than was tested e.g. a very high partition or rolling shutter, then further evaluation is required before the product may be approved.

Symmetry – The direction of fire resistance supported by the test evidence must relate to that of the installed product.

Construction – Changes to the construction, however small, may affect the fire resistance and should be justified by test or assessment. For example a test report describing a timber fire door tested in a timber frame cannot be used to substantiate the performance of the same door installed in a steel frame.

Operation – The applicability of a fire resistance test, classification or assessment report needs to be considered to the end-use situation. For example, a test report of a single action, single leaf fire door will not cover the same door when opening both ways or when used as part of a pair. Neither will it cover significant changes to hardware e.g. the change from being side-hung using hinges to floor pivots.

If you are not sure that the evidence covers the product as installed, you should seek expert opinion. A UKAS accredited laboratory or certification body can provide this.

Further reassurance in the fire performance of product, including its suitability to a particular end-use application, will be obtained if the product and/or the installer is covered by a third party certification scheme. This recommendation is included in the FSO Guide under Section 8, *Quality assurance of fire protection equipment and installation*, p131.

ISBN: 978-1-4098-1317-0

ISBN 978-1-4098-1317-0



9 781409 813170