
British Standard

Fire precautions in the design and construction of buildings

Part 2. Code of practice for shops

(Formerly CP 3 : Chapter IV : Part 2)

Règles de prévention des incendies dans la conception et la construction des bâtiments
Partie 2. Code de bonne pratique dans les boutiques et magasins

Brandschutzmaßnahmen bei Planung und Errichtung von Gebäuden
Teil 2. Leitfaden für Läden

Foreword

This code of practice, prepared under the direction of the Fire Standards Committee, is a revision of CP 3 : Chapter IV : Part 2 : 1968, which is withdrawn.

In accordance with current BSI practice, this revised code is published as a Part of BS 5588. In addition to the existing BS 5588 : Part 1 : Section 1.1, BS 5588 : Part 3 and BS 5588 : Part 4, other Parts will include new codes for fire-fighting lifts and stairways and for the precautions to be taken in places of public assembly, and the revision of CP 3 : Chapter IV : Part 1 'Flats and maisonettes (in blocks over two storeys)', which will appear as BS 5588 : Part 1 : Section 1.2.

It is intended to prepare a Part to cover shopping developments that include shopping malls.

Other Parts may be added to BS 5588.

Some of the more important changes from the text of CP 3 : Chapter IV : Part 2 are as follows.

- (a) In sections three, four, five and six, the commentary on the relevant principles is followed by any recommendations that are made. The specific recommendations do not form a separate section of the code as previously. The commentary on the relevant principles is intended to provide an explanatory background to any recommendations that are made, especially if the recommendations might otherwise appear to be arbitrary. Structural precautions against fire that have to be implemented, for example those in building regulations, if discussed are not repeated as recommendations, but reference may be made to them if the regulations are not consistent in all parts of the UK.
- (b) Diagrams have been included.
- (c) The subdivision of escape routes into first stage, second stage and third stage has been superseded by a division into horizontal travel and travel down or up stairways.
- (d) Fire doors are no longer referred to by 'type', instead reference is made to their performance in fire tests.
- (e) The term 'departmental stores' has been removed from the title and in the scope clause the meaning of shops has been clarified to include departmental stores.

It has been assumed in the drafting of this code that the execution of its provisions will be entrusted to appropriately qualified and experienced people.

Compliance with a British Standard does not of itself confer immunity from legal obligations. In particular, attention is drawn to 3.5 and 25.1.



Amendment No. 2
published and effective from 31 October 1989
to BS 5588 : Part 2 : 1985

Fire precautions in the design and construction of buildings
Part 2 Code of practice for shops

Revised text

AMD 6239
October 1989

Contents

In the list of tables, delete the title of table 7 and substitute the following.
 '7 Limitations on non-insulating glazed elements
 installed in stairways, lobbies and corridors'

AMD 6239
October 1989

Clause 2.9 fire resistance (as amended by Amendment No. 1)

Delete the existing term and definition and substitute the following.
 '**2.9 fire resistance.** The ability of a component or construction of a building to satisfy for a stated period of time the appropriate criteria specified in the relevant Part of BS 476.'

AMD 6239
October 1989

Clause 2.14 non-combustible

After 'BS 476 : Part 4' insert the following.
 ',or any material which when tested in accordance with BS 476 : Part 11 does not flame nor cause any rise in temperature on either the centre (specimen) or furnace thermocouples'

AMD 6239
October 1989

New definitions 2.24 and 2.25

After definition 2.23 insert the following two new definitions.

'2.24 depth (of a building). The level of the surface of the lowest point of the floor of the lowest storey, measured at the centre of that face of the building where the measurement is greatest from the level of the footway or paving in front of that face, or if there is no such footway or paving, from the level of the ground.

2.25 material of limited combustibility. Either:

- (a) a non-combustible material; or
- (b) any material of density 300 kg/m³ or more which, when tested in accordance with BS 476 : Part 11, does not flame and the rise in temperature on the furnace thermocouple is not more than 20 °C; or
- (c) any material with a non-combustible core of 8 mm thick or more, having combustible facings (on one or both sides) not more than 0.5 mm thick.'

AMD 6239
October 1989

Clause 3.5.3 Legislation and other regulations for fire safety in shops (as amended by Amendment No. 1)

Delete the penultimate paragraph. After the final paragraph insert the following new note.

'NOTE. Under the Fire Precautions Act, 1971, fire authorities in England and Wales cannot, as a condition of the issue of a fire certificate, require structural or other alterations relating to escape from the premises if the plans of the building comply with building regulations, unless the fire authority is satisfied that the means of escape in case of fire are inadequate by reason of matters or circumstances of which particulars were not required to be supplied to the local authority in connection with the deposit of plans for building regulation purposes.'



AMD 6239
October 1989

Clause 4.2 Smoke

In paragraph 1, line 5, delete ‘, and possibly panic’.

AMD 6239
October 1989

Clause 5.3 Disabled persons

Delete the existing clause and substitute the following.

‘5.3 Disabled persons

When a shop is being planned, whilst it will not as a rule be possible to reliably predict its usage by disabled persons, it may be expected that some employees or members of the public will be people with a disability of some kind. The designer should therefore study the recommendations of BS 5588 : Part 8.’

AMD 6239
October 1989

Clause 7.2.1 Commentary (as amended by Amendment No. 1)

In paragraph 1, line 4, delete ‘826 mm’ and substitute ‘800 mm’.

AMD 6239
October 1989

Table 4. Capacity of a stairway (as amended by Amendment No. 1)

At the end of the table insert the following new note.

‘NOTE. The capacity of stairways serving more than 10 floors may be obtained by linear extrapolation.’

AMD 6239
October 1989

Clause 8.5.2 Recommendations (as amended by Amendment No. 1)

Delete items (a) (2) and (a) (3) and substitute the following.

‘(2) cupboards enclosed with fire-resisting construction except in the case of a building (or part) served by a single stairway;

(3) lift wells, except lift wells which are sited directly above lift motor rooms in buildings (or parts) served by a single stairway.’

AMD 6239
October 1989

Clause 8.7.1 Commentary

Delete the final paragraph.

AMD 6239
October 1989

Clause 8.7.2 Recommendations (as amended by Amendment No. 1)

At the end of the existing text, after item (d), insert the following new paragraph.

‘The protected lobbies described in items (b), (c) and (d) should be provided with ventilation in accordance with 31.2.’

AMD 6239
October 1989

Clause 10.3.1 Commentary (as amended by Amendment No. 1)

At the end of the note to item (a) insert the following new paragraph to the note.

‘Brief details of these tests are given in PD 6520.’

AMD 6239
October 1989

Clause 10.3.2 Recommendations

In item (a), line 2, delete 'stability' and substitute 'loadbearing capacity'.

In item (d), line 3, delete 'stability'.

AMD 6239
October 1989

Clause 10.4.1 Commentary (as amended by Amendment No. 1)

At the end of the existing text insert the following new paragraph.

'If a lift well is located within a protected lobby or protected stairway, the preferred location of the lift motor room is either above the lift well or outside the stairway and lobby enclosures (see also item (a) (3) of 8.5.2). Lift wells ought to be sited so as not to prejudice escape routes.'

AMD 6239
October 1989

Clause 10.4.2 Recommendations (as amended by Amendment No. 1)

In item (b), line 3, insert 'and BS 5588 : Part 9' between 'CP 413' and the full stop.

AMD 6239
October 1989

Clause 10.5.1 Commentary (as amended by Amendment No. 1)

In paragraph 1, lines 5 and 12, delete 'stability and'.

AMD 6239
October 1989

Clause 10.5.2 Recommendations (as amended by Amendment No. 1)

In item (a), line 2, delete 'stability,'.

In item (b), line 2, delete 'stability and'.

AMD 6239
October 1989

Table 7. Limitations on glazed elements that are fire resistant in terms of stability and integrity only, when installed in stairways, lobbies and corridors

Delete the existing table title and substitute 'Limitations on non-insulating glazed elements installed in stairways, lobbies and corridors'.

AMD 6239
October 1989

Clause 10.6.1 Commentary (as amended by Amendment No. 1)

In the penultimate paragraph, line 5, insert 'non-insulating' between 'extent of' and 'glazed areas'.

AMD 6239
October 1989

Clause 10.6.2 Recommendations (as amended by Amendment No. 1)

Delete item (b) and substitute the following.

'(b) A fire door required to resist the passage of smoke at ambient temperature conditions (i.e. those having the suffix S in item (a)) should, when tested in accordance with BS 476 : Section 31.1 with the threshold taped and subjected to a pressure of 25 Pa, have a leakage rate not exceeding 3 m³/m/h. The threshold gap should be sealed by a seal either with a leakage rate not exceeding 3 m³/m/h at 25 Pa or just contacting the floor; where this is impracticable the threshold gap should not exceed 3 mm at any point.

NOTE. The term 'fire door' includes both the door frame and the door leaf or leaves.'

Delete item (f) (including its associated notes) and substitute the following.

‘(f) Except for doors to firefighting lobbies, to firefighting stairways or to the only protected stairway in a building or part of a building, means of holding any fire door open or of overriding its self-closing device may be provided by a hold open system incorporating an automatic release mechanism complying with BS 5839 : Part 3. The automatic release mechanism should release the door to close automatically in the event of each or any of the following:

- (1) the detection of smoke by suitable automatic apparatus;
- (2) failure of the power supply;
- (3) operation of the manual fire alarm system or automatic fire alarm system;
- (4) if the facility is provided, manual operation at a central control point.

Such doors should be suitably marked on both sides, at about eye level, with the appropriate sign complying with BS 5499 : Part 1.’

Insert the following new item between the existing item (g) and the note to **10.6.2**.

‘(h) Fire doors on escape routes should not be fitted with threshold upstands.’

In the note to **10.6.2**, delete the address of the Association of Builders’ Hardware Manufacturers and substitute ‘Heath Street, Tamworth, Staffordshire B77 7JH.’

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October 1989

Clause 10.7 Recommendations for doors on escape routes

Delete item (b) and substitute the following.

‘(b) Automatic doors, turnstiles and revolving doors should not be provided across escape routes unless:

- (1) they are automatic doors complying with BS 7036 and either:
 - (i) they are arranged to fail safely to outward opening from any position of opening; or
 - (ii) they are provided with a monitored fail-safe system for opening the doors if the mains power supply fails; or
- (2) swing doors to the required width are provided immediately adjacent.’

AMD 6239
October 1989

Clause 12.3.2 Recommendations

In item (a) insert ‘and BS 5588 : Part 9’ between ‘CP 413’ and the full stop.

Clause 12.8 Walk-in refrigerated cold rooms

Delete the existing clause and substitute the following.

12.8 Walk-in refrigerated cold rooms and associated systems

12.8.1 Commentary. Refrigerated cold rooms, cold stores and other refrigerated enclosures of the walk-in type (all referred to as cold rooms) vary in size up to a maximum of 500 m³ : beyond this size such a refrigerated space could be described as a warehouse type and would cease to be walk-in. Only walk-in refrigerated cold rooms associated with shops are covered by this code.

Cold rooms can be considered to be areas of low risk because in use sources of ignition can be reduced to a minimum. However, in the event of a fire external to the cold room, insulating materials used in the construction of pre-fabricated cold rooms and in the lining of purpose built cold rooms may be a hazard both to people working in the cold room and to those attempting to put out the fire. During construction and maintenance care should therefore be taken to avoid using heat sources in close proximity to combustible insulating materials and adequate firefighting equipment should be provided within the cold room (see A.6).

In particular, some modern cellular plastics insulating materials give off large volumes of dense toxic smoke. It is therefore essential that such materials are protected from flame by suitable facings that, if exposed to a localized high intensity fire external to the cold room, do not rapidly fall away. The effects of fire on ceiling panels and their support system also need to be considered. Protection of the insulation may be achieved by incorporating returns to all panels and incorporating some means of ensuring that close contact is maintained between mating faces under fire conditions, or by covering all joints.

If the cold room is large enough, mechanical aids for loading and unloading may be provided, and care should be taken to minimize damage to the lining, usually by the provision of suitable barriers or a thicker lining. In large and/or deep cold rooms access points need to be provided to enable firefighting to be more effective.

Refrigeration systems associated with cold rooms should comply with the current codes of practice issued by the Institute of Refrigeration* and, where applicable, with BS 4434 : Part 1; refrigeration plant rooms are covered in 12.6. Refrigerators of a domestic type and refrigerated display cabinets are considered not to need any special consideration.

12.8.2 Recommendations. The following recommendations are applicable.

- (a) Walk-in refrigerated cold rooms should have escape routes of such a number and so situated that the travel distance from any point within the cold room does not exceed the appropriate limits set out in table 1.
- (b) Cold rooms exceeding 250 m³ in volume should be provided with suitable fire access points as agreed with the fire authority.

- (c) Any area containing a cold room should, wherever possible, be protected with:
 - (1) a sprinkler system (see clause 26); and
 - (2) either adequate cross ventilation or a suitable smoke control system (see clause 31).
- (d) Any area containing a cold room should be separated from the public areas by fire-resisting construction unless:
 - (1) the area is protected by a sprinkler system; or
 - (2) the area is part of a small shop (see clause 9).
- (e) Where the cold room construction incorporates cellular plastics insulating materials:
 - (1) the insulation should be protected on all sides with materials of limited combustibility; and
 - (2) the facing system should be independently supported or adjacent panels should be mechanically linked; and
 - (3) either:
 - (i) the facings should be mechanically interlinked so as to prevent a continuous fire path to the insulation; or
 - (ii) the joints between facings external to the cold store should be covered by strips of facing material not less than 50 mm in width attached mechanically to both facings.

At the foot of the page insert the following footnote.

The Institute of Refrigeration, 76 Mill Lane, Carshalton, Surrey SM5 2JR.

AMD 6239
October 1989

Clause 15.8 Recommendations for fuel storage spaces (as amended by Amendment No.1)

In item (c) (2), line 3, delete 'CS 5' and substitute 'HS(G) 34'.

AMD 6239
October 1989

Clause 16.1.2 Recommendations

In item (b) insert 'and BS 5588 : Part 9' between 'CP 413' and the full stop.

AMD 6239
October 1989

Clause 25.3 Manual fire alarm systems

Delete paragraphs 3 and 5.

AMD 6239
October 1989

New clause 25.6

After 25.5, insert the following new clause 25.6 and renumber the existing clause 25.6 as 25.7.

'25.6 Two-stage fire alarm systems

In most shops it is best if operation of a manual call point or fire detector gives an almost instantaneous warning for a total evacuation of the premises from all the fire alarm sounders. However, in some very large and/or tall buildings a phased evacuation procedure may be adopted, in which the operation of a call point or detector gives an evacuation signal in the floor or zone affected, and an alert or standby

warning in all other parts of the premises. The evacuation signal may then be sounded as necessary in other parts of the premises to facilitate the orderly evacuation of the remaining occupants. In such systems, called two-stage fire alarm systems, it is essential that there are adequate means of communication between the floor areas or zones and a central control point, and there are advantages in using a public address system instead of, or in addition to, the fire alarm sounders (subject to the recommendations of BS 5839 : Part 1) to control the evacuation.

NOTE. It should be appreciated that the term 'two-stage fire alarm system' refers to the two types of alarm signal (i.e. evacuate or alert) and not to the number of evacuation phases: this would depend on the degree of fire separation within the building and on the particular circumstances prevailing in a fire. Further details of the two-stage alarm systems are given in BS 5839 : Part 1 : 1988.

If a two-stage fire alarm system is considered it is essential that there is early consultation with the fire authority.'

AMD 6239
October 1989

Clause 30.3 Recommendation (as amended by Amendment No. 1)

Delete the existing text and substitute the following.

'30.3 Recommendations

The following recommendations are applicable.

(a) Buildings or parts of buildings of height (see **2.10**) exceeding 18 m or depth (see **2.24**) exceeding 9 m should be provided with firefighting shafts (each incorporating a firefighting lift) complying with BS 5588 : Part 5.

NOTE. The reference to parts of buildings covers situations such as a tower block rising above a podium.

(b) Buildings of height (see **2.10**) exceeding 7.5 m with the area of any storey above the ground storey not less than 600 m² should be provided with firefighting shafts (which need not incorporate a firefighting lift) complying with BS 5588 : Part 5.

(c) In buildings where the provision of firefighting shafts is recommended (see items (a) and (b)) sufficient firefighting shafts should be provided such that on every storey:

- (1) with a height (see **2.10**) exceeding 18 m; or
- (2) with a depth (see **2.24**) exceeding 9 m; or
- (3) above the ground storey in buildings described in item (b);

the area on that storey served by any firefighting shaft does not exceed 900 m² and the distance along which hose can be laid from the doorway between the firefighting shaft and the accommodation to any point on that storey does not exceed 60 m.'

AMD 6239 October 1989	Clause A.3.1 General In item (b), line 2, delete ‘, internal fire alarm telephones’.
AMD 6239 October 1989	Clause A.4.1 Action on discovery Delete the third and fourth sentences and substitute the following. ‘If there is a two-stage alarm system, the floor or zone affected should be evacuated (and the others alerted). A decision on the evacuation of other floors or zones should be made as quickly as possible, and the safety of any remaining occupants should be continually reviewed by the person managing the evacuation.’
AMD 6239 October 1989	Clause A.4.7 Evacuation of non-ambulant disabled people In paragraph 1, lines 1 and 2, delete ‘may need to’ and substitute ‘should’. Insert the following sentence at the end of paragraph 1. ‘Detailed guidance on management procedures is given in BS 5588 : Part 8.’ Delete paragraphs 2, 3 and 4.
AMD 6239 October 1989	Clause A.5.3 Escape routes At the end of the existing text insert the following new paragraph. ‘In addition to the daily checking of all doors to escape routes, including automatic doors (see item (a) of A.5.1), the operation of the fail-safe mechanisms for all automatic doors should be checked (and recorded) every month, either by ‘breaking-out’ the doorset or by simulating failure of the mains power supply, as appropriate.’
AMD 6239 October 1989	Index (as amended by Amendment No. 1) Insert the new term ‘Automatic doors 10.7, A.5.3’. Insert the new term ‘Automatic release mechanisms 10.6.2’. Insert the new term ‘BS 476 : Part 11 2.25’. Insert the new term ‘BS 4434 : Part 1 12.8.1’. Insert the new term ‘BS 5588 : Part 8 5.3, A.4.7’. Insert the new term ‘BS 5588 : Part 9 10.4.2, 12.3.2, 16.1.2’. Insert the new term ‘BS 5839 : Part 3 10.6.2’. Insert the new term ‘BS 7036 10.7’. Insert the new term ‘Depth 2.24’. Under the term ‘Fire alarm systems’, in the sub-term ‘two-stage alarm for phased evacuation’, delete the references and substitute ‘25.6, A.4.1, A.4.2’. Under the term ‘Lifts’, in the sub-term ‘motor rooms’, insert a reference to ‘8.5.2’. Delete the term ‘Lift shafts’ and substitute ‘Lift wells’; delete the sub-term ‘doors to lift shafts’ and substitute ‘doors to lift wells’; and in the sub-term ‘general’, insert a reference to ‘8.5.2’.

Insert the new term 'Limited combustibility 2.25'.
Insert the new term 'PD 6512 : Part 3 10.5.1'.
Insert the new term 'PD 6520 10.3.1'.
Insert the new term 'Revolving doors 10.7'.
Insert the new term 'Turnstiles 10.7'.

AMD 6239
October 1989

Publications referred to (as amended by Amendment No. 1)

Insert the following new Part of BS 476.

'Part 11 Method for assessing the heat emission from building materials'.

Insert the following new Parts of BS 5588.

'Part 8 Code of practice for means of escape for disabled people

Part 9 Code of practice for ventilation and air conditioning ductwork'

Delete the reference to BS 5839 : Part 1 and substitute the following.

'BS 5839 Fire detection and alarm systems for buildings

Part 1 Code of practice for system design, installation and servicing

Part 3 Specification for automatic release mechanisms for certain fire protection equipment'

Insert the following new standard in the correct numerical order.

'BS 7036 Code of practice for provision and installation of safety devices for automatic power operated pedestrian door systems'

At the end of the list of *Standards publications* insert the following

'PD 6520 Guide to fire test methods for building materials and elements of construction'

Under '*Other publications*', in line 9, delete 'CS 5' and substitute 'HS(G) 34'.



AMD 6478

Amendment No. 3
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to BS 5588 : Part 2 : 1985

Fire precautions in the design and construction of buildings
Part 2. Code of practice for shops

Deletions

AMD 6478
August 1990

Table 8. Maximum permitted part of travel distance in certain areas of ancillary accommodation

Delete item 6 'Walk-in refrigerated cold rooms' and the associated cross-reference '12.8'.

AMD 6478
August 1990

Index (as amended by Amendments Nos. 1 and 2)

Under the term 'Walk-in refrigerated cold rooms' delete the reference to 'table 8'.

