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HM Government

The Building Regulations 2010

Amendments to the Approved Documents

This document contains amendments to the following Approved Document:

Approved Document B: Fire safety
Volume 2 – Buildings other than dwellinghouses
2006 edition incorporating 2007, 2010 and 2013 amendments

November 2018

For use in England*

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Introduction

This document sets out amendments to guidance previously published in Approved Document B: Fire safety, Volume 2 – Buildings other than dwellinghouses, 2006 edition as amended in 2007, 2010 and 2013. These amendments are incorporated in the on-line available Approved Document B Volume 2 in November 2018. Previous hard copy versions will need to be amended as per the changes listed in this document.

The Approved Document takes effect on 21 December 2018 for use in England*. The 2006 edition as amended in 2007, 2010 and 2013 will continue to apply where a building notice or an initial notice has been given to, or full plans deposited with, a local authority before 21 December 2018 and either the building work to which it relates:

(a) has started before that day; or

(b) is started within the period of two months beginning on that day.

Please note that "building notice", "initial notice" and "full plans" have the meanings given in the Building Regulations 2010.

* This approved document gives guidance for compliance with the Building Regulations for building work carried out in England. It also applies to building work carried out on excepted energy buildings in Wales as defined in the Welsh Ministers (Transfer of Functions) (No. 2) Order 2009.

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The Building Regulations 2010
Approved Document B: Fire safety
Volume 2 – Buildings other than dwellinghouses
2006 edition incorporating 2007, 2010 and 2013 amendments

List of amendments
November 2018

B4: The Requirement

Page 91 **Replace** the requirement text with the following.

Requirement

Requirement	*Limits on application*
External fire spread	
B4. (1) The external walls of the building shall adequately resist the spread of fire over the walls and from one building to another having regard to the height, use and position of the building.	
(2) The roof of the building shall adequately resist the spread of fire over the roof and from one building to another, having regard to the use and position of the building.	

Regulation

Materials and workmanship

7. (1) Building work shall be carried out—

(a) with adequate and proper materials which—

(i) are appropriate for the circumstances in which they are used,

(ii) are adequately mixed or prepared, and

(iii) are applied, used or fixed so as adequately to perform the functions for which they are designed; and

(b) in a workmanlike manner.

(2) Subject to paragraph (3), building work shall be carried out so that materials which become part of an external wall, or specified attachment, of a relevant building are of European Classification A2-s1, d0 or Class A1, classified in accordance with BS EN 13501-1:2007+A1:2009 entitled "Fire classification of construction products and building elements. Classification using test data from reaction to fire tests" (ISBN 978 0 580 59861 6) published by the British Standards Institution on 30th March 2007 and amended in November 2009.

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(3) Paragraph (2) does not apply to—

(a) cavity trays when used between two leaves of masonry;

(b) any part of a roof (other than any part of a roof which falls within paragraph (iv) of regulation 2(6)) if that part is connected to an external wall;

(c) door frames and doors;

(d) electrical installations;

(e) insulation and water proofing materials used below ground level;

(f) intumescent and fire stopping materials where the inclusion of the materials is necessary to meet the requirements of Part B of Schedule 1;

(g) membranes;

(h) seals, gaskets, fixings, sealants and backer rods;

(i) thermal break materials where the inclusion of the materials is necessary to meet the thermal bridging requirements of Part L of Schedule 1; or

(j) window frames and glass.

(4) In this regulation—

(a) a "relevant building" means a building with a storey (not including roof-top plant areas or any storey consisting exclusively of plant rooms) at least 18 metres above ground level and which—

(i) contains one or more dwellings;

(ii) contains an institution; or

(iii) contains a room for residential purposes (excluding any room in a hostel, hotel or boarding house); and

(b) "above ground level" in relation to a storey means above ground level when measured from the lowest ground level adjoining the outside of a building to the top of the floor surface of the storey.

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Section 12: Construction of external walls

Pages 93 and 94 **Replace** the whole of Section 12 with the following.

Introduction

12.1 The external wall of a building should not provide a medium for fire spread if that is likely to be a risk to health and safety. Combustible materials and cavities in external walls can present such a risk, particularly in tall buildings. The guidance in this section is designed to reduce the risk of vertical fire spread in tall buildings and the risk of ignition from flames coming from adjacent buildings.

Fire resistance

12.2 This section does not deal with fire resistance for external walls. An external wall may need fire resistance to meet the requirements of Section 5 (general provisions), Section 7 (loadbearing elements of structures) or Section 13 (space separation).

Portal frames

12.3 Portal frames are often used in single storey industrial and commercial buildings where there may be no need for fire resistance of the structure (Requirement B3). However, where a portal framed building is near a relevant boundary, the external wall near the boundary may need fire resistance to restrict the spread of fire between buildings.

It is generally accepted that a portal frame acts as a single structural element because of the moment-resisting connections used, especially at the column/rafter joints. Thus, in cases where the external wall of the building cannot be wholly unprotected, the rafter members of the frame, as well as the column members, may need to be fire protected.

Following an investigation of the behaviour of steel portal frames in fire, it is considered technically and economically feasible to design the foundation and its connection to the portal frame so that it would transmit the overturning moment caused by the collapse, in a fire, of unprotected rafters, purlins and some roof cladding, while allowing the external wall to continue to perform its structural function. The design method for this is set out in the SCI publication *P313 Single storey steel framed buildings in fire boundary conditions*, 2002 (ISBN: 1 85942 135 0).

Note 1: The recommendations in the SCI publication for designing the foundation to resist overturning need not be followed if the building is fitted with a sprinkler system in accordance with paragraph 0.16.

Note 2: Normally, portal frames of reinforced concrete can support external walls requiring a similar degree of fire resistance without specific provision at the base to resist overturning.

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Note 3: Existing buildings may have been designed to the following guidance which is also acceptable:

a. the column members are fixed rigidly to a base of sufficient size and depth to resist overturning;
b. there is brick, block or concrete protection to the columns up to a protected ring beam providing lateral support; and
c. there is some form of roof venting to give early heat release. (The roof venting could be, for example, PVC rooflights covering some 10 per cent of the floor area and evenly spaced over the floor area.)

Combustibility of external walls

12.4 The external walls of buildings other than those described in Regulation 7(4) of the Building Regulations should either meet the guidance given in paragraphs 12.5 to 12.8 or meet the performance criteria given in the BRE Report *Fire performance of external thermal insulation for walls of multistorey buildings* (BR 135) for external walls using full-scale test data from BS 8414-1:2015 or BS 8414-2:2015.

The total amount of combustible material may also be limited in practice by the provisions for space separation in Section 13.

External surfaces

12.5 The external surfaces of walls should meet the provisions in Diagram 40, but where Regulation 7(2) applies, that regulation prevails over the provisions in the diagram.

Insulation materials/products

12.6 In a building with a storey 18m or more in height (see Diagram C6) any insulation product, filler material (not including gaskets, sealants and similar) etc. used in the construction of an external wall should be of limited combustibility or better (see Appendix A). This restriction does not apply to masonry cavity wall construction which complies with Diagram 34 in Section 9. Where Regulation 7(2) applies, that regulation prevails over all the provisions in this paragraph.

Note 1: Whilst the guidance above applies to any insulation product, filler material (not including gaskets, sealants and similar) etc. used in the construction of an external wall, consideration should be given to the choice of material used for any other parts of an external wall or attachments to the wall which could impact on the risk of fire spread over the wall.

Note 2: Best practice guidance for green walls (also called living walls) can be found in *Fire Performance of Green Roofs and Walls*, published by the Department for Communities and Local Government.

Cavities and cavity barriers

12.7 Cavity barriers should be provided in accordance with Section 9.

12.8 Surfaces which face into cavities should also meet the provisions of Diagram 40, and provisions in Section 9, but where Regulation 7(2) applies, that regulation prevails over the guidance provided in Diagram 40 and Section 9.

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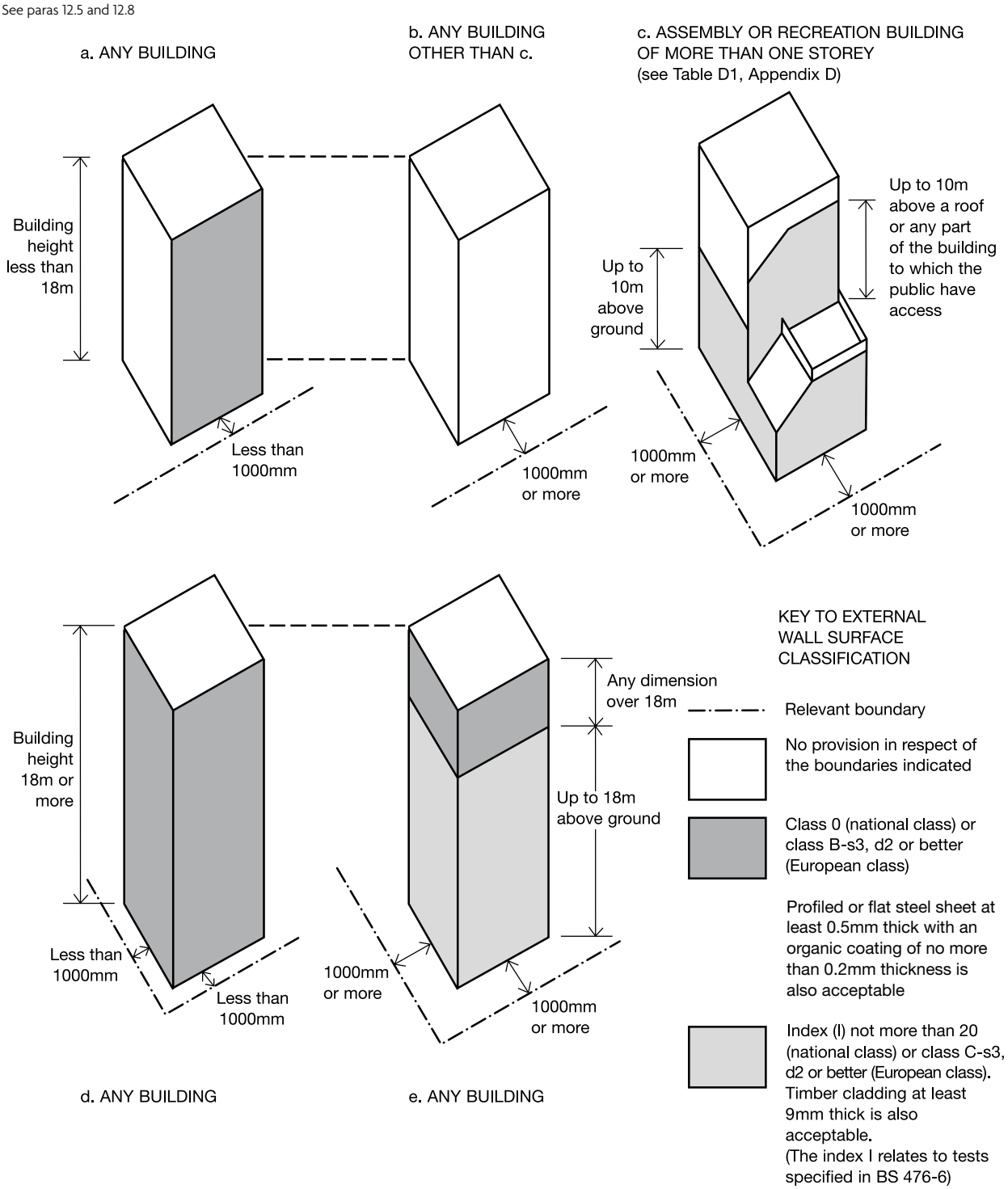
See paras 12.5 and 12.8



Notes:

1 The national classifications do not automatically equate with the equivalent European classifications, therefore, products cannot typically assume a European class unless they have been tested accordingly.
2 When a classification includes "s3, d2", this means that there is no limit set for smoke production and/or flaming droplets/particles.
3 Where a mixed-use building includes Assembly and Recreation Purpose Group(s) accommodation, the external surfaces of walls should meet the provisions in Diagram 40c.
4 Where Regulation 7(2) applies, it prevails over the provisions in this diagram.

Diagram 40 Provisions for external surfaces or walls

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Regulation 7

Materials

12.9 Regulation 7(1)(a) requires that materials used in building work are appropriate for the circumstances in which they are used. Regulation 7(2) sets requirements in respect of external walls and specified attachments in relevant buildings.

Note: Guidance on Regulation 7(1) can be found in Approved Document 7.

12.10 Regulation 7(2) applies to any building with a storey at least 18m above ground level (as measured in accordance with Diagram C6) and which contains one or more dwellings; an institution; or a room for residential purposes (excluding any room in a hostel, hotel or a boarding house). It requires that all materials which become part of an external wall or specified attachment achieve European Class A2-s1, d0 or Class A1, other than those exempted by Regulation 7(3).

Note 1: The above includes student accommodation, care homes, sheltered housing, hospitals and dormitories in boarding schools.

Note 2: The requirement in Regulation 7(2) is limited to materials achieving European classification Class A2-s1, d0 or Class A1. Therefore materials achieving limited combustibility cannot be deemed to meet the requirement using an alternative classification method.

12.11 External walls and specified attachments are defined in Regulation 2 and these definitions include any parts of the external wall as well as balconies, solar panels and sun shading.

12.12 Regulation 7(3) provides an exemption for certain components found in external walls and specified attachments.

Material change of use

12.13 Regulations 5 and 6 provide that, where the use of a building is changed such that the building becomes a building described in Regulation 7(4), the construction of the external walls, and specified attachments, must be investigated and, where necessary, work must be carried out to ensure they only contain materials achieving European Class A2-s1, d0 or Class A1, other than those exempted by Regulation 7(3).

Further considerations

12.14 The provisions of Regulation 7 apply **in addition** to the requirements of B4. Therefore, for buildings described in Regulation 7(4), the potential impact of any products incorporated into or onto the external walls should be carefully considered with regard to their number, size, orientation and position. Particular attention is drawn to the following points.

a. Membranes used as part of the external wall construction should achieve a minimum classification of European Class B-s3, d0.

b. Internal linings should comply with the guidance provided in Section 6.

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c. Any part of a roof should achieve the minimum performance as detailed in Section 14.

d. As per Regulation 7(3), window frames and glass (including laminated glass) are exempted from Regulation 7(2). Window spandrel panels and infill panels must comply with Regulation 7(2).

e. Thermal breaks are small elements used as part of the external wall construction to restrict thermal bridging. There is no minimum performance for these materials. However, they should not span two compartments and should be limited in size to the minimum required to restrict the thermal bridging (the principal insulation layer is not to be regarded as a thermal break).

f. Regulation 7(2) only applies to specified attachments. Shop front signs and similar attachments are not covered by the requirements of Regulation 7(2), although attention is drawn to paragraph 12.14(g).

g. Whilst Regulation 7(2) applies to materials which become part of an external wall or specified attachment, consideration should be given to other attachments to the wall which could impact on the risk of fire spread over the wall.

Page 130 Table A7, column 1, item 8: **Replace** 'paragraph 12.7' with 'paragraph 12.6'.

Appendix E: Definitions

Page 142 Definition 'External wall (or side of a building)': **Replace** with the following.

*** External wall**
The external wall of a building includes a reference to:

(i) anything located within any space forming part of the wall;

(ii) any decoration or other finish applied to any external (but not internal) surface forming part of the wall;

(iii) any windows and doors in the wall; and

(iv) any part of a roof pitched at an angle of more than 70 degrees to the horizontal if that part of the roof adjoins a space within the building to which persons have access, but not access only for the purpose of carrying out repairs or maintenance.

Page 144 **Insert** definition of 'Specified attachment' as follows.

*** Specified attachment**
Specified attachment means:

(i) a balcony attached to an external wall;

(ii) a device for reducing heat gain within a building by deflecting sunlight which is attached to an external wall; or

(iii) a solar panel attached to an external wall.

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Appendix H: Standards and other publications referred to

Page 151 BS 8414-1:2002: **Replace** the reference with the following.

> **BS 8414-1:2015+A1:2017**
> Fire performance of external cladding systems. Test method for non-loadbearing external cladding systems applied to the masonry face of a building

BS 8414-2:2005: **Replace** the reference with the following.

> **BS 8414-2:2015+A1:2017**
> Fire performance of external cladding systems. Test method for non-loadbearing external cladding systems fixed to and supported by a structural steel frame

Page 152 Under Building Research Establishment Ltd (BRE), **replace** the entry for BRE report BR 135 with the following.

> BRE report (BR 135) *Fire performance of external thermal insulation for walls of multistorey buildings* 2013 ISBN: 978 1 84806 234 4

Page 153 Under Department for Communities and Local Government, **insert** the following publication.

> *Fire Performance of Green Roofs and Walls* 2013 ISBN: 978 1 4098 3997 2

Page 154 Note: no amendments are provided for the index. Some paragraph numbers in the index will become incorrect because of the renumbering of paragraphs in Section 12.

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List of approved documents

The following publications give practical guidance on how to meet the Building Regulations.
You can find the date of the edition approved by the Secretary of State at www.gov.uk.

Approved Document A
Structure

Approved Document B
Fire safety
Volume 1: Dwellinghouses
Volume 2: Buildings other than dwellinghouses

Approved Document C
Site preparation and resistance to contaminants and moisture

Approved Document D
Toxic substances

Approved Document E
Resistance to the passage of sound

Approved Document F
Ventilation

Approved Document G
Sanitation, hot water safety and water efficiency

Approved Document H
Drainage and waste disposal

Approved Document J
Combustion appliances and fuel storage systems

Approved Document K
Protection from falling, collision and impact

Approved Document L1A
Conservation of fuel and power in new dwellings

Approved Document L1B
Conservation of fuel and power in existing dwellings

Approved Document L2A
Conservation of fuel and power in new buildings other than dwellings

Approved Document L2B
Conservation of fuel and power in existing buildings other than dwellings

Approved Document M
Access to and use of buildings
Volume 1: Dwellings
Volume 2: Buildings other than dwellings

Approved Document P
Electrical safety – Dwellings

Approved Document Q
Security – Dwellings

Approved Document R
Physical infrastructure for high-speed electronic communications networks

Approved Document 7
Materials and workmanship

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