



## Errata

### Report:

Fire Hazards of Exterior Wall Assemblies Containing Combustible Components

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**Errata No.:** FPRF, Fire Hazards of Exterior Wall Assemblies Containing Combustible Components, 2014-01

This errata identifies and corrects errors relating to UK regulations in the report *Fire Hazards of Exterior Wall Assemblies Containing Combustible Components* - Final Report, Quincy, Massachusetts, Fire Protection Research Foundation, 1 June 2014, Available from:

<https://www.nfpa.org/-/media/Files/News-and-Research/Fire-statistics-and-reports/Building-and-lifesafety/RFFireHazardsofExteriorWallAssembliesContainingCombustibleComponents.ashx?la>

This report was also published by Springer in 2015 in book form titled Springer Briefs in Fire - Fire Hazards of Exterior Wall Assemblies Containing Combustible Components, copyright the Fire Protection Research Foundation, New York, Springer-Verlag, 2015, available from:

<https://www.springer.com/gp/book/9781493928972>

The Errata primarily relate to an incorrect summary of Class 0 for England and Wales as defined by Approved Document Part B Volume 2 (2013).

The purpose of the original report was to provide a wide-ranging summary of combustible exterior wall systems, research, fire incidents, fire spread mechanisms, test methods and regulations around the world. Stakeholders seeking to determine detailed compliance requirements for specific systems and jurisdictions should refer to the primary regulatory and test method documents applicable and should not rely upon the above summary report.

The reader should note that regulations and test methods are likely to have been revised for many jurisdictions since the report was published in 2014. A brief summary of changes to relevant regulation and test methods for England and Wales is provided as an addendum.

### Reference:

The following list of errata show text to be deleted as struck through and text to be added as red text. These corrections relate to requirements at the time the original report was published in 2014 and should not be mistaken for current requirements which may have changed.

**1. Appendix B.3 UK Approved Document B – page 110. Insert/correct following text:**

The Building Regulations 2010 for England and Wales state the performance requirements with regards to fire safety. Approved Document B **Volume 2 – buildings other than dwelling houses (2006 edition incorporating 2007,2010 and 2013 amendments)** is a guidance documents which states prescriptive requirements for fire

safety which achieve compliance with the Building Regulations 2010. Alternative solutions supported by fire engineering analysis are permitted.

Approved Document B Volume 2 (2013) applies in England and Wales. The regulatory systems in Scotland and Northern Ireland differ from those in England and Wales.

**2. Appendix B3.1 Reaction to Fire Requirements For Exterior Wall Materials – Pages 110-111.**  
**Insert/correct the following:**

Approved Document B Volume 2 (2013), Section 12 states external wall construction fire safety requirements.

Approved Document B Volume 2 (2013), Section 12.5 states “The external envelope of a building should not provide a medium for fire spread if it is likely to be a risk to health or safety. The use of combustible materials in the cladding system and extensive cavities may present such a risk in tall buildings. External walls should either meet the guidance given in” Approved Document B Volume 2 (2013) “paragraphs 12.6 to 12.9 or meet the performance criteria given in BRE report *fire performance of external thermal insulation for walls of multi storey buildings* (BR 135) for cladding systems using full scale test data from BS 8414-1:2002 or BS 8414-2:2005” ~~should either meet the limited combustibility requirements in Table B – 5 or should meet the performance requirements given in BRE report BR 135 using full scale test data from BS 8414 1 or BS 8414-2.~~

Approved Document B Volume 2 (2013), Section 12.6 requires that external surfaces of walls should meet the following provisions

**Table B - 1. Approved Document B Volume 2 (2013), Provisions for external surfaces or walls limited combustibility requirements for external wall construction**

	Type of building	Building height	Distance from relevant boundary	Reaction to fire Provisions
(a)	Any building	< 18 m	< 1m	All exterior walls > 1 m from boundary to be either Class 0 (national class) or Class B-s3,d2 or better (European class)
(b)	Any building other than (c)	< 18 m	≥ 1m	No requirements provision in relation to the boundaries indicated
(c)	Assembly or recreation building of more than one storey	< 18 m	≥ 1m	All exterior walls up to 10 m above ground level or a roof or any other external part of the building accessible by the public to be either Class 0 (national class) or Class B-s3,d2 or better (Euro class) Index (I) not more than 20 (national class) or Class C-s3,d2 or better (European class). Timber cladding at least 9mm thick is also acceptable.
(d)	Any building	≥ 18 m	< 1m	Class 0 (national class) or Class B-s3,d2 or better (European class)
(e)	Any building	≥ 18 m	≥ 1m	External wall up to 18 m above ground level to be Index (I) not more than 20 (national class) or Class Cs3,d2 or better (European class). Timber cladding at least 9mm thick is also acceptable. External walls 18 m and above to be either Class 0 (national class) or Class B-s3,d2 or better (European class)

- The national classifications do not directly equate to the corresponding European classifications listed in the table above as different test methods are used to determine these two types of classification.
- When a classification includes “s3,d2”, this means that there is no limit set for smoke production and/or flaming droplets/particles
- Class 0 (national class) is defined by Approved Document B Volume 2 (2013), Appendix A Section 13. Class 0 is achieved if a material or the surface of a composite product is either:
  - a) Composed throughout of materials of limited combustibility, or
  - b) A Class 1 material which has a fire propagation index (I) of not more than 12 and a sub-index (i1) of not more than 6.
- “materials of limited combustibility” are defined by Approved Document B Volume 2 (2013) Appendix A Table A7.
- Class 1 materials are determined via the BS 476:Part7 surface spread of flame test
- Fire propagation index (I) sub-index (i1) are determined by testing to BS 476:Part6.
- Class 0 (national class) or Class B-s3,d2 (European class) materials include combustible materials.
- European classification refers to classification in accordance with EN 13501-1.

Approved Document B Volume 2 (2013), Section 12.7 states “In a building with a storey of 18 m or more above ground level any insulation product, filler material (not including gaskets, sealants and similar) etc. used in the external wall construction should be of limited combustibility. This restriction does not apply to masonry cavity wall construction which complies with Diagram 34 in section 9” of Approved Document B Volume 2 (2013). Non-combustible and limited combustibility and are defined by Approved Document B Volume 2 (2013) Appendix A Tables A6 and A7.

It is noted that the 2013 Approved Document B Volume 2 reaction to fire provisions for external surfaces are less stringent than for insulation.

Approved Document B Volume 2 (2013) does not appear to clarify if the combustible core of an Aluminium Composite Panel (ACP) should be regulated as an insulation material or as “composite product” which would only require the external surface to be exposed when tested in BS 476:Part 7 and BS 476:Part 6, without testing the exposed core material.

**3. Section 6.1.2 UK– Page 44. Replace first paragraph with the following:**

~~The UK Building Regulations and Approved Document B[78] requires either compliance with BRE Report BR135 using full scale façade tests BS8414 part 1[79] or part 2[80], or requires materials to be non-combustible or limited combustibility materials based on either BS 476 part 6[81] and part 11[82] tests or Eurocode classification[83] (Class B-s3,d2 or better). These requirements apply to buildings 18 m or more high or less than 1 m from a relevant boundary.~~

The England and Wales Building Regulations and Approved Document B – Volume 2 (2013) [78] requires the following for external wall systems for buildings 18 m or more high or less than 1 m from a relevant boundary :

- Compliance with BRE Report BR135 using full scale façade tests BS8414 part 1[79]; or
- Compliance with small scale reaction to fire provisions which includes :
  - External surfaces (material or surface of composite) to achieve minimum of Class 0 (national classification) or Class B-s3,d2 (European classification); and
  - Insulation materials, filler material (not including gaskets, sealants and similar) etc. to achieve limited combustibility as defined by Approved Document B Volume 2 (2013) Appendix A Table A7.

Note:

- Class 0 (national class) or Class B-s3,d2 (European class) materials include combustible materials.

- Approved Document B (2013) – Volume 2 references BRE Report BR135 2<sup>nd</sup> edition 2003, not BRE Report BR135 3rd edition 2013.

The regulatory systems in Scotland and Northern Ireland differ from those in England and Wales.

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