

## FIRE RATING REQUIREMENTS FOR USE OF ROOFLIGHTS IN BUILDINGS - WALES

The Building Regulations Wales 2010, Approved Document B Fire: Safety, volumes 1 (Dwellinghouses) and volume 2 (Buildings other than dwellinghouses) defines the fire safety requirements for buildings in Wales. These are the tier one guidance documents to prove compliance with the statutory requirements, although alternative routes to compliance are also available.

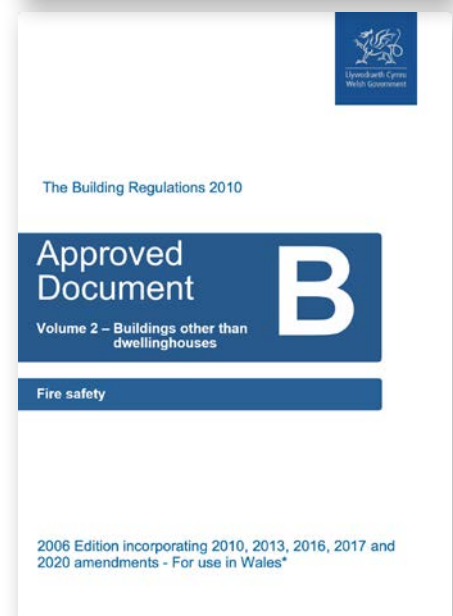
Approved Document B (volumes 1 and 2) are split into 5 basic sections:

- B1 – Means of Warning and Escape
- B2 – Internal Fire Spread (linings)
- B3 – Internal Fire Spread (structure)
- B4 – External Fire Spread
- B5 – Access and Facilities for the Fire Service

With respect to Rooflights, Sections B2, B3 and B4 apply.

The following is a brief overview of the Approved Document requirements, however there may be more considerations pertinent to any project and therefore the designer should refer to the current version of the relevant Approved Document.

**Please note:** it is the responsibility of the designer to ensure that the rooflight products specified meet full compliance with the fire rating requirements outlined in Approved Document B.



## Section B2 - Internal Fire Spread (linings)

This Section applies to the linings of both the roof and walls of buildings to ensure that spread of fire within the building is inhibited.

The surface linings of walls and ceilings should meet the classification in the Classification of linings table (volume 1 section 4.1 - table 1, volume 2 section 7.1 - table 10):

Classification of linings			
Dwellings (Volume 1 – Table 1)	Buildings other than dwellinghouses (Volume 2 – Table 10)	National Class	European Class
Small rooms of maximum internal floor area of 4m <sup>2</sup>	Small rooms of area not more than: a. 4m <sup>2</sup> in residential accommodation b. 30m <sup>2</sup> in non-residential accommodation	3	D-s3,d2
Domestic garages of area not more than 40m <sup>2</sup>			
Other rooms (including garages)	Other rooms (including garages)	1	C-s3,d2
Circulation spaces within dwellinghouses	Circulation spaces within dwelling		
	Other Circulation spaces, including the common areas of blocks of flats	0	B-s3,d2

All types of rooflights should meet the relevant classification defined in the appropriate *Classification of linings* table. Please note: compliance can be demonstrated by meeting either the National Class or European Class requirement.

There is an additional allowance for thermoplastic rooflights that cannot meet the relevant classification (in the *Classification of linings* table) to be a minimum of D-s3,d2 or Class 3 when used in accordance with the limitations defined in paragraph 4.8 & Table 2 (volume 1) and paragraph 7.10 & Table 11 (volume 2).

Where TP(a) and TP(b) thermoplastic type rooflights that cannot be tested in accordance with BS476-7 are to be used, then reference should be made to Clause 7.12 and Diagram 27.

### National and European Classifications suitable for internal fire spread requirements

The reaction to fire classifications required in section B2 are in line with:

- BS 476-7 (National Classifications), or
- BS EN 13501-1 (European Classifications)

## Section B3 – Internal Fire Spread (Structure)

This guidance in this section is to ensure buildings will remain stable for a reasonable amount of time in the event of a fire. Of particular relevance to rooflights is the junction of compartment walls where they meet a roof, the concern being that a fire could breach the wall or cause the wall to collapse if the rooflights are too close or have insufficient performance.

The guidance states that within 1500mm of the compartment wall the roof covering should be classified as AA, AB or AC or B<sub>ROOF(t4)</sub> in accordance with the preceding table over a substrate or deck of limited combustibility.

Thermoplastic rooflights regarded as having an AA or B<sub>ROOF(t4)</sub> classification are not suitable for use with 1500mm of the compartment wall. It is therefore recommended that rooflights should not be used within the 1500mm zone of a compartment wall.

## Section B4 – External fire Spread

This section applies to external covering of the building to limit combustibility of external roofs (and walls) to ensure fire cannot spread easily around the outside of the building, or to adjacent buildings.

The limitations of roof coverings should meet the classifications in the *Limitations on roof coverings* table (volumes 1 table 5, volume 2 table 16):

Limitations on roof coverings (Volume 1 - Table 5; Volume 2 - Table 16)					
Designation of covering of roof or part of roof		Minimum distance from any point on relevant boundary			
National Class	European Class	Less than 6m	At least 6m	At least 12m	At least 20m
AA, AB or AC	B <sub>ROOF(t4)</sub>	●	●	●	●
BA, BB or BC	C <sub>ROOF(t4)</sub>	○	●	●	●
CA, CB, or CC	D <sub>ROOF(t4)</sub>	○	●	●	●
AD, BD or CD	E <sub>ROOF(t4)</sub>	○	●	●	●
DA, DB, DC or DD	F <sub>ROOF(t4)</sub>	○	○	○	●

All types of rooflights should meet the relevant classification defined in appropriate *Limitations on roof coverings* table. Please note: compliance can be demonstrated by meeting either the National Class or European Class requirement.

### National and European Classifications suitable for internal fire spread requirements

The reaction to fire classifications required in section B4 are in line with:

- BS 476-3 (National Classifications), or
- BS EN 13501-5 (European Classifications)

When used in rooflights, unwired glass at least 4mm thick can be regarded as having an AA designation or B<sub>ROOF(t4)</sub> classification.