



Requirements for fire stopping and compartmentation



This guidance applies to Scotland only

The Domestic Technical Booklet defines a Fire-stop as a: seal provided to close an imperfection of fit or design tolerance between elements, components or construction so as to restrict the passage of fire and smoke through that imperfection. Fire-stopping and fire-stopped should be construed accordingly.

Fire stopping needs to attain the same fire resistance performance as the structural elements, and seals the junction of compartment walls and floors it abuts, to maintain the integrity of the compartment. The required integrity will be dependent on the building height and will be classified as short, medium or long as per the requirements of table 2.1 below:

Table 2.1 Protection of Structural Elements

Height of top most story above ground level	Fire resistance duration
Not more than 7.5 m	Short
More than 7.5 m but not more than 18 m	Medium
More than 18 m but not more than 60 m	Long [1]

Table 2.9 Fire Resistance Duration (partial table)

1 Construction	2 Fire resistance duration	3 BS Load bearing capacity (mins)	4 BS Integrity (mins)	5 BS Insulation (mins)	6 European Standards (mins)	7. Test exposure
4. Separating wall or an internal wall or screen used as a protected route of escape (2.0.6) [1, 21]	Short	30 [4]	30	30	REI 30 [4]	Each side separately
	Medium	60 [4]	60	60	REI 60 [4]	
	Long	120 [4]	120	120	REI 120 [4]	
5. Load-bearing wall, other than a wall in 4	Short	30	None	None	REI 30	Each side separately
	Medium	60	None	None	REI 60	
	Long	120	None	None	REI 120	
7. External wall more than 1 m from a boundary [1, 2]	Short	30 [4]	30	None	REI 30 [4]	From the inside only
	Medium	60 [4]	60	30	REI 60 and 30 [4]	
8. External wall not more than 1 m from a boundary [1, 2]	Short	30 [4]	30	30	REI 30	From the inside only
	Medium	60 [4]	60	60	REI 60	

Fire stopping is fundamental to compartmentation. As such, care should be taken to ensure that the correct product is specified and installed as a seal on top of the party/compartment wall and (if required) within the batten space of a tiled or slated roof to seal the void.

Mineral wool is commonly used as a fire stop due to its compressible nature which allows the product to 'loft' and fill any irregular gaps or the tolerance between products. However, 'mineral wool' can be made from either glass fibre, crushed rock, blast furnace slag or ceramic-based products (*with or without resin binders*), and each product will have different properties with regard to the resistance of heat and flame.

The Technical Booklet states that 'Fire resistance is a measure of one or more of the following:

- a) **Resistance to collapse** (*loadbearing capacity*), which applies to loadbearing elements only, denoted **R** in the European classification of the resistance to fire performance.
- b) **Resistance to fire penetration** (*integrity*), denoted **E** in the European classification of the resistance to fire performance.
- c) **Resistance to the transfer of excessive heat** (*insulation*), denoted **I** in the European classification of the resistance to fire performance.'

Table 2.9 of Annex 2.A provides the fire resistance duration for both the British Standards and European Standards (*R, E and I*) for the different requirements (*short, medium or long*).



Please note

The above is only part of table 2.9. The full contents can be seen on page 163 - 165 of the Technical Booklet.



Additional information

1. An external wall includes any external wall used to protect routes of escape (see clause 2.0.6) but excludes an unprotected area calculated in accordance with clauses 2.6.1 to 2.6.4.
2. Any door in an external wall, which is not included in the calculation of unprotected area, should have the same fire resistance duration and the same test exposure as the external wall.

It is imperative therefore that when procuring a 'mineral wool' product to use as a fire stop on a party wall/compartmental wall (either on top of the wall as a seal or within the batten void), the product achieves the fire resistance requirements of the Technical Booklet and the contractor should satisfy themselves

that the relevant test data is available to prove conformity to their clients. This should be done always remembering that the maintenance of the integrity of the compartment is paramount, so the fire rating of the solution should match the fire rating of the compartment line.

There are proprietary products available. If considering those solutions, seek test data according to EN 1366 part 4.



Please note:

In the absence of any manufacturer's data we would advise that the fire stop both above the party wall and within the batten cavity should be manufactured from stone wool rather than glass wool and achieve a minimum fire and heat resistance of 60 minutes.

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