

Requirement for cavity barriers to concealed spaces behind decorative cladding on external masonry walls

Introduction

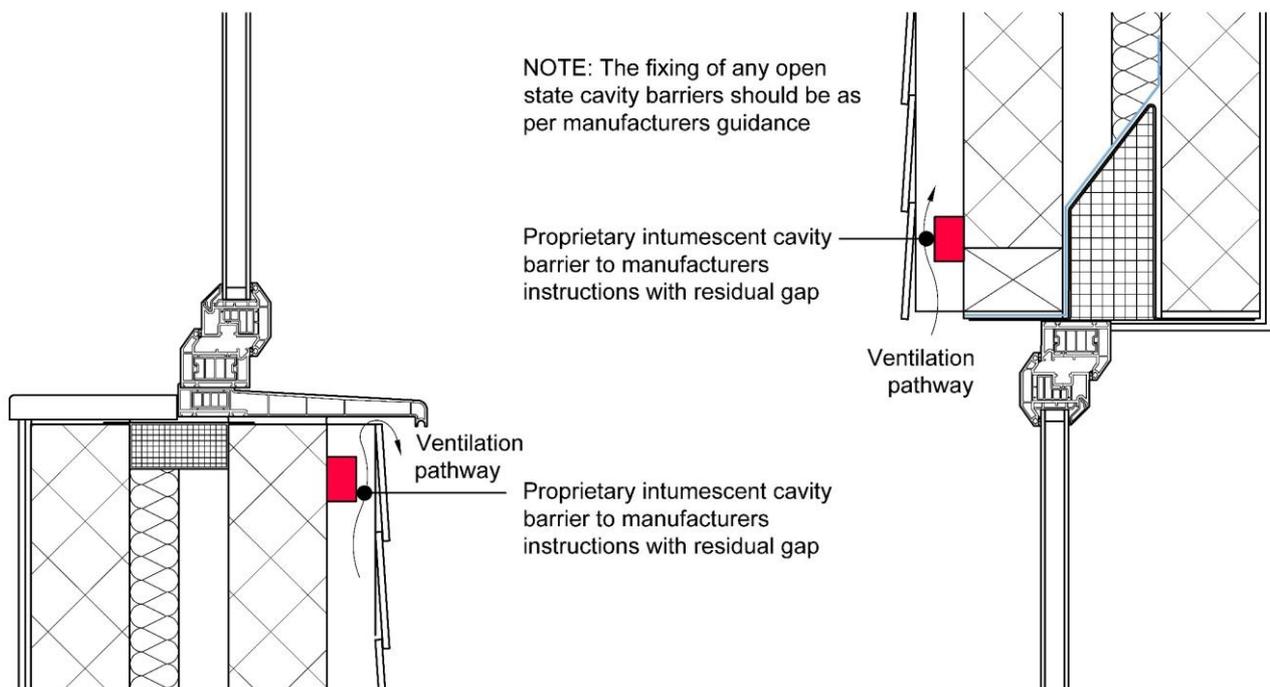
The definition of an external wall in the Building (Amendment) Regulations 2018 (England) and the Building (amendment) (Wales) Regulations 2019, changed to include 'any decorative or other finish applied to an external wall'.

Approved Document B defines a cavity barrier as, "A construction within a cavity, other than a smoke curtain, to perform either of the following functions.

- Close a cavity to stop smoke or flame entering.
- Restrict the movement of smoke or flame within a cavity."

Therefore, to satisfy Building Regulations there should be cavity barriers installed in the cavity formed behind a 'decorative cladding' (such as timber boarding, hung slates or tiles etc. or any other finish) which is constructed onto the outside of an external wall masonry wall.

This will include concealed spaces behind cladding on detached houses as well as semi-detached and apartments/flats.



Where should they be located?

Cavity barriers to concealed spaces behind external decorative claddings should be located in the following locations:

- At the edges of the concealed cavities including:
 - Eaves and verges.
 - Around openings such as windows and doors.
 - At the perimeter edges of partial cladding on masonry walls.
 - The bottom edges of fully clad elevations.
 - At service penetrations.
- At the junction between an external cavity wall and every compartment floor and compartment wall.

Specifying the use of cavity barriers

The following should be adhered to when specifying cavity barriers:

- Cavity barriers should always be mechanically fixed to rigid construction such as a masonry substrate.
- Cavity barriers must be durable to perform their required functions for the intended design life (at least equal to the design life of the decorative cladding).
- The cavity barrier must be compatible with the type of cladding and its characteristics (jointing method, ventilation and fire characteristics).
- The size of the cavity barrier must be correct to fit the cavity dimension on site and should take into account build tolerances.
- Cavity barriers must be fitted as per the manufacturer's recommendations
- Vertical cavity barriers should be fitted to compression.
- Adequate support and restraint should be provided for compression fitted cavity barriers, there should be consideration for the characteristics of the components they abut against to ensure that all cavities are fully closed in the event of a fire.
- If 'open state' cavity barriers are proposed, they must have a third party product approval from a UKAS accredited product conformity body, or for warranty purposes we can currently accept any open state cavity barrier that has been tested in accordance with ASFP TGD19 (2017) and BS EN 1363-1 providing that also, they are used for 'horizontal' cavity barrier provision only.

Required fire performance of cavity barriers

In England, Wales and Northern Ireland, cavity barriers should, meet the following performance requirements, 30 minutes for Integrity (E30) and 15 minutes for insulation (I 15).

In Scotland, Technical Handbook – Domestic confirms horizontal and vertical cavity barriers should achieve short fire duration (30 minutes integrity – E 30).

Proprietary cavity barriers must be supported with suitable third party test evidence to show that the minimum periods of fire resistance are achieved in accordance with the regional Building Regulations.

Maintaining drainage and ventilation behind the decorative cladding

Decorative cladding on the external face of a masonry substrate should always have a drained and vented cavity behind. The following sections will discuss one way of maintaining the drained and vented cavity behind whilst meeting the requirements of Approved Document B for fire safety.

Fibre cement and timber cladding boards

Fibre cement and timber cladding boards are traditionally fixed to 'vertical' support battens in order to provide a drained and vented cavity. The use of 'open state' or intumescent variety as mentioned above can help maintain the drained and vented cavity whilst closing the cavity in the event of a fire.

Hung tiles

Hung tiles are traditionally fixed onto horizontal support battens. Where hung tiles are used in small areas (e.g. between windows or as a gable feature), the horizontal battens limit the spread of smoke and fire and in these situations, no additional barriers are required, however the following conditions should still be satisfied:

- The horizontal battens are fixed directly to the wall with no counter batten.
- The horizontal battens are continuous and have no gaps between joints.
- Penetrations (such as window openings) are completely sealed around their edges with one of the following:
 - Steel of a minimum thickness of 0.5mm.
 - Timber of a minimum thickness of 38mm.
 - Calcium silicate, cement-based or gypsum-based boards of a minimum thickness of 12.5mm.
 - Polythene sleeved mineral wool or mineral wool slab under compression.
 - Other proprietary products (including open state) with evidence to demonstrate E30 & I15 fire performance.

Warranty position

This technical document has highlighted the requirement for cavity barriers to conceal spaces behind external cladding on masonry external walls. People responsible for building work (designer, builder, site manager, installer etc.) must ensure that the work complies with all relevant requirements of the Building Regulations.

Please note, approval from both your Warranty Provider and Building Control Provider would need to be gained individually. Approval of a product from either party does not automatically guarantee approval from the other. Engagement with both parties is recommended as early as possible.

Every care was taken to ensure the information in this article was correct at the time of publication (April 2022). Guidance provided does not replace the reader's professional judgement and any construction project should comply with the relevant Building Regulations or applicable technical standards. For the most up to date Premier Guarantee technical guidance please refer to your Risk Management Surveyor and the latest version of the [Premier Guarantee Technical Manual](#).

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