

3.1 Scope

This specification proposes the minimum requirements for cavity barriers for ventilated cavities.

The specification only applies to the external walls subject to cladding rectification works under Project Remediate. The scope of the relevant building works, and the level of BCA compliance are understood subject to determination and acceptance by the relevant authorities.

3.2 Application

The requirements of this specification do not override or replace :

- (i) Applicable BCA compliant requirements and regulatory requirements.
- (ii) External walls required to have an FRL in accordance with the BCA and building regulations.
- (iii) Construction required for spandrel protection in accordance with BCA clause C2.16(iii).
- (iv) Any existing Performance Solution (or Alternative Solution) requirements applicable for the relevant building.
- (v) Construction methods verified in AS 5113 fire tests and assessed to BCA Verification Method CV3, as acceptable by the relevant authorities.
- (vi) Other applicable BCA Deemed-to-Satisfy Provisions, including the BCA clauses C1.1, C1.9, C1.13, C1.14, C2.6, and the BCA specifications C1.1 and C1.13.

Compliance with the NCC is not to justify the omission of cavity barriers as specified in this document for Project Remediate.

3.3 Locations

Cavity barriers are to be provided at all of the following locations as a minimum requirement.

- (i) At the edges of cavities, including around openings (such as windows, doors).
- (ii) At the junction between an external cavity wall and one of the following fire-resisting elements:
 - (a) Every floor.
 - (b) Every fire compartment wall.
 - (c) Every internal fire-resisting bounding wall between two sole occupancy units and/or between a sole occupancy unit and a common area.
 - (d) Every fire-resisting wall required by the BCA Deemed-to-Satisfy Provisions.
 - (e) Every fire-resisting wall required by an existing Performance Solution (also known as Alternative Solution) when no cavity protection is required.

The required locations of cavity barriers are illustrated in Figure 2 and Figure 3

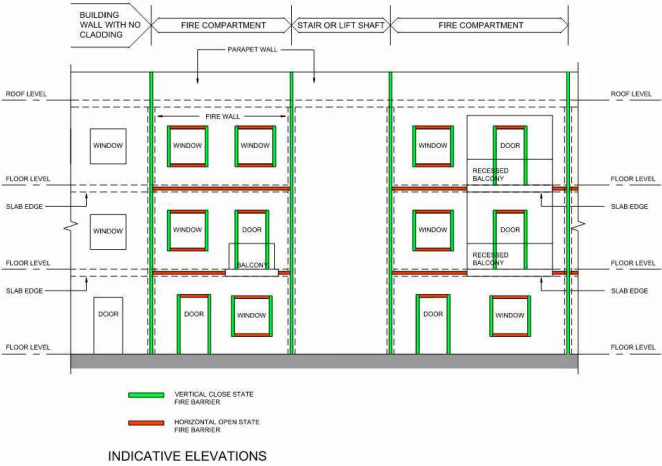


Figure 2 – Locations of cavity barriers

Figure 3 illustrates the requirements of cavity barriers and fire-stopping for different external walls with ventilated cavities. The cavity barriers in red are open-state and horizontal types. These figures are indicative only and are not representative of all common wall types used.

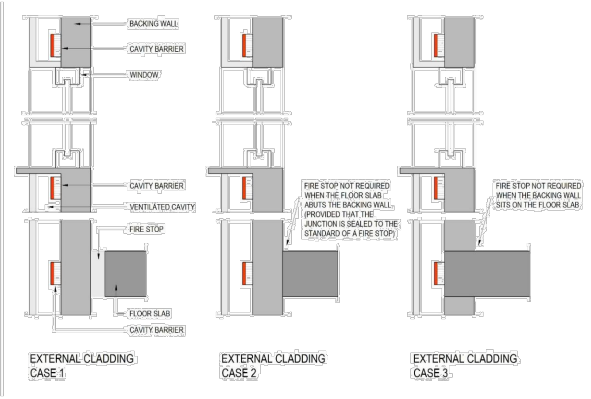


Figure 3
– Examples of installation of horizontal fire-stopping and cavity barriers

3.4 Fire Resistance Requirements

Cavity barriers must achieve the required fire resistance levels as set out below.

3.4.1 Closed-state Cavity Barriers

Have test (or assessment) reports provided by a NATA accredited test laboratory demonstrating the products having a minimum FRL of -/30/15 in accordance with AS 1530.4:2014.

3.4.2 Open-state Cavity Barriers

Have test reports demonstrating the products have been tested in accordance with ASFP TGD 19, *Fire Resistance Test for 'Open-State' Cavity Barriers 2017*, to have —

- (i) Minimum 30 minutes' integrity (E 30), and
- (ii) Minimum 15 minutes' insulation (I 15).

3.4.3 Cavity-edge Cavity Barriers

Cavity-edge cavity barriers must be provided at the edges of cavities, including around openings (such as windows, doors and exit/entry points for services) within the external walls.

3.5 Design and Installation Requirements

- (i) Cavity barriers must be tightly fitted to a rigid construction and mechanically fixed in position.
- (ii) Cavity barriers should be installed, so their performance is unlikely to be made ineffective by any of the following:
 - (a) Movement of the building due to subsidence, shrinkage or temperature change, and movement of the external envelope due to wind.
 - (b) During a fire, the collapse of services that penetrate the cavity barriers, either by the failure of the supporting system or through degradation of the service itself (e.g., by melting or burning).
 - (c) During a fire, failure of the cavity barrier fixings.
- (iii) Service installations, such as cables, ducts or pipework, must be avoided from penetrating or within the cladding system cavities as far as reasonably practicable.
- (iv) Cavity barriers must be designed and installed in accordance with the product tested conditions, manufacturers' specifications and used for the product approved applications only.
- (v) Cavity barriers must be designed and installed to suit the weatherproofing and façade ventilation requirements.

3.6 Typical Design and Installation Process

- (i) The design and installation of cavity barriers require essential product information, including at least the following:
 - (a) Product datasheets.
 - (b) Test/assessment reports.
 - (c) Designed and tested applications.
 - (d) Manufacturer's installation methods as tested conditions.
 - (e) Product compliance and warranty statements, including satisfying this specification.
- (ii) The cavity barrier design process for Project Remediate shall follow the following procedure typically:
 - (a) Obtain or prepare reasonably accurate architectural plans for the existing building.
 - (b) Prepare cavity barrier elevation plans showing all required locations.
 - (c) Select appropriate cavity barrier products based on this specification, the product information, the installation locations, the façade designer's plans and specifications.
 - (d) Prepare a complete set of cavity barrier specifications, including locations, types, product models, and installation requirements.
 - (e) Provide design declarations or design certificates stating that cavity barriers and associated works have been designed in accordance with this specification, the relevant BCA clauses, the relevant Australia Standards and applicable Performance Solutions.

- (iii) The cavity barrier installers are to install cavity barriers in accordance with the cavity barrier plans, specifications and the manufacturer's product installation methods.
- (iv) The installation of cavity barriers is to be inspected and certified by a Registered Design Practitioner (Façade) or a Registered Certifier (Fire Safety).
- (v) The design and building practitioners are to engage the technical representatives from the product manufacturers or suppliers to provide product training, inspection and certificates to ensure the validity of the product warranty and fit-for-purpose.
- (vi) The design practitioner is to undertake interim and/or final inspections against their design to ensure correct installation and integration with façade framing.

3.7 Maintenance Requirements

Maintenance is to be undertaken in accordance with the requirements of the suppliers. Any necessary details to allow this to occur are to be incorporated into the design.

The Annual Fire Safety Statement (AFSS) is to include cavity barriers as an essential fire safety measure for the building. The annual fire safety inspection is to confirm that no alterations to the façade have been made which might adversely affect or disturb the cavity barriers. Should such alterations be identified, an inspection of the potentially affected barrier should be undertaken.

4. Conclusion

Design solutions for Project Remediate proposed in the Patternbook will include the construction of ventilated cavities outside of the building sarking barrier. It is recognised internationally that these cavities can promote fire spread between floors due to a "chimney" effect. Methods to mitigate this risk are being adopted in building standards in other countries and may be included in future editions of the NCC.

Acor propose that the Patternbook will incorporate the recommendations of the CPSP report No 1 and specify the installation of Cavity Barriers in all ventilated cavities. The UK building standard Approved Document B, Fire Safety, dated 26 November 2020 is to be used as the design reference.

Where cavity drainage and vertical air circulation is required Open-state cavity barriers are to be installed. These items are to be tested in accordance with ASFP TGD 19, *Fire Resistance Test for 'Open-State' Cavity Barriers 2017*, to have —

- (vi) Minimum 30 minutes' integrity (E 30), and
- (vii) Minimum 15 minutes' insulation (I 15).

Closed-state barriers are to be used where Open-state barriers are not required. Closed-state barriers are to be tested to in accordance with AS 1530.4:2014 and be demonstrated to have having a minimum FRL of -/30/15

We have engaged with a number of suppliers and have identified products which are supplied locally that will satisfy this specification.

The Patternbook is to maintain a register of products which are suitable for use on Project Remediate.

NOTES:

TITLE	MATERIAL SPECIFICATION CAVITY BARRIERS		
CLADDING	ALL		
SUBSTRATE	ALL		Rev
DWG NUMBER	000-AC-GF-DWG-0105	5	