

Inspection of penetrations of fire rated construction

Director's Guidelines

December 2024 | Version 2.0





I, Robyn Pearce, in my capacity as Director of Building Control, and acting pursuant to section 19(1)(e) of the *Building Act 2016*, hereby make the following Guideline.

Guideline title	Inspection of penetrations of fire rated construction
Description	This Guideline provides assistance to Building Surveyors relating to the inspection of penetrations of fire rated construction.
Version	2.0
Application	For the purposes of 19(1)(e) of the Act, this Guideline applies from the date of its approval until its revocation.
Date of Director's approval	23 December 2024

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Contents

Definitions and abbreviations.....4

Document status.....5

Background.....5

Scope6

Mandatory notification requirements.....6

Inspection of penetrations of fire rated construction7

Inspection rate8

What to inspect8

Records to be kept by the Building Surveyor9

Document development history9

Disclaimer.....9

Definitions and abbreviations

ABCB means the Australian Building Codes Board;

Act means the *Building Act 2016*;

BCR means the Building Confidence Report;

Builder in relation to building work or demolition work, means –

- a person engaged, to manage or carry out building work or demolition work, by the owner of premises where the work is to be performed; and
- if such a person does not exist, the owner of such premises;

Building Surveyor is a building services provider who is engaged by the owner of premises to perform or exercise, in respect of the premises, the functions or powers of a building surveyor under the Act.

Fire-resisting construction one of the Types of construction referred to in Part C2 of Volume One of the NCC;

Fire-resisting means a building element, having a Fire Resistance Level appropriate for that element;

Fire Resistance Level means the grading periods in minutes determined in accordance with Specifications 1 and 2 of the NCC, for the following criteria –

- Structural adequacy; and
- Integrity; and
- Insulation,

And expressed in that order.

NCC means the National Construction Code (volumes 1, 2 or 3), published by the Australian Building Codes Board, and as amended from time to time;

Penetrations of fire rated construction means fire-protection at service penetrations through elements required to be fire-resisting with respect to integrity or insulation, or to have a resistance to the incipient spread of fire;

Regulations means the Building Regulations 2016.

Document status

The amendments to Regulation 18 of the Building Regulations 2016 listing additional mandatory notifications stages, including penetrations of fire rated construction, apply as of 1 October 2024.

Section 19 of the Act stipulates that the Director of Building Control may make or adopt guidelines. These guidelines have been drafted in accordance with the Act.

This Guideline is intended as a reference for building professionals seeking guidance on the process for the mandatory notification stage for penetrations of fire rated construction. These Guidelines should be read in conjunction with the NCC and applicable Standards or manufacturers specifications. As this document is provided for guidance, this Guideline does not override the NCC.

Background

The Building Confidence Report commissioned by the Australian Government in 2017 highlighted the need for more stringent building control measures around specific building elements, including though not limited to penetrations of fire rated construction. Subsequently, the Tasmanian Government adopted these recommendations, which have been legislated under the *Residential Building (Miscellaneous Consumer Protection Amendments) Act 2023*.

Protection of penetrations of fire rated construction play a vital role in buildings by maintaining the integrity of the fire-resisting element through which services pass, increasing occupancy safety while reducing building fire damage overall. The failure of fire-resisting construction can have adverse and irrevocable impacts on a building and its occupants, at times leading to fatalities.

Incorrect material selection and/or incorrect product installation may not become apparent until the material is tested or relied upon in a fire. This highlights the vital importance of correct selection and installation of passive fire rated elements to protect buildings and its occupants from adverse effects.

The Regulations provide a list of critical stages of construction where a mandatory notification must be made to the Building Surveyor, prior to works progressing beyond that stage. This notification allows the Building Surveyor an appropriate period to undertake sufficient visual inspections.

While the compliance of installed penetrations of fire rated construction is solely the responsibility of the Builder, a visual inspection undertaken by the Building Surveyor, for the purpose of the Act, serves as evidence that works are likely to comply based on the representative standard of work inspected.

Scope

This Guideline provides recommendations applicable to the inspection of penetrations of fire rated construction within buildings classes 2-9 as defined within the NCC.

Reference to the Director's Determination - Categories of Building and Demolition Work should be made to determine the category of building work applicable to the installation, modification, or removal of any protection measures for penetrations of fire rated construction.

Notwithstanding the above, nothing in this Guideline negates the requirement for all building work to be designed, approved, and constructed in compliance with the Act and NCC.

Mandatory notification requirements

In accordance with the Regulations, a Builder must provide notification to the Building Surveyor a minimum of two business days prior to a mandatory notification stage being reached.

A Builder must not perform work, or cause or allow any work to be performed, that is likely to obstruct the inspection or make an inspection more difficult.

In accordance with regulation 18 of the Regulations, a person is not permitted to proceed past a mandatory notification stage of work –

- if the work is building work, until the relevant building surveyor has consented to the work proceeding; or
- if the work is plumbing work, until the relevant permit authority has consented to the work proceeding; or
- if the relevant building surveyor, or relevant permit authority, does not perform an inspection of the work within the prescribed period as required under the Act, until after the expiry of the prescribed period; or
- if a notice, order or direction is made under the Act as part of an inspection of the mandatory notification stage, until the order, notice or direction has been –
 - complied with to the satisfaction of the person who issued the notice or order or made the direction; or
 - revoked; or
- if no notice, order or direction is made under the Act in respect of the mandatory notification stage, until the prescribed period in which the inspection may be performed under the Act has expired.

Where a Building Surveyor issues approval to proceed without conducting an inspection, a record must be made detailing the reason for not inspecting, and any other certification relied upon to indicate likely compliance. Additionally, any inspections not carried out

should be listed in the Certificate of Final Inspection (Form 12) issued by the Building Surveyor on completion of work.

Despite this provision, a Building Surveyor may inspect or cause to inspect work at any time. This includes invasive, or destructive work to enable inspection, should there be sufficient reason to suspect work has not been installed to a satisfactory standard.

It is an offence under the Act for a Builder to allow work to proceed beyond a mandatory notification stage without authorisation.

Inspection of penetrations of fire rated construction

At the point of issuing a Certificate of Likely Compliance, the Building Surveyor will specify the required elements that form a mandatory notification stage for that project.

These stages may be determined by using the building complexity criteria as defined in the NCC including:

- Attributes –
 - An effective height of more than 25 m.
 - One or more Performance Solutions are used to demonstrate compliance with the Performance Requirements relating to material and systems for structural safety.
 - One or more Performance Solutions are used to demonstrate compliance with the Performance Requirements relating to material and systems for fire safety.
 - Is located in an area prone to natural disaster or adverse environmental conditions.
- Class 2 – all or part of the building is Class 2 of three or more storeys.
- Occupant numbers – the building is to be occupied by more than 100 people determined in accordance with D2D18.
- Occupant characteristics – the building is to be occupied by more than 10 people who will require assistance to evacuate the building in an emergency.
- Importance Level – the building is determined to be Importance Level 4 or 5.

NCC Table 2 – Building complexity level

Building complexity level	Criteria
Low	The building meets only one of the following building complexity criteria: (a) (Attributes), (b) (Class 2), (c) (Occupant numbers) or (d) (Occupant characteristics)
Medium	The building meets two of the following building complexity criteria:

Building complexity level	Criteria
	(a) (Attributes), (b) (Class 2), (c) (Occupant numbers) or (d) (Occupant characteristics)
High	The building meets three of the following building complexity criteria: (a) (Attributes), (b) (Class 2), (c) (Occupant numbers) or (d) (Occupant characteristics)
Very high	The building meets all of the following building complexity criteria: (a) (Attributes), (b) (Class 2), (c) (Occupant numbers) and (d) (Occupant characteristics); or (e) (Building Importance Level 4 or 5)

NCC Table 2: NCC, ABCB

Inspections of penetrations of fire rated construction are recommended for all buildings where such measures are installed.

Despite the nomination of set mandatory notification stages, a Building Surveyor may additionally inspect works at any stage of construction.

Inspection rate

In line with the ABCB Mandatory inspections – Model guidance on BCR Recommendation 18, the recommended minimum rate of inspection of penetrations of fire rated construction is as follows:

- Not less than 20% of penetrations of fire rated construction for each storey of the building.

This rate is provided as a baseline suggestion, the actual rate of inspection can be adjusted to reflect the complexity or volume of the works.

What to inspect

The additional mandatory notification stage under regulation 18 of the of the Building Regulations 2016 is for the inspection of penetrations of fire rated construction.

The recommended critical point of inspection of penetrations of fire rated construction is:

- Once the fire resisting material or product has been installed, prior to covering of that material or product, for example – once the fire collar, or the like, has been installed.

It is recommended that the Building Surveyor inspects an appropriate representative sample of each type of material or construction to protect penetrations of fire rated construction used on every applicable project.

The logistics, practicality, and necessity of the above recommendations are determined at the discretion of the Building Surveyor.

Records to be kept by the Building Surveyor

In accordance with appropriate standards of professional practice and facilitating auditing of the inspection functions performed, records of inspections and other evidence relied upon should be recorded. This includes any directions for rectification issued from an inspection.

All records of inspection are to be kept along with any other documents associated with the Certificate of Likely Compliance. These records are to be kept for a minimum of 10 years after the date of completion.

Document development history

Version	Application date	Amendment
2.0	23 December 2024	Approval of revised guideline
1.1	13 December 2024	Minor revisions Fixed typographical errors
1.0	27 September 2024	Original release

Disclaimer

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