



ABN 12 115 961 487  
PO Box 88  
Bacchus Marsh Vic 3340  
Phone: (03) 5366 6900  
Email: [admin@darbecca.com.au](mailto:admin@darbecca.com.au)  
Report By:



**Site Address:**

**Client Name:**

**Phone #:**

**Email:**

<b>Dwelling type:</b>	Single Storey
<b>Dwelling configuration:</b>	House and Garage
<b>Nature of works:</b>	New Build
<b>Stage of inspection:</b>	Pre Plaster
<b>Construction Type:</b>	Multiple Claddings
<b>Garage:</b>	Attached
<b>Foundations:</b>	Waffle Slab
<b>Builder:</b>	

## **Client Brief**

I was instructed to inspect the client's new home to write a report as to the overall installation of all items required to construct a new home to completion stage. Our role is to assist the clients in outlining any issues that may be identified as being within the scope of the builder to ensure that all construction items are correctly constructed and completed in a workman like manner and meet with all relevant codes and industry practises. As such the client has engaged our services to assist with this report.

## **Inspection and Report**

Our Inspection is a visual inspection of the overall finishes and the quality of those finishes presented by the Builder. This Report is a list of items that in our judgement do not reach an acceptable standard of quality, level of building practice, or have not been built in a proper workmanlike manner, in relation to the Building Code of Australia, (BCA's) the Building Regulations, any relevant Australian Standards and the acceptable standards and tolerances as set down by the Building Commission.

## **Access**

Access was gained to all required areas of the residence unless noted otherwise within the report. The use of ladders is regulated by the OH&S Regulations 2017, we have not visualised any part of the dwelling that can not be seen by the author with their feet no higher than 2 m from FGL.

## **Report Conditions**

The terms and conditions that our site inspection and this report are carried out and supplied under are listed on the last page of this report.

The building process is progressive and items in this report may or may not be covered during the build by materials installed over a documented defect. We recommend that all clients book a reinspection and state that the builder must present all defects rectified prior to moving forward with the build. All items that we are unable to look at from a previous report will not be included in any future reports. We will use all endeavours to ensure rectification, however we are limited to non-destructive method of detection.

## Summary

The results of our inspection have been fully detailed in the attached schedule of Building Defects.

Should the reader of this report have any additional queries or questions in relation to the items set out within it, please do not hesitate to contact the writer via any of the methods detailed at the top of the cover page.

An inspection was conducted at the above address on for the purpose of a general home inspection, requested by the 'client'.

The inspection was conducted without the 'client' present, and details exterior and interior.

The weather was precipitating at the time of the inspection.

Entry to site was obtained under the Building Act, 1993, section 240 and the Domestic Building Contracts Act, 1995, part 2, **section 17** and 19. We act and make limited representations under the direction of the dwelling owners under these two acts.

## **Schedule of Defects:**

### **Defects, observations and other related comments from Pre Plaster Inspection on.**

**All completed items have been removed from the report, along with any items we are unable to inspect due to the progression of works.**

**All photos are examples only. Builder to check all areas.**

1.

**The NCC; 3.2.2.6:** - A vapour barrier must be installed to both the Class 1 and Class 10 parts of the slab edge and be turned up the edge of the slab to finished ground level.

The vapour barrier has not met this requirement.

#### **3.2.2.6 Vapour barriers**

A vapour barrier must be installed under slab-on-ground construction for all Class 1 buildings and for Class 10 buildings where the slab is continuous with the slab of a Class 1 building as follows—

(a) Materials

A vapour barrier must be—

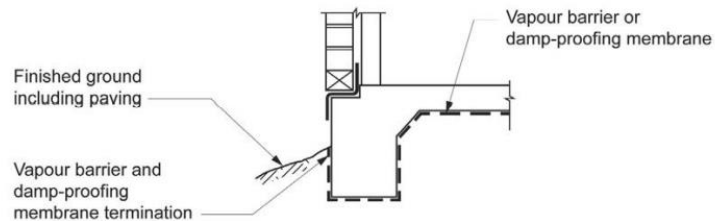
- (i) 0.2 mm nominal thickness polyethylene film; and
- (ii) medium impact resistant, determined in accordance with criteria specified in clause 5.3.3.3 of AS 2870; and
- (iii) be branded continuously "AS 2870 Concrete underlay, 0.2 mm Medium impact resistance".

(b) Installation

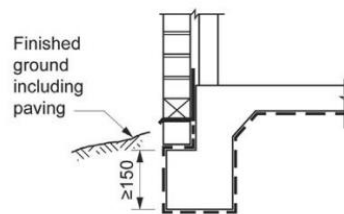
A vapour barrier must be installed as follows—

- (i) lap not less than 200 mm at all joints; and
  - (ii) tape or seal with a close fitting sleeve around all service penetrations; and
  - (iii) fully seal where punctured (unless for service penetrations) with additional polyethylene film and tape.
- (c) The vapour barrier must be placed beneath the slab so that the bottom surface of the slab is entirely underlaid and extends under edge beams to finish at ground level in accordance with Figure 3.2.2.3.

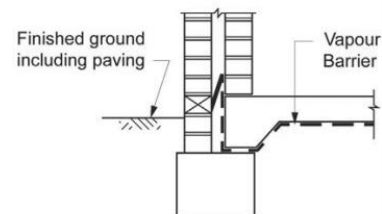
Figure 3.2.2.3 Acceptable vapour barrier and damp-proofing membrane location



(a) Minimum rebate for cavity masonry or veneer wall



(b) Deep edge rebate alternative



(c) Masonry alternative



2.

**AS 2589; Clause 4.4.3.1.3:** - Perimeter fasteners shall be installed to plasterboard at internal angles, external corners, and wall and ceiling junctions, at a maximum of 300 mm centres.

Note: for square set cornice, the maximum spacing is 150 mm.

This requirement has not been met.

#### 4.4.3.1.3 *Perimeter fixing*

Fasteners shall be installed at a maximum of 300 mm centres at all internal angles, external corners, wall ceiling junctions with cornices and at openings. For perimeter fastening, fasteners shall be spaced not less than 10 mm or more than 16 mm from the edges and ends of the gypsum plasterboard.

NOTE: Ceiling perimeter fasteners for square set wall ceiling junctions should be installed at 150 mm centres.



### 3.

**AS 1884; 3.1.1.4, AS 2455.1, 2455.2 & 3958.1; 5.4.6:** - Concrete and timber subfloor to be prepared for finished floor covering. Australian standards: 1884 Floor coverings - Resilient sheet and tiles - Installation practices call a planeness of 4 mm below a straightedge. Installation guides for several timber coverings call for concrete subfloor levels should not exceed 3 mm variation over 1 metre in any direction, using a 1 metre straightedge. As per AS 3958 the finished floor tiling surface should be flat and true to within a tolerance of 4 mm in 2 m from the required plane. Specific recommendations for individual flooring products or as recommended by adhesive manufacturers will apply. Where concrete subfloors are not sufficiently flat, leveling compounds, grinding or other means to level the subfloor need to be undertaken. Timber subfloors, packing of joists and sanding of sheet subfloors may be necessary.

Preparation for finished flooring material has not been met.

#### 3.1.1.4 *Surface quality*

The surface of a concrete subfloor shall be thoroughly checked for the following:

- (a) *Planeness*—When a straightedge 2000 mm long is placed at rest at two points 2000 mm apart on the surface, no part of the surface shall be more than 4 mm below the straightedge.
- (b) *Smoothness*—When a straightedge 150 mm long is placed at any position at rest at two points on the surface, no part of the surface shall be more than 1 mm below the straightedge.
- (c) *Soundness*—The surface shall be without cracks, crazing, dusting, rain damage, spalling, efflorescence or blistering.



	AS 1884:2021	AS 2455.1:2019	AS 2455.2:2019
<b>Planeness</b>	No part of the subfloor shall be more than 4 mm below the 2 m straightedge		
<b>Smoothness</b>	There shall be no more than a 0.5 mm abrupt surface deviation below the 150 mm straightedge	There shall be no gap larger than 1mm under the 150 mm straightedge	

**AS 3958.1; 5.4.6: -**

**5.4.6 Tile finish and joints**

The recommendations for tile finish and joints are as follows:

- (a) When measured with a straightedge, the finished surface of the tiling should be flat and true to within a tolerance of  $\pm 4$  mm in 2 m from the required plane. The lippage between two adjacent tiles should not exceed 2 mm. In the case of tiles where the surface has been ground flat, for example polished tiles, the lippage should not exceed 1.5 mm, and for joint widths of 3.0 mm or less the lippage should not exceed 1.0 mm.



All areas to comply, builder to check all areas

**4.**

**AS 2047; 7.2 & AGWA, Installation guide: -** Openings in buildings into which windows are to be installed shall be of sufficient size to allow the window frame to be allowed level and plumb. manufacturer's installation instructions will be the predominant procedure for the

installation of proprietary windows. Installers shall ensure that manufacturer's instructions are adopted.  
 These installation requirements have not been met.

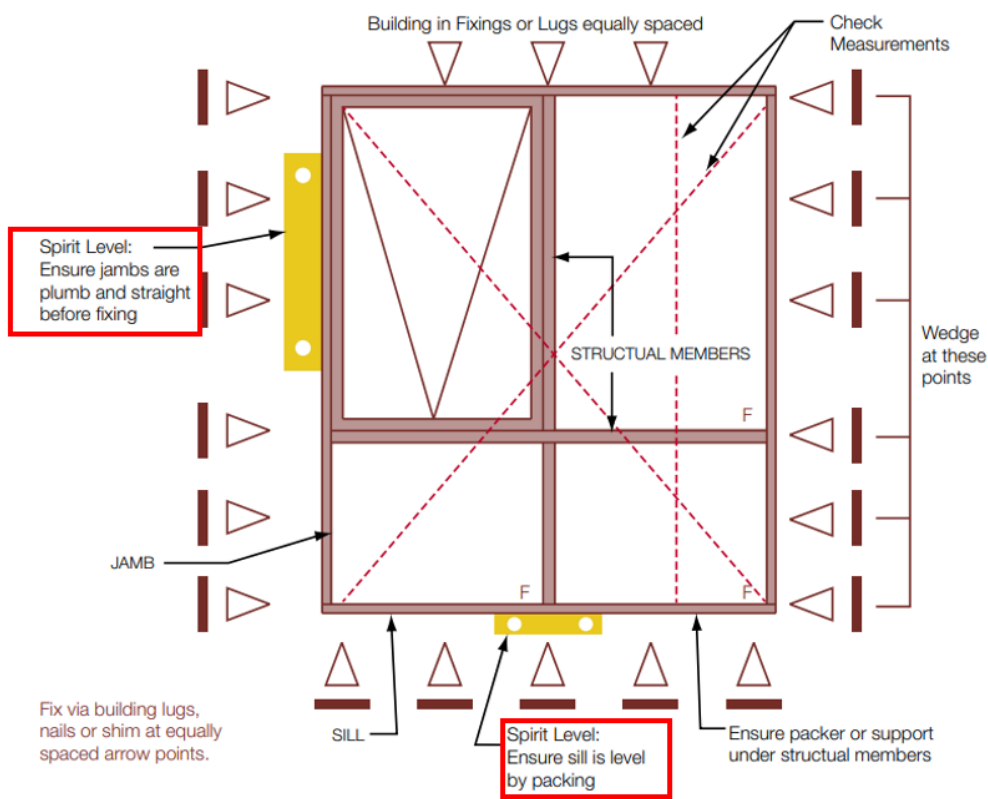
**7.2 INSTALLATION** Openings in buildings into which windows are to be installed shall be of sufficient size to allow the window frame to be installed level and plumb.

Windows shall only be installed in locations for which they are designed in accordance with this Standard.

Window assemblies shall be fixed into the building using recognized building practices. Fixing shall not deform the window assembly. Non-load-bearing window assemblies shall not carry building loads.

Installed windows assemblies shall prevent water penetration and excessive air infiltration.

NOTE: Window manufacturers' installation procedures may need to be followed for particular installations.





5.

**NCC 2019; 3.1.3.3:** - The dwellings slab footings have the opportunity to pool with water due to the way the block has been cut and the lack of soil removal.

Water management on site is paramount to ensuring foundations are not damaged. Water, when seeping down beside the slab, between the slab and the dirt softens the dirt. The soils capacity to withstand the downward pressure of the forces of the weight in the slab is greatly reduced.

The external finished surface surrounding the slab must be drained to move surface water away from the building and graded to give a slope of not less than a minimum of 50 mm over a distance of 1 m.

We also refer the builder to the soil report and engineering drawings that call for the site drainage to be managed via sloping water away from the slab.

This dwelling has not met this requirement.

### 3.1.3.3 Surface water drainage

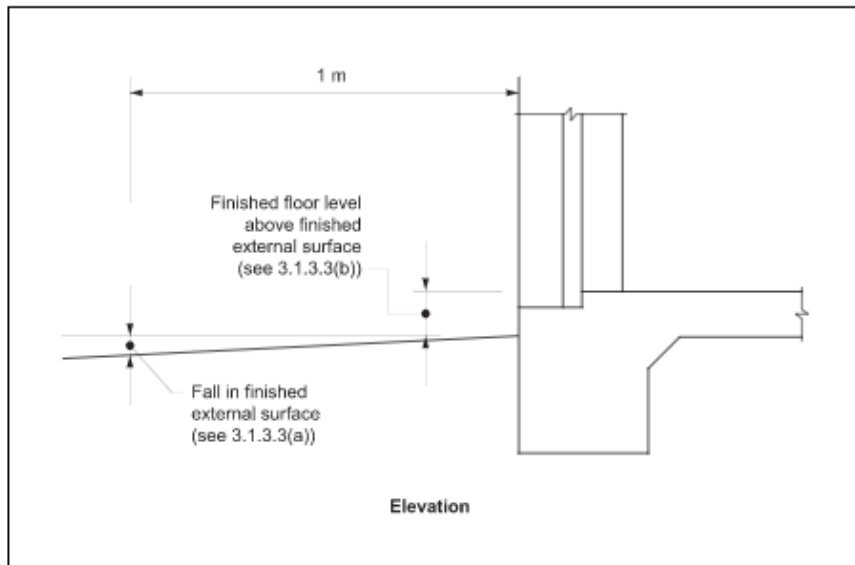
*Surface water* must be diverted away from Class 1 buildings as follows:

- (a) Slab-on-ground — finished ground level adjacent to buildings:
  - the external finished surface surrounding the slab must be drained to move *surface water* away from the building and graded to give a slope of not less than (see [Figure 3.1.2.2](#))—
  - (i) 25 mm over the first 1 m from the building in *low rainfall intensity areas* for surfaces that are reasonably impermeable (such as concrete or clay paving); or
  - (ii) 50 mm over the first 1 m from the building in any other case.
- (b) Slab-on-ground — finished slab heights:
  - the height of the slab-on-ground above external finished surfaces must be not less than (see [Figure 3.1.3.2](#))—
  - (i) 100 mm above the finished ground level in *low rainfall intensity areas* or sandy, well-drained areas; or
  - (ii) 50 mm above impermeable (paved or concreted areas) that slope away from the building in accordance with (a); or
  - (iii) 150 mm in any other case.



(c) The ground beneath suspended floors must be graded so that the area beneath the building is above the adjacent external finished ground level and *surface water* is prevented from ponding under the building (see Figure 3.1.3.3).

Figure 3.1.3.2 Site surface drainage



6.

**Standards Australia HB 39:** - The gutters and roof sheeting must be fully cleaned of metal particles, roof screws, pop rivets, mortar, paint, and the like.

The roof and gutter installation to this dwelling has not met this requirement.

### 3.6 CLEANING UP

Normal installation practices such as drilling and cutting usually leave offcuts and metallic swarf on or around the roof area. These materials and all other debris, including blind rivet shanks, nails and screws are to be cleaned from the roof area and gutter regularly during the installation process as unsightly staining of the surface due to oxidation of the metal particles will result, leading to corrosion and possible failure of the roofing material or guttering. Where practicable, the entire installation should be cleaned down with a blower vac, swept or, alternatively, if a water supply is available, hosed down at the completion of the work.



7.

**AS 3500.3; 4.5.1:** - Parapet cappings shall be fixed to parapet walls at intervals not exceeding 500mm.

This requirement has not been met.

### 8.7 ALL OTHER FLASHINGS AND CAPPINGS

All other flashings and cappings to be fastened to the metal roof cover at intervals not exceeding 500 mm with self-drilling roof screws into the roof supports or rivets into the roof cover. All self-drilling self-tapping roof screws are to be fastened on crests of roof covers. For particular situations, the following is to be taken into consideration:

- (a) *Thermal movement* Where thermal movement is likely to be a problem, cappings fixed to metal roof covers to be fastened with cleats or sliding supports to all other surfaces.
- (b) *Parapet cappings* Parapet cappings to be fixed to parapet walls at intervals not exceeding 500 mm with masonry anchors and cleats that permit longitudinal expansion and contraction. A minimum fall of 3° to be provided across the width of the flashing, to divert water back onto the roof coverings so as to prevent the water from dripping down the fascia causing unsightly staining [see Figure 8.7(A)].
- (c) *Barge capping* Barge capping to be installed as shown in Figure 8.7(B).
- (d) *Synthetic rubber strip flashing* Synthetic rubber strip flashing installed as a transverse flashing or capping to be sealed with flexible sealant and fixed in a manner that will ensure a snug fit to the profile of the sheet. Where it is used as a sloping apron flashing it is to be fixed at 50 mm centres [see Figure 8.7(C)].



8.

**AS 2589 & AS 3999:** - It was noted that the dwelling was not water tight as per the photos below.

Water cannot be allowed to enter a dwelling after the installation of batts or plaster. This requirement has not been met.

The builder as a matter of urgency must seal the dwelling or alternately replace batts and plaster if they are wetted. I refer the builder to AS 2589 (Australian Plaster Standard) and AS 3999, (Australian Insulation Standard) which calls for both to be fully protected from moisture.



9.

**AS 3500; 4.4.3:** - Roof drainage systems and support systems shall be designed and installed to achieve complete drainage or drying.

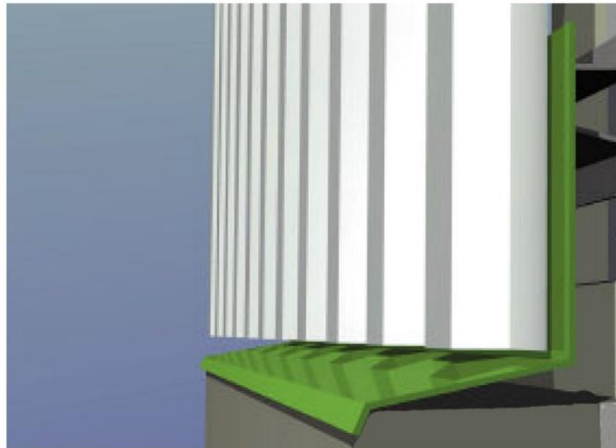
Transfer flashings fall towards the dwelling and therefore do not meet this requirement.

#### 4.4.3 Corrosion due to crevices

Metal roof drainage systems and support systems shall be designed and installed to achieve complete drainage or drying. Shielded areas capable of causing permanent ponding shall be avoided to prevent the possibility of intense localized corrosion known as crevice corrosion.

NOTE: This type of attack results from contact of metal with moisture and salts under oxygen-deficient conditions in which trapped moisture cannot readily evaporate. It can be caused by lap joints, absorbent gaskets, holes, crevices under bolt or rivet heads, or surface deposits, including non-metallic materials such as elastomeric materials, plastics, fabrics, lifted paint films or accumulated solids.

*Note attached detail from Stramit Technical manual.*



Flashings at walls should include a fall on 'horizontal' planes and be of sufficient size to ensure good drainage away from the cladding and to avoid potential build up of debris.



10.

**NCC 2019, part A5.0:** - A building and plumbing or drainage installation must be constructed using materials and products that are fit for purpose.

Fixings used in external stormwater system present as zinc coated or 'gold' electroplated (indoor screws) and therefore unfit for their intended purpose.



## A5.0 Suitability

- (1) A building and *plumbing* or *drainage* installation must be constructed using materials, products, *plumbing products*, forms of construction and designs fit for their intended purpose to achieve the relevant requirements of the NCC.
- (2) For the purposes of (1), a material, product, *plumbing product*, form of construction or design is fit for purpose if it is—
  - (a) supported by evidence of suitability in accordance with—
    - (i) A5.1; and
    - (ii) A5.2 or A5.3 as appropriate; and
  - (b) constructed or installed in an appropriate manner.

### Explanatory information:

A5.0 relates to the quality of work and materials needed to construct a building to meet NCC requirements.

This means that—

- all people involved with construction must work skillfully in accordance with good trade practice; and
- all materials must be of a quality to fulfil their function/s within the building.



## 11.

**AS 4773.2; clause 7.1:** - Articulation joints shall be clear of hard and non-compressible substances.

This dwelling's articulation joints require cleaning prior to sealing in order to meet this requirement.

### 7.1 GENERAL

All hard and incompressible substances (e.g. mortar dags) shall be removed from the gap in articulation and expansion joints.



**Note:** Builder to ensure insulation installation is completed as per **AS 3999; NCC 3.12.1.1:**

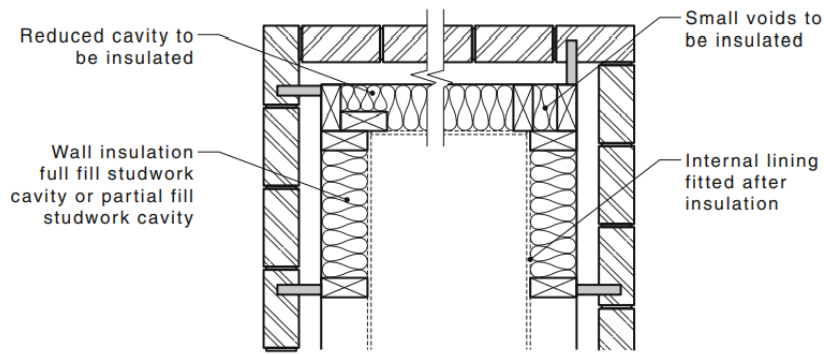
- **AS 3999 3.2.4.** All need to be fitted in a manner that has the batts flat to the plaster backing and form a continuous barrier. This included heater platform/walkway
- **AS3999 5.3.4** Ceilings to be insulated in the difficult to reach perimeter, including the tight hip ends.
- **AS 3999 2.6.3** Insulation installed no closer than 50mm around downlights and appliances.
- **AS 3999 5.4.3** Wall insulation full fill studwork cavity.
- **AS 3999 5.4.3 Figure 5.4.3.1.2** Insulation between nonstandard stud spacings.
- **AS 3999 3.2.4 Figure 3.2.4.2 Insulation to window opening and small gaps around window jambs.**

### 3.2.4 Continuity of insulation

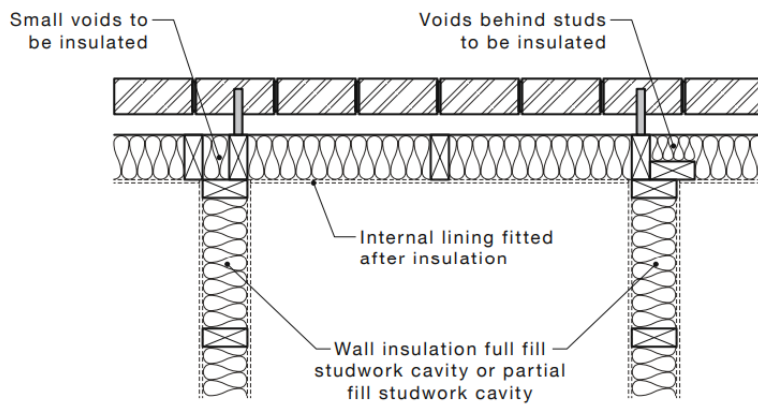
The following requirements shall be met as appropriate:

- (a) Bulk insulation shall be installed so that it—
- (i) abuts or overlaps adjoining insulation other than at structural members such as columns, studs, noggins, joists, furring channels, and the like, where the insulation shall butt against the member;
  - (ii) forms a continuous barrier with ceilings, walls, bulkheads, floors, or the like, that inherently contribute to the thermal envelope (see examples in Figures 3.2.4.1 and 3.2.4.2); and  

NOTE: The thermal envelope of a building is the part of a buildings fabric that separates heated or cooled spaces from the exterior of the building or other spaces that are not heated or cooled. A continuous thermal barrier around the envelope is necessary to achieve good performance.
  - (iii) does not affect the safe or effective operation of a service or fitting.



(a) At corners



(b) At wall junctions

FIGURE 5.4.3.1.2 INSULATING VOID BETWEEN CLOSELY SPACED STUDS

FIGURE 5.4.3.1.2 INSULATING VOID BETWEEN CLOSELY SPACED STUDS

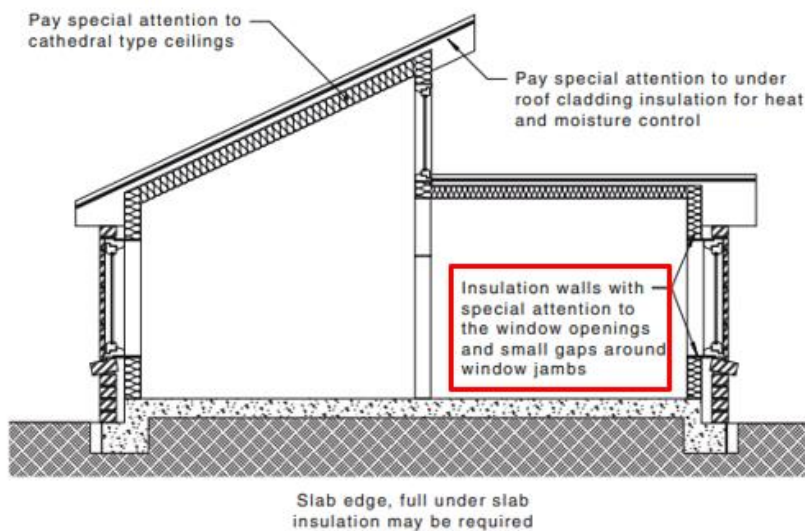


FIGURE 3.2.4.2 EXAMPLE OF THERMAL ENVELOPE WITH SLAB ON GROUND

### 3.12.1.1 Building fabric thermal insulation

- (a) Where *required*, insulation must comply with AS/NZS 4859.1 and be installed so that it—
- (i) abuts or overlaps adjoining insulation other than at supporting members such as columns, studs, noggings, joists, furring channels and the like where the insulation must butt against the member; and
  - (ii) forms a continuous barrier with ceilings, walls, bulkheads, floors or the like that inherently contribute to the thermal barrier; and

#### Explanatory information:

1. For example, in a two storey house with the second storey set back, the insulation in the first storey wall, the second storey wall and the roof over the set-back must be continuous. Therefore if the roof over the set-back has insulation on a horizontal ceiling, then insulation is also needed on the vertical in any ceiling space in order to connect the ceiling insulation to the second storey wall.
2. To form a continuous barrier, insulation should be placed in gaps between window and door jambs, heads and sills, and the adjoining wall framing unless a gap is otherwise *required*. This may need to be compressible to allow for movement between members.



12.

**AS 1684.2; Table 9.4:** - Lintels shall be nominally fixed to jamb studs with 2 / 75mm x 3.05 diameter nails at each joint.

This requirement has not been met.

**Table 9.4 — Nominal fixings for timber members**

Joint	Minimum fixing for each joint
-------	-------------------------------

**Table 9.4 — Nominal fixings for timber members**



### Wall framing

Plates to studs and plates to ring beams at 600 mm max. centres		Plates up to 38 mm thick — 2/75 mm × 3.05 mm nails through plate; Plates 38 mm to 50 mm thick — 2/90 mm × 3.05 mm nails through plate; OR 2/75 mm × 3.05 mm nails skewed through stud into plate
Noggings to studs		2/75 mm × 3.05 mm nail skewed or through nailed
Timber braces to studs or plates/ring beams		2/50 mm × 2.8 mm dia. nails at each joint
Lintel to jamb stud		2/75 mm × 3.05 mm dia. nails at each joint
Bottom plates to joists	Non-loadbearing and non-bracing walls	2/2.8 mm dia. nails at max. 600 mm centres
	Other walls	Plates up to 38 mm thick — 2/75 mm × 3.05 mm nails at max. 600 mm centres Plates 38 to 50 mm thick — 2/90 mm × 3.05 mm nails at max. 600 mm centres
Bottom plates to concrete slab		One 75 mm masonry nail (hand-driven at slab edge), screw or bolt at not more than 1 200 mm centres
Ribbon plate to top plate		See <a href="#">Clause 2.5</a> and <a href="#">Clause 9.2.8</a>
Multiple studs		1/75 mm × 3.05 mm nail at 600 centres max.
Posts to bearers or joists		1/M12 or 2/M10 bolts (unless otherwise specified)



### 13.

**NCC Part 3.8.7.2, NCC; 3.12.1.1, AS 4200.2; 2.2, 2.3 & 3.2:** - Pliable membrane/reflective insulation shall be continuously sealed and closely fitted against any penetration, door or window opening. Damage or tears to the membrane shall be repaired to restore the integrity and maintain the purpose of the membrane.

Please note - if taped from the inside, the tape must be compatible with AS 4200.

These requirements have not been met to a number of areas around the perimeter of the building.

### 3.8.7.2 Pliable building membrane

- (a) Where a *pliable building membrane* is installed in an *external wall*, it must—
  - (i) comply with AS/NZS 4200.1; and
  - (ii) be installed in accordance with AS 4200.2; and
  - (iii) be a vapour permeable membrane for *climate zones* 6, 7 and 8; and
  - (iv) be located on the exterior side of the primary insulation layer of wall assemblies that form the external envelope of a building.
- (b) Except for single skin masonry or single skin concrete, where a *pliable building membrane* is not installed in an *external wall*, the primary *water control layer* must be separated from *water sensitive materials* by a drained cavity.

## 2.2 VAPOUR CONTROL MEMBRANES

Where a pliable building membrane is installed as a vapour barrier, Class 1 or Class 2, it shall be continuously sealed at all discontinuities, end laps, joints and penetrations, by one of the following:

- (a) Heat and moisture resistant adhesive tape.
- (b) Mechanical fixing with adhesive sealant.
- (c) Adhesive bond.

NOTE: Bulk insulation or additional ventilation may also assist in reducing the condensation risk when used in conjunction with vapour control membranes.

## 2.3 AIR CONTROL MEMBRANES (AIR BARRIERS)

Where a pliable building membrane is to be installed as an air barrier, it shall be classified as an air barrier, in accordance with AS/NZS 4200.1. Where installed as an air barrier, the membrane shall be taped or sealed at overlaps, end laps, discontinuities and penetrations. This shall be achieved using the sealing requirement specified in Clause 2.2.

## 3.2 GENERAL REQUIREMENTS

When installing pliable building membranes, the following requirements apply:

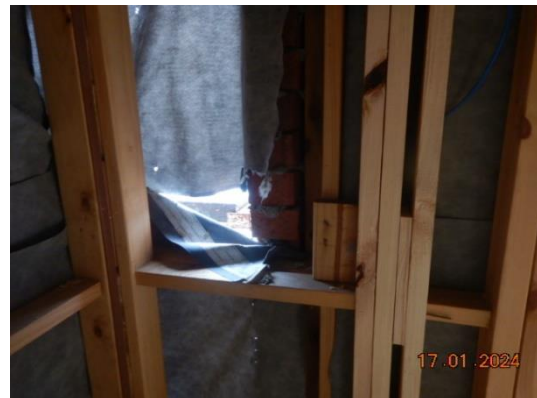
- (a) Damage or tears to the membrane shall be repaired to restore the integrity and maintain the purpose of the membrane.
- (b) The membrane shall be cut to provide a neat fit around obstacles and penetrations (see Section 4).

### 3.12.1.1 Building fabric thermal insulation

- (b) Where *required, reflective insulation* must be installed with—
  - (i) the necessary airspace, to achieve the required *R-Value* between a reflective side of the *reflective insulation* and a building lining or cladding; and
  - (ii) the *reflective insulation* closely fitted against any penetration, door or *window* opening; and
  - (iii) the *reflective insulation* adequately supported by framing members; and
  - (iv) each adjoining sheet of roll membrane being—
    - (A) overlapped greater than or equal to 150 mm; or
    - (B) taped together.

**Explanatory information:  
Adjoining sheets of roll membrane**

Where *reflective insulation* also acts as a vapour barrier or sarking, both the minimum overlap and taping may be necessary.



**14.**

**AS1684.2; Section 8 and manufacturer installation guide:** - Permanent bracing shall be provided to enable the roof, wall, and floor framework to resist horizontal forces (racking forces) applied to the building. Appropriate connection shall also be provided to transfer these forces through the framework structure to the building's foundation. During construction, for various reasons, tradespeople often wish to make penetrations through

structural plywood bracing panels. A neat hole (i.e. not over cut) of up to 100mm x 100mm within an envelope of 100mm from the vertical and top edges and 200mm of the bottom edge of the bracing pane will have no significant effect on the bracing capacity. Multiple 100mm x 100mm holes are allowable within the envelope but their centres must be no closer than 600mm. One hole of up to 400mm x 400mm located between the studs and within the envelope defined above, with nogging framing the hole and fixing of the plywood to the framing as per the requirements for the top and bottom plate is acceptable. If holes present as extensive, then the builder should seek engineering and design for reinforcement and/or reinstallation. Supply a copy of all documentation to the client as per section 26 of the Domestic Building Contracts Act 1995.

All sheets failing the guidelines will need to be reworked or replaced accordingly.

### 8.1 GENERAL

Permanent bracing shall be provided to enable the roof, wall and floor framework to resist horizontal forces applied to the building (racking forces). Appropriate connection shall also be provided to transfer these forces through the framework and subfloor structure to the building's foundation.

Where required, bracing within the building, which normally occurs in vertical planes, shall be constructed into walls or subfloor supports and shall be distributed evenly throughout.

Where buildings are more than one storey in height, wall bracing shall be designed for each storey.

## Holes through EGGER OS'Brace® bracing

As EGGER OS'Brace® possesses similar shear carrying capacity to other sheet bracing materials, allowable holes through EGGER OS'Brace® in size and distribution would be similar to these materials. A hole 100 x 100 mm maximum within an envelope of 100 mm from top and vertical edges and 200 mm of

the bottom of the bracing panel will not significantly affect the bracing capacity. Multiple holes of this size are permitted provided the centre lines of the holes are not closer than 600 mm.

### Example only



15.



**The NCC 2019; Part 2.2 Damp and Weatherproofing:** - A building including any associated site work must be constructed in a way that protects people and other property from the adverse effects of redirected surface water.

Temporary downpipes have come away from the gutters and need to be reattached.

**Part 2.2 Damp and weatherproofing**

**Explanatory information:**  
**Objective**  
**O2.2**  
The Objective is to—

- (a) safeguard occupants from illness or injury and protect the building from damage caused by—
  - (i) *surface water*; and
  - (ii) external moisture entering a building; and
  - (iii) the accumulation of internal moisture in a building; and
  - (iv) discharge of *swimming pool* waste water; and
- (b) protect *other property* from damage caused by—
  - (i) redirected *surface water*; and
  - (ii) the discharge of *swimming pool* waste water.

**Functional statements**  
**F2.2.1 Surface water**  
A building including any associated *sitework* is to be constructed in a way that protects people and *other property* from the adverse effects of redirected *surface water*.



16.

The cavity door frames have not been installed with fixings within 50 mm of the door buffers as per the Manufacturer's installation requirements. All cavity doors need to be fixed and full packed prior to plaster installation.



17.

**AS 3500.1; 5.2.2:** - Where electrical wire, cables or consumer gas pipes are in existence, plumbing pipes will be installed and maintain a separation at least 25 mm distance.

Installation fails to meet this requirement.

### 5.3 PROXIMITY TO OTHER SERVICES

#### 5.3.1 General

Where electrical conduits, wires, cables or consumer gas pipes, drains and other services are in existence, pipes shall be installed in accordance with the requirements of Clauses 5.3.2 to 5.3.10.

#### 5.3.2 Separation from above-ground electrical conduit, wire, cable or consumer gas pipes

A separation of at least 25 mm shall be maintained between any above-ground water service and any of the following services:

- (a) Electrical conduit.
- (b) Electrical wire or cable. ←
- (c) Consumer gas pipes. ←



## 18.

The NCC Performance Provision P2.4.7 clearly states that water vapour and condensation must be managed to minimise the health risks to occupants. All water must be removed from the void as documented.

### P2.4.7 Condensation and water vapour management

Risks associated with water vapour and *condensation* must be managed to minimise their impact on the health of occupants.

#### Application:

P2.4.7 only applies to a Class 1 building.

If left unresolved the resulting mould and fungi build ups, once established, will be very difficult to arrest. They are a known cause of “Sick Building Syndrome”.

### What is mould?

Mould is part of a group of very common organisms called fungi that also include mushrooms and yeast. It is present virtually everywhere, both indoors and outdoors.

Mould may grow indoors in wet or moist areas lacking adequate ventilation, including walls/ wallpaper, ceilings, bathroom tiles, carpets (especially those with jute backing), insulation material and wood. If moisture accumulates in a building mould growth will often occur. Many different types of mould exist and all have the potential to cause health problems.



## 19.

**Australian Glass and Window Association (AGWA):** - Windows shall be packed plumb and square including under the sill.

The window reveals and door frames around the dwelling have not been installed in accordance with the AGWA installation instructions or the manufacturer's installation instructions.

#### CORRECT INSTALLATION OF FRAMES


1. Fit flashing to window surround as required.
2. Measure the frame opening to ensure that there is sufficient room for the product and additional packing.

##### Stud Opening

Height = O/A reveal size +  
adequate clearance

Width = O/A reveal size +  
adequate clearance

Clearance dimensions vary between manufacturer's products. For adequate clearance, refer to instructions.

- 
3. Frame must be packed plumb, square and not twisted between the openings. Ensure the sill is fully supported. Failure to do so may result in sill roll on sliding windows.

Sills on all windows and doors must be straight and level and should be packed and secured.

To ensure the satisfactory long term performance of sliding doors, the sill should be fully supported. Where the sill projects during construction the sill should be fully supported.

Keep sashes closed whilst installing frames.

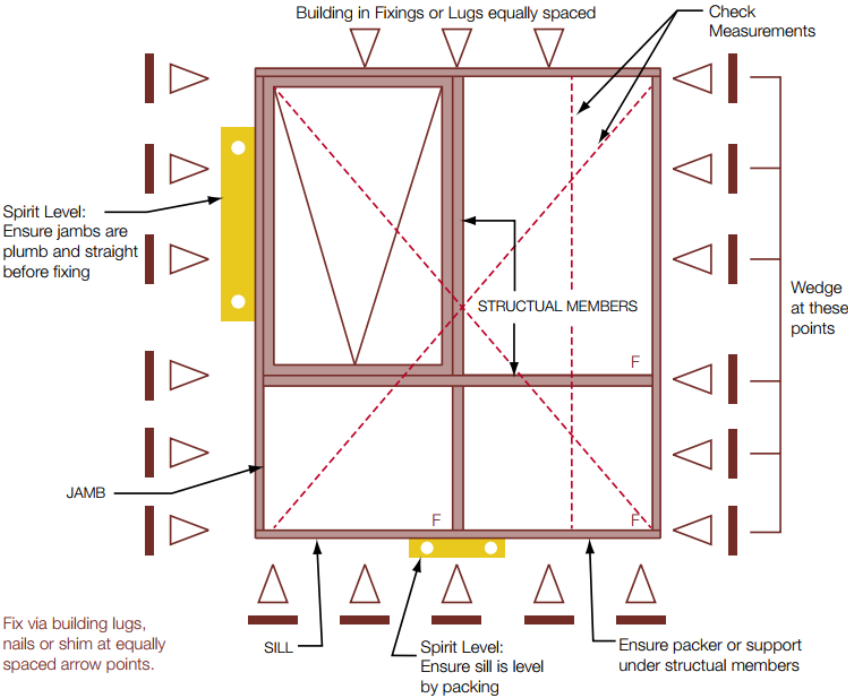
Secure frames with a fixing of a gauge and spacing appropriate for the wind load.

In brick veneer constructions, aluminium frames should be secured by nailing or screwing through reveal into stud work.



# INSTALLATION

Figure 11 Installation Summary



20.

**AS 3000; 3.9.4.2 & figure 3.4; 3.7:** - Wiring systems shall be protected by concealing within 50 mm from the surface of a wall, floor, ceiling and roof and fixed in position.

This installation has not met this requirement.

### 3.9.4.2 Wiring systems near building surfaces

Wiring systems that are fixed in position by fasteners, or held in position by thermal insulation, or by passing through an opening in a structural member, shall be protected by one of the methods outlined in Clause 3.9.4.4 if they are concealed within 50 mm from the surface of a wall, floor, ceiling or roof.

*Exception: This requirement need not apply to wiring systems that can move freely to a point not less than 50 mm from the surface in the event of a nail or screw penetrating the cavity at the location of the wiring system.*

Figures 3.3, 3.4 and 3.5 provide examples of protection of wiring systems near building surfaces.

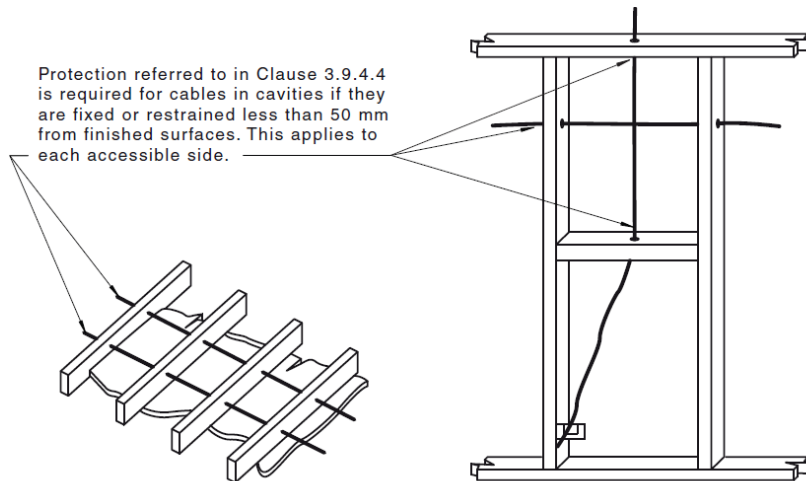


FIGURE 3.4 PROTECTION OF WIRING SYSTEMS WITHIN CEILINGS, FLOORS AND WALL SPACES

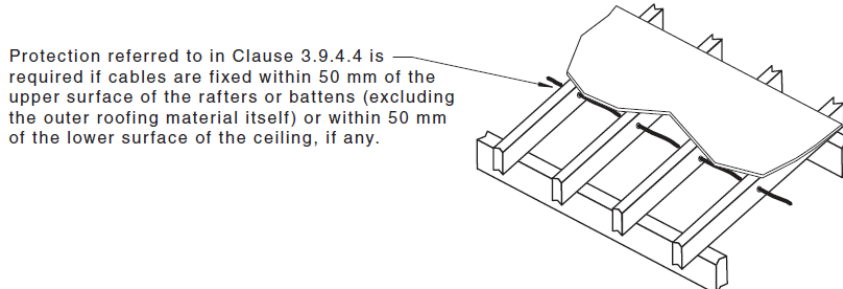


FIGURE 3.7 PROTECTION OF WIRING SYSTEM BELOW ROOFING MATERIAL

### 3.9.4.4 Protection methods

Where protection of a wiring system is required, in accordance with Clauses 3.9.4.2 and 3.9.4.3.2, the wiring system shall be—

- provided with adequate mechanical protection at a minimum of WSX3 to prevent damage (refer to Paragraph H5.4, Appendix H); or
- provided with an earthed metallic armouring, screen, covering or enclosure, to operate a short circuit protective device under fault conditions; or
- protected by an RCD with a maximum rated operating residual current of 30 mA.

NOTE: Where conductive mechanical protection is installed to meet the requirements of 3.9.4.4(a), for the protection of double insulated conductors, earthing of the conductive mechanical protection need not be provided.



21.

**The Domestic Building Contracts Act 1995, Section 26:** -We noted that the slab has been altered.

In order to open a slab, a builder must;

- Seek engineering process and design for both the opening and reinstatement of any and all support systems such a steel reinforcing.
- Document same.
- Send the engineering to the site surveyor for approval.
- Have the site surveyor witness the opening and closing of the slab to ensure that the builder has carried out the works in accordance with the process's and rectification statements in the engineering documentation.
- Ensure that termite protection is installed into the opening as required.
- Supply a copy of all to my client as per section 26 of the Domestic Building Contracts Act 1995.

## 26. Builder must supply copies of relevant reports etc.

- (1) A builder must give to a building owner a copy of any report, notice, order or other document that the builder is given in relation to the building work being carried out by the builder for the building owner by any public statutory authority, provider of services such as gas, electricity, telephone, water and sewerage or person registered under the **Building Act 1993**, and must do so as soon as practicable after receiving the report, notice, order or document.

Penalty: 20 penalty units.



Slab appear to have been altered to riser

## 22.

**AS 3500.1, part 5.5.2.1:** - Where pipes pass through studs, the gap must be filled with a silicon sealant shall be used to fill the annular space.

This requirement has not been met

### 5.5.2.1 Walls

Water services located in timber- or metal-framed walls shall be installed as follows:

- (a) *Timber wall framework* — Holes or notches made in timber studs and plates in walls shall be in accordance with the following:
- (i) The maximum size and spacing of holes or notches in studs shall be in accordance with [Figure 5.5.2.1\(A\)](#) and [Table 5.5.2.1](#).
  - (ii) Where uninsulated pipes are used, a collar of lagging material or a neutral cure silicone sealant shall be used to fill the annular space.





23.

**NCC 2019; 3.5.2.4:** - Sarking must be fixed at maximum 300mm centres with no sags greater than 40mm.

Sarking installation has not met this requirement.

#### 3.5.2.4 Sarking

Sarking must—

- (a) be provided in accordance with [Table 3.5.2.2](#); and
- (b) comply with AS/NZS 4200.1 and be installed with—
  - (i) each adjoining sheet or roll being—
    - (A) overlapped not less than 150 mm; or
    - (B) taped together; and
  - (ii) sarking fixed to supporting members at not more than 300 mm centres; and
  - (iii) no sags greater than 40 mm in the sarking.



24.

**AS 4200.2, part 3.7.3:** - DPC/flashings requires it to be placed behind the pliable membrane and not over pliable membrane.

The dwelling pliable membrane installation does not meet this requirement.

AS 4200.2, part 3.7.3,

### 3.7.3 Water control membrane

Where a pliable building membrane is installed as a water control membrane, the upper sheets shall lap over the lower sheets, to ensure water is shed to the outside face of the membrane.



25.

**AS 1860.2; 10.3:** - Fixings used to fix particle board sheet flooring shall be driven flush or not more than 1mm below the sheet surface.

This requirement has not been met. Fixings present as having been driven well below the sheet surface during installation.

### 10.3 Nails

Nails, applied by hand or with a nailing machine, shall comply with the following:

- (a) Nails shall be driven flush initially and not punched below the surface until immediately prior to sanding (see Clause 12).
- (b) Nailing machines shall be adjusted so that the heads of the nails penetrate the surface by not more than 1 mm. The use of a flush drive attachment, a chisel drive nail machine or similar is required.



26.

**AS 3740 Waterproofing of domestic wet areas; 3.10.1:** - Recessed soap holders and similar (niches), shall have fall in the base to drain to the shower recess. Fall must be in the membrane.

Waterproofing has not met this requirement.

### 3.10 PENETRATIONS

#### 3.10.1 Shower areas

Penetrations for taps, shower nozzles, recessed soap holders and similar fixtures shall be waterproofed by sealing with proprietary flange systems or a sealant. When sealing the tap body to the wall, allowance shall be made for the servicing of tap washers or ceramic disks without damaging the seal.

NOTE: Typical detail for recessed soap holders is shown in Figure 3.4.

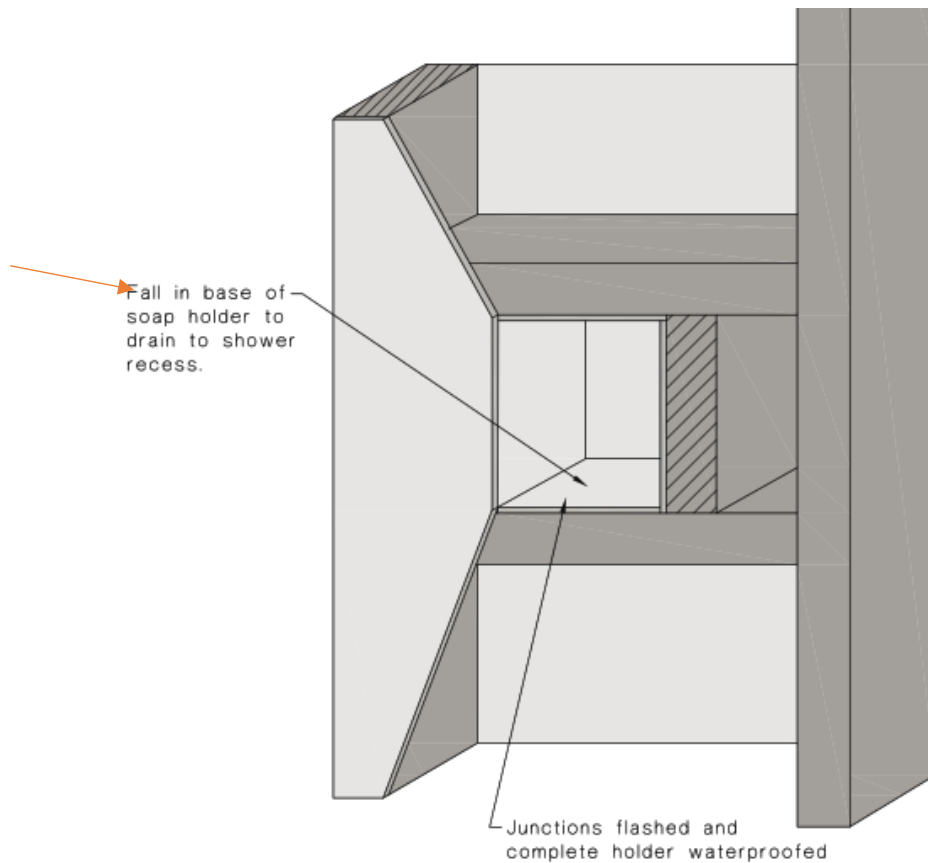


FIGURE 3.4 TYPICAL DETAIL FOR RECESSED SOAP HOLDERS



27.

**AS 3740; 2.2:** -It was noted that the bath hob has been constructed with non-structural pine. Waterproof systems and installation details shall be compatible and shall resist shrinkage and expansion of substrate materials, framing and finishes. This material does not meet this requirement.

## 2.2 DESIGN AND INSTALLATION

Waterproofing systems and their installation details shall be waterproof or water resistant as required by the BCA.

In addition, waterproofing systems and their installation details shall be compatible and shall resist the following:

- (a) Differential movement due to—
  - (i) actions as defined in AS/NZS 1170.1 and AS/NZS 1170.2;
  - (ii) shrinkage and expansion of substrate materials, framing and finishes;
  - (iii) temperature variations from  $-5^{\circ}\text{C}$  to  $+50^{\circ}\text{C}$ ; and
  - (iv) movement tolerances as defined in AS 2870.



28.

**AS 1684.2; 1.7 & 1.10:** - Where applicable, roof loads shall be transferred the timber frame to the footings by the direct route. Frame is to be bearing directly onto the slab through the studs.



This requirement has not been met.

### 1.7 Load paths — Offsets and cantilevers

Where applicable, roof loads shall be transferred through the timber frame to the footings by the most direct route. For floor framing, the limitations imposed regarding the support of point loads and the use of offsets and cantilevers are specified in [Section 4](#).

#### 1.10 Bearing

The minimum bearing for specific framing members (bearers, lintels, hanging beams, strutting beams, combined strutting/hanging beams, counter beams, combined counter/strutting beams and verandah beams) shall be as given in the Notes to the Span Tables of the Supplements, as appropriate.

In all cases, except for battens, framing members shall bear on their supporting element a minimum of 30 mm at their ends or 60 mm at the continuous part of the member, by their full breadth (thickness). Reduced bearing area shall only be used where additional fixings are provided to give equivalent support to the members.

Where the bearing area is achieved using a non-rectangular area such as a splayed joint, the equivalent bearing area shall not be less than that required above.



29.

**Domestic Building Contracts Act 1995:** - The builder warrants that all work will be carried out in a proper and workmanlike manor, with reasonable care and skill.

The following items will need to be completed or repaired same.

*Domestic Building Contracts Act 1995*  
*Act No. 91/1995*

Part 2—Provisions that Apply to all Domestic Building Contracts

s. 8

---

**PART 2—PROVISIONS THAT APPLY TO ALL DOMESTIC  
BUILDING CONTRACTS**

## Division 1—General Warranties<sup>4</sup>

### 8. Implied warranties concerning all domestic building work

The following warranties about the work to be carried out under a domestic building contract are part of every domestic building contract—

- (a) the builder warrants that the work will be carried out in a proper and workmanlike manner and in accordance with the plans and specifications set out in the contract;
- (d) the builder warrants that the work will be carried out with reasonable care and skill and will be completed by the date (or within the period) specified by the contract;



Unable to inspect external due to scaffolding. To be checked at next stage.



rework flush

## **Rectification Required: YES**

### TERMS & CONDITIONS OF Darbecca Pty Ltd SITE INSPECTION AND REPORT

#### 1. Purpose

The purpose of our inspection is to identify any defects in the finishes and the quality of those finishes presented by the builder at the stage of works nominated on the front of this report. This report contains a schedule of building defects that in the writer's judgement do not reach an acceptable standard of quality, level of building practice, or have not been built in a proper workmanlike manner relative to the Building Code of Australia, the relevant Australian Standards or the acceptable standards and tolerances as set down by the Building Control Commission.

#### 2. Scope

Our engagement is confined to that of a Building Consultant and not that of a Building Surveyor as defined in the Victorian Building Act, of 1993. We therefore have not checked and make no comment on the structural integrity of the building, nor have we checked the title boundaries, location of any easements, boundary setbacks, room dimensions, height limitations and or datum's, glazing, alpine and bush-fire code compliance, or any other requirements that is the responsibility of the Relevant Building Surveyor, unless otherwise specifically noted within this report.

### **3. Assumed Finishes**

Our inspection was carried out on the quality of the fixtures and finishes as installed, and no investigation of any documentation or statutory requirements was carried out to verify their correctness.

### **4. Documentation**

Unless otherwise noted any contractual documentation made available to us during our inspection is only viewed on an informal basis and we make no certification that the building has been constructed in accordance with them.

### **5. Non-Destructive Inspection**

Unless otherwise noted our inspection was carried out on a non-destructive basis and exclude anything that would have require the removal of any fixtures, fittings, cladding, insulation, sisalation, roofing, lining materials, excavated of any soil or the removal of any part of the plastic membrane.

### **6. Measurements/Levels**

Unless otherwise noted all measurements have been taken with a standard ruler, and levels with either a 900 or 2100mm long spirit level.

### **7. Services, Appliances, Plants and Equipment**

Unless otherwise noted, we did not test or check for appropriateness, capacity, correct installation or certification of any service, appliances, plant and equipment, i.e. heaters, hot water units, air conditioners, ovens, hotplates, dishwashers, range hoods, spa pump, electrical wiring, gas lines, electricity and water supply, sewer, stormwater and agricultural drains.

### **8. Client Use**

This report has been prepared for the exclusive use of the client/s whose name/s appear/s on the front of this report as supplied by Darbecca Pty Ltd ABN 12 115 961 487. Any other person who uses or relies on this report without the authors written consent does so at his or her own risk and no responsibility is accepted by Darbecca Pty Ltd or the author of this report for such use and or reliance.

### **9. Report Reproduction**

This report cannot be reproduced in part; it must only be done so in full.

### **10. Reference**

Any reference contained within this report to the Building Code of Australian, an Australian Standard, a manufacturers technical data sheet or installation instruction is neither exhaustive nor a substitute for the original document and are provided as a guidance only. Darbecca Pty Ltd or the author of this report for the use or reliance upon of the part references contained within this report will accept no responsibility.

### **11. Report Exclusions**

- a) Defects in inaccessible parts of the building including, but not limited to, the roof space and or the sub-floor area unless otherwise noted,
- b) Defects not apparent by visual inspection, or only apparent in different weather or environmental conditions as to those prevailing at the time of the inspection,
- c) Defects that we did not consider significant enough to warrant any rectification work at the time of our inspection,
- d) Defects outside the scope of the client brief
- e) Check measure of rooms, walls and the overall building, for size, parallel and squareness unless otherwise noted,
- f) Landscaping, retaining wall/s, or any structures outside the roofline of the main building unless otherwise noted,
- g) Enquiries of Council or any other Authorities,
- h) Investigation for asbestos and or soil contamination,

i) Investigation for the presence of any termites or borers and for the correct installation of any termite barriers and or other risk management procedures or devices.

j) Defects in relation to PVC sewage and storm water pipes are not covered in this inspection. Clients must seek the services of a licenced plumber to check all sewage and storm water pipes.

## **12. VCAT Suitability**

**Unless specifically noted this report has not been prepared in-line with the requirements of Practice Note VCAT 2. If you wish to have this report converted to a VCAT 2 Practice Note, please contact our office on 03 5366 6900.**