

Final Inspection Report



Site Address:

Client Name:

Phone #:

Email:

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Dwelling type:	House and Garage.
Dwelling configuration:	Single Storey.
Nature of works:	New Building.
Stage of inspection:	Maintenance
Construction Type:	Brick Veneer.
Garage:	Attached.
Foundations:	Slab.
Builder:	

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.

Particulars of Our 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.

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.

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 bottom of this page.

Please note: **A fee of \$165.00 per hour**, or part thereof, plus GST will be charged for any clarification required by the builder, or any of the builders' employees, and a purchase order for same will be required prior to any contact between XXXXXXXX P/L and the builder.

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An inspection was conducted at the above address on 28/08/2013 for the purpose of a general home inspection, requested by the 'client'.

The inspection was conducted with the 'client' present, and details exterior and interior.

The weather was fine and mild 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 dwellings owners under these two acts.

Schedule of Defects:

Defects, observations and other related comments:

1. The dwelling has a Fire Attack Rating of 12.5. As such all
 - a. Sarking to the roof must be sealed to a size opening no greater than 3 mm. The following items are therefore defective:
 - i. The roof penetration for the ducted heating flue unit.
 - ii. The sewage venting pipe penetration.
 - iii. The holes in the sarking where the roof rail has been installed.
 - iv. The holes in the sarking that appear to have been inserted to allow light into the roof space.
 - b. All wall penetrations must be less than 3 mm. The following are therefore defective:
 - i. The holes beside the sliding door frames.
 - ii. The hole to the gas pipe installation through the wall.

The BAL was introduced to stop ember attack to dwellings rated at 12.5. My client has paid to have this mandated fire protection level installed. My client is of the opinion that the dwelling is resistant to ember attack and trusted both the builder and the surveyor to ensure that the dwelling complies.

Unfortunately that has not been the case. Both the builder and the surveyor have not ensured that this fire protection level has been installed in a manner that is mandated and required as part of the building approval process.

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The builder must make good this defect in full prior to handover. The surveyor needs to ensure that the builder makes good this defect.

5.6.5 Roof penetrations

The following apply to roof penetrations:

- (a) Roof penetrations, including roof lights, roof ventilators, roof-mounted evaporative cooling units, aerials, vent pipes and supports for solar collectors, shall be adequately sealed at the roof to prevent gaps greater than 3 mm. The material used to seal the penetration shall be non-combustible.
- (b) Openings in vented roof lights, roof ventilators or vent pipes shall be fitted with ember guards made from a mesh or perforated sheet with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium.

5.4.2 Joints

All joints in the external surface material of walls shall be covered, sealed, overlapped, backed or butt-jointed to prevent gaps greater than 3 mm.

Alternatively, sarking-type material may be applied over the outer face of the frame prior to fixing any external cladding.

5.4.3 Vents and weepholes

Vents and weepholes in external walls shall be screened with a mesh with a maximum aperture of 2 mm, made of corrosion-resistant steel, bronze or aluminium, except where the vents and weepholes are less than 3 mm (see Clause 3.6), or are located in an external wall of a subfloor space.



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2. The BAL of 12.5 calls for all exposed gas pipes on the dwelling to be metal. The exposed gas pipes on this dwelling are plastic.

I refer the builder to AS 3959, clause 5.8. See below.

Please note that when the builder makes good this defect that the gas pipe lead in from the external of the dwelling will then run into the wall will more than likely have a threaded connection from the metal to the plastic.

As per AS 5601, this pipe cannot be joined with a threaded connection inside a non-ventilated concealed place. See table 5.2 below from AS 5601.

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5.3.8 Piping in a concealed location other than underground or embedded in concrete

Where *consumer piping* is to be in a concealed location, other than underground or embedded in concrete, the requirements detailed in Table 5.2 shall apply.

TABLE 5.2
PIPING IN CONCEALED LOCATION

Operating pressure	Accessibility (Note 1)	Ventilation required (Note 2)	Pipe materials and jointing
Up to and including 7 kPa	Accessible	Yes	Pipes and jointing as per Table 4.1
	Inaccessible	Yes	Pipes as per Table 4.1 Joints to be kept to a minimum
	Accessible or Inaccessible	No	Pipe as per Table 4.1 Joints to be <i>permanent joints</i> and kept to a minimum
Exceeding 7 kPa	Accessible	Yes	Pipes as per Table 4.1 Joints to be <i>permanent joints</i> and kept to a minimum
	Inaccessible		Not to be installed

NOTES:

- 1 In this Table *accessible* means access can be gained by, for example, a ceiling access opening or sub-floor door except that in a multi-storey building it means able to be viewed at each floor.
- 2 For ventilation requirements see Clause 5.3.12.

5.8 WATER AND GAS SUPPLY PIPES

Above-ground, exposed water and gas supply pipes shall be metal.



3. The B.C.A. section 3.8.5.2, sub section (c), outlines the requirements of a builder in relation to ventilation of a sanitary compartment.

This dwelling has sarking to the whole of the roof. As such the builder must install a roof vent that complies with the BCA and AS 3959 (BAL 12.5) in relation to no openings greater than 3 mm.

I noted that no vent was installed.

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3.8.5.2 Ventilation requirements

Ventilation must be provided to a *habitable room, sanitary compartment*, bathroom, shower room, laundry and any other room occupied by a person for any purpose by any of the following means:

- (a) Permanent openings, *windows*, doors or other devices which can be opened—
 - (i) with an aggregate opening or openable size not less than 5% of the *floor area* of the room *required* to be ventilated; and
- (c) An exhaust fan or other means of mechanical ventilation may be used to ventilate a *sanitary compartment*, laundry or bathroom provided contaminated air exhausts—
 - (i) directly to outside the building by way of ducts; or
 - (ii) into a roof space that—
 - (A) is adequately ventilated by open eaves, and/or roof vents; or
 - (B) is covered by roof tiles without sarking or similar materials which would prevent venting through gaps between the tiles.

4. The insulation in the ceiling has several defects. They are:

- The insulation is falling over the sides of the top plates to the outer edges of the dwelling and falling into the cavity. This breaches AS 3999, clause 4.2 inserted below. It has also caused a bridge between the outer and inner skin of the cavity, breaching the BCA and AS 3700, AS 4773.1 and AS 4773.2.
- The area within 300mm of the edge of the dwelling is starved as it appears that the bulk of this insulation is now in the cavities due to the poor installation of the barrier batts.
- No insulation has been installed under the large walkways and platforms used in the roof to house the ducted heater and the other cooling system. About 15 % of the roof has no insulation as a result.

It appears that the insulation has moved in the winds as is evident when removing a roof tile to the edge of the dwelling and looking through one of the openings in the sarking left by the roof rail installers. The insulation is falling down the cavity between the dwellings foil paper and brickwork, thus **breaching the cavity**.

This in turn breaches the Building Code of Australia, 3.3.4.2, (c) states, “*the minimum cavity width specified in (a) and (b) is to be maintained between the outer masonry leaf and any services, insulation or sheet bracing located in the cavity*”. In other words, it is not to be breached.

Moving it back into the roof space without reinstalling full perimeter restrains will only result in it moving back to the cavity during the next windy day.

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I we also refer the builder to AS 3700, clause 11.4.13 and clause 12.7.2.2. We have inserted these clauses at the bottom of this item.

The whole area must be reworked, to comply with AS 3999, AS 3700, the BCA and the energy report.

The cavities of the dwelling must not be breached as per the above information and the inserted information below. All call for cavities to be free of all other building products that may cause a bridge to form that allows water to transfer over to the walls.

The cavities must be vacuum cleaned to remove all bridging and the insulation secured from falling into the cavity again.

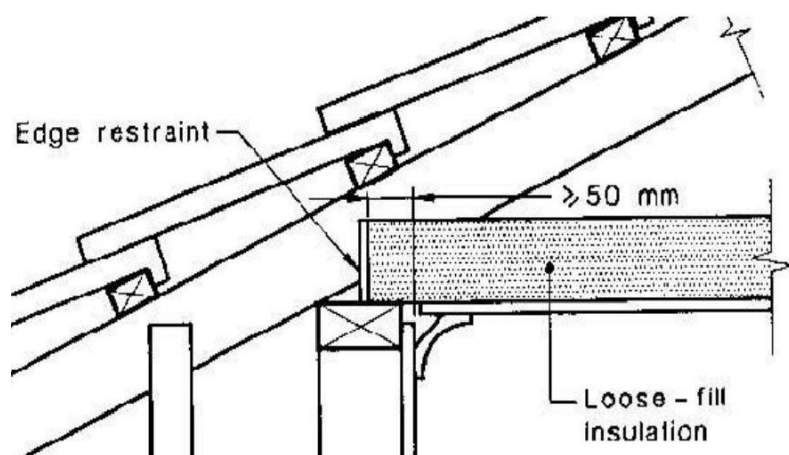
Restraints must be reinstalled correctly as per AS 3999, clause 4.2 inserted.

The performance requirements of the BCA have not been met and the breaches of the cavity via this practise have been brought to the attention of this builder in the past.

If this matter proceeds to VCAT, I will provide evidence of this comment in the form of a written report issued to this builder in 2011.

4.2 GENERAL Bulk insulation installed in all roofs and ceilings shall comply with the following, as appropriate:

- (a) Where loose-fill insulation is to be placed adjacent to ventilated eaves it shall be protected from wind disturbance by a suitable restraint material (see Figure 4.1).
- (b) Bulk insulation in ceilings shall extend not less than 50 mm beyond the inside face of the walls enclosing the space to be insulated (see Figure 4.2 and Clause 3.2(e)).



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12.7.2.2 Cavities

Cavities shall be clean and continuous, and not bridged other than by ties or accessories, flashings, doors, windows, head jambs and sills.

The minimum clear width of a cavity shall be 25 mm for veneer and for cavity construction not less than 35 mm or more than 75 mm.

NOTE: Care should be taken to ensure that wall ties are rated appropriately for the nominated cavity width.

Where insulating material is placed in a cavity, precautions shall be taken to maintain the moisture resistance of the wall.

11.4.13 Cavities in walls

Cavities shall be free from mortar droppings or other materials that might bridge the cavity and allow transmission of moisture. Where ducts, sleeves or pipes are laid along or across a cavity, construction shall be such that transmission of moisture is prevented.



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5. The gutter to the front RHS over the gas meter area has a large amount of ridge capping grout on same that must be removed.



6. The valley irons on the dwelling have been damaged during the roof tile installation process, we would suggest by a grinder. We were able to detect hits to each of the irons. As per the inserted information, the affected valley irons will need to be **replaced**. The warranties on the product are from Lysaght and must be installed as per their instructions. Any warranty that the installer or the builder offers will be subject to the management at the time and the ongoing operation of the builder or the roof installer.

Please note that Lysaght warranties below. You can call them to obtain their advice on the damage on **1800 641 417**.

The depth of the damage means that all damaged irons must be replaced, not painted over or touched up with silicon as per the inserted.

6.08 Dry valley construction

Dry valleys, where they are documented, are defective if they are not constructed in accordance with the *Building Code of Australia* or any relevant instructions from roofing tile associations or the manufacturer's installation instructions.

CORROSION

ZINC COATINGS ON STEEL

TECHNICAL BULLETIN CTB-3

Rev 3, November 2003
This issue supersedes all previous issues

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Provided the coating is continuous and impervious, the galvanized steel's corrosion behaviour will be identical to that of the zinc coating. However, should the zinc coating become perforated or discontinuous as a result of mechanical damage (ie. deep scratches or sheared edges) a steel/zinc galvanic couple will be created and in the presence of moisture, corrosion or dissolution of the zinc will occur. The zinc will become the anode of the corrosion cell and its corrosion rate will be increased whilst the steel will become cathodic and its corrosion rate reduced. The steel is then said to be sacrificially or galvanically protected.

Cladding and rainwater goods warranties

With proper installation and regular maintenance, your LYSAGHT roofing, walling and rainwater system products will provide years of trouble-free performance - we guarantee it! Because LYSAGHT claddings are made exclusively with ZINCALUME® or COLORBOND® steel, they are warranted against corrosion to perforation for a period of up to 25* years by BlueScope Steel. So you can rest easy under a LYSAGHT roof made of ZINCALUME® or COLORBOND® steel.

And because LYSAGHT rainwater goods are performance tested in our NATA-accredited materials science laboratory, you can be confident that they are 'fit for purpose' and will do the job they are designed for.

As most of our gutters, downpipes, flashings and cappings are also made with COLORBOND steel, they also enjoy a warranty against corrosion to perforation ranging from 10* to 25* years depending upon the application.

BlueScope Lysaght have been serving the building industry in Australia for over 150 years. So you can rest assured that your LYSAGHT warranty is your solid guarantee of product performance in years to come.

For full warranty terms and conditions (including the maintenance procedures outlined here) please visit:

www.lysaght.com



* Warranties are subject to our standard terms and conditions.



7. The gutters on the dwelling all need to be fully cleaned. The roof tilers nails, pop rivets, mortar, tile mortar colour and the broken bits of tiles all need to be removed. They will at some stage cause blockages to the storm water system as they will not break down over time.

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8. All weep hole covers need to be removed. I noted them on several weep holes to both face brickwork and rendered brickwork.
9. The rendered brickwork has been damaged by the removal of the weep hole covers. The chipping needs to be repaired and the top coat reapplied.

The following rules apply to this defect and set the rules in place for defecting the item and repairing the item.

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9.01 Matching and repairing existing rendered surfaces

The builder must try to match existing work.

In some instances this may not be possible as the original finish may have significantly aged or the material composition may be impossible to determine without expensive research.

When matching an existing finish, a practical approach must be adopted, and where possible a physical joint, a door, a window, a downpipe or other similar separator should be incorporated to lessen the visual impact of the new work. Where this is not possible, the whole of that wall from corner to corner should be re-finished.

Generally, painting pre-coloured render, to hide defects, is not recommended as this significantly changes texture and appearance.

Where appropriate, defective work such as cracking should be monitored for 12 months or any other agreed period, before determining what, if any remedial work is required.

9.02 Cracking and other blemishes in external rendered surfaces on masonry substrate

Assess crack categories and defects in external rendered surfaces on masonry substrate in accordance with clause 3.02.

Obvious spot rust marks, due to the composition of the material and other blemishes, are defects if they are visible from a normal viewing position.

9.03 Repairs to external applied finishes

Repairs to surfaces that have been rendered are defective if they do not match the colour and texture of the remaining wall or adjacent area as close as practicable.

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10. The garage to house entry door must have full weather seals fitted to comply with the BCA, part 3.12.3.3. This door is classed as an external door in the BCA as it separates an air-conditioned environment (Class 1) with the external environment (Class 10).

The frame of this door was supplied with the seals and the slot for them is present. However it appears that the builder has discarded the seals prior to handover.

Please note that the BCA in part 1.3.3 calls for each class of building to be treated as separate. However it allows dealing as one class if the difference is less than 10%. As such the builder if treating as:

- Separate: The builder must class the door as external and seal it.
- All as Class 1: The builder must fully seal the panel lift doors to the garage as these are now external parts of a class one building.

Either way, the garage to house door must be sealed to all edges. The builder must either seal the panel lift door or seal the garage to house door.

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3.12.3.3 External windows and doors

- (a) A seal to restrict air infiltration must be fitted to each edge of an external door, openable *window* and other such opening—
 - (i) when serving a *conditioned space*; or
 - (ii) in *climate zones* 4, 5, 6, 7 and 8, when serving a *habitable room*.
- (b) A *window* complying with the maximum air infiltration rates specified in AS 2047 need not comply with (a).
- (c) A seal *required* by (a)—
 - (i) for the bottom edge of an external swing door, must be a draft protection device; and
 - (ii) for the other edges of an external swing door or the edges of an openable *window* or other such opening, may be a foam or rubber compressible strip, fibrous seal or the like.

1.3.3 Multiple classifications

Each part of a building must be classified separately, and—

- (a) Classes 1a, 1b, 10a and 10b are separate classifications; and
- (b) a reference to—
 - (i) Class 1 — is to Class 1a and 1b; and
 - (ii) Class 10 — is to Class 10a and 10b; and
- (c) where parts have different purposes — if not more than 10% of the *floor area* of a Class 1 building is used for a purpose which is a different classification, the classification of Class 1 may apply to the whole building.

11. The base of the window frame at the master bedroom to brickwork connection must be reworked to allow a 5 mm gap for shrinkage. I refer the builder to the BCA, part 3.3.1.10, inserted below. To also assist the builder with a visual representation, I have included the pictorial presentation of this requirement from the “Guide to Standards and Tolerances 2007”.

3.3.1.10 Shrinkage allowance for timber framing

- (a) In masonry veneer walls a gap must be left between the timber frame and the top of the masonry wall, including *window* sills etc., to allow for settlement of the timber framing caused by timber shrinkage. These clearances must be not less than—
 - (i) 5 mm at sills or lower and single storey *windows*; and
 - (ii) 8 mm at roof overhangs of single storey buildings; and
 - (iii) 10 mm at sills of second storey *windows*; and
 - (iv) 12 mm at roof overhangs to two storey buildings.

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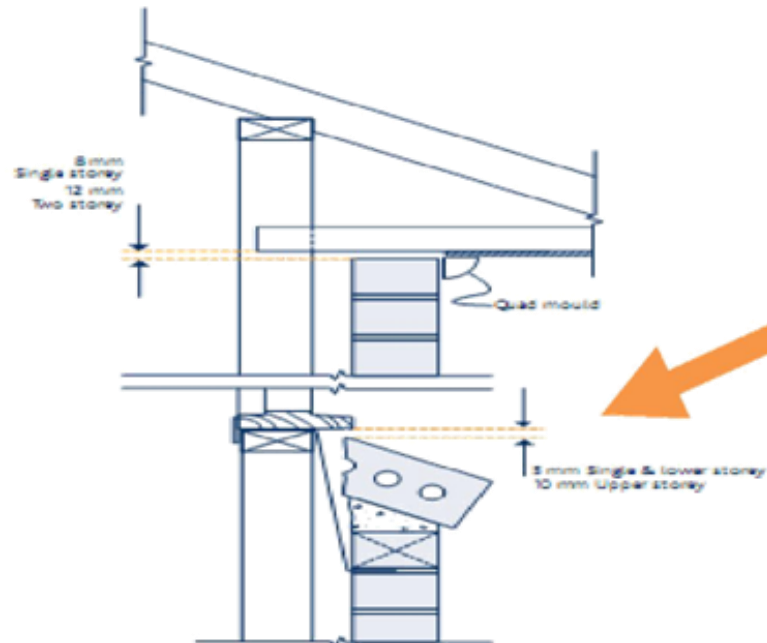
MASONRY (CONT)

Work that does not provide the following clearances at the time of construction is defective:

- i. 5 mm at sills of lower and single storey windows; and
- ii. 8 mm at roof overhangs of single storey buildings; and
- iii. 10 mm at sills of second storey windows; and
- iv. 12 mm at roof overhangs to two storey buildings.

Clearances must be doubled if the timber framing is made of unseasoned hardwood.

DIAGRAM 3.20
SHRINKAGE ALLOWANCE FOR TIMBER FRAMING



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12. Two CJ's are not as per drawings. The builder needs to justify their installed location via an engineer's document and update the drawings to reflect what has been installed. A copy of the drawings will then need to be supplied to my client.
13. The polyethylene vapour barrier from beneath the concrete floor slab has not been turned up the external side faces of its edge beams. It must be prior to them being back filled up against, which will allow moisture ingress via slab edge dampness into the internal timber wall skins and/or the floor coverings if not done.

I refer the builder to the recent VCAT ruling on this type of defect by Senior Member Mr. Walker in VCAT case Zalega Vs Clarendon Homes (D217/2011) that ruled that also commented on this issue. See section 47 of that ruling.

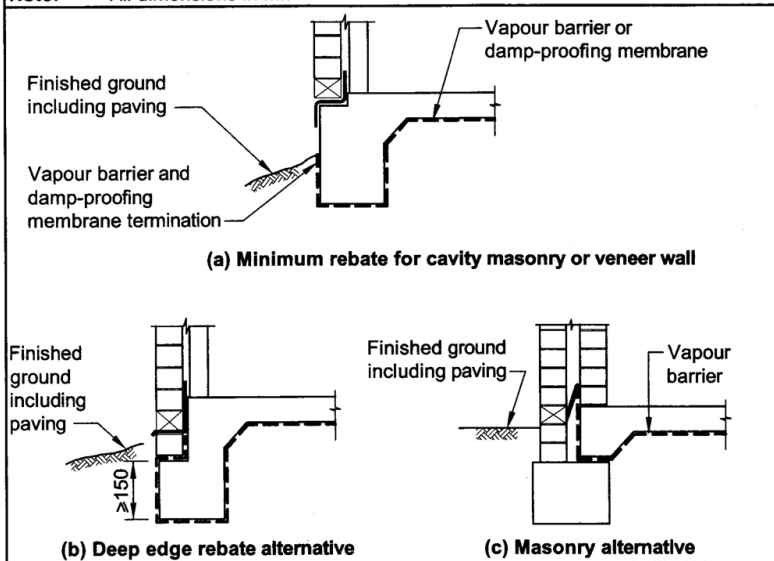
It is a requirement of Part 3.2.2.6 Vapour Barriers of the BCA that *'The vapour barrier must be placed beneath the slab so that the bottom surface of the slab is entirely under laid and extends under edge beams to finish at ground level in accordance with Figure 3.2.2.3.'*

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Figure 3.2.2.3

ACCEPTABLE VAPOUR BARRIER AND DAMP-PROOFING MEMBRANE LOCATION

Note: All dimensions in mm.



All of the existing loose fill that has been placed up against the slabs edge beams will need to be removed and the polyethylene vapour barrier properly extended up the external side faces of the edge beams to at least the height of future finished ground level or paving i.e. 75mm below the damp-proof course and bottoms of the weepholes, after which any termite barriers that are in place, if required, will also need to be properly installed.

I also refer the builder to a recent Victorian Building Commission ruling on this defect (Dec 2011). That ruling is binding and states that the Vapour Barrier must be installed. See inserted below.

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Items inspected

Item number

1

Description of item in dispute

Vapour barrier – not extended to ground level

Reference

Contract

Structural Engineering
drawing No. 3

Building Code of Australia

Clause 3.2.2.6(c)

Australian Standard

Guide to Standards and Tolerances

Other

Blanked out for privacy reasons

Observations and discussion

- 1) The owner complained the vapour barrier under the floor slab is not extended under edge beams to finish at the ground level.
- 2) The vapour barrier under the reinforced concrete waffle slab finishes at the bottom of the edge beams.
- 3) The typical Edge Beam detail on the Structural Engineering drawing shows the vapour barrier finishes up the side edge of the edge beam to the finished ground level.
- 4) The letter from Structural Works provides a detail showing the vapour barrier terminating at the bottom of the edge beam. The letter states that they are satisfied with this detail. However they do not refer to the requirement of the placement of the vapour barrier in the BCA.
- 5) The BCA states that the vapour barrier must be placed beneath the slab so that the bottom surface of the slab is entirely under laid and extends under edge beams to finish at ground level in accordance with Figure 3.2.2.3.
- 6) This is a defect because the vapour barrier does not extend under the edge beam to finish at ground level as required in the BCA.

Is the work of the builder defective?

Yes

Is building work recommended?

Yes

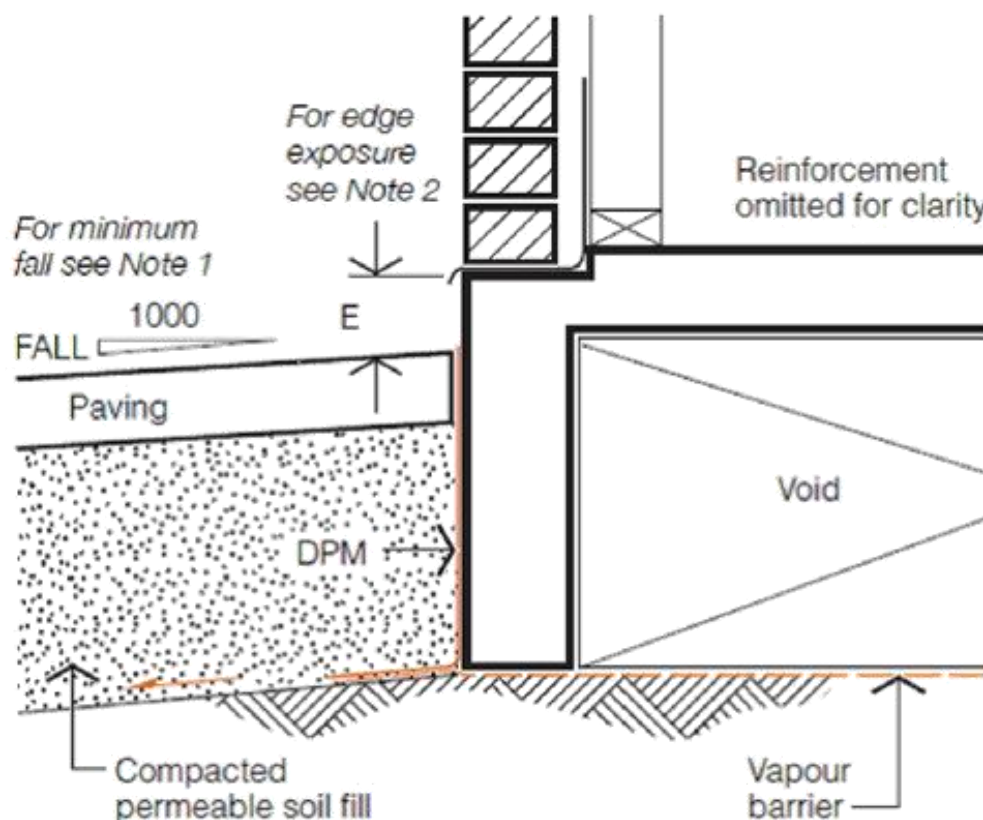
Building work recommended to rectify defective work of the builder

Extend the vapour barrier around the perimeter of the building so it finishes at ground level as shown in Figure 3.2.2.3 of the BCA.

The following is an approved rectification for this defect.

This is out of the Concrete Institute of Australia's current practice note on how to deal with slab edge dampness post construction and looks fairly easy to achieve. Note it is for a Waffle Pod Footing.

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- 1 Fall 'cut' benching away from the footing
- 2 Terminate vapour barrier under DPM on 'cut' benching

- 3 Place DPM between paving and footing (see Note 3 for details)

WAFFLE FOOTING OPTION



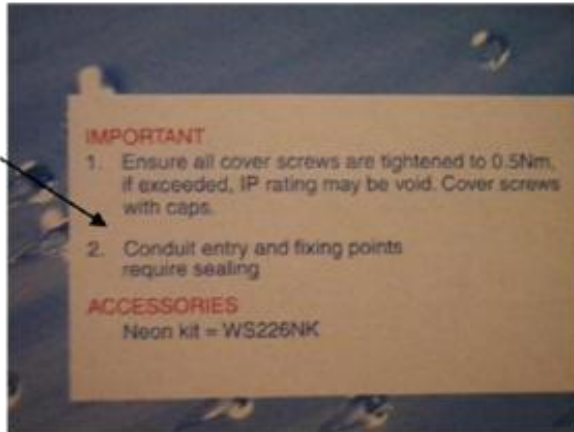
14. All external power points must be sealed to the top and sides of the connection to the brickwork as per AS 3000, clause 1.7.1. The power points are IP 53 rated only. They are not a water proof installation.

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AS/NZS 3000:2007

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- (b) not cause a danger from electric shock, fire, high temperature or physical injury in the event of reasonably expected conditions of abnormal operation, overload, fault or external influences that may apply in the electrical installation; and
- (c) be installed in accordance with the manufacturer's instructions.



15. The brickwork to the dwelling is of a very good standard. However the brickwork to the sliding door and window connection in the family/meals area is twisted and bowed to a point that is clearly discernible to the eye. The allowance is 3 mm for bowing in AS 4773.2 under table 12.1.

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This item is defective and will need to be reworked straight and true.



16. The garage floor has been damaged by what appears to be grinder swirl markings to the whole of the floor. I would suggest that the builder has grinded the floor during construction. The grinding has exposed the aggregate under the finish in some area and has left deep markings to most of the other areas.

The floor will need to be top dressed with an epoxy or a self-levelling concrete coating. The floors were new when laid and must be presented new at handover.

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17. The garage to house door hinges are missing screws.



18. I was instructed that the keys supplied by the builder do not work on all door locks. The builder must have a locksmith attend site and key all locks to the same and supply the correct keys.

19. The gap to the ceiling /wall connection behind the kitchen overhead cabinets at the fridge must be sealed to comply with the BCA, part 3.12.3.5.

The current gaps will allow roof air into the dwelling, negating the energy efficiency gains.

3.12.3.5 Construction of roofs, walls and floors

- (a) Roofs, *external walls*, external floors and any opening such as a *window* frame, door frame, *roof light* frame or the like must be constructed to minimise air leakage in accordance with (b) when forming part of the external *fabric* of—
 - (i) a *conditioned space*; or
 - (ii) a *habitable room* in *climate zones* 4, 5, 6, 7 and 8.
- (b) Construction *required* by (a) must be—
 - (i) enclosed by internal lining systems that are close fitting at ceiling, wall and floor junctions; or
 - (ii) sealed by caulking, skirting, architraves, cornices or the like.

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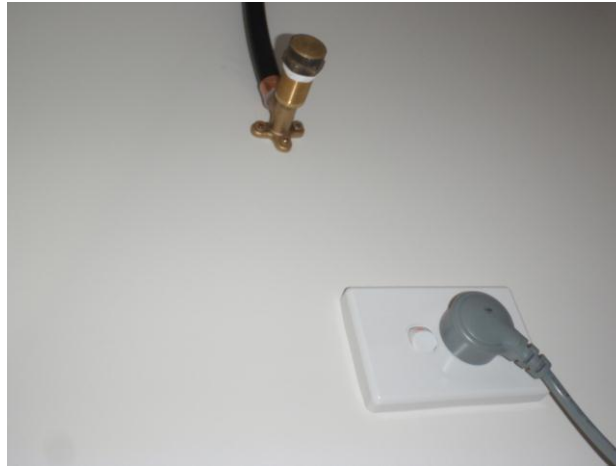
20. The power point below the fridge water outlet must be moved from below the tap. AS 3000, clause 1.5.14 calls for protection by damage that “*might reasonably be expected*”. I’m fairly confident that one would suggest that there is a likelihood of water ingress of the power point at some stage during the life expectancy of the home. That is over the next 49 years.

1.5.14 Protection against external influences

All parts of an electrical installation shall be designed to be adequately protected against damage that might reasonably be expected from environmental and other external influences to which the electrical installation may be exposed under the conditions of its use. These conditions would be those that would be expected during normal operation.

Damage from such influences may include mechanical damage, and damage because of exposure to weather, water, flora, fauna, seismic activity, excessive dampness, corrosive fumes, galvanic action, accumulation of dust, steam, oil, temperature, explosive atmospheres, vibration or any other influence to which the electrical installation may be exposed under the conditions of its use.

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21. The water pipe that leads to the back of the fridge has been installed after plaster. The pipe has not been secured and is banging on the wall when the tap is shut off.

AS 3500.1 calls for all water pipes to be secured. See section 5.5.2.1. The builder may claim that this applies to in wall installations. I would suggest that this pipe was to be installed in the wall and being installed external to the plaster is a defect in itself. The corrective measure is to secure the pipe to the wall to stop any noise during water use.

5.5.2.1 Walls

Water services located in timber- or metal-framed walls of brick veneer construction 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 5.2 and Table 5.1.
 - (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.



22. The laundry bench top has been installed out of level.

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23. The plaster to the rear of the laundry sink cupboard has not been painted. This plaster is subjected to water and other such materials.

The plaster needs a minimum of two coats of paint to seal the standard plaster from water ingress.

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24. The floor tiling on this dwelling in the meals to garage door area has been installed out of level. The allowance for out of level is 4 mm over 2 m as per AS 3958.1, clause 5.4.6.

It is our suggestion that both the slab and the tiling are defective. The builder will need to rework the area level and to within a tolerance as per the inserted.

5.4.6 Tile finish and joints

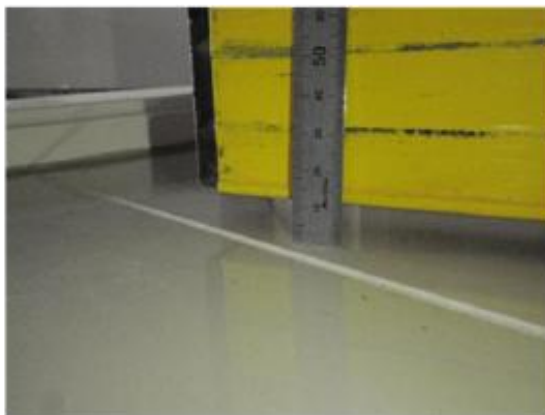
The recommendations for tile finish and joints are as follows:

- (a) When measured with a straightedge, the finished surface of the tiling should be flat and true to within a tolerance of ± 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.

2.08 Levelness of timber and concrete floors

Except where documented otherwise, new floors are defective if within the first 24 months they differ in level by more than 10 mm in any room or area, or more than 4 mm in any 2 m length. The overall deviation of floor level to entire building footprint shall not exceed 20 mm. Refer to clause 1 of this *Guide* where the new floor is to join an existing floor.

Final Inspection Report



25. The ensuite has several defects that the builder must rework. They are:

- a. The fan has no draft stopper installed. The energy rating on the dwelling calls for draft stoppers to all fans.
- b. The shower outlet is reported as leaking. The outlet must be reworked to stop any leakage.
- c. The installation of the cabinets has resulted in a large section being damaged and an exposed wall cavity.
- d. The B.C.A. section 3.8.5.2, sub section (c), outlines the requirements of a builder in relation to ventilation of a sanitary compartment. The sanitary compartment on this dwelling needs to be mechanically vented, via a ducting system, to the external of the building. This item needs to be rectified.

3.8.5.2 Ventilation requirements

Ventilation must be provided to a *habitable room*, *sanitary compartment*, bathroom, shower room, laundry and any other room occupied by a person for any purpose by any of the following means:

- (a) Permanent openings, *windows*, doors or other devices which can be opened—
 - (i) with an aggregate opening or openable size not less than 5% of the *floor area* of the room *required* to be ventilated; and
- (c) An exhaust fan or other means of mechanical ventilation may be used to ventilate a *sanitary compartment*, laundry or bathroom provided contaminated air exhausts—
 - (i) directly to outside the building by way of ducts; or
 - (ii) into a roof space that—
 - (A) is adequately ventilated by open eaves, and/or roof vents; or
 - (B) is covered by roof tiles without sarking or similar materials which would prevent venting through gaps between the tiles.

All need to be reworked as part of the builder's obligations.

Final Inspection Report



26. It was noted that the dwellings intersecting wall blocking has not been nailed off as per AS 1684.2, clause 6.2.1.3. We would suggest that there is a very high probability that this defect is all through the dwelling.

I also noted that AS 1684.2 calls for a minimum of three blocks to all walls. The builder has not installed three blocks to all walls.

Securing the walls at the intersections is paramount to ensuring that the dwellings frame work restricts movement, and thus plaster cracking.

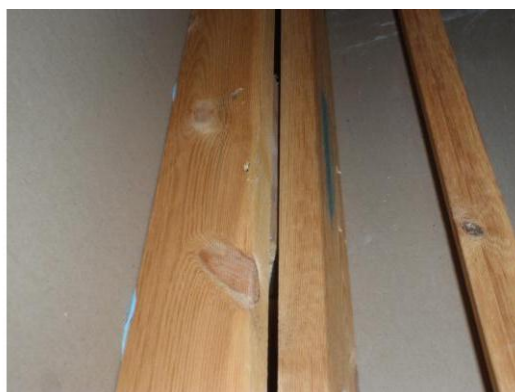
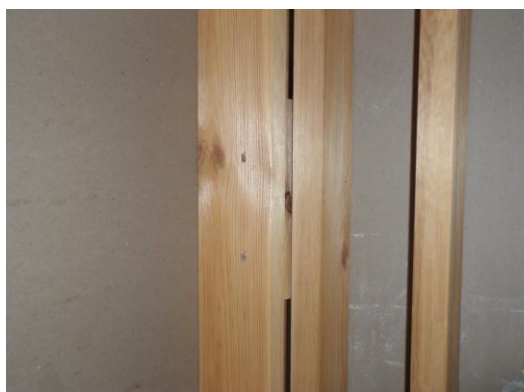
It is our opinion that this dwelling has a greater chance of frame movement than had the blocking been correctly installed.



All intersecting walls shall be fixed at their junction with blocks or noggings fixed to each wall with 2/75 mm nails. Blocks or noggings shall be installed at 900 mm max. centres.

The performance requirements of the BCA have not been met and the breaches of the blocking via this practise have been brought to the attention of this builder in the past.

If this matter proceeds to VCAT, I will provide evidence of this comment in the form of a written report issued to this builder in 2011 with the same defect.



27. The sliding door to the linen in the hallway is difficult to open and close and I would suggest has a failed runner.

Final Inspection Report

28. I was instructed that the following has been brought to the builders attention and to date no action has taken place:

- a. The rear light is non-functional.
- b. Rear tap installed sideways.
- c. Nail hole in ceiling to family.
- d. Poor plaster finish to Lounge room under window frame.

Final Comment:

All of these items are brought to the builders attention und make part of the known defects on the dwelling. The builder must make good all items as per the contract between both parties.

Rectification Required YES

TERMS & CONDITIONS OF 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 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

Final Inspection Report

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. 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 XXXXXXXX P/L or the author of this report for such use and or reliance.

9. Report Reproduction

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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. XXXXXXXX P/L 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 walls, 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.

12. VCAT Suitability

Unless specifically noted this report has not been prepared inline with the requirements of Practice Note VCAT 2.