

Determination 2008/72

Refusal to issue a code compliance certificate for an 11-year-old building with brick veneer cladding at 7 John Webb Drive, Hamilton



1. The matter to be determined

1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004¹ (“the Act”) made under due authorisation by me, John Gardiner, Manager Determinations, Department of Building and Housing (“the Department”), for and on behalf of the Chief Executive of that Department. The applicant is the owner C Pouw (“the applicant”), acting through an agent, C Evans (“the agent”), and the other party is the Hamilton City Council (“the authority”) carrying out its duties as a territorial authority or a building consent authority.

1.2 This determination arises from the decision of the authority to refuse to issue a code compliance certificate for an 11-year-old building because it is not satisfied that the building work complies with Clauses B2 and E2 of the Building Code² (First Schedule, Building Regulations 1992).

1.3 The matters for determination are:

1.3.1 Matter 1: The cladding

Whether the cladding as installed on the building (“the cladding”) comply with Clause E2 External Moisture of the Building Code. By “the cladding as installed” I

¹ The Building Act 2004 is available from the Department’s website at www.dbh.govt.nz.

² The Building Code is available from the Department’s website at www.dbh.govt.nz.

mean the components of the system (such as the bricks, the flashings, and the joints) as well as the way the components have been installed and work together.

1.3.2 Matter 2: The durability considerations

Whether the elements that make up the building comply with Building Code Clause B2 Durability, taking into account the age of the building.

1.4 In making my decision, I have considered the submissions of the parties, the report of the independent expert commissioned by the Department to advise on this dispute (“the expert”), the exterior cladding inspection report of the specialist inspection company commissioned by the owner (refer paragraph 3.4), and the other evidence in this matter. I have evaluated this information using a framework that I describe more fully in paragraph 6.1.

1.5 In this determination, unless otherwise stated, references to sections are to sections of the Act and references to clauses are to clauses of the Building Code.

2. The building

2.1 The building work consists of a single-storey detached house, which is situated on a flat site in a low wind zone for the purposes of NZS 3604³. The house is fairly simple in plan and form, with concrete foundations and floor slab, light timber frame construction, brick veneer cladding and a pressed metal tile hipped roof with eaves of about 600mm above most walls.

2.2 The expert has noted that he was unable to confirm whether the wall framing is treated. The applicant has provided copies of invoices that confirm the framing supplied for the house was “H1 MCH PG”. Given the date of construction in 1996, I consider that the external wall framing is likely to be boron-treated.

3. Background

3.1 The authority issued a building consent (No. 95/2085), which I have not seen. I note that the consent drawings were date-stamped on 4 October 1995 and also that the applicant was the builder of the house.

3.2 The authority carried out various inspections during construction, including a pre-line and plumbing inspection on 4 June 1996. The house appears to have been substantially completed and occupied during 1997, but final inspections were not carried out as various site works were not complete.

3.3 In 2007 the applicant sought a code compliance certificate, which was apparently refused due to concerns about the age of the house and the weathertightness of the cladding.

3.4 The applicant engaged a specialist inspection company (“the inspection company”) to visually inspect and report on the condition of the cladding. The inspection

³ New Zealand Standard NZS 3604:1999 Timber Framed Buildings

company carried out an inspection on 8 August 2007 and provided an “exterior cladding inspection report” dated August 2007.

3.5 The exterior cladding inspection report covered the following aspects of the house:

- The description of the construction and materials.
- The low readings obtained from non-invasive moisture testing.
- The lack of clearance between the brick veneer and the ground and paving.
- Other maintenance recommendations.

3.6 I am not aware of any correspondence from the authority, but it appears that it continued to refuse to issue the code compliance certificate as the Department received an application for a determination on 22 May 2008.

4. The submissions

4.1 In a letter to the Department dated 19 May 2008 accompanying the application, the applicant outlined the history of the project noting that all inspections had been passed by the authority, the exterior cladding inspection report had confirmed that the house was dry, the recommended lowering of ground levels had been carried out and the house was well maintained. The applicant believed that “the house is completely in compliance with the building code”.

4.2 The applicant forwarded copies of:

- the consent drawings
- the authority’s inspection summary
- the exterior cladding inspection report dated August 2007
- photographs of lowered ground levels around the house.

4.3 In a letter to the Department dated 7 May 2008, the authority stated that it would not issue a code compliance certificate for the building as it is:

...not satisfied on reasonable grounds that the building will meet the provisions of the building code for:

1. Durability in terms of B2
2. Weathertightness in terms of E2, and
3. Other appropriate provisions of the building code.

Because the building was constructed in 1995 and has now endured in excess of 10 years wear and tear.

4.4 Responding to enquiries from the Department, in an email dated 16 June 2008, the authority confirmed that its concerns were “primarily B2 and E2”.

4.5 The draft determination was sent to the parties on 7 July 2008. The draft was issued for comment and to agree a date when the building complied with Building Code Clause B2 Durability.

- 4.6 The applicant replied saying that compliance with Clause B2 was achieved on June 1997. The authority agreed that compliance with Clause B2 was achieved during 1997. I have therefore taken the date when the building elements complied with Clause B2 as 1 July 1997.
- 4.7 In an email to the Department dated 22 July 2008, the applicant forwarded copies of invoices for the timber framing supplied for the house. I have amended the determination accordingly.

5. The expert's report

- 5.1 As discussed in paragraph 1.4, I engaged an independent expert to provide an assessment of the condition of those building elements subject to the determination. The expert is a member of the New Zealand Institute of Building Surveyors. The expert inspected the house on 24 June 2008 and furnished a report that was completed on 26 June 2008. The expert noted that his inspection was limited to aspects of the building relating to Clauses E2 and B2.
- 5.2 The expert examined authority records, and noted that “all the usual inspections including subfloor, preline, plumbing etc.” had been carried out. On inspecting the cladding, he noted no significant variations from the consent drawings.
- 5.3 The expert noted the construction was generally of good quality with the cladding “finished to a good standard”. The expert added that the house appeared to be a “good quality home which has been well finished, but could do with some maintenance”.
- 5.4 The expert noted that the roof appeared to “have been executed in a tradesmanlike manner”, and had no high risk roof to wall junctions. The expert also noted that some minor maintenance was required to remove grass growing in the gutter in some locations.
- 5.5 The expert noted that the windows and doors appeared satisfactory, with metal head flashings and sloping brick sills. The expert considered that the joinery was typical of installation into brick veneer and noted that the jambs appeared to be adequately sealed against the brick reveals.
- 5.6 The expert inspected the interior of the house, taking non-invasive moisture readings, and no evidence of moisture was detected. The expert also noted that a large part of the house has original varnished surfaces, which showed no signs of water damage.
- 5.7 The expert also carried out thermal imaging of the external walls, which indicated that there was no moisture intrusion in any area. Due to the lack of evidence of moisture penetration and the nature of the construction materials, the expert did not consider it necessary to carry out invasive moisture testing.
- 5.8 The expert confirmed that the ground levels had been lowered to provide adequate clearances below the brick veneer.

- 5.9 The expert concluded that the house appeared “to meet the performance requirements of both B2 and E2”.
- 5.10 A copy of the expert’s report was provided to each of the parties on 26 June 2008.

6. Evaluation for code compliance

6.1 Evaluation framework

- 6.1.1 In evaluating the design of a building and its construction, it is useful to make some comparisons with the relevant Acceptable Solutions⁴, which will assist in determining whether the features of this house are code compliant. However, in making this comparison, the following general observations are valid:
- Some Acceptable Solutions are written conservatively to cover the worst case, so that they may be modified in less extreme cases and the resulting alternative solution will still comply with the Building Code.
 - Usually, when there is non-compliance with one provision of an Acceptable Solution, it will be necessary to add one or more other provisions to compensate for that in order to comply with the Building Code.
- 6.1.2 The approach in determining whether building work is weathertight and durable and is likely to remain so, is to apply the principles of weathertightness. This involves the examination of the design of the building, the surrounding environment, the design features that are intended to prevent the penetration of water, the cladding system, its installation, and the moisture tolerance of the external framing. The Department and its antecedent, the Building Industry Authority, have also described weathertightness risk factors in previous determinations⁵ (for example, Determination 2004/1) relating to cladding and these factors are also used in the evaluation process.
- 6.1.3 The consequences of a building demonstrating a high weathertightness risk is that building solutions that comply with the Building Code will need to be more robust. Conversely, where there is a low weathertightness risk, the solutions may be less robust. In any event, there is a need for both the design of the cladding system and its installation to be carefully carried out.

6.2 Weathertightness risk

- 6.2.1 In relation to these characteristics I find that this building:
- is built in a low wind zone
 - is a fairly simple, single-storey building
 - has brick veneer cladding fixing over a drained cavity
 - has 600mm eaves projections above most walls

⁴ An Acceptable Solution is a prescriptive design solution approved by the Department that provides one way (but not the only way) of complying with the Building Code. The Acceptable Solutions are available from The Department’s Website at www.dbh.govt.nz.

⁵ Copies of all determinations issued by the Department can be obtained from the Department’s website.

- has external wall framing that is likely to be treated to a level that provides resistance to the onset of decay if the framing absorbs and retains moisture.
- 6.2.2 The house has been evaluated using the E2/AS1 risk matrix. The risk matrix allows the summing of a range of design and location factors applying to a specific building design. The resulting level of risk can range from ‘low’ to ‘very high’. The risk level is applied to determine what cladding can be used on a building in order to comply with E2/AS1. Higher levels of risk will require more rigorous weatherproof detailing; for example, a high risk level is likely to require a particular type of cladding to be installed over a drained cavity.
- 6.2.3 When evaluated using the E2/AS1 risk matrix, the weathertightness features outlined in paragraph 6.2.1 show that all elevations of the house demonstrate a low weathertightness risk rating.

Matter 1: The cladding

7. Discussion

- 7.1 I consider the expert’s report establishes that the cladding have been installed according to good trade practice and that there is no evidence of external moisture entering the building. Accordingly, I accept that the cladding installed on this house comply with clauses B2 and E2.
- 7.2 Effective maintenance of cladding is important to ensure ongoing compliance with Clauses B2 and E2 of the Building Code and is the responsibility of the building owner. The Department has previously described these maintenance requirements, including examples where the external wall framing of the building may not be treated to a level that will resist the onset of decay if it gets wet (for example, Determination 2007/60).

Matter 2: The durability considerations

8. Discussion

- 8.1 There are concerns about the durability, and hence the compliance with the building code, of certain elements of the building taking into consideration the age of the building work completed in 1997.
- 8.2 The relevant provision of Clause B2 of the Building Code requires that building elements must, with only normal maintenance, continue to satisfy the performance requirements of the Building Code for certain periods (“durability periods”) “from the time of issue of the applicable code compliance certificate” (Clause B2.3.1).
- 8.3 These durability periods are:
- 5 years if the building elements are easy to access and replace, and failure of those elements would be easily detected during the normal use of the building

- 15 years if building elements are moderately difficult to access or replace, or failure of those elements would go undetected during normal use of the building, but would be easily detected during normal maintenance
 - the life of the building, being not less than 50 years, if the building elements provide structural stability to the building, or are difficult to access or replace, or failure of those elements would go undetected during both normal use and maintenance.
- 8.4 The 12-year delay between the substantial completion of the building work consented in 1995 and the applicant's request for a code compliance certificate raises the matter of when all the elements of the building complied with Clause B2. I have not been provided with any evidence that the authority did not accept that those elements complied with Clause B2 at a date in 1997.
- 8.5 It is not disputed, and I am therefore satisfied, that all the building elements complied with Clause B2 on 1 July 1997. This date has been agreed between the parties, refer paragraph 4.6.
- 8.6 In order to address these durability issues when they were raised in previous determinations, I sought and received clarification of general legal advice about waivers and modifications. That clarification, and the legal framework and procedures based on the clarification, is described in previous determinations (for example, Determination 2006/85). I have used that advice to evaluate the durability issues raised in this determination.
- 8.7 I continue to hold that view, and therefore conclude that:
- (a) the authority has the power to grant an appropriate modification of Clause B2 in respect of all the building elements.
 - (b) it is reasonable to grant such a modification, with appropriate notification, because in practical terms the building is no different from what it would have been if a code compliance certificate for the building work had been issued in 1997.
- 8.8 I strongly recommend that the authority record this determination and any modifications resulting from it, on the property file, and also on any LIM issued concerning this property.

9. The decision

- 9.1 In accordance with section 188 of the Building Act 2004, I hereby determine that the house complies with Clauses E2 and B2 of the Building Code, and accordingly reverse the authority's decision to refuse to issue a code compliance certificate.
- 9.2 I also determine that:
- (a) all the building elements installed in the building complied with Clause B2 on 1 July 1997
 - (b) the building consent is hereby modified as follows:

The building consent is subject to a modification to the Building Code to the effect that, Clause B2.3.1 applies from 1 July 1997 instead of from the time of issue of the code compliance certificate for all building elements constructed under the original building consent as described in Determination 2008/72.

- (c) the authority is to issue a code compliance certificate in respect of the building consent as amended.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 4 August 2008.

John Gardiner
Manager Determinations