

Determination 2008/57

Refusal to issue a code compliance certificate arising from the territorial authority's decision not to rely on a building certifier's inspection reports for a 6-year-old house at 22 Avonbrook Lane, Pukekohe



1. The matters 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 owners are G and D Clifford (“the applicants”), and the other party is the Franklin District Council (“the territorial authority”). The applicant has identified the builder of the house, G J Gardner Homes Ltd (“the builder”), as a party with an interest in this matter.
- 1.2 The matter for determination is whether the territorial authority's decision to decline to issue a code compliance certificate for a 6-year-old house is correct. The refusal arose because the building work had been undertaken under the supervision of A1

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

Building Certifiers (“the building certifier”) which was duly registered as a building certifier under the former Building Act 1991, but which lost its approval as a building certifier before it had issued a code compliance certificate for the building work.

1.3 I consider that the matters for determination are:

1.3.1 Matter 1: The claddings

Whether the claddings as installed on the house comply with Clauses B2 and E2 of the Building Code² (Schedule 1, Building Regulations 1992). By “the claddings as installed” I mean the components of the systems (such as the backing materials, the flashings, the joints and the coatings) as well as the way the components have been installed and work together.

1.3.2 Matter 2: The remaining Building Code clauses

Whether the remainder of the building complies with the relevant clauses of the Building Code. (I have not considered compliance with the Fencing of Swimming Pools Act, refer paragraph 6.1.1.)

1.3.3 Matter 3: The durability considerations

Whether the building elements comply with Clause B2 “Durability” of the Building Code, taking into account the age of the building work.

1.4 I note that the builder originally sought a code compliance certificate for this house, which was refused by the territorial authority as it considered that an application for a certificate of acceptance was the appropriate way to proceed (refer paragraph 3.5). In the case of this house, I consider that I have sufficient evidence available to allow me to reach a conclusion as to whether the building will comply with the Building Code once remedial work is completed. This determination therefore considers whether it is reasonable to issue a code compliance certificate.

1.5 In order to determine this matter, I must address the following questions:

- (a) Is there sufficient evidence to establish that the building work as a whole complies with the Building Code? If so, a code compliance certificate can be issued (refer paragraph 5).
- (b) If not, are there sufficient grounds to conclude that, once any outstanding items are repaired and inspected, the building work will comply with the Building Code? If so, a code compliance certificate can be issued in due course (refer paragraph 10).

1.6 In making my decision, I have considered the submissions of the parties, the report of the expert commissioned by the Department to advise on this dispute (“the expert”), and the other evidence in this matter. I have evaluated this information using a framework that I describe more fully in paragraph 7.1.

1.7 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 Code is available from the Department’s website at www.dbh.govt.nz.

2. The building

- 2.1 The building work consists of a single-storey detached house situated on a flat site, which is in a high wind zone for the purposes of NZS 3604³. Construction is conventional light timber frame, with a concrete slab and foundations, monolithic cladding and aluminium windows. The house is fairly simple in plan and form, with a 30° pitch profiled metal tile gabled and hipped roof with no eaves or verge projections.
- 2.2 The expert noted that he was unable to inspect any of the concealed timber framing. I note that the drawings describe the framing timber as “KD” [Kiln Dried] and the building certifier’s inspection record refers to the framing as “Chemfree”. Given the date of construction and the lack of other evidence, I consider the external wall framing to be untreated.
- 2.3 The cladding system to the house is EIFS⁴ monolithic cladding. The expert has noted that the cladding details are very similar to those specified for “Expandite/Fosroc Polyclad” EIFS cladding, with purpose-made flashings to windows, edges and other junctions. The cladding is typical of most EIFS systems in use at the time of construction, with 40mm polystyrene backing sheets fixed directly to the framing over the building wrap that are overlaid with a 4 to 6mm thick modified plaster coat reinforced with alkaline resistant mesh. The cladding is finished with a textured acrylic paint system.

3. Background

- 3.1 The territorial authority issued a building consent (No. 40659) on 10 December 2001, based on a building certificate (No. C/2001-4159) issued by A1 Building Certifiers Ltd (“the building certifier”) on 24 October 2001.
- 3.2 The building certifier carried out the following inspections during construction:
- slab and footings on 11 December 2001 (which passed)
 - building and plumbing pre-line on 17 January 2002 (which passed)
 - bracing on 24 January 2002 (which passed).
- 3.3 The “Electrical Certificate of Compliance” was issued on 28 February 2002, indicating that the house is likely to have been completed shortly after that date. However, I have received no record of any further inspections, and it appears that the matter of a code compliance certificate was not followed up by the owners or the builder.
- 3.4 The building certifier’s approval as a certifier expired in September 2002, and the project was passed to another building certifier, who appears to have had no involvement with the building. When the second building certifier’s approval as a certifier also expired, it appears that responsibility was passed to the territorial

³ New Zealand Standard NZS 3604:1999 Timber Framed Buildings

⁴ External Insulation and Finish System

authority, although I have no records of any correspondence about the house until 2007.

- 3.5 In response to an application for a code compliance certificate, the territorial authority wrote to the builder on 26 February 2007 stating that a code compliance certificate would not be issued although, as the building certifier was no longer in business, an application for a certificate of acceptance could be made under Section 437 of the Act. However, before such an application could be considered, the territorial authority required a determination on compliance with Clauses B2 and E2 as:

...this building has been clad in a monolithic type of material that is face fixed to the frame. The rules about fixing monolithic claddings have changed since this building was constructed and there will be some doubt as to its ongoing compliance with the Building Code.

- 3.6 I am not aware of any further correspondence between the parties, and the Department received an application for a determination from the owners on 21 February 2008.

4. The submissions

- 4.1 The applicants forwarded copies of:

- the drawings
- some of the building consent documentation
- the building certifier's inspection summary
- the Electrical Certificate of Compliance dated 28 February 2002
- various calculations, producer statements and other statements.

- 4.2 Copies of the submissions and other evidence were provided to each of the parties. Neither party made any further submissions in response to the submission of the other party.

- 4.3 The draft determination was issued to the parties on 30 April 2008. The draft was issued for comment and for the parties to agree a date when the house complied with Building Code Clause B2 Durability.

- 4.4 The parties accepted the draft without comment. In its submission the territorial authority said the builder had advised that the applicants took possession of the house in March 2002. The territorial authority proposed 1 March 2002 as the date the house complied with Clause B2. The applicants accepted this proposal.

5. Grounds for the establishment of code compliance

- 5.1 In order for me to form a view as to code compliance, I need to establish what evidence is available and what can be obtained considering that the building work is completed and some of the elements are not able to be cost-effectively inspected.

- 5.2 In this case, the territorial authority does not believe it can rely on the building certifier's reports in regard to the inaccessible components, and any decision it makes with respect to compliance is limited by what items it is able to inspect. I therefore need to decide if I can rely on the building certifier's inspection summary, particularly in regards to inaccessible building components.
- 5.3 In the absence of any evidence to the contrary, I take the view that I am entitled to rely on the inspections undertaken by the building certifier. However, before deciding whether or not to rely on the inspection record, I consider it important to look for evidence that corroborates it.
- 5.4 In this particular case, corroboration comes from the visual inspection of the accessible components by the expert, which can be used to verify whether the building certifier's inspections were properly conducted.
- 5.5 In summary, I find that the following allows me to form a view as to the code compliance of the building work as a whole:
- The summary of inspections carried out by the building certifier which indicates satisfactory inspections of the inaccessible components.
 - The expert's report as outlined below.

6. The expert's report

- 6.1 As mentioned in paragraph 1.6, 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 Architects specializing in Building Surveying.
- 6.1.1 The expert inspected the house on 17 March 2008 and furnished a report that was completed on 2 April 2008. This noted that the building work appeared to be in accordance with the amended consent drawings, except that pressed metal tiles were substituted for the profiled metal roof shown in the drawings. The expert also noted that a swimming pool to the north of the house was presumably covered by a later consent.
- ### **6.2 The cladding (Clauses E2 and B2)**
- 6.2.1 The expert noted that the cladding was straight and fair with no significant cracking and the overall standard of workmanship appeared competent, except for the items outlined in paragraph 6.2.5.
- 6.2.2 The expert noted that the Polyclad manufacturer's instructions indicated that vertical control joints should be installed at not less than 6m centres, and two walls of 9.8m and 12m exceed this dimension. I consider this matter further in paragraph 7.4.2.
- 6.2.3 The expert noted that the windows are recessed by the thickness of the cladding, with metal head flashings. The expert removed a small section of plaster at the jamb to sill junction of a study window, and noted satisfactory uPVC sill and jamb flashings with sealant "neatly and thoroughly" applied at the junction but no corner soakers.

The expert also noted satisfactory mesh within the coating and no evidence of moisture penetration. The expert noted that the flashings generally appeared to be installed in accordance with the manufacturer's instructions at the time of installation, and I accept that the exposed junction is typical of similar locations elsewhere in the building.

6.2.4 The expert inspected the interior of the house, taking non-invasive moisture readings internally, and no evidence of moisture was observed. The expert took invasive moisture readings and noted that the moisture content ranged from 10.2% to 12.4%. The expert noted that the readings were taken following an extended period of dry weather, and expected moisture readings to be higher at wetter times of the year.

6.2.5 Commenting specifically on the wall claddings, the expert noted that:

- the clearances from the bottom of the cladding to the paving and ground are inadequate in some areas
- the window sill flanges are sealed to the cladding, with no drainage gap between the lower edge of the aluminium joinery and the plaster coating to allow any trapped moisture to escape
- the dark colour of the cladding is less than the minimum 40% reflectivity required by the manufacturer, risking excessive thermal movement
- the sealant has failed at some pipe penetrations through the cladding
- some minor cracks require maintenance.

6.3 The remaining Building Code clauses

6.3.1 The expert also assessed compliance with the remaining building code clauses, and made the following comments on those clauses relevant to this house:

- **B1 Structure**

The inspection record notes satisfactory inspections of the slab and foundations, and there is no evidence of excessive movement or structural stress, with “no significant cracks, water stains or other signs of defects, shrinkage or settlement” apparent.

- **E1 Surface Water**

All visible work in relation to stormwater collection and discharge appears satisfactory.

- **E3 Internal moisture**

There are no signs of actual or potential moisture problems within the house.

- **G1, G2, G3**

The kitchen, laundry and bathroom spaces and facilities appear appropriate, with adequate provision for cleaning and protection against food contamination.

- **G4 Ventilation**

Opening windows and doors appear to provide adequate natural ventilation.

- **G7 Natural Light**

The house has adequate provision of natural and artificial light to all habitable rooms.

- **G8 Electricity**

I note that an Electrical Code of Compliance certificate dated 28 February 2002 covers the electrical work to the house.

- **G12 and G13 Water Supplies and Foul Water**

The house is connected to mains water supply and drainage, and all fixtures appear to be in good operating condition. The inspection record notes adequate preline inspections of the plumbing pipework (although it is not clear whether an as-built plumbing and drainage plan has been submitted to the territorial authority).

- **H1 Energy Efficiency**

The building certifier's inspection summary indicates that wall and ceiling insulation was inspected and passed, and the insulation able to be viewed appears adequate.

6.4 A copy of the expert's report was provided to the parties on 3 April 2008.

7. Evaluation for code compliance

7.1 Evaluation framework

7.1.1 I have evaluated the code compliance of this building by considering the following two broad categories of the building work:

- The weathertightness of the external building envelope (Clause E2) and durability (Clause B2 in so far as it relates to Clause E2).
- The remaining relevant code requirements that apply to a detached house.

In the case of this house, weathertightness considerations are addressed first.

7.1.2 In evaluating the design of a building and its construction, it is useful to make some comparisons with the relevant Acceptable Solutions⁵, 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 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 some other provision to compensate for that in order to comply with the Building Code.

⁵ 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.

7.2 Evaluation of external building envelope for E2 and B2 Compliance

7.2.1 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 determinations⁶ (for example, Determination 2004/1) relating to cladding and these factors are also used in the evaluation process.

7.2.2 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.

7.3 Weathertightness risk

7.3.1 In relation to these characteristics I find that this house:

- is built in a high wind zone
- is a fairly simple, one-storey building
- has monolithic cladding fixed directly to the framing
- has no eaves or verge projections to protect the cladding
- has external wall framing that is not treated to a level that provides resistance to the onset of decay if the framing absorbs and retains moisture.

7.3.2 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 claddings 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.

7.3.3 When evaluated using the E2/AS1 risk matrix, the weathertightness features outlined in paragraph 7.3.1 show that all elevations of the house demonstrate a low weathertightness risk rating. I note that, if the details shown in the current E2/AS1 were adopted to show code compliance, the monolithic cladding on this house would not require a drained cavity.

7.4 Weathertightness performance: exterior cladding

7.4.1 Generally the cladding appears to have been installed in accordance with the manufacturer's instructions and to good trade practice. Taking account of the

⁶ Copies of all determinations issued by the Department can be obtained from the Department's website.

expert's report, I conclude that remedial work is necessary in respect of the following:

- the inadequate clearances beneath the bottom of the cladding in some areas
- the lack of drainage gaps under the window sill flanges
- the inadequate reflectivity of the cladding paint colour
- the maintenance of the minor cracks in the plaster at two locations
- the inadequate weatherproofing of some pipe penetrations.

7.4.2 I note the expert's comment in paragraph 6.2.2 regarding the lack of vertical control joints in two areas of wall (which is contrary to the Polyclad manufacturer's 1998 instructions). With regard to this house, I have considered the following compensating factors:

- The house is single storey, with a concrete slab and foundations.
- The cladding appears to have been installed according to good trade practice, and has been in place for more than six years with no signs of significant cracking or moisture entry.
- During the period since construction, all drying shrinkage in the concrete, plaster coating and supporting framing will have likely occurred, and the cladding's future performance will be governed solely by response to environmental factors such as imposed wind, earthquake forces, seasonal foundation movements, and moisture and temperature effects.
- I note that the inadequate reflectivity of the cladding colour requires remedial work to reduce temperature effects, which I consider have resulted in the minor cracking at two locations.
- As outlined in paragraph 2.3, this cladding has a very similar specification to that applying to other EIFS systems commonly in use at the time of construction in 2002. I note that the wall length limits for which vertical control joints were required for the latter systems were significantly beyond the lengths of 9.8m and 12m applying to this house. I also note that the cladding has a similar specification to that included within E2/AS1, which requires vertical control joints on walls over 20m long.

I therefore consider that, given the particular characteristics of this building, the cladding system as installed is adequate, without the retrofitting of the omitted control joints.

7.5 Evaluation of other code requirements

7.5.1 Based on the expert's comments as outlined in paragraph 6.3.1, there appears to be no evidence of any lack of compliance with other relevant clauses of the Building Code.

7.5.2 Taking account of the expert's assessment of visible components of the building together with the inspection records and other documentation, I consider that the

building is likely to comply with the provisions of the remaining relevant code clauses.

- 7.5.3 I note an external door from the Family Room opens out onto the pool area. I presume the territorial authority has waived the need for this door to be self-closing and self-latching as required under the Fencing of Swimming Pools Act.

Matter 1: The cladding

8. Discussion

- 8.1 I consider the expert's report establishes that the current performance of the cladding is adequate because it is currently preventing water penetration into the building. Consequently, I am satisfied that the cladding complies with Clause E2 of the Building Code.
- 8.2 In addition, the building work is also required to comply with the durability requirements of Clause B2. Clause B2 requires that a building continues to satisfy all the objectives of the Building Code throughout its effective life, and that includes the requirement for the house to remain weathertight. Because the cladding faults on the house are likely to allow the ingress of moisture in the future, the building work does not comply with the durability requirements of Clause B2.
- 8.3 Because the faults identified with the cladding systems occur in discrete areas, I am able to conclude that satisfactory rectification of the items outlined in paragraph 7.4.1 will result in the house being brought into compliance with Clauses B2 and E2.
- 8.4 Effective maintenance of claddings 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: Other Building Code matters

9. Discussion

- 9.1 I have considered the expert's inspection and comments as outlined in paragraph 6.3.1, based on the expert's assessment of visible components of the building, together with the inspections recorded at the time of construction, and other documentation. I have consequently come to the view that the building complies with all other relevant clauses of the building Code.
- 9.2 I accordingly consider that the building work complies with Clauses B1, E1, E3, G1, G2, G3, G4, G7, G8, G12, G13 and H1 of the Building Code.

10. The appropriate certificate to be issued

- 10.1 Having found that the building can be brought into compliance with the Building Code, I must now determine whether the territorial authority should issue either a certificate of acceptance or a code compliance certificate.
- 10.2 Section 437 of the Act provides for the issue of a certificate of acceptance where a building certifier is unable or refuses to issue either a building certificate under section 56 of the former Act, or a code compliance certificate under section 95 of the current Act. In such a situation, a territorial authority may, on application, issue a certificate of acceptance or a code compliance certificate. In the case of this building work, I note that the applicants have not sought a certificate of acceptance.
- 10.3 I am of the view that a code compliance certificate is the appropriate certificate to be issued in this situation, as I have reasonable grounds to conclude the building work can be brought into compliance with the Building Code.

Matter 3: The durability considerations

11. Discussion

- 11.1 I have concerns about the durability, and hence the compliance with the building code, of certain elements of the house taking into consideration the completion of the building work in 2002.
- 11.2 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).
- 11.3 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.
- 11.4 The 5-year delay between the substantial completion of the house and the builders’ request for a code compliance certificate raises the issue of when all the elements of the house complied with Clause B2. I have not been provided with any evidence that the building certifier did not accept that those elements complied with Clause B2 when the house was completed in 2002.

- 11.5 It is not disputed, and I am therefore satisfied, that all the building elements complied with Clause B2 on 1 March 2002. This date has been agreed between the parties, refer paragraph 4.4.
- 11.6 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.
- 11.7 I continue to hold that view, and therefore conclude that:
- (a) the territorial authority has the power to grant an appropriate modification of Clause B2 in respect of 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 house had been issued in 2002.
- 11.8 I strongly recommend that the territorial authority record this determination, and any modifications resulting from it, on the property file and also on any LIM issued concerning this property.

12. What is to be done now?

- 12.1 I note that the territorial authority has not issued a notice to fix. A notice to fix should be issued that requires the owners to bring the house into compliance with the Building Code, identifying the defects listed in paragraph 7.4.1 and referring to any further defects that might be discovered in the course of investigation and rectification, but not specifying how those defects are to be fixed. It is not for the notice to fix to specify how the defects are to be remedied and the house brought to compliance with the Building Code. That is a matter for the owner to propose and for the territorial authority to accept or reject.
- 12.2 I would suggest that the parties adopt the following process to meet the requirements of paragraph 12.1. Initially, the territorial authority should issue the notice to fix. The owner should then produce a response to this in the form of a detailed proposal, together with suitable amendments to the plans and specifications, produced in conjunction with a competent and suitably qualified person, as to the rectification or otherwise of the specified matters. Any outstanding items of disagreement can then be referred to the Chief Executive for a further binding determination.

13. The decision

- 13.1 In accordance with section 188 of the Building Act 2004, I hereby determine that the wall claddings do not comply with Clause B2 of the Building Code, and accordingly confirm the territorial authority's decision to refuse to issue a code compliance certificate.

13.2 I also determine that:

(a) all the building elements installed in the building, apart from the items that are to be rectified, complied with Clause B2 on 1 March 2002.

(b) the building consent is 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 March 2002 instead of from the time of issue of the code compliance certificate for all building elements, provided that the modification does not apply to those elements of the building which have been altered or modified as set out in paragraph 7.4.1 of Determination 2008/57.

(c) following the modification set out in (b) above, the territorial authority is to issue a code compliance certificate in respect of the building consent as amended, once the defects described in paragraph 7.4.1 have been fixed to its satisfaction.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 30 June 2008.

John Gardiner
Manager Determinations