

## Determination 2007/77

### Refusal of a code compliance certificate for a house at 22 Panorama Drive, Nelson



#### 1. The matter to be determined

- 1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004<sup>1</sup> (“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 of the building, P Nicoll, acting through an agent (“the applicant”) and the other party is the Nelson City Council (“the territorial authority”).
- 1.2 This determination arises from the decision of the territorial authority to refuse to issue a code compliance certificate for a 4-year-old house because it was not satisfied that the cladding applied to the house complied with the Building Code<sup>2</sup> (First Schedule, Building Regulations 1992).
- 1.3 The matter to be determined is whether the cladding as installed to the walls of the building (“the cladding”), complies with clauses B2 and E2 (see sections 177 and

<sup>1</sup> The Building Act 2004 is available from the Department’s website at [www.dbh.govt.nz](http://www.dbh.govt.nz).

<sup>2</sup> The Building Code is available from the Department’s website at [www.dbh.govt.nz](http://www.dbh.govt.nz).

188 of the Act). By “the cladding as installed” I mean the components of the system (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.

- 1.4 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”), 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 situated on an excavated sloping site, which is in a high wind zone for the purposes of NZS 3604<sup>3</sup>. The house is relatively simple in plan and form. Construction is conventional light timber frame constructed on concrete floors. The pitched roofs have hip, valley, and wall-to-roof junctions and only minimal eaves and verge projections. A portico with timber-framed monolithic-clad columns and beams is constructed over the main entrance.
- 2.2 The building certifier has described the external wall framing as being untreated Douglas fir.
- 2.3 The walls of the house are clad with 60mm thick EIFS sheets fixed through the building wrap to the framing, and finished with a “Rockcote” plaster coating and a final paint system. The “Rockcote” manufacturer and the plaster applicators have noted that the EIFS sheets are “ventilated” in that they incorporate grooves in the rear face. However, the expert has not been able to verify this claim. A plastered 40mm thick EIFS plinth has been attached to the base of the cladding.
- 2.4 The plaster applicators have provided a “Construction/ Producer Statement” for their work and Rockcote Care has given a 15-year Manufacturer’s Guarantee for its product.

## **3. Background**

- 3.1 The territorial authority issued a building consent, in October 2002, under the Building Act 1991. The consent was based on a building certificate (dated 12 September 2002) issued by Prime Building Compliance Ltd (“the building certifier”) for the purposes of obtaining a building consent.
- 3.2 The building certifier carried out inspections during the course of construction including a “final inspection” on 30 July 2003. On 31 July 2003, the building certifier issued a building certificate that stated:

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<sup>3</sup> New Zealand Standard NZS 3604:1999 Timber Framed Buildings

This is a final Building Certificate issued in respect of all the building work under the above building consent excluding items listed below.

Exterior Cladding outside scope of AS1/E2

- 3.3 The building certifier issued an interim code compliance certificate dated 21 September 2004. This certificate noted that it:

Excludes exterior cladding outside scope of E2/AS1

NB: We recommend that the exterior cladding is inspected annually by a suitably qualified person and any maintenance is carried out in a timely manner.

- 3.4 Following this, the owner engaged the building certifier to “inspect the exterior cladding and comment on the ability of the cladding to meet the 15 year performance durability requirements of the building code”. The building certifier responded to this in a letter, dated 28 September 2004, which described the cladding and noted that moisture readings did not indicate the presence of water. The building certifier concluded that the cladding appeared to have been installed in accordance with the manufacturer’s instructions at the time of installation and with normal maintenance would meet the performance requirements of the Building Code.
- 3.5 Under cover of a letter to the territorial authority dated 14 October 2004, the building certifier provided a copy of the abovementioned certificate and noted that the project had been handed over to the territorial authority for the completion of cladding inspections.
- 3.6 Following a request from the applicant for an inspection of the property and the issue of a code compliance certificate, the territorial authority wrote to the applicant on 30 September 2004. The territorial authority described the information that it had received from the building certifier and stated that, as it had not inspected the house during its construction, it could not be satisfied on reasonable grounds that the building work was code compliant.
- 3.7 The building certifier provided a further building certificate dated 31 May 2005, together with an amended scope of engagement that, in effect, restated the content of the 21 September 2004 certificate. It also noted that, as the cladding was not covered by the building certifier’s insurance, the building certifier could not issue a code compliance certificate.
- 3.8 The building certifier’s approval as a building certifier expired on 21 November 2005.
- 3.9 In a letter to the applicant dated 23 August 2006, the territorial authority noted that the building certifier’s final building certificate excluded the external wall cladding; and explained that a code compliance certificate could not be issued for the building work as no inspections had been made by the territorial authority’s inspectors. The territorial authority could not be satisfied on reasonable grounds that the work now met all the requirements of the Building Code, especially B2 and E2.

- 3.10 The territorial authority did not issue a notice to fix as required under section 164(2) of the Building Act 2004, and I am not aware of any further communication that may have taken place between the applicant and the territorial authority.
- 3.11 On 5 February 2007, the Department received an application for a determination.

#### **4. The submissions**

- 4.1 Neither party made a formal submission.
- 4.2 The applicant forwarded copies of:
- the plans and specifications
  - some consent and inspection documentation
  - the correspondence from the territorial authority and the building certifier
  - the plaster applicators' construction/producer statement and the plaster supplier's guarantee.
- 4.3 Copies of the applicant's documentation were forwarded to the territorial authority.
- 4.4 A copy of the draft determination was sent to the parties for comment on 29 March 2007. The territorial authority accepted the draft on 2 April 2007.
- 4.5 The applicant responded by email on 16 May 2007, with comments that I summarise as follows:
- As the building certifier issued a certificate for all the building work, with the exception of the cladding, why has the territorial authority raised additional concerns?
  - The territorial authority was justified in not issuing a notice to fix, due to its uncertainty about the compliance of the building.
  - The provision of smoke detectors was not a requirement of the Building Code in 2003.
  - How could the territorial authority accept amendments to a plan that was processed by a building certifier, when that part of the work has already been certified by that building certifier?
  - The applicant was prepared to fix the matters raised and was satisfied as to the findings relating to the cladding.

I have amended the determination as appropriate.

#### **5. The expert's report**

- 5.1 As mentioned 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.

- 5.2 The expert inspected the claddings of the house on 5 and 12 March 2007 and furnished a report that was completed on 12 March 2007. The expert noted that in general the cladding appears to be in a sound condition and installed according to the manufacturer's requirements and the workmanship is of good quality. The expert removed a section of cladding at one window sill/jamb junction and I am prepared to accept that the details exposed at this situation apply to other similar locations throughout the building. The expert noted that the flashings and sealing to the external joinery units is adequate.
- 5.3 The expert took non-invasive moisture readings internally around the house and no significant variation in readings, indicative of localised moisture entry, was recorded. Subsequently, a number of invasive moisture readings were taken with similar results.
- 5.4 Commenting specifically on the cladding, the expert noted that:
- there are minor cracks visible in the cladding and between the cladding and the external joinery unit frames
  - the ground clearances are inadequate above the west wall unpaved surfaces
  - some planting is hard up against the cladding
  - no head flashing is installed over the meter board
  - some penetrations through the cladding are inadequately sealed.
- 5.5 The expert also noted other non-compliant elements as follows:
- The entrance porch portico spouting lacks falls and is leaking at one location.
  - A gully trap on the north wall has insufficient ground clearance.
  - The living space lacks a smoke detector.
  - The laundry tub needs to be secured and sealed to the walls.
- 5.6 The expert also commented on changes to the consented plans that require some action by the territorial authority:
- The roof cladding changed from pressed steel tiles to corrugated colorsteel.
  - The omission of the angled wall between the dining room and the entry. I note here the expert's comments concerning the effect that this might have on the structural bracing of the house.
- 5.7 Copies of the expert's report were provided to each of the parties on 16 March 2007.

## **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 Solution, in this case E2/AS1, 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.

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 determinations<sup>4</sup> (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 the house:

- is built in a high wind zone
- is single storey
- is relatively simple in plan and form
- has minimal eaves and verge projections
- has no external balconies
- 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.

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 to provide a risk rating that can range from 'low' to 'very high'. The risk rating is applied to determine how claddings can be used on a building in order to comply with E2/AS1. A higher risk rating will require more rigorous weatherproof detailing; for example, a higher risk rating is likely to require a particular type of cladding to be installed over a drained cavity

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<sup>4</sup> Copies of all determinations issued by the Department can be obtained from the Department's website.

- 6.2.3 When evaluated using the E2/AS1 risk matrix, all elevations of the house demonstrate a low weathertightness risk. I note that, in order to comply with E2/AS1, the monolithic cladding of this building would not require a drained cavity.

### **6.3 Weathertightness performance**

- 6.3.1 Generally the cladding appears to have been installed in accordance with good trade practice. However, based on the expert's opinion, I accept that remedial work is necessary in respect of the following:
- The minor cracks in the cladding and between the cladding and the external joinery unit frames.
  - The inadequate ground clearances above the west wall unpaved surfaces.
  - The planting being hard up against the cladding.
  - The lack of a head flashing over the meter board.
  - The inadequately sealed penetrations through the cladding.
  - any other building elements associated with the above that are consequentially discovered to be in need of rectification.

### **6.4 Other compliance matters**

- 6.4.1 I also accept the expert's recommendation that remedial work is necessary in respect of the following
- The lack of falls and the leak to the entrance porch portico spouting.
  - The inadequate clearance from the top of the gulley trap to the paving on the North wall.
  - The unsecured and unsealed laundry tub.
- 6.4.2 I note that smoke detectors have not been installed. This was not a requirement of the Building Code at the time of construction, however, I recommend that they be installed in accordance with F7/AS1.
- 6.4.3 The territorial authority has noted changes that were made to consented plans as follows:
- The roof cladding changed from pressed steel tiles to corrugated steel.
  - The omission of the angled wall between the dining room and the entry.

I consider this matter also needs to be resolved to the satisfaction of the territorial authority.

## 7 Discussion

- 7.1 I consider that the expert's report establishes there is no evidence of external moisture entering the building, and accordingly, that its cladding does comply with clause E2 at this time.
- 7.2 However, the building 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 building are likely to allow the ingress of moisture in the future, the house does not comply with the durability requirements of clause B2.
- 7.3 Because the faults identified with the cladding system occur in discrete areas, I am able to conclude that satisfactory rectification of the items outlined in paragraph 6.3.1 will result in the building remaining weathertight and in compliance with clauses B2 and E2.
- 7.4 In addition, rectification is also required regarding the items listed in paragraph 6.4.1. The territorial authority should also examine the matters raised by the expert (refer paragraph 6.4.3) and take any appropriate action that may be required.
- 7.5 The applicant has queried the inclusion of rectification items additional to those relating to the cladding. Section 436(3)(i) of the Act states that section 43 of the 1991 Act remains in force but must be read as if—
- a code compliance certificate may be issued only if the territorial authority is satisfied that the building work concerned complies with the building code that applied at the time the building consent was granted...
- In this instance, the territorial authority has stated that the additional elements are not code compliant and, with the exception of the smoke detector, I support their comments in this respect.
- 7.6 I emphasize that each determination is conducted on a case-by-case basis. Accordingly, the fact that a particular cladding system has been established as being code compliant in relation to a particular building does not necessarily mean that the same cladding system will be code compliant in another situation.
- 7.7 I decline to incorporate any waiver or modification of the Building Code in this determination.
- 7.8 Effective maintenance of claddings (in particular monolithic cladding) is important to ensure ongoing compliance with clauses B2 and E2 of the Building Code and is the responsibility of the building owner. Clause B2.3.1 of the Building Code requires that the cladding be subject to "normal maintenance", however that term is not defined in the Act.
- 7.9 I take the view that normal maintenance is that work generally recognised as necessary to achieve the expected durability for a given building element. With



respect to the cladding, the extent and nature of the maintenance will depend on the material, or system, its geographical location and level of exposure. Following regular inspection, normal maintenance tasks should include, but not be limited to:

- where applicable, following manufacturers' maintenance recommendations
- washing down surfaces, particularly those subject to wind-driven salt spray
- re-coating protective finishes
- replacing sealant, seals and gaskets in joints.

7.10 As the external wall framing of the building is not treated to a level that will resist the onset of decay if it gets wet, periodic checking of its moisture content should also be carried out as part of normal maintenance.

## **8 The Decision**

8.1 In accordance with section 188 of the Building Act 2004, I hereby determine that the cladding does not comply with clause B2 of the Building Code, and, in addition, that the items listed in paragraph 6.4.1 are also not code-compliant. Accordingly, I confirm the territorial authority's decision to refuse to issue a code compliance certificate.

8.2 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 building into compliance with the Building Code, listing the items in paragraphs 6.3.1 and 6.4.1, and referring to any further defects that might be discovered in the course of rectification, but not specifying how those defects are to be fixed. It is not for me to decide directly how the defects are to be remedied and 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.

8.3 I would suggest that the parties adopt the following process to meet the requirements of paragraph 8.2. Initially, the territorial authority should issue the notice to fix, listing all the items that the territorial authority considers to be non-compliant. The owner should then produce a response to this in the form of a technically robust proposal, 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.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 18 July 2007.

John Gardiner  
**Manager Determinations**