

## Determination 2007/34

### Determination regarding a code compliance certificate for a house at 262 Wainui South Road, Apata, Tauranga



#### 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, Determinations Manager, Department of Building and Housing (“the Department”), for and on behalf of the Chief Executive of that Department. The applicants are B and K McPhee (“the applicants”) and the other party is the Western Bay of Plenty District 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 an 11 year old house because it was not satisfied that it complied with clauses B2 “Durability” and E2 “External Moisture” of the Building Code<sup>2</sup> (First Schedule, Building Regulations 1992).

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<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).

The matters to be determined are whether:

### **Matter 1: The cladding**

The cladding as installed on the building (“the cladding”) complies with clause E2 “External Moisture” of the Building Code (see sections 177 and 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/or the coatings) as well as the way the components have been installed and work together.

### **Matter 2: The durability considerations**

The elements that make up the building comply with clause B2 taking into account the age of the building.

- 1.3 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. As regards the cladding, I have evaluated this information using a framework that I describe more fully in paragraph 6.1.
- 1.4 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 in a high wind zone for the purposes of NZS 3604<sup>3</sup>. The house is a simple two bedroom dwelling. The construction is of light timber framing constructed on timber-framed floors.
- 2.2 I have not received any information as to the treatment, if any, of the external wall framing timber.
- 2.3 The external walls of the house are clad with an externally finished insulation system (EIFS) and horizontal corrugated steel, both fixed through the building wrap to the framing. The determination concerns that part of the house clad with EIFS.
- 2.4 No producer statements or guarantees have been provided for the cladding system.

## **3. Sequence of events**

- 3.1 The territorial authority issued building consent No. 55771 on 14 November 1994.
- 3.2 The dwelling was inspected by the territorial authority twice during the course of construction in November 1995. A final inspection was made on 2 August 2004. It would appear that construction would have been complete in 1996 although detailed information is not available to me to confirm this.

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

- 3.3 Prior to the final inspection two further building consents were issued, consent No. 65266 for an extension to the building and consent No. 69831 for a veranda. The work covered by these consents was inspected by a Building Certifier, completed, and code compliance certificates were issued.
- 3.4 Subsequently the applicants made an application, which the territorial authority refused, for a Code Compliance Certificate for the original house construction covered by consent No. 55771. In a letter to the applicants dated 22 September 2004 the territorial authority said:
- “In this case the building is clad in monolithic style and Council is not satisfied on reasonable grounds that it complies with the Functional Requirement and Performance Requirement of Building Code Clause E2 External Moisture”
- The territorial authority advised there were a number of methods of achieving compliance but also advised the applicants of the option of applying for a determination.
- 3.5 An application for a determination was received by the Department on 27 October 2006.

## **4 The submissions**

- 4.1 The applicants forwarded copies of:
- the plans, consent documentation and some inspection records
  - correspondence with the territorial authority
- 4.2 In an email to the Department dated 28 November 2006, the territorial authority confirmed that it declined to issue a code compliance certificate on the basis that:
- “there was no evidence of inspections of the cladding or pre-cladding and we (and they) couldn’t prove it complied with the Code, or manufacturers installation instructions or both. Obviously, given the age of the building consent, B2 is also an issue.”
- 4.3 Copies of the submission and other evidence were provided to each of the parties.
- 4.4 A copy of the draft determination was issued to the parties on 16 January 2007. The draft was issued for comment and for the parties to agree a date when all the building elements installed in the house, under building consent No. 55771, complied with Clause B2 Durability.
- 4.5 In correspondence to the Department dated 9 March 2007, the parties agreed that compliance with Clause B2 was achieved on 30 November 1996.

## 5 The expert's report

- 5.1 The expert inspected the house on 6 December 2006, and furnished a report that was completed on 20 December 2006. The expert noted that the cladding was well executed and had been repainted after window flashings were fitted and that the observable quality of workmanship was good.
- 5.2 The expert took internal non-invasive moisture readings throughout the building. All were within a very acceptable range. As this is a small building only one external invasive test was carried out to verify the internal readings. This was taken below a window in bedroom 1 on the most exposed building elevation. A reading of 14% was obtained which is in a normal range and indicates the cladding is meeting the performance requirements of the Building Code.
- 5.3 The expert made the following specific comments on the cladding and building envelope:
- There is no remedial work required.
  - With normal maintenance the building should continue to remain weathertight and therefore compliant with E2.
- 5.4 Copies of the expert's report were provided to each of the parties on 8 January 2007.

## Matter 1: The cladding

### 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<sup>4</sup>, 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

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<sup>4</sup> 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](http://www.dbh.govt.nz).

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>5</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
- has monolithic cladding
- is one story, simple in plan and with a single ridge roof
- has external framing that is unlikely to be treated to a level that provides resistance to the onset of decay if the framing absorbs and retains moisture.

- 6.2.2 When evaluated using the E2/AS1 risk matrix, the house demonstrated a low weathertightness risk at all elevations. The matrix is an assessment tool that is intended to be used at the time of application for consent, before the building work has begun and, consequently, before any assessment of the quality of the building work can be made. Poorly executed building work introduces a risk that cannot be taken into account in the consent stage but must be taken into account when the building as actually built is assessed for the purposes of issuing a code compliance certificate.

## **6.3 Weathertightness performance**

- 6.3.1 Generally the cladding appears to have been installed in accordance with good trade practice. I accept the expert's opinion that remedial work is not required.

- 6.3.2 In this instance the monolithic cladding fixed directly to the framing complies with the Building Code. The E2/AS1 requirement for the installation of this type of cladding on this low risk building does not include a drainage and ventilation cavity.

## **7 Discussion**

- 7.1 I consider the expert's report establishes that there is no evidence of external moisture entering the building, and accordingly, that its cladding does comply with clauses B2 and E2.

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<sup>5</sup> Copies of all determinations issued by the Department can be obtained from the Department's website.

- 7.2 It is emphasised 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.
- 7.3 Effective maintenance of claddings (in particular monolithic cladding) is important to ensure ongoing compliance with clauses B2 and E2 and is the responsibility of the building owner. Clause B2.3.1 requires that the cladding be subject to “normal maintenance”, however that term is not defined in the Act.
- 7.4 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.
- 7.5 As 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, periodic checking of its moisture content should also be carried out as part of normal maintenance.

## Matter 2: The durability considerations

### 8 Discussion

- 8.1 The territorial authority has concerns about the durability, and hence the compliance with the building code, of certain elements of the building, taking into consideration the apparent completion of the building in 1996.
- 8.2 The relevant provision of clause B2 of the Building Code (clause B2.3.1) 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”
- 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 It is not disputed, and I am therefore satisfied that all the building elements installed in the house complied with clause B2 on 30 November 1996. This date has been agreed between the parties, refer paragraph 4.5.
- 8.5 In order to address these durability issues, I sought some clarification of general legal advice about waivers and modifications I have now received that clarification and the legal framework and procedures based on this clarification are described in previous determinations (for example, Determination 2006/85) and are used to evaluate the durability issues raised in this determination.
- 8.6 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 all of the elements of the building
  - (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 had been issued in 1996.
- 8.7 I strongly recommend that the territorial authority record this determination and any modification 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 determine that the cladding on the building complies with clause E2.
- 9.2 I also determine that:
- (a) all the building elements installed in the house complied with clause B2 on 30 November 1996
  - (b) building consent No. 55771 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 30 November 1996 instead of from the time of issue of the code compliance certificate for all building elements.
  - (c) the territorial authority is then 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 22 March 2007.

John Gardiner  
**Determinations Manager**