



Determination 2013/007

Regarding the refusal to issue a code compliance certificate for a 9-year-old house with monolithic cladding at 12 Pascal Place, Flagstaff, Hamilton



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 and Assurance, Ministry of Business, Innovation and Employment (“the Ministry”), for and on behalf of the Chief Executive of the Ministry.

1.2 The parties to the determination are:

- the owner of the house, D Clarke (“the applicant”) acting through a building surveyor (“the building surveyor”)
- Hamilton City Council (“the authority”), carrying out its duties as a territorial authority or building consent authority.

1.3 This determination arises from the decision of the authority to refuse to issue a code compliance certificate for a 9-year-old house because it was not satisfied that the building work complied with certain clauses² of the Building Code (First Schedule, Building Regulations 1992). The authority’s concerns regarding compliance of the building work relate to the weathertightness of the claddings.

¹ The Building Act, Building Code, compliance documents, past determinations and guidance documents issued by the Ministry are all available at www.dbh.govt.nz or by contacting the Ministry on 0800 242 243.

² 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.

- 1.4 The matter to be determined³ is therefore whether the authority was correct to refuse to issue a code compliance certificate. In deciding this, I must consider whether the external building envelope of the house complies with Clause B2 Durability and Clause E2 External Moisture of the Building Code. The building envelope includes the components of the systems (such as the monolithic cladding, the windows, the roof claddings and the flashings), as well as the way the components have been installed and work together. I consider this in paragraph 6.
- 1.5 I note that the authority raises other minor items identified during its final inspection, which were not covered in the building surveyor's report. The building surveyor has reported that those items were rectified and/or resolved at a subsequent re-inspection. I therefore leave any other items to the parties to resolve and this determination is limited to the weathertightness and durability of the external envelope.
- 1.6 In making my decision, I have considered:
- the submissions of the parties
 - the report of the building surveyor engaged by the applicant, with additional photographs taken by the surveyor during his inspection
 - the report of the expert commissioned by the Ministry to advise on this dispute ("the expert")
 - the other evidence in this matter.

2. The building work

- 2.1 The building work consists of a detached house which is two-storeys-high in part and is situated on a level site in a low⁴ wind zone for the purposes of NZS 3604⁵. Construction is generally conventional light timber frame, with concrete foundations and floor slab, monolithic wall cladding, and aluminium joinery. The 25° pitch pressed metal tile gabled roofs have eaves and verges that vary from about 450mm to 600mm, with the lower roofs forming lean-tos against upper walls.
- 2.2 The addenda to the specification calls for '100x50 dry frame timber frame to be to NZS 3604', decks to include 'H3 treated decking joists' and balustrades to be 'treated H3'. I also note that the building surveyor reported that deck and balustrade framing appeared to be treated (see paragraph 3.4.2) and I am therefore satisfied that the deck joists and balustrade framing is likely to be treated. However, given the date of framing installation in about March 2003 and the lack of other evidence, I am unable to determine whether the wall framing of this house is treated.

2.3 The wall cladding

- 2.3.1 The wall cladding is a proprietary form of monolithic cladding system known as EIFS⁶. The cladding applicator has provided a producer statement dated 28 July

³ Under sections 177(1)(b) and 177(2)(d) of the Act

⁴ Per the engineer's bracing calculations

⁵ New Zealand Standard NZS 3604:1999 Timber Framed Buildings

⁶ Exterior Insulation and Finish System

2003 identifying the proprietary EIFS system and giving its date of completion as 11 July 2003.

- 2.3.2 In this instance, the EIFS system consists of 60mm polystyrene backing sheets fixed over '25mm H3 treated battens' to the framing over the building wrap, to which a mesh-reinforced plaster system has been applied. The system includes purpose-made flashings to windows, edges and other junctions.

2.4 The decks

- 2.4.1 There are two decks on the upper level; one from the master bedroom on the northeast corner and the other from the office on the southeast corner. The former sits partly above a corner of the ground floor family room, with an EIFS-clad timber column and beams supporting the northeast corner. The office deck sits above the eastern end of the garage.
- 2.4.2 At the garage and family room, lower walls extend up to form EIFS-clad balustrades. On each deck, EIFS-clad columns with rounded tops extend from the balustrades to support timber pergolas attached to the walls under the eaves.
- 2.4.3 Butyl rubber membrane deck floors slope towards internal gutters at the balustrades. The membrane installer has provided a producer statement dated 30 June 2003 identifying the membrane. The drawings show the membrane installed over '18mm marine ply screw fix on 2 ply malthoid DPC'.

3. Background

- 3.1 The authority issued a building consent (No. 2003/5350) on 28 January 2003 under the Building Act 1991.
- 3.2 The authority carried out various inspections during construction in 2003, including:
- foundations on 29 January (which noted 'engineer has inspected')
 - floor slab on 7 February (which referred to 'letter from engineer')
 - pre-plaster cladding inspection on 28 April (which crosses out as not applicable the requirement for control joints, ticking other relevant items including backing sheet layout, fixings and window flashings)
 - pre-line building on 2 May (which passed on re-inspection)
 - upper floor lining/bracing on 16 May (which passed)
 - lower floor lining/bracing on 23 May (which passed).
- 3.3 Although photographs indicate that the house was substantially completed and occupied before October 2003, no further inspections were carried out.

3.4 The building surveyor's report

- 3.4.1 When preparing to sell the house in 2012, the applicant was advised to commission a weathertightness report on the monolithic cladding and engaged the building

surveyor, who inspected the house on 19 July 2012 and provided an undated 'Weathertightness Report'.

3.4.2 The building surveyor carried out non-invasive moisture readings internally, noting that these were 'indicative only' and inspected accessible roof spaces, including beneath the garage deck – allowing access to deck and balustrade framing, which the building surveyor noted was 'treated and appeared to be in reasonable condition'.

3.4.3 The building surveyor noted a historic leak from the ensuite shower, which was replaced about five years ago with any damaged timber replaced at the time. The building surveyor also noted recent repairs to the master bedroom deck, resulting from a defective outlet leaking into the deck soffit. The deck membrane had been removed and framing replaced as part of those repairs.

3.4.4 The building surveyor identified various 'maintenance issues that require attention' and recommended 'close monitoring' of high non-invasive moisture readings on the inner balustrade cladding to the bedroom deck. The building surveyor concluded:

Overall the interior and exterior of the property are in very good condition with only a few maintenance issues arising as outlined above. There are no significant weathertightness or structural failures foreseeable at this point in time.

3.5 The authority inspected the house on 27 September 2012 and identified various items requiring attention, with most items relating to the wall cladding. The 'inspection memo' noted that the authority was 'not in a position to issue' a code compliance certificate due to the identified defects and also to 'the age of the building'. The building surveyor has stated that the authority advised it was unlikely to issue a code compliance certificate without a determination.

3.6 The Ministry received an application for a determination on 18 October 2012. Before proceeding the Ministry asked the authority to confirm its reasons for refusing to issue a code compliance certificate.

3.7 The authority's refusal

3.7.1 In a letter to the applicant dated 16 November 2012, the authority referred to its final inspection findings and confirmed that it could not issue a code compliance certificate for the house due to (in summary):

- inadequate drainage from EIFS cavities
- cladding cracks
- inadequate turnouts to roof flashings
- elevated moisture readings to deck framing
- unsealed penetrations
- other items not included in the building surveyor's report
- lack of producer statements for:
 - butyl rubber deck membrane
 - engineer's inspections of foundations.

3.8 In an email to the Ministry dated 23 November 2012 which attached the authority's letter, the building surveyor stated that, although not mentioned in the letter, a final re-inspection had been carried out on 16 November 2012, during which 'a considerable number of items were resolved'. The building surveyor also attached a list of documentation and other items required by the authority, showing actions taken and items ticked off as completed.

4. The submissions

4.1 The applicant made no submission with the initial application for determination but forwarded copies of:

- the consent drawings, specification and other documentation
- the building consent
- the inspection records
- the EIFS producer statement dated 28 July 2003
- the building surveyor's undated 'Weathertightness Report'
- additional photographs taken by the building surveyor
- the final inspection record
- construction photographs
- the letter from the authority dated 16 November 2012.

4.2 The authority made no submission in response to the application.

4.3 Copies of the submissions and other evidence were provided to each of the parties.

4.4 A draft determination was issued to the parties for comment on 22 January 2013. The applicant accepted the draft in a response received on 29 January 2013.

4.5 The authority accepted the decision of the determination subject to the building consent being amended to reflect the variations (refer paragraph 5.2.1) and a modification of Clause B2.3.1 to the effect that the durability periods begin from 31 October 2003. The authority said its decision to refuse to issue the code compliance certificate was made on the grounds that it could not be satisfied as to compliance 'with the NZ Building Code or the approved Building Consent ...'

4.6 In my view the authority is required to provide an owner with its reasons for refusing to issue a CCC under section 95A of the Act, however, the authority only provided this advice when requested to do so by the Ministry. I Also note that the consent was issued under the Building Act 1991. Under the transitional provisions of the Act (section 436) the authority is required to assess compliance against the requirements of the Building Code that were in place at the time the consent was issued: it is not required to assess compliance against the building consent.

5. The expert's report

5.1 As mentioned in paragraph 1.6, I engaged an independent expert to assist me. The expert is a member of the New Zealand Institute of Architects. The expert inspected the house on 10 and 19 December 2012, providing a report dated 19 December 2012.

5.2 General

5.2.1 The expert identified the following variations from the consent drawings:

- concrete tiles in place of specified coated metal tiles
- cladding installed over a cavity instead of direct fixed
- EIFS cladding to ground floor columns (north and east elevations) instead of specified brick with plaster finish.

5.2.2 The expert noted that overall construction quality was 'above average', with the claddings 'well fixed and aligned' and flashings 'tidy and effective'. The claddings appeared to be well maintained, with no evidence of 'cracks or other imperfections'. The expert observed that the house structure appeared to have been constructed in accordance with the building consent and no structural concerns were apparent.

5.2.3 The expert also noted that window, door and roof flashings were 'tidy and effective', noting that the apron flashings now had kickouts at the gutter junctions. Satisfactory spreaders had also been installed to downpipes from the upper roofs.

5.2.4 Windows and doors have visible head flashings and are recessed by the cladding thickness, with sloping sills. The expert noted that, except for the gable end walls, joinery was sheltered beneath eaves and appeared to be installed satisfactorily in accordance with the manufacturer's specifications.

5.2.5 The expert inspected the interior of the house, taking non-invasive moisture readings internally, and noted no evidence of moisture. The expert also took invasive moisture readings (from 10% to 14%) through internal linings and trim into the bottom plates of walls adjoining upper decks and through the cladding into the bottom of an EIFS-clad column (14%). Taking account of the non-invasive moisture testing, the cavities behind the EIFS and past testing undertaken by the building surveyor, the expert did not consider it necessary to carry out further invasive testing.

5.3 The EIFS cladding

5.3.1 The expert noted that the EIFS cladding had 'no visible cracking' and that no control joints were required for the relatively small areas of cladding. Any past cracks had been satisfactorily repaired and the cladding appeared well maintained.

5.3.2 The expert noted that EIFS clearances to adjacent roof cladding, deck membrane, paving and ground levels were satisfactory, with planting well maintained and clear of plaster surfaces. Although EIFS on the clad columns extended below paving level and the expert could not confirm whether Z flashings were installed in accordance with the manufacturer's specifications, low invasive readings confirmed that moisture was not currently entering the timber.

5.4 The decks

- 5.4.1 The expert noted that the step down to deck floors were satisfactory, with falls of 1.5° to ‘well formed’ deck gutters which incorporated appropriate overflow outlets. Membrane repairs had been carried out to areas identified by the building surveyor and deck membranes were in good condition with ‘no obvious deficiencies’.
- 5.4.2 The expert noted that parapet and balustrades had plastered top surfaces with a 15° slope in accordance with the manufacturer’s specifications. Drainage holes had been added to the underside of a clad beam under the north deck to allow the balustrade cladding to drain.
- 5.4.3 The expert observed that tops to clad pergola columns had been rounded to avoid ponding on the plastered surface and low invasive moisture readings of deck walls confirmed that pergola to wall junctions were satisfactorily sealed.
- 5.5 The expert also commented as follows on items listed in the authority’s letter:

Items per authority	Current state	Relevant paragraphs
Drainage from some EIFS cavities	Sufficient drainage provided	Paragraph 5.4.2
Cladding cracks	All cracks repaired	Paragraph 5.3.1
Kickouts to apron flashings	Kickouts installed	Paragraph 5.2.3
Deck membrane allowing moisture penetration - high moisture readings to some framing	Deck membrane repaired - low readings to adjoining walls	Paragraph 5.4.1 Paragraph 5.2.5
Unsealed penetrations	Penetrations well sealed	Paragraph 5.3.1
Producer Statement for butyl rubber deck membrane	Producer Statement received	Paragraph 2.4.3
Producer Statement for engineer’s inspections of foundations	Authority inspections note engineering oversight No evidence of structural concerns after 9 years	Paragraph 3.2 Paragraph 5.2.1

- 5.6 A copy of the expert’s report was provided to the parties on 24 December 2013.

6. Compliance with Clause B2 Durability and E2 External Moisture

- 6.1 If details shown in the current E2/AS1 were adopted to show code compliance, a drained cavity would be required for the EIFS cladding on this house. While not a requirement at the time of construction in 2003, I note that the EIFS cladding to this house has been installed over a cavity, so providing additional protection to the framing.

6.2 Weathertightness performance

6.2.1 Taking account of the expert's report, the building surveyor's report and photographs, the claddings appear to have been installed in accordance with good trade practice and the manufacturers' instructions at the time of construction.

6.3 Weathertightness conclusion

6.3.1 In assessing the weathertightness of this house, I have taken into account:

- the consent drawings and specifications
- the building surveyor's report and additional photographs
- the expert's report
- the authority's satisfactory inspections carried out during construction
- the authority's final inspections.

6.3.2 I consider that the above evidence provides me with reasonable grounds to conclude that the current performance of the building envelope is adequate because it is preventing water penetration through the claddings at present, and that there are also no cladding faults on the house likely to allow the ingress of moisture in the future. Consequently, I am satisfied that the house complies with Clauses E2 and B2 of the Building Code.

6.3.3 I note that the expert has described the house as well maintained. However, I also note that defects identified by the building surveyor indicate that this was not the case at the time of his inspection. 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 (for example, Determination 2007/60).

7. The durability considerations

7.1 I note that the age of the building work raises concerns regarding compliance with Clause B2.3.1, taking into consideration the age of the building work and the delay in seeking a code compliance certificate.

7.2 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).

7.3 I continue to hold the views expressed in previous relevant determinations; that an authority, following the appropriate application from the owner, has the power to grant a modification to the Building Code requirements of an existing building consent without a determination (refer also to the article titled 'Modification of durability periods' in Codewords Issue 39, August 2009⁷).

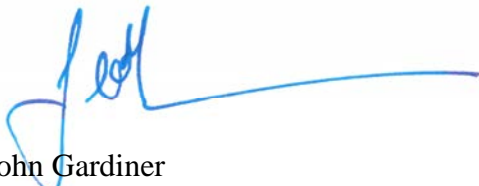
⁷ Codewords articles are published by the Ministry and are available on the Ministry's Building and Housing website at www.dbh.govt.nz/codewords-index

- 7.4 The authority has proposed the date of 31 October 2003, being the date of substantial completion, as the appropriate date in respect of the modification of Clause B2.3.1. I am of the view that the proposed date is reasonable and I leave this matter to the parties to resolve in due course. I note here that the building consent should also to be amended to reflect the as-built variations to the work as it was consented (refer paragraph 5.2.1).
- 7.5 I strongly suggest 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.

8. The decision

- 8.1 In accordance with section 188 of the Building Act 2004, I hereby determine that the external building envelope complies with Building Code Clause B2 and E2, and accordingly I reverse the authority's decision to refuse to issue a code compliance certificate.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 8 February 2013.



John Gardiner
Manager Determinations and Assurance