

Determination 2006/53

Refusal of a code compliance certificate for a building with a “monolithic” cladding system at 26 Park Street, Tauranga



1. The dispute to be determined

- 1.1 This is a determination of a dispute under Part 3 Subpart 1 of the Building Act¹ 2004 (“the Act”) made under authorisation by me, John Gardiner, Determinations Manager, Department of Building and Housing, for and on behalf of the Chief Executive of that Department. The applicant is the owner, the Samy Trust (“the owner”), and the other party is the Tauranga District Council (“the territorial authority”). The application arises because no code compliance certificate was issued by the territorial authority for this 7-year-old house.
- 1.2 The question to be determined is whether I am satisfied on reasonable grounds that the monolithic wall cladding as installed to the external walls of the building (“the cladding”), complies with the Building Code² (see sections 177 and 188 of the Act). By “the monolithic wall cladding as installed” I mean the components of the system (such as the backing sheets, the flashings, the joints and the plaster and/or the coatings) as well as the way the components have been installed and work together.
- 1.3 In making my decision, I have not considered any other aspects of the Act or the Building Code.

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

2. Procedure

2.1 The building

- 2.1.1 The building work consists of a detached house situated on a level site, which is in a medium wind zone for the purposes of NZS 3604³. The house is partly two storeys high, with single-storey ground floor projections. Construction is conventional light timber frame, with concrete slab and concrete block foundations, aluminium windows and monolithic wall cladding. The house shape is moderately complex in plan, with 30° profiled metal hip and mono-pitched roofs over upper and lower roofs. The only eave projections are those provided by the gutters, and there are no verge projections. Two enclosed decks were originally constructed to extend from upper living areas, above a bedroom and the garage below. These decks have since been enclosed with conservatory glazing.
- 2.1.2 The expert commissioned by the Department to inspect the cladding (“the expert”) noted that the timber he was able to inspect did not appear to be treated, and the specification does not call for wall framing to be treated. Based on this evidence, I consider that the external wall framing is unlikely to be treated.
- 2.1.3 The cladding system on the building is what is described as monolithic cladding, and is a “Harditex” system with 7.5 mm thick fibre cement sheets fixed through the building wrap to the framing, and finished with an applied textured coating system. Decorative bands around windows and doors are formed with polystyrene fixed over the unsealed fibre cement backing sheets, prior to the application of the coating system.
- 2.1.4 I have seen no evidence of producer statements or warranties for the cladding on the house.
- 2.1.5 I note that 2 elevations of the building demonstrate a moderate weathertightness risk and 2 elevations a high risk rating, as calculated using the E2/AS1 risk matrix. 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.
- 2.1.6 Accordingly I consider this face-fixed fibre-cement cladding to be an alternative solution (refer to paragraph 4.2).

³ New Zealand Standard NZS 3604:1999 Timber Framed Buildings

2.2 Sequence of events

2.2.1 The territorial authority issued a building consent for the house on 24 October 1997, based on a building certificate issued by Bay Building Certifiers Ltd (“the building certifier”), dated 3 September 1997.

2.2.2 I have no records of what inspections were carried out by the building certifier, but it appears that the building was substantially completed during 1998.

2.2.3 On 3 February 2005, the owners engaged Building Surveying Services Ltd (“the consultant”) to carry out an “Independent Pre-purchase Assessment Report” for prospective purchasers of the property. The report included a list of risk factors and defects related to the cladding, and noted that non-invasive moisture readings were high for several areas of the house, with the highest being:

...evident under the front and side windows, some of the external corners and around the decks of the dwelling.”

2.2.4 The report also advised that a full survey was required, including invasive moisture testing and removal of sections of cladding, to determine the full extent of possible water ingress.

2.2.5 Two conservatories were subsequently added to the upper decks of the house (with the territorial authority issuing a code compliance certificate for these on 7 June 2005). It appears this work was approved and inspected by Bay Inspections (“the territorial authority’s agent”), a contractor providing building regulatory services to the territorial authority.

2.2.6 In a letter to the owner dated 23 May 2005, the territorial authority’s agent noted that a visit to the house on 10 February 2005 had identified some minor matters that required attention. A further visit on 12 May 2005 had shown that:

...matters raised had been addressed and that the balustrade issue had been resolved by closing in the small deck with a conservatory.

As a result of his inspections of visible building elements only and on the assumption that all the required earlier inspections had been carried out, he is satisfied that the building was properly completed in accordance with the Building Code requirements that existed at the time of construction.

2.2.7 In a letter to the territorial authority dated 5 July 2005, the owner’s legal representatives contended that Section 43 of the Building Act 1991 had been ignored by the territorial authority in its refusal of to issue a code compliance certificate, and noted that:

The Trust elected not to get a LIM when it purchased the property and only found out some time ago that the building consent for the property was not complete in that a final code compliance certificate for the building work associated with the dwelling had not been issued. We note at this point that Council issued the Building Consent.

In order to remedy this matter the Trust sought assistance from [the territorial authority’s contractor] who investigated the position and carried out final plumbing and building

inspections and reported that the dwelling was completed in accordance with the Building Code requirements that existed when the building was constructed...

- 2.2.8 In a letter to the owner's legal representatives dated 26 July 2005, the territorial authority outlined the background to the building, and noted that:

At no time did the Tauranga District Council visit the site or carry out any inspections to ascertain compliance with the NZ Building Code. I have perused the plans for the dwelling and on information supplied by the Department of Building and Housing, the construction methods used are now assessed as being high risk. The areas of risk are a face fixed monolithic cladding with no drainage cavity and no eaves.

- 2.2.9 In a letter to the territorial authority dated 29 July 2005, the owner's legal representatives repeated their assertion that the territorial authority had not complied with Section 43 of the Building Act 1991. The territorial authority responded in a letter dated 3 August 2005, noting that the section referred to:

...states that it is the responsibility of the building owner to apply for a code compliance certificate as soon as is practicable and this was clearly not done.

I would suggest that it would have been prudent for the current owner or their agent to have applied for a Land Information Memorandum before they purchased the above mentioned property where the lack of a code compliance certificate would have been identified.

- 2.2.10 The territorial authority noted that the owner could apply for a determination to establish whether the cladding complies with clauses B2 and E2 of the Building Code.
- 2.2.11 The territorial authority did not issue a notice to fix as required under section 164(2) the Act.
- 2.2.12 The owner applied for a determination on 24 August 2005.

3. The submissions

- 3.1 The owner noted in the application that the "Matter of doubt or dispute" is:

The refusal of the Tauranga District Council to issue a code compliance certificate for building work at 26 Park Street Tauranga being the erection of a dwelling pursuant to Building Consent No 97/2509

- 3.2 The owner forwarded copies of:

- drawings and the specifications
- some of the consent documentation
- the pre-purchase inspection report
- the code compliance certificate for the conservatories

- a letter from the territorial authority's agent
- correspondence with the territorial authority
- various other statements.

3.3 The territorial authority made no submission.

3.4 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.

3.5 A copy of the draft determination was sent to the parties on 28 November 2005. The territorial authority accepted the report.

3.6 In its response to the Department dated 29 May 2006, the applicant accepted the draft but noted that the pre-purchase inspection report referred to in paragraph 2.2.3 was undertaken for a prospective purchaser and that Samy Trust already owned the property. I have amended the determination accordingly.

4. The relevant provisions of the Building Code

4.1 The dispute to be determined is whether the territorial authority's decision to refuse to issue a code compliance certificate because it was not satisfied that the cladding complied with clauses B2.3.1 and E2.3.2 of the Building Code (First Schedule, Building Regulations 1992) is correct.

4.2 There are no Acceptable Solutions that have been approved under section 22 of the Act that cover the monolithic cladding as installed on this house. The cladding is not currently certified under section 269 of the Act. I am, therefore of the opinion that the cladding system as installed must now be considered to be an alternative solution.

4.3 In several previous determinations, the Department has made the following general observations, which in my view remain valid in this case, about acceptable solutions and alternative solutions:

- 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. The expert's report

- 5.1 The expert inspected the cladding on 13 October 2005, and furnished a report that was completed on 20 October 2005. The expert noted that the general standard of workmanship to the exterior was “unsatisfactory”. The expert cut away two small sections of plaster to examine the flashings at junctions of the jamb to the sill and the head of the north window in the master bedroom. I accept that the locations opened are typical of similar locations around the building.
- 5.2 The expert took non-invasive moisture readings through interior linings at skirting level, under windows and at other risky areas; and no elevated readings were noted. However, the expert noted signs of moisture damage to skirtings and linings in the north wall of the master bedroom.
- 5.3 A further 12 invasive moisture readings were taken through the wall cladding. All readings showed elevated moisture content in the framing. Advanced decay was found at the head and sill junctions at the west of the master bedroom window where exposed by the cutouts. The invasive moisture readings are detailed below.

North elevation

- 24.2% in the northeast corner of the garage
- 33.8% in the northeast corner of the entry
- 20.9% in the wall to the west of the entry
- 36.2% in the east jamb of the master bedroom window

West elevation

- 48.0% in the northwest corner of the master bedroom
- 47.0% in the southwest corner of the master bedroom
- 26.0% in the north jamb of the window to bedroom 2

South elevation

- 22.0% in the west jamb of the window to bedroom 2
- 20.9% in the west jamb of the study window

East elevation

- 22.0% at the top of the original deck barrier to the east deck

Moisture levels above 18% recorded after cladding is in place generally indicate that external moisture is entering the structure.

- 5.4 The expert made the following specific comments on the cladding:

- the prongs of the moisture meter were inserted with ease where some moisture readings were taken, indicating the likelihood of advanced decay at a number of locations
- the cut-outs revealed that windows are face-fitted against unsealed Harditex, with no flashings at jambs or sills and no evidence of any sealant or Inseal strip. There was clear evidence of leaking, with very soft and blackened timber.
- the aluminium head flashings to windows and doors extend past the jambs, but the projections are unsealed and lack stop ends
- the decorative polystyrene window bands have been fixed over unsealed fibre cement backing sheets, prior to the coating application
- the timber fascias are fixed against the unsealed fibre cement backing sheets with the textured coating extending over the timber
- there are no vertical control joints in the 6.9 m long south wall and 5.8 m long east garage wall, although both walls exceed the 5.4 m limit recommended by the manufacturer
- there is visible hairline cracking, despite recent repairs, in line with windows at a number of locations, which indicates that the backing sheets have not been set out in accordance with the manufacturer's instructions.
- cladding clearances at a number of locations are less than the requirements of E2/AS1

5.5 A copy of the expert's report was sent to each of the parties on 25 October 2005. Neither party made any further submissions in response to the expert's report.

6. Discussion

6.1 General

6.1.1 I have considered the submissions of the parties, the expert's report and the other evidence in this matter. The approach in determining whether building work complies with clauses B2 and E2 is to examine 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 Building Industry Authority and the Department have described the weathertightness risk factors in previous determinations (Refer to Determination 2004/01 et al) relating to monolithic cladding, and I have considered these comments in this determination.

6.2 Weathertightness risk

6.2.1 In relation to these characteristics I find that the house:

- is built in a medium wind zone
- is a maximum of two storeys high
- has enclosed decks, which have been covered by conservatories, situated above a bedroom and a garage
- is reasonably complex in plan and in form
- has no eave or verge projections to provide shelter to the cladding below
- has monolithic cladding which is fixed directly to the framing
- has untreated external wall framing, which will provide no resistance to the onset of decay if the framing absorbs and retains moisture.

6.3 Weathertightness performance

- 6.3.1 I find that the monolithic cladding generally, including the window details, does not appear to have been installed according to good trade practice. As a result, there are significant defects identified in paragraph 5.4, which are likely to have contributed to the high levels of moisture penetration already evident into the external walls of this house.
- 6.3.2 I also view with concern the evidence of advanced timber decay noted in the expert's report, and consider that further opening up of the structure may reveal further decay of the untreated wall framing, which could compromise the structural integrity of the building.

7 Conclusion

- 7.1 I am satisfied that the current performance of the monolithic cladding is not adequate because it has not been installed according to good trade practice and is allowing significant water penetration into the walls at a number of locations at present. I have also identified the presence of some known weathertightness risk factors in this design. The presence of the risk factors on their own is not necessarily a concern, but they have to be considered in combination with the significant defects, identified in paragraph 5.4, in the cladding system. It is that combination of risk factors and defects, together with the current moisture penetration and timber decay, that indicate that the structure does not have sufficient provisions that would compensate for the lack of a full drainage cavity. Consequently, I am satisfied that the cladding system as installed on the building does not comply with clause E2 of the Building Code.
- 7.2 In addition, 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 continue to allow the ingress of moisture in the future, the house does not comply with the durability requirements of clause B2.

- 7.3 I find that because of the apparent complexity of the defects that have been identified in this house, I am unable to conclude, with the information available to me, that remediation of the identified defects, as opposed to partial or full recladding, could result in compliance with clauses B2 and E2. I consider that any final decisions on whether code compliance can be achieved by either remediation or recladding, or a combination of both, can only be made after a more thorough investigation of the cladding and underlying wall framing to establish the extent of decay. This will require a careful analysis by an appropriately qualified expert as to the correct remedial option to be followed. Once that decision has been made, it should be submitted to the territorial authority for its comment and approval. If the territorial authority chooses to reject the proposal, then the owner is entitled to seek a further determination that will rule on whether the proposed remedial work will comply with the requirements of clauses E2 and B2.
- 7.4 Effective maintenance of claddings (in particular of 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.
- 7.5 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 shall 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.
- 7.6 In the circumstances, I decline to incorporate any waiver or modification of the Building Code in this determination.

8 The decision

- 8.1 In accordance with section 188 of the Act, I hereby determine that the monolithic cladding system as installed does not comply with clauses E2 and B2 of the Building Code. 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 cladding into compliance with the Building Code, without specifying the features that are required to be incorporated. It is not for me to decide directly how the defects are to be remedied and the cladding 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 draw to the attention of the territorial authority the evidence of advanced timber decay, and the possibility that further investigation may reveal further decay of the untreated wall framing, which could compromise the structural integrity of the building.
- 8.4 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 issues. 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 6 June 2006.

John Gardiner
Determinations Manager