

Determination 2006/82

Refusal of a code compliance certificate for a building with a monolithic cladding system at 17a Kurahaupo Street, Orakei, Auckland (to be read in conjunction with Determination 2005/83)

Applicant: Mrs L Collie (the owner)

Territorial authority: Auckland City Council

Site Address: 17 Kurahaupo Street, Orakei, Auckland

1. The dispute 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, Determinations Manager, Department of Building and Housing, for and on behalf of the Chief Executive of that Department. The application for determination arises because the territorial authority has refused to issue a code compliance certificate for the house. I determined certain building matters with regard to this house, which are described in an earlier determination, Determination 2005/83 (“the first determination”). Subsequently, the owner has carried out some of the work recommended in that determination. I must determine whether, in light of the work that has been carried out, the house now complies with clauses E2 and B2 of the New Zealand Building Code².

2 Sequence of events

- 2.1 On 31 May 2005 the Department issued the first determination, which identified faults in the building, and confirmed the territorial authority’s refusal to issue a code compliance certificate. The determination also noted that the territorial authority should issue a new notice to fix with regard to the faults.

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

- 2.1 The applicant subsequently commenced repairs to the house before receiving the new notice to fix from the territorial authority referred to paragraph 2.1. This remedial work appears to have been based on the faults identified in the first determination, with no formal consultation or agreement with the territorial authority before work started.
- 2.2 The territorial authority inspected the house on 22 August 2005, and on 14 September 2005 issued a notice to fix, which provided a long list of defects to be remedied and noted that the territorial authority was unable to establish code compliance for the remedial work undertaken prior to the inspection date. In the accompanying letter, the territorial authority recommended that the applicant develop a proposed scope of work and:
- Council will then review this proposal and if it agrees with it, will then advise you as to whether a building consent needs to be applied for.
- 2.3 It appears that the applicant continued with remedial work following the inspection of 22 August 2005, still without formal consultation or agreement with the territorial authority.
- 2.4 The applicant's application for this determination, disputing the notice to fix, was received by the Department on 26 September 2005.

3 The expert's reports

3.1 The November 2005 report

- 3.1.1 The Department re-commissioned the expert engaged for the first determination to inspect the items in the notice to fix. The expert inspected these on 10 November 2005 (the November inspection) and, in an addendum report dated 17 November 2005 (the November report), noted that some of the issues raised in the notice to fix had been subsequently repaired but not all of the issues raised in his original report ("the first report"), and in the first determination, had been adequately addressed.
- 3.1.2 The expert noted that the following items had not been adequately addressed:
- the cracks to the chimney cladding had not been repaired but two stainless steel vents had been installed at the base of the chimney cladding and these had not been sealed, meaning that any benefits resulting from ventilation were outweighed by the risk of water entry
 - the openings at the ends of the garage roofing
 - the jambs of windows in the weatherboard cladding
 - the inadequately weatherproofed drainage outlets
 - the poor sealing of the handrails fixed to the top of the balustrade

- the visible part of the split in the lower deck membrane had been repaired, but the tiles had not been removed to investigate the condition of the membrane meaning that the adequacy of the underlying membrane could not be assessed.

3.1.3 The expert also noted that, although the junction between the weatherboards and the EIFS relied on a face seal for weathertightness, there was an overlap of about 60mm provided by the thickness of the polystyrene backing sheets that should provide adequate protection.

3.1.4 The first report had noted that two walls of this house exceed the dimensions specified by the manufacturer of the “Alchemis Monocladd” EIFS cladding as requiring control joints. However, the expert noted in the November report that the wall areas present in this house are of dimensions that do not require control joints for other similar types of EIFS cladding, and that there were no cracks indicative of a failure to accommodate movement.

3.2 Intervening communication

3.2.1 Copies of the expert’s November report were provided to each of the parties. In a letter to the Department dated 25 November 2005, the territorial authority noted that:

For the record a Council officer did visit the site prior to the roof parapet cap flashings being fully installed. At that stage, all the other remedial work had been completed.

3.2.2 In a letter to the Department dated 29 November 2005, the applicant queried the meaning of a number of items in the expert’s November report. The Department responded in a letter dated 30 November 2005, with a more detailed indication of the work that would be required for the house to become code compliant. The Department also noted that, because of the outstanding defects identified by the expert:

The effect of these are that were we to make another determination now, our finding would be that the house does not comply with that part of the code that relates to durability.

3.2.3 In response to a request for clarification of its position with regard to code compliance, the territorial authority stated in a letter to the Department dated 1 December 2005:

In answer to the question is [“]Council satisfied the building is compliant[“], the answer is [“]no[“]. Not all of the items identified in the Notice have been addressed, and those items Mrs Collie has elected to undertake were untaken without consultation with the Council and not inspected during construction. No documentation has been provided re durability issues either.

3.2.4 The applicant responded to the territorial authority’s comments in a letter to the territorial authority dated 4 December 2005, noting that the territorial authority failed to attend various appointments, and noted that:

There is allowance in law for me to protect my property investment and health which entitles me without permit to prevent damage to my health welfare and property if necessary. This was necessary.

- 3.2.5 In a letter to the Department dated 17 January 2006, the applicant described discussions with various tradesmen and remedial work completed, and requested the Department to proceed with a further inspection.
- 3.2.6 Following communication and discussion with the applicant, the Department wrote to the applicant on 18 January 2006 noting that it understood that repairs were complete except for work on the sloping roof area, the balustrade handrails and the deck membrane, where a sealer had been applied to the tiles. The Department further clarified the concerns with regard to these areas and advised the applicant to discuss the matters with the territorial authority.
- 3.2.7 In a letter dated 14 February 2006, the Department wrote to the expert confirming instructions to carry out a further inspection of the house, and outlining the items requiring specific attention as being the:
- balustrade hand rail fixings
 - bottom of the membrane cladding to the sloped roof area
 - cracks and vents in the chimney cladding
 - waterproofing of the deck surface
 - end closures to the end of the garage roof
 - jambs to the windows in the weatherboard cladding
 - weatherproofing of the drainage outlets

3.3 The March 2006 report

- 3.3.1 The expert revisited the house to inspect the items described in paragraph 3.2.7 on 21 March 2006 (the March inspection) and provided a report that was completed on 22 March 2006 (the March report).
- 3.3.2 The expert made the following specific comments on the items in paragraph 3.2.7:
- **balustrade hand rail fixings:** sealant had been applied to the junction of the bracket with the sloping top of the monolithic clad balustrade, but it appears that the handrail has not been removed to insert appropriate seals beneath the bracket base plates, so the adequacy of the weatherproofing appears to rely solely on the perimeter sealing. The handrail is reasonably rigid, with only about 2mm movement under heavy hand pressure.
 - **bottom of the membrane cladding to the sloped roof area:** the new membrane capping has been installed over the sloping texture-coated fibre cement, overlapping over the top of the vertical EIFS wall cladding. Both claddings had been coated with “PutzTechnic” plaster prior to the membrane installation, and a further coat of plaster was applied to the EIFS up to the

bottom edge of the new membrane. The edge of the membrane was well adhered to a firm substrate.

- **cracks and vents in the chimney cladding:** the earlier crack had been sealed and painted. The openings behind the vents had been filled with a membrane applied over the framing, and a sealant applied at the edges.
- **waterproofing of the deck surface:** the owner reported that two coats of “Groutseal” had been applied over the tiles and the grout, which was guaranteed for 5 years. This product was transparent, so there was no visual change since the November inspection.
- **end closures to the end of the garage roof:** a compressible profiled foam strip had been installed to close off the ends of the roof cladding in order to prevent penetration of wind-blown rain.
- **jambes to the windows in the weatherboard cladding:** the owner had been advised by her plumber that sealant would provide effective, economic weatherproofing.
- **weatherproofing of the drainage outlets:**
 - the outlet from the main roof had been sealed at the junction of the pipe and the membrane
 - a cut piece of uPVC piping had been pushed into the outlet from the garage roof in an attempt to make a crude form of collar, which would have no affect on the weathertightness of the outlet.

3.3.3 Copies of the expert’s report were provided to each of the parties.

3.3.4 The applicant responded in a letter to the Department and a letter to the territorial authority, both dated 3 April 2006. The applicant made similar comments in both letters, which can be summarised as follows:

- **balustrade handrail fixings:** an independent engineer, Mr Haycock, inspected the brackets and was completely satisfied with the weathertightness and surprised that 2mm movement was possible. On advise from her plumber, further sealant was applied around the bracket to improve the appearance.
- **waterproofing of the deck surface:** the grout was sealed with two coats of sealer, followed by a final coat over the tiles and grout surface.
- **jambes to the windows in the weatherboard cladding:** the junction has since been sealed with a roof and gutter sealant.

4 Discussion

- 4.1 I note that there appears to have been a significant lack of communication between the applicant and the territorial authority, which appears to have led to the applicant proceeding with remedial work without appropriate consultation with, and approval and inspection by the territorial authority. This has resulted in considerable difficulty in assessing the code compliance of this house. However, based on the limited evidence available to me, it appears that most of the items identified in the first determination have now been adequately addressed although several items remain inadequate.
- 4.2 I note the expert's comment in paragraph 3.1.3 on the inter-cladding junctions, and accept that the weatherproofing provided is adequate in the circumstances.
- 4.3 I also note the expert's comment in paragraph 3.1.4 on the provision of control joints, and accept that manufacturers of similar cladding systems do not consider control joints necessary for the dimensions of EIFS used on the walls of this building. I also accept that no cracks appear to relate to the lack of control joints in the three years since construction, during which all drying shrinkage in the concrete plaster and supporting framing will have likely occurred. In these circumstances, I therefore consider the provision of control joints is not necessary for this particular house.
- 4.4 I accept the applicant's statement that the jambs of the windows in the weatherboard cladding have been adequately weatherproofed with sealant.
- 4.5 I note the expert's comment on the weathertightness of the drainage outlet from the garage roof, and agree that this is not adequately weathertight.

4.6 The lower deck surface

- 4.6.1 I note the expert's comments and the applicant's statements concerning the treatment of the tiled surface of the lower deck.
- 4.6.2 I observe that clause B2 of the building code requires that the underlying deck membrane remains durable for at least 15 years after installation. The membrane had split in one area which was visible during the inspection of first determination, and this split had since been patched. However, the condition of the rest of the membrane cannot be assessed as it is hidden beneath the tiles.
- 4.6.3 I do not accept that the grout sealer applied to the deck surface will result in equivalent weathertightness to that required of the underlying membrane, should the latter be in poor condition. I also note that the sealer is transparent, and therefore any breakdown would not be visible.
- 4.6.4 I therefore consider that the deck membrane must be exposed, its condition examined and any repairs carried out to the territorial authority's satisfaction. This process must involve inspection of the membrane by the territorial authority.

4.7 The handrail brackets

- 4.7.1 I note the expert's comments and the applicant's statements concerning the sealing of the brackets to the top of the monolithic clad balustrade.
- 4.7.2 I also note the expert's comments on the 15° slope to the top of the balustrade cladding and on the rigidity of the handrail bracket, and I consider the rigidity sufficient to prevent significant flexing at the junctions with the EIFS surface.
- 4.7.3 I note that there is no evidence that the handrails were removed following the first determination, and I therefore have no evidence of adequate sealing beneath the brackets. I do not consider that the perimeter face sealant applied will, on its own, provide adequate protection against moisture penetration.
- 4.7.4 I therefore consider that the handrail brackets must be removed and appropriate seals installed beneath the brackets. This process must involve inspection of the underlying seals by the territorial authority. Following the replacement of the brackets, perimeter sealant should be reinstated.
- 4.7.5 I consider that if the work described in paragraph 4.7.4 is completed to the territorial authority's satisfaction, the slope to the top of the balustrade cladding and the rigidity of the brackets (refer paragraph 4.7.2) should be sufficient to ensure that the weathertightness and durability of the balustrade is adequate in this case.

5 Conclusion

- 5.1 Based on the evidence provided, I conclude that most of the items identified in the first determination and in the notice to fix have now been adequately addressed. However, there are several remaining areas that still require attention. There are described in paragraph 4.5 to paragraph 4.7 and in the expert's March report as being:
- the drainage outlet from the garage roof
 - the underlying deck membrane
 - the fixings of the handrail brackets
- 5.2 I am satisfied that the current performance of the cladding is adequate because it is preventing water penetration into the building at present. Consequently, I am satisfied that the cladding system as installed on the building complies with clause E2 of the Building Code.
- 5.3 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 allow the ingress of moisture in the future, the house does not comply with the durability requirements of clause B2.

- 5.4 Subject to further investigations that may identify other faults, I consider that, because the faults that have been identified with the cladding system occur in discrete areas, I am able to conclude that satisfactory rectification of the remaining items outlined in paragraph 5.1 should be expected to result in the building becoming and remaining weathertight and in compliance with clauses B2.
- 5.5 I note that effective maintenance of claddings is important to ensure ongoing compliance with clause B2 of the Building Code. That maintenance is the responsibility of the building owner. The code assumes that the normal maintenance necessary to ensure the durability of the cladding is carried out. For that reason clause B2.3.1 of the Building Code requires that the cladding be subject to “normal maintenance”. That term is not defined and I take the view that it must be given its ordinary and natural meaning in context. In other words, normal maintenance of the cladding means inspections and activities such as regular checking, cleaning, re-painting, replacing sealants, and so on.
- 5.6 As the external wall framing of this building is likely to be untreated, periodic checking of its moisture content should also be carried out as part of normal maintenance.
- 5.7 I draw to the attention of the applicant and the territorial authority that consultation and inspection will be essential for satisfactory completion of remedial work. In particular, the territorial authority must inspect the deck membrane as described in paragraph 4.6.4, and the balustrade handrail seals as described in paragraph 4.7.4.

6 The decision

- 6.1 In accordance with section 188 of the Act, I hereby determine that the monolithic cladding system as installed complies with clause E2 of the Building Code. However, there are several items to be remedied to ensure that the house remains weathertight and thus meets the durability requirements of the code. Consequently, I find that the house does not comply with clause B2. Accordingly, I confirm the territorial authority’s decision to refuse to issue a code compliance certificate.
- 6.2 I also find that rectification of the items outlined in paragraph 5.1, to the approval of the territorial authority, along with any other faults that may become apparent in the course of that work, will result in the house becoming and remaining weathertight, and in compliance with clauses B2. A new notice to fix should be issued to address the items outlined in paragraph 5.1.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 30 August 2006.

John Gardiner
Determinations Manager