

Determination 2006/80

Refusal of a code compliance certificate for a house with a monolithic cladding system at 97 Meander Drive, Welcome Bay, Tauranga



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 applicant is the owner, Peter Dodds (“the applicant”) and the other party is the Tauranga District Council (“the territorial authority”). The application arises because the territorial authority declines to issue a code compliance certificate for a house, unless changes are made to its monolithic cladding system.
- 1.2 The dispute for determination is whether I am satisfied on reasonable grounds that the territorial authority’s decision to decline to issue a code compliance certificate on a 6-year-old house is correct. The territorial authority declined the application because it was not satisfied that the monolithic cladding as installed on the building complied with clause E2 “External Moisture” of the Building Code (First Schedule, Building Regulations 1992). By “the monolithic cladding as installed” I mean the components of the system (such as the backing materials, the flashings, the joints and

¹ The Building Act 2004 is available from the Department’s website at www.dbh.govt.nz.

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 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.

2 The building

- 2.1 The building is a single-storey house situated on an excavated slightly sloping site that is in a low wind zone in terms of NZS 3604². Construction is of conventional light-timber framing built on concrete ground floor slabs. The building is simple in plan and form. The steeply pitched roofs have hip and valley junctions, and 300 mm wide eaves projections. Low timber-framed close-boarded decks are situated adjacent to the main entrance and the living area.
- 2.2 I have not received any information as to the treatment, if any of the external wall framing. Accordingly, I accept that this framing is unlikely to be treated to a level that is effective in helping resist decay if it absorbs and retains moisture.
- 2.3 The wall cladding to the timber-framed walls is a monolithic cladding system described as 60mm polystyrene backing sheets fixed through the building wrap directly to the framing timbers. The polystyrene is finished with “Putz-Technik Mineral Plaster Solution 300” The cladding was repaired and repainted with two coats of “Fosroc Flexiform” in 2005.
- 2.4 Putz-Technik New Zealand Ltd issued a producer statement dated 1 November 2000 in respect of the plaster system and this noted:

Supplier confirms that this system is suitable for the enclosed project designed and specified and that its guarantee for material does apply.

3 Sequence of events

- 3.1 The territorial authority issued a building consent in 2000.
- 3.2 Bay Building Certifiers Ltd (“the building certifier”) carried out various inspections during the construction of the building and issued a “Building Certificate” on 20 October 2000. The covering letter for this document, also dated 20 October 2000, noted that, apart from the listed excluded work, the building was completed in accordance with the Building Code. The letter also stated:

On proper completion of the excluded work a Code Compliance Certificate will be issued.

Work excluded:

- | | |
|----------------------|----------------|
| 1. Exterior cladding | Clause B1 & E2 |
|----------------------|----------------|

² New Zealand Standard NZS 3604: 1999 Timber framed buildings.

2. Bathroom Mechanical Ventilation Clause G4 & E3

3.3 On 15 May 2006, Bay Inspections (“the territorial authority’s agent”) sent a fax to the estate agents for the house, stating that the building certifier had issued the 20 October 2000 certificate. A further inspection of the house had occurred in November 2003. A producer statement had been received from the plaster applicator but the applicator had not supplied further information that was also requested. It was also noted that the building certifier had ceased to trade.

3.4 The estate agents authorised a consultant to inspect and report on the cladding. The consultant inspected the property on 28 October 2005 and produced a report. The report indicated that, taking into account the age of the building, the cladding was in a relatively good condition. There was no evidence to suggest that moisture had penetrated the building. The report recommended:

1. Enlist a qualified tradesperson to apply correct sealant product, re-mesh and plaster window sill areas where required.
2. Apply suitable lighter shade exterior paint to dwelling

3.5 A plastering contractor issued an undated document that stated:

Work done as at December 2005

1. Re-mesh and plaster all sills (except south side) with Fosroc plaster as normally would with new house.
2. Re-silicone around all window (M S Siliflex) to make waterproof.
3. Please note: upon re-meshing window there was Siliflex still there.
4. Re-paint all of the house in “Fosroc Flexiform” 2 x coats as per specs.
5. LRV rating is 40% just within what is allowed as per “Fosrocs” specs.

3.6 The applicants’ application for a determination was received by the Department on 29 May 2006.

4 The submissions

4.1 The applicant forwarded copies of:

- the building’s plans
- A building certificate issued by Bay Building Certifiers
- correspondence between the applicant and Bay Inspections
- authorised a consultant’s report on the cladding commission by the estate agents

- A producer statement issued by Putz-Technik NZ Ltd and a statement issued by the installer.

4.2 Copies of the submissions and other evidence were provided to each of the parties. The territorial authority made no submissions.

4.3 In making no submission, the territorial authority has not provided any evidence to me as to why they do not believe the house is not code compliant. I do not believe that this is acceptable. It is important that should an owner be declined a code compliance certificate, they be given clear reasons why through the issuing of a notice to fix. The owners can either then act on that notice to fix or apply for a determination if they dispute those reasons

5 The expert's report

5.1 The expert inspected the cladding of the building on 4 July 2006 and furnished a report that was completed on 6 July 2006. In the opinion of the expert, there had been a "good tradesman like application with minimum penetrations, recently painted".

5.2 The expert removed areas of the plaster to examine the construction details. These revealed that the external joinery units are fully flashed and adequately sealed. I am prepared to accept that these examples are representative and apply to similar details throughout the house.

5.3 The expert took non-invasive moisture readings through interior linings of the exterior walls and no abnormal readings were recorded. The expert then took eleven invasive moisture readings through the exterior linings of the exterior walls and no abnormal readings were recorded. The highest reading being 18%.

5.4 The expert made the following comments regarding the cladding:

- some minor cracking is evident where the window sills have been re-meshed and painted
- there are some small holes present below some of the head flashings to the exterior joinery units
- there are cut outs requiring repair at one jamb and sill of the garage window
- there is inadequate ground clearance at the base of the cladding adjoining the garage door
- metal fascias are cut short adjacent to both sides of the front entry.

5.5 The expert also stated that the top of the decking at the front entry is close to the bottom edge of the cladding. However, the expert noted that the cladding has a PVC extrusion fitted all round the base of the cladding and the construction has been satisfactorily to date.

5.6 Copies of the expert's report were provided to each of the parties on 13 July 2006. In an e-mail to the Department sent on 17 July 2006, the applicant acknowledged receipt of and accepted the report. The applicant also noted that the territorial

authority had not given any reasons for declining to issue a code compliance certificate and that the determination process hopefully would ensure that a code compliance certificate would be offered.

6 Evaluation for code compliance

6.1 Weathertightness 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 Solution³, in this case E2/AS1, which will assist in determining whether the named 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; and
- Usually when there is non-compliance with one provision of an Acceptable Solution, it may be necessary to add some other provision to compensate for that in order to obtain compliance 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 overall design of the building, the surrounding environment, the detailed 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, has also described weathertightness risk factors in previous determinations (refer to Determination 2004/1 *et al*)⁴ 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 will need to be less robust. In any event, there is a need for both the design of the cladding system and the quality of its installation to be carefully carried out.

6.2 Weathertightness risk

6.2.1 In relation to the weathertightness characteristics, I find that the building:

- is situated in a low wind zone
- is single storey and is of a simple shape on plan
- has 300mm wide high level eaves projections that provide some protection to the cladding beneath them
- has two low-level adjoining timber decks

³ An Acceptable Solution is a prescriptive design solution approved by the Department that provides one way of complying with the Building Code. The Acceptable Solutions are available from The Department's Website at www.dbh.govt.nz.

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

- has external wall framing that is unlikely to be treated to a level that is effective in helping resist decay if it absorbs and retains moisture.

6.2.2 When evaluated using the E2/AS1 risk matrix, these weathertight features show that all elevations of the building demonstrate a low weathertightness risk rating. 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. However, some junctions, penetrations and edges are not well constructed, and these areas are as described in paragraph 5.4 and in the expert's report as being the:

- minor cracking where the window sills have been re-meshed and painted
- small holes present below some of the head flashings to the exterior joinery units
- cut outs requiring repair at one jamb and sill of the garage window
- inadequate ground clearance at the base of the cladding adjoining the garage door
- cut short metal fascias adjacent to both sides of the front entry.

6.3.2 I note the expert's comments in paragraph 5.5 and accept that this item is adequate in the circumstances applying to this house.

6.3.3 Notwithstanding the fact that the cladding is fixed directly to the timber framing, thus limiting drainage and ventilation behind the cladding, I have noted certain compensating factors that assist the performance of the cladding in this particular case:

- apart from the noted exceptions the cladding is generally installed to good trade practice
- the house is situated in a low wind zone
- the house is single-storey and is of a simple shape on plan
- the house has roof projections that provide some protection to the wall cladding areas below them.
- there is no evidence of moisture penetration into the walls after 6 years.

- 6.3.4 I consider that these factors help compensate for the lack of a ventilated cavity and can assist the building to comply with the weathertightness and durability provisions of the Building Code.

7 Discussion

- 7.1 I consider that the expert's report establishes there is no evidence of external moisture entering the house, and accordingly, that the monolithic 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 house 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 Subject to further investigations that may identify other faults, I consider that, because the faults identified with the cladding system occur in discrete areas, I can conclude that satisfactory rectification of the items outlined in paragraph 5.4 is likely to result in the building being weathertight and in compliance with clauses B2 and E2.

8 Conclusion

- 8.1 In accordance with section 20 of the Building Act 1991, I hereby determine that the monolithic cladding system as installed does not comply with clause B2 of the Building Code, and accordingly confirm the territorial authority's decision to refuse to issue a code compliance certificate.
- 8.2 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.
- 8.3 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.
- 8.4 As the external wall framing of the new and existing sections of the building is not likely to 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.

9 The Decision

- 9.1 In accordance with section 20 of the Building Act 1991, I hereby determine that the building does not comply with clause B2 of the Building Code, and accordingly confirm the territorial authority's decision to refuse to issue a code compliance certificate.
- 9.2 I note that the territorial authority has issued a notice to fix that also required provision for adequate ventilation, drainage and vapour dissipation. Under the Act, a notice to fix can require the owner to bring the house into compliance with the Building Code. The Building Industry Authority has found in a previous Determination 2000/1 that a Notice to Rectify (the equivalent to a notice to fix under the Building Act 1991) cannot specify how that compliance can be achieved. I concur with that view. A new notice to fix should be issued that requires the owners to bring the cladding and the other elements at issue into compliance with the Building Code, without specifying the features (in particular a cavity for the cladding, although the parties may conclude that this is the best system) that are required to be incorporated. It is not for me to dictate how the defects are to be remedied. How that is done is a matter for the owner to propose and for the territorial authority to accept or reject.
- 9.3 I would suggest that the parties adopt the following process to meet the requirements of clause 9.2. Initially, the territorial authority should issue the notice to fix, listing all the items that the territorial authority considers to be non-compliant. The applicant should then produce a response to this in the form of a technically robust proposal, produced in conjunction with an expert, 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 29 August 2006.

John Gardiner
Determinations Manager