

Determination 2005/94

Refusal of a code compliance certificate for a building with a “monolithic” cladding system: House 84

1 THE DISPUTE TO BE DETERMINED

- 1.1 This is a determination by the Chief Executive of the Department of Building and Housing (“the Chief Executive”) under section 17 of the Building Act 1991 (“the Act”), as amended by section 424 of the Building Act 2004. The applicant is one of the owners of the house (referred to throughout this determination as “the owner”), and the other party is the Franklin District Council (referred to throughout this determination as “the territorial authority”). The application arises from the refusal by the territorial authority to issue a code compliance certificate for 5-year old additions to a house and a separate garage (“the additions”), unless changes are made to their monolithic cladding systems.
- 1.2 My task in this determination is to consider whether I am satisfied on reasonable grounds that the external monolithic wall cladding as installed (“the cladding”) on the new and existing walls of the additions complies with the building code (see sections 18 and 20 of the Act). By “external 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 This determination is made under the Building Act 1991 subject to section 424 of the Building Act 2004. That section came into force (“commenced”) on 30 November 2004, and its relevant provisions are:

“...on and after the commencement of this section,—

- “(a) a reference to the Authority in the Building Act 1991 must be read as a reference to the chief executive; and
- “(b) the Building Act 1991 must be read with all necessary modifications to enable the chief executive to perform the functions and duties, and exercise the powers, of the Authority”

It should be noted that the new legislation does not amend the determination process set out under the 1991 Act, other than to transfer the power to make a determination from the Building Industry Authority (“the Authority”) to the Chief Executive.

- 1.4 This determination refers to the former Authority:
 - (a) When quoting from documents received in the course of the determination, and
 - (b) When referring to determinations made by the Authority before section 424 came into force.
- 1.5 No other aspects of the Act or the building code have been considered in this determination.

2 PROCEDURE

The building

- 2.1 The building work comprises additions at two separate locations to an existing single storey house, and an end addition to a single storey garage, both situated on a sloping site in a high wind zone in terms of NZS 3604: 1999 “Timber framed buildings”. The house is of conventional light timber frame construction on a piled timber framed floor, with both the new and the existing external walls lined with new monolithic cladding. The resultant house is of a relatively simple shape with the pitched roof having valley junctions. The eaves have 600mm and 1200mm wide projections and apart from the rear of the house, the verges have 400mm wide projections. However, the rear house wall is recessed for the majority of its length. New boarded timber decks and associated steps are constructed around the existing tank platform to the east elevation and a new pergola is built over this location. A flight of timber-framed steps leads up to the rear entrance.
- 2.2 The garage has a concrete floor slab, and the new and existing walls are lined with new monolithic cladding. It is of a very simple shape, and neither the eaves nor the verges have projections.
- 2.3 The owner has supplied invoices showing that the wall framing is H1 treated. The expert commissioned by the Department (“the expert”) is of the opinion that the timber is Boric treated.
- 2.4 The cladding system to the house is “Insulclad” with an “Ezytex Sponge” finish. The system incorporates 40mm polystyrene backing sheets fixed through the 40mm building wrap directly to the wall framing and finished with a spray texture exterior coating system. The system has been subject to a BRANZ Appraisal. The cladding system to the garage incorporates 4.5mm “Hardibacker” backing sheets fixed through the building wrap directly to the wall framing and finished with the “Ezytex plaster. I note that the consent plans show that the house cladding was to be plaster over Hardibacker sheets. The territorial authority has not commented on this change to the consented plans.

- 2.5 Plaster Systems Ltd issued a “Producer Statement” dated 1 April 2004, and a 15-year “Materials Component Guarantee” dated 8 April 2004, for the “Insulclad” system. The plasterer issued a 5-year “Workmanship Guarantee” dated 8 April for the plaster applied to the cladding.

Sequence of events

- 2.6 According to the owner, the territorial authority issued a building consent for the garage on 26 April 1999, and for the house on 4 August 1999. The territorial authority’s records confirm that the house consent was issued in August 1999.
- 2.7 According to the owner, the territorial authority made various inspections during the course of construction, including the pre-lining and the post-lining inspections.
- 2.8 The owner wrote to the territorial authority on 15 December 2003, describing the construction process and noting that a building inspector from the territorial authority had inspected the building work, and apart from two minor matters, considered that the work complied with the building code. However, the issue of a code compliance certificate was subject to a directive from the territorial authority in regard to the cladding. The owner pointed out that the consent had been issued some years ago, the work had been undertaken by an experienced builder, the building had large eaves, and the polystyrene backing did not absorb water. The issue of the cladding had not been raised during the various inspections that the territorial authority had carried out during the construction process.
- 2.9 On 24 December 2003, the territorial authority wrote to the owner listing two outstanding items requiring attention. In addition, the territorial authority also noted it needed to be assured that the monolithic cladding met the requirements of the building code. Once all these matters had been resolved, the territorial authority would undertake a further inspection to allow a code compliance certificate to be issued.
- 2.10 The territorial authority did not issue a Notice to Rectify as required under section 43(6) of the Act.
- 2.11 The owner applied for a Determination on 10 November 2004.

3 THE SUBMISSIONS

- 3.1 In a covering letter to the Authority dated 10 November 2004, the owner provided a background that described the work undertaken on both the existing house and garage. In a summation, the owner noted that the house was not showing any signs of water ingress, was well built, exhibited few adverse weathertightness factors, and had no balconies built over living areas.
- 3.2 The owner in a letter to the Authority dated 6 December 2004, described the documents forwarded, the construction time line, and the contractor and subcontractors involved in the construction process.

- 3.3 The owner supplied copies of:
- The building plans and specification;
 - Some of the consent documentation;
 - The correspondence with the territorial authority;
 - Invoices from the timber supplier;
 - Various producer statements, warranties and manufacturer's details; and
 - A set of photographs.
- 3.4 The copies of the evidence were provided to each of the parties and neither party made a further response.

4 THE RELEVANT PROVISIONS OF THE BUILDING CODE

- 4.1 The dispute for determination 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 and E2 of the building code (First Schedule, Building Regulations 1992) is correct.
- 4.2 There are no Acceptable Solutions that have been approved under section 49 of the Act that cover this cladding. The cladding is not accredited under section 59 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 Authority 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 in less extreme cases they may be modified 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 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 Department commissioned an independent expert ("the expert") to inspect and report on the cladding. The expert inspected the building on 13 March 2005, and furnished a report that was completed in April 2005. The expert noted that the installation of the applied "Insulclad" system is well executed with attention to detail

at risk areas. There is no evidence of movement or cracking and the paint system, including the seal around the windows, is in good condition. The expert reached the conclusion that flashings are installed to the heads, jambs and sills of the external windows and doors.

- 5.2 The expert took moisture readings through the interior of the monolithic-clad external walls throughout the house and garage using a non-invasive meter. No moisture readings above 10% were recorded. Moisture levels above 18% recorded after cladding is in place generally indicate that external moisture is entering the structure.
- 5.3 Copies of the expert's report were provided to each of the parties, and neither party made a further response.

6 DISCUSSION

General

- 6.1 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 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 taken those comments into account in this determination.

Weathertightness risk

- 6.2 In relation to the weathertightness characteristics, I find that

The house:

- Has 600mm and 1200mm wide eaves projections, and apart from the rear wall, 400mm wide verge projections that all provide good to excellent protection to the cladding areas below them;
- Is in a high wind zone;
- Is single storey;
- Is of a relatively simple shape on plan, with a roof that has valley junctions;
- Has a deck at ground level, but no balconies; and
- Has external wall framing, which is likely to be treated to a level that is able to resist decay if it absorbs and retains moisture.

The garage:

- Has no eaves or verge projections that would provide protection to the cladding areas below them;
- Is in a high wind zone;
- Is single storey;
- Is of a very simple shape on plan; and
- Has external wall framing, which is likely to be treated to a level that is able to resist decay if it absorbs and retains moisture.

Weathertightness performance

- 6.3 I find that the cladding appears to have been installed according to good trade practice and to the manufacturer's instructions, with no areas of concern. It can therefore be considered to be effective in preventing the penetration of moisture.
- 6.4 Notwithstanding the fact that the backing sheets are fixed directly to the timber framing, thus inhibiting drainage and ventilation behind the cladding sheets, I find that there are compensating factors that assist the performance of the cladding in this particular case:
- The cladding appears to have been installed according to good trade practice;
 - The house and garage are single storey and of relatively simple shapes,
 - The house has eaves and verge projections that afford good protection to the cladding under them;
 - There are no balconies;
 - The external wall framing, is likely to be treated to a level that is able to resist decay if it absorbs and retains moisture; and
 - There is no moisture evident in the external wall cavities at this time.
- 6.5 I consider that these factors compensate for the lack of a drainage and ventilation cavity, and can allow the house to comply with the weathertightness and durability provisions of the building code.
- 6.6 I note that all elevations of the additions demonstrate a low weathertightness 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.

7 CONCLUSION

- 7.1 I consider that the expert's report establishes there is no evidence of external moisture entering the additions, and that the monolithic cladding complies with clause E2 at this time. In addition, because the cladding is unlikely to allow the ingress of moisture in the future, the additions also comply with the durability requirements of clause B2
- 7.2 I note that effective maintenance of monolithic 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 cleaning, re-painting, replacing sealants, and so on.
- 7.3 I emphasise that each determination is conducted on a case-by-case basis. 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.
- 7.4 I decline to incorporate any waiver or modification of the building code in this determination.

8 THE DECISION

- 8.1 In accordance with section 20 of the Act, I determine that the house and garage are weathertight now and the cladding complies with clauses B2 and E2. Accordingly, I reverse the territorial authority's decision to refuse to issue the code compliance certificate.
- 8.2 Finally, I consider that the cladding will require on-going maintenance to ensure its continuing code compliance.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 16 June 2005.

John Gardiner
Determinations Manager