



Determination 2010/121

The refusal to issue a code compliance certificate for a house at 41A Woodward Road, Whangarei

1. The matter 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, Department of Building and Housing (“the Department”), for and on behalf of the Chief Executive of that Department.

1.2 The parties to the determination are:

- Mr B Russell, the owner of the property (“the applicant”)
- Whangarei District Council (“the authority”) carrying out its duties and functions as a territorial authority and a building consent authority.

1.3 I take the view that the matters to be determined² are:

- whether the building work in question complies with Clauses B2 Durability, and E3 Internal moisture of the Building Code³
- whether the authority’s decision not to issue a code compliance certificate was correct.

1.4 In making my decision, I have considered the submissions of the parties, and the other evidence in this matter. I also note that the relevant provisions of the Building Code are set out in Appendix A.

2. The building work

2.1 The building work in question relates to the liquid-applied waterproof membrane that is installed under the linings of three ensuite showers. Two of the showers are constructed on concrete slabs and have timber-framed walls. The third shower is constructed on a concrete slab and has concrete blockwork walls.

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

² In terms of sections 177(1)(a), 177(1)(b) and 177(2)(d) of the Act. 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.

³ First Schedule of the Building Regulations 1992 - current at the time the building consent was issued.

3. Background

- 3.1 The authority issued building consent No 0479288 on 3 March 2006 under the Building Act 2004 for a house that contained the three showers.
- 3.2 I am informed by the authority that during the construction of the house, the applicant applied a liquid-applied membrane (“the product”) to the interior surfaces of the shower substrate. This product differed from that described in the approved building consent, which was another type of liquid-applied membrane.
- 3.3 On 31 March 2010, the authority wrote to the applicant saying that it had reviewed the applicant’s request for a code compliance certificate. It stated that the only item outstanding related to the applied membrane used to seal under the wet area showers. The authority noted:
- To date we have received no information stating that the product used complies with E1 [sic] (Internal Moisture) or B2 (Durability) of NZ Building Code.
- 3.4 On 24 June 2010, the authority emailed the New Zealand supplier of the product (“the supplier”) saying that the personal guarantee provided by the supplier was inadequate to qualify the product as meeting New Zealand standards. The product needed to be tested and approved by a specified New Zealand testing authority and no such tests or approval had yet been undertaken.
- 3.5 On 1 July 2010, the supplier produced a statement confirming that the product complied with ‘NZSC E1.3.2 [sic] and NZBC B2.3.1’. The supplier ‘guarantee[d] that [the] product could be used in bathroom[s], shower room[s], kitchen[s], balcon[ies], swimming pool[s], planter boxes, and basement[s], etc.’ It was noted that the product had a durability of ‘not less than 50 years’.
- 3.6 The statement produced by the supplier was repeated verbatim in a statement dated 1 July 2010 from the manufacturer of the product (“the manufacturer”).
- 3.7 On 6 July 2010 the manufacturer issued a statement certifying that the product ‘passed the China National Standard GBT/T23445-2009, and the Hong Kong Housing Authority Department Specification which is in compliance with NZBC E1 [sic] and NZBC B2.’
- 3.8 The manufacturer supplied a further statement noting that the product was environmentally friendly and also referred to two translated test reports on the product that had been prepared by a Hong Kong testing laboratory
- 3.9 Copies of the two translated test reports were attached to the statement. One report was on water penetration and the other was on pull-off testing. I note that the testing laboratory has a Bureau Veritas certification.
- 3.10 The determination application was received by the Department on 29 July 2010.

4. The submissions

- 4.1 The applicant wrote to the Department on 28 July 2010 noting that the authority had refused to issue a code compliance certificate because of issues relating to the certification of the membrane that the applicant had used.

- 4.2 The applicant forwarded copies of:
- the various reports and statements provided by the supplier and the manufacturer
 - the correspondence with the authority.
- 4.3 In an email to the Department dated 31 August 2010, the authority confirmed the number and construction of the showers in question.
- 4.4 The draft determination was issued to the parties for comment on 15 September 2010.
- 4.5 In a response received on 21 September 2010, the applicant did not accept the draft determination and requested the application be placed on hold to provide the supplier an opportunity to seek a product appraisal. In a further email dated 30 November the applicant indicated that the appraisal process would require more time and that the determination should continue.
- 4.6 The authority accepted the draft in a letter received on 6 December 2010. The authority confirmed the date the consent had been issued and noted that it was unable to verify the liquid-applied membrane that was originally specified.

5. Discussion

- 5.1 The Building Code requires shower linings to comply with Building Code Clause E3 Internal moisture. The use of waterproof membranes to showers is included as a possible solution contained in the Acceptable Solution for Clause E3, being E3/AS1.
- 5.2 The requirements for the membrane itself is not stated in E3/AS1, however, the appropriate standard applicable to the membrane and its installation is AS/NZ 4858⁴.
- 5.3 Laboratory tests have been carried out on this product for water penetration and “pull off” resistance by a certified laboratory in Hong Kong. However, I note that there are four tests as set out in AS/NZS 4858 that would apply to the product in this installation. These are:
- the moisture vapour transmission rate
 - water absorption
 - the acceptance of cyclic movement
 - durability.
- 5.4 Based on the above considerations, I conclude that the evidence provided for this product falls short of what would be required to provide reasonable grounds to show compliance with the requirements of the Building Code.
- 5.5 I have not received any evidence to show that the applicant, who installed the product, is a trained and approved applicator of such an installation. Taking this into account together with the limitations of the test programme carried out on the product, I conclude that I do not have sufficient information to form a view that the product as installed complies with the requirements of Clauses B2 or E3.

⁴ AS/NZ 4858:2004 Wet area membranes

- 5.6 The Department has recently produced “The Guide for Manufacturers and Suppliers of Building Products”. This provides guidelines to manufacturers on how to demonstrate compliance of products with the Building Code. This guide may be useful to assist the applicants in working out what they need to provide to demonstrate.
- 5.7 The guide also points to a variety of factors that should be considered regarding alternative solutions. For example, there are requirements relating to substrates, maintenance, installation and inspections. Typical appraisals of wet area membranes also emphasise installation by trained and approved applicators.

6. Decision

- 6.1 In accordance with section 188 of the Building Act 2004, I hereby determine that:
- I have not received sufficient information to conclude that the installed liquid-applied membrane to the shower bases complies with Clauses B2 and E3 of the Building Code, and accordingly
 - the authority’s decision not to issue a code compliance certificate is confirmed.

Signed for and on behalf of the Chief Executive of the Department of Building and Housing on 7 December 2010.

John Gardiner
Manager Determinations

Appendix A

The relevant provisions of the Building Code current at the time the building consent was issued are:

CLAUSE B2 DURABILITY

Functional Requirement

B2.2 Building materials, components and construction methods shall be sufficiently durable to ensure that the building, without reconstruction or major renovation, satisfies the other functional requirements of this code throughout the life of the building.

Performance

B2.3.1 Building elements must, with only normal maintenance, continue to satisfy the performance requirements of this code for the lesser of the specified intended life of the building, if stated, or:

- (a) The life of the building, being not less than 50 years, if:
 - (i) Those building elements (including floors, walls, and fixings) provide structural stability to the building or
 - (ii) Those building elements are difficult to access or replace or
 - (iii) Failure of those building elements to comply with the building code *would go undetected* during both normal use and maintenance of the building

CLAUSE E3 INTERNAL MOISTURE

Functional Requirement

E3.2 Buildings must be constructed to avoid the likelihood of—

- (c) damage to building elements caused by the presence of moisture.

Performance

E3.3.3 Floor surfaces of any space containing sanitary fixtures or sanitary appliances must be impervious and easily cleaned.