



## Determination 2012/060

### Regarding the compliance of two baths with hand-held spray devices installed in a house at 83a Seatoun Heights Road, Seatoun, Wellington



#### 1. The matter to be determined

1.1 This is a determination under Part 3 Subpart 1 of the Building Act 2004<sup>1</sup> (“the Act”) made under due authorisation by me, John Gardiner, Manager Determinations, Ministry of Business, Innovation and Employment (“the Ministry”)<sup>2</sup>, for and on behalf of the Chief Executive of the Ministry.

1.2 The parties to the determination are:

- H Farrar, the owner of the house (“the applicant”)
- Wellington City Council (“the authority”), carrying out its duties as a territorial authority or building consent authority.

1.3 This determination arises from the authority’s refusal to issue a code compliance certificate for the house on the grounds that two bathrooms do not comply with Clause E3—Internal moisture<sup>3</sup> of the Building Code (Schedule 1 of the Building Regulations 1992) due to the installation of hand-held spray devices (“the hand-held sprayers”) over the bath tubs.

<sup>1</sup> The Building Act, Building Code, Compliance documents, past determinations and guidance documents issued by the Ministry are all available at [www.dbh.govt.nz](http://www.dbh.govt.nz) or by contacting the Ministry on 0800 242 243

<sup>2</sup> After the application was made, and before the determination was completed, the Department of Building and Housing was transitioned into the Ministry of Business, Innovation and Employment. The term “the Ministry” is used for both.

<sup>3</sup> In this determination, unless otherwise stated, references to sections are to sections of the respective Building Acts and references to clauses are to clauses of the Building Code.

- 1.4 Therefore, the matter to be determined<sup>4</sup> is whether the baths, which include the hand-held sprayers, comply with the Building Code. In this determination the term “the bath(s)” includes the components of the bath surrounds such as the tiled wall linings, the waterproof membrane and the bath tub, as well as the way the components have been installed and work together.
- 1.5 In making my decision, I have considered the submissions of the parties, the report of the expert commissioned by the Ministry to advise on this dispute (“the expert”), and the other evidence in this matter.
- 1.6 The relevant legislation is set out in Appendix A.

## **2. The building work**

- 2.1 The building work in question consists of two bathrooms situated on the upper floor of a new house that have had hand-held sprayers installed over each of the bath tubs. The bathrooms have tiled walls and floors, and each of the two bathrooms also has a separate shower compartment.
- 2.2 The hand-held sprayers have two adjacent spray nozzles facing in the same direction; each with a diameter of approximately 20mm. The hand-held sprayer is activated via a diverter valve that directs water to either the bath outlet or the hand-held sprayer. The diverter valve resets to direct water to the bath outlet after each use. The wall bracket holding the hand-held sprayer when it is not in use, is not adjustable and holds the sprayer in a vertical position only.
- 2.3 The information provided in the approved plans is limited as to the baths details, and the installation of the hand-held sprayers was not included in the consent. The expert has described the construction of the baths as follows:
- both bath tubs have flat tops to their outer edges
  - the ensuite bath has:
    - one side edge and one end edge of the bath tub installed against the wall framing
    - the wall tiling, and presumably a water-resistant plaster board sub-lining, sit above the edges of the bath tub
    - the tiles, and possibly the sub-lining, are sealed to the top edges of the bath tub
  - the second bath has:
    - only one side edge of the bath tub adjoining a wall, which is detailed as per the ensuite bath
    - the ends of the bath stop short of the adjacent walls and the tiling extends past the top edge of the bath.
  - a proprietary waterproof membrane (“the membrane”) has been installed between the sub-lining and the tiling to both baths.

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<sup>4</sup> Under section 177(1)(a) of the Act

### **3. Background**

- 3.1 The authority issued a building consent (which I have not seen) for the house in early 2010.
- 3.2 The authority carried out various inspections of the house during its construction. On an inspection sheet dated 27 June 2011, the authority described the waterproof membrane, identified its installer, and also noted "Approval to tile".
- 3.3 Following a further site inspection, the authority produced an inspection sheet dated 23 April 2012. This noted that the previous plumbing inspections had been sighted and also stated:
- Showers over baths to both ensuite and main bathrooms do not comply with the Building Consent. Removal of shower units required and proof provided that the Building consent has been met.
- 3.4 In an email to the authority dated 3 May 2012, the applicant noted that the authority had accepted that the tiled walls and bath installation complied with Clause E3 and that the authority considered the bath/wall junction should be treated as if it were a shower/wall junction. The applicant also asked for clarification of the authority's position regarding 'capping off' the hand-held sprayers.
- 3.5 In an email to the applicant dated 4 May 2012, the authority stated that it had issued a written instruction stating:
- the removal of shower units [is] required and proof provided that compliance to the building consent has been achieved.
- 3.6 In the same email, the authority noted that the bathroom tile surrounds met the requirements of Clause E3 'for water splash only, but will not meet this performance when a shower is introduced and the wall junction is expected to displace a greater volume of water.' The authority considered that as the consented plans did not indicate showers over the baths an amendment to the plans was required that would show code-compliance. The current installation did not provide sufficient lining coverage to comply with the acceptable solution for a wall/shower tray junction.
- 3.7 The authority emailed the applicant on 7 May 2012, agreeing that 'the removal of the shower rose, capping off the pipe and a cover plate will technically demonstrate the shower is not operable and therefore comply with E3 of the Building Code'.
- 3.8 Further correspondence continued between the parties early in May 2012 concerning the conflicting opinions regarding the height of the membrane installed in the bathrooms.
- 3.9 The Ministry received an application for a determination in respect of the baths on 16 May 2012.

### **4. The submissions**

#### **4.1 The initial submissions**

- 4.1.1 In a covering letter forwarded with the application, the applicant set out the background to the dispute. The applicant described the relevant construction details and was of the opinion that the installed work was more water-resistant than the details for a shower upstand indicated in the approved documents. In addition the applicant submitted that:

- as the acceptable solution details for shower and bath hardware are mutually exclusive, a combined bath and shower cannot meet compliance using these details
  - using the authority's reasoning, a kitchen tap incorporating a spray attachment has to be treated as a shower installation
  - under the Act, the replacement of a bath with a shower does not require a building consent
  - as the position of the hand-held sprayer is far too low, it cannot be used as a shower
  - even if it was in its holder and turned on, the hand-held sprayers would direct water away from the bath/wall junction
  - even if a large volume of water were to run down the wall, it would defy the law of physics to then run up the bath surround, go through the wall membrane, and then run up the rest of the bath surround rebated under the tiles.
- 4.1.2 The applicant provided copies of:
- the authority's email to the applicant dated 4 May 2012
  - the authority's inspection documentation.
- 4.1.3 In a covering letter to the Ministry dated 17 May 2012, the authority noted that it had subsequently discussed the application of the membrane with the installer. The installer had confirmed that some applications of the membrane went only as far as 800mm above the bath edge. The authority also had concerns regarding the bath/wall junctions as no allowance had been made to channel away, or control, any surface water that was likely to form in that area.
- 4.1.4 The applicant responded to the authority's submission in an email to the Ministry dated 20 May 2012. The applicant did not accept the authority's version of the onsite discussions with the membrane installer and also noted that the authority had accepted the membrane installer's certificate, which indicated that the membrane application met the applicable standard.
- 4.1.5 The applicant reiterated his previous comments in a further email to the Ministry dated 25 June 2012.
- 4.1.6 In an email to the Ministry dated 25 June 2012, the authority stated that during the inspection it had observed the membrane applied to the shower cubicle walls only and the authority was unsure of its extent in the bathrooms.
- 4.1.7 The authority provided copies of:
- the building plans
  - correspondence with the applicant
  - the membrane installer's certificate dated 18 April 2012
  - two photographs showing the installation of each hand-held sprayer that had been forwarded to the authority by the applicant. These also showed an indicated membrane height as assessed by the applicant.

## 4.2 The parties' response to the expert's report

4.2.1 In response to the expert's report the authority made a further submission dated 26 July 2012. The submission reiterated the authority's opinion that the hand-held sprayers have the ability to spray water much the same way as a shower rose and that would create a greater risk of more than occasional water splash. The authority stated its concern as being 'the lack of waterproofing between the wall tile and bath [tub] edge, which incorporates how the membrane has been applied to lap onto the bath and not rely primarily on a sealant joint.'

4.2.2 The authority's submission also noted:

- misuse of the hand-held sprayers would create greater volumes of water to the junction than a fixed bath tap and the increased risk requires greater protection
- E3/AS1 as a benchmark has a greater or more onerous requirements for showers than baths
- there is a reliant on sealant as the primary and secondary means of waterproofing the junction, which is likely to fail due to movement of materials
- in the event of water penetrating, there is no membrane under the bath
- a bond breaker joining the bath and wall junction and the membrane down onto the taped junction to the bath, or some other such precaution would have achieved a better outcome
- the expert's comments regarding the substrate preparation is an assumption.

4.2.3 The authority noted that the inspection of the membrane applied to the shower cubicles only as 'they were known as the affected wet-areas at the time'. And the authority considered that as the membrane applicators statement of work did not mention the bath surrounding walls the extent of coverage was unknown.

4.2.4 The applicant responded to the points raised by the authority in a submission dated 29 July 2012. The applicant submitted that:

- the hand-held sprayers are not showers and not likely to be used as showers as there are separate showers available in the bathrooms; as such they should not be measured against the requirements for showers under E3/AS1
- the Building Code does not require every possibility, such as misuse, be guarded against
- the hand-held sprayers are similar to those used in kitchens, and if misuse is to be considered in this instance it would also need to be considered for kitchen sprays
- given the size of the sealant beads and the flexibility, any movement of the materials, which would be very minimal in any case, is unlikely to cause a problem
- there is no need for the cradle to be waterproofed as the current system is designed to prevent water getting to the bath cradle
- the notes from the inspection do not limit the inspection to the showers only.

- 4.2.5 The applicant agreed with the expert's findings and also believed that the installer had installed a bond breaker as suggested in the authority's submission.

### **4.3 Responses to a draft determination**

- 4.3.1 A draft determination was issued to the parties for comment on 8 August 2012.

- 4.3.2 The authority responded in a letter dated 14 August 2012. The authority did not accept the decision in the draft determination and made the following comments:

- the hand-held device 'can be used for showering', and the installation and the materials used should follow that used for a shower
- comparison made with hand-held spray devices in kitchens cannot be made as the situation is likely to disperse more water to surrounding areas
- the replacement of a bath with a shower may not require consent, but installing a wet area waterproof membrane would
- tile grouting is not an impervious material. The membrane should be sealed to the bath to prevent any moisture ingress from capillary action behind the tile.

The authority concluded by stating:

As the hand held sprayer looks like a shower and operates similar to a shower by the pressure of water projecting from a rose despite attachments position on the wall resulting in the same risk a shower would impose on the surrounding area, then it must be a shower.

- 4.3.3 The applicant accepted the draft in principle, subject to comment. The applicant disputed the points made by the authority. I summarise the applicant's comments as follows:

- an amendment to the consent should not be required as the determination effectively accepts the installation as a bath and not a shower which is what was consented, and the current consent approval should be sufficient
- any hand held sprayer in a house is subject to the same water pressure and issues of water dispersal
- the water proof membrane was installed as part of the building consent work and detailing, or lack of, was not an issue during the inspection process
- The authority's contention that capillary action will cause moisture ingress behind the tile is incorrect; as well as the waterproof seal/bond-breaker/membrane, there is a continuous inward fall of the bath edge toward the centre of the bath.

- 4.3.4 The applicant expressed concern that if the result of the determination requires the applicant to supply anything additional to the authority, such as a revised statement by the installer or particularly an amendment to the consent, the authority may refuse to accept one or either of those.

## **5. The expert's report**

- 5.1 As described in paragraph 1.5, I engaged the services of an expert, who is a member of the New Zealand Institute of Building Surveyors, to assist me. The expert examined the house on 11 July 2012 and produced a report dated 16 July 2012.

- 5.2 The report described the background to the dispute and the construction relating to the tile installation. The expert noted that the locations of the baths and shower in the second bathroom had been “swapped” when compared with the consented plans.
- 5.3 The consented plans did not detail anything relating to the baths other than a statement ‘[proprietary] acrylic modified urethane waterproof system to total floor area & shower walls’. The specification did not contain any information relevant to the materials or installation of the baths.
- 5.4 The expert had discussed the installation of the membrane with the tiling/membrane installer, who advised that:
- the membrane had been taken up approximately 900mm above the top edges of the baths, which was approximately just above the height of the hand-held sprayers when they were in their holders
  - the authority had inspected the membrane before tiling commenced
  - the producer statement was only a materials warranty and was not specifically worded to cover the installation
  - the large bead of sealant between one end of the second bath tub and the wall tiles was installed by the builder over the tiles to prevent ponding at these locations.
- 5.5 I summarise below the specific observations of the expert as set out in the report:
- While the quality of the sealant bead between the bath and the tiling was not destructively tested, a visual inspection indicated that the workmanship of the tile grouting and the sealing appeared to be good.
  - The expert could not locate any technical literature from the bath suppliers indicating how the baths in question were to be installed. Figure 3 of E3/AS1 simply showed a sealant bead between the bottom edge of the “impervious” lining and the top edge of the bath.
  - The hand-held sprayers were, in effect, similar to available devices that can be attached to bath taps. They were unlike other shower attachments that resemble a normal shower and which direct water downwards in the same way as a fixed rose.
  - The hand-held sprayers were positioned at a height that would prevent them from functioning as an adult shower. They were subject to the user’s control and were unlikely to produce a significantly greater water splash than would occur with the normal use of the associated bath.
  - If children attempted to use the hand-held sprayers as showers, then the amount of water splash would be greater.
- 5.6 The expert noted a guidance document issued by a recognised testing authority covered the existence of hand-held shower roses, but did not detail the extent of waterproof membranes in such situations.
- 5.7 In conclusion, the expert was of the opinion that if the installation of the sealant beads between the sub-lining and the bath edges had been properly carried out, then from the available information and visual observations the installations around the two baths appear to comply with the requirements of clause E3.3.6.

- 5.8 The expert also noted that if the location of the hand-held sprayers was altered to act as shower roses then the installation may no longer be code-compliant.
- 5.9 Copies of the expert's report were forwarded to the parties on 16 July 2012. The parties' response to the report is described in paragraph 4.2

## 6. Discussion

- 6.1 I note that the authority's records include an inspection of the membrane in the shower cubicles; however, the inspection may not have extended to include the main bathroom areas. Despite this apparent omission, the relevant inspection sheet stated "Approval to tile".
- 6.2 There are conflicting interpretations between the applicant and the authority as to the areas covered by the membranes. The expert discussed this matter with the membrane installer, and I am prepared to accept the installer's statement that the membranes extend approximately 900mm above the top edges of both baths. This establishes the top of the membrane to be just above the height of the hand-held sprayer when they are in their holders.
- 6.3 The expert has noted that there is no specific guidance regarding water splash or the required extent of membranes in either the approved document or the information supplied by the recognised testing authority.
- 6.4 The expert has set out the reasons why he considers that the wall surfaces and the sealing of the baths are adequate, that the effects of water splash would be minimal, and why the hand-held sprayer is not the equivalent of a shower (refer paragraph 5.5). I accept this view. I also note that water emitted from the hand-held sprayer is confined to a significantly smaller area than would be the case for a shower rose. In my opinion the hand-held sprayers as installed are not showers and therefore cannot be considered to require the same level of compliance in terms of Clause E3. Accordingly I conclude that the baths with the hand-held sprayers meet the requirements of Clause E3.
- 6.5 In addition I note that as full shower facilities are available in each of the two bathrooms there is little likelihood that the hand-held sprayers would be used for showering.
- 6.6 Based on the above conclusions, I am of the opinion that the authority was in error when it refused to issue a code compliance certificate for the house on the basis that it considered the baths did not comply with the Building Code.
- 6.7 The expert noted variations between the house as constructed and the consented plans. I am of the view that minor variations need not be formalised by way of an amendment to the building consent. The Ministry has published a guidance document on minor variations<sup>5</sup> that provides a definition for building work that can be considered minor, and which includes '(d) changing a room's layout (for example, changing the position of fixtures in a bathroom or kitchen)'.
- 6.8 I note the expert's comment that the approved consent documents little specific detail in relation to the construction of the bathrooms. I consider the applicant can still opt to provide more detailed information for the authority's records.

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<sup>5</sup> Minor variations to building consents: Guidance on definition, assessment and granting



6.9 Finally, I note that the applicant has pointed out that under the Act (Schedule 1 Exempt work: paragraph 1(ad)) the replacement of a bath with a shower does not require a building consent. While I accept this interpretation, I note that such an alteration must still meet the requirements of the Building Code. I do not accept the authority's position that installing a wet area membrane in such circumstances, would require a building consent (refer paragraph 4.3.2).

## **7. The Decision**

7.1 In accordance with section 188 of the Building Act 2004, I determine that the baths including the hand-held sprayer as installed comply with the Clause E3 of the Building Code.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 17 September 2012.

John Gardiner  
**Manager Determinations**

## Appendix A: The Legislation

A.1 The relevant clauses of the Building Code include:

### **[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**

**E3.3.5** Surfaces of building elements likely to be splashed or become contaminated in the course of the intended use of the building, must be impervious and easily cleaned.

**E3.3.6** Surfaces of building elements likely to be splashed must be constructed in a way that prevents water splash from penetrating behind linings or into concealed spaces.