



Determination 2016/046

The refusal to grant an amendment to a building consent for the use of imported composite slate roofing tiles on a house at 3 Giarni Place, Papakura

Summary

This determination concerns the substitution of a concrete tiled roof to a house with composite slate tiles where the substitution was the subject of an amendment to the consent. The determination considers the amendment and whether the authority was correct to refuse it. The determination also considers the compliance of the slate tiles as installed.

1. The matter to be determined

1.1 This is a determination under Part 3 Subpart 1 of the *Building Act 2004*¹ (“the Act”) made under due authorisation by me, Tony Marshall, Manager Determinations and Assurance (Acting), Ministry of Business, Innovation and Employment (“the Ministry”), for and on behalf of the Chief Executive of the Ministry.

1.2 The parties are:

- C Hamlin, the licensed building practitioner² (“the roofing company”), which supplied and installed the slate roofing tiles and applied for this determination; acting via a building consultant (“the consultant”)
- Auckland Council carrying out its duties and functions as a territorial authority or building consent authority (“the authority”)
- the owner of the house, M Strydom (“the owner”).

1.3 I consider the following are persons with an interest in this matter:

- Platinum Homes (Manukau & Counties), (“the developer”) who applied for the amendment to the building consent for the subject building work, and
- the consultant, as the author of the product technical statement.

1.4 This determination arises from the decision of the authority to refuse to grant an amendment to the building consent for the substitution of the approved concrete roofing tile with imported composite slate tiles (“the slate tiles”).

1.5 The refusal arose because the authority considered it did not have reasonable grounds to be satisfied that the roof clad in the slate tiles would comply with certain clauses³ of the Building Code (First Schedule, Building Regulations 1992) because:

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

² Licensed Building Practitioner Number BP126423 (one of two directors of Enable Roofing Limited, Christchurch)

³ 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.

- certification and documentation provided by the roofing company and the United Kingdom manufacturer were insufficient to demonstrate compliance with relevant clauses of the New Zealand Building Code
- the drawings submitted for the substitution did not comply with the manufacturer's specifications
- the roof was installed without approval and a consent amendment cannot be issued retrospectively for completed work.

1.6 The matters to be determined⁴ are therefore:

- Whether the authority correctly exercised its powers of decision to refuse to grant the amendment to the building consent in respect of the slate tile roof at the time the amendment was sought, and
- whether the slate tiles as installed comply with Clauses B1 Structure, B2 Durability, E2 External Moisture, and E3 Internal Moisture of the Building Code.

1.7 In making my decision, I have considered the submissions of the parties and the other evidence in this matter. I have not considered any other aspects of the Act or of the Building Code, nor have I considered any other building elements other than the slate tile roof system.

2. The building work

2.1 The building is a new single storey three-bedroom residential home. The 29° pitch hipped and gabled roof of truss and rafter construction was originally designed and consented to be clad in heavy weight concrete tiles over transverse battens, with an overlay located over the rafters/trusses. The roof is a conventional design, with small sections of skillion roof above the lounge and family room, and an open ceiling space elsewhere. During construction, the roof cladding was changed to the slate tiles, the underlay was also changed.

2.2 The slate tiles are manufactured from crushed Welsh slate and fillers, polyester resin and chopped glass fibre strands, mixed to dough, extruded, cut to weight and moulded under pressure and heat. The exposed face is finished by shot-blasting to give the required shade of colour.

2.3 An individual tile is 336mm wide, 300mm long, and has a nominal thickness of 10mm. Adjacent tiles interlock and are fixed using a three-point stainless steel fixing system, using a two ring shank nails and a fixing clip. The slate tiles weigh 17kg/m² and are a lightweight roof as defined in NZS 3604⁵. The tile battens as detailed in the amended drawings are 50x45mm.

2.4 The manufacturer's information about the tiles states:

As there is no British Standard for the slate tiles, [the tile system] has been designed to meet the relevant requirements of BS 5534:2014: Code of practice for slating and tiling (including shingles)⁶ and has been awarded British Board of Agrément certificate No. 87/1907⁷.

⁴ Under sections 177(1)(a), 177(1)(b) and 177(2)(a) of the Act

⁵ NZS 3604:2011 Timber framed buildings

⁶ I note that British Standard Institute BS 5534:2003+A1:2010 Code of practice for slating and tiling (including shingles) has been replaced by BS 5534:2014+A1:2015 Slating and tiling for pitched roofs and vertical cladding: Code of practice .

⁷ BBA Agrément Certificate 87/1907 Redland Cambrian Interlocking Slates

- 2.5 The above certificate (“the BBA certificate”) is valid within the United Kingdom and states that slate tiles, if used in accordance with the provisions of the certificate, will meet or contribute to meeting the UK building regulations listed in the certificate in respect of requirements related to (in summary) strength, fire spread, resistance to moisture, and durability.
- 2.6 The provisions of the certificate include use on conventional timber roofs with a pitch of 15° and over, that are designed to incorporate normal precautions to prevent moisture penetration and the formation of condensation and are compliant with the relevant Building Regulations and recommendations of the British Standards. The stated life expectancy is 60 years in normal exposure conditions encountered in the United Kingdom.

3. Background

3.1 The application for this determination has arisen from the following circumstances:

- In 2014 the authority issued a building consent for the construction of the house, approving the use of concrete roof tiles for the roof cladding.
- In early 2015, the developer applied for an amendment to the original consent to substitute the concrete roof tiles with the slate tiles. The authority requested a CodeMark certificate or a BRANZ appraisal to support the application.
- An appraisal was started but not completed, with the roofing company providing some manufacturer’s certification and other information. The authority did not consider the information provided to it was sufficient to approve the substitution.
- Although no amendment to the consent had been formally issued, the house was completed in June 2015 with the roof clad in the slate tiles. All inspections had been completed, which left a ‘document review’ to be completed by the authority.
- The house was sold to the current owner on 15 June 2015 without a code compliance certificate. Further correspondence, meetings and the provision of additional information followed, with no resolution of the roofing substitution.

3.2 The original application for consent

3.2.1 The authority issued a building consent (No. B/2014/12969) for the subject house on 14 November 2014 and a subsequent amendment to the consent (No. B/2014/12969/A) on 12 December 2014 for a ‘reduction in size of original design to meet planning criteria’. The original and amended consent documents for the house specified concrete tiles for the roof cladding.

3.3 The application for consent amendment

3.3.1 The developer applied for an amendment to the consent (no. B/2014/12969/B) for a number of revised items, including the use of the slate tiles. Revised drawings dated 23 January 2015 were submitted to the authority, which showed amended elevations and sections, with the originally-specified concrete tile details amended to suit the slate tiles and noting ‘air vents to slate specs’ to be installed in the eaves soffits and to the ridge of the skillion roofs. (I note that the level of detail provided in the drawings is similar to that provided for the roofing in the original drawings.)

- 3.3.2 Work proceeded without an amendment to the consent being granted for the change. This was based on the roofing company's understanding that, as the same product had been approved in at least one other building consent issued by the authority, the authority would have no concerns regarding compliance in this case.
- 3.3.3 The authority's response dated 16 February 2015 included the request for a CodeMark certificate or BRANZ appraisal for the proposed roofing type.
- 3.3.4 On 24 February 2015 the developer provided information from the roofing company, including the BBA certificate. By email on 26 February 2015 the authority advised that 'further demonstration is required to confirm the proposed roofing system meets' requirements of the Building Code, and directed the developer to the Ministry's guidance information on alternative solutions.
- 3.3.5 The developer passed the issue onto the roofing company for resolution. In an email to the authority dated 13 March 2015 the roofing company attached a 30-year warrantee for the slate tiles and asked 'Can this please be looked at ASAP as the building is underway'

3.4 Completion of the house

- 3.4.1 Construction continued and the slate tiles were installed without the consent amendment being approved. A framing inspection on 24 March 2015 that included the roof framing passed without comment. Preline, postline and cladding inspections passed during April 2015, also without comment although slate tile installation would have been completed sometime during that month.
- 3.4.2 Construction appears to have been substantially completed by about June 2015 and the house was sold to the current owner on 15 June 2015, with the title transferred on 17 July 2015.
- 3.4.3 The authority's records indicate final inspections were carried out on 14 and 15 July 2015. The inspection records says that the building work was completed in accordance with the consented plans, but noting "Slate roof was an amendment" and marking it as "Pass", but with a "Fail" recorded in respect of roof flashings and penetrations in respect of a gable facia to be completed at the front entry. A standard form titled 'Pre CCC findings' and dated 13 July 2015 noted:

B/2014/12969/B: Roof cladding changed to Cambian Slate (in progress with Processing Team, RFI's outstanding to complete and issue BC)

Inspector- to verify what plans for the roof are onsite as material has changed from original consent. Cambrian Slate is not BRANZ approved so this amendment will need to be issued before CCC will be issued.

- 3.4.4 The final inspection on 15 July 2015 also recorded the building work as being completed in accordance with the consented plans and passed the roof cladding, flashings and penetrations. The inspection record notes 'slate roof was an amendment' and the inspection passed. In regards to the passed final inspection, the authority stated:

A final inspection is part of a process, and a passed final inspection does not signify the building work is satisfactory. It is merely a prelude to a review, including a document review.

3.5 The application for a code compliance certificate

- 3.5.1 The developer applied for a code compliance certificate for the house. In response the authority wrote to the developer on 22 July 2015 noting that, in order to progress

the application, it required a producer statement (PS3) for the slate tile roof installation, and the issue of the amendment to the building consent for the roof cladding substitution.

- 3.5.2 It appears that no further information was provided and, in an email to the developer dated 29 October 2015, the authority stated that because '60 working days has passed since the date of your final inspection, another final inspection will be required due to the lapse in time'. The authority also referred to the 22 July 2015 letter and stated that the application for a code compliance certificate had been suspended and:

In order for [the authority] to continue processing your application, the following is required:

Producer Statement Construction (PS3) for the installation of the roof cladding (Cambrian Slate)

B/2014/1269/B: amendment [to be] issued.

- 3.5.3 The developer forwarded a PS3 for the roof installation to the authority on 18 November 2015, although the authority states the PS3 was rejected because it was not in the correct format. I have not seen a copy of the PS3. By that time, it appears that the only remaining outstanding issue was resolution of the amendment to the building consent for the substitution in roof cladding.
- 3.5.4 On 11 January 2016 the authority again wrote to the developer saying that further information was required, and that the amendment must be issued before the code compliance certificate could be issued.

3.6 Product appraisal and certification

- 3.6.1 Earlier in 2015, the authority had referred to the need for independent local appraisal of the slate tiles and, in an email to the authority dated 13 March 2015, the roofing company had confirmed that a BRANZ appraisal was being sought, noting:
- ... Branz have indicated they will not need to test as BBA has done it.
- We have many Cambrian slate jobs coming through various stages of design in Auckland so this will come up often.
- 3.6.2 Over the following months a series of emails between BRANZ and the manufacturer indicate a continuing dialogue in regard to the adaptability of UK test data to various New Zealand conditions. In particular, wind loading and the effect of UV light were discussed, with the manufacturer supplying various test results.
- 3.6.3 At the time it appears BRANZ advised it would need to build a test rig to assess the performance of the tile with respect to wind speed: the high cost for this led to the work not proceeding. It appears BRANZ later accepted the calculated wind speeds provided by an engineer. I have seen no other relevant correspondence about resolution of the roofing substitution between March and September 2015.
- 3.6.4 On 23 September 2015, the authority asked for 'an update' on progress of the BRANZ appraisal. On 30 September 2015 the roofing company responded, noting it had 'engaged CertMark⁸' as an alternative path of pursuing a product certificate for the slate tiles. I have seen no information relating to this.
- 3.6.5 On 18 November 2015, the authority confirmed that 'the amendment is required to be issued in order for the [code compliance certificate] to be issued' and the developer emailed the roofing company regarding the status of the appraisal.

⁸ CertMark It is a product certification body accredited by JAS-ANZ under section 265 of the Act.

- 3.6.6 There was continued correspondence, and on 8 December 2015 the roofing company advised the developer that it had met with the authority and a chartered professional engineer had been engaged to provide information ‘regarding the wind zone’.
- 3.6.7 On 11 January 2016 the authority issued a final request for further information, noting that the information requested previously had not been provided. The authority repeated that a further final inspection would be required and stated that if a response was not received within five working days the code compliance certificate ‘will be refused in accordance with section 95 of the Building Act 2004.’
- 3.6.8 In an email to the developer dated 14 January 2016, the roofing company confirmed that it had carried out over ‘40 jobs’ using the slate tiles in New Zealand, predominantly in Christchurch, and suggested that representative consent numbers be provided to the authority.
- 3.6.9 It appears that the roofing company subsequently engaged the consultant to represent it in the process of resolving the situation. In an email to the authority dated 26 January 2016, the consultant set out her understanding of the current situation which included the following (in summary):
- Although the developer carried out the roof installation without an approved amendment to the building consent, the inspection records show that all inspections were passed by the authority – including the final inspection.
 - The authority has refused to issue the consent amendment because the slate tiles are not covered by a BRANZ appraisal or CodeMark certificate.
 - The roofing company has been supplying the slate tiles for three years, during which about 40 consents have been issued. The majority of these were in Christchurch, with some in Wellington, Queenstown, Gisborne and Auckland.
 - The authority has already issued another building consent for work including the use of these slate tiles (No. B/2014/2051).
 - The issue of the code compliance certificate appears to rely on:
 - a further satisfactory final inspection as the last was in July 2015
 - the consent amendment, which hinges on the compliance of the system.
 - Clarification is needed from the authority regarding the specific clauses of the Building Code that the authority considered it did not have reasonable grounds on which to establish compliance.
- 3.6.10 A series of emails followed between the consultant and the authority regarding clarification of what information was still required to support the amendment application, and in an email dated 29 January 2016 the authority noted the following (in summary):
- A straight-forward way of establishing compliance of alternative solutions is via a BRANZ appraisal or CodeMark, otherwise the onus of proof is on the consent applicant.
 - The specification provided for the slate tiles is ‘rudimentary and does not identify the parts of the building code that apply to this product’.
 - Tests cited in the manufacturer’s BBA certificate are unknown to the authority, there is no description of Standards used for testing, and the certificate’s conditions include that it ‘is valid only within the UK’.

- Guidance provided by the Ministry should be referred to about the type of information required.

3.7 The refusal to issue a code compliance certificate

3.7.1 In a letter to the developer dated 4 February 2016, the authority refused to issue a code compliance certificate for the house saying:

The reasons for this decision are:-

- No communication in relation to the requests for further information...
- The amendment to this building consent B/2014/12969/B has not been issued.

3.8 The Product Technical Statement

3.8.1 In response to the authority's comments, a Product Technical Statement⁹ ("PTS") dated 9 February 2016 was prepared by the consultant and forwarded to the authority. The PTS described the slate tiles, their use in the wind zone relevant to the subject building work, and their history of use internationally and locally.

3.8.2 The PTS also stated the international standards and certification relied on for the manufacturer's management systems and referred to the BBA certification that products had been tested and assessed against applicable UK and European Standards and test methods.

3.8.3 The PTS also noted that the roofing company had:

...relied upon the performance claims made by [the manufacturer]... ...based on the due diligence undertaken before becoming NZ's sole supplier and installer of the system.

3.8.4 Appendix 1 of the PTS listed clauses of the Building Code applicable to the roof system and described the evidence of compliance with those clauses – in the form of specific standards and test methods used for assessing the products and providing the following BBA Certificates:

- BBA Certificate 87/1907 dated 14 June 2010 for the slate tiles
- BBA Certificate 05/4283 dated 30 November 2015 for the roof underlay.

3.8.5 It appears that the authority considered the PTS and visited the site on 18 February 2016 'to confirm a few things on site' (I have not seen a record of the site visit). Minor amendments were subsequently made to the PTS, with the most recent I have seen (Revision 4.0) signed and dated by the roofing company on 22 February 2016.

3.8.6 A meeting was held in late February 2016 between the roofing company, the developer and the authority, during which the roofing company provided the authority with a 'product technical statement folder' that included the information supporting the PTS. (I have not seen any record of that meeting, but I note that it is mentioned in the authority's undated review of the subject roof).

3.9 The subject roof: review and responses to information requested

3.9.1 In an undated review of the information¹⁰, the authority noted that (in summary):

- calculations showing medium wind zone and rainfall figures for the site are acknowledged, and manufacturer's maintenance guide is accepted

⁹ A Product Technical Statement is a tool developed by the Ministry to assist in providing evidence and information that a building product or system complies with the Building Code; it is a statement summarising the key details of a building product or system.

¹⁰ The record was not attached to or referred to in other correspondence provided for the determination.

- although soffit vents were specified by the designer in line with the manufacturer's specification, the roofing company advised that vents were not required, but the designer should be the person to specify such departures
- the BBA certificate is valid for the UK only, and the ISO certification relied on by the roofing company is in respect of the quality management system and has no bearing on the compliance of the product
- the acceptance of the use of the slate tiles by other authorities or its use in other countries is not relevant to the decision for the subject house
- it is not clear how the international standards and BBA certificate referred to in support of the claim for compliance with Clauses B1, B2 and F2 relate to the New Zealand Building Code and no comparison has been provided.

3.9.2 The authority separately emailed the developer and the roofing company on 3 March 2016, noting that the information had been reviewed and asking the roofing company to provide a letter from the manufacturer regarding:

- ventilation of 'cold roof' not required for this situation (Item 1)
- compatibility of prefinished steel flashings with the slate tiles (Item 2)
- the suitability of the tile batten sizes as installed (Item 3).

3.9.3 Providing the above was supplied, the authority noted (within the roofing company's email) that it would be 'prepared to accept the job'. In the email to the developer, the authority stated:

[The authority is] prepared to accept this roof on a one off application for this address and is not [to be] considered as a general acceptance or [as setting] any precedence for any future building consent application.

When [the manufacturer's] letter is received [the authority] will be in a position to conduct a Final Inspection and issue a Code Compliance Certificate.

3.9.4 On 16 March 2016, the consultant requested clarification of the points raised by the authority (see paragraph 3.9.1). The authority responded on 17 March noting that the subject roof 'has not been installed in accordance' with the manufacturer's specification¹¹ because (in summary):

- Item 1: the manufacturer's specification calls for ventilation for both warm and cold roofs (Clauses B2, E3).
- Item 2: the manufacturer's specification includes 'the English flashing system' in contrast to the prefinished metal flashings in the subject roof (Clauses B2, E2).
- Item 3: the manufacturer's specification calls for different sizes and spacing of roof battens than used in the subject roof (Clause B1).

3.9.5 The consultant responded to the authority by email the same day, noting that Items 2 and 3 would be addressed but in regards to Item 1, the installation complies with clauses E3.3.1 by way of E3/AS1 and G4/AS1 and accordingly vents were not required. The consultant disagreed that the installation of the slate tiles strictly in accordance with the manufacturer's specification could be taken into account with regard to the decision to grant the amendment to this building consent, and the authority was unable to specify who was to provide the information on compliance.

¹¹ There is disagreement between the parties as to who provided this information.

3.9.6 In a letter to the authority dated 17 March 2016 the consultant provided a more detailed response to the authority's concerns about the subject roof. The consultant considered that a letter from the manufacturer was not required and noted the following (in summary):

- Item 1: Roof ventilation
 - Paragraph 1.2.1 of E3/AS1 requires ventilation to comply with G4/AS1; compliance with the relevant paragraphs of G4/AS1 'was established at the time the consent was issued'.
 - Evaluation methodology and conclusions in BBA certificates 87/1907 and 05/4283¹², along with an email from the manufacturer support the application in respect of durability requirements.
- Item 2: Tile/flashing compatibility
 - Slate tiles are essentially inert. Although the prefinished steel flashings are incompatible with other metal products, there is no reference to incompatibility with other non-metallic material.
- Item 3: Roof battens
 - Calculation was provided on batten width, centres, and minimum depth.

3.9.7 In a response on 17 March 2016, the authority noted that the roof system 'is neither an acceptable solution nor a verification method of [Clause] E3'¹³ but was an alternative solution. The authority maintained it was entitled to request the information and stated that 'where the designer's specifications differs from the manufacturer's specification then the manufacturer should be consulted to address the variations in design and confirm acceptance'. The authority advised that it did not accept the PTS as a means of establishing compliance 'as it does not adequately cover off the changes to the manufacturer's specification'.

3.10 The expanded review of the slate tiles

3.10.1 It appears that the authority subsequently engaged an independent advisor to review the information. The authority advised the roofing company of the situation and sought updated drawings from the developer. On 22 March 2016 the developer provided amended plans that removed reference to eave and ridge ventilation.

3.10.2 The advisor reviewed the PTS and associated documentation, resulting in a one-page document titled 'Questions for the applicant or agent', which considered what compliance issues would be required to be addressed in future consent applications specifying the slate tiles.

3.10.3 The independent advisor considered the information provided was inadequate but provided no advice or opinion with respect to the compliance of the slate tiles.

3.11 The refusal to approve the use of the slate tiles and the response

3.11.1 A series of emails followed, which included an email from the authority to the consultant dated 13 April 2016, which applied to the subject house and also another house (which I assume is using or proposing to use the same slate tiles).

¹² BBA Agrément Certificate 05/4283 Spirtech 250 Vapour permeable underlay system in energy-efficient roofs

¹³ This comment refers to Clause E3 Internal Moisture referred to in Item 1, in regard to potential condensation within the roof construction

3.11.2 The authority advised that it was not satisfied on reasonable grounds that the provisions of the Building Code had been met in respect of the slate tiles as installed. The reasons for the decision were stated as being:

1. The BBA certificate ... states it should not be relied upon outside the UK.
2. The [authority] has not been provided with any verification from the manufacturer confirming that the system proposed by the local designers complies with the Building Code.
3. ...
4. The manufacturer's specifications require ventilation to the roof space; this has not been installed.
5. ... during the application process it was proposed that vents be installed in the soffit; however there has been no evidence provided by a suitable qualified person to confirm this solution will meet the requirements of the Building Code; ...
6. No evidence has been provided around the compatibility of the [prefinished steel] flashing ...
7. An engineer's producer statement has been provided for the tile battens ...; although this resolves our concern ... this information is at odds with the specifications.
8. ...the roofing has been installed. This is contrary to the [Act], which requires an amendment to be applied for before the building work is carried out.

3.11.3 In response the consultant emailed the authority on 14 April 2016, expressing concern that no response from the authority had been received as to whether it had accepted or rejected the analysis already provided, adding that the authority cannot 'prescribe who provides the information'. The consultant referred to the emails from the authority dated 3 March 2015 (refer paragraph 3.9.2) and in regards to the three listed items in that email noted (in summary):

- There are no New Zealand Building Code clauses specifically relating to roof space ventilation, and an analysis has already been provided on the issue.
- Analysis has already been provided regarding the compatibility between the slate tiles and the metal flashings.
- Advice on the battens from a chartered professional engineer has already been provided, which was apparently accepted by the authority.

3.11.4 The authority responded on the same day, stating that it was not prepared to enter into discussion on the matter and would be seeking a determination.

3.12 On 15 April 2016 the Ministry received the application for determination from the consultant on behalf of the roofing company.

4. The initial submissions

4.1 In a submission dated 14 April 2016 on behalf of the roofing company, the consultant set out the background to the current situation and included a 'Summary of Events'. The consultant included the following comments (in summary):

- The amendment to the consent was originally sought prior to the slate tile's installation, the finished slate roof was inspected and passed.
- Standard limitations of BBA Certificates to the UK means that any reliance outside the UK requires additional due diligence, which was carried out by the roofing company.

- The authority has no power under the Act to require information to be provided from the manufacturer.
- The authority's concerns (roof ventilation, compatibility of the slate tiles with the metal flashings, batten sizes and layout) were addressed by the provision of additional information.

4.2 The consultant forwarded copies of:

- correspondence between the parties and a chronological summary
- three of the 8 plans submitted with the consent amendment (the plans are annotated to note the change to the underlay)
- three of the 8 plans submitted with the consent amendment not showing ventilation to the roof space.
- standard detail roofing drawings (not all relevant to this building)
- the manufacturer's technical literature on the slate tile system
- relevant BBA and British Standards Institution¹⁴ (BSI) Certificates for the slate tiles and the manufacturer
- correspondence between the roofing company, BRANZ, and the manufacturer
- the PTS, versions 2.0 and 4.0
- various other statements and information, and UK regulations.

4.3 The authority responded to the consultant's submission in a letter to the Ministry dated 26 May 2016, and included the following comments (in summary):

- An amendment to the building consent cannot be issued retrospectively for completed work; if compliance is established by the determination that would allow the issue of a certificate of acceptance for the roof cladding.
- The director of the roofing company applied for the determination as an LBP and supplied the slate tiles but did not install them. Clarification of the status of parties and the consultant as agent is needed.
- The PTS claims reliance on the BBA Certificate yet provides little evidence linked to Building Code requirements.
- Although additional information has been 'drip fed', it remains insufficient to provide reasonable grounds to establish code compliance.
- The submitted plans did not align with the manufacturer's specifications or with the as-built roof; with omission of specified ventilation not confirmed by the manufacturer.
- A passed final inspection does not signify that the building work is satisfactory.

4.4 Copies of the submissions were provided to the other parties and the consultant responded to the authority's submission in a letter to the Ministry dated 27 May 2016. In response to the above comments, the consultant included the following (in summary):

¹⁴ BSI is a private company incorporated by Royal Charter. Its certification of management systems is recognized by around 20 local and international bodies (including similar bodies in North America, China, Japan and Europe)

- The authority appears to have changed its approach to managing minor variations and consent amendments.
- The roofing company was the supplier and installer of the roof, including supervision of staff.
- The reliance on BBA evaluation and certification is consistent with reliance by BRANZ, the Ministry and, in other circumstances, the authority. Evidence of compliance with the Building Code is based on the BBA certificate together with additional information.
- An explanation of the omission of ventilation was provided to the authority, which it has chosen to ignore; instead ‘demanding’ a letter from the manufacturer.
- The authority’s latest ‘Building Inspections Code of Practice’¹⁵ notes that one of the purposes of a final inspection is to ensure that ‘the purposes of the Building Act have been achieved.’

5. The draft determinations and submissions received

5.1 The first draft determination

- 5.1.1 A first draft of this determination was issued to the parties for comment on 8 June 2016. The draft concluded the authority had been correct to refuse the amendment to the building consent, but that the completed work was compliant and a code compliance certificate was able to be issued in respect of the work as amended.
- 5.1.2 The authority responded to the draft determination is a submission received on 28 June 2016, in summary:
- It sought clarification of the roofing company’s status as a party, and the identity of any external reviewer.
 - It queried what expertise the Chief Executive has to assess the compliance of the slate tiles.
 - It requested any technical advice the Chief Executive had obtained when making the assessment of compliance.
 - It posed a range of questions about the nature and adequacy of the evidential basis for assessing the compliance of products, compliance with the conditions of the warranty for the slate tiles, and the appropriate response of a BCA where a product specification is modified in an application for a building consent.
 - It requested the roofing company provide a range of information about the due diligence undertaken before relying on the BBA certificates, installation details for the building work, and progress towards obtaining a product certificate.
 - It objected to the proposal for a code compliance certificate to be issued against the as-built drawings and determination.
- 5.1.3 The developer responded to the draft determination on 8 June 2016, saying it accepted the draft as it would satisfactorily resolve the matter.
- 5.1.4 The consultant responded to the draft determination on 28 June 2016. In summary the submission said the authority’s concerns ‘are more of a policy/general nature’

¹⁵ AC2401 February 2013

and not specific to the matter to be determined. The consultant requested a hearing at that would cover:

- the authority's reasons for refusing the amendment
- the PTS and other information provided to the authority, and 'events and information exchange' since
- visits to three other sites where the slate tiles had been installed.

- 5.1.5 The owner responded to the draft determination on 6 July 2016 saying she did not want to make a submission at that time.
- 5.1.6 I amended the draft determination as I consider appropriate to respond to the submissions. My responses to the authority's submission not covered elsewhere are provided below.
- 5.1.7 The authority queried the roofing company's status as a party. I note the consultant advised that the roofing system was installed by the roofing company under the supervision of one of its LBP directors. This makes the LBP director a party under section 177(d) of the Act.
- 5.1.8 In response to the authority's requests for further information from the roofing company (refer paragraph 5.1.2, 5th bullet) I have no power to compel parties to provide evidence as part of the determination process. The authority may request relevant information from a party when considering an application for a building consent, a code compliance certificate, or when inspecting building work. Those are the appropriate times for the authority to make such requests where the information is relevant to the proposed decision the authority is being asked to make.
- 5.1.9 The authority expressed concerns about the roofing company's compliance with the warranty conditions for the slate tiles as changes had been made to the manufacturer's specifications for the installation of the tiles. I note that the application of the warranty is a matter between the manufacturer/ supplier and the installer/ customer/ owner, and I do not consider the warranty will assist the authority to decide whether the slate tiles comply with the Building Code.
- 5.1.10 Generally, if the authority is concerned about the applicability of a product warranty then such concerns should be directed to the manufacturer or supplier responsible for issuing the warranty. However, the relevance of a product warranty to any decision of the authority is not clear. For example, when the authority is considering issues such as compliance with the durability requirements of the Building Code, a warranty will be poor evidence of the compliance of that product with those durability requirements – the warranty will only be activated if the product fails, the warranty may say nothing about the performance of the product itself, and, as the authority has identified, compliance with the conditions of a warranty and hence its validity are beyond its control. Better evidence of a product's durability will always be available in the form of direct evidence about the performance of the product from test results, appraisals, independent certification or in-service history.
- 5.1.11 On 28 June 2016, the authority forwarded copies of the inspection records for the house.
- 5.1.12 On 29 June and 9 July 2016 the consultant requested a copy of the 'manufacturer's specification' referred to by the authority. The authority provided this information on 11 July 2016 stating it was 'the document is that submitted in support of the amendment.' The information consisted of the information provided by the roofing

company on the composite slate tiles. It also included information entitled ‘Natural roofing slate design and fixing guide’ issued by a different supplier of natural slate products: I note this latter information is unrelated to the composite slate tiles that is the subject of this determination.

- 5.1.13 On 1 August 2016, the authority provided a link to the digital consent information held on this house, which included information about the consent pertinent to the determination. The determination has been amended accordingly.

5.2 The second draft determination

- 5.2.1 The second draft of this determination was issued to the parties for comment on 18 July 2016. The developer accepted the second draft without comment on 19 July 2016. The owner made no response to the second draft determination.

- 5.2.2 The consultant responded to the second draft in a detailed submission on 1 August 2016. In summary the consultant noted that:

- it was not accepted that the authority exercised its powers correctly in refusing the amendment, nor that the certificate of acceptance is the ‘correct or fair regulatory tool’.
- The completion of the PTS was in response to the authority ‘specifying that the system needed to be covered by a BRANZ appraisal or Codemark’.
- The authority ‘demanded that evidence of compliance be provided by the manufacturer ..., as opposed to the [the roofing company].’
- The matters in dispute were summarised (slate’s compatibility with metal flashings, internal moisture, and roof batten size)
- ‘the product substitution was carried out with extensive inspection by [the authority,] a minor variation with documentation being supplied at time of the [code compliance certificate] application is reasonable...’.
- ‘The PTS is clear that the reliance is on the evaluation underpinning the BBA Certificate ... The wording and approach [used in the PTS] is consistent with BRANZ appraisals’.
- The consultant made detailed comment in relation to specific clauses in the draft determination.

- 5.2.3 The authority did not accept the second draft determination. In a submission received on 1 August 2016 it was noted, in summary, that:

- the information referred to in the draft determination that supported its compliance decision was requested so it could be considered in any request for a certificate of acceptance for the slate tiles.
- No ‘verifiable evidence’ has been supplied to support the slate tiles suitability in terms of UV.
- An Internet ‘link’ to building consent documentation was provided¹⁶
- ‘Clear guidance’ was sought about ‘what supporting information should be provided by a designer’ where there was deviation from a manufacture’s specification.

¹⁶ This information did not appear to include all the information referred to herein, such as the amended drawings showing the removal of ventilation to the roof space, and the information referred in in paragraph 5.1.12.

- Reference was made to ‘jurisdictional and process issues’ not responded to in authority’s submission on the first draft determination.

5.2.4 The roofing company responded to the second draft on 1 August 2016. In summary the submission noted that:

- Clarification was sought of the determination’s reference to ‘no technical advice or reports have been received’, but that other information had been gathered in making the determination.
- The slate tile is a ‘manufactured tile (with the same interlocking features as concrete tiles), and both products are laid on battens at similar spacing’s’. The slate tile is ‘light weight’ compared with the concrete tile it replaced.
- The roofing company ‘assumed that because the authority had already consented the same product [the slate tiles] in 2014 on [consent number] the consent amendment would not be an issue.’
- The change from concrete to slate tiles was a minor amendment.

5.2.5 On 3 August 2016 the Ministry sought clarification from the authority about the basis on which it had issued the consent referred to by the roofing company. No response was received.

5.2.6 On 8 August 2016 the authority provided a detailed response to the consultant’s 1 August 2016 submission. The submission disputed many of the statements made by the consultant. With respect to the more general comment the submission said:

- The determination was ‘solely to the refusal to grant an amendment to a building consent’ at this address.
- The manufacturer’s specification was provided with the amendment for consent. This required ventilation of the roof space, vents were also shown on the amendment drawings.
- The BBA certificate could not be relied on. The UV light ‘levels are very different in this country to the UK’
- ‘wind speed is measured as the passing of wind over a given distance over a given time, therefore the [authority] questions the how can 30m/s can translate to 50m/s?’
- In respect of the questions referred to in paragraph 3.10.2, this was what the authority ‘would expect to see for a consent application. The 3 abridged items were requested as a risk mitigation factor for this consent only to enable the issue of a CCC’.

6. The reasonable grounds test for deciding whether a product will comply with the Building Code

6.1 The authority’s submission raised a number of general queries about the nature and adequacy of the decision-making process, and the evidential basis for assessing the compliance of products. The authority’s queries essentially concern the nature of a building consent authority’s decision under section 49 of the Act that requires it to be satisfied on reasonable grounds that the provisions of the Building Code would be met if the building work were properly completed in accordance with the plans and specifications that accompanied the application.

- 6.2 The reasonable grounds test is a flexible test that allows a building consent authority to respond to the evidence available and the particular circumstances of the decision being considered¹⁷:
- “Use of the word ‘reasonable’ means that [the person] has to come to an objective judgment. The objective judgment has however to be reached against all the circumstances in which the judgment is made ... [and ultimately] involves a value judgment as to what is properly to be considered reasonable in those circumstances.”
- 6.3 The requirement for a building consent authority to make an objective judgement that takes into account all the relevant circumstances means decisions will vary according to the circumstances and the evidence available. For example, a building consent authority will require stronger and more relevant evidence to support a decision involving the safety of occupants, while evidence that is not as strong or relevant may be sufficient for a decision about a building’s amenities. Less probative evidence will be required to support a decision where the evidence all points to the same conclusion, but more probative evidence will be required where there are inconsistencies in the evidence and assessments have to be made of the weight to be given to different pieces of evidence.
- 6.4 The reasonable grounds test allows a range of factors to be taken into account when considering the weight to be given to evidence, including:
- the classified use of a building and its importance level, whether the relevant Building Code obligations involve public safety or a building’s amenities
 - the product’s in-service history, the credibility and independence of test data relating to the product
 - whether the product is novel, is it similar to other systems in common use, does it involve complex interactions with other building elements
 - the skills and experience of the designer or installer.
- 6.5 A PTS issued by a product manufacturer or supplier to describe how that product complies with the Building Code, to meet the manufacturer’s or supplier’s responsibility as set out in section 14G of the Act, contributes to the evidence that a building consent authority will consider and give weight to along with those factors above when applying the reasonable grounds test. Although a PTS does not carry with it any particular legal status, it does provide some evidence that the manufacturer or supplier has specifically thought about its obligations with respect to compliance with the Act, and how the product complies with the Building Code.
- 6.6 With respect to the PTS I note the following:
- The PTS lists the relevant New Zealand Building Code clauses and the overseas standards that the tiles satisfy, but the way in which the evidence of overseas compliance is used to support compliance with the various provisions of the Building Code is not clearly set out.
 - One of the purposes of a PTS is to clearly set out the basis on which it is claimed a product complies with various provisions of the Building Code. This is particularly important where overseas tests and certificates are relied on. A PTS should clearly identify the overseas evidence that is relied on and the provisions of the Building Code that are satisfied by that evidence.

¹⁷ *Secretary of State for the Home Department v M* [2004] EWCA Civ 324 at [16] (Lord Woolf CJ).

- The authority sought confirmation from one of the parties that the UK manufacturer of the slate tiles that the BBA certificate applied to the use of the slate tiles in New Zealand. That would have been unnecessary if the PTS set out the way in which the BBA certificate was used to support the compliance of the slate tiles in New Zealand.
- 6.7 The authority also queried whether a building consent can only be issued for the use of a product where that product will be used in accordance with the manufacturer's specifications. The authority seems to take the view that the approval of any product that is not installed strictly in accordance with the manufacturer's specifications would compromise the quality or performance of the product, even if the product still satisfied the requirements of the Building Code. Section 18 of the Act provides that a person carrying out building work cannot be required to achieve performance criteria that are additional to the performance criteria specified in the Building Code. The authority could not require a manufacturer's specifications for a product to be used where the use of amended specifications would still comply with the Building Code.
- 6.8 The authority is right to be cautious when a designer changes a manufacturer's installation specifications for a product. Changes may be required in order to ensure a product satisfies particular requirements of the Building Code specific to New Zealand, or that concerns the compatibility or buildability of the product with other building elements.
- 6.9 The important point for the authority is to identify any such changes and consider them against the performance requirements of the Building Code in order to determine the impact of the change on the compliance of the product. Often it will be appropriate for such changes to be based on testing or appraisal from a credible product testing organisation, but the evidence required to support any change will always vary according to the circumstances and the factors set out above.

7. The code compliance of the slate tile roof

7.1 General

7.1.1 The following section considers the compliance of the slate tile roof. This includes:

- The product's history of use, and the available test information.
- The manufacturer's detailed instructions for handling and fixing the tiles, the NZ supplier's instructions and construction details.
- Assessment of compliance against the relevant performance clauses of the Building Code.

7.1.2 No other external technical advice or reports have been received or relied on in making this determination. The information referred to in herein has been obtained from publicly available sources.

7.2 The product's history of use, and the available test information

The UK manufacturer and NZ supplier

7.2.1 Originally established in 1919 as a concrete tile manufacturer, the UK manufacturer now operates as part of an international group of companies with operations in 37 countries; providing a range of roofing tiles that includes concrete roof tiles, natural and composite slate roofing products and clay tiles.

- 7.2.2 The UK manufacturer's management systems are assessed by the BSI as complying with the requirements of ISO 9001:2008¹⁸ and certified by the BSI Certificate of Registration (FM 11309) dated 5 July 2015.
- 7.2.3 The roofing company (being the NZ supplier) installs concrete, clay, natural slate and composite slate roofs, and timber shingles. The roofing company is based in Christchurch and is the sole supplier and installer of these slate tiles. As well as new roofs, past work has included significant repairs and reroofs, including to earthquake damaged buildings in Christchurch and heritage listed buildings elsewhere.

The use in New Zealand

- 7.2.4 The roofing company has been supplying the slate tiles for some three years, during which about 40 consents have been issued in New Zealand, (see paragraph 3.6.8). This includes one or more consents issued by the authority.
- 7.2.5 I am not aware of tiles similar to this being supplied in New Zealand by other suppliers or manufacturers.
- 7.2.6 The subject slate tiles have been in use in the UK and other countries for roofing and external wall cladding for more than 30 years. There are no known problems with the use of the tile in the UK. Other suppliers provide similar reconstituted slate tiles in the UK and the USA.

The manufacturer's test information

- 7.2.7 The British Board of Agrément (BBA) is a construction industry approvals body, originally set up in 1966 by the UK Government and offering product and installer approval. In 1999, BBA was designated by the UK government to issue European Technical Approvals and to represent the UK in co-ordinating the European Organisation for Technical Approvals (EOTA).
- 7.2.8 The BBA holds a combination of UKAS¹⁹ accreditations within the construction industry. BBA approvals show compliance with Building Regulations and other requirements, including installation quality, and cover 200 different product sectors, the largest being insulation and roofing.
- 7.2.9 BBA Certificate 87/1907 was originally issued on 4 September 1987. The current certificate, dated 14 June 2010, states that the composite slate tiles have been assessed for use within the United Kingdom. Technical investigations included:
- Testing of performance in accordance with MOAT²⁰ No 9²¹ for:
 - thermal cycling and shock resistance
 - bending strength
 - integrity.
 - Examination of test data from independent laboratories for:
 - fire testing
 - resistance to rain penetration
 - resistance to wind uplift
 - freeze/thaw resistance

¹⁸ The world's most widely recognized standard setting out requirements for quality management systems

¹⁹ The United Kingdom Accreditation Service

²⁰ Method of Assessment and Testing

²¹ MOAT No 9: 1973 thermal cycling and thermal shock resistance bending strength integrity

- colour stability.
 - Investigations of:
 - durability data for a tile material of similar composition
 - manufacturing process – quality control and materials quality/composition
 - re-examination of data behind the original certificate
 - manufacturer’s laboratory facilities with data examined.
- 7.2.10 The BBA certificate concluded as follows on key factors assessed:
- Strength** – the product has adequate strength to resist the loads associated with the installation of the roof or an external wall cladding
- Properties in relation to fire** – the product will enable a roof or an external wall cladding to be restricted/unrestricted under the Building Regulations
- Weathertightness** – the product will resist the passage of moisture into the building
- Durability** – under normal service conditions the product will provide a durable covering with a service life of in excess of 60 years.
- 7.2.11 The conditions of the BBA certificate include that the certificate ‘is valid only with the UK’. The authority’s position is that this precludes any reliance being placed on the results of the appraisal in the current case. I do not agree: it is my view that the conditions on the BBA certificate do not prevent reliance being placed on the certificate in New Zealand on an analogous basis that the use of slate tiles in New Zealand under conditions that are the same as those applicable under the BBA certificate will result in the performance of the product in New Zealand that will be comparable to the performance stated in the BBA certificate. (I also note that this condition was not included in earlier versions of the certificate²².)
- 7.2.12 I accept that the manufacturer’s information includes independent confirmation on various qualities of the slate roof system within the United Kingdom, but there is no local confirmation of the applicability of the key factors described above within the New Zealand situation.
- 7.2.13 During the first half of 2015 that work was underway by way of a BRANZ appraisal of the slate tiles, with a series of emails between BRANZ and the manufacturer regarding the adaptability of UK test data to NZ conditions. It is understood the appraisal did not proceed due to the high cost of proposed wind testing: the need for the testing was later negated by calculations that compared the design wind speeds for UK and New Zealand, refer paragraph 7.4.3.

7.3 Assessment of compliance against the relevant performance clauses of the Building Code

- 7.3.1 Section 16 of the Act says ‘the Building Code prescribes functional requirements for buildings and the performance criteria with which buildings must comply in their intended use.’ Section 17 requires all work to comply with the Building Code to the extent required by the Act; and section 18 says that someone carrying out building work cannot be required to achieve performance criteria additional to the performance criteria prescribed in the Building Code.
- 7.3.2 The matters in dispute in this case relate to the following performance clauses of the Building Code:

²² BBA Certificate 87/1907, Third Issue dated 19 March 1995

- Clause B1.3.3 (design wind speed and batten size)
- Clause B2.3.1 (UV and compatibility with metal flashings)
- Clause E2.3.1, E2.3.2, (shedding precipitation)
- Clause E3.3.1 (ventilation of the roof space).

7.3.3 Compliance with F2 Hazardous building materials has been referred to by the parties. I do not consider it necessary to consider that here: the manufacturer requires the usual precautions be taken when cutting the tiles and from this it can be reasonably inferred that normal practices are to be followed when using abrasive cutting tools, and similar.

7.4 Compliance with Clause B1 Structure

7.4.1 The slate tile roofing system is required to satisfy Clause B1.3.3 which states:

Account shall be taken of all physical conditions likely to affect the stability of buildings, building elements and sitework, including:...

(b) imposed gravity loads arising from use,

...

(h) wind,

7.4.2 I note the following in response to the authority's concerns about the tile's ability to be used in the wind zone, and sizing of the tile battens:

Wind zone

7.4.3 In relation to the design wind speed; the roofing company obtained written advice and calculations from a CPEng engineer dated 24 February 2016 that compared the UK design wind speed and pressures determined by BS EN 1991-1-4:2005²³ with the wind zones described in AS/NZS 1170.2 (and hence NZS 3604). The advice said the UK design wind speeds arose from a mean average speed over 10 minutes, whereas AS/NZS 1170.2²⁴ (and NZS 3604) arise from 3 second gust (peak) wind speeds.

7.4.4 I accept this position: a direct comparison of basic wind speeds derived from the two standards is not relevant; of more relevance is the calculation of the design wind pressures. The calculations and supporting commentary by the CPEng engineer indicate that very few sites in New Zealand would exceed the design wind pressures that are allowed for in the design of the slate tiles in residential applications.

7.4.5 I note the authority's acceptance that this site is in a medium wind zone (refer paragraph 3.9.1).

The tile battens

7.4.6 The slate tiles are a light weight roof as it is defined in NZS 3604. While the authority appears to be satisfied about the performance regarding B1 Structure it is unclear why this was needed to be verified by a chartered professional engineer; the size of the battens could have been confirmed using NZS 3604.

7.4.7 In my opinion the slate tiles roof system satisfies Clause B1.3.3 with respect to gravity and live loads, and wind.

²³ BS EN 1991-1-4:2005 Eurocode 1. Actions on structures. General actions. Wind actions

²⁴ AS/NZS 1170.2: AS/NZS 1170: Structural design actions – Part 2: 2011 Wind actions

7.5 Compliance with Clause B2 Durability

7.5.1 The tiles, as a component of a cladding system, are required to satisfy Clause B2.3.1 which says:

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: ...

(b) 15 years if:

(i) those building elements (including the building envelope, exposed plumbing in the subfloor space, and in-built chimneys and flues) are moderately difficult to access or replace, ...

7.5.2 The authority has expressed concern about the durability of the tiles with respect to UV light, and the impact of the tiles on the coated steel flashings.

7.5.3 In response I note the following:

- The UK manufacturer provided data for UV testing. This showed a higher level of initial fading with the degree of fading lessening over time. This is a normal result with respect to UV exposure and does not indicate a failure to resist the effects of UV light.
- The slate tiles are not a high risk product in relation to UV light. The high level of pigmentation in the tile will provide adequate resistance to the effects of UV light; any dusting of the tile surface arising from its exposure will also protect the underlying tile.
- As noted by the UK manufacture, the resins in the tile are susceptible to alkaline attack, but this occurrence is extremely unlikely in a NZ urban setting (for example at locations near Portland cement factories).
- Freeze/ thaw is a more likely mechanism that could adversely affect the tiles durability. The tiles have been used successfully in the UK for in the order of 30 years which has a more severe cold climate than can reasonably be experienced or expected in NZ.
- The BBA certificate says the tiles are expected to be durable for a period of 60 years.
- The tiles are unlikely to contain materials that would affect their compatibility with prefinished steel flashings.

7.5.4 In my opinion the slate tiles satisfy Clause B2.3.1 in that the tiles will satisfy the other relevant performance requirements of the Building Code for a minimum of 15 years.

7.6 Compliance with Clause E2 External moisture

7.6.1 The relevant clauses of E2 state:

E2.3.1 Roofs must shed precipitated moisture. ...

E2.3.2 Roofs and exterior walls must prevent the penetration of water that could cause undue dampness, damage to building elements, or both.

7.6.2 The use of the slate tiles is well-established in the UK, and the product is readily comparable with flat masonry tiles which are included as a means of compliance in

E2/AS1²⁵. Masonry tile profiles noted in paragraph 8.2.1.1c) of E2/AS1 includes ‘Type III: ... includes flat tiles and those resembling slates, shakes and shingles.’

- 7.6.3 The tiles are intended for use on roofs with a minimum pitch of 15°, the tiles have been installed on a roof with almost double that (29°).
- 7.6.4 It can be reasonably assumed that the slate tiles will have a finer manufacturing tolerance than the concrete counterpart, and there is no reason to doubt that the slate tiles will not perform as intended to shed precipitation and prevent undue penetration of water. It is also noted the tiles were passed as compliant during the site inspections by the authority.
- 7.6.5 In my opinion the slate tile system satisfies performance Clauses E2.3.1 and E2.3.2 of the Building Code.

7.7 Compliance with Clause E3 Internal moisture

7.7.1 Clause E3.3.1 states that:

An adequate combination of thermal resistance, ventilation, and space temperature must be provided to all habitable spaces, bathrooms, laundries, and other spaces where moisture may be generated or may accumulate.

7.7.2 Ventilation of the roof space is referred to on the manufacturer’s UK installation instructions and the authority has questioned the compliance of the tiled roof with respect to Clause E3. It is noted the original amendment plans detailed soffit and ridge vents to the roof space; all vents were later removed from revised plans.

7.7.3 In response I note the following:

- Terminology used in UK literature refers to a ‘warm roof’ and a ‘cold roof’, which for this type of timber-framed roof construction applies as follows:
 - Warm roof: skillion roof construction using insulation between rafters
 - Cold roof: conventional pitched roof with insulation located above a flat ceiling.
- This house is located within a temperate climatic zone and is not expected to be at risk of condensation during extreme weather.
- The slate tiles are little different from the consented concrete tiles, for which ventilation is not generally required nor expected unless unusual risks of condensation exist.
- Tiles (concrete and pressed metal) are included within the scope of E2/AS1 which has no specific provision for the ventilation of tiled roofs, nor is there any such provision included in E3/AS1²⁶.
- The roof to this house has a conventional roof pitch, with an open ceiling space above the insulated ceiling to the majority of the roof plan. Skillion roofs above sections of the family room and lounge include a large air gap above the insulation, which opens into to the main ceiling space.
- The specified and installed underlay to this roof is ‘breathable’ and was appraised and certified as appropriate for ‘use on cold pitched roofs’²⁷ as part of a ‘cold roof system’ designed to avoid the risk of condensation.

²⁵ The Acceptable Solution for Clause E2 External moisture

²⁶ Ditto with respect to Clause E3 Internal moisture

²⁷ BBA Certificate 05/4283 for Spirtech underlay

- 7.7.4 In my opinion the roof space above the slate tiles is not a space where ‘moisture may be generated or may accumulate’, therefore the slate tile roofing system satisfies Clause E3.3.1.

7.8 Conclusions

- 7.8.1 I consider the quantum, form, and lack of clarity in the information to support the amendment has not facilitated a satisfactory outcome in this case. The extent of email correspondence between the parties together with undated and unsigned statements has not assisted the parties in establishing compliance.
- 7.8.2 Information was submitted over a protracted period by several entities associated with the work, including information and details produced by the manufacturer for installation in the UK that was not relevant to this job. There was also a lack of clarity between the parties about what and why certain information was required. What was sought in terms of compliance would have been better expressed in terms of the mandatory performance requirements of the Building Code.
- 7.8.3 I consider the authority did not have sufficient information in order to grant the amendment when the amendment was sought in or about January 2015.
- 7.8.4 In preparing this determination I have considered information referred to herein to reach a conclusion as to compliance. This information comprises the sum of the information provided by the parties and from publicly available sources. I am of the opinion that the evidence provided by the manufacturer, the roofing company, and other sources provides me with reasonable grounds to be satisfied in regard to the performance of the subject roof. It is apparent that the slate tiles, apart from their composition, cannot be considered a particularly unusual roof cladding in terms of expected performance in New Zealand conditions.
- 7.8.5 Taking into account the evidence outlined above I am satisfied that the slate tile roof system as installed satisfies Building Code Clauses B1 Structure, B2 Durability, E2 External moisture, and E3 Internal moisture.
- 7.8.6 It is emphasised that each determination is conducted on a case-by-case basis. Accordingly, the fact that a particular roof system has been established as being code-compliant in relation to a particular building does not necessarily mean that the same system will be code-compliant in another situation.
- 7.8.7 Whether the roofing company pursues an independent appraisal for the broader use of the product in New Zealand is a matter for the roofing company to consider. However, in future applications for building consent, the roofing company should take into account the findings of this determination in regards to the information required to support such an application and how that information is presented.

8. The processing of the amendment

- 8.1 The developer applied for an amendment to the building consent for a number of items including the use of the slate tiles sometime in late January 2015 and supplied revised drawings dated 23 January 2015. The authority requested further information on 16 February 2015, and this was supplied on 24 February 2015. More information was requested by the authority on 26 February 2015 and the developer passed this request to the roofing company to respond to. On 13 March 2015 the roofing company advised the authority the construction was underway.

- 8.2 On 24 March 2015 a framing inspection that included the roof framing passed without comment. The slate tile installation would have been completed sometime in April 2015 and there were preline, postline and cladding inspections during April 2015, all of which passed without comment about the slate tiles. Construction was completed sometime in June and the house was sold on 15 June 2015 and title transferred on 17 July 2015.
- 8.3 Final inspections were carried out on 14 and 15 July 2015. The inspection records passed the slate roof and noted “Slate roof was an amendment”. A standard form entitled ‘Pre CCC findings’ noted “Roof cladding changed to Cambrian Slate (in progress with Processing Team, RFI’s outstanding to complete and issue BC)”.
- 8.4 At no point during the authority’s inspections of the installation of the slate tiles did the authority question the installation work that was going on, which was work not described in the building consent (section 40).
- 8.5 The authority’s inspections passed the installation of the slate tiles and the final inspections noted the slate tiles were the subject of an amendment that had not yet been issued. The authority did not base its position on the understanding that the amendment could not be issued because the work had already been completed.
- 8.6 There are two mechanisms in the Act that provide for changes to a building consent while it is operative: section 45(4) is in respect of amendments to building consents, and section 45A for minor variations. It is acknowledged in the guidance issued by the Ministry²⁸ that some variations are not of such a significant degree that they would warrant formal amendment to the consent, and an informal amendment such as the provision of amended drawings may be adequate to record the changes. However, it is not considered that the substitution of the slate tiles for the concrete roofing tile falls into this last category whereby an informal change may be effected by amended drawings.
- 8.7 On the one hand, while this was a product substitution, the slate tiles were relatively novel, in terms of their composition, used a different means of establishing compliance from the consented concrete tiles, and relied on the recognition of overseas certificates to support their compliance with the Building Code. The Ministry’s guidance document on minor variations notes that a similar type of change involving the substitution of wooden shingles on a roof for profiled metal roofing would not be a minor variation²⁹.
- 8.8 On the other hand, both the LBP and the consultant advise that the authority had already approved the same state tiles (also installed by the LBP) on at least one other project³⁰: the authority has not disputed this.
- 8.9 Under section 45(4) a consent amendment is to be treated as if it were an application for a consent. A building consent cannot be issued for building work that has already been completed (*Environment Waikato v Sutherland* District Court Wellington CIV-2010-085-629, 1 March 2011), and in my view this applies equally to the authority’s ability to grant an amendment for work that has already been completed.
- 8.10 In this instance it appears the authority’s process for managing the building consent amendment has failed based on the following observations:

²⁸ See also *Guidance to building consent amendments* Ministry of Business, Innovation and Employment (1 September 2008) ISBN: 978-0-478-32723-6

²⁹ *Minor variations to building consents: Guidance on definition, assessment and granting*, Department of Building and Housing (February 2010) ISBN: 978-0-478-34326-7, at page 12.

³⁰ I have received no information about any other project using the slate tiles

- There appears to have been no notification to the authority's site inspectors that an amendment had been applied for.
- If the amendment application was known of, the work was allowed to continue onsite regardless of the fact the amendment to the building consent had not been granted.
- No notice was issued requiring the installation of the tiles to cease until the amendment to the building consent had been granted.
- The authority's formal advice to the parties, given after the work was completed, was that the amendment would need to be approved before the code compliance certificate could be issued.

8.11 The authority's present position is that the amendment cannot be issued retrospectively. This is consistent with the Environment Waikato decision noted in paragraph 8.9. However, I note this was the case from the time the slate tiles were installed around April 2015.

8.12 I am of the view that, in light of the above, the building consent should be amended to remove the concrete tiles, and a code compliance certificate applied for in respect of the amended building consent. A certificate of acceptance may be applied for in respect of the installation of the slate roof tiles without a building consent. This determination will obviously be of considerable assistance to the authority in considering that application, as I have reached the conclusion that the slate tile roof system as installed meets the performance requirements of the relevant clauses of the Building Code. I also note that any certificate of acceptance should be able to be issued in respect of all the applicable Building Code clauses.

9. The decision

9.1 In accordance with section 188 of the Building Act 2004, I hereby determine that:

- the authority correctly exercised its powers in refusing to amend the building consent and I confirm the authority's decision in this respect
- I have reasonable grounds to conclude that the roofing system as installed to this house complies with the Building Code Clauses B1 Structure, B2 Durability, E2 External moisture, and E3 Internal moisture.

Signed for and on behalf of the Chief Executive of the Ministry of Business, Innovation and Employment on 26 September 2016.

Tony Marshall
Manager Determinations and Assurance (Acting)