BRANZ Appraised
Appraisal No. 1096 [2024]

GERARD ROOFING SYSTEMS

Appraisal No. 1096 (2024)

This Appraisal replaces BRANZ Appraisal No. 1096 (2020)

BRANZ Appraisals

Technical Assessments of products for building and construction.

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Product

1.1 Gerard Roofing Systems are available in nine different pressed metal roofing tile profiles with stone coated surface (textured) finishes or painted satin finishes in a range of finishing colours.

1.2 The pressed metal roofing tiles and flashing accessories form roofing systems installed over roofing underlay and roofing battens.

Scope

2.1 Gerard Roofing Systems have been appraised as roof claddings for buildings within the following scope:

- the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1, with regard to floor plan area and building height; or,
- constructed with timber or steel roof framing and timber battens specified in this Appraisal; and,
- with a minimum roof pitch in accordance with Table 1 of this Appraisal and a maximum roof pitch of 60°; and,
- situated in NZS 3604 Wind Zones up to, and including, Extra High.

Building Regulations

New Zealand Building Code (NZBC)

3.1 **In the opinion of BRANZ, Gerard Roofing Systems, if designed, used, installed and maintained in accordance with the statements and conditions of this Appraisal, will meet the following provisions of the NZBC:**

Clause B1 STRUCTURE: Performance B1.3.1, B1.3.2 and B1.3.4. Gerard Roofing Systems meet the requirements for loads arising from self-weight, gravity loads, temperature, snow, wind, impact and creep [i.e. B1.3.3 (a), (b), (c), (g), (h), (j), and (q)]. See Paragraphs 8.1–8.7.

Clause B2 DURABILITY: Performance B2.3.1 (b) 15 years. Gerard Roofing Systems meet this requirement. See Paragraphs 9.1 and 9.2.

Clause E2 EXTERNAL MOISTURE: Performance E2.3.1 and E2.3.2. Gerard Roofing Systems meet these requirements. See Paragraphs 12.1 and 12.2.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. Gerard Roofing Systems meets this requirement.

Technical Specification

4.1 Gerard Roofing Systems are pressed metal tile roofing systems manufactured from a zinc-aluminium alloy coated steel and finished with a textured coating or painted satin finish. These are available in nine profiles as set out in Table 1. The tiles are branded with Gerard on the underside of the tile.

Table 1: Gerard Roofing Systems Specifications

Profile	Alpine	Aspen	Bond	Classic	Milano
Dimensions (l x w)	1,330 mm x 410 mm	1,320 mm x 410 mm	1,325 mm x 425 mm	1,325 mm x 418 mm	1,330 mm x 410 mm
Effective coverage (l x w)	1,250 mm x 368 mm	1,165 mm x 368 mm	1,265 mm x 368 mm	1,262 mm x 368 mm	1,210 mm x 368 mm
Profile Height	20 mm	18 mm	25 mm	26 mm	25 mm
Weight/tile (kg)	- 2.9 kg (textured)	2.1 kg (satin) 2.9 kg (textured)	2.1 kg (satin) 3.0 kg (textured)	2.1kg (satin) 3.0 kg (textured)	- 2.9 kg (textured)
Weight/m^2 (kg)	- 6.4 kg (textured)	4.8 kg (satin) 6.7 kg (textured)	4.5 kg (satin) 6.4 kg (textured)	4.5 kg (satin) 6.5 kg (textured)	- 6.4 kg (textured)
Number of tile fasteners per tile (max wind load)	4 per tile, as per NZBC Acceptable Solution E2/AS1				
Min/max roof pitch*	15°/60°	15°/60°	12°/60°	12°/60°	12°/60°

*Where the rafter/truss length exceeds 12 m, the minimum roof pitch shall increase by 1° per additional 0.5 m.

Table 1 continued

Profile	Oberon	Rockport	Senator	Shake
Dimensions (l x w)	1,310 mm x 355 mm	1,330 mm x 410 mm	1,320 mm x 410 mm	1,310 mm x 410 mm
Effective coverage (l x w)	1,230 mm x 320 mm	1,250 mm x 368 mm	1,250 mm x 368 mm	1,250 mm x 368 mm
Profile Height	20 mm	20 mm	16 mm	27 mm
Weight/tile (kg)	- 2.8 kg (textured)	- 2.9 kg (textured)	- 2.9 kg (textured)	2.1 kg (satin) 2.9 kg (textured)
Weight/m^2 (kg)	- 7.1 kg (textured)	- 6.4 kg (textured	- 6.4 kg (textured)	4.7 kg (satin) 6.6 kg (textured)
Tile fasteners in Wind Zones up to, and including, Extra High	4 per tile, as per NZBC Acceptable Solution E2/AS1			
Min/max roof pitch*	20°/60°	15°/60°	15°/60°	15°/60°

*Where the rafter/truss length exceeds 12 m, the minimum roof pitch shall increase by 1° per additional 0.5 m.

Accessories

- **Roofing battens** - 50 mm x 40 mm or 50 mm x 50 mm rough sawn H1.2 treated timber, as specified in NZS 3604, Table 10.12.
- **Flexible roof underlay** - BRANZ appraised flexible roof underlay, or specified and supplied by RoofTG Pacific Ltd meeting the requirements of NZBC Acceptable Solution E2/AS1.
- **Batten fasteners** - 90 mm x 3.15 mm D head, bright steel for battens to trusses in Wind Zones up to, and including, Very High, and 10 g self-drilling 80 mm long screws for Extra High Wind Zone, as specified in NZS 3604, Table 10.12.
- **Tile fasteners** - 50 mm x 2.8 mm galvanised nails meeting AS/NZS 4680, or Paslode 50 mm x 2.97 mm round head hot-dip galvanised nails (strip or coil). For fastening through the top of the tiles, the nails must be fitted with a neoprene washer.

Flashings

4.2 Flashings are specified in the Technical Litearture and manufactured by RoofTG Pacific from a zinc-aluminium alloy coated steel (0.39 mm BMT) and finished with a textured coating or painted satin finish. They are compliant to NZBC Acceptable Solution E2/AS1 requirements. Flashings which have been assessed as part of this Appraisal are listed below.

- **146 Box Trim**
- **131 Barrel Trim and Barrel Trim End**
- **142 Angle Trim and Angle Trim End**
- **104 Side Flashing**
- **147 Box Barge**
- **151 Step Flashing 22-27 Degrees**
- **150 Step Flashing 90 Degrees**
- **112 Apron Flashing**
- **144 Long Angle Trim**
- **155 Eaves Flashing**
- **116 Wide Valley**
- **145 Valley**

Handling and Storage

5.1 Gerard Roofing Systems components must be transported and handled with care to avoid damaging the pre-finished surfaces.

5.2 Long term storage of the roofing tiles and accessories must be under dry, ventilated cover. For short term storage on-site, the tiles must be stored flat, no more than one pallet high, and off the ground.

5.3 Handling and storage of all materials supplied by RoofTG Pacific Ltd, whether on-site or off-site, is under the control of the installer. Materials must be handled and stored in accordance with the relevant manufacturer's instructions.

Technical Literature

6.1 This Appraisal must be read in conjunction with:

- Gerard, New Zealand Installation Manual, Version V2.3, dated July 2024.
- Gerard, Technical Note, Valley Design, Version 1, 0724.

6.2 All aspects of design, use, installation and maintenance contained in the Technical Literature and within the scope of this Appraisal must be followed.

Design Information

General

7.1 Roof framing must comply with NZS 3604, or be to a specific design in accordance with NZS 3603 and AS/NZS 1170.

7.2 Timber roof framing must be treated as required by NZS 3602 for the building design application.

7.3 Roof design must take into account any requirements for areas subject to regular snowfalls as required by NZBC Acceptable Solution E2/AS1, Paragraph 1.3.

7.4 A flexible roof underlay must be installed as required by NZBC Acceptable Solution E2/AS1, Paragraph 8.3.6 and Paragraph 8.1.5.

7.5 The minimum roof pitch is profile dependent and listed in Table 1. Where the rafter/truss length exceeds 12 m, the minimum roof pitch shall increase by 1° per additional 0.5 m. The maximum roof pitch is 60°.

7.6 Roof penetrations not detailed in the Technical Literature are the responsibility of the designer and are outside the scope of this Appraisal.

7.7 Tile battens must be installed in accordance with the Technical Literature and NZS 3604.

7.8 The collection of potable water has not been assessed and is outside the scope of this Appraisal.

Structure

Mass

8.1 The approximate mass of the tiles of the Gerard Roofing Systems are given in Table 1.

8.2 The total mass of Gerard Roofing Systems are expected to not exceed 20 kg/m² and are therefore considered to be a light roof as defined in NZS 3604.

Snow

8.3 Gerard Roofing Systems are suitable for use in areas where buildings are designed for a 1 kPa snow loading. Refer to RoofTG Pacific Ltd for installation details for snow-prone areas.

Wind Zones

8.4 When fixed in accordance with the manufacturer's instructions and this Appraisal, Gerard Roofing Systems are suitable for use in all NZS 3604 Wind Zones up to, and including, Extra High. Refer to NZBC Acceptable Solution E2/AS1, NZS 3604 and the Technical Literature for fastening requirements.

Tile Battens

8.5 Rafters or trusses must be at maximum 1,200 mm centres.

8.6 For Gerard Roofing Systems, the batten dimensions are 50 mm x 40 mm, or 50 mm x 50 mm as defined in NZS 3604, Table 10.12. Tile battens must be H1.2 treated.

8.7 Tile battens must be fastened as defined in NZS 3604, and the Technical Literature.

Durability

9.1 Gerard Roofing Systems meet the durability requirement of 15 years, provided maintenance is carried out in accordance with this Appraisal and the Technical Literature.

Serviceable Life

9.2 Gerard Roofing Systems are expected to have a serviceable life as detailed in Table 2, if maintenance is carried out in accordance with the Technical Literature and this Appraisal.

Table 2: Minimum expected serviceable life, unless subject to criteria listed in Paragraph 9.3.

Roof Care	NZS 3604 Exposure Zone		
	Zone B	Zone C	Zone D
Cleaning and re-coating	min. 40 years	min. 30 years	min. 20 years

Note: In Zone D, premature failure of the coating in the areas around the fastener after a period shorter than that given in the table may occur.

9.3 In addition to exposure zones, local environmental effects, i.e. microclimates, may present in some New Zealand areas and should be considered. These can include:

- industrial contamination and corrosive atmosphere; or,
- contamination from agricultural chemicals or fertilisers; or,
- geothermal hot spots which are defined as being within 50 m of a bore, mud pool, steam vent, or other source.

Significant acceleration of material degradation can happen. RoofTG Pacific Ltd should be contacted to determine their suitability for use in these environments.

Weathering

9.4 Gerard Roofing Systems with a textured finish may lose some stone granules over a period of time.

9.5 Gerard Roofing Systems with a satin coating may fade slightly over a period of time.

Maintenance

10.1 Little maintenance should be required apart from the removal of lichen, moss and organic growth that may become established and the removal of accumulations of the stone granules in spouting.

10.2 Annual inspections must be made to ensure that all aspects of the roof cladding, including the pre-finished coating, the flashings and any joints remain in a weatherproof condition. Any damaged areas or areas showing signs of deterioration which would allow water ingress must be repaired immediately.

10.3 A water-based chemical treatment recommended by the RoofTG Pacific Ltd as being suitable for use with Gerard Roofing Systems must be used for the removal of organic material. Petroleum-based solvents or cleaners must not be used.

10.4 Areas of the roof that are not washed by rain should be washed down with fresh water approximately every six months.

10.5 In marine environments, or in areas exposed to industrial pollution, washing down should be carried out every two to three months.

10.6 To avoid cracking, denting or any other damage to the tiles, walking on the roof should be avoided. If it is necessary to walk on the roof, soft-soled shoes should be worn, and loads should be placed over battens or rafters.

Prevention of Fire Occurring

11.1 Separation or protection must be provided to the combustible materials of the Gerard Roofing Systems from heat sources such as fireplaces, heating appliances and chimneys. Part 7 of NZBC Acceptable Solution C/AS1 and NZBC Acceptable Solution C/AS2 provide methods for separation and protection of combustible materials from heat sources.

External Moisture

12.1 Gerard Roofing Systems, when installed in accordance with this Appraisal and the Technical Literature, will shed precipitated moisture and therefore meet the performance requirements of NZBC Clause E2.3.1. They will also prevent the penetration of water that could cause undue dampness, or damage to building elements, therefore meeting the performance requirements of NZBC Clause E2.3.2.

Construction Moisture

12.2 Gerard Roofing Systems, when installed in accordance with this Appraisal and the Technical Literature, will allow excess moisture present at the completion of construction to be dissipated without permanent damage to building elements, and therefore meet the performance requirements of NZBC Clause E2.3.6. This is achieved by ensuring the construction moisture levels are no higher than 18% when the roofing tiles are laid and before the ceiling is closed-in, as well as providing an adequate level of roof cavity ventilation.

Internal Moisture

13.1 Adequate roof space ventilation is necessary to ensure roof space internal moisture levels and temperatures are controlled. Roof space ventilation requirements are given in the Technical Literature.

13.2 Air should be allowed to flow from the bottom to the top of the roof. In skillion-type roofs, a clear, uninterrupted, ventilated air gap of at least 25 mm must be present under Gerard Roofing Systems.

13.3 RoofTG Pacific Ltd should be consulted for further advice and information on roof ventilation and moisture control, especially when the roof design is unusual.

Installation Information

Installation Skill Level Requirement

14.1 All design and building work must be carried out in accordance with the Gerard Roofing Systems Technical Literature and this Appraisal. Where the work involves Restricted Building Work, this must also be completed by, or under the supervision of, a Licensed Building Practitioner (LBP) with the relevant License class.

14.2 The Technical Literature must be referred to during all inspections of Gerard Roofing Systems installations.

System Installation

Roofing Battens

15.1 Roofing battens and framing must have a maximum moisture content of 18% at the time of the installation of the roofing tiles.

15.2 The roofing battens must be designed and installed in accordance with NZS 3604, and the Technical Literature.

15.3 Roofing battens of 50 mm x 40 mm must be used for rafters or trusses at 900 mm centres and roofing battens of 50 mm x 50 mm must be used for rafters or trusses at 1,200 mm centres.

15.4 For timber framing, two gun nails per fastening point of 90 mm x 3.15 mm must be used for Wind Zones up to, and including, Medium for rafter or trusses at 1,200 mm centres and for Wind Zones up to, and including, Very High for rafter or trusses at 900 mm centres, as per NZS 3604.

15.5 For timber framing, one 80 mm x 10 g self-drilling screw per fastening point must be used for Wind Zones High to Extra High, for rafter or trusses at 1,200 mm centres and for Extra High Wind Zone for rafter or trusses at 900 mm centres as per NZS 3604.

Flexible Roof Underlay

15.6 The flexible roof underlay must be tightly laid horizontally across the roof, and completely cover hips, ridges (except where ridge vents are used), and valleys.

15.7 The flexible roof underlay is to be installed to the requirements of NZBC Acceptable Solution E2/AS1, Paragraph 8.3.6, and the Technical Literature.

15.8 Only sufficient fasteners to temporarily hold the underlay in place need be used.

Roofing Tiles Installation

15.9 Gerard Roofing Systems tiles must be fixed with 50 mm x 2.8 mm galvanised nails meeting AS/NZS 4680, or Paslode 50 mm x 2.97 mm round head hot-dip galvanised nails (strip or coil). For fastening through the top of the tiles, the nails must be fitted with a neoprene washer. Tiles are fixed with four fasteners per tile through the turn-down for the body of the roof. Tiles at the eaves are fixed with four nail fasteners which include a neoprene washer. The fasteners must be near the high point in the tile profile. This follows the requirements of NZBC Acceptable Solution E2/AS1 and the Technical Literature.

System Installation

15.10 For the installation of the roofing tiles and the flashings, the Technical Literature must be referred to.

Health and Safety

16.1 Safe use and handling procedures for Gerard Roofing Systems are provided in the manufacturer's Technical Literature.

Basis of Appraisal

The following is a summary of the technical investigations carried out:

Investigations

17.1 Weathertightness, structural and durability opinions have been provided by BRANZ technical experts.

17.2 The manufacturer's Technical Literature has been examined by BRANZ and found to be satisfactory.

17.3 Site inspections have been undertaken by BRANZ to assess the practicability of installation.

17.4 The long-term performance of Gerard Roofing Systems in New Zealand and many countries overseas, along with the durability and non-hazardous nature of the materials used has been noted. The overseas and New Zealand experience of Gerard Roofing Systems form the basis of the durability opinion.

Quality

18.1 The manufacture of Gerard Roofing Systems has been examined by BRANZ, and details regarding the quality and composition of the materials used were obtained by BRANZ and found to be satisfactory.

18.2 The quality management system of RoofTG Pacific Ltd has been assessed and registered by Telarc as meeting the requirements of ISO 9001.

18.3 The quality of the supply of materials and accessories is the responsibility of RoofTG Pacific Ltd.

18.4 Quality on-site is the responsibility of the installer.

18.5 Designers are responsible for the building design, and the building contractor is responsible for the quality of installation of the roof framing and sheathing or roofing battens in accordance with the Technical Literature.

18.6 Building owners are responsible for the maintenance of Gerard Roofing Systems in accordance with the instructions of RoofTG Pacific Ltd.

Sources of Information

- AS/NZS 4680:2006 Hot-dip galvanized (zinc) coatings on fabricated ferrous articles.
- NZS 3604:2011 Timber-framed buildings.
- Ministry of Business, Innovation and Employment Record of amendments - Acceptable Solutions, Verification Methods and handbooks.
- The Building Regulations 1992.

BRANZ

In the opinion of BRANZ, Gerard Roofing Systems are fit for purpose and will comply with the Building Code to the extent specified in this Appraisal provided they are used, designed, installed and maintained as set out in this Appraisal.

The Appraisal is issued only to RoofTG Pacific Ltd, and is valid until further notice, subject to the Conditions of Appraisal.

Conditions of Appraisal

1. This Appraisal:
   a) relates only to the product as described herein;
   b) must be read, considered and used in full together with the Technical Literature;
   c) does not address any Legislation, Regulations, Codes or Standards, not specifically named herein;
   d) is copyright of BRANZ.
2. RoofTG Pacific Ltd:
   a) continues to have the product reviewed by BRANZ;
   b) shall notify BRANZ of any changes in product specification or quality assurance measures prior to the product being marketed;
   c) abides by the BRANZ Appraisals Services Terms and Conditions;
   d) warrants that the product and the manufacturing process for the product are maintained at or above the standards, levels and quality assessed and found satisfactory by BRANZ pursuant to BRANZ's Appraisal of the product.
3. BRANZ makes no representation or warranty as to:
   a) the nature of individual examples of, batches of, or individual installations of the product, including methods and quality of work;
   b) the presence or absence of any patent or similar rights subsisting in the product or any other product;
   c) any guarantee or warranty offered by RoofTG Pacific Ltd.
4. Any reference in this Appraisal to any other publication shall be read as a reference to the version of the publication specified in this Appraisal.
5. BRANZ provides no certification, guarantee, indemnity or warranty, to RoofTG Pacific Ltd or any third party.

For BRANZ

Claire Falck
Chief Executive

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21 August 2024