

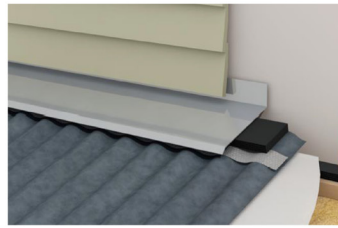


BRANZ Appraised
Appraisal No. 979 [2017]

ROOF VENTILATION PRODUCTS

Appraisal No. 979 [2017]

Amended 10 March 2022



BRANZ Appraisals

Technical Assessments of products for building and construction.



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Product

- 1.1 Roof Ventilation Products consist of a range of extruded battens and vents for use in pitched and skillion roof construction. The Roof Ventilation Products, when used together, will form a system to assist with the ventilation of the roof space.
- 1.2 The following Roof Ventilation Products are covered by this Appraisal:
 - VENT Ventilated Roof and Drainage Batten 20 mm [VB20] - polypropylene ventilated batten used to create airflow.
 - VENT Ventilated Roof and Drainage Batten 10 mm [VB10] - polypropylene ventilated batten used to create airflow.
 - VENT Ridge Vent [RV10P and RV10DT] - used at ridge to release air from the roof void.
 - VENT Apron Vent [RV10P Half and RV10DT Half] - allows air to be released from the lower roof void.

Scope

- 2.1 Roof Ventilation Products have been appraised for use as non-structural roof battens and vents for use with pitched and skillion roof construction on buildings within the following scope:
 - the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1 with regards to building height and floor plan area; and,
 - with profiled metal roof cladding; and,
 - situated in NZS 3604 Wind Zones up to, and including, Extra High.
- 2.2 Building designers are responsible for incorporation of Roof Ventilation Products into their design for weathertightness and detailing of junctions.

Building Regulations

New Zealand Building Code (NZBC)

3.1 In the opinion of BRANZ, Roof Ventilation Products, if designed, used, installed and maintained in accordance with the statements and conditions of this Appraisal, will meet or contribute to meeting the following provisions of the NZBC:

Clause B1 STRUCTURE: Performance B1.3.1, B1.3.2 and B1.3.4. Roof Ventilation Products meet the requirements for loads arising from gravity loads, wind and impact [i.e. B1.3.3 (b), (h) and (j)]. See Paragraphs 8.1-8.3.

Clause B2 DURABILITY: Performance B2.3.1 (b) 15 years and B2.3.2. Roof Ventilation Products meet these requirements. See Paragraphs 9.1 and 9.2.

Clause E2 EXTERNAL MOISTURE: Performance E2.3.2. Roof Ventilation Products contribute to meeting this requirement. See Paragraphs 12.1-12.3.

Clause E3 INTERNAL MOISTURE: Functional Requirement E3.2 (c). Roof Ventilation Products contribute to meeting this requirement. See Paragraph 13.1.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. Roof Ventilation Products meets this requirement.

Technical Specification

4.1 System components and accessories supplied by VENT are:

- **VENT Ventilated Roof and Drainage Batten 20 mm (VB20)** - manufactured from extruded polypropylene. The battens are cut after extruding to a finished size of approximately 45 mm wide by 20 mm thick and provide a ventilation opening area of approximately 16,000 mm² per lineal metre. VENT Ventilated Roof and Drainage Battens 20 mm are coloured black and are supplied in 1,800 mm long lengths. These battens are installed between the roof underlay and the structural battens and purlins.
- **VENT Ventilated Roof and Drainage Batten 10 mm (VB10)** - manufactured from extruded polypropylene. The battens are cut after extruding to a finished size of approximately 45 mm wide by 10 mm thick and provide a ventilation opening area of approximately 8,000 mm² per lineal metre. VENT Ventilated and Drainage Battens 10 mm are coloured black and are supplied in 1,800 mm long lengths. These battens are installed between the roof underlay and the roof cladding.
- **VENT Ridge Vent** - manufactured from extruded polypropylene with an aluminium-based conformable, soft edge flashing along the bottom edges. VENT Ridge Vents are coloured black with a grey flashing, are supplied in 1,200 mm long lengths, and provide a ventilation opening area of approximately 8,000 mm² per lineal metre.
 - **RV10P** - the vents are cut after extruding to a finished size of approximately 410 mm wide (including the flashing) by 20 mm thick. RV10P are suitable for trough depths that are less than 34 mm.
 - **RV10DT** - the vents are cut after extruding to a finished size of approximately 460 mm wide (including the flashing) by 20 mm thick. RV10DT are suitable for trough depths that are between 34 mm and 60 mm.
- **VENT Apron Vent** - manufactured from extruded polypropylene with an aluminium-based conformable, soft edge flashing along the bottom edges. VENT Apron Vents are coloured black with a grey flashing, are supplied in 1,200 mm long lengths, and provide a ventilation opening area of approximately 8,000 mm² per lineal metre.
 - **RV10P Half** - are VENT Ridge Vent RV10P cut in half. RV10P Half are suitable for trough depths that are less than 34 mm.
 - **RV10DT Half** - are VENT Ridge Vent RV10DT cut in half. RV10DT Half are suitable for trough depths that are between 34 mm and 60 mm.

- 4.2 System components and accessories supplied by the building contractor are:
- **VENT Ventilated Roof and Drainage Batten fixings** - 40 x 2.5 mm hot-dip galvanised flat head nails, or hot-dip galvanised or stainless steel finishing brads at approximately 400 mm centres.

Handling and Storage

- 5.1 Handling and storage of the Roof Ventilation Products, whether on-site or off-site, is under the control of the building contractor. Roof Ventilation Products must be protected from direct sunlight and physical damage, and should be stored flat and under cover.

Technical Literature

- 6.1 Refer to the Appraisals listing on the BRANZ website for details of the current Technical Literature for Roof Ventilation Products. The Technical Literature must be read in conjunction with this Appraisal. 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 Ventilation Products can be used to provide passive ventilation of the roof space. The design of the roof ventilation system is subject to specific design and is the responsibility of the designer.
- 7.2 Roof Ventilation Products are designed to be used with profiled metal roof claddings in accordance with NZBC Acceptable Solution E2/AS1, Paragraph 8.4, or to a specific design. Roof fixings must take into account the thickness of the products for roof fixing penetration into the supporting structure.
- 7.3 The VENT Ventilated Roof and Drainage Batten 20 mm [VB20] provides a path for passive air flow over the top of structural battens and purlins. It is most suited for skillion roofs and commercial buildings.
- 7.4 The VENT Ventilated Roof and Drainage Batten 10 mm [VB10] provides a path for passive air flow over the top of the roof underlay.
- 7.5 The VENT Ridge Vent provides ventilation at roof ridges.
- 7.6 The VENT Apron Vent provides ventilation at the lower roof void or through the roof barge.
- 7.7 For further design guidance, refer to roof ventilation articles in BRANZ Publications: BUILD 148, BUILD 151, BUILD 152, BUILD 155, and BUILD 158.

Structure

- 8.1 The VENT Ventilated Roof and Drainage Battens must be considered as non-structural roof battens only.

Impact Resistance

- 8.2 The VENT Ventilated Roof and Drainage Battens [VB10 and VB20] have adequate resistance to impact loads likely to be encountered in normal residential and commercial use. The battens also have adequate resistance to compressive loads likely to be encountered during fixing of the claddings. They will withstand normal foot traffic and the function of the products will not be impaired by such traffic.

Wind Zone

- 8.3 Roof Ventilation Products are suitable for use in all Wind Zones of NZS 3604 up to, and including, Extra High.

Durability

- 9.1 Roof Ventilation Products are required to meet the performance requirements of NZBC Clause B2.3.1 (b) 15 years.

Serviceable Life

- 9.2 Roof Ventilation Products will have a durability equivalent to that of the roof cladding, to meet code compliance with NZBC Clause B2.3.2, provided the cladding system is maintained in accordance with this Appraisal and the Roof Ventilation Products are continually protected from ultraviolet (UV) light.

Maintenance

- 10.1 No maintenance is required for Roof Ventilation Products. Regular checks, at least annually, must be made of the roof cladding, flashings and penetrations to ensure they are maintained weathertight and continue to perform their function, to ensure that water will not penetrate the cladding.

Prevention of Fire Occurring

- 11.1 Separation or protection must be provided to Roof Ventilation Products from heat sources such as fireplaces, heating appliances, flues and chimneys. Part 7 of NZBC Acceptable Solution C/AS1 and Verification Method C/VM1, and NZBC Acceptable Solution C/AS2 provide methods for separation and protection of combustible materials from heat sources.

External Moisture

- 12.1 Roof Ventilation Products must only be used under long run metal roof claddings that meet the requirements of the NZBC, such as those covered by NZBC Acceptable Solution E2/AS1.
- 12.2 Roof Ventilation Products, when installed in accordance with the Technical Literature and this Appraisal, will assist in the total cladding system's compliance with NZBC Acceptable Solution E2/AS1.
- 12.3 The detailing of the roof cladding system, including junctions, is the responsibility of the building designer. These details have not been assessed as part of this Appraisal.

Internal Moisture

- 13.1 Roof Ventilation Products will contribute to the control of internal moisture by providing passive air flow. The building designer is responsible for the design of roof space ventilation.

Installation Information

Installation Skill Level Requirement

- 14.1 All design and building work must be carried out in accordance with the Roof Ventilation Products Technical Literature and this Appraisal by competent and experienced tradespersons conversant with Roof Ventilation Products. Where the work involves Restricted Building Work (RBW), this must be completed by, or under the supervision of, a Licensed Building Practitioner (LBP) with the relevant License Class.

System Installation

Roof Underlay Installation

- 15.1 The selected building underlay must be installed in accordance with the underlay manufacturer's instructions, prior to the installation of the VENT Apron Vent, VENT Ridge Vent, VENT Ventilated Roof and Drainage Batten 10 mm (VB10) and over the VENT Ventilated Roof and Drainage Batten 20 mm (VB20).

Roof Cladding

- 15.2 Profiled metal roof cladding, including flashings and stop ends, must be in accordance with NZBC Acceptable Solution E2/AS1, Paragraph 8.4, or to a specific design. Roof cladding fixing penetrations into supporting timber must be in accordance with NZBC Acceptable Solution E2/AS1 or specific design.

VENT Ventilation Roof and Drainage Battens

- 15.3 The battens may be cut on-site with a knife, hand saw or drop saw.
- 15.4 The VB20 battens must be installed under the roof underlay to the purlins, whereas the VB10 battens must be installed on top of the roof underlay. The battens can be temporarily fixed with the adhesive backing. The battens must be fixed in place with 40 x 2.5 mm hot-dip galvanised flat head nails or galvanised or stainless steel finishing brads at approximately 400 mm centres.

VENT Ridge Vent

- 15.5 The ridge vent may be cut on-site with a knife, hand saw or drop saw.
- 15.6 The ridge vent is laid centrally over the roof apex with the flashing tape to either side. The ridge vent is then temporarily fixed in place with tape or screws at each corner, ensuring the underside of the vent is flat against the roof.

VENT Apron Vent

- 15.7 The VENT Ridge Vent must be cut in half with a knife, hand saw or drop saw to create the VENT Apron Vent.
- 15.8 The vent is placed over the top of the roof cladding. The protective paper is removed from the underside of the flashing tape and then moulded to the roof cladding.
- 15.9 Additional fixing screw length is required to accommodate the 20 mm thickness of the VENT Apron Vent.

Inspections

- 15.10 The Technical Literature must be referred to during the inspection of Roof Ventilation Products installations.

Health and Safety

- 16.1 There are no specific health and safety requirements for Roof Ventilation Products, however safe use and handling procedures for the components that make up the cladding system must be followed in accordance with the requirements of the relevant manufacturer's Technical Literature.

Basis of Appraisal

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

Tests

- 17.1 The following testing has been completed by BRANZ:
- Roof Ventilation Products were heat-aged and compressed to assess the durability performance of the products.

Other Investigations

- 18.1 A durability opinion has been given by BRANZ technical experts.
- 18.2 The practicability of installation of Roof Ventilation Products has been assessed by BRANZ and found to be satisfactory.
- 18.3 The Technical Literature for Roof Ventilation Products has been examined by BRANZ and found to be satisfactory.

Quality

- 19.1 The manufacture of Roof Ventilation Products has not been examined by BRANZ, but details regarding the quality and composition of the materials used were obtained by BRANZ and found to be satisfactory.
- 19.2 The quality of supply to the market is the responsibility of Blue Building Solutions Limited T/A VENT.
- 19.3 Designers are responsible for the building design, and building contractors are responsible for the quality of installation of framing systems, building underlays, flashing tapes, air seals and cladding system, in accordance with the instructions of the designer.
- 19.4 The quality of the installation, handling and storage on-site of Roof Ventilation Products is the responsibility of the installer.

Sources of Information

- NZS 3604:2011 Timber-framed buildings.
- BUILD 148 June/July 2015 Ventilation dries attic space.
- BUILD 151 December 2015/January 2016 Roof space moisture.
- BUILD 152 February/March 2016 Passive roof ventilation.
- BUILD 155 August/September 2016 Vents in skillion roofs.
- BUILD 158 February/March 2017 Airflow through ceilings.
- Ministry of Business, Innovation and Employment Record of amendments – Acceptable Solutions, Verification Methods and handbooks.
- The Building Regulations 1992.

Amendments

Amendment No. 1, dated 06 December 2018.

This Appraisal has been amended to update the width of the VENT Ventilated Roof Batten and to include VENT Ridge Vent RV10DT and VENT Ventilated Apron Batten AB20DT.

Amendment No. 2, dated 08 July 2021.

This Appraisal has been amended to change the width of the VENT Ridge Vents, include VENT Apron Vents [VENT Ridge Vents cut in half] and removed Vent Ventilated Apron Battens. The product name for the VENT Ventilated Roof Batten [VB20] has also been updated.

Amendment No. 3, dated 10 March 2022.

This Appraisal has been amended to include the VENT Ventilated Roof and Drainage Batten 10 mm [VB10].



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02 November 2017

ROOF VENTILATION PRODUCTS



In the opinion of BRANZ, **Roof Ventilation Products** 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 **Blue Building Solutions Limited T/A VENT**, 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. **Blue Building Solutions Limited T/A VENT**:
 - 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 workmanship;
 - 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 **Blue Building Solutions Limited T/A VENT**.
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 **Blue Building Solutions Limited T/A VENT** or any third party.

For BRANZ

Chelydra Percy

Chief Executive

Date of Issue:

02 November 2017