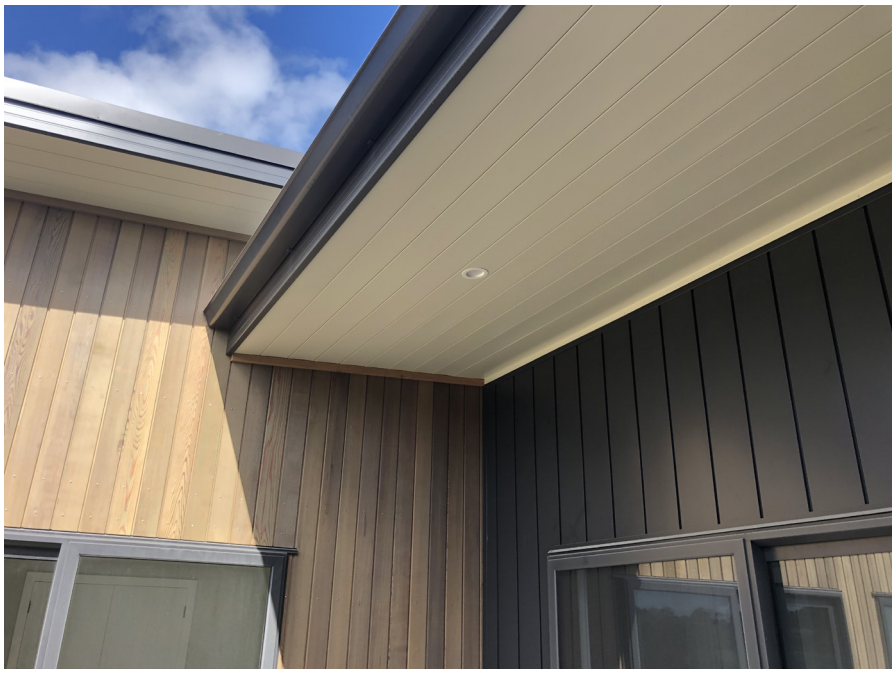
BRANZ Appraised
Appraisal No. 1093 [2020]

RIBON CONTINUOUS INTERLOCKING SOFFIT SYSTEM



Appraisal No. 1093 (2020)
Amendment 27 January 2022

BRANZ Appraisals
Technical Assessments of products for building and construction.

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Product

1.1 The Ribon Continuous Interlocking Soffit System is a pre-finished, coil-coated steel roll-formed soffit panelling system for use on residential and commercial buildings. The system consists of Ribon soffit panels – interlocking roll-formed panels that are installed within purpose made support brackets and channels. Ribon soffit panels have an effective cover width of 150 mm and are profiled to create an expressed joint to the soffit surface at panel edges.

Scope

2.1 The Ribon Continuous Interlocking Soffit System is appraised for use as a pre-finished roll-formed steel soffit lining system for use in residential and commercial buildings within the following scope:

- buildings situated in Wind Zones up to, and including, Extra High; and,
- buildings situated in Exposure Zones B to D; and,
- where installed over supporting timber or steel framing that is compliant with NZBC Clause B1 Structure.

2.2 The Ribon Continuous Interlocking Soffit System is also appraised for use as a pre-finished roll-formed steel soffit lining system for use in residential and commercial buildings when screw fixed, subjected to wind pressures as given in Table 1 of the Appraisal.

Table 1: Soffit bracket spacings for design wind pressures for screw fixed panels

	5.7 kPa ULS wind pressure	8.56 kPa ULS wind pressure
Soffit Bracket Maximum Spacings [mm]	900	600

[Note: Ribon soffit brackets are required to be screw fixed to supporting structural framing at a maximum of 300 mm centres in all cases shown in the table. Supporting framing shall be subject to specific engineering design to ensure structural adequacy. The design of the supporting framing is outside the scope of this Appraisal].

2.3 The Ribon Continuous Interlocking Soffit System must only be installed horizontally on the underside of roof overhangs and projections. *[Note: Using the Ribon Continuous Interlocking Soffit System as wall cladding has not been assessed by BRANZ and is outside the scope of this Appraisal].*

Building Regulations

New Zealand Building Code

3.1 **In the opinion of BRANZ, the Ribon Continuous Interlocking Soffit System, 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. The Ribon Continuous Interlocking Soffit System meets the requirements for loads arising from self-weight, wind, impact and creep [i.e. B1.3.3 (a), (h), (j) and (q)]. See Paragraphs 9.1 and 9.2.

Clause B2 DURABILITY: Performance B2.3.1 (b) 15 years and B2.3.2. The Ribon Continuous Interlocking Soffit System meets these requirements. See Paragraphs 10.1 and 10.2.

Clause E2 EXTERNAL MOISTURE: Performance E2.3.2. The Ribon Continuous Interlocking Soffit System meets this requirement. See Paragraphs 14.1-14.4.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. The Ribon Continuous Interlocking Soffit System meets this requirement.

Technical Specification

4.1 System components and accessories supplied by Ribon Limited are as follows:

- **Ribon Soffit Panel** - a pre-finished roll-formed soffit panel, manufactured from 0.55 BMT G300 Colorcote® Magnaflow™ or Magnaflow X™ pre-coated coil steel. Ribon soffit panels have an effective cover width of 150 mm and are manufactured in custom lengths as required to a maximum length of 8 m, subject to access and handling restrictions of the site.
- **Support Brackets** – manufactured from 0.70 BMT galvanised coated steel as follows:
  - **Ribon Wall Bracket** – folded from coil to form a U-channel in 6 m lengths. Wall brackets are used to connect the end of the soffit bracket to the supporting framing. Manufactured from 1.15 mm BMT galvanised coated steel.
  - **Ribon Soffit Bracket** – profiled steel brackets for affixing Ribon soffit panels to the building, profiled to engage the Ribon soffit panel to the underside. Ribon soffit brackets are available in three lengths – 300, 450 and 600 mm, to suit typical soffit widths. Manufactured from 0.90 mm BMT galvanised coated steel.
  - **Ribon Fascia Pivot Bracket** – profiled steel brackets fixed to soffit brackets with a 4 mm rivet used in combination to support sloping soffits from 0° to 22.5°. The Ribon fascia pivot bracket is able to have a 150 or 180 mm deep pressed metal fascia/gutter system attached to it, giving full integration of the fascia with the Ribon Continuous Interlocking Soffit System. Manufactured from 0.90 mm BMT galvanised coated steel.
  - **Ribon Extension Brackets** – Z-shape or U-channel support brackets for the Ribon soffit panel. Ribon extension brackets are used in conjunction with Ribon soffit brackets to provide support for areas of soffit over 625 mm in width. Ribon extension brackets can also be fixed directly to supporting structural framing or fixed to suspended framing in conjunction with Ribon wall brackets. Manufactured from 0.90 mm BMT galvanised coated steel.
- **Ribon Edge Trim/ Ribon Mitre Trim**- custom folded 0.55 BMT Colorcote® trim, profiled in either channel or angle. Used to trim soffit to wall terminations or join or mitre panels.

Accessories

4.2 Accessories used with the Ribon Continuous Interlocking Soffit System which are supplied by the building contractor are:

- **Ribon Panel Fixing Screws** – self-drilling hot-dip galvanised 8 g Class 4 screws. The screw length must be sufficient to ensure 10 mm minimum engagement into steel.
- **Rivets** - sealed aluminium pop rivets with a minimum diameter of 4 mm.
- **Fascia Panel/Gutter System** - proprietary fascia panel/gutter system to manufacturer's details.
- **Flexible Sealant** – a neutral curing sealant complying with NZBC Acceptable Solution E2/AS1, or sealant covered by a BRANZ Appraisal for use as a weather sealing sealant for exterior use.

Handling and Storage

5.1 Handling and storage of all materials supplied by Ribon Limited or the contractor, whether on-site or off-site, is under the control of the building contractor. Ribon soffit panels are packed in crates and must be kept dry during transport. Ribon soffit panels must be horizontally stacked on a flat surface and must always be sufficiently supported so that they do not sag or become deformed. They must be kept dry at all times either by storing under cover or providing water covers to the stack. Long length Ribon soffit panels should be lifted from a stack by two people and then be carried on edge to prevent damage to the profile.

5.2 Accessories must be stored so they are kept clean, dry and undamaged. All accessories must be used within the maximum storage period recommended by the manufacturer.

Technical Literature

6.1 Refer to the Appraisal listing on the BRANZ website for details of the current Technical Literature for the Ribon Continuous Interlocking Soffit System. 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

Framing

Timber Treatment

7.1 Timber framing behind the Ribon Continuous Interlocking Soffit System must be treated as required by NZBC Acceptable Solution B2/AS1.

Supporting Framing

7.2 Timber framing supporting the Ribon Continuous Interlocking Soffit System shall comply with NZS 3604 or be to a specific design in accordance with NZS 3603 and AS/NZS 1170. Where specific design is required, the framing must be of at least equivalent stiffness to the framing provisions of NZS 3604. In all cases, supporting framing such as trusses or rafters shall be at a maximum of 900 mm centres. In instances where Ribon Continuous Interlocking Soffit System is subjected to wind loads that exceed Extra High Wind Zone, all supporting framing shall be specifically designed. Additionally, Ribon soffit brackets are required to be screw fixed to supporting structural framing at a maximum of 300 mm centres in these instances.

7.3 Timber framing must have a maximum moisture content of 24% at the time of the cladding application. If fixed to framing with an excessive moisture content, problems may occur at a later date due to excessive timber shrinkage.

7.4 Steel framing supporting the Ribon Continuous Interlocking Soffit System shall comply with B1/AS1 [NASH Standard Part 2] or be to a specific design in accordance with AS/NZS 4600 and AS/NZS 1170. The minimum framing specification is 'C' section members with an overall section size of 75 mm web and 32 mm flange. Steel thickness must be a minimum of 0.55 mm. In all cases, supporting framing such as trusses or rafters shall be at a maximum of 900 mm centres. In instances where Ribon Continuous Interlocking Soffit System is subjected to wind loads that exceed Extra High Wind Zone, all supporting framing shall be specifically designed. Additionally, Ribon soffit brackets are required to be screw fixed to supporting structural framing at a maximum of 300 mm centres in these instances.

General

8.1 Ribon Continuous Interlocking Soffit System is available in an extensive variety of pre-finished colours that allow for a variety of aesthetic variances in the completed installation.

8.2 Separation between the Ribon Continuous Interlocking Soffit System and cladding materials unsuitable to be in contact [e.g. masonry veneer and CCA treated timber] shall be ensured by the building contractor. Refer to NZBC Acceptable Solution E2/AS1, Table 21 for guidance.

Structure

Wind Zones

9.1 The Ribon Continuous Interlocking Soffit System is suitable for use in all Wind Zones of NZS 3604 up to, and including, Extra High.

9.2 Ribon Continuous Interlocking Soffit System is additionally suitable for use in specific design wind pressures as given in Table 1 of this Appraisal, when soffit panels are screw fixed to support brackets. In these instances, all supporting framing shall be specifically designed.

Durability

10.1 The Ribon Continuous Interlocking Soffit System meets the performance requirements of NZBC Clause B2.3.1 (b) 15 years for the Ribon soffit panel and supporting brackets, and the performance requirements of NZBC Clause B2.3.1 (c) 5 years for the exterior finishing system.

Serviceable Life

10.2 Ribon Continuous Interlocking Soffit System installations are expected to have a serviceable life of at least 15 years provided that they are maintained in accordance with this Appraisal and the Technical Literature.

Maintenance

11.1 Regular maintenance is essential for the Ribon Continuous Interlocking Soffit System to continue to meet the NZBC durability performance provision and to maximise the serviceable life.

11.2 Six-monthly inspections must be made to ensure that all aspects of the cladding system, including applied finishing systems, flashings and any sealed joints remain in a weatherproof condition. Any damaged areas or areas showing signs of deterioration which would allow water ingress must be repaired immediately. Sealant and paint coatings must be repaired in accordance with the sealant or paint coating manufacturer's instructions.

11.3 It is recommended that Ribon Continuous Interlocking Soffit System is washed at no more than six-monthly intervals to remove any build-up of airborne salts, dirt or other contaminants that accumulate on the soffit. Clean all surfaces with water and a soft bristled brush.

11.4 Coastal locations can be very aggressive to coil coated steel products, especially locations within 500 m from the sea, including harbours, or 100 m from tidal estuaries and sheltered inlets, and otherwise as shown in NZS 3604, Figure 4.2. These coastal locations are defined in NZS 3604 as Zone D. Where buildings are located in particularly corrosive environments, building owners may elect to carry out periodic maintenance more regularly to extend the serviceable life of the Ribon Continuous Interlocking Soffit System.

Control of External Fire Spread

12.1 The components of the Ribon Continuous Interlocking Soffit System are manufactured from non-combustible materials with applied surface coatings of less than 1 mm in thickness. Refer to NZBC Acceptable Solutions C/AS1 and C/AS2, and Verification Method C/VM2 for requirements for fire rating and exterior surface finish requirements of external soffits.

Prevention of Fire Occurring

13.1 Separation or protection must be provided to the Ribon Continuous Interlocking Soffit System from heat sources such as fireplaces, heating appliances, flues and chimneys, and consideration shall be given to the Ribon Continuous Interlocking Soffit System's ability to radiate heat to timber framing or other combustible elements in contact. Part 7 of NZBC Verification Method C/VM1 and Acceptable Solution C/AS1, and NZBC Acceptable Solution C/AS2 provide methods for separation and protection of combustible materials from heat sources.

External Moisture

14.1 The Ribon Continuous Interlocking Soffit System, when installed in accordance with this Appraisal and the Technical Literature, will prevent the penetration of moisture that could cause undue dampness or damage to building elements.

14.2 Drained wall cladding cavities must be sealed off from the roof space to meet code compliance with NZBC Clause E2.3.5.

14.3 The Ribon Continuous Interlocking Soffit System allows excess moisture present at the completion of construction to be dissipated without permanent damage to building elements to meet code compliance with NZBC Clause E2.3.6.

14.4 The details given in the Technical Literature for weather sealing are based on the weathertightness design principles outlined in NZBC Acceptable Solution E2/AS1. The ingress of moisture must be excluded by detailing soffits and wall interfaces as shown in the Technical Literature and the relevant provisions of NZBC Acceptable Solution E2/AS1. Weathertightness details that are developed by the designer are outside the scope of this Appraisal and are the responsibility of the designer for compliance with the NZBC.

Installation Information

Installation Skill Level Requirements

15.1 Ribon Continuous Interlocking Soffit System is installed by specialist installers, trained by Ribon Limited. Installation and finishing of the Ribon Continuous Interlocking Soffit System must be completed in accordance with instructions given within the Ribon Continuous Interlocking Soffit System Technical Literature and this Appraisal.

System Installation

16.1 The Ribon Continuous Interlocking Soffit System is installed by specialist installers, trained by Ribon Limited. Installation demonstration videos and detailed installation drawings are given on the manufacturer's website – the following paragraphs provide a summary of the installation process.

Support Bracket Installation

16.2 Ribon wall brackets can be installed over the wall underlay and supporting wall framing, or other similar perimeter framing members, ensuring the wall bracket is installed level and straight along its length. Determine the position of the support bracket on the wall by calculating the soffit 'drop height' in accordance with the drop height tables within the Technical Literature. In instances of sloping soffits or at gable end soffits, Ribon wall brackets are not required.

16.3 Ribon soffit brackets are pre-fitted with fascia pivot brackets and are installed along with any extension brackets required at a maximum spacing of 900 mm to match supporting framing. Ribon soffit brackets are installed into the Ribon wall brackets and screw fixed. Ribon soffit brackets are screw fixed to the sides of rafters, truss top chords or other supporting framing at the outer edge of the soffit. Ensure that the fascia pivot bracket is plumb and that the soffit brackets are perpendicular to the wall bracket before screw fixing.

Fascia/Spouting Installation

16.4 The selected metal fascia/spouting system is installed to the Ribon fascia pivot bracket prior to installation of the Ribon soffit panels.

Ribon Soffit Panel Installation

16.5 Ribon soffit panels are installed into the support brackets by engaging panel profiles into corresponding cut-outs within the brackets. Ribon soffit panels are fixed in place using concealed retaining clips that are integrated into the support brackets and can be additionally fixed with concealed screws at each bracket/soffit panel intersection where required, based on the design wind pressure. Ribon soffit panels are installed sequentially from the fascia toward the wall, with the last soffit panel screw fixed to the Ribon wall bracket. Ribon soffit panels overlap at the joint profiles and are interlocking. The factory applied protective plastic film is removed from each soffit panel once it is engaged in the support brackets and prior to installation of the next soffit panel. Soffit panel joins at the ends of panels or changes in direction at internal and external corners are finished using Ribon soffit panel joiners to conceal and secure the cut ends of the soffit panels.

16.6 Wall cladding installation can commence in the normal manner once the Ribon Continuous Interlocking Soffit System is installed. Consideration must be given to the method of weatherproofing the junction between the soffit and the wall cladding and ensuring separation between the soffit panels and cladding materials unsuitable to be in contact – e.g. masonry veneer and CCA-treated timber. Building contractors must make all efforts to ensure that the Ribon Continuous Interlocking Soffit System is protected from damage throughout construction.

16.7 Holes in soffit panels for the installation of recessed downlights, extract fan outlets or other penetrations can be accommodated during installation. It is recommended that fixtures are sized and positioned to be located within one soffit panel width, however penetrations wider than one soffit panel can be accommodated.

16.8 The Ribon Continuous Interlocking Soffit System shall be equipotentially bonded (earthed) by the electrical contractor where required.

Inspections

16.9 The Technical Literature must be referred to during the inspection of Ribon Continuous Interlocking Soffit System installations.

Health and Safety

17.1 Cutting of Ribon Continuous Interlocking Soffit System components can be carried out using hand shears, nibblers or hole saws as necessary. Appropriate protective equipment shall be used including hearing and eye protection.

17.2 When power tools are used for cutting or forming holes, appropriate health and safety measures shall be observed.

Basis of Appraisal

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

Investigations

18.1 Structural testing of the Ribon Continuous Interlocking Soffit System has been carried out by BRANZ to evaluate wind load performance.

18.2 Structural performance, durability and weathertightness opinions of the Ribon Continuous Interlocking Soffit System have been provided by BRANZ technical experts.

18.3 Site inspections have been carried out by BRANZ to assess the practicability of installation, and to examine completed installations.

Quality

19.1 The manufacture of the Ribon Continuous Interlocking Soffit System has been examined by BRANZ, including methods adopted for quality control. Details regarding the quality of materials used and finished product were obtained by BRANZ and found to be satisfactory.

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

19.3 The quality of components and accessories supplied by Ribon Limited is the responsibility of Ribon Limited.

19.4 Quality on-site is the responsibility of the installer, in accordance with the Ribon Continuous Interlocking Soffit System Technical Literature.

19.5 Designers are responsible for the building design, and building contractors are responsible for the quality of installation of supporting structural framing in accordance with the instructions of Ribon Limited.

19.6 Sub trades are responsible for the installation of associated flashings or other elements relevant to their trade in accordance with the Ribon Continuous Interlocking Soffit System Technical Literature.

19.7 Building owners are responsible for the maintenance of the Ribon Continuous Interlocking Soffit System in accordance with the instructions of Ribon Limited.

Sources of Information

- AS/NZS 1170 Structural design actions.
- AS/NZS 4600:2018 Cold-formed steel structures.
- NZS 3603:1993 Timber structures standard.
- NZS 3604:2011 Timber framed buildings.
- NASH Standard Part 2: 2019 Non-specific design of light steel-frame buildings.
- Ministry of Business, Innovation and Employment Record of amendments - Acceptable Solutions, Verification Methods and handbooks.
- The Building Regulations 1992.

Amendments

Amendment No. 1, dated 27 January 2022

This Appraisal has been amended to update the technical specification.

BRANZ

In the opinion of BRANZ, Ribon Continuous Interlocking Soffit System is fit for purpose and will comply with the Building Code to the extent specified in this Appraisal provided it is used, designed, installed and maintained as set out in this Appraisal.

The Appraisal is issued only to Ribon Limited, 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. Ribon Limited:
   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 Ribon Limited.
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 Ribon Limited or any third party.

For BRANZ

Chelydra Percy
Chief Executive

Date of Issue:
01 July 2020