



**BRANZ Appraised**

Appraisal No.601 [2014]

BRANZ Appraisals

Technical Assessments of products  
for building and construction

**BRANZ  
APPRAISAL  
No. 601 (2014)**

This Appraisal replaces BRANZ  
Appraisal No. 601 (2008).

**PANORAMA PVC  
LINING SYSTEM**

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## Product

1.1 The Panorama PVC Lining System consists of white extruded PVC hollow panels used as exterior soffit linings, and interior wall and ceiling linings. The Panorama PVC panels are extruded with a tongue and groove profile that when fitted together, resembles the finished look of tongue and groove painted timber panelling.



## Scope

2.1 The Panorama PVC Lining System has been appraised for use as an external soffit lining for buildings situated in NZS 3604 Wind Zones up to and including Very High for timber framing and High for steel framing.

2.2 The Panorama PVC Lining System has also been appraised for use as interior wall and ceiling linings.

## Building Regulations

**3.1 In the opinion of BRANZ, the Panorama PVC Lining 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 Panorama PVC Lining System meets the requirements of loads arising from self weight, wind, and impact [i.e. B1 3.3 (a), (h), (j)]. See Paragraph 9.1.

**Clause B2 DURABILITY:** Performance B2.3.1 (b) 15 years for soffit linings and B2.3.1 (c), 5 years for interior wall and ceiling linings. The Panorama PVC Lining System meets these requirements. See Paragraph 10.1.

**Clause E2 EXTERNAL MOISTURE:** Performance E2.3.2. The Panorama PVC Lining System meets this requirement. See Paragraph 15.1.

**Clause F2 HAZARDOUS BUILDING MATERIALS:** Performance F2.3.1. The Panorama PVC Lining System meets this requirement and will not present a health hazard to people.

3.2 This is an Appraisal of an **Alternative Solution** in terms of New Zealand Building Code compliance.

## Technical Specification

4.1 The Panorama PVC Lining System consists of white extruded PVC panels and trims. The panels are hollow profiled 10 mm thick and either 115 mm or 215 mm wide with interlocking joints. The wider panels are for internal wall and ceiling lining only. The narrower panels are also suitable for external soffit lining. The profile represents tongue and groove timber panelling. The panels are supplied in lengths of either 4 m or 5.8 m with a cover of 100 mm or 200 mm per panel. The surface of the PVC elements is pre-finished at extrusion and does not require further finishing or painting. The trims include end closers, straight jointers, variable angle jointers, and external corners.

**Table 1. Panel Fixings**

	TIMBER FRAMING	STEEL FRAMING
For Soffit Use	32 mm x 6 g stainless steel screws with minimum head diameter of 8.3 mm	20 mm x 8 g galvanised* self-tapping pan head screws with minimum head diameter of 7.6 mm
For Interior Lining Use	25 mm x 6 g drywall screws	25 mm x 6 g self tapping drywall screws

\* In accordance with Table 4.3 of NZS 3604

## Handling and Storage

5.1 There are minimum handling and storage requirements for the constituent components of the Panorama PVC Lining System. PVC material should be stored away from organic solvents, or tar based products as these can stain the PVC material. Elements of the system are best kept wrapped until they are required for installation.

## Technical Literature

6.1 Refer to the Appraisals listings on the BRANZ website for details of the current Technical Literature for the Panorama PVC Lining System. The Technical Literature must be read in conjunction with this Appraisal. All aspects of use, installation and maintenance contained in the Technical Literature and within the scope of this Appraisal must be followed.

## Design Information

### Framing

#### Timber Framing

7.1 Timber framing grade, spacing, and construction must comply with NZS 3604. Timber treatment must comply with NZBC Acceptable Solution B2/AS1.

- Supporting framing for soffits must be at a maximum of 600 mm centres for NZS 3604 Wind Zones up to and including High and at a maximum of 450 mm centres for the Very High Wind Zone.
- For ceilings, supports must be at a maximum of 600 mm centres.
- For interior wall linings, studs must be at a maximum of 600 mm centres for horizontally fixed panels, and dwangs must be at a maximum of 600 mm centres for vertically fixed panels.

7.2 Timber wall framing must have a maximum moisture content of 24% at the time of the lining application.

### Steel Framing

7.3 The Panorama PVC Lining System can also be fixed to steel support framing using galvanised self-tapping screws. Folded galvanised steel profile for framing must not be less than 0.55 mm thick.

- Supporting framing for soffits must be at a maximum of 600 mm centres for NZS 3604 Wind Zones Medium and Low and a maximum of 450 mm centres for the High Wind Zone. The Panorama PVC Lining System cannot be fixed to steel framing for soffits in the Very High Wind Zone.
- For ceilings, supports must be at a maximum of 600 mm centres.
- For interior wall linings, studs must be at a maximum of 600 mm centres for horizontally fixed panels, and dwangs must be at a maximum of 600 mm centres for vertically fixed panels.

### General

8.1 Additional framing may be required when preparing soffits for lining with the Panorama PVC Lining System.

8.2 The Panorama PVC Lining System does not perform the function of an air-barrier. When used as an internal lining on an external wall, a separate air barrier must be used. Refer to NZBC Acceptable Solution E2/AS1 Paragraph 9.1.4.

### Structure

#### Wind Zones

9.1 The Panorama PVC Lining System, when used as a soffit, is suitable for use on buildings in NZS 3604 Wind Zones up to and including Very High when fixed to timber framing, and up to and including High when fixed to steel framing. (See Paragraphs 7.1 and 7.3.)

### Durability

#### Serviceable Life

10.1 The Panorama PVC Lining System whether installed as a soffit or as an interior lining on ceilings or walls, can be expected to have a serviceable life of 15 to 25 years.

### Maintenance

11.1 Regular cleaning (at least annually) of the Panorama PVC Lining System surface is recommended to remove grime, dirt and organic growth, and to maximize the life and appearance of the surface finish. Build-up of residue, mould or dirt can be removed by brushing with a soft brush, warm water and detergent. Abrasive cleaners, thinners, solvents or petrol must not be used to clean the Panorama PVC Lining System.

### Prevention of Fire Occurring

12.1 Separation or protection must be provided to the Panorama PVC Lining System from heat sources such as fire places, heating appliances, flues and chimneys. Part 7 of NZBC Acceptable Solutions C/AS1 - C/AS6 and NZBC Verification Method C/VM1 provide methods for separation and protection of combustible materials from heat sources.

## Fire Affecting Areas Beyond the Fire Source

13.1 Panorama PVC Lining has been tested in accordance with ISO 5660 and has a Group Number of 1. Refer to Table 4.1 of NZBC Acceptable Solutions C/AS2 to C/AS6 to determine where Panorama PVC Lining System may be used according to its Group Number. There is no surface finish requirement for the Panorama PVC Lining System when used in buildings with a SH Risk Group classification.

## Control of External Fire Spread

14.1 Where Panorama PVC Lining System is used as the soffit lining to eaves, verandas, canopies or other such structures outside the envelope of the building, there is no requirement for the control of external fire spread where the soffit is more than 650 mm from a relevant boundary and the soffit is not part of an exitway.

14.2 Where the soffit is within 650 mm of a relevant boundary, then the external wall from which it projects shall have fire resistance ratings in accordance with Paragraph 2.3 of NZBC Acceptable Solutions C/AS1 - C/AS6.

## External Moisture

15.1 The Panorama PVC Lining 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.

## Installation Information

### Installation Skill Level Requirements

16.1 The Panorama PVC Lining System must be installed in accordance with the Technical Literature and can be carried out by a building contractor.

### System Installation

17.1 PVC components may be cut on site by hand saw or power tools with a fine toothed-blade.

17.2 A 3 mm gap must be left at panel ends to allow for movement.

17.3 Panels are fixed at every support by screws through the tongue. The next panel covers the screw from sight. Refer to Table 1 for screw fixings.

17.4 For soffit installations the Panorama PVC Lining System trims must be appropriately sealed at fascia and barge boards.

### Health and Safety

18.1 There are no special Health and Safety issues, though care should be taken when cutting PVC components.

## Basis of Appraisal

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

### Tests

19.1 Wind suction tests were conducted by BRANZ to demonstrate the required soffit fixing and soffit lining pull-off strength for both steel and timber framing for Wind Zones of NZS 3604.

### Other Investigations

20.1 Structural and durability opinions have been provided by BRANZ technical experts.

20.2 Site visits have been carried out by BRANZ to assess the practicability of installation and to examine completed installations.

### Quality

21.1 The manufacture of the Panorama PVC Lining System has not been examined by BRANZ, but details of the quality and composition of the materials used were obtained by BRANZ and found to be satisfactory.

21.2 Quality of materials, components, and accessories supplied by Ampelite (NZ) Limited is the responsibility of Ampelite (NZ) Limited.

21.3 The quality of installation on site is the responsibility of the installer.

21.4 Designers are responsible for the building design, and building contractors are responsible for the quality of installation.

21.5 Building owners are responsible for the maintenance of Panorama PVC Lining System in accordance with the advice of Ampelite (NZ) Ltd.

### Sources of Information

- NZS 3602: 2003 Timber and wood based products for use in building.
- NZS 3604: 2011 Timber-framed buildings.
- ISO 5660-1:2002 Reaction-to-fire tests -- Heat release, smoke production and mass loss rate
- Acceptable Solutions and Verification Methods for New Zealand Building Code External Moisture Clause E2, Ministry of Business, Innovation and Employment, Third Edition July 2005 (Amendment 6, 14 February 2014).
- Ministry of Business, Innovation and Employment Record of Amendments for Compliance Documents and Handbooks.
- The Building Regulations 1992.



In the opinion of BRANZ, **Panorama PVC Lining System** are 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 **Pacific Plastic et Profile S.A.**, 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. **Pacific Plastic et Profile S.A.:**
  - 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 **Pacific Plastic et Profile S.A.**.
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 **Pacific Plastic et Profile S.A.** or any third party.

For BRANZ

C Percy  
Chief Executive

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