



**SPECIFY WITH
CONFIDENCE**

BRANZ Appraisals

**Technical Assessments of
products for building and
construction**

**BRANZ
APPRAISAL
CERTIFICATE
No. 491 (2005)**

**PALLISIDE
CELLULAR uPVC
WEATHERBOARD
CAVITY SYSTEM**

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Product

1.1 The Palliside Cellular uPVC Weatherboard Cavity System is a cavity-based protective and decorative wall cladding system for residential and light commercial type buildings where domestic construction techniques are used.

1.2 The system consists of horizontally fixed, inter-locking Palliside weatherboards (Traditional and Rusticated profiles) installed over timber battens to form the cavity, rigid uPVC flashings and trims, and accessories.

1.3 The system incorporates a primary and secondary means of weather resistance (first and second line of defence) against water penetration by separating the cladding from the external wall framing with a nominal 20 mm drained cavity.



Scope

2.1 The Palliside Cavity System has been appraised as an external horizontally fixed wall cladding for buildings within the following scope:

- the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1; and,
- constructed with timber framing complying with the NZBC; and,
- with a risk score of 0-20, calculated in accordance with NZBC Acceptable Solution E2/AS1, Table 2; and,
- situated in NZS 3604 Building Wind Zones up to, and including 'Very High'.

2.2 The Palliside Cavity System has also been appraised as an external wall cladding system for steel framed buildings within the following scope:

- the scope limitations of NZBC Acceptable Solution E2/AS1, with regards to building height and floor plan area; and,
- constructed with steel framing complying with the NZBC; and,
- with a risk score of 0-20, calculated in accordance with NZBC Acceptable Solution E2/AS1, Table 2; and,
- situated in NZS 3604 Building Wind Zones up to, and including 'Very High'.

2.3 The Palliside Cavity System must only be installed horizontally on vertical surfaces.

2.4 The Palliside Cavity System is appraised for use with aluminium window and door joinery that is installed with vertical jambs and horizontal heads and sills. (*The Appraisal of the Palliside Cavity System relies on the joinery meeting the requirements of NZS 4211 for the relevant Building Wind Zone.*)

Building Regulations

New Zealand Building Code (NZBC)

3.1 In the opinion of BRANZ, the Palliside Cellular uPVC Weatherboard Cavity System if designed, used, installed and maintained in accordance with the statements and conditions of this Certificate, will meet the following provisions of the NZBC:

Clause B1 STRUCTURE: Performance B1.3.1, B1.3.2 and B1.3.4. The Palliside Cellular uPVC Weatherboard Cavity System meets the requirements for loads arising from self-weight, earthquake, wind, impact and creep [i.e. B1.3.3 (a), (f), (h), (j) and (q)]. See Paragraphs 9.1 - 9.3.

Clause B2 DURABILITY: Performance B2.3.1 (b), 15 years. The Palliside Cellular uPVC Weatherboard Cavity System meets this requirement. See Paragraphs 10.1 and 10.2.

Clause E2 EXTERNAL MOISTURE: Performance E2.3.2. The Palliside Cellular uPVC Weatherboard Cavity System meets this requirement. See Paragraphs 14.1 - 14.5.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. The Palliside Cellular uPVC Weatherboard Cavity System meets this requirement and will not present a health hazard to people.

3.2 This Certificate appraises an **Alternative Solution** in terms of New Zealand Building Code compliance.

Technical Specification

4.1 System components and accessories for the Palliside Cavity System, which are supplied by Dynex Extrusions Ltd are:

Palliside Weatherboards

- Palliside weatherboards are manufactured with a uPVC cellular foam core and a co-extruded uPVC outer layer. They are produced in double bevel-back (Traditional) or double rusticated (Rusticated) weatherboard profiles with an inter-locking weather seal between boards. Traditional weatherboards are available with a smooth face and Rusticated weatherboards are available with either a smooth or woodgrain face.
- The Traditional and Rusticated weatherboards are nominally 6 mm thick, with an effective overall profile thickness of 21 mm for the Traditional profile and 18 mm for the Rusticated profile. The weatherboards have an effective cover of 260 mm and are supplied 5.8 m long.
- Palliside weatherboards are available in White, Vanilla Cream, Glade Green and Tea colours.

Accessories

- Starting trims - starter strip, cavity vermin tray, one-part channel trim, 2-part channel trim. The starting trims are manufactured from uPVC and are available in colours to match the selected Palliside weatherboard where appropriate. Starting trims are supplied in 3.6 m lengths.
- Weatherboard jointers - moulded flat soaker and 2-part jointer. The weatherboard jointers are manufactured from uPVC and are available in colours to match the selected Palliside weatherboard. Moulded flat soakers come in double weatherboard profile, and 2-part jointers are supplied in 2.7 m lengths.
- External and internal corner mouldings - external 90° corner soaker base, moulded corner soaker, boxed 90° internal corner, boxed 90° external corner, and 2-part boxed 135° corner. The mouldings are available in uPVC to match the

selected Palliside weatherboard where appropriate. The external 90° corner soaker base and 2-part boxed 135° corner are supplied in 2.7 m lengths, the moulded corner soakers come in double weatherboard profile, the boxed 90° internal corner is supplied in 3.0 m lengths and the boxed 90° external corner is supplied in 3.6 m lengths.

- Window flashings - jamb flashing base, scribe cap and 2-part head flashing. The window flashings are manufactured from uPVC with an aluminium Head Flashing Cap also available and are available in colours to match the selected Palliside weatherboard where appropriate. Window flashings are supplied in 3.6 m lengths.
- Moulded end plugs - manufactured from uPVC in both Traditional and Rusticated profiles. The end plugs are available in colours to match the selected Palliside weatherboard.
- Foam soffit mould - a 40 x 18 mm cornice moulding manufactured from foamed uPVC. The soffit mould is available in colours to match the selected Palliside weatherboard and is supplied in 3.6 m lengths.
- Fastfix fasteners - uPVC fasteners used to secure the Palliside weatherboard in place above head flashings. The fasteners are available in colours to match the selected Palliside weatherboard and are supplied in bags of 50.
- Solvent cement - used to secure in place moulded end plugs and moulded flat soakers. Solvent cement is available in colours to match the selected Palliside weatherboard and is supplied in 180 g tubes.
- Sealant - Silaflex MS available in colours to match the selected Palliside weatherboard. The sealant is supplied in 375 ml cannisters.
- Palliside weatherboard fixings (Palliside nails, for use where structural cavity battens are used) - 40 x 2.5 mm hot-dip galvanised flat head nails.

4.2 Accessories used with the Palliside Cavity System which are supplied by the building contractor are:

- Building wrap - paper or wrap complying with NZBC Acceptable Solution E2/AS1 Table 23, or breather-type membranes covered by a valid BRANZ Appraisal Certificate for use as wall wraps. (*Note: There is no requirement for the building wrap to be absorbent.*)
- Building wrap support - polypropylene strap, 75 mm galvanised mesh, galvanised wire, or additional vertical battens for securing the building wrap in place and preventing bulging of the bulk insulation into the drainage cavity. (*Note: mesh and wire galvanising must comply with AS/NZS 4534.*)
- Flexible sill and jamb flashing tapes - flexible flashing tapes complying with NZBC Acceptable Solution E2/AS1 Paragraph 4.3.11, or flexible flashing tapes covered by a valid BRANZ Appraisal Certificate for use around window and door joinery openings.
- Joinery head flashings - as supplied by the joinery manufacturer or contractor.
- Cavity battens (non-structural) - nominal 50 mm wide by 25 mm thick (minimum finished size of 45 mm wide by 18 mm thick) timber treated to Hazard Class H3.1.
- Cavity battens (structural) - nominal 50 mm wide by 25 mm thick (minimum finished size of 45 mm wide by 18 mm thick) No. 1 framing grade timber treated to Hazard Class H3.1.
- Window and door trim cavity airseal - air seals complying with NZBC Acceptable Solution E2/AS1 Paragraph 9.1.6, or self-expanding, moisture cure polyurethane foam air seals covered by a valid BRANZ Appraisal Certificate suitable for use around window, door and other wall penetration openings.
- Planted sill, facings, box corners and scribes - timber treated

to Hazard Class H3.1, pre-primed before installation.

- Parapet cap flashing - folded from aluminium or galvanised steel. Refer to NZS 3604, Section 4 and NZBC Acceptable Solution E2/AS1, Table 20 for durability requirements.
- Cavity batten fixings (non-structural battens over timber frame) - 40 x 2.5 mm hot-dip galvanised flat head nails.
- Cavity batten fixings (structural battens over timber frame) - 60 x 2.8 mm hot-dip galvanised flat head nails.
(Note: Hot-dip galvanising must comply with AS/NZS 4680.)
- Palliside weatherboard fixings (alternative fixing to Palliside nails for timber frame where a non-structural cavity batten is used) - 8-gauge x 50 mm long, SS304 wood screws with a minimum head width of 5.5 mm.
- Palliside weatherboard fixings (alternative fixing to Palliside nails for timber frame where a structural cavity batten is used) - 8-gauge x 32 mm long, SS304 wood screws with a minimum head width of 5.5 mm.
- Palliside weatherboard, cavity batten and thermal break fixings (steel frame) - Self-drilling 6-gauge SS304 screws with a minimum head width of 5.5 mm. The screw length must allow a 10 mm minimum penetration through the steel framing.

(Note: Palliside Weatherboards can be installed using other fixing methods, but these methods have not been assessed and are outside the scope of this Certificate.)

Handling and Storage

5.1 Handling and storage of all materials supplied by Dynex Extrusions Ltd or the building contractor, whether on site or off site, is under the control of the building contractor. Palliside weatherboards and accessories are delivered to site in packs wrapped in plastic sleeves. The packs must be stacked flat, off the ground on bearers at maximum 600 mm centres and be restrained from collapse. Other materials must not be stacked on Palliside weatherboards and accessories. Long term storage must be dry and under cover. Palliside weatherboards should always be carried on edge and care must be taken to avoid damage to edges, ends and surfaces of the weatherboards.

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 Appraisals listing on the BRANZ website for details of the current Technical Literature for the Palliside Cellular uPVC Weatherboard Cavity System. The Technical Literature must be read in conjunction with this Certificate. All aspects of design, use, installation and maintenance contained in the Technical Literature and within the scope of this Certificate must be followed.

Design Information

Framing

Timber Treatment

7.1 Timber wall framing behind the Palliside Cavity System must be treated as required by NZS 3602.

Timber Framing

7.2 Timber framing must comply with NZS 3604 for buildings or parts of buildings within the scope limitations of

NZS 3604. Buildings or parts of buildings outside the scope of NZS 3604 must be to a specific design in accordance with NZS 3603 and NZS 4203. Where specific design is required, the framing must be of at least equivalent stiffness to the framing provisions of NZS 3604. In all cases studs must be at maximum 600 mm centres. Dwargs must be fitted flush between the studs at maximum 800 mm centres.

7.3 Additional framing may be required at soffits, internal and external corners and window and door openings for the support and fixing cavity battens and the Palliside Cavity System.

7.4 Timber framing must have a maximum moisture content of 18% at the time of the cladding application.

Steel Framing

7.5 Steel framing must be to a specific design meeting the requirements of the NZBC.

7.6 The minimum framing specification is 'C' section studs and nogs of overall section size of 75 mm web and 32 mm flange. Steel thickness must be minimum 0.55 mm.

7.7 Studs must be at maximum 600 mm centres. Dwargs must be fitted flush between the studs at maximum 800 mm centres.

General

8.1 Punchings in the cavity vermin tray provide a minimum ventilation opening area of 1000 mm² per lineal metre of wall in accordance with the requirements of NZBC Acceptable Solution E2/AS1, Paragraph 9.1.8.3(b).

8.2 The ground clearance to finished floor levels as set out in NZS 3604 must be adhered to at all times. At ground level, paved surfaces, such as footpaths, must be kept clear of the bottom edge of the cladding system by a minimum of 100 mm, and unpaved surfaces by 175 mm in accordance with the requirements of NZBC Acceptable Solution E2/AS1, Table 18.

8.3 At balcony, deck or roof/wall junctions, except where varied by the Technical Literature, the bottom edge of the Palliside Cavity System must be kept clear of any adjacent surface, or above the top surface of any adjacent roof flashing by a minimum of 35 mm in accordance with the requirements of NZBC Acceptable Solution E2/AS1, Paragraph 9.1.3.6.

8.4 Unlined gables and walls must incorporate a rigid sheathing or an air barrier which meets the requirements of NZBC Acceptable Solution E2/AS1, Table 23. Where rigid sheathings are used, the fixing length must be increased by a minimum of the thickness of the sheathing.

8.5 Where the system abuts other cladding systems, designers must detail the junction to meet their own requirements and the performance requirements of the NZBC. The Technical Literature provides some guidance. Details not included within the Technical Literature have not been assessed and are outside the scope of this Certificate.

Structure

Mass

9.1 The nominal mass of the Palliside Cavity System is 4.9 kg/m² and is therefore considered a light wall cladding in terms of NZS 3604.

Impact Resistance

9.2 The Palliside Cavity System will resist impacts likely to be encountered in normal residential use. The likelihood of impact damage to the cladding when used in light commercial situations should be considered at the design stage, and appropriate protection such as the installation of bollards and barriers provided for vulnerable areas.

Wind Zones

9.3 The Palliside Cavity System is suitable for use on buildings situated in all Building Wind Zones of NZS 3604, up to, and including 'Very High'.

Durability

Serviceable Life

10.1 Palliside Cavity System installations using white Palliside weatherboards are expected to have a serviceable life of at least 30 years and installations using coloured Palliside weatherboards are expected to have a serviceable life of at least 20 years provided the system is maintained in accordance with this Certificate and the Technical Literature.

10.2 On exposure to the environment, Palliside weatherboards will gradually lose gloss and coloured Palliside weatherboards will gradually fade.

Maintenance

11.1 Regular maintenance is essential for the Palliside Cavity System to continue to meet the NZBC durability performance provision and to maximise its serviceable life.

11.2 Annual inspections must be made to ensure that all aspects of the cladding system, including the flashings, moulded end plugs, solvent welds 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.

11.3 Regular cleaning (at least annually) of the Palliside Cavity System surface is recommended to remove grime, dirt and organic growth and to maximise 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 Palliside Cavity System. Painting may be considered necessary when the appearance of the Palliside weatherboards loses gloss or coloured weatherboards start to fade. Painting must be carried out in strict accordance with the instructions of Dynex Extrusions Ltd.

11.4 Minimum ground clearances as set out in this Certificate must be maintained at all times during the life of the cladding.

Control of External Fire Spread

12.1 The Palliside Cavity System is considered to meet the performance provisions of NZBC C3.3.5 for use as an external wall cladding when restricted to:

- Single storey buildings 1 m or more from the boundary for all purpose groups.
- Buildings up to 7 m high, 1 m or more from the boundary, for all purpose groups other than SC and SD.
- Fully sprinklered buildings up to 10 m high, 1 m or more from the boundary for all purpose groups other than SC, SD, SA and SR.
- Buildings containing purpose group SH, with a building height less than 10 m and located 1 m or more from the boundary.

(Note: The scope of this Certificate limits building heights to 10 m in accordance with the limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1(a). The building heights referenced in 14.1 above are as defined in the Definitions Section of the Fire Safety Clauses of the NZBC.)

Outbreak of Fire

13.1 The Palliside Cavity System must be separated from chimneys and flues in accordance with the requirements of NZBC Acceptable Solution C/AS1, Part 9 for the protection of combustible materials.

External Moisture

14.1 The Palliside Cavity System, when installed in accordance with this Certificate and the Technical Literature, prevents the penetration of moisture that could cause undue dampness or damage to building elements.

14.2 The cavity must be sealed off from the roof and sub-floor space to meet code compliance with Clause E2.3.5.

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

14.4 The details given in the Technical Literature for weather sealing are based on the design principle of having a first and second line of defence against moisture entry for all joints, penetrations and junctions. The ingress of moisture must be excluded by detailing joinery and wall interfaces as shown in the Technical Literature. Weathertightness details that are developed by the designer are outside the scope of this Certificate and are the responsibility of the designer for compliance with the NZBC.

14.5 The use of the Palliside Cavity System where there is a designed cavity drainage path for moisture that penetrates the cladding, does not reduce the requirement for junctions, penetrations, etc to remain weather resistant.

Internal Moisture

Water Vapour

15.1 The Palliside Cavity System is not a barrier to the passage of water vapour, and when installed in accordance with this Certificate and the Technical Literature will not create or increase the risk of moisture damage resulting from condensation. Refer to Paragraphs 15.2 and 15.3 below for specific requirements for steel framed buildings.

15.2 Where the Palliside Cavity System is installed over a steel frame, an expanded polystyrene thermal break must be installed over the building wrap over each steel member to provide a thermal break in accordance with the requirements of NZBC Acceptable Solution E3/AS1, Paragraph 1.1.4(d).

15.3 The cavity battens and the rest of the Palliside Cavity System is then installed over the top of the thermal break in accordance with the Technical Literature and this Certificate.

Installation Information

Installation Skill Level Requirements

16.1 Installation of Palliside weatherboards and accessories supplied by Dynex Extrusions Ltd and the building contractor must be completed by tradespersons with an understanding of Palliside weatherboard installation in accordance with the instructions given within the Palliside Cavity System Technical Literature and this Certificate.

System Installation

Building Wrap and Flexible Sill and Jamb Tape Installation

17.1 The selected building wrap and flexible sill and jamb tape system must be installed by the building contractor in accordance with the wrap and tape manufacturer's instructions prior to the installation of the cavity battens and the rest of the Palliside Cavity System. Building wrap must be installed horizontally and be continuous around corners. The wrap must be lapped 75 mm minimum at horizontal joints and 150 mm minimum over studs at vertical joints. Particular attention must be paid to the installation of the building wrap and sill and jamb tapes around window and door openings to ensure a continuous seal is achieved and all exposed wall framing in the opening is protected.

Cavity Battens

17.2 Cavity battens must be installed over the building wrap to the wall framing at maximum 600 mm centres where the studs are at 600 mm centres, or at 400 mm centres when studs are at 400 mm centres. Non-structural battens must be fixed in place with 40 x 2.5 mm hot-dip galvanised flat-head nails (timber frame) or self-drilling SS304 screws (steel frame) at maximum 800 mm centres. Structural battens (timber frame only) must be fixed in place with 60 x 2.8 mm hot-dip galvanised flat head nails at 500 mm centres.

17.3 Where studs are at greater than 450 mm centres, a building wrap support must be installed over the building wrap between the cavity battens at maximum 300 mm centres.

Aluminium Joinery Installation

17.4 Aluminium joinery and associated head flashings must be installed by the building contractor in accordance with the Technical Literature. A 7.5-10 mm nominal gap must be left between the joinery reveal and the wall framing so a PEF rod and air seal can be installed after the joinery has been secured in place.

Palliside Cladding System Installation

17.5 Palliside weatherboards may be cut on site by hand saw, power saw with a fine toothed blade (minimum 20 teeth), jigsaw or router. Holes and cut-outs may be formed by using a hole saw or router.

17.6 Palliside weatherboards must be installed starting at the bottom of the wall. The bottom course of weatherboards must overhang the bottom plate by a minimum of 50 mm.

17.7 Before the weatherboards and aluminium joinery are installed, all base accessories, including the starter strip, cavity vermin tray, corner soaker base and 2-part jointer base (if 2-part jointer is being used) must be fixed in place. Base accessories must be fixed to the wall frame at maximum 300 mm centres. The starter strip must be fixed level and must be left short of the selected corner option base piece and vertical trims.

17.8 The first course of weatherboards must be located

on the starter strip and fixed in place. To ensure the boards remain flat they must be fixed progressively either from the centre of each board working out or away from one end only. A 3 mm thermal movement gap must be left where the boards join, and at each end of the board where they fit into trims.

17.9 The boards must be fixed at every vertical support (maximum 600 mm centres) through the fixing guide strip at the top of the board. Where non-structural cavity battens are used the boards must be fixed with either 60 x 2.8 mm hot-dip galvanised flat head nails or 8-gauge x 50 mm long, SS304 wood screws with a minimum head width of 5.5 mm for timber framed buildings, or self-drilling 6-gauge SS304 screws with a minimum head width of 5.5 mm for steel framed buildings. Where structural cavity battens are used the boards must be fixed with either 40 x 2.5 mm hot-dip galvanised flat head Palliside nails or 8-gauge x 32 mm long, SS304 wood screws with a minimum head width of 5.5 mm. The nail or screw head must hold the board firmly, but must not be over-driven as damage can result. Subsequent boards clip over the nailing guide strip and conceal the nail or screw heads.

17.10 Window and door joinery head, sill and jamb flashings must be installed in accordance with the Technical Literature.

17.11 Internal corners must be finished with an internal corner mould. External corners must be finished with either moulded corner soakers fixed to a full length corner soaker base or by the boxed external corner. Corner moulds and board jointers must be jointed using Solvent Cement. Moulded end plugs must also be secured in place with Solvent Cement.

Inspections

17.11 The Technical Literature must be referred to during the inspection of Palliside Cavity System installations by building consent authorities and territorial authorities.

Finishing

17.12 The Palliside Cavity System is pre-finished and does not require painting at the completion of installation. Touch up of scratches and the like must be completed in accordance with the instructions of Dynex Extrusions Ltd.

Health and Safety

18.1 Hearing and eye protection must be worn while cutting Palliside weatherboards and accessories.

Basis of Appraisal

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

Tests

19.1 The following testing has been completed by BRANZ:

- BRANZ expert opinion on NZBC E2 code compliance for the Palliside Cavity System was based on testing and evaluation of all details within the scope and as stated within this Certificate. The Palliside Cladding System was tested to AS/NZS 4284 with a BRANZ-designed extension which became the basis of E2/VM1. The testing was completed in three stages; the first being the standard AS/NZS 4284 test, the second being the modified AS/NZS 4284 test with defects introduced in

the test panel, and the third being the modified AS/NZS 4284 test with the internal linings and building wrap removed. The testing assessed the performance of the foundation detail, window head, jamb and sill details, weatherboard lap, moulded flat soaker and internal and external corners. In addition to the weathertightness test, the details contained within the Technical Literature have been reviewed, and an opinion has been given by BRANZ technical experts that the system will meet the performance levels of NZBC Acceptable Solution E2/AS1 for drained cavity claddings.

- Uniform wind face load tests to simulate wind pressures on Palliside weatherboards were carried out by BRANZ, and the results were used in assessing the Palliside Cavity System.
- White Palliside weatherboards have been exposed in a weatherometer for 5000 hours. Samples of the weatherboard material were also exposed to ultraviolet (UV) light and were then microscopically examined and Gardner impact-tested in accordance with Appendices E and F of AS 2376 Part 1 - 1980. The results were used in assessing the durability of the Palliside Cavity System.

Other Investigations

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

20.2 Experience with single skin, double skin (twin wall), and cellular uPVC wall claddings and other fully exposed uPVC exterior building products in New Zealand and overseas for many years has been noted, including structural and weathertightness performance, durability, and non-hazardous nature.

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

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

Quality

21.1 The manufacture of Palliside weatherboards and trim 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.

21.2 The quality of materials, components and accessories supplied by Dynex Extrusions Ltd is the responsibility of Dynex Extrusions Ltd. The quality control system of Dynex Extrusions Ltd has been assessed and registered as meeting the requirements of ISO 9001: 2000 by SGS Systems & Services Certification Pty Ltd, Certificate Number NZ95/0173.

21.3 The environmental management system of Dynex Extrusions Ltd has been assessed and registered as meeting the requirements of ISO 14001: 2004 by SGS Systems and Services Certification Pty Ltd, Certificate number NZ06/0579.

21.4 Quality of installation on site of components and accessories supplied by Dynex Extrusions Ltd and the building contractor is the responsibility of the installer.

21.5 Designers are responsible for the building design, and building contractors are responsible for the quality of installation of framing systems and joinery, building wraps, flashing tapes, cavity battens and airseals in accordance with the instructions of Dynex Extrusions Ltd.

21.6 Building owners are responsible for the maintenance of the Palliside Cavity System in accordance with the instructions of Dynex Extrusions Ltd.

Sources of Information

- AS 2376.1 - 1980 Plastic Building Sheets - Extruded PVC.
- AS/NZS 4284: 1995 Testing of building facades.
- AS/NZS 4534: 1998 Zinc and zinc/aluminium-alloy coatings on steel wire.
- AS/NZS 4680: 1999 Hot-dip galvanized (zinc) coatings on fabricated ferrous articles.
- NZS 3602: 2003 Timber and wood-based products for use in building.
- NZS 3603: 1993 Timber Structures Standard.
- NZS 3604: 1999 Timber framed buildings.
- NZS 4203: 1992 General structural design and design loadings for buildings.
- NZS 4211: 1985 Specification for performance of windows.
- Compliance Document for New Zealand Building Code External Moisture Clause E2, Department of Building and Housing, Third Edition July 2005.
- New Zealand Building Code Handbook and Approved Documents, Building Industry Authority, 1992.
- The Building Regulations 1992, up to, and including October 2004 amendment.

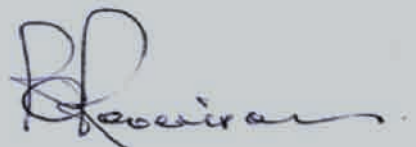
In the opinion of BRANZ, Palliside Cellular uPVC Weatherboard Cavity System is fit for purpose and will comply with the Building Code to the extent specified in this Certificate provided it is used, designed, installed and maintained as set out in this Certificate.

The Appraisal Certificate is issued only to the Certificate Holder, Dynex Extrusions Ltd, and is valid until further notice, subject to the Conditions of Certification.

Conditions of Certification

1. This Certificate:
 - 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. The Certificate Holder:
 - 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.
3. The product and the manufacture are maintained at or above the standards, levels and quality assessed and found satisfactory by BRANZ.
4. BRANZ makes no representation 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 the Certificate Holder.
5. Any reference in this Certificate to any other publication shall be read as a reference to the version of the publication specified in this Certificate.

For BRANZ



**P Robertson
Chief Executive**

Date of issue: 4 April 2006