



BRANZ Appraised

Appraisal No.635 [2008]

BRANZ Appraisals

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

**BRANZ
APPRAISAL
No. 635 (2008)**

**PRIMAflex™
CAVITY SYSTEM**

Manufactured by:
**Hume Cemboard Industries Sdn
Bhd**
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Product

1.1 The PRIMAflex™ Cavity System is a cavity-based, monolithic sheet wall cladding. It is designed to be used as an external wall cladding system for residential and light commercial type buildings where domestic construction techniques are used.

1.2 The PRIMAflex™ Cavity System consists of PRIMAflex™ sheet, which is a fibre cement sheet product, fixed over timber battens to form the cavity. The cladding joints are finished with purpose-made jointers, timber battens or sealant and the system is finished with a latex paint system.

1.3 The cladding 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 cavity.



Scope

2.1 The PRIMAflex™ Cavity System has been appraised as an external 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 PRIMAflex™ Cavity System has also been appraised for weathertightness and structural wind loading when used for buildings subject to specific design engineering up to a design differential ultimate limit state (ULS) wind pressure of 2.5 kPa.

2.3 The PRIMAflex™ Cavity System must only be installed on vertical, flat surfaces (except for tops of balustrades and parapets, which must have a minimum 5° slope and be waterproofed in accordance with the Technical Literature).

2.4 The PRIMAflex™ 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 PRIMAflex™ Cavity System relies on the joinery meeting the requirements of NZS 4211 for the relevant Building Wind Zone, or being specifically designed for use in specifically designed buildings.*)

Building Regulations

New Zealand Building Code (NZBC)

3.1 In the opinion of BRANZ, the PRIMAflex™ Cavity 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 PRIMAflex™ Cavity System meets the requirements for loads arising from self-weight, wind and impact [i.e. B1.3.3 (a), (h) and (j)]. See Paragraphs 10.1 - 10.4.

Clause B2 DURABILITY: Performance B2.3.1 (b), 15 years, B2.3.1 (c) 5 years and B2.3.2. The PRIMAflex™ Cavity System meets these requirements. See Paragraphs 11.1 and 11.2.

Clause E2 EXTERNAL MOISTURE: Performance E2.3.2. The PRIMAflex™ Cavity System meets this requirement. See Paragraphs 15.1 - 15.5.

Clause F2 HAZARDOUS BUILDING MATERIALS: Performance F2.3.1. The PRIMAflex™ Cavity 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 System components and accessories for the PRIMAflex™ Cavity System, which are supplied by Independent Building Supplies Ltd are:

PRIMAflex™ Sheet

- PRIMAflex™ sheets are manufactured to conform to the requirements of AS/NZS 2908.2 in accordance with NZBC Acceptable Solution E2/AS1, Paragraph 9.7.2.
- PRIMAflex™ sheets are 6.0 mm thick fibre cement, manufactured by Hume Cemboard Industries Sdn Bhd from Portland cement, top grade cellulose fibre, finely ground sand and water. The sheets are formed, cut to length and then cured by high-pressure autoclaving. They are produced in flat, smooth surfaced sheet material form, and are grey in colour.
- PRIMAflex™ sheets have square edges and are available in sizes of 1200 mm wide by 1800, 2400, 2700 and 3000 mm long, and 900 mm wide by 2400 mm long. Other sizes are available by special request.

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

- Horizontal flashing - exterior grade uPVC, complying with NZBC Acceptable Solution E2/AS1, Figure 108.
- Horizontal flashing jointers - exterior grade uPVC horizontal flashing jointer and corner flashing jointer.
- External corner mould - exterior grade uPVC, complying with NZBC Acceptable Solution E2/AS1, Figure 109.
- Cavity vent strip - exterior grade uPVC punched with 3-5 mm holes or slots complying with NZBC Acceptable Solution E2/AS1, Paragraph 9.1.8.3.
- Building wrap - paper or wrap complying with NZBC Acceptable Solution E2/AS1, Table 23, or breather-type membranes covered by a valid BRANZ Appraisal for use as wall wraps.
- Building wrap support – polypropylene strap, 75 mm galvanised wire 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 tape - flexible flashing tapes complying with NZBC Acceptable Solution E2/AS1, Paragraph 4.3.11, or flexible flashing tapes covered by a valid BRANZ Appraisal for use around window and door joinery openings.
- Inseal® 3259 tape - black, compressible, medium density PVC (Polyvinyl Chloride) closed cell foam. The foam is coated on one side with pressure sensitive acrylic adhesive and the other face is covered by a silicone release paper. The tape is 1.5 mm thick and is supplied in rolls 50 and 80 mm wide and 50 m long.
- Inseal® 3109 tape - black, compressible, low density PVC foam. The foam is coated on one side with pressure sensitive acrylic adhesive and the other face is covered by a silicone release paper. The tape is 19 mm thick and is supplied in rolls 10 mm wide and 12 m long.
- Cavity battens - 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 batten fixings - 40 x 2.8 mm hot-dip galvanised flat head nails.
- PRIMAflex™ sheet fixings - 60 x 3.15 mm hot-dip galvanised flat head nails or 60 x 3.15 mm stainless steel, flat head annular grooved nails.
- Boxed corner boards - 90 x 18 mm and 65 x 18 mm Radiata pine treated to Hazard Class H3.1 with 6 x 6 mm weathergrooves.
- Timber boxed corner fixings - 60 x 2.8 mm hot-dip galvanised jolt head nails or 60 x 3.15 mm stainless steel, jolt head annular grooved nails.

(*Note: Hot-dip galvanising must comply with AS/NZS 4680 and stainless steel fixings must be Grade 316.*)

- Joinery head flashings - folded from aluminium or galvanised steel to suit the window or door trim opening. Refer to NZS 3604, Section 4 and NZBC Acceptable Solution E2/AS1, Table 20 for durability requirements.
- Parapet, balustrade and inter-storey drained joint flashings - folded from aluminium or galvanised steel. Refer to NZS 3604, Section 4 and NZBC Acceptable Solution E2/AS1, Table 20 for durability requirements.
- Window and door trim cavity air seal - 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 suitable for use around window, door and other wall penetration openings.
- Flexible sealant - sealant complying with NZBC Acceptable Solution E2/AS1, or sealant covered by a valid BRANZ Appraisal for use as a weather sealing sealant for exterior use.

Paint System Specification

4.3 All sheet edges, including cut edges around penetrations must be sealed prior to fixing. The PRIMAflex™ Cavity System must be finished with at least two coats of an exterior grade latex acrylic paint complying with any of Parts 7, 8, 9 or 10 of AS 3730. Paint colours must have a light reflectance value of 40% minimum regardless of gloss value.

4.4 Paint systems are not supplied by Independent Building Supplies and have not been assessed by BRANZ and are therefore outside the scope of this Appraisal.

Handling and Storage

5.1 Handling and storage of all materials supplied by Independent Building Supplies or the building contractor, whether on site or off site, is under the control of the building contractor. PRIMAflex™ sheets must be stacked flat, off the ground and supported on a level platform. They must be kept dry at all times either by storing under cover or by providing waterproof covers

to the stack. Care must be taken to avoid damage to edges, ends and surfaces. The sheets must always be carried on edge. uPVC flashings and profiles must be protected from direct sunlight and physical damage, and should be stored flat and under cover.

5.2 Cavity battens and other 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 PRIMAflex™ Cavity 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 wall framing behind the PRIMAflex™ 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 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 studs must be at maximum 600 mm centres for buildings designed to NZS 3604 and at maximum 400 mm centres for specifically designed buildings. Dwgangs must be fitted flush between the studs at maximum 800 mm centres.

7.3 Timber wall framing behind cavity battens where sheets are joined must be nominal 50 mm thickness (i.e. 45 mm minimum finished thickness).

7.4 Timber framing must have a maximum moisture content of 24% at the time of the cladding application. (*Note: If PRIMAflex™ sheets are fixed to framing with a moisture content of greater than 24% problems may occur at a later date due to excessive timber shrinkage.*)

PRIMAflex™ Sheet Set Out

7.5 PRIMAflex™ sheets must be installed vertically. All vertical PRIMAflex™ sheet edges must be supported and fixed through the cavity battens to the wall framing. Horizontal sheet edges must be supported at fixing locations with cavity spacers in accordance with NZBC Acceptable Solution E2/AS1, Paragraph 9.1.8.2(f). At the base of the wall, the sheets must hang 50 mm below the supporting framing.

7.6 Additional framing may be required at soffits, internal and external corners and window and door openings for the support and fixing of sheet edges.

General

8.1 When the PRIMAflex™ Cavity System is used for specifically designed buildings up to 2.5 kPa design differential ULS wind pressure, only the weathertightness aspects of the cladding and maximum framing centres and sheet fixing centres are within the scope of this Appraisal. All other aspects of the

building need to be specifically designed and are outside the scope of this Appraisal.

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

8.3 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.

8.4 At balcony, deck or low pitch roof/wall junctions, the bottom edge of the PRIMAflex™ sheets 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 NZBC Acceptable Solution E2/AS1, Paragraph 9.1.3.6.

8.5 All buildings must have barriers to airflow in the form of interior linings with all joints stopped, or alternatively, 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.

8.6 Where penetrations through the PRIMAflex™ Cavity System are wider than the cavity batten spacing, allowance must be made for airflow between adjacent cavities. A minimum 10 mm gap must be left between the bottom of the vertical cavity batten and the flashing to the opening.

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

Control Joints

9.1 Control joints must be constructed in accordance with the Technical Literature, and be provided as follows:

- Vertical control joints - aligned with any control joint in the structural framing, or where the system abuts different cladding types.
- Horizontal control joints - at maximum 5.4 m centres and at inter-storey floor levels.

(*Note: Horizontal and vertical control joints must be located over structural supports. The design of vertical junctions where the system abuts different cladding types is outside the scope of this Appraisal and is the responsibility of the designer - see Paragraph 8.7.*)

Inter-storey Junctions

9.2 Inter-storey junctions must be constructed in accordance with the Technical Literature. Inter-storey horizontal drained joints must be provided for walls over 2 storeys in height in accordance with NZBC Acceptable Solution E2/AS1, Paragraph 9.1.9.4(b).

Structure

Mass

10.1 The mass of the PRIMAflex™ Cavity System is approximately 8.5 kg/m² at equilibrium moisture content (EMC), therefore the PRIMAflex™ Cavity System is considered a light wall cladding in terms of NZS 3604.

Impact Resistance

10.2 The PRIMAflex™ Cavity System has adequate resistance to impact loads likely to be encountered in normal residential

use. The likelihood of impact damage to the system 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

10.3 The PRIMAflex™ Cavity System is suitable for use in all Building Wind Zones of NZS 3604, up to, and including Very High where buildings are designed to meet the requirements of NZBC Acceptable Solution E2/AS1, Paragraph 1.1, or up to 2.5 kPa design differential ULS wind pressure where buildings are specifically designed.

PRIMAflex™ Sheet Fixings

10.4 PRIMAflex™ sheets must be fixed through the cavity battens to the wall framing (maximum 600 mm stud centres for installations in up to, and including, 'Very High' Building Wind Zones and maximum 400 mm stud centres for installations on specifically designed buildings) at maximum 200 mm vertical centres along sheet edges and maximum 300 mm centres in the body of the sheet where the cavity batten is fully supported over framing. The sheets must be fixed at maximum 200 mm centres at horizontal sheet edges. The fixings must be positioned a minimum of 12 mm from all sheet edges, and a minimum of 50 mm vertically and 100 mm horizontally from sheet corners edges. The fastener heads must finish proud of the sheet surface.

Durability

11.1 The PRIMAflex™ Cavity System meets the performance requirements of NZBC Clause B2.3.1 (b), 15 years for the PRIMAflex™ sheets, fixings and flashings, and the performance requirements of NZBC Clause B2.3.1 (c), 5 years for the exterior paint system.

Serviceable Life

11.2 PRIMAflex™ Cavity System installations are expected to have a serviceable life of at least 30 years provided the finish system is maintained in accordance with this Appraisal to ensure the PRIMAflex™ sheets and fixings are continuously protected by a weathertight paint system and remain dry in service. For the PRIMAflex™ Cavity System to meet the durability and external moisture requirements of the NZBC, PRIMAflex™ sheets must be finished within 3 months of fixing.

Maintenance

12.1 Regular maintenance is essential for PRIMAflex™ Cavity System installations to continue to meet the NZBC durability performance provision and to maximise their serviceable life.

12.2 Annual inspections must be made to ensure that all aspects of the cladding system, including the finish system, 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, paint coatings, flashings or the fibre cement sheets must be repaired in accordance with the relevant manufacturer's instructions.

12.3 Regular cleaning (at least annually) of the finish system is recommended to remove grime, dirt and organic growth, to maximise the life and appearance of the coating. Grime may be removed by brushing with a soft brush, warm water and detergent.

12.4 Recoating of the finishing system will be necessary throughout the life of the cladding system. The interval between recoats depends on the finish colour, orientation and quality of the application, and will be at approximately 5-10 yearly intervals in accordance with the paint manufacturer's instructions.

12.5 Minimum ground clearances as set out in this Appraisal must be maintained at all times during the life of the cladding. *(Failure to adhere to the minimum ground clearances given in this Appraisal and the Technical Literature will adversely affect the long term durability of the PRIMAflex™ Cavity System.)*

Control of External Fire Spread

13.1 PRIMAflex™ sheets are suitable for use where a non-combustible material is specified. When PRIMAflex™ sheets are finished with a paint coating of not more than 1.0 mm in thickness, they are suitable for use as an external wall cladding in all building Purpose Groups in accordance with NZBC C/AS1 Part 7, Paragraph 7.11.2(a).

Outbreak of Fire

14.1 Clearance separations from chimneys and flues are not required for PRIMAflex™ sheets. However, when used in conjunction with, or attached to heat sensitive materials, the heat sensitive materials must be separated from chimneys and flues in accordance with the requirements of NZBC Acceptable Solution C/AS1 Part 9.

External Moisture

15.1 The PRIMAflex™ Cavity System, when installed and maintained in accordance with this Appraisal and the Technical Literature prevents the penetration of moisture that could cause undue dampness or damage to building elements.

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

15.3 The PRIMAflex™ Cavity System allows excess moisture present at the completion of construction to be dissipated without permanent damage to building elements to meet compliance with NZBC Clause E2.3.6.

15.4 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 Appraisal and are the responsibility of the designer for compliance with the NZBC.

15.5 The use of the PRIMAflex™ Cavity System where there is a designed cavity drainage path for moisture that penetrates the cladding, does not reduce the requirement for joints, penetrations and junctions to remain weather resistant.

Internal Moisture

Water Vapour

16.1 The PRIMAflex™ Cavity System is not a barrier to the passage of water vapour, and when installed in accordance with this Appraisal will not create or increase the risk of moisture damage resulting from condensation.

Installation Information

Installation Skill Level Requirements

17.1 Installation of PRIMAflex™ sheets and accessories supplied by Independent Building Supplies and the building contractor must be completed by tradespersons with an understanding of cavity construction and fibre cement sheet installation, in accordance with instructions given within the PRIMAflex™ Cavity System Technical Literature and this Appraisal.

System Installation

Building Wrap and Flexible Sill and Jamb Tape Installation

18.1 The selected building wrap and flexible sill and jamb tape system must be installed in accordance with the manufacturer's instructions prior to the installation of the cavity battens. The building wrap must be installed horizontally and be continuous around corners. 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 timber wall framing in the opening is protected. All penetrations through the building wrap must be sealed and joints sealed or lapped 150 mm.

Cavity Battens

18.2 Cavity battens must be installed over the building wrap to the wall framing at maximum 600 mm centres where the studs are at maximum 600 mm centres or at 400 mm centres where the studs are at 400 mm centres. The battens must be fixed in place with 40 x 2.8 mm hot-dipped galvanised flat head nails at maximum 800 mm centres.

18.3 The selected cavity vent strip must be installed with the bottom of the vent strip flush with the underside of the cavity battens. *(Note: A minimum 15 mm drip edge to the bottom of the PRIMAflex™ sheet must be maintained at all times.)*

18.4 When the cavity battens are installed at greater than 450 mm centres, the building wrap must be supported between the battens to prevent the wrap bulging into the cavity space when bulk insulation is installed in the wall frame cavity. Acceptable means of support include polypropylene strap, galvanised wire mesh or additional cavity battens.

Aluminium Joinery Installation

18.5 Aluminium joinery and associated head flashings must be installed by the building contractor in accordance with the Technical Literature. A 7.5 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.

PRIMAflex™ Sheet Installation

18.6 PRIMAflex™ sheets may be cut by scoring and snapping, hand guillotine, hand or power saw. Holes and cut-outs may be formed by drilling a number of holes around the perimeter of the opening required and tapping out the centre with a hammer, or by using a hole saw.

18.7 Sheets must be dry prior to installation. Sheet edges must be pre-painted with a seal coat prior to fixing as required by NZBC Acceptable Solution E2/AS1, Paragraph 9.7.3.

18.8 Prior to fixing sheets, a check must be made to ensure all sheet joints will be supported by framing. Sheets must be fixed through the cavity battens and cavity spacers to the timber framing with either 60 x 3.15 mm flat head hot-dip galvanised nails or stainless steel, ring shank flat head nails. The nail heads must finish proud of the sheet surface.

18.9 Sheets must not be fixed to inter-storey joists or blocking, and must have a 15 mm gap between sheet edges at this point to allow for shrinkage of the framing. This gap must be flashed with a horizontal control joint flashing to prevent moisture entry.

Finishing

18.10 The paint coating manufacturer's instructions must be followed at all times for application of the paint finish. PRIMAflex™ sheets must be painted within 3 months following fixing and must be clean and dry before commencing. Allow the recommended drying time between coats and follow the temperature limitations for application.

Inspections

18.11 The Technical Literature must be referred to during the inspection of PRIMAflex™ Cavity System installations.

Health and Safety

19.1 Safe use and handling procedures for the components that make up the PRIMAflex™ Cavity System are provided in the relevant manufacturer's Technical Literature.

19.2 Cutting of PRIMAflex™ sheets must be carried out in well ventilated areas, and a dust mask and eye protection must be worn. When power tools are used for cutting, grinding or forming holes, safety measures as set out in the Technical Literature must be undertaken because of the amount of dust generated.

Basis of Appraisal

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

Tests

- 20.1 The following testing has been completed by BRANZ:
- BRANZ expert opinion on NZBC E2 code compliance for the PRIMAflex™ Cavity System was based on testing and evaluation of all details within the scope and as stated within this Appraisal. The PRIMAflex™ Cavity System was tested to E2/VM1. The testing assessed the performance of the foundation detail, window head, jamb and sill details, meter box head, jamb and sill details, vertical and horizontal control joints, internal and external corners and balustrade to wall junction with a metal cap flashing. 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 Acceptable Solution E2/AS1 for drained cavity claddings.
 - Wind face load testing. BRANZ determined design wind suction pressures, and by comparing these pressures with the NZS 3604 design wind speeds and NZS 4203 pressure coefficients, the fixing requirements were determined for timber framed walls.
 - Testing of new and carbonated, fungal cellared and naturally weathered PRIMAflex™ sheet has been undertaken by BRANZ in accordance with AS/NZS 2908.2:1992 Cellulose cement products - Flat sheets. BRANZ experts have evaluated the test results in forming a durability opinion on the product.
- 20.2 Cone Calorimeter testing of PRIMAflex™ sheet has been completed by CSIRO in accordance with AS/NZS 3837.

Other Investigations

- 21.1 Fire and durability opinions have been given by BRANZ technical experts.
- 21.2 The practicability of installation has been assessed by BRANZ.
- 21.3 The Technical Literature for the PRIMAflex™ Cavity System has been examined by BRANZ and found to be satisfactory.

Quality

- 22.1 The manufacture of PRIMAflex™ sheet 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.
- 22.2 The quality management system of the PRIMAflex™ sheet manufacturer, Hume Cemboard Industries Sdn Bhd, has been assessed and registered as meeting the requirements of ISO 9001: 2000 by SIRIM QAS International Sdn Bhd, Registration Number AR 0430.
- 22.3 Quality of installation on site of components and accessories supplied by Independent Building Supplies and the building contractor is the responsibility of the installer.
- 22.4 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, air seals, joinery head flashings, cavity battens and PRIMAflex™ sheets in accordance with the instructions of Hume Cemboard Industries Sdn Bhd.
- 22.5 Building owners are responsible for the maintenance of the PRIMAflex™ Cavity System in accordance with the instructions of Hume Cemboard Industries Sdn Bhd.

Sources of Information

- AS/NZS 1170: 2002 Structural design action – General principles.
- AS/NZS 2908.2:2000 Cellulose-cement products - Flat Sheet.
- AS/NZS 3837: 1998 Method of test for heat and smoke release rates for materials and products using an oxygen consumption calorimeter
- AS/NZS 4534: 2006 Zinc and zinc/aluminium-alloy coatings on steel wire.
- AS/NZS 4680: 2006 Hot-dip galvanised (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 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, Department of Building and Housing, Third Edition May 2007.
- The Building Regulations 1992, up to, and including June 2007 Amendment.



BRANZ

In the opinion of BRANZ, the PRIMAflex™ Cavity 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 Hume Cemboard Industries Sdn Bhd, 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. Hume Cemboard Industries Sdn Bhd:
 - 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. 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.
4. 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 Hume Cemboard Industries Sdn Bhd.
5. 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.
6. BRANZ provides no certification, guarantee, indemnity or warranty, to Hume Cemboard Industries Sdn Bhd or any third party.

For BRANZ

P Burghout
Chief Executive

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