



**BRANZ Appraised**  
Appraisal No. 1173 [2021]

**ARCHIMAX®**  
**CLADDING SYSTEM**

**Appraisal No. 1173 [2021]**



## BRANZ Appraisals

Technical Assessments of products for building and construction.



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## Product

- 1.1 The Archimax® Cladding System is a cavity-based, inter-locking powder-coated aluminium cladding board system. 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 system includes vertically and horizontally fixed cladding boards, cavity battens, internal and external corner flashings, starter strips, cladding jointers, joinery flashings and accessories.

## Scope

### Timber Framing

- 2.1 The Archimax® Cladding System has been appraised for use as an external wall cladding for timber-framed buildings within the following scope:
  - the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1 for timber-framed buildings; and,
  - with a risk score of 0–20, calculated in accordance with NZBC Acceptable Solution E2/AS1, Table 2; and,
  - situated in NZS 3604 Wind Zones up to, and including, Extra High.

### Steel Framing

- 2.2 The Archimax® Cladding System has been appraised for use as an external wall cladding for steel-framed buildings within the following scope:
  - the scope limitations of NASH Building Envelope Solutions, Paragraph 1.1 for steel-framed buildings; and,
  - with a risk score of 0–20, calculated in accordance with NASH Building Envelope Solutions; and,
  - situated in NASH Standard Part 2 Wind Zones up to, and including, Extra High.

### Specific Design

- 2.3 The Archimax® Cladding System has also been appraised for weathertightness and structural wind loading when used as an external wall cladding system for buildings within the following scope:
  - the scope limitations of NZBC Acceptable Solution E2/AS1, Paragraph 1.1 for timber-framed buildings or NZBC Acceptable Solution E2/AS4, NASH Building Envelope Solutions, Paragraph 1.1 for steel-framed buildings; and,
  - constructed with framing subject to specific design; and,
  - situated in specific design wind pressures up to a maximum design differential ultimate limit state (ULS) of 2.5 kPa.

### General

- 2.4 The Archimax® Cladding System must only be installed vertically over horizontal cavity battens, or horizontally over vertical cavity battens. In all instances, it must be installed on vertical, flat surfaces.
- 2.5 The Archimax® Cladding System will be appraised for use with aluminium window and door joinery that is installed with vertical jambs and horizontal heads and sills. *[Note: The Appraisal of the Archimax® Cladding System relies on the joinery meeting the requirements of NZS 4211 for the relevant Wind Zone or design wind pressure.]*

## Building Regulations

### New Zealand Building Code (NZBC)

- 3.1 In the opinion of BRANZ, the Archimax® Cladding 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 Archimax® Cladding System meets the requirements for loads arising from self-weight, wind and impact [i.e. B1.3.3 (a), (h) and (j)]. See Paragraphs 9.1-9.4.

**Clause B2 DURABILITY:** Performance B2.3.1 (b) 15 years and B2.3.2. The Archimax® Cladding System meets these requirements. See Paragraphs 10.1-10.3.

**Clause E2 EXTERNAL MOISTURE:** Performance E2.3.2. The Archimax® Cladding System meets this requirement. See Paragraphs 14.1-14.5.

**Clause F2 HAZARDOUS BUILDING MATERIALS:** Performance F2.3.1. The Archimax® Cladding System meets this requirement.

## Technical Specification

- 4.1 System components and accessories for the Archimax® Cladding System, which are supplied by Archimax Limited are:

### Archimax® Cladding Boards

- **Archimax® Cladding Boards** are manufactured from 6060 T5 aluminium alloy. The boards and accessories are extruded, cut to length then powder-coated in accordance with AS3715.
- **AM 100** - are suitable for horizontal and vertical application. They have a grooved profile with aluminium 2 mm thick. When installed, the cladding profile is nominally 200 mm by 20 mm and supplied in 6 m lengths.
- **AM 201** - are suitable for horizontal and vertical application. They have a flat profile with aluminium 2 mm thick. When installed, the cladding profile is nominally 200 mm by 20 mm and supplied in 6 m lengths.
- **AM 300** - are suitable for horizontal application only. They have a bevelled profile with aluminium 1.7 mm thick. When installed, the cladding profile is nominally 124 mm by 20 mm and supplied in 6 m lengths.
- **AM 200** - are suitable for horizontal and vertical application. They have a flat profile with aluminium 1.7 mm thick. When installed, the profile is nominally 100 mm by 20 mm and supplied in 6 m lengths.
- **AM 400** - are suitable for horizontal and vertical application. They have a curved profile with aluminium 2 mm thick. When installed, the cladding profile is nominally 196 mm wide by 20 mm thick and supplied in 6 m lengths.
- **AM 500** - are suitable for horizontal and vertical application. They have a jagged profile with aluminium 2 mm thick. When installed, the cladding profile is nominally 188 mm by 20 mm and supplied in 6 m lengths.
- **AM 600** - are suitable for horizontal and vertical application. They have an uneven profile with aluminium 1.8 mm thick. When installed, the cladding profile is nominally 150 mm by 20 mm and supplied in 6 m lengths.



- **AM 700** - are suitable for horizontal and vertical application. They have a large curved profile with aluminium 1.5 mm thick. When installed, the cladding profile is nominally 140 mm by 20 mm thick and supplied in 6 m lengths.
  - **AM 800** - are suitable for horizontal and vertical application. They have a rough rusticated profile with aluminium 1.5 mm thick. When installed, the cladding profile is nominally 134 mm by 20 mm and supplied in 6 m lengths.
  - **AM 900** - are suitable for horizontal application only. They have a bevelled profile with aluminium 1.5 mm thick. When installed, the cladding is nominally 122 mm by 20 mm and supplied in 6 m lengths.
  - **Board starter** - an extruded aluminium starter fitted at the bottom for locating and securing the initial cladding board if installed horizontally and the series of cladding boards if installed vertically. It is punched with drainage holes and supplied in 6 m lengths.
  - **Corner capping** - two pairs of extruded aluminium in 90° with different clip caps used for enclosure of internal and external corners of walls. They are supplied powder-coated in 6 m lengths.
  - **Jointer** - a three-piece extruded aluminium jointer fixed at joints of Archimax® cladding boards to improve aesthetics of application. They are supplied powder-coated in 6 m lengths.
  - **Clip bracket** - an extruded aluminium fixing clip used to attach the top and bottom edges of adjoining cladding boards and secure them to the cavity battens of the structure. Clip brackets in 60 mm length are pre-drilled to fit an 8 g countersunk head screw.
  - **End capping** - a three-piece extruded aluminium end cap used to cover the edges of cladding boards at jambs and sill of windows, door casings and parts where Archimax® cladding ends or is joined to other accessories. They are supplied powder-coated in 6 m lengths.
  - **Fixings and fastenings** - Grade 304 or 316 stainless steel 8 g self-tapping screws, 50 mm long, with countersunk heads.
  - **Window/door headstarter/flashings** - extruded aluminium to conform with windows and door joinery openings. Headstarter base is drilled with 5 mm diameter drainage holes at 300 mm centres.
- 4.2 Accessories used with the Archimax® Cladding System, which are supplied and installed by the building contractor, are:
- **Flexible wall underlay** - building paper complying with NZBC Acceptable Solution E2/AS1, Table 23 or NASH Building Envelope Solutions, Table 23, or breather-type membranes covered by a valid BRANZ Appraisal for use as wall underlays.
  - **Flexible wall underlay support** - polypropylene strap, 75 mm galvanised mesh, galvanised wire, or additional vertical battens for securing the flexible wall underlay in place and preventing bulging of the bulk insulation into the drainage cavity. *[Note: Mesh and wire galvanising must comply with AS/NZS 4534.]*
  - **Rigid wall underlay** - plywood or fibre cement sheet complying with NZBC Acceptable Solution E2/AS1, Table 23 or NASH Building Envelope Solutions, Table 23, or rigid sheathing covered by a valid BRANZ Appraisal for use as a rigid air barrier system.
  - **Flexible sill and jamb flashing tape** - flexible flashing tapes complying with either NZBC Acceptable Solution E2/AS1, Paragraph 4.3.11 or NASH Building Envelope Solutions, Paragraph 4.2.10, or flexible flashing tapes covered by a valid BRANZ Appraisal for use around window and door joinery openings.
  - **Thermal break [steel frame]** - a thermal break with a minimum R-value of R0.25 shall be provided at the outside face of each steel framing member in accordance with the requirements of NZBC Acceptable Solution E3/AS1, Paragraph 1.1.4 d].
  - **Cladding fixings** - 50 mm long, 8 g Grade 304 or 316 stainless steel self-tapping screws for timber framing or 65 mm long, 12 g Grade 304 or 316 stainless steel self-tapping screws for steel framing.
  - **Cavity battens [vertical]** - timber cavity battens nominally 50 mm wide by 25 mm thick (minimum finished size of 45 mm wide by 18 mm thick). Radiata pine timber treated to Hazard Class H3.1.



- **Cavity battens [horizontal]**- 45 mm wide by 19 mm thick radiata pine treated to Hazard Class H3.1. The top and bottom edge is bevelled with a 15° slope. The front face is castellated with 13 mm wide x 4.5 mm deep rebates at 52 mm centres.
- **Cavity batten fixings** - minimum 50 mm long, 8 g Grade 304 or 316 stainless steel self-tapping screws.
- **Cavity vent strip** - an aluminium vent strip, punched with 3-5mm holes in accordance with NZBC E2/AS1 Paragraph 9.1.8.3.
- **Cavity batten barrier strip** - a 50 mm wide medium density polyethylene [MDPE] tape supplied in rolls.
- **Inter-storey joint flashing** - folded from aluminium sheet and powder-coated to match the cladding board.
- **Window and door trim cavity air seal** - air seals complying with NZBC Acceptable Solution E2/AS1 or NASH Building Envelope Solutions, Paragraph 9.1.6, or self-expanding, moisture cure polyurethane foam air seals covered by a valid BRANZ Appraisal for use around window, door and other wall penetrations.

## Handling and Storage

- 5.1 Handling and storage of all materials supplied by Archimax Limited, whether on-site or off-site, is under the control of building contractor. Archimax® cladding boards must be stacked flat, off the ground and supported on a level platform. Care must be taken to avoid damage to powder-coated surfaces. Cladding boards must always be carried on edge.
- 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 Archimax® Cladding 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 Archimax® Cladding System must be treated as required by NZBC Acceptable Solution B2/AS1.

#### 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, with dwangs fitted flush between the studs at a maximum of 600 mm centres for vertical fix or 800 mm for horizontal fix.
- 7.3 Additional framing will be required at soffits and internal corners for the support and fixing of Archimax® cladding boards.

### Steel Framing

- 7.4 Steel framing must comply with NASH Standard Part Two for buildings or parts of buildings within the scope limitations of NASH Standard Part Two. Buildings or parts of buildings outside the scope of NASH Standard Part Two must be to a specific design. Where specific design is required, the framing must be of at least equivalent stiffness to the framing provisions of NASH Standard Part Two.
- 7.5 The minimum framing specification is 'C' section studs and dwangs of overall section size of 75 mm web and 32 mm flange. Steel thickness must be minimum 0.55 mm and a minimum grade G2.
- 7.6 In all cases studs must be at maximum 600 mm centres, with dwangs fitted flush between the studs at maximum 800 mm centres.

### General

- 8.1 When the Archimax® Cladding System is used for specifically designed buildings up to design differential 2.5 kPa ULS wind pressure, only the weathertightness aspects of the cladding and maximum framing 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 combination cavity closure/base starter and cavity base starter provide a minimum ventilation opening area of 1,000 mm<sup>2</sup> per lineal metre of wall in accordance with the requirements of NZBC Acceptable Solution E2/AS1, Paragraph 9.1.8.3 b) or NASH Building Envelope Solutions, Paragraph 9.1.9.3 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 or NASH Building Envelope Solutions, Table 18.
- 8.4 At deck or low pitch roof/wall junctions, the bottom edge of the Archimax® cladding boards 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 or NASH Building Envelope Solutions, Paragraph 9.1.3.
- 8.5 All external walls of buildings must have barriers to airflow in the form of interior linings with all joints stopped for Wind Zones up to, and including, Very High, and rigid underlays for buildings in the Extra High Wind Zone and specifically designed buildings up to 2.5 kPa design differential ULS wind pressure. 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 or NASH Building Envelope Solutions, Table 23. For attached garages, wall underlays must be selected in accordance with NZBC Acceptable Solution E2/AS1, Paragraph 9.1.3.4 or NASH Building Envelope Solutions, Paragraph 9.1.3.4. Where rigid underlays are used, the cavity batten fixing lengths must be increased by a minimum of the thickness of the underlay.
- 8.6 Where penetrations through the Archimax® Cladding 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 Inter-storey drained joints must be constructed in accordance with the Technical Literature. Inter-storey drained joints must be provided to limit continuous cavities to the lesser of 2-storeys or 7 m in height, in accordance with the requirements of NZBC Acceptable Solution E2/AS1, or NASH Building Envelope Solutions, Paragraph 9.1.9.4 b).
- 8.8 Where the Archimax® Cladding 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 guidance using the Archimax® Cladding Junction. Details not included with the Technical Literature have not been assessed and are outside the scope of this Appraisal.

## Structure

- 9.1 The mass of the Archimax® Cladding System is approximately 7 kg/m<sup>2</sup>. The Archimax® Cladding System is therefore considered a light wall cladding in terms of NZS 3604 and NASH Standard Part 2.

## Impact Resistance

- 9.2 The Archimax® Cladding System has good resistance to hard and soft body impacts 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 should be considered for vulnerable areas.

## Wind Zones

- 9.3 The Archimax® Cladding System is suitable for use in all Wind Zones of NZS 3604 up to, and including, Extra High, where buildings are designed to meet the requirements of NZBC Acceptable Solution E2/AS1, Paragraph 1.1 or NASH Building Envelope Solutions, Paragraph 3.2, or up to design differential 2.5 kPa ULS wind pressure when the buildings are specifically designed.

## Cladding Board Fixing Centres

- 9.4 Archimax® cladding boards can be fixed through the cavity to the wall frame at a maximum of 600 mm centres [every stud]. Where the cladding boards are installed vertically, they are to be fixed at 600 mm centres maximum, through the cavity to the wall framing, studs dwangs or noggs.

## Durability

### Serviceable Life

- 10.1 The Archimax® Cladding System is expected to have a serviceable life ranging from 15 to 50 years provided the system is maintained in accordance with this Appraisal. Refer to Table 1.

**Table 1: Expected Serviceable Life of the Archimax® Cladding System installed with Grade 304 Stainless Steel Screws (as limited by expected fixing durability)**

NZS 3604 Exposure Zone	Expected Serviceable Life [years]
Zone B	50
Zone C	25-40
Zone D	15

- 10.2 On exposure to the environment, the powder-coating will gradually lose gloss unless the manufacturer's maintenance requirements are met, and coloured coatings will slowly fade. A faster reduction in appearance and a reduction in serviceable life can be anticipated in severe industrial, geothermal, and marine exposures.
- 10.3 Microclimatic conditions, including geothermal hot spots, industrial contamination and corrosive atmospheres, and contamination from agricultural chemicals or fertilisers can convert mildly corrosive atmosphere into aggressive environments. The use of the Archimax® Cladding System in areas subject to microclimatic conditions requires specific design in accordance with NZS 3604 Paragraph 4.2.4, and is outside the scope of this Appraisal.

## Maintenance

- 11.1 Regular maintenance is essential for Archimax® Cladding System installations to continue to meet the NZBC durability performance provision and to maximise their serviceable life.
- 11.2 Annual inspections must be made to ensure that all aspects of the cladding system, including flashings and any joints remain in a weathertight condition. Any damaged areas or areas showing signs of deterioration which would allow water ingress, must be repaired immediately. Regular cleaning [every 6 months] of the powder-coating with water and a mild detergent is required to remove grime, dirt and organic growth and to maximise the life and appearance of the cladding. Repainting of the powder-coating may be considered necessary at some stage during the serviceable life of the system in order to restore the appearance of the cladding. Repainting must be carried out in accordance with the paint manufacturer's instructions for treatment of aged powder-coated aluminium.
- 11.3 Minimum ground clearances as set out in this Appraisal must be maintained at all times during the life of the cladding. *[Note: 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 Archimax® Cladding System.]*

## Prevention of Fire Occurring

- 12.1 Archimax® cladding boards are considered a non-combustible material and need not be separated from heat sources such as fireplaces, heating appliances, flues and chimneys. However, when used in conjunction with, or attached to heat sensitive materials, the heat sensitive material must be separated from fireplaces, heating appliances, flues and chimneys. Part 7 of NZBC Verification Method C/VM1 and Acceptable Solution C/AS1, and Acceptable Solution C/AS2 provide methods for separation and protection of combustible materials from heat sources.

## Control of External Fire Spread

### Vertical Fire Spread

- 13.1 This Appraisal only covers buildings 10 m or less in height. NZBC Functional Requirement C3.2 identifies that external vertical fire spread to upper floors only needs be considered for buildings with a building height greater than 10 m. Control of external vertical fire spread is therefore outside the scope of this Appraisal.

### Horizontal Fire Spread

- 13.2 The Archimax® cladding boards are composed entirely of aluminium and are therefore defined as non-combustible, as per NZBC Acceptable Solution C/AS2 Definitions. When the Archimax® Cladding System is factory powder-coated with a coating thickness of less than 1 mm in thickness, it can be used within 1 m of the relevant boundary. This meets the requirements of Paragraph 5.4 of NZBC Acceptable Solution C/AS1 and Paragraph 5.8.2 [a] of NZBC Acceptable Solution C/AS2.
- 13.3 Refer to NZBC Acceptable Solutions C/AS1 and C/AS2, and Verification Method C/VM2 for fire resistance rating and control of external fire spread requirements for external walls.

## External Moisture

- 14.1 The Archimax® Cladding System, when installed in accordance with this Appraisal 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 compliance with NZBC Clause E2.3.5.
- 14.3 The Archimax® Cladding 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.

- 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 Appraisal and are the responsibility of the designer for compliance with the NZBC.
- 14.5 The use of the Archimax® Cladding System, where there is a designed cavity drainage path for moisture that penetrates the cladding, does not reduce the requirement for junctions and penetrations to remain weather resistant.

## Internal Moisture

### Water Vapour

- 15.1 The Archimax® Cladding System is not a barrier to the passage of water vapour, and when installed in accordance with this Appraisal 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 for specific requirements for steel-framed buildings.
- 15.2 Where the Archimax® Cladding System is installed over a steel frame, a thermal break must be installed over each steel member under the underlay to provide the 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 Archimax® Cladding System are then installed over the top of the thermal break and wall underlay in accordance with the Technical Literature and this Appraisal.

## Installation Information

### Installation Skill Level Requirements.

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

## System Installation

### Wall Underlay and Flexible Sill and Jamb Tape Installation

- 17.1 The selected wall underlay and flexible sill and jamb tape system must be installed by the building contractor in accordance with the underlay and tape manufacturer's instructions prior to the installation of the cavity battens and the Archimax® Cladding System. Flexible wall underlay must be installed horizontally and be continuous around corners. Underlay must be lapped 75 mm minimum at horizontal joints and 150 mm minimum over studs at vertical joints. Generic rigid sheathing materials must be installed in accordance with NZBC Acceptable Solution E2/AS1 or NASH Building Envelope Solutions and be overlaid with a flexible wall underlay. Proprietary systems shall be installed in accordance with the manufacturer's instructions. Particular attention must be paid to the installation of the wall underlay 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 flexible or rigid wall underlay 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. Two rows of battens must be installed up the jambs of windows and doors in accordance with the instructions given within the Technical Literature. The battens must be temporarily fixed in place with 40 x 2.5 mm hot-dip galvanised flathead nails or 50 x 2.87 mm hot-dip galvanised gun nails at maximum 800 mm centres [timber frame], or self-drilling 6 g hot-dip galvanised class 4 screws at maximum 800 mm centres [steel frame].
- 17.3 Where studs are at greater than 450 mm centres and a flexible wall underlay is being used, a wall underlay support must be installed over the underlay at maximum 300 mm centres horizontally to prevent the wrap bulging into the cavity space when bulk insulation is installed in the wall frame cavity.
- 17.4 A cavity batten barrier to separate all cavity battens from the aluminium cladding and components is to be used to separate materials with compatibility issues.

### **Aluminium Joinery Installation**

- 17.5 Aluminium joinery must be installed by the building contractor in accordance with the Technical Literature. The joinery must be installed plumb and level and a 7.5-10 mm nominal gap must be left between the joinery reveal and the wall framing so an air seal in accordance with Acceptable Solution E2/AS1 or NASH Building Envelope Solutions, Paragraph 9.1.6 can be installed after the joinery has been secured in place.

### **Archimax® Cladding System Installation**

- 17.6 The Archimax® head, jamb and sill flashing components are fabricated to precisely fit each window and door and must be installed in accordance with the Technical Literature.
- 17.7 Archimax® cladding boards may be cut on-site by power saw fitted with an aluminium cutting blade. Holes and cut-outs may be formed by drilling a number of holes around the perimeter of the opening required, or by using a holesaw suitable for cutting aluminium.
- 17.8 Before the cladding boards and starter strip are installed, the cavity batten barrier strip must be stapled to the face of timber cavity battens to isolate the treated batten from the aluminium cladding board and accessories.
- 17.9 Archimax® cladding boards must be installed starting at the bottom of the wall. The first course of cladding boards must overhang the bottom plate by a minimum of 50 mm. If there is more than one starting level, work from the lowest point up to the next level and try to ensure a joint in the boards coincides with the higher starting level.
- 17.10 The base section of the corner mouldings must be fixed in place. The corner mouldings must be continuous in length from the underside of the first cladding board course to the soffit, top of the wall or inter-storey joint.
- 17.11 When the wall being clad is longer than the length of the cladding board, the base section of the board jointer must be fixed in place over a double width cavity batten directly over a double stud. The jointer must be fixed plumb and must be continuous from the underside of the first cladding board course to the soffit, top of the wall or inter-storey joint.
- 17.12 The starter strip must be fixed through the cavity battens to the wall framing behind the first course of cladding boards. The starter strip must be fixed level and a gap must be maintained between each end of the starter strip and the corner moulds or board jointer.
- 17.13 Archimax® cladding boards are cut to length allowing a 1 mm gap per metre of board for expansion. The first course of cladding boards must be locked into the starter strip and must then be secured at the top of the board with universal fixing brackets fixed through the cavity battens to the stud at maximum 600 mm centres. Ensure that the fixing bracket engages correctly with the fixing fin of the board and that the board is held firmly with no downward pressure on it. This should eliminate distortion or cupping of the cladding board.

- 17.14 Subsequent courses of cladding boards must be locked into the channel of the board below, and must be secured at the top of the board with universal fixing brackets fixed through the cavity batten to the stud at maximum 600 mm centres.
- 17.15 Board fixing into timber framing is carried out using 50 mm long, 8 g stainless steel screws. Fixing into steel framing is carried out with 65 mm long, 10 g Grade 304 or 316 stainless steel self-tapping screws.
- 17.16 Window and door joinery flashings must be installed in accordance with the Technical Literature.

#### **Finishing**

- 17.17 The Archimax® Cladding 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 Archimax® Limited.

#### **Health and Safety**

- 18.1 Hearing and eye protection must be worn while cutting Archimax® cladding boards and accessories.

### **Basis of Appraisal**

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

#### **Tests**

- 19.1 The following testing on the Archimax® Cladding System has been completed by BRANZ:
- The Archimax® Cladding System has been tested to NZBC Verification Method E2/VM1.
  - Uniform wind face load tests to simulate wind pressures on Archimax® cladding boards were carried out.

#### **Other Investigations**

- 20.1 Structural and durability opinions have been provided by BRANZ technical experts.
- 20.2 A BRANZ expert opinion on NZBC E2 code compliance for the Archimax® Cladding System including evaluation of all details within the scope of this Appraisal has been completed.
- 20.3 Site inspections have been carried out by BRANZ to assess the practicability of installation, and to examine completed installations.
- 20.4 The Technical Literature for the Archimax® Cladding System has been examined by BRANZ and found to be satisfactory.

#### **Quality**

- 21.1 The manufacture of Archimax® cladding boards has been examined by BRANZ, including methods adopted for quality control. Details regarding the 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 Archimax® Limited is the responsibility of Archimax® Limited.
- 21.3 Quality of installation on-site of components and accessories supplied by Archimax® Limited 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 of framing systems and joinery, wall underlays, flashing tapes, air seals and cavity battens in accordance with the instructions of Archimax® Limited.
- 21.5 Sub-trades are responsible for installation of penetrations, flashings etc. that are relevant to their trade in accordance with the Archimax® Cladding System Technical Literature.
- 21.6 Building owners are responsible for the maintenance of the Archimax® Cladding System in accordance with the instructions of Archimax® Limited.



## Sources of Information

- AS/NZS 1170:2002 Structural design actions.
- NASH Building Envelope Solutions: 2019.
- NASH Standard Part Two: 2019 Light Steel Framed Buildings.
- NZS 3603:1993 Timber structures standard.
- NZS 3604:2011 Timber-framed buildings.
- NZS 4211:2008 Specification for performance of windows.
- Ministry of Business, Innovation and Employment Record of amendments - Acceptable Solutions, Verification Methods and handbooks.
- The Building Regulations 1992.



In the opinion of BRANZ, **Archimax® Cladding 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.

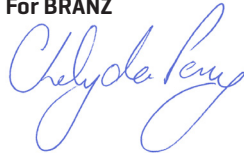
The Appraisal is issued only to **Archimax Limited**, and is valid until further notice, subject to the Conditions of Appraisal.

### 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. **Archimax 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 **Archimax 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 **Archimax Limited** or any third party.

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**For BRANZ**



**Chelydra Percy**

Chief Executive

Date of Issue:

25 August 2021