

3.0 EXECUTION & INSTALLATION

3.1 SCOPE

3.1.1 TIMBER FRAMING

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, including Extra High.

3.1.2 STEEL FRAMING

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, including Extra High.

3.1.3 SPECIFIC DESIGN

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, including Extra High.

3.2 GENERAL

3.2.1 SITE VISITS

Inspect to warrant the completeness and stability of all wall framings and supplemental structures before the application of cladding system. Make sure that there are no protrusions and/or uneven structures that will affect the stability and performance of the system.

3.2.2 HANDLING

3.0 EXECUTION & INSTALLATION

Provide packaging for and avoid distortion of elements during transit, handling, storage, and hoisting. Prevent pre-finished surfaces from rubbing together. Handle all elements in accordance with Archimax® requirements.

3.2.3 DELIVERY AND STORAGE

Do not deliver to site any elements which cannot be immediately unloaded into suitable conditions of storage which are permanent. Decline all damaged and deformed material/s.

Handling and storage of all materials supplied by Archimax Limited, whether on or off site, is under the control of Building Contractor.

Archimax weatherboards must be stacked flat, off the ground and supported on a level platform. They must be stored in a dry, well-ventilated place and not exposed to any weather condition or damage. Once in storage do not move again unless for installation purposes.

Weatherboards must always be carried on edge. Care must be taken to avoid damage to powder coated surfaces.

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.

3.2.4 PROTECTION

Make sure that different materials are kept apart as necessary. Use appropriate material to separate metals from treated timber and cement-based materials.

3.2.5 HEALTH AND SAFETY

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

Immediately clear-out all off-cuts and clean work areas regularly.

3.3 INSTALLATION

Install Archimax® cladding system in accordance with Archimax® Technical Literature requirements.

3.3.1 TIMBER TREATMENT

Timber framing and battens must be treated in accordance with NZBC B2/AS1 and NZS 3602.

3.0 EXECUTION & INSTALLATION

3.3.2 TIMBER FRAMING

3.3.2.1 DESIGN

Ensure that timber framing is done in accordance with NZS 3604 for buildings and within its scope limitations for parts and/or portions of buildings. Each stud placed at 600mm crs max. Mount nogs between the studs at 800mm crs max spacing or at 600mm crs for Archimax® cladding boards installed vertically. For buildings and/or parts of buildings beyond the scope of NZ 3604, a detailed design must be done in accordance with NZ 3603 and AS/NZS1170.2.

Supplemental framing will be needed at soffits, vertical joints, internal/external corners, and window/door openings for support while attaching the Archimax® cladding boards.

3.3.2.2 MOISTURE CONTENT

Make sure that the moisture content of the timber framing and cavity battens is maintained at a maximum of 24% at the time of installing the cladding boards.

For continuous metal cladding laid and directly fixed along a lengthy continuous timber member, the timber should have an equilibrium moisture content of 18% or less. Flashings or transverse flashings must have 16% - 12% equilibrium moisture content for the framing. These transverse flashings can be fastened temporarily in place and be fixed permanently when the moisture content is within the given limit.

3.3.3 STEEL FRAMING

Make certain that all specific designs for steel framing meet the requirements of the NZBC B1- Structure. G250 'C' section studs and nogs with minimum framing specification and measurement of 75mm web and 32mm flange with 0.55mm min thickness must be used. Studs are spaced at 600mm crs max with nogs integrated between studs at 800mm crs max. A maximum spacing of 600mm on crs nogs must be used when installing Archimax® cladding boards vertically. Put in thermal break as recommended by Archimax®.

3.3.4 INTER-STOREY JOINTS

Provide inter-storey drained joints on walls of more than two-storey in height as required in the NZBC E2/AS1par.9.1.9.4.

3.4 INSTALLATION– HORIZONTAL OVER CAVITY

3.4.1 CAVITY

3.0 EXECUTION & INSTALLATION

Form the vented cavity and make sure it is well-drained in accordance with NZBC E2/AS1 par.9.1.8.

3.4.2 INSTALL CAVITY BATTENS

Install and fix cavity battens on wall underlay to the wall framing at

Framing Type	Wind Zone/Pressure	Spacing	Fixing Screw Grade 304/316
Timber Frame	Very High	600mm crs max.	1- 50mm long, 8-gauge S/S self-tapping screws
	Extra High	400mm crs max.	1- 50mm long, 8-gauge S/S self-tapping screws
Steel Frame	Very High	600mm crs max.	1- 65mm long, 12-gauge S/S self-tapping screws
	Extra High	400mm crs max.	1- 65mm long, 12-gauge S/S self-tapping screws

Refer to Archimax® Technical Literature drawing details for Horizontal Weatherboards:

- HW02- Plans
- D22- Steel Stud/Nogs Details

For cavity battens installed at more than 450mm crs and bulk insulation is applied on the wall frame cavity, brace the wall underlay to prevent it from expanding into the cavity space.

3.4.3 CAVITY VENT STRIP

Place aluminium vent strip to be punched initially with 3-5mm holes as stated in NZBC E2/AS1 par.9.1.8.3 to have a minimum of 1000mm²/lineal metre of wall opening area to promote air flow and allow air and moisture to exit the cavity. Vent strip installed at the base of the wall, horizontal gap on junctions and over other wall openings i.e., windows, doors etc. must be vermin proofed.

3.4.4 ALUMINIUM JOINERY

Install aluminium joinery head flashing based on Archimax® Technical Literature drawing details for Horizontal Weatherboards:

- D01- Window Head Detail
- D13- Meter Box Head Detail

Allow a 7.5mm minimal gap between the joinery and the wall framing to permit a PEF rod and weatherproof sealant to be installed after joinery application.

3.0 EXECUTION & INSTALLATION

3.4.5 CAVITY BARRIER STRIP

Staple the barrier strip on the timber cavity battens to separate the treated batten from the aluminium cladding boards and its accessories. An MDPE barrier strip can be used as water-resistant barrier.

3.4.6 HORIZONTAL START- OFF

Refer to Archimax® Technical Literature drawing details for Horizontal Weatherboards:

- D09- Soffit Detail
- D16- Concrete Floor Board Starter Detail
- D17- Parapet Detail
- D19- Non-Soffit Detail

to determine the lowest point from which the cladding will start. Make sure that the starter strip can reach 50mm minimum below the starter plate as specified in NZBC E2/AS1 par.9. The starter strip will allow this dimension to be extended up to a maximum 105mm thus making it possible to set the starting point to easily align a full board width with the windowsill or head levels. Mark the position of the starter strip to the exact level line that can reach right around the structure. No further adjustment can be done between boards after.

If there are multiple starting levels identified, start working from the lowest point up to the next level while making sure that a joint on the boards corresponds with the higher starting level.

3.4.7 INSTALL INITIAL FIXING SECTIONS

Ascertain the initial fixing sections required by checking with the Archimax® Technical Literature drawing details for Horizontal Weatherboards:

- D01 to D03 – Window Details
- D04 and D05 – External and Internal Corner Details
- D12- Vertical Joint Detail
- D16- Concrete Floor Board Starter Detail
- D17- Parapet Detail
- D09 and D19 – Soffit and Non-Soffit Details

If no guide available for vertical joint placement, these sections should be fixed on points that will best give the aesthetic result while minimizing wastage of cladding boards. Add more nogs for full joint support when necessary.

3.4.8 CORNERS/VERTICAL JOINTS

Position and secure the base section of the corner capping and let its length run continuously beneath the first cladding board to the soffit, top of the wall and /or inter-storey joints.

3.0 EXECUTION & INSTALLATION

When wall is longer than the cladding board length, the bottom part of the board jointer must be secured in place over a double-width cavity batten directly on a double stud. Fix jointer plumb then allow continuously beneath the first cladding course to the soffit, top of the wall and/or inter-storey joint.

3.4.9 INSTALL BOARD STARTER STRIP

Mount the board starter strip across the cavity battens on the wall framing and at the backside of the initial cladding board. Fix on the exact level and ensure to provide a gap between ends of the starter strip and the corner capping or board jointer to allow for thermal expansion. Make sure that the starter strip can extend 50mm minimum below the bottom board as specified in NZBC E2/AS1 par.9.1.3. When needed, extend battens under the bottom board for additional support on the starter strip.

3.4.10 INSTALL ARCHIMAX® CLADDING BOARDS

Cut the Archimax® cladding boards to a length that will allow each end of board a 5mm gap for expansion. Secure and lock the bottom section of initial boards into the starter strips. Then, fix the upper section with clip brackets fastened through the cavity battens onto the studs spaced at:

Framing Type	Wind Zone/Pressure	Spacing	Fixing Screw Grade 304/316
Timber Frame	Very High	600mm crs max.	2- 50mm long, 8-gauge S/S self-tapping screws
	Extra High	400mm crs max.	2- 50mm long, 8-gauge S/S self-tapping screws
Steel Frame	Very High	600mm crs max.	2- 65mm long, 12-gauge S/S self-tapping screws
	Extra High	400mm crs max.	2- 65mm long, 12-gauge S/S self-tapping screws

Make sure that the cladding board is tightly fastened that no extreme downward pressure can cause the board from deforming or cupping.

Secure the next cladding boards by locking the bottom into the channel of the initial board then fasten the top section following the procedure

done with the initial boards. Continue doing this to all succeeding boards while making sure that the boards are fitted and rightly clipped at precise level.

3.0 EXECUTION & INSTALLATION

3.5 INSTALLATION– VERTICAL OVER CAVITY

3.5.1 INSTALLING WALL UNDERLAY AND FLEXIBLE SILL/JAMB TAPE

Install the wall underlay and flexible sill and jamb tape according to the selected underlay and tape manufacturer's direction before commencing the installation of Archimax® cladding system. Make sure that all window and door openings as well as all exposed wall framings are fully sealed and protected.

Set the wall underlay across and around the corners with minimum 75mm and 150mm overlap on studs at horizontal and vertical joints, respectively.

3.5.2 INSTALLING FLASHINGS

Install flashings at joints and around wall openings based on Archimax® Technical Literature for Vertical Weatherboards and fix all additional flashings needed at junctions with other cladding accessories.

3.5.3 CAVITY

Form the vented cavity and make sure it is well-drained in accordance with NZBC E2/AS1par.9.1.8.

3.5.4 INSTALLING CAVITY BATTENS

Install and fix cavity battens on wall underlay to the wall framing at

Framing Type	Wind Zone/Pressure	Spacing	Fixing Screw Grade 304/316
Timber Frame	Very High	600mm crs max.	1- 50mm long, 8-gauge S/S self-tapping screws
	Extra High	400mm crs max.	1- 50mm long, 8-gauge S/S self-tapping screws
Steel Frame	Very High	600mm crs max.	1- 65mm long, 12-gauge S/S self-tapping screws
	Extra High	400mm crs max.	1- 65mm long, 12-gauge S/S self-tapping screws

Refer to Archimax® Technical Literature drawing details for Vertical Weatherboards:

- VW02- Plans
- D21- Steel Stud/Nogs Details

3.0 EXECUTION & INSTALLATION

For cavity battens installed at more than 450mm crs and bulk insulation is applied on the wall frame cavity, brace the wall underlay to prevent it from expanding into the cavity space.

3.5.5 CAVITY VENT STRIP

Place aluminium vent strip, to be punched initially with 3-5mm holes as stated in NZBC E2/AS1 par. 9.1.8.3 to have a minimum of 1000mm²/lineal metre of wall opening area to promote air flow and allow air and moisture to exit the cavity. Vent strip installed at the base of the wall, horizontal gap on junctions and over other wall openings i.e., windows, doors etc. must be vermin proofed.

3.5.6 ALUMINIUM JOINERY

Install aluminium joinery head flashing based on Archimax® Technical Literature drawing details for Vertical Weatherboards:

- D01- Window Head Detail
- D12- Meter Box Head Detail

Allow a 7.5mm minimal gap between the joinery and the wall framing to permit a PEF rod and air sealant to be installed after joinery application.

3.5.7 CAVITY BARRIER STRIP

Staple the barrier strip on the timber cavity battens to separate the treated batten from the aluminium cladding boards and its accessories. An MDPE barrier strip can be used as water-resistant barrier.

3.5.8 VERTICAL START- OFF

Refer to Archimax® Technical Literature drawing details for Vertical Weatherboards:

- D09- Soffit Detail
- D15- Concrete Floor Board Starter Detail
- D16- Parapet Detail
- D18- Non-Soffit Detail

to determine the lowest point from which the cladding will start. Make sure that the board starter can reach 50mm minimum below the initial plate as specified in NZBC E2/AS1 par. 9. Mark the position of the board starter to the exact level line that can reach right around the structure.

3.5.9 INSTALL INITIAL FIXING SECTIONS

Determine the initial fixing sections required by checking with the Archimax® Technical Literature drawing details for Vertical Weatherboards:

- D01to D03 – Window Details

3.0 EXECUTION & INSTALLATION

- D04 and D05 – External and Internal Corner Details
- D15- Concrete Floor Board Starter Detail
- D16- Parapet Detail
- D09 and D18 – Soffit and Non-Soffit Details

3.5.10 CORNERS

Position and secure the base section of the corner capping and let its whole length run from the lowest cladding point to the soffit, top of the wall and /or inter-storey joints.

3.5.11 INSTALL BOARD STARTER STRIP

Secure the board starter between corner capping clips while making sure that the board starter can reach minimum of 50mm below the bottom plate as specified in the NZBC E2/AS1 par. 9.1.3.

3.5.12 INSTALL ARCHIMAX® CLADDING BOARDS

Check out each wall span to be clad before cutting the boards and starting the cladding system. Ascertain the maximum thickness of cladding to apply where there are vertical breaks like on corners, windows, door jamb and joints with other cladding materials.

Start cladding application by fixing the board starter at 600mm crs to locate the initial cladding board. Secure and lock the succeeding boards into the channel at the bottom section of the next board. Then, fix the upper section of the board with clip brackets fastened to the nogs spaced at:

Framing Type	Wind Zone/Pressure	Spacing	Fixing Screw Grade 304/316
Timber Frame	Very High	600mm crs max.	2- 50mm long, 8-gauge S/S self-tapping screws
	Extra High	400mm crs max.	2- 50mm long, 8-gauge S/S self-tapping screws
Steel Frame	Very High	600mm crs max.	2- 65mm long, 12-gauge S/S self-tapping screws
	Extra High	400mm crs max.	2- 65mm long, 12-gauge S/S self-tapping screws

Fix the next series of boards at the specified spacing for each type of framing used.

Make sure that the fixing bracket interlocks perfectly with the fixing channel to secure the board firmly that no extreme lateral pressure can cause the board from deforming or cupping.

3.0 EXECUTION & INSTALLATION

3.6 COMPLETION

3.6.1 FINISHING

Archimax Limited applies powder coating system on all its aluminium cladding products with which painting finishes need not be required upon completion of installation. In occurrences of scratches, in-situ touch up can be done on written authority of Archimax Limited.

3.6.2 REPLACING

Any damaged profiles and components that will affect the quality and durability of the system must be replaced immediately.

3.6.3 CLEANING

Remove all debris, unused materials, and elements from the site. Make sure not to afflict any damage on the finished wall while in the process of cleaning.

3.7 MAINTENANCE AND CARE

Powder Coating provides better performance and long-term protection when it comes to color retention. To ensure extended life of the powder coated aluminiums, the owner should follow these simple maintenance program:

- Remove any loose surface deposits by gently rubbing with a wet sponge.
- Gently remove dust, salt, and other deposits with a soft non-abrasive brush and a dilute solution of a mild detergent in warm water. For stubborn stains, use only recommended solvents (Isopropyl alcohol or methylated spirits) on the affected area and rinse off with clean water. Do not use other aggressive solvents.
- Rinse the surfaces with clean fresh water to remove all residues.

In addition-

- Clean powder coated surfaces when the surface temperatures are below 25°C to avoid spotting.
- When building, renovating, plastering or painting around powder coated aluminiums, use only Archimax approved tapes and films and in accordance with the instruction.
- Immediately remove all paint splatters or excess sealants before they dry.
- Frequency of cleaning will depend on the environment. In most cases, regular cleaning can be done at a minimum of 12-month intervals. In



3.0 EXECUTION & INSTALLATION

areas where salts, pollutants and high corrosivity levels are common, frequent cleaning at 6-month intervals should be carried out.

- Owners should keep a record of when maintenance is carried out, the method and cleaning materials used.

3.8 INSPECTION

Annual inspections must be made to ensure that all aspects of the cladding system, including flashings and any joints remain in weathertight condition. Any damaged areas or areas showing signs of deterioration which would allow water to ingress, must be repaired immediately.