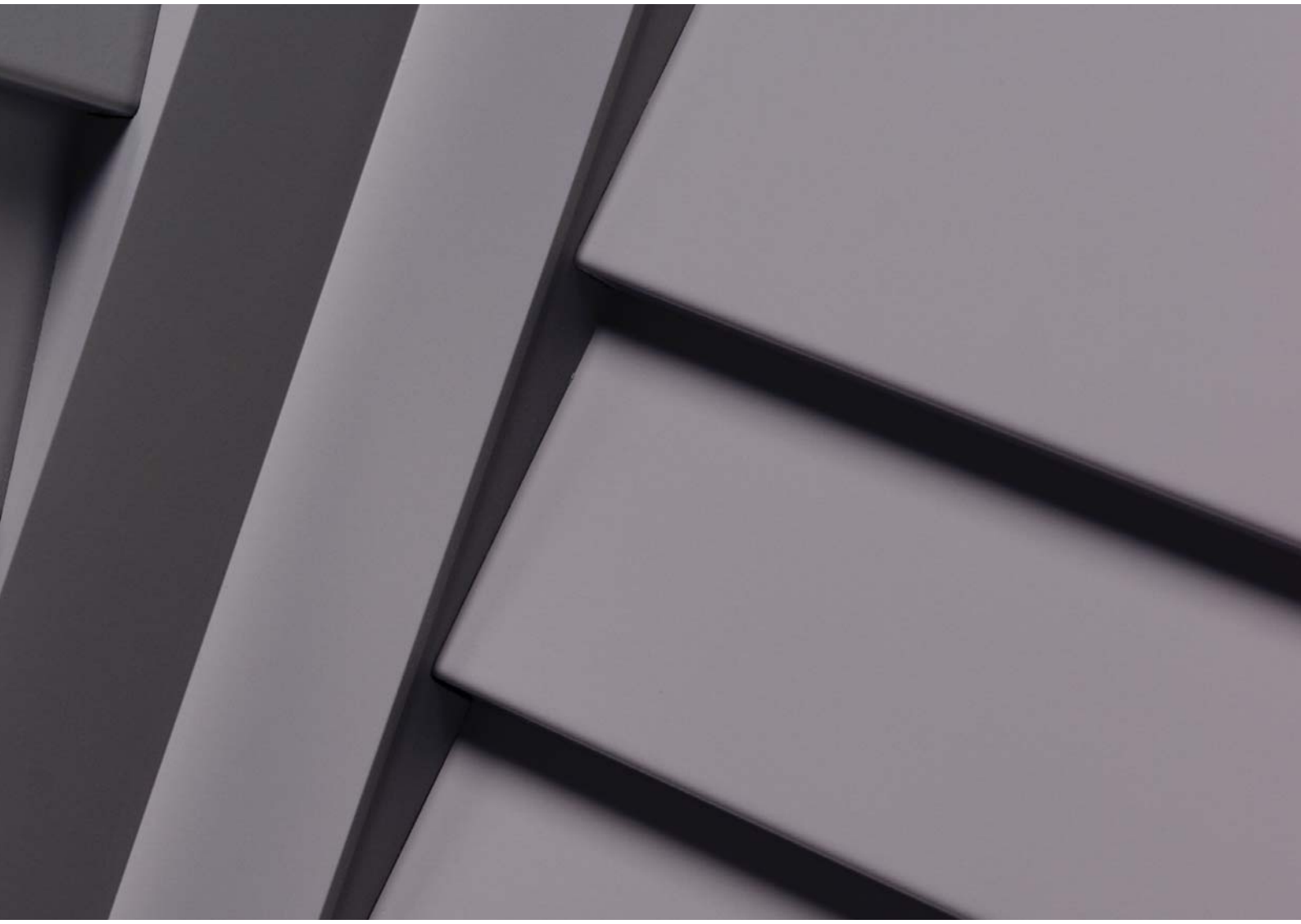
Cortex

Prefinished Weatherboards



Technical Manual

A Natural Advance in Cladding

NZ WOOD
For a better world

FSC
The mark of responsible forestry
SGS-COC-0889

PWP
Integrated. Genuine. Innovative.

Contents

We Value Your Feedback

To continue with the development of our products and systems, we value your input. Please send any suggestions, including your name, contact details, and relevant sketches to:

PWP

Fax 0800 808 988
feedback@pwp.co.nz

1 Introduction & Scope

Cortex is a solid timber weatherboard cladding system with a full factory applied top coat finish, it evolves this traditional product through the addition of new detailing and fixing methods. The Cortex system comes complete with all accessories including corner extrusions, scribers, cavity closers and flashings to make specification building and use a breeze.

The Cortex 100% factory finished weatherboard Acrylic Coating System™ (ACS) delivers a consistent 120 microns 'dry' film thickness to the exposed surfaces of each board. This ensures each board delivers lasting performance across its lifespan. The ACS finish delivers a good looking, smooth finish that manual application can't match.

Specifiers

This manual is designed to provide all the information required for the planning and specifying process. Please ensure that the project you are planning falls within the scope of this manual and don't hesitate to contact Cortex if you have any queries.

Builders & Installers

This manual will provide all the information necessary for correct installation of the Cortex cladding system. The characteristics of the pre-finished board require careful handling and a range of proprietary fixings and flashings to be used, therefore we urge you to adhere to the specified installation sequence to ensure correct installation. Please contact Cortex if you have any queries.

The Cortex Technical Manual is available for download from our website; please ensure that you have the most up-to-date manual. If you are unsure, please check the website or call us on **0800 CORTEX**.

1.1 Scope

Please Note: This manual only covers the installation of the Cortex System on a drained and vented cavity.

Cortex has been designed to be specified for domestic timber framed and light commercial buildings that fall within the scope of NZS 3604 and NZBC Acceptable Solution E2/AS1.

The Cortex System is a complete cladding solution and should be specified and installed according the details in this technical manual. Due to the pre-finished nature of the product only Cortex specified parts and accessories are to be used with the system, replacement or use of non-cortex flashings and accessories will invalidate the warranty.

1.2 Details

All key installation details are provided at the end of this manual. These can also be downloaded directly from **www.cortexcladding.co.nz**. Please ensure that you are using the most up-to-date details. If you are unsure, please check the website or give us a call on **0800 CORTEX**.

2 Design & Specification

2.1 Compliance

The Cortex System has been successfully tested to the requirements of E2/VM1 and meets the performance requirements of the NZBC E2/AS1. This test was conducted by an IASNZ accredited testing laboratory at BRANZ.

2.2 Responsibility

These specifications are specific to the installation of the Cortex System as a complete cladding solution and must be read in conjunction with the accompanying installation details and CAD files.

The specifier must apply this specification to each individual project, ensuring that the details in this specification are suitable for the intended application and that additional detailing and specific designs are produced where required.

The certified Cortex installer will install the system according to the details provided in this specification. For situations where details are not provided, please refer to NZBC E2/AS1.

2.3 Wind Loading

The Cortex System may be used as exterior cladding in NZS 3604 type constructions for all wind zones up to and including "Very High". The E2/VM1 weather-tightness testing verifies the systems performance up to a design differential ultimate limit state wind pressure of 2.5 kPa. The structural design of buildings situated in areas with a design wind speed of greater than 50 m/s (Very High) require specific engineering design. This also applies to window joinery.

2.4 Paint Selection

The Cortex weatherboards are pre-finished with our factory applied Acrylic Coating System™ (ACS). Pre-finishing does not mean restrictions in choice; the entire Resene colour range is available from which to choose a suitable shade. However, to ensure that the coating will last we recommend that the colour chosen has a Light Reflectance Value (LRV) between 40-100%. If a colour with a lower LRV is specified the durability of the coating cannot be guaranteed by Cortex and the 10 year warranty for the coating would not apply.

A sample of the specified colour will be sent to the customer for final sign-off three weeks from production. For guidance on safe, durable colours please contact Cortex or visit us at **www.cortexcladding.co.nz** for further details.

3 Installation Sequence

Cortex is a 100% pre-finished weatherboard system, as such, the installation sequence is important to retain the ultimate quality of finish. This section uses Installation Checklist below, and refers to sections with more detailed information about the specific area. This section should be read as a sequence before any installation is started.

The Cortex Pre-finished Weatherboard System is to be installed by accredited Cortex Installers (refer to section 3.1). The recommended installation sequence is listed in the checklist below.

Cortex Installation Checklist

STEP	TASK	SECTION	COMPLETE	PAGE
1	Framing	3.2	○	6
2	Building wrap and openings taped and trimmed	3.3	○	6
3	Fit window and doors into framed openings	3.3 3.9	○	8
4	Cavity Closer installed	3.4	○	6
5	All female parts of window/door/material transition flashings installed	3.8 3.9	○	8
6	Installation of cavity battens	3.4	○	8
7	Installation of the female part of all corner caps	3.7	○	7
8	Installation of Cortex Pre-Finished Weatherboards using the concealed fixing system	3.5	○	7
9	Preparation & installation of any vertical joins	3.6	○	7
10	Insert male parts of all 2-part head flashings	3.8 3.9	○	8
11	Finish corners with male part of corner cap	3.7	○	7
12	Scribe around windows, doors and meter boxes	3.9	○	8
13	Installation complete	3.1.4	○	

3.1 General

The Cortex Cladding System is broadly protected through Patent and Trademark in New Zealand and Internationally. NZ Pat Appln No. 564490 / PCT Pat Appln No. PCT/NZ2007/000372

3.1.1 The Installation Service

The Cortex System is a fully integrated cladding solution that manages the process from specification to completion, including the installation. Cortex is installed by an certified team that is trained to install the Cortex System according to the specifications and guidelines in this specification. For more information about the installation service, please contact Cortex directly or visit our website.

3.1.2 Transportation of Pre-Finished Boards & Accessories

All Cortex weatherboards are transported in a specially designed packaging system. This ensures that the pre-finished paint surface is protected from any potential damage during transit.

To unload the weatherboards from the truck, use a mechanical lifting device or unload the package containing the board by hand. Do not tip the boards from the truck.

3.1.3 Storage on-site

The boards should be kept in their original packaging on-site until the time of installation; the boards should only be removed from their packaging when they are being installed. When stored the Cortex pre-finished boards should be protected from unnecessary exposure to rain and sun. It is recommended that the board packages are Stored under cover.

3.1.4 Handling of Pre-Finished Boards & Accessories

The packaging will, in addition to the pre-finished boards, also contain the pre-finished corner caps, head flashings and scribers. Care must be taken when handling the pre-finished material to avoid any damage to the surfaces. Carry boards with their long section vertical to avoid bending of the board.

Do not place the board with the pre-finished face down, and do not stack the boards on top of each other as this can cause paint blocking.

Never use a hammer in contact with the pre-finished exposed surface.

3.2 Framing

This specification only covers the use of timber-framed buildings. Other framing materials are outside the scope of the Cortex Technical Specification Manual.

All framing must comply with the requirements of NZS 3604 Timber Framed Buildings. Specifically;

- The framing must be straight and true and within the tolerances allowed by Table 2.1 of NZS 3604
- The moisture content of the framing must not exceed 20%
- All framing sizes and set out must comply with NZS 3604 and studs, nogs/dwangs centred as required for cavity construction.
- Windows and meter box openings must be framed to give a 7.5mm minimum clearance between the reveal or window frame and the trimmed opening.

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 and dwangs must be fitted flush between the studs at maximum 800 mm centres.

3.3 Building Wrap

Building Wrap compliant with the NZBC Acceptable Solution E2/AS1 must be installed to the outer face of the wall framing. A wall wrap (including building papers and synthetic wall wraps) as per Table 23 Cavity Wall are suitable for use with the Cortex System.

The building wrap must be fixed in accordance with E2/AS1and the wrap manufacturer's recommendations:

- Run the building wrap horizontally and continuously around corners, do not join material around corners. Install the wrap taut and without any wrinkles.
- Have upper sheets lapped over lower sheets to ensure that direction of laps will allow water to be shed to the outside of the building wrap.
- Overlap the wrap with a minimum of 75 mm at horizontal joints.
- Overlap the wrap with a minimum of 150 mm over studs at vertical joints.
- Fix wrap according to manufacturer's specification.
- Dress wrap into all framed openings, including window, door, and meter box openings. Apply a compatible flexible flashing tape around the window and door joinery opening in accordance with the requirements of E2/AS1 and the manufacturer's instructions.

3.4 Drained & Vented Cavity

Please note: The Cortex System is currently only to be specified with a drained and vented cavity.

3.4.1 Cavity Design & Material

MATERIALS	FIXINGS
Cortex 20mm Cavity Batten	TBA (nail)
Cortex Cavity Closer	8Gx50mm self tapping screw

A drained and vented cavity is created by fixing the Cortex Cavity Batten over the framing in accordance with the requirements of the E2/AS1. The cavity is vermin proofed using the Cortex Cavity Closer with a minimum ventilation area of 1000m2 per lineal metre.

- The cavity must be drained and open to the exterior at the bottom of cavities such as at the bottom of the second storey junction and at the top of windows, doors, meter boxes and other penetrations.
- Where penetrations of the wall cladding are wider than the cavity batten spacing, allowance shall be made for air flow between adjacent cavities by leaving a minimum gap of 10 mm between the bottom of the vertical cavity batten and the flashing at the opening.

3.4.2 Cavity Closer Installation (Critical Detail)

The Cortex Cavity Closer is specially designed to interact with the Cortex Rear Bracket and also aligns the system. The bottom Weatherboard and Rear Bracket assembly of the wall rests on the cavity closer. Install the cavity closer before installing the cavity battens and this makes alignment of the cavity closer easier.

It is therefore imperative that the cavity closer is installed in level, to ensure a level and true installation of the weatherboards. A laser level should be used to align the cavity closer.

- Align the cavity closer to provide a minimum of 50mm overhang of the bottom weatherboard to the interior floor. Where possible position so that multiples of the 110mm pitch finish at the at the soffit.
- Terminate the cavity closer 25mm from either side of a corner (both internal and external) to allow sufficient room for corner flashings.
- The ventilation holes on the cavity closer must be kept clear and unobstructed to allow free drainage and ventilation of cavities.

Refer to installation detail C-03 Cladding to Ground

3.4.3 Cavity Batten Installation

Please Note: The Cortex Cavity Closer, female part of Cortex 2-part Head flashing and female part of Material Transition/End Cap must be installed before installing the cavity battens.

- Ensure that the cavity closer and the female part of Cortex 2-part Head Flashing and the female part of Material Transition/End Cap are installed prior to installing the cavity battens.
- Fix Cortex Cavity Batten onto all vertical framing members over the building wrap. Battens are to be fixed by the cladding fixings which penetrate the wall framing. Battens will therefore need only temporary fixing until the cladding is fixed.
- 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.
- Fix vertical cavity battens past the ends of the head flashings to form stop ends for the flashings.
- There must be no continuous horizontal battens below windows.

> Refer to installation detail C-01 Batten Set Out

3.5 The Concealed Fixing System

NZ Pat Appln No. 564490 / PCT Pat Appln No. PCT/NZ2007/000372

MATERIALS	FIXINGS
Cortex Rear Bracket	6Gx25mm gypsum screw
Cortex Bevelback Weatherboard	8Gx50mm self tapping screw

The concealed fixing system is unique to Cortex and eliminates any exposed penetrations of the pre-finished board ensuring that the finish retains its integrity.

The screws and brackets combine to offer better board-to-board assembly and installation, whilst the 300mm spaced diamond fixing pattern dramatically increases strength and wind resistance over existing nailed systems.

Pre-assemble the Rear Brackets to the pre-machined weatherboard using a 6Gx25mm Gypsum Screw. Position the rear brackets to be centred between studs, it is recommended to use a story stick to simplify the process.

When cutting the boards to length, ensure that they are cut to the correct alignment groove on the female corner extrusion. End seal all cut ends with cortex approved wood primer.

Refer to installation details C-04 External Corners or C-05 Internal Corners

Use the Cortex Alignment Tool to ensure that each board is installed with a consistent overlap and a board pitch of 110mm. Push tool hard up against the base of the top weatherboard and adjust the new board to suit. **Care must be taken in properly spacing the boards as any discrepancies will interfere with the pre-made Cortex Timber Scriber.**

Once the board is in place, fasten the top of the new weatherboard to the stud through the cavity batten with an 8Gx50mm Self Tapping Screw. Pre-drilling of the screw holes is recommended. The fastener should be placed at least 10mm in from the edge of the board to avoid splitting.

Refer to installation detail Fig C-06 a,b,c,d

3.6 Vertical Joins

MATERIALS	FIXINGS
Cortex Vertical Joint Strip	Sealant
Cortex Weatherboard with end cut	8Gx50mm self tapping screw
Cortex Rear Bracket	6Gx25mm gypsum screw

Fix the weatherboard in full wall lengths were possible. Where unavoidable, commit vertical joints only over a stud to ensure a stable joint.

The joint is secured with the Cortex Vertical Joint Strip; a polypropylene barbed joint strip that joins the ends of the boards to protect against moisture ingress. This will require two rear brackets on either side of the joint to provide stability and strength.

The vertical joint strip fits into a pre-machined slot on the edge of the weatherboards. The required number of boards with

pre-machined slots will be supplied with each job lot. The ends are pre-finished and do not require any further edge seal. Ensure that these are identified and chosen for the vertical joint installation.

- Create a sub-assembly by inserting the Cortex Vertical Joint Strip into the slot in one board and seal with the specified sealant. Assemble a rear bracket to the board, positioned as close to the stud as possible.
- Install the board sub-assembly on the wall and fasten the top of board onto the stud with a 8Gx50mm Self Tapping Screw.
- Prepare the next board with sealant in the slot and fasten the rear bracket to the board as close to the stud as possible. Align the slot with Cortex Vertical Joint Strip and tap the board into place, positioning it as close to the stud as possible.
- Slide the board sub-assembly onto the vertical joint strip, ensuring that the two boards are as close together as possible. Fasten the top of board with an 8Gx50mm Self Tapping Screw.

Refer to installation detail C-07

3.7 Corners

Please Note: The female part of the corner extrusion must be installed prior to the installation of the Weatherboards.

The Cortex Corner Cap forms a sleek and stylish version of the traditional boxed corner. It consists of two aluminium extrusions that clip together to form a strong and weather-tight corner. Two sets of extrusions are provided; separate sets for external and internal corners.

MATERIALS	FIXINGS
Cortex Corner Cap Female	8Gx50mm self tapping screw
Cortex Corner Cap Male	8Gx50mm self tapping screw
Cortex Timber Scriber	Sealant

CONFIGURATIONS	
90 degree External Corner	135 degree External Corner
90 degree Internal Corner	135 degree Internal Corner

- Fit the female corner cap to the cavity battens. Please note that this must be done before fixing the weatherboards. Fix the female corner cap with a 8Gx50mm Self Tapping Screw through the batten into the framing on both sides of the corner. Fixings should be no more than 800mm apart.
- Install the weatherboards as per specification, terminating at the correct alignment groove on the extrusion depending on the use of a cavity.
- Prepare the male extrusion for installation. Position the Cortex Timber Scriber into the grooves in the male corner cap; a line of sealant in the groove will hold the scriber in place.
- Apply a small amount of sealant to the face of the scriber that is facing the weatherboard and push the extrusion/scriber assembly into place by firmly tapping the extrusion together. Ensure that the scriber is adjusted into place. This is best achieved by starting at the base and working upwards.
- The male extrusion is pre-finished and must be handled with care. When tapping into place use only a rubber mallet. The extrusion is designed to be able to absorb any inconsistencies in the wall/frame; the barbs on the male part allow you to tap the extrusion until a straight assembly is achieved.
- Fix the male corner cap at the top and bottom with a 50mm 8G self tapping screw, no additional fixings are needed. (may not be required – no vertical movement so far)

Refer to installation details C-04 External Corners or C-05 Internal Corners

The corner cap system is designed for disassembly. Should a weatherboard need to be replaced, the male corner cap can be clipped off, the board replaced and the corner cap re-assembled.

3.8 Ends and Material Transitions

Please Note: The female part of Cortex End Cap must be installed before the cladding installation.

MATERIALS	FIXINGS

The End & Material Transition flashing is designed to terminate the weatherboards around (for example) a garage and to manage the transitions between the weatherboards and different cladding materials.

Install female part of flashing on cavity battens. Refer to installation detail.

Once the weatherboards are installed, finish the transition by installing the male flashing part. Fix the flashings together with sealant.

3.9 Windows, Doors & Meter Box

Please Note: The female part of Cortex 2-part Head Flashing must be installed before installing the cavity battens.

MATERIALS	FIXINGS
Cortex 2-Part Head Flashing female	Screw
Cortex 2-Part Head Flashing male	Sealant
Cortex Window Timber Scriber	Sealant, Nail

This specification applies to aluminium windows and doors as specified in E2/AS1 paragraph 9.1.10. Please note that timber windows and doors; bi-fold, sliding and non-hinged windows; and doors and windows with a frame size larger than 5000mmx5000mm are not covered by E2/AS1 and must be submitted to the Building Consent Authority as an Alternative Solution.

All windows installed with the Cortex System must comply with NZS 4211 for the relevant Building Wind Zone, or be

specifically designed for use in specifically designed buildings, have a minimum 10 mm flange cover over the cladding, and be installed according to the details in this specification.

No sill flashing is required for cavity installation, as per E2/AS1 paragraph 9.1.10.2.

The Cortex 2-Part Head Flashing is to be used with windows, doors and meter boxes.

Before cavity batten and cladding installation:

- Fit windows, doors and meter boxes into the framed and prepared openings of the wall.
- On completion, fit air seals around all window and door openings as specified.
- Install the female part of 2-part head flashing which comes complete with a cavity closer. Seal to the building wrap with additional building wrap or flexible flashing tape as per specification.
- Install Cortex Cavity Battens as stop ends for the head flashing.

Refer to installation detail C-08

After completing the cladding installation:

- Fit the Cortex Window Scriber around the jambs.
- Fit the male part of Cortex 2-Part Head Flashing into the female part. Adhere and seal with sealant. Push the male part of the head flashing up against the joinery and seal.
- Use the bottom part of a Cortex Weatherboard cut to size as a sill board.

Refer to installation details C-08, C-09 & C-10

3.10 Finishing

Cortex weatherboards are pre-finished with a total paint thickness of 120 microns on exposed surfaces and do not require any additional finishing after completed installation.

Ends cut on site must be finished with an end sealer.

4 Maintenance

The Cortex System is designed for low maintenance. If cared for properly, it will stay looking great and protect your home for a long time. Please follow the instructions below.

4.1 Washing

Cleaning your house will help it maintain its good look for longer. However, it is very important that the cleaning is done to the Cortex & Resene specification as incorrect cleaning can damage the painted surface and decrease the life span of the protection.

Annual washing of your home is recommended to maintain the fresh appearance of the paint work. This prevents airborne contaminants, including salt deposits which can attack the surface and cause premature breakdown, from settling on the paint film. Moss and lichen can also penetrate the surface of the film, while mould growth can destroy the chemical entity of the resin system that holds the paint system together. The presence of moss, mould and lichen will retain moisture on the painted surface, promoting further growth of these organisms and increasing the risk of damage to the coating. Removal using the appropriate washing procedure will increase the life of the coating and maintain the aesthetic properties of the paint finish.

For an instant fresh appearance, wash down the home with Resene Paint Prep and House wash diluted as recommended with water. Apply the diluted solution with a soft broom. Wash off with copious amounts of fresh water.

Never use a high-pressure sprayer/hose on your painted surfaces.

If you are planning to wash down a freshly painted surface, wait at least four weeks from completion of the painting job to give the paint time to fully cure. The Cortex weatherboards will be installed fully cured and can, if needed, be washed down on completion of the building works.

Avoid letting the run off wash into the storm water system as most detergents have a negative effect on fish life.

4.2 Touch-up Painting

A small test pot with the chosen house colour is provided for touch-up painting. Attend to any areas where the pre-finished paint film may have been broken. Ensure that the surface you are painting on is clean and dry before application.

For the repairs, sand to a smooth even surface, not a rough cut please, apply a coat of SXL primer working it into the grain with a brush or if sprayed roller it into the grain, leave as long as possible and then apply Modoglaze undercoat by the same method.

For bare timber exposed that requires filler, apply SXL to the bare area, use exterior grade filler, sand smooth, apply two Modoglaze allowing to dry between coats.

4.3 Re-Paint

Cortex Pre-Finished Weatherboards are covered by a 10 year conditional warranty if maintained properly. After this period it is

recommended that the house is re-painted.

Prepare the surface as to the paint manufacturer's specification and re-paint. We recommend that a colour with a LRV over 40% is chosen.

The pre-finished surface can be re-painted in another colour at any point as this will not destroy or impact on the pre-finished surface.

4.4 Replacement of Damaged Weatherboards

The Cortex Cladding System is designed for disassembly and can, if needed be taken apart without damaging the integrity of the system.

If a weatherboard for some reason gets damaged the corner extrusion can be un-clipped and the affected weatherboards replaced.

Any repair work must be done by a certified Cortex Installer to ensure the validity of the warranty. Please contact Cortex directly if any replacements are needed.

5 Warranty

5.1 Introduction (Informative)

A key principle of the Cortex Direct product is to provide the customer with a real warranty that is subject to few conditions. PWP controls all aspects of the manufacture and installation of Cortex Direct so that PWP can provide a "Single Point of Trust" warranty to the customer.

Our research and development over 3 years has resulted in a product with the following features to support the warranty;

1. A factory finished, advanced acrylic coating system for all sides of the weatherboard.
2. A patented fixing system so there are few penetrations of the coated surface.
3. A stable substrate made from sustainable solid timber – treated with the latest preservatives to prevent rot and insect attack.

Our research has shown that under normal climatic conditions 10 years is the most economical cycle for the homeowner to reapply the finish coat. At 10 years the Cortex system will only require minimal preparation labour prior to applying two quality Acrylic top coats.

The Cortex timber is sourced from sustainably managed Forest Stewardship Council (FSC) certified plantation grown Radiata Pine. The product is manufactured and preserved to the relevant NZ standards for exterior cladding products.

Summary of Warranty

AREA	WARRANTEED BY PWP	CONDITIONS	EXCLUSIONS
Coating	10 years against chipping & delamination	Annual cleaning as per specification	Discoloration
			Fading
Weatherboard	25 years against production defect, rot or borer.	Maintained	External Damage
		Damage Repaired	Settlement

5.2 Product Warranty (Normative)

5.2.1 10 Year Coating Warranty

Pacific Wood Products "PWP" warrants for a period of 10 years from the date of purchase the Advanced Coating System (ACS) of the Cortex Weatherboards and accessories against delaminating, cracking and chipping subject to the conditions below.

5.2.2 20 Year Cortex Weather Board and Accessories Warranty

Pacific Wood Products "PWP" warrants for a period of 20 years from the date of purchase the Cortex Weatherboard and Cortex Accessories will be free from production defects, will be resistant to cracking, rotting and damage from borer attack to the extent set out in the conditions below.

5.2.3 Conditions of Warranties

The warranty is strictly subject to the following conditions.

a. Claim notification: PWP will not be liable unless a written claim is notified to PWP within 60 days of the defect becoming apparent.

a. Installation: The Cortex weatherboard and accessories must be installed by PWP or an agent of PWP authorised and trained in the correct methods of installing the Cortex System.

a. Cleaning: The Cortex weatherboard and accessories must be washed at least annually in accordance with the Resene Exterior Paintwork process and products. In salt laden environments cleaning must be carried out at least 4 times per year. This cleaning will remove salt deposits and contaminants that can attack the paint film and cause premature breakdown of the ACS.

a. Repairs by Owner: Damage to the Cortex weatherboard can be repaired with normal good building practices. In the event of major damage whole lengths of weatherboard should be replaced with either Cortex weatherboard or a similar high quality timber weatherboard system manufactured in accordance with NZS 1491 and preserved in accordance with NZS 3640.

a. Repairs with Cortex: Repairs using Cortex Direct in accordance with Cortex product application instructions will automatically comply with the conditions of this warranty. Slight colour differences may be experienced with replacement parts.

a. Fading: In common with all exterior surface coatings the colour of your paint finish may be affected by U.V. light over the period of the warranty. Any changes will be gradual.

a. Damage: PWP is not liable to repairs necessitated by damage due to unreasonable impact, structure movement, poor design or detailing of the structure, acts of God, including but not limited to earthquakes, cyclones, floods or other severe weather conditions.

a. Non-transferable :This warranty is not transferable.

a. The building works in which the Cortex System has been incorporated must be designed and constructed in strict compliance with all the relevant provisions of the current New Zealand Building Code, NZBC, regulations and standards, and the Building Consent relating to the building works.

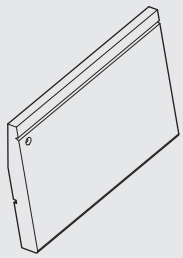
a. Remedy options: The customers sole remedy under this warranty is (at PWP's option) that PWP will either supply and install replacement products, rectify the affected products or pay for the cost of the replacement or rectification of the affected products.

a. Liability limitation: PWP will not be liable for any losses or damages (whether direct or indirect) including property damage and personal injury, consequential loss, economic loss or loss of profits arising in contract or negligence or howsoever arising. Without limiting the foregoing PWP will not be liable for any claims, damages or defects arising from or in any way attributable to poor design, non-compliance with operative Cortex application/fitting instructions, poor workmanship in the building structure, settlement or structural movement and/or movement of materials to which the product is attached.

a. Exclusions: All warranties, conditions, liabilities and obligations other than those specified in this warranty are excluded to the fullest extent permitted by law. This warranty does not exclude or modify any legal rights a customer may have under the Consumers Guarantee Act 1993.

6 Cortex Parts & Accessories

6.2.1 Cortex™ Timber Components

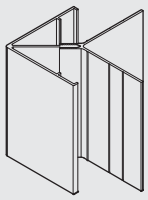


Cortex™ Bevel Back Weatherboard
Material: Engineered Solid Core Radiata Pine, H3.1, Cortex ACS™ Prefinished

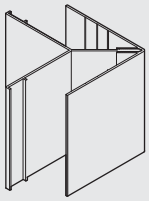
Cortex™ Concealed Weatherboard Fixing System
Material: Zytel 101F Nylon

Cortex™ Timber Scriber
Material: Engineered Solid Core Radiata Pine, H3.1, Cortex ACS™ Prefinished

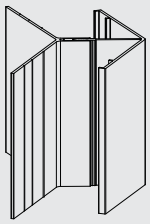
6.2.2 Cortex™ Metal Components



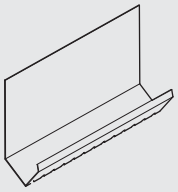
Cortex™ External Corner Joint
Material: Aluminum 6060 T5
Cortex ACS™ Prefinished



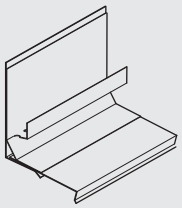
Cortex™ Internal Corner Joint
Material: Aluminum 6060 T5
Cortex ACS™ Prefinished



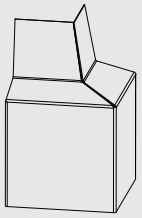
Cortex™ 135° External Corner Joint
Material: Aluminum 6060 T5
Cortex ACS™ Prefinished



Cortex™ Cavity Closer
Material: Galvanized Steel 0.55mm

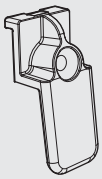


Cortex™ 2-part Head Flashing
Material: Galvanized Steel 0.55mm



Cortex™ External Termination
Material: Galvanized Steel 0.55mm

6.2.3 Cortex™ Plastic Components

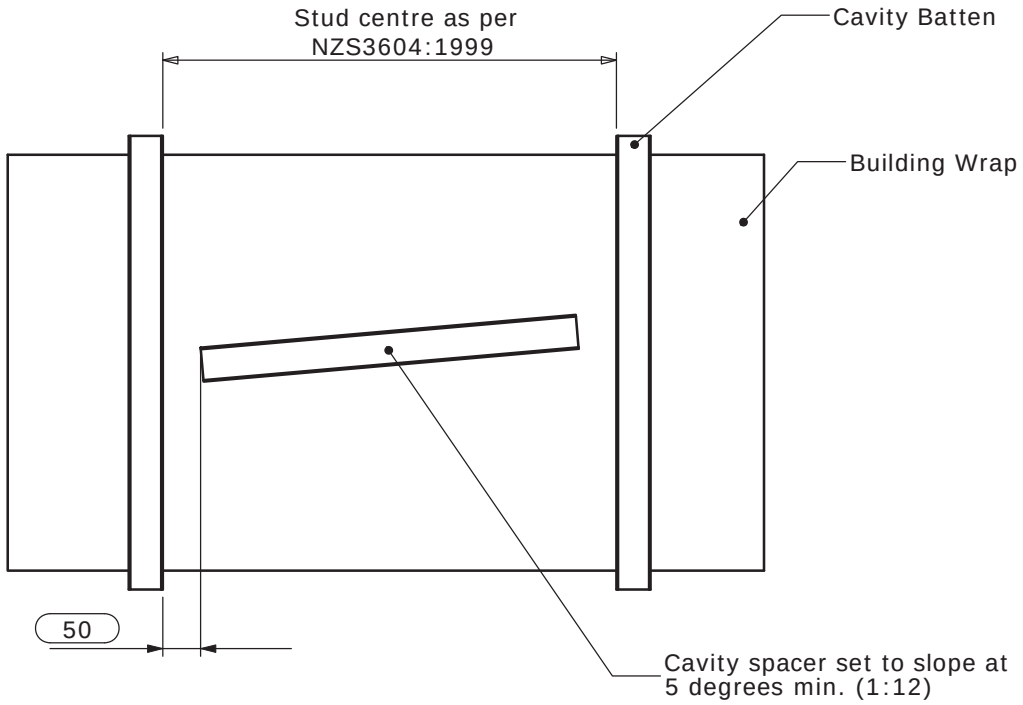


Cortex™ Concealed Weatherboard Fixing System
Material: Zytel 101F Nylon

Cortex™ Vertical Joint
Material: Polypropylene

7 Installation Details: Cavity

C -FIGURE NO		CORTEX INSTALLATION DETAIL (PDF)
C - 01		Batten Set Out
C - 02		Cladding to Enclosed Deck
C - 03		Cladding to Ground
C - 04		External Corner
C - 05		Internal Corner
C - 06	a,b,c,d	Horizontal Joint
C - 07		Vertical Joint
C - 08		Aluminium Window Head
C - 09		Aluminium Window Sill
C - 10		Aluminium Window Jamb
C - 11		Meter Box Head
C - 12		Meter Box Jamb
C - 13		Meter Box Sill
C - 14		Parapet & Balustrade to Wall Junction - Saddle Install
C - 15		Parapet & Balustrade to Wall Junction - Saddle Flashing
C - 16		Parapet & Balustrade to Wall Junction
C - 17		Parapet &Balustrade - Metal Capping
C - 18		Parapet & Balustrade - Corner Junction
C - 19		Interstory Joint
C - 20		Cladding to Soffit - Flat
C - 21		Cladding to Soffit - Angled
C - 22		Cladding to Soffit - Raked Reversed
C - 23		Gutter Wall Junction
C - 24		Apron Flashing
C - 25		Pipe Penetration
C - 26		Stanchion Fixing



Cortex
Prefinished Weatherboards

Fig C-01 Batten Set Out

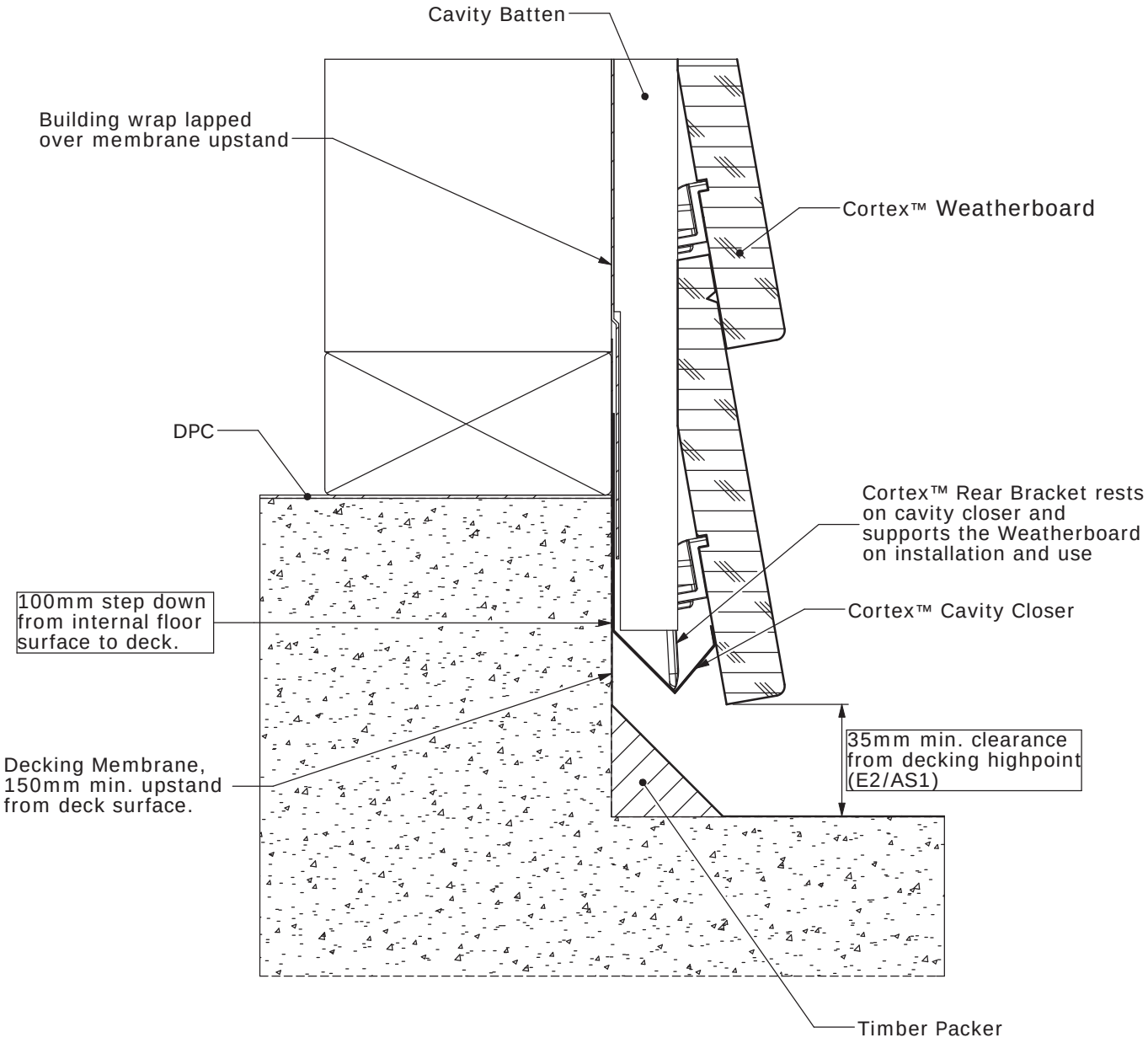
8/04/2008

Cortex Installation Details

Sheet Size: A4
Sheet Scale: 1:2

Bevelback Weatherboard - Cavity - Batten Set Out

Cortex_BVB_BattenSetOut



The Cortex™ Cavity Closer has been tested and acctepted as an Alternative Solution according to the ES/AS1 by BRANZ.

Cortex
Prefinished Weatherboards

Fig C-02 Cladding to Enclosed Deck

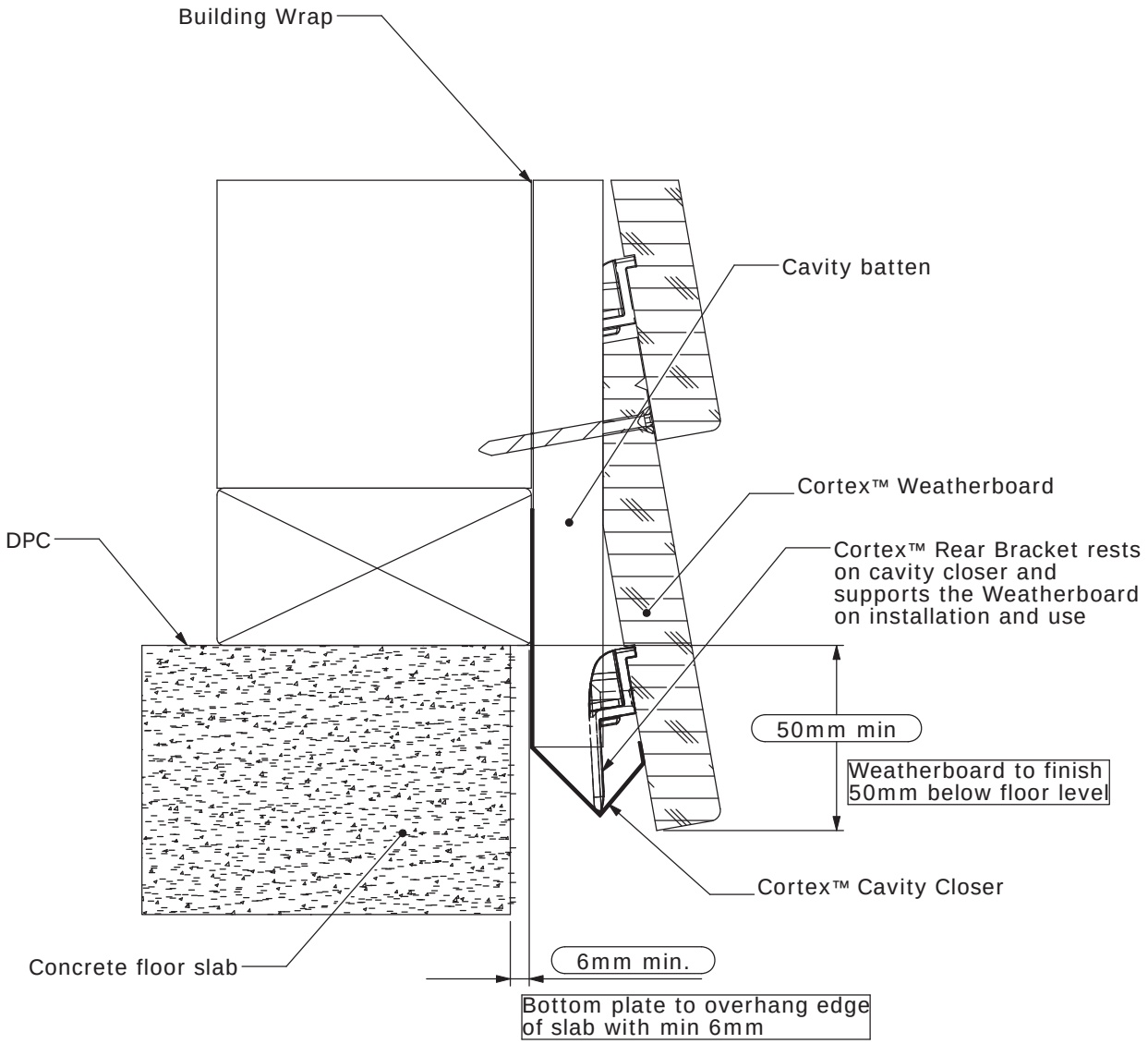
8/04/2008

Cortex Installation Details

Sheet Size: A4
Sheet Scale: 1:2

Bevelback Weatherboard - Cavity - Cladding to Enclosed Deck

Cortex_BVB_CladdingToEnclosedDeck



The Cortex™ Cavity Closer has been tested and acctepted as an Alternative Solution according to the ES/AS1 by BRANZ.

Cortex
Prefinished Weatherboards

Fig C-03 Cladding to Ground

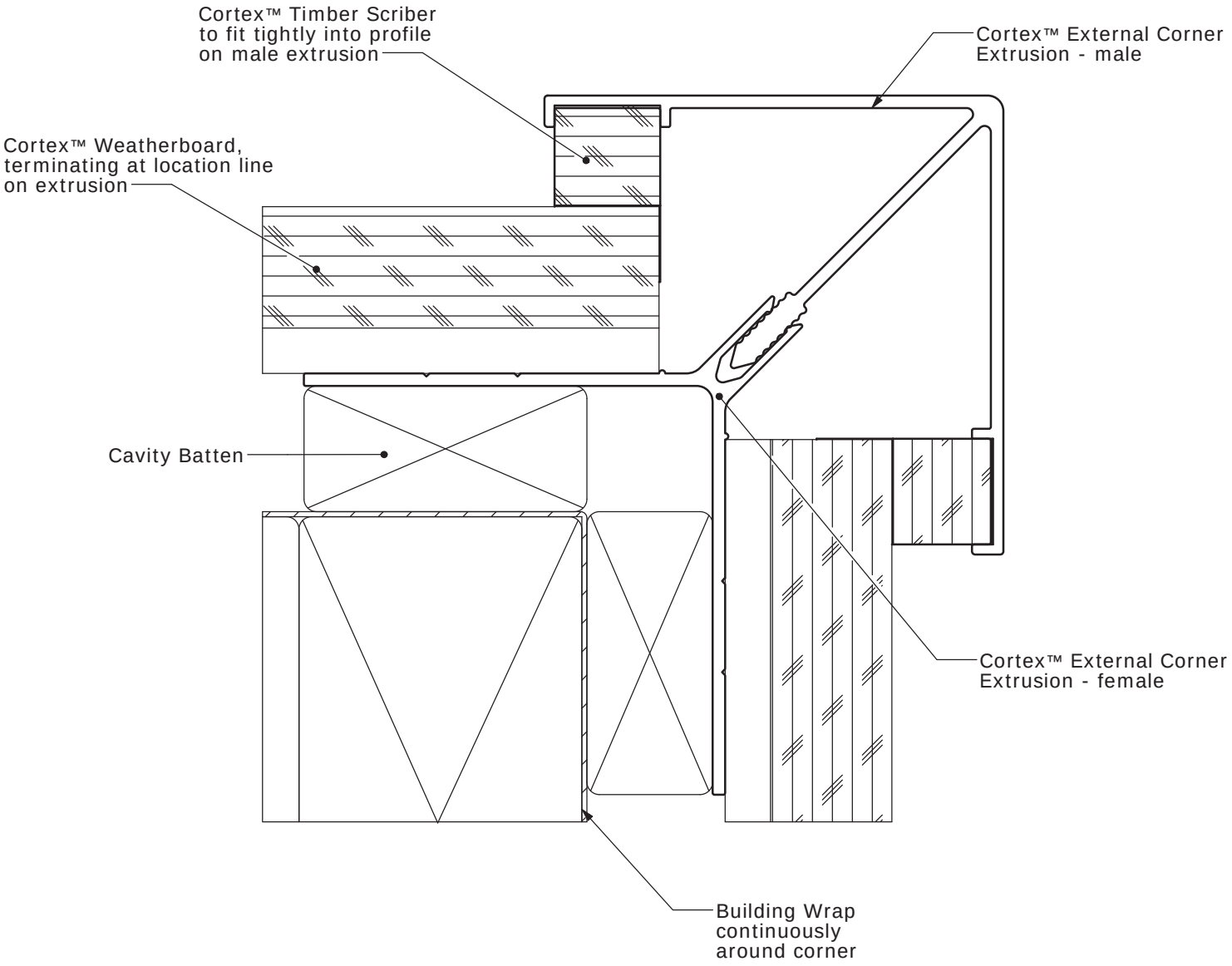
8/04/2008

Cortex Installation Details

Sheet Size: A4
Sheet Scale: 1:2

Bevelback Weatherboard - Cavity - Cladding To Ground

Cortex_BVB_CladdingToGround



Cortex
Prefinished Weatherboards

Fig C-04 External Corner

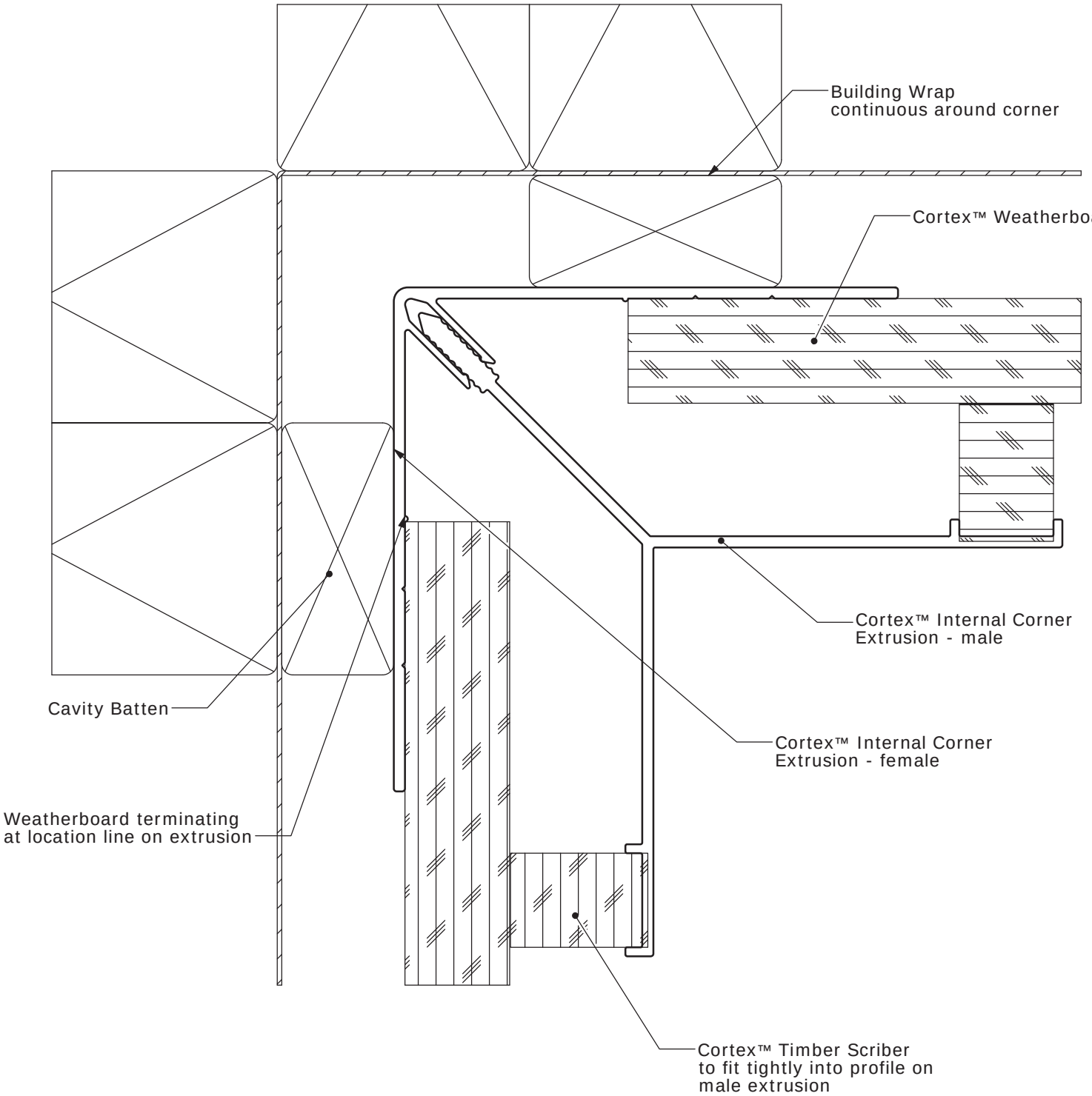
8/04/2008

Cortex Installtion Details

Sheet Size: A4
Sheet Scale: 1:1

Bevelback Weatherboard - Cavity - External Corner

2901-05-ExternalCorner



Cortex
Prefinished Weatherboards

Fig C-05 Internal Corner

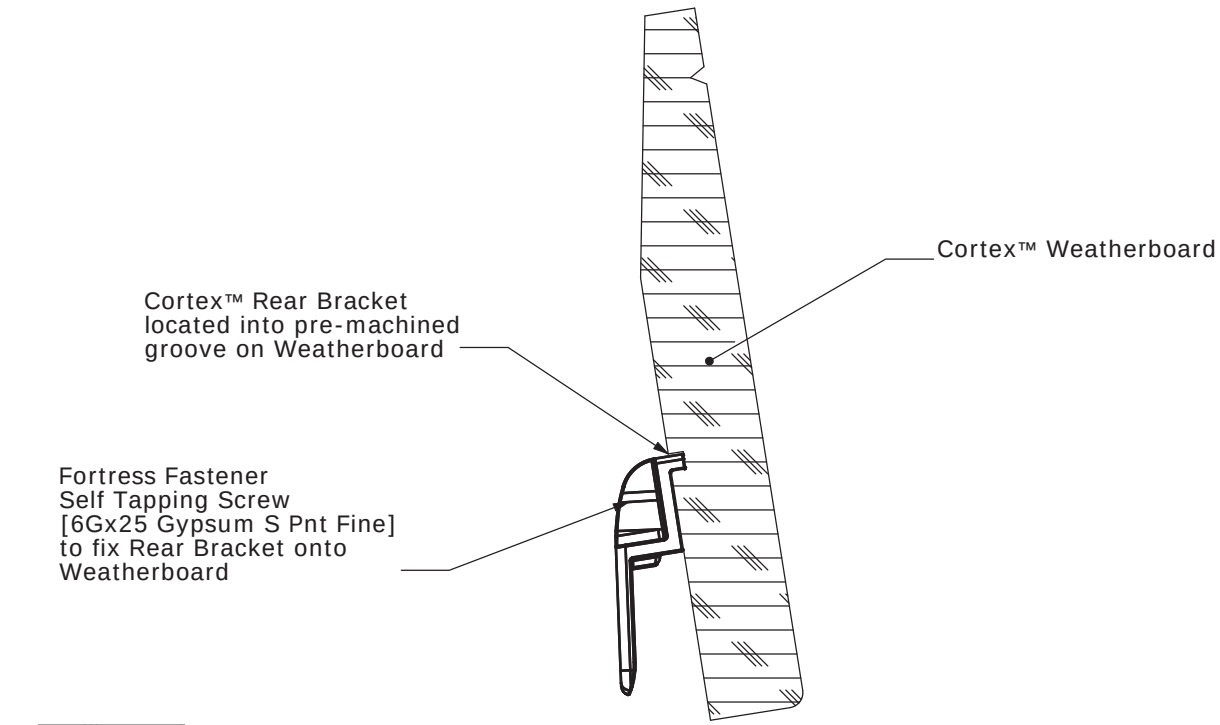
8/04/2008

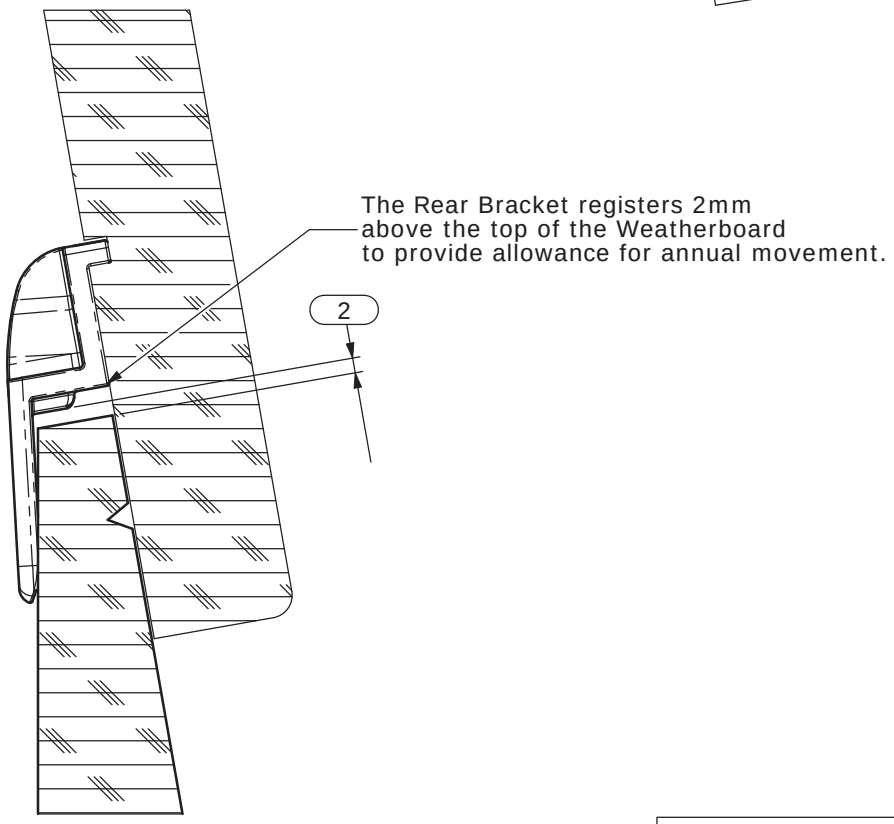
Cortex Installation Details

Sheet Size: A4
Sheet Scale: 1:1

Bevelback Weatherboard - Cavity - Internal Corner

2901-05-InternalCorner





The Cortex™ Rear Bracket is pre-assembled onto Weatherboard before assembly to framing. General spacing of brackets are determined by detail DF-06d, for a specific scenario please refer applicable installation detail.

Cortex
Prefinished Weatherboards

Fig C-06a Fixing System

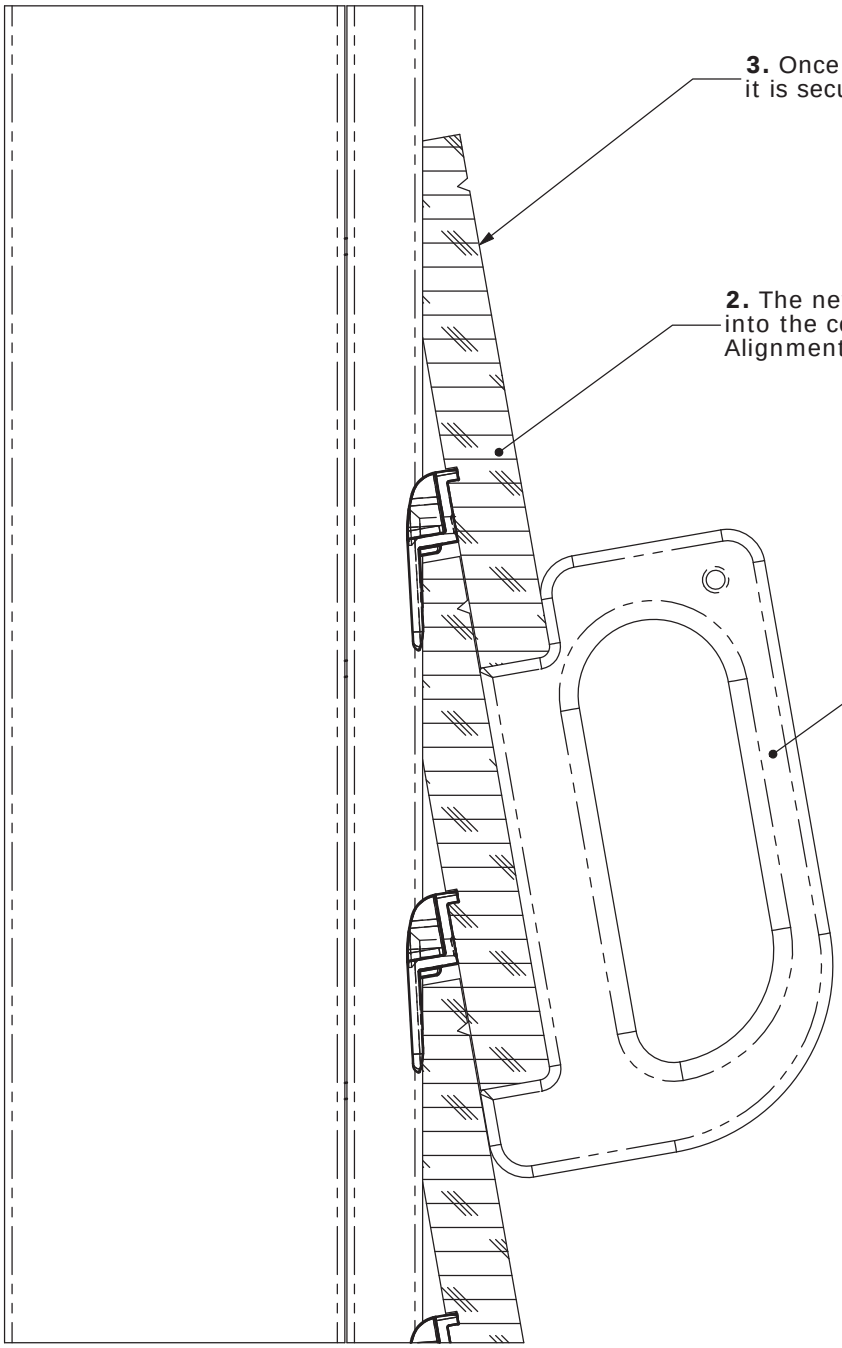
8/04/2008

Cortex Installation Details

Sheet Size: A4
Sheet Scale: 1:1

Bevelback to Weatherboard - Direct Fixed - Horizontal Joint

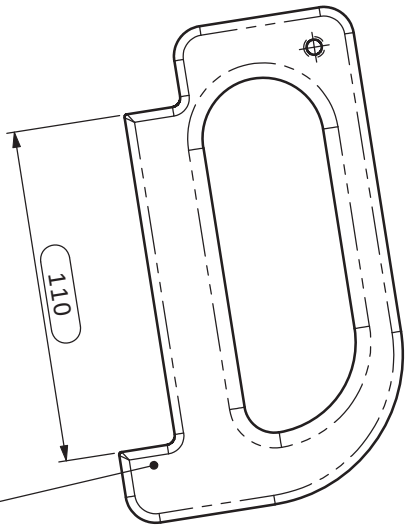
2901-05-RBR&Weatherboard



3. Once the Weatherboard is in place it is secured at the top.

2. The new Weatherboard is located into the correct position by the Alignment Tool.

1. The Alignment Tool is pushed hard up against the bottom of the previously installed weatherboard.



Cortex™ Alignment Tool is used to index the Weatherboards at a 110mm pitch. This ensures a consistent board overlap and correct spacing between the Rear Bracket and the top of the Weatherboard.

Cortex
Prefinished Weatherboards

Fig C-06b Fixing System

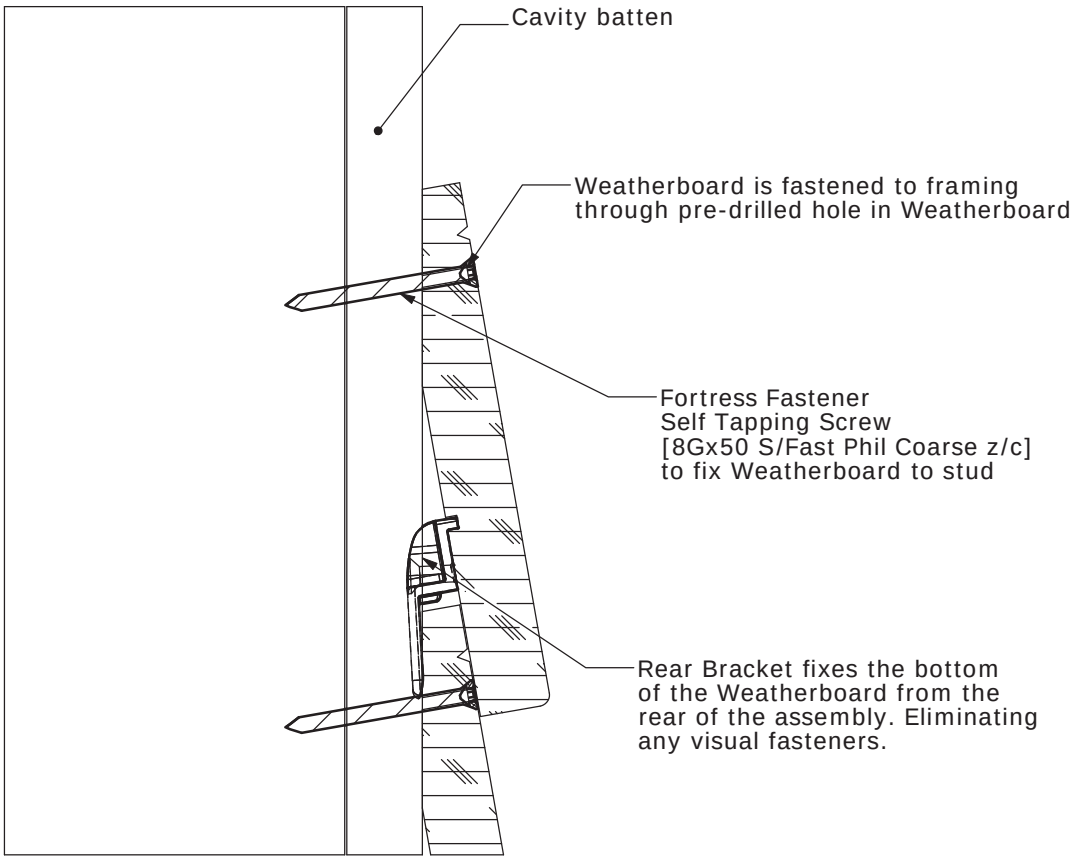
8/04/2008

Cortex Installation Details

Sheet Size: A4
Sheet Scale: 1:2

Bevelback Weatherboard - Cavity - Horizontal Joint - Indexing

2901-05-CladdingToGround_V5



Cortex
Prefinished Weatherboards

Fig C-06c Fixing System

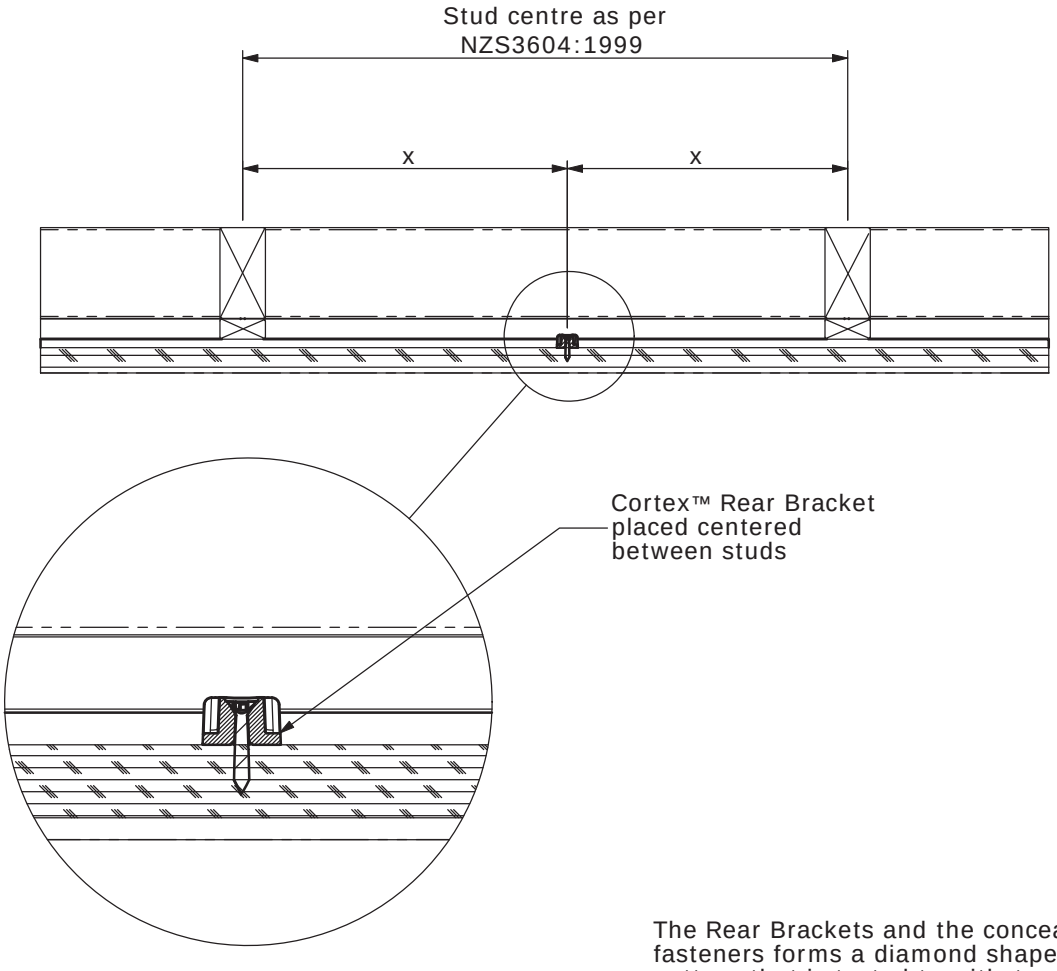
8/04/2008

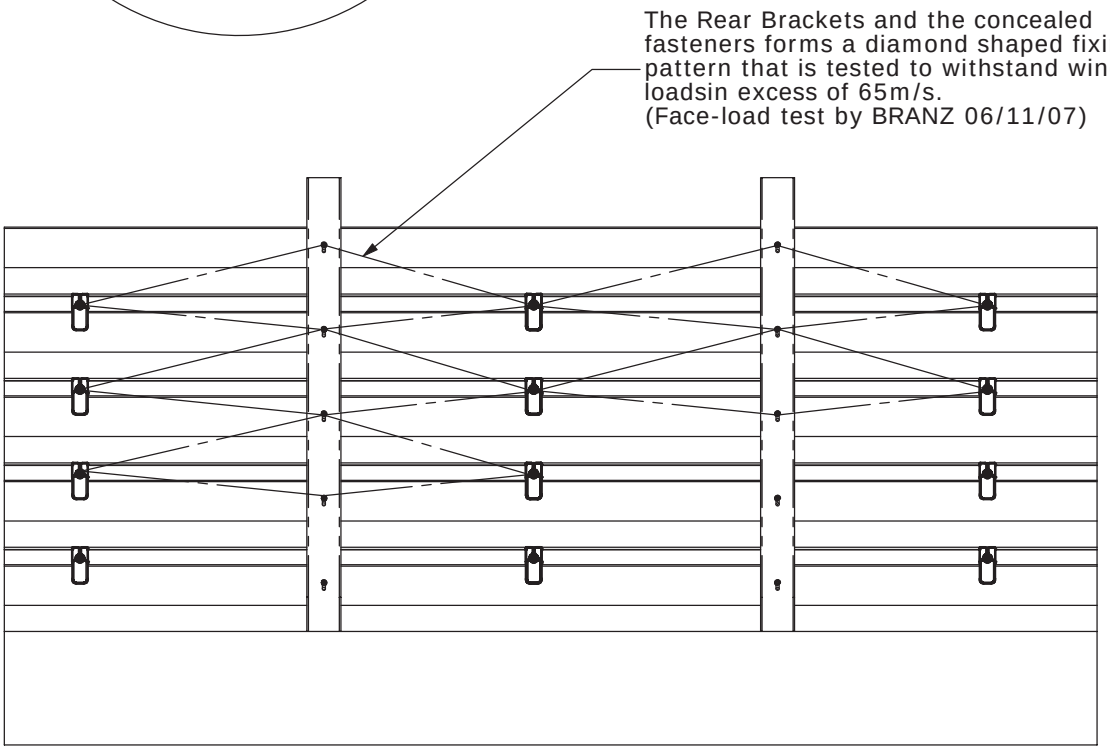
Cortex Installation Details

Sheet Size: A4
Sheet Scale: 1:2

Bevelback Weatherboard - Cavity - Cladding To Ground

2901-05-CladdingToGround_V5





Please Note:
This detail only covers Rear Bracket placement for a typical wall. Please refer to specific installation details for special scenarios.

Cortex
Prefinished Weatherboards

Fig C-06d Fixing System

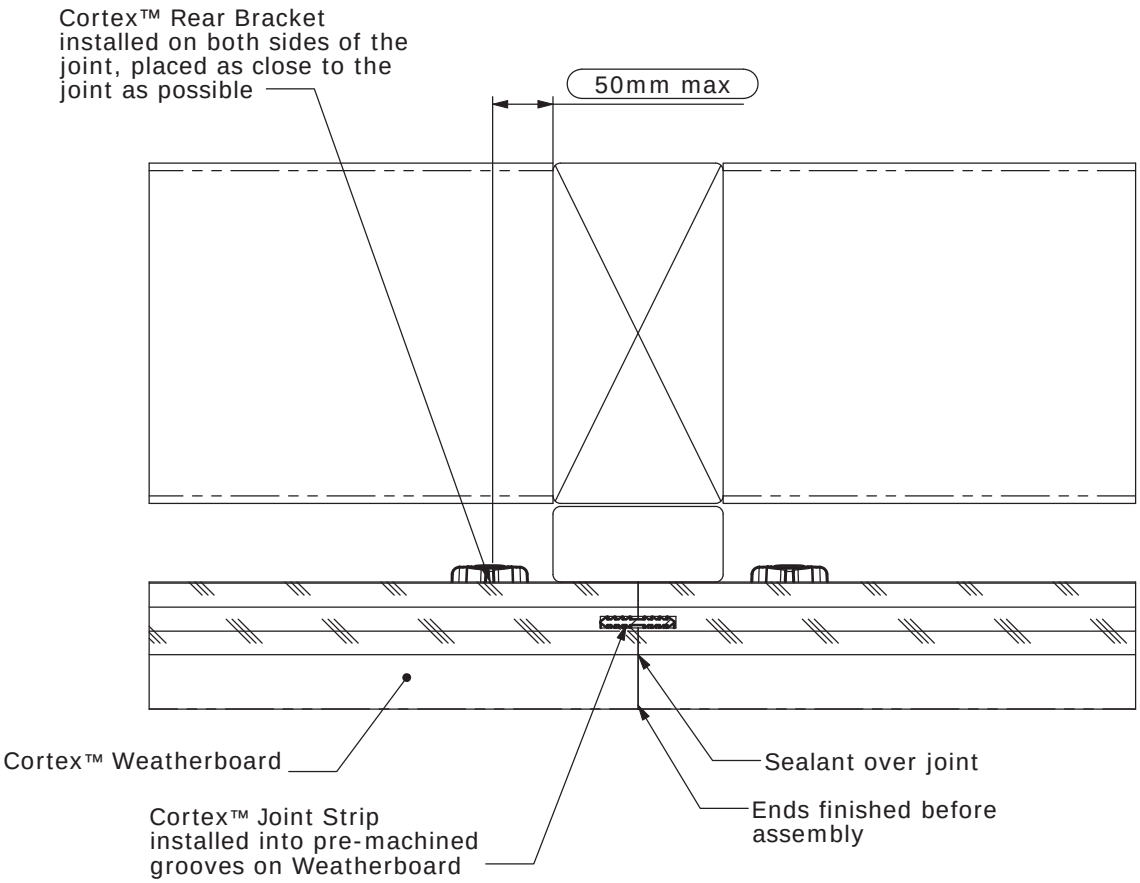
8/04/2008

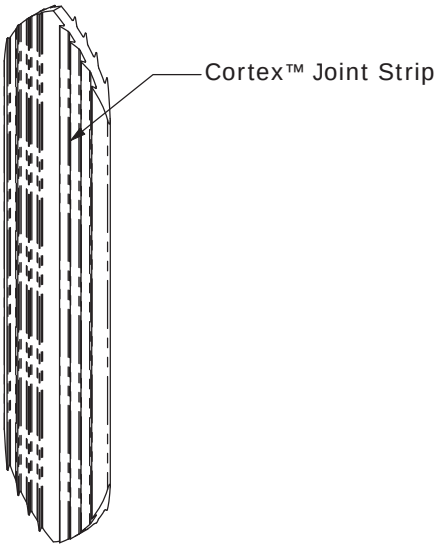
Cortex Installation Details

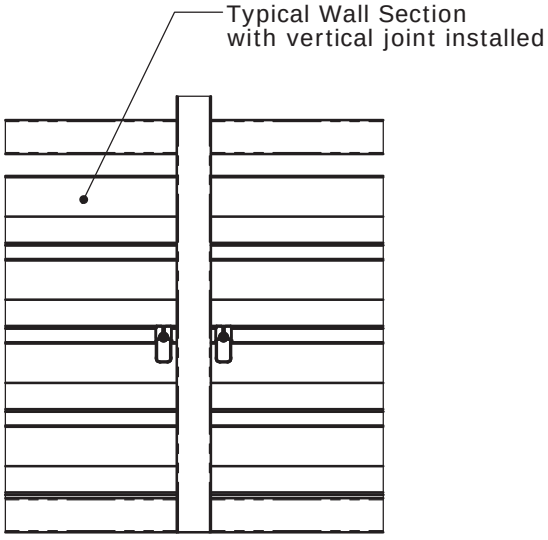
Sheet Size: A4
Sheet Scale: 1:2

Bevelback Weatherboard - Cavity - Cladding To Ground

2901-05-CladdingToGround_V5







Cortex
Prefinished Weatherboards

Fig C-07a Vertical Joint

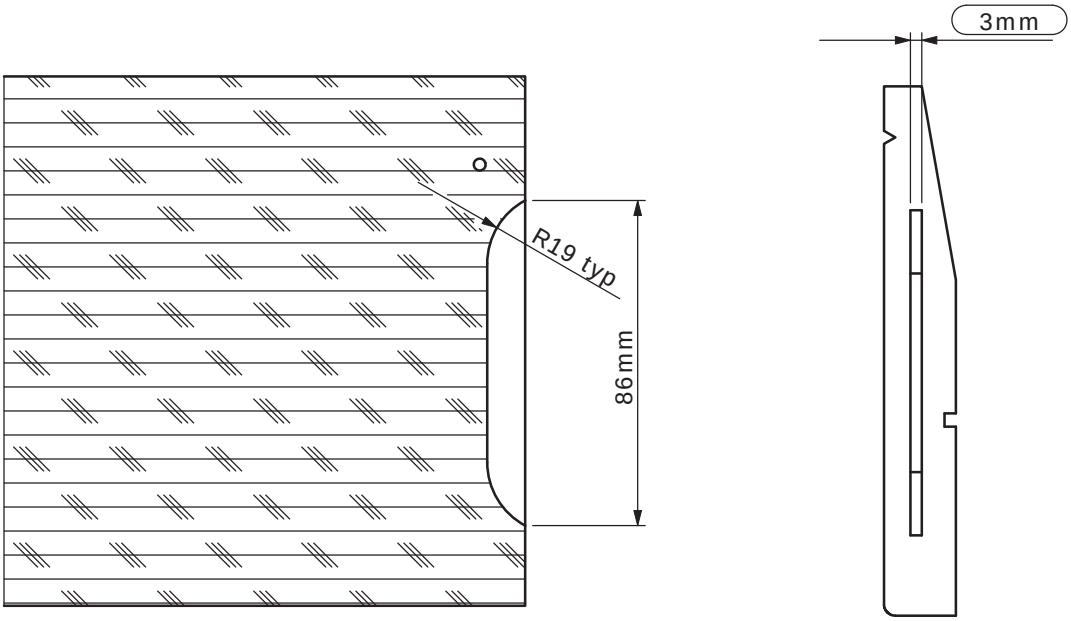
8/04/2008

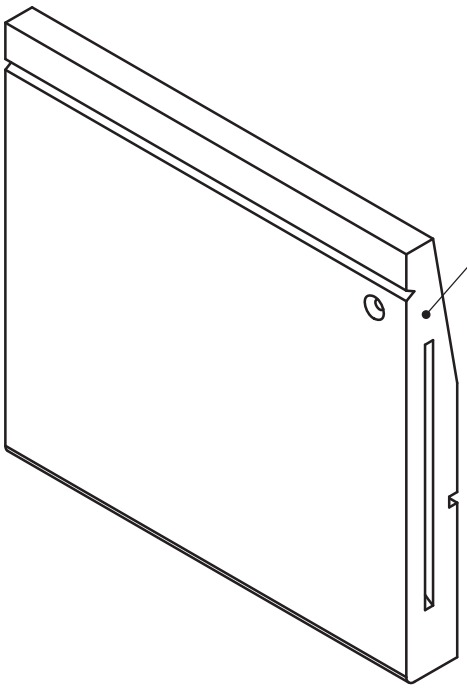
Cortex Installation Details

Sheet Size: A4
Sheet Scale: 1:2

Bevelback Weatherboard - Cavity - Vertical Joint

2901-05-VerticalJoint





Board ends must be painted after machining ad before assebly. Sealant is then used to seal the assembled joint.

Cortex
Prefinished Weatherboards

Fig C-07b Vertical Joint

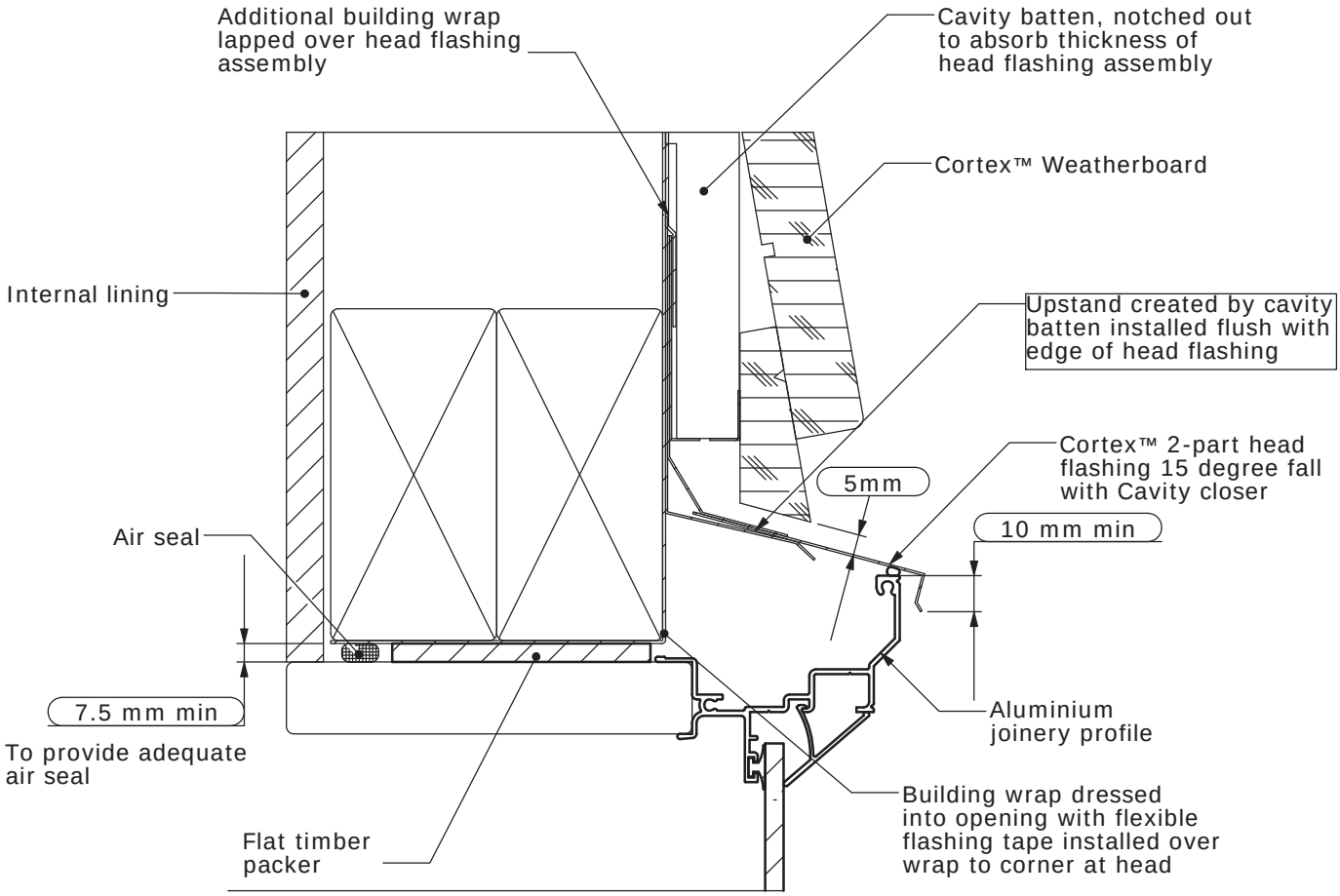
8/04/2008

Cortex Installation Details

Sheet Size: A4
Sheet Scale: 1:2

Bevelback Weatherboard - Cavity - Vertical Joint

2901-05-VerticalJoint



The Cortex™ Head Flashing has been tested and acctepted as an Alternative Solution according to the ES/AS1 by BRANZ.

Cortex
Prefinished Weatherboards

Fig C-08 Aluminium Window Head

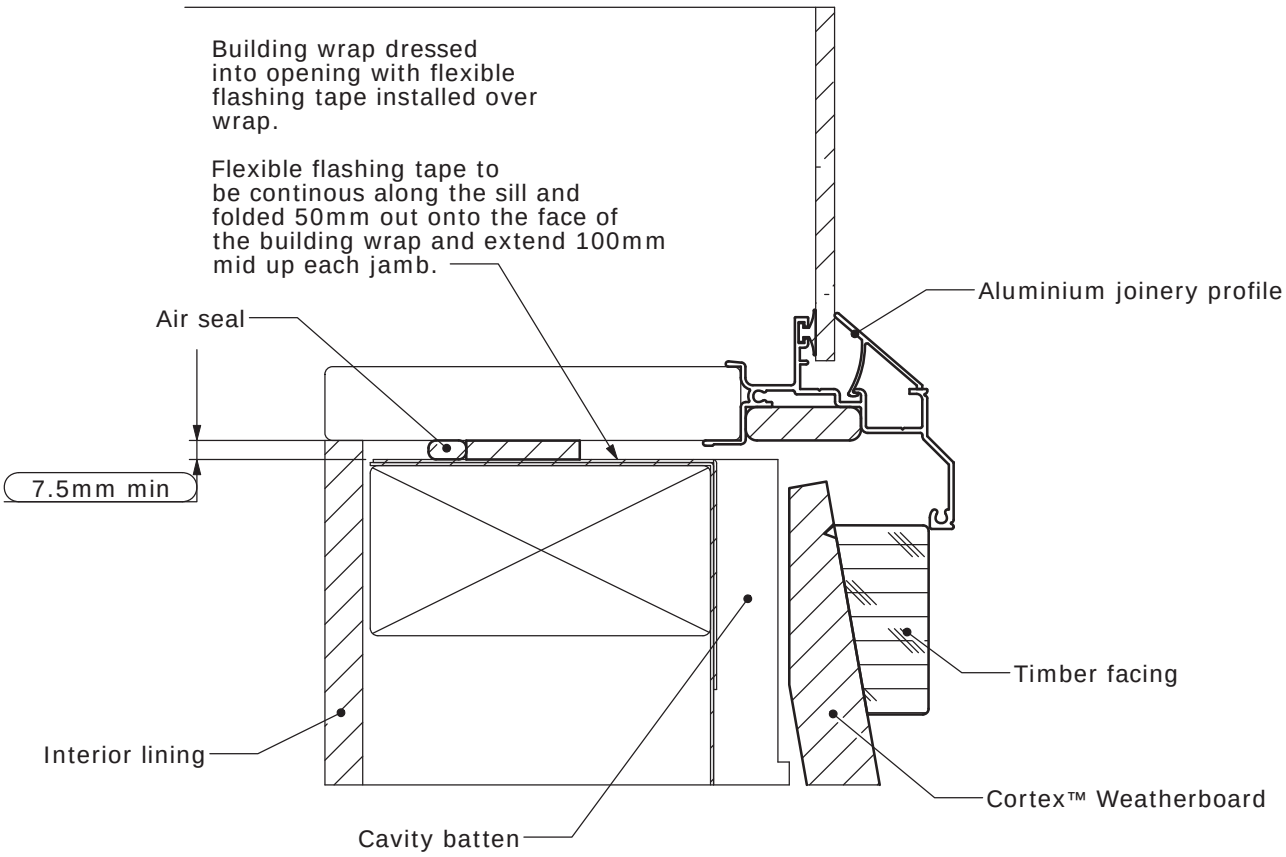
8/04/2008

Cortex Installation Details

Sheet Size: A4
Sheet Scale: 1:2

Bevelback Weatherboard - Cavity - Aluminium Window - Head

Cortex_BVB_AluminiumWindow



Cortex
Prefinished Weatherboards

Fig C-09 Aluminium Window Sill

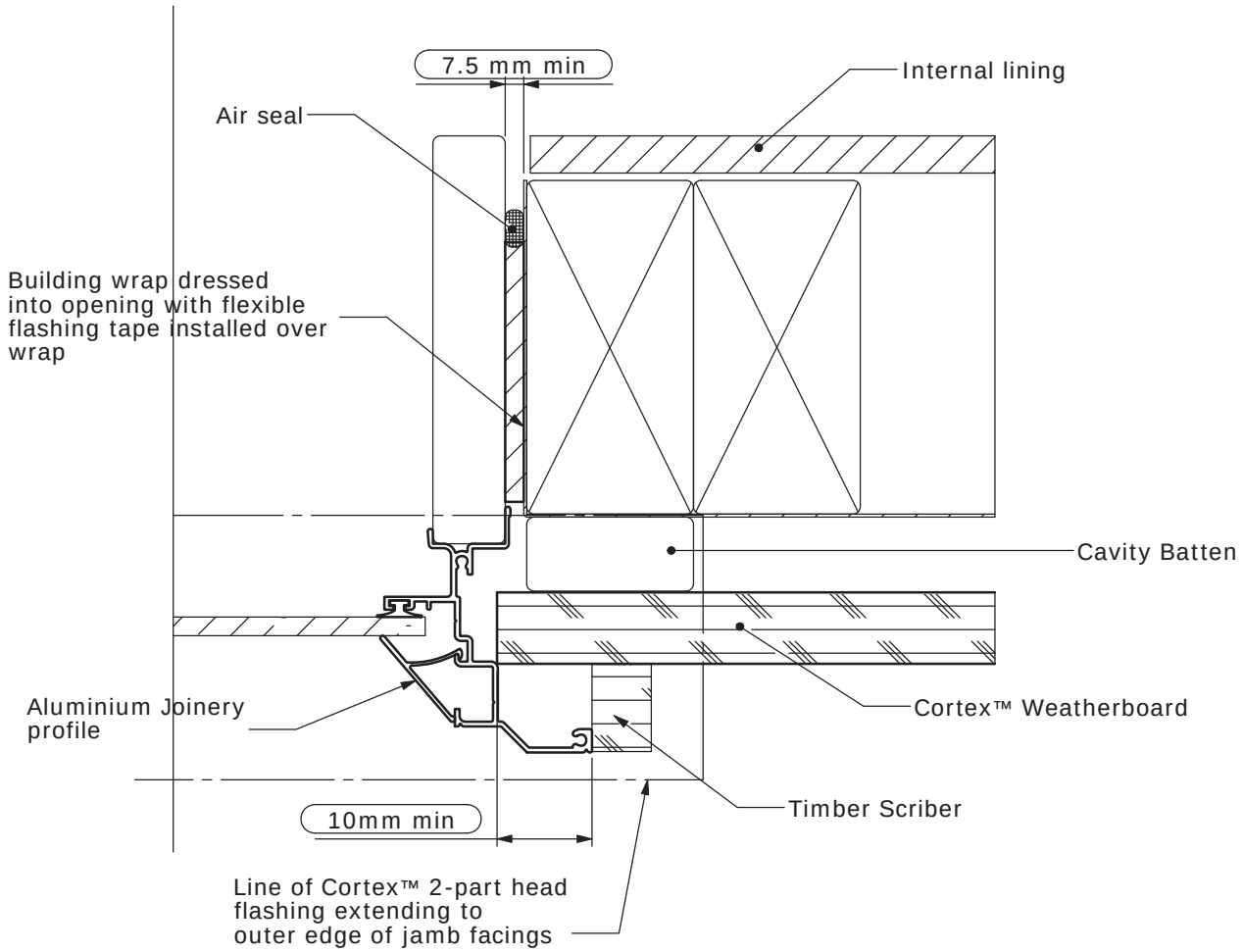
8/04/2008

Cortex Installation Details

Sheet Size: A4
Sheet Scale: 1:2

Bevelback Weatherboard - Cavity - Aluminium Window - Sill

Cortex_BVB_AluminiumWindow



Cortex
Prefinished Weatherboards

Fig C-10 Aluminium Window Jamb

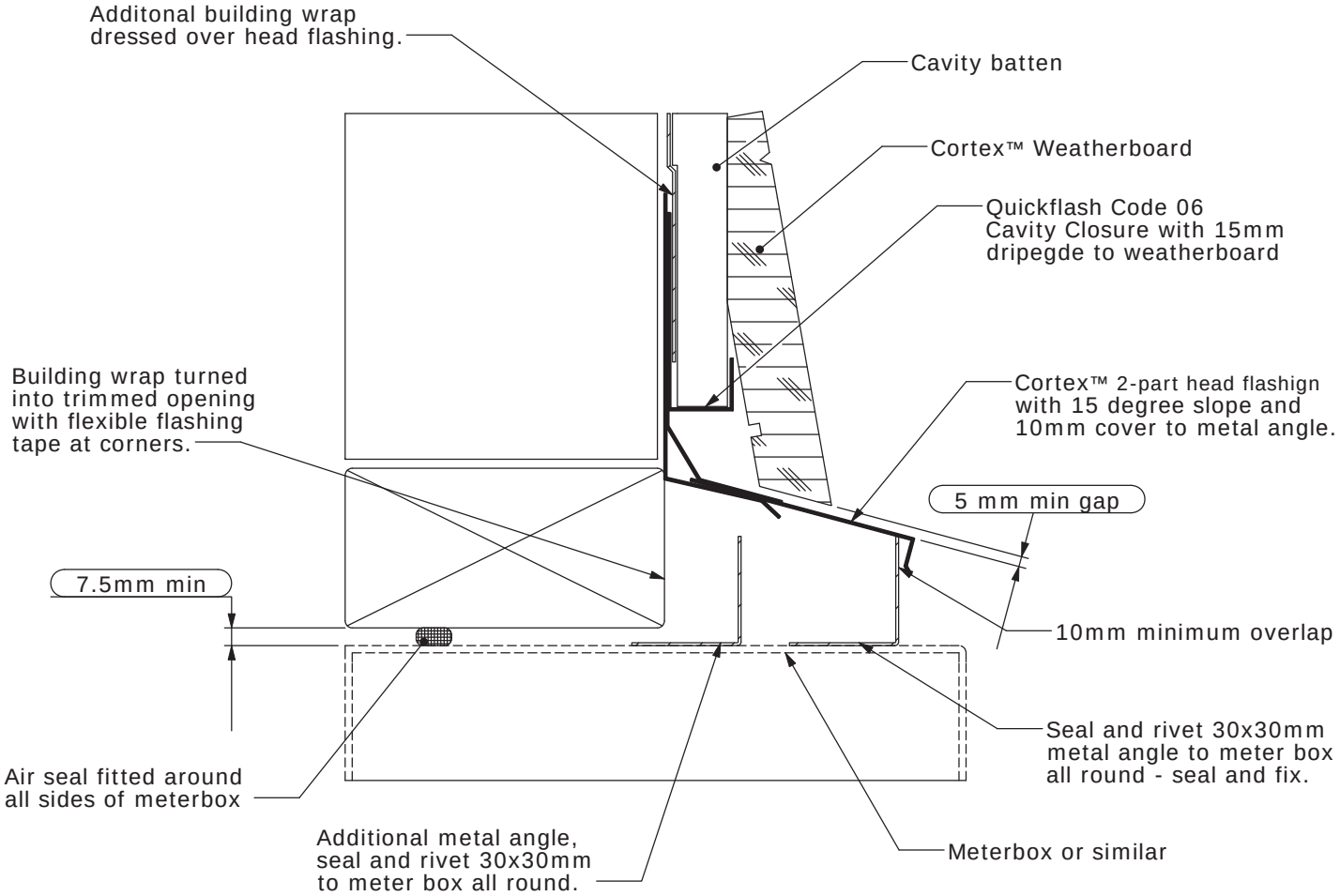
8/04/2008

Cortex Installation Details

Sheet Size: A4
Sheet Scale: 1:2

Bevelback Weatherboard - Cavity - Aluminium Window - Jamb

Cortex_BVB_AluminiumWindow



No Rear Bracket is used on the head detail of the Meter Box

Cortex
Prefinished Weatherboards

Fig C-11 Meter Box Head

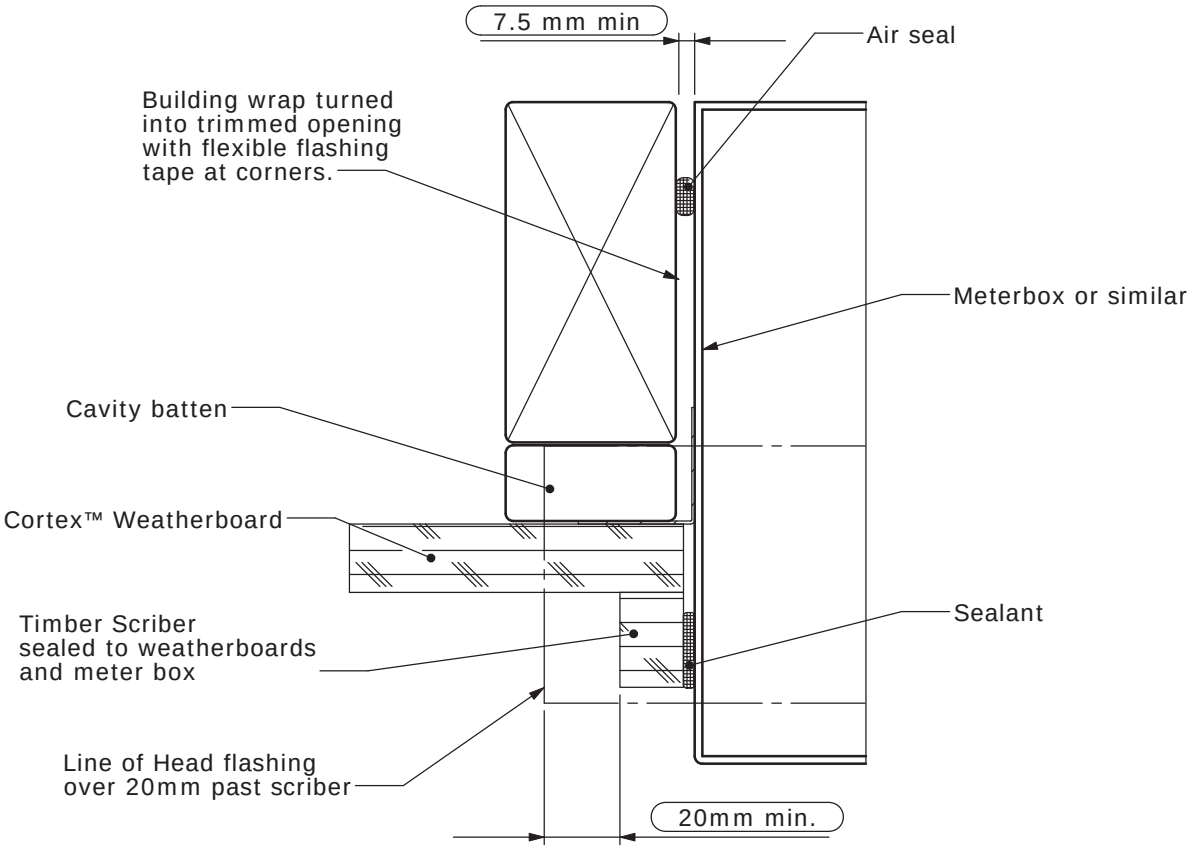
19/03/2008

Cortex Installation Details

Sheet Size: A4
Sheet Scale: 1:2

Bevelback Weatherboard - Cavity - Meterbox - Head

2901-05-MeterBox_V4



Cortex
Prefinished Weatherboards

Fig C-12 Meter Box Jamb

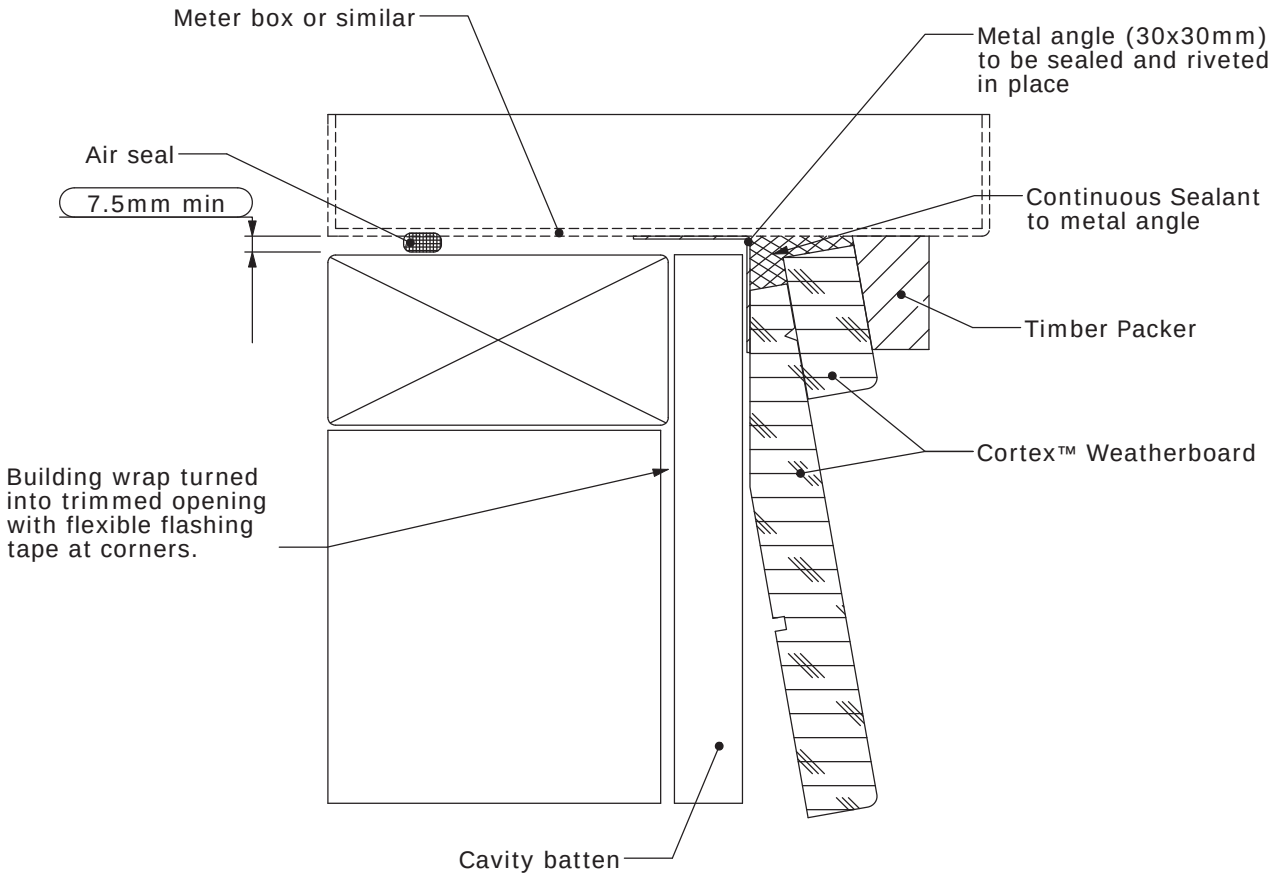
19/03/2008

Cortex Installation Details

Sheet Size: A4
Sheet Scale: 1:2

Bevelback Weatherboard - Cavity - Meterbox - Jamb

2901-05-MeterBox_V4



Cortex
Prefinished Weatherboards

Fig C-13 Meter Box Sill

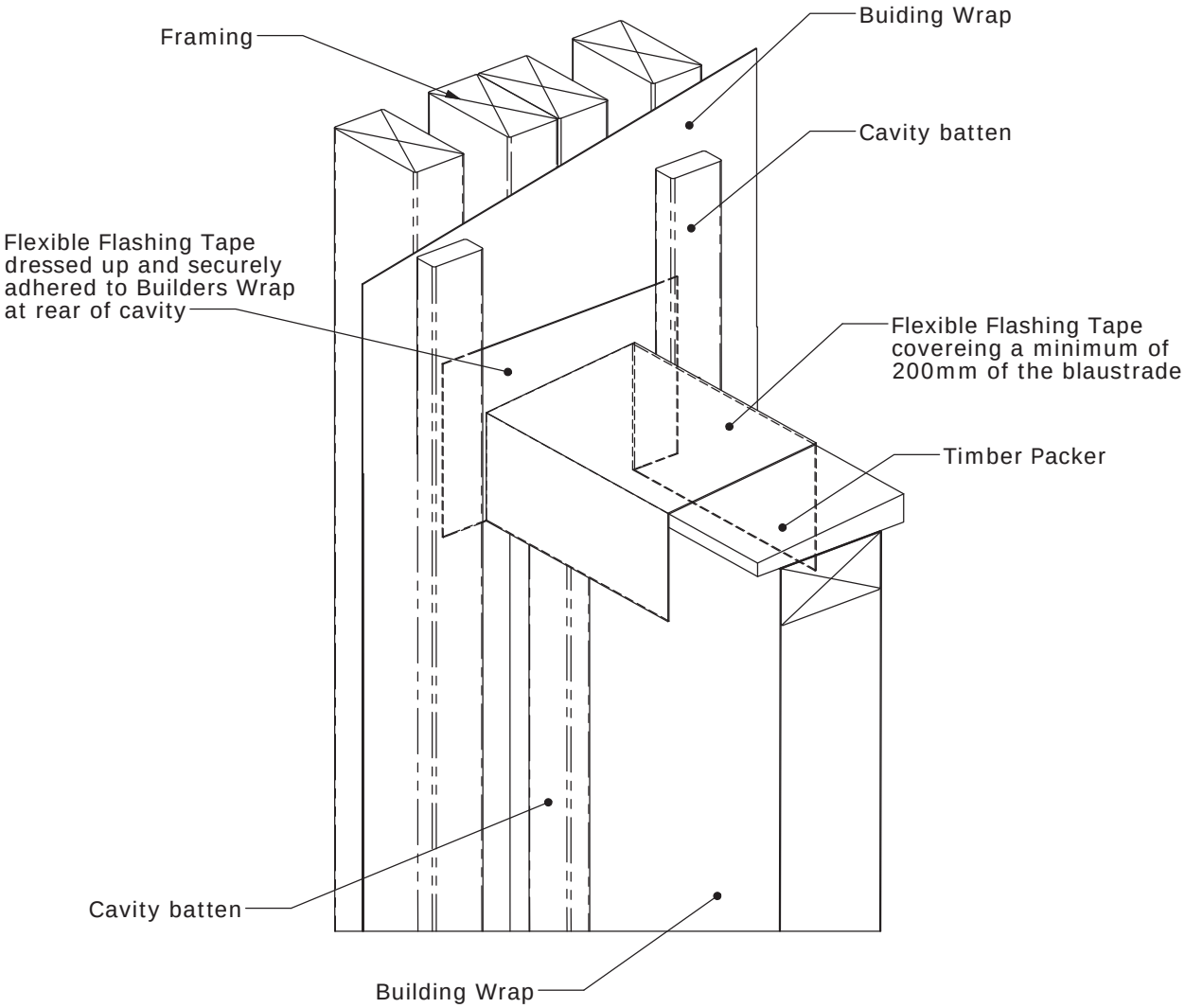
19/03/2008

Cortex Installation Details

Sheet Size: A4
Sheet Scale: 1:2

Bevelback Weatherboard - Cavity - Meterbox - Sill

2901-05-MeterBox_V4



Cortex
Prefinished Weatherboards

Fig C-14 Saddle Install

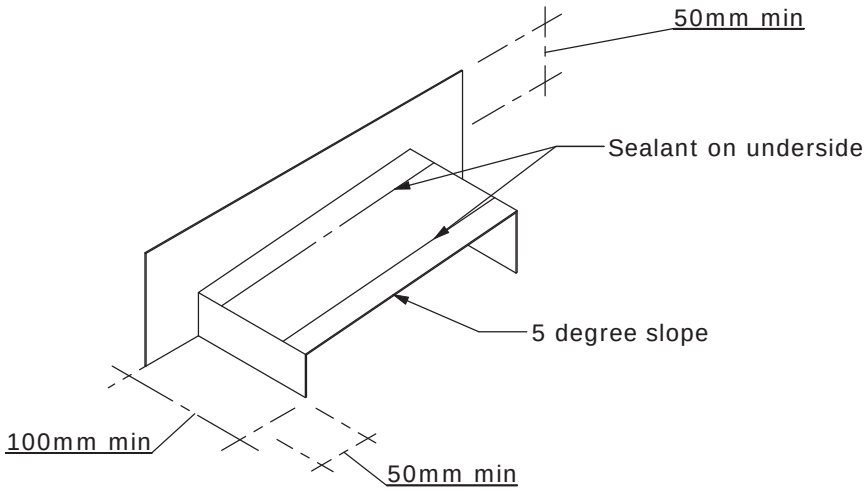
25/03/2008

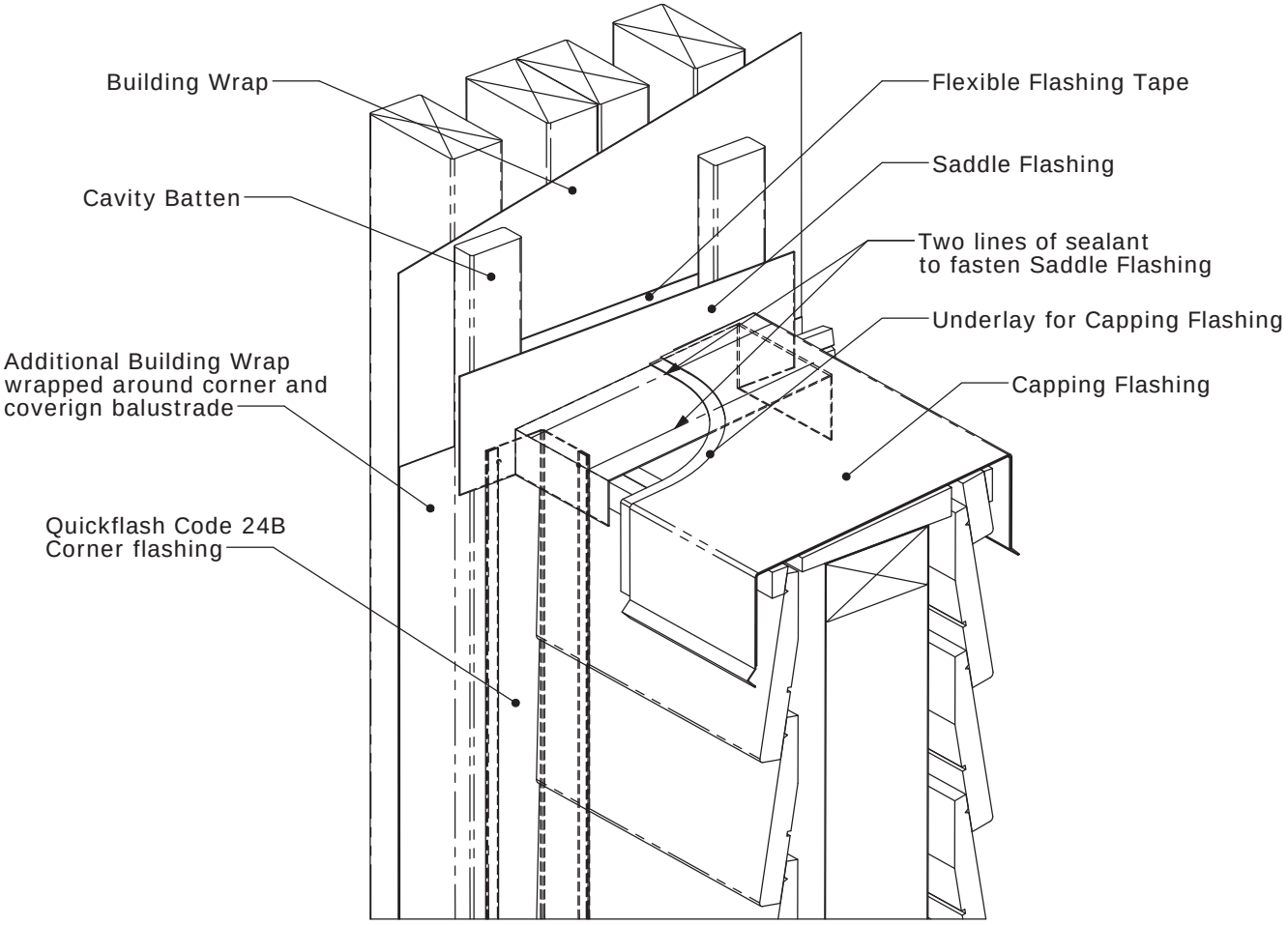
Cortex Installation Details

Sheet Size: A4
Sheet Scale: 1:5

Bevelback Weatherboard - Cavity - Parapet & Balustrade to Wall Junction - Saddle Install

2901-05-Parapet&BalustradeToWallJunction_CutOut





Cortex
Prefinished Weatherboards

Fig C-15 Saddle Flashing

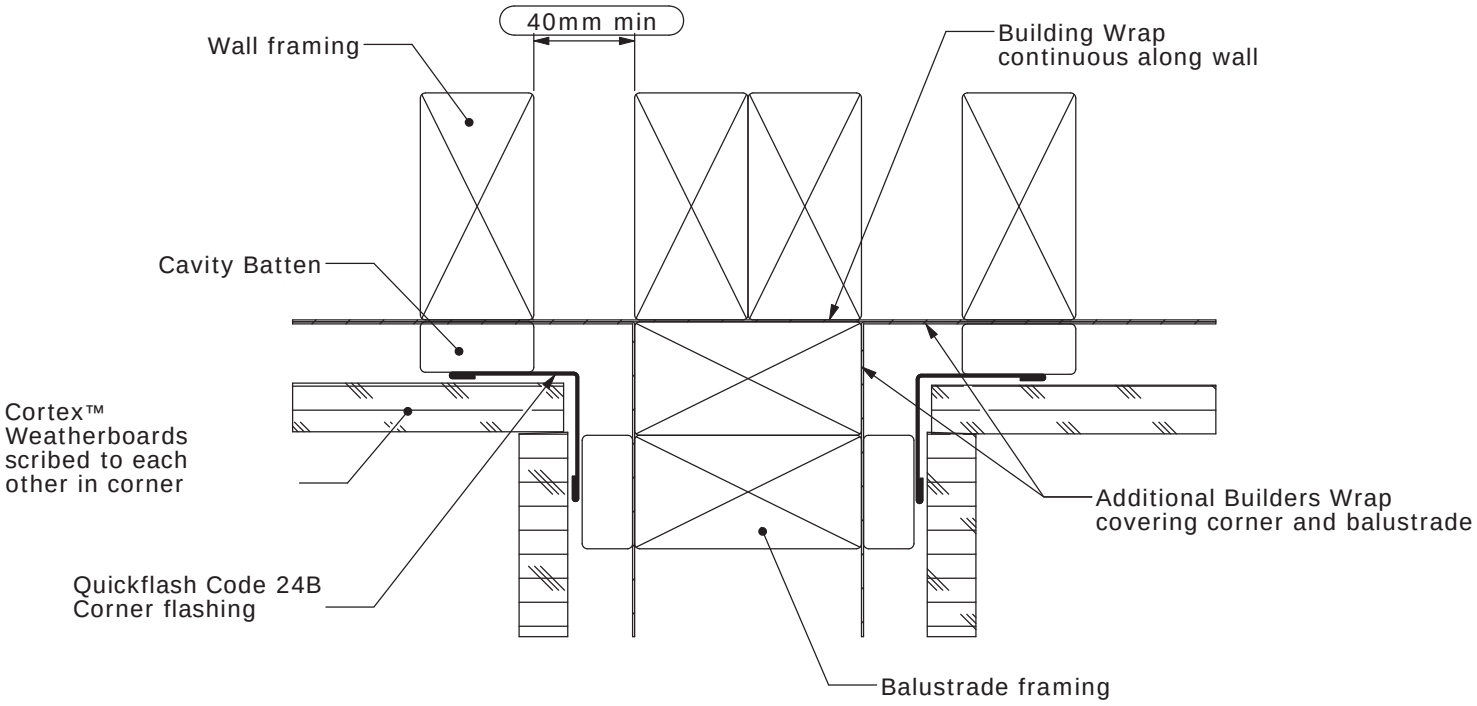
25/03/2008

Cortex Installation Details

Sheet Size: A4
Sheet Scale: 1:5

Bevelback Weatherboard - Cavity - Parapet & Balustrade to Wall Junction - Saddle Flashing

2901-05-Parapet&BalustradeToWallJunction_CutOut



Cortex
Prefinished Weatherboards

Fig C-16 Wall Junction

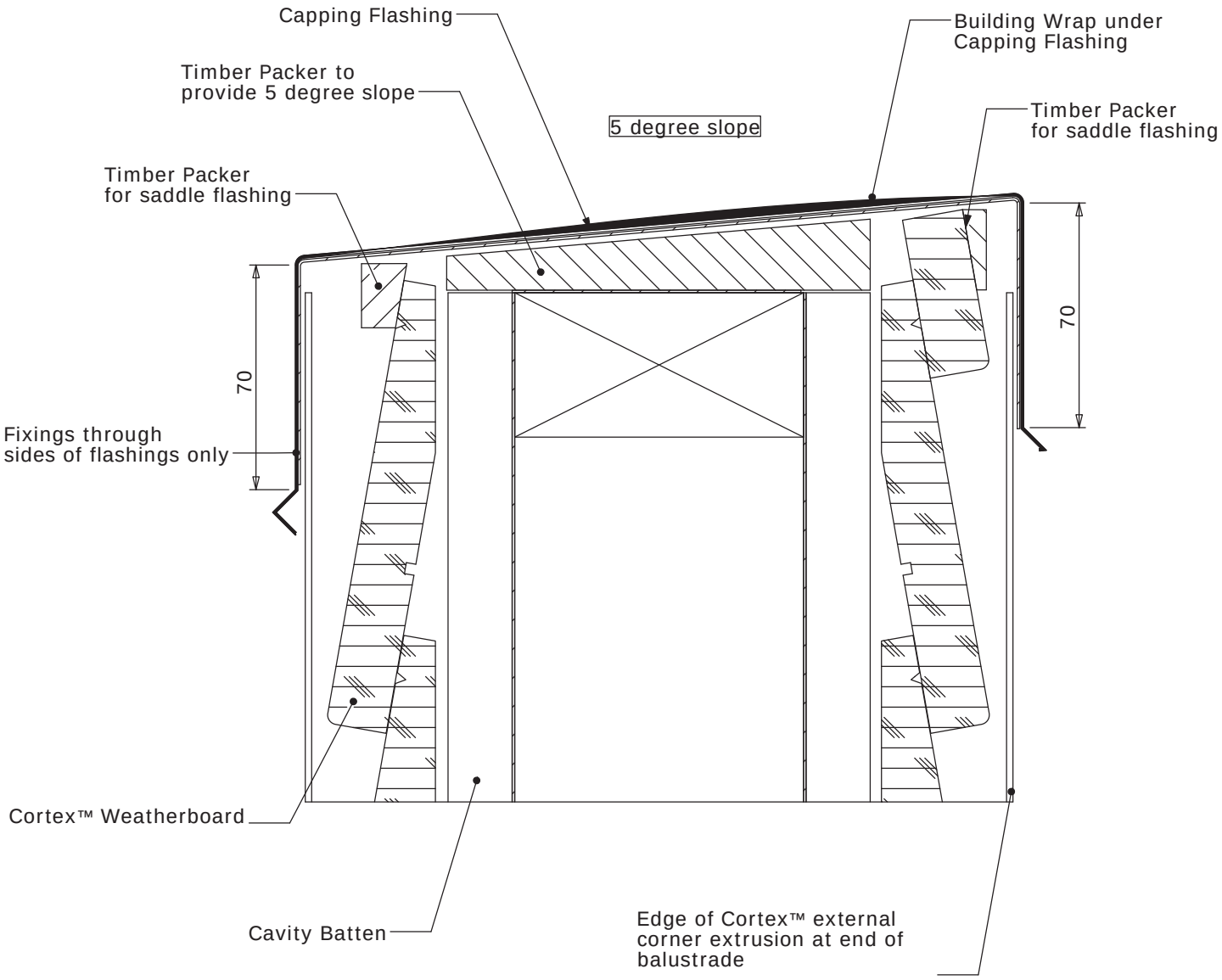
25/03/2008

Cortex Installation Details

Sheet Size: A4
Sheet Scale: 1:3

Bevelback Weatherboard - Cavity - Parapet & Balustrade to Wall Junction

2901-05-Parapet&BalustradeToWallJunction_wFlashing



Note: Additional timber packers may have to be added between Capping Flashingand Weatherboards depending on length of balustrade.

Cortex
Prefinished Weatherboards

Fig C-17

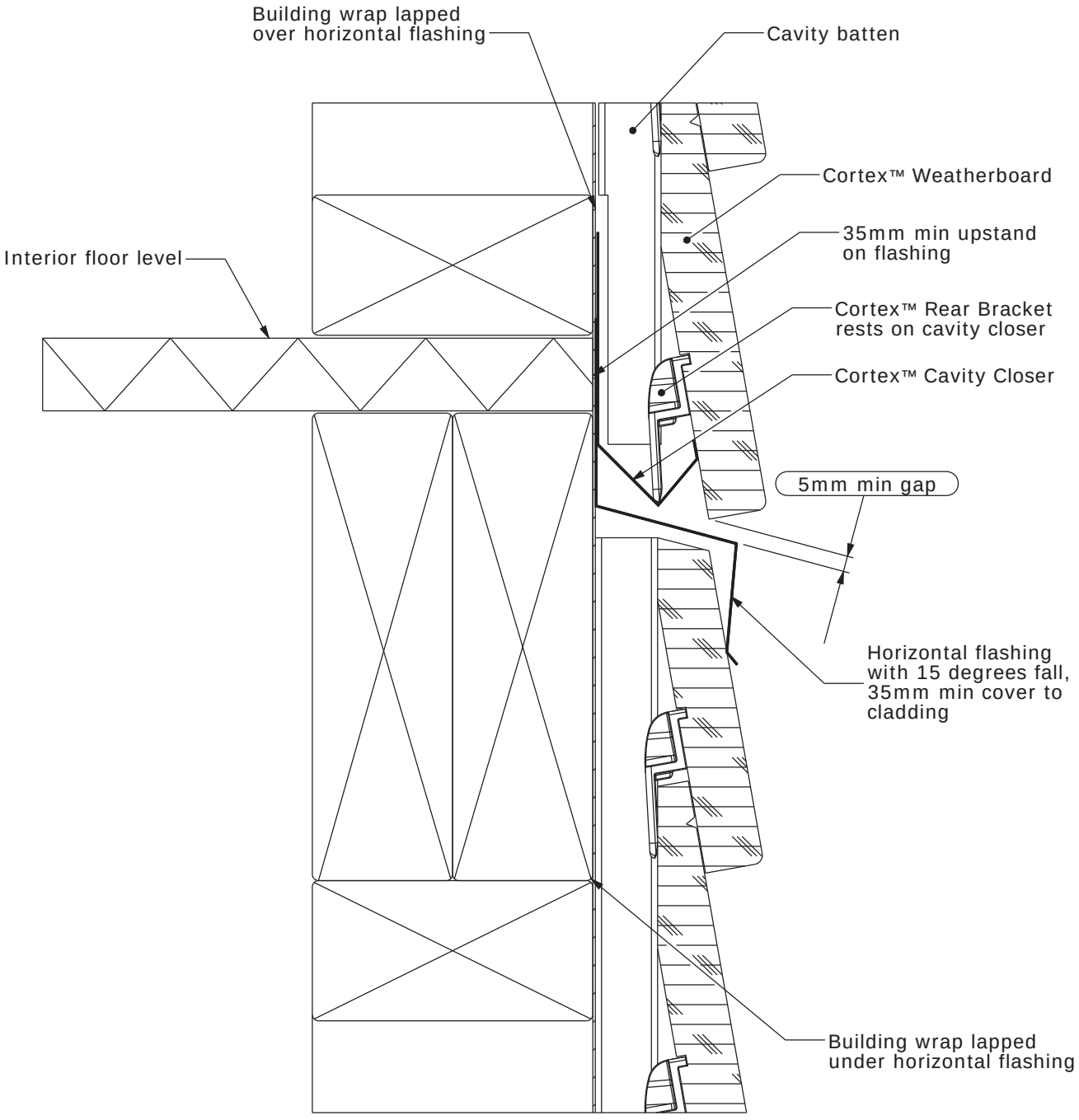
25/03/2008

Cortex Installation Details

Sheet Size: A4
Sheet Scale: 1:2

Bevelback Weatherboard - Cavity - Parapet & Balustrade to Wall Junction

2901-05-Parapet&BalustradeToWallJunction_wFlashing



Horizontal drained joints must be provided for walls over 2-storeys in height in accordance with NZBC Accebtable Solution E2/AS1 paragraph 9.1.9.4(b)

Cortex
Prefinished Weatherboards

Fig C-19 Interstory Joint

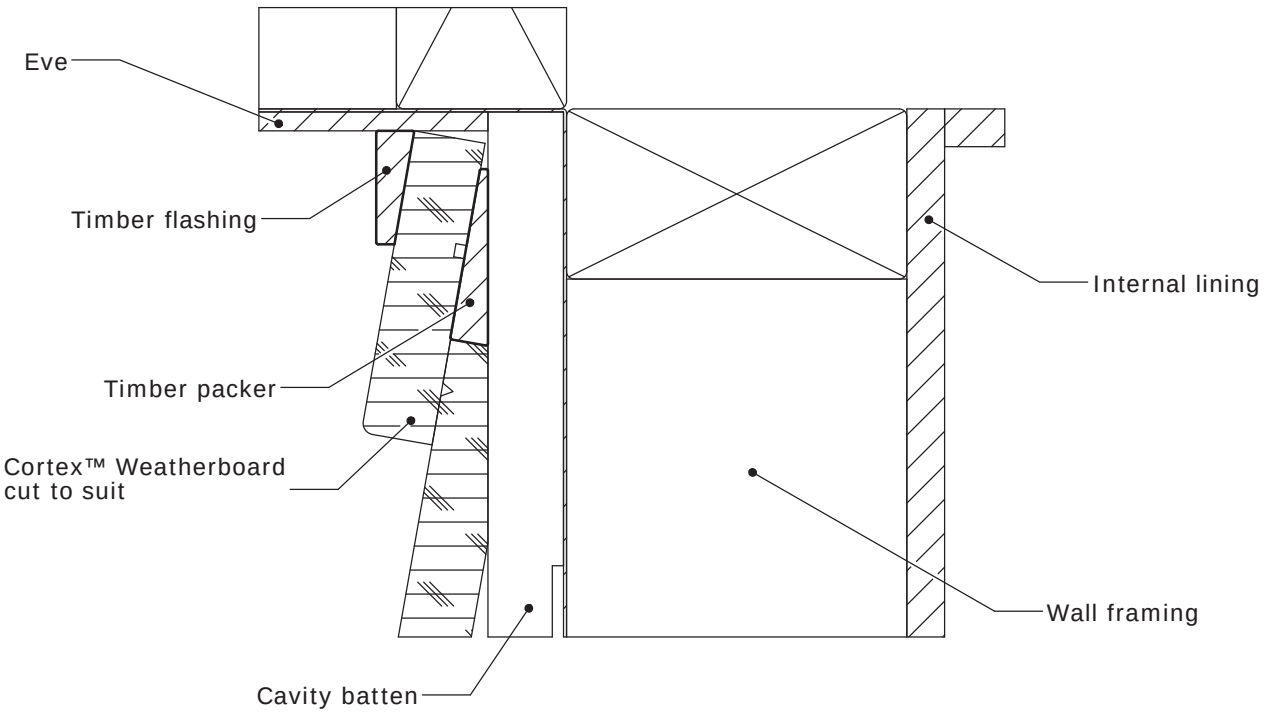
4/4/2008

Cortex Installation Details

Sheet Size: A4
Sheet Scale: 1:2

Bevelback Weatherboard - Cavity - Interstory Joint

2901-05-InterStoryJoint



Cortex
Prefinished Weatherboards

Fig C-20 Cladding to Soffit - Flat

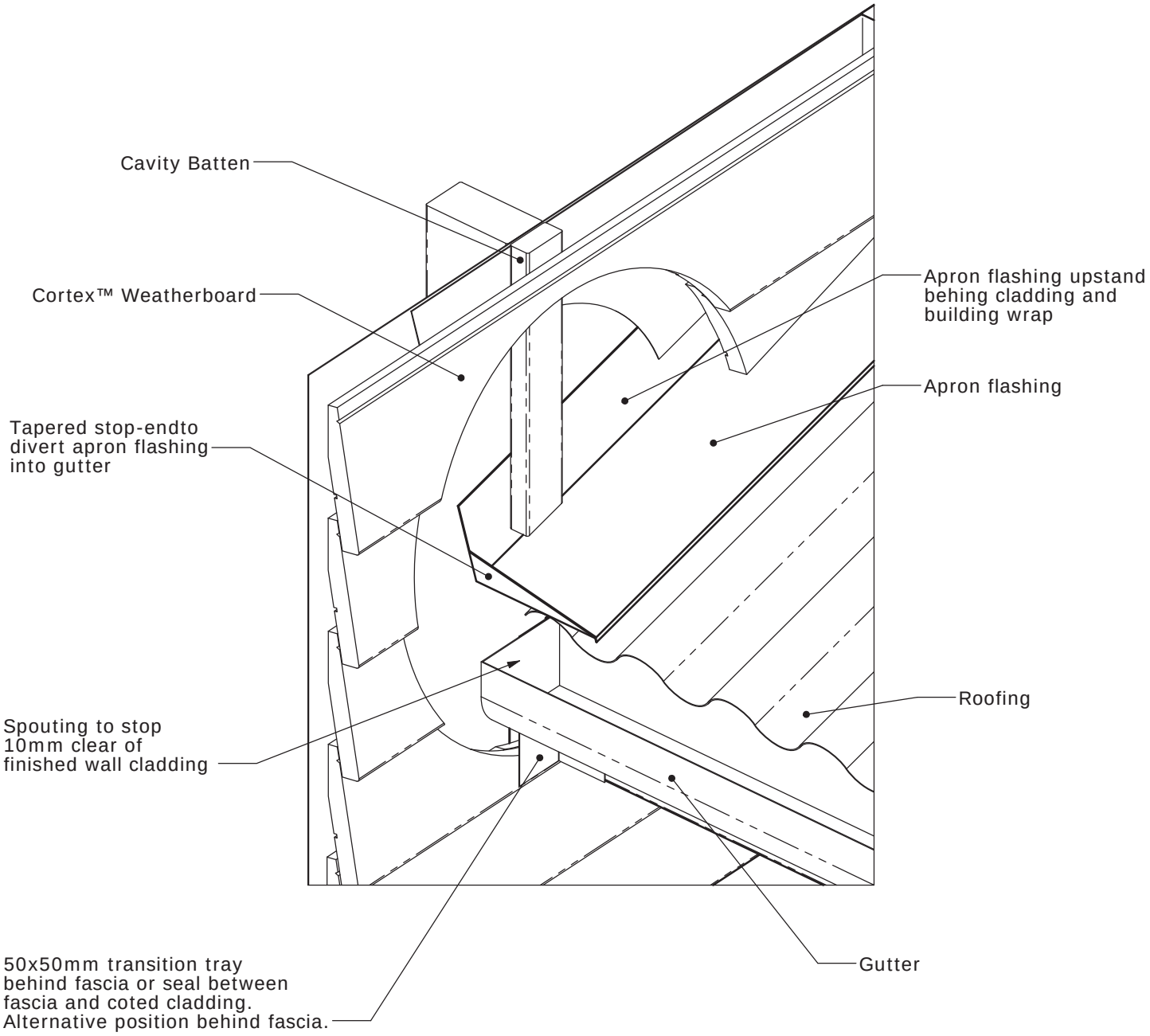
19/03/2008

Cortex Installation Details

Sheet Size: A4
Sheet Scale: 1:2

Bevelback Weatherboard - Cavity - Cladding to Soffit - Flat

2901-05-CladdingToSoffit_Flat



Cortex
Prefinished Weatherboards

Fig C-21 Gutter Wall Junction

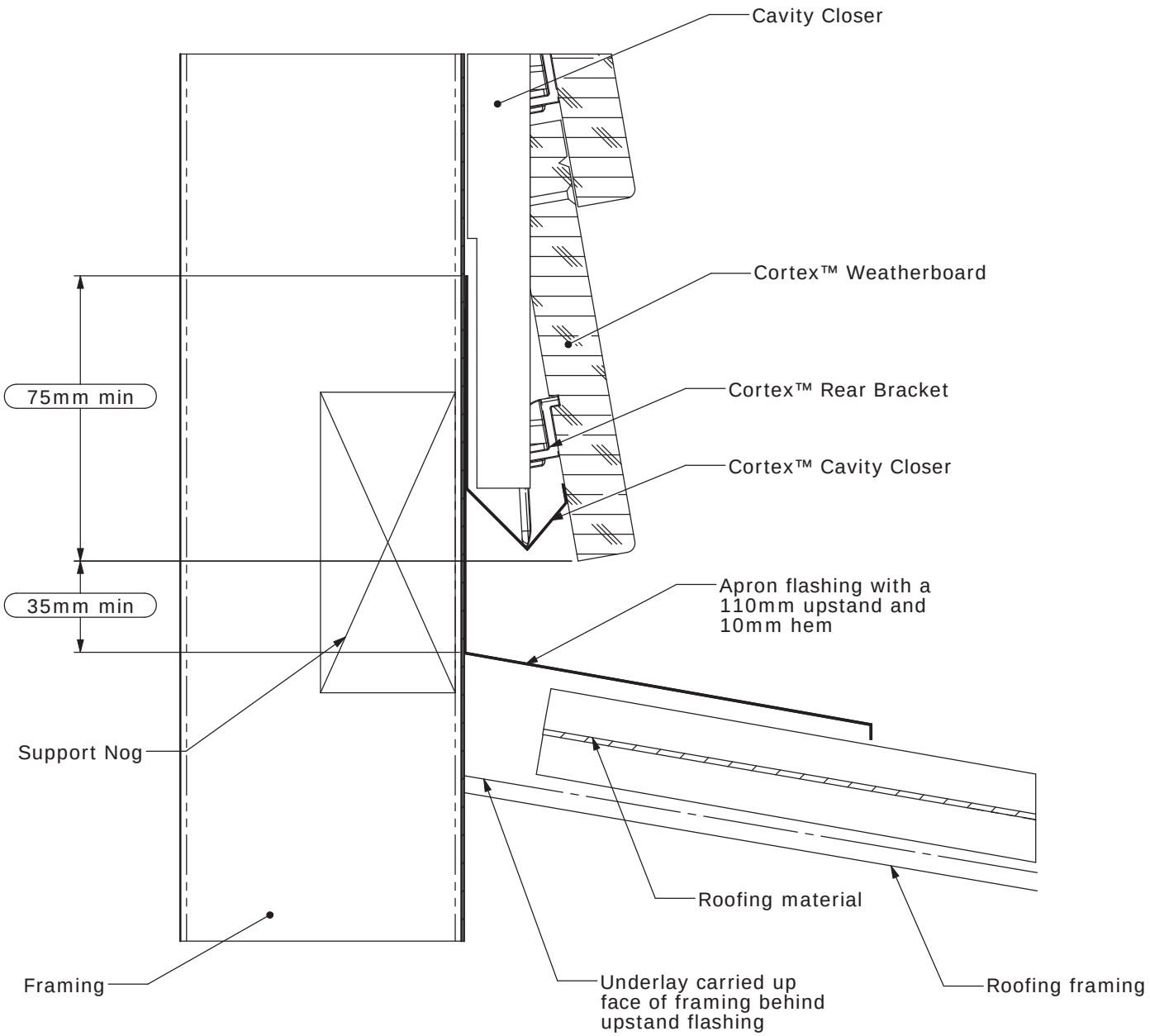
20/03/2008

Cortex Installation Details

Sheet Size: A4
Sheet Scale: 1:5

Bevelback Weatherboard - Cavity - Gutter Wall Junction

2901-05-GutterWallJunction



Cortex
Prefinished Weatherboards

Fig C-22 Apron Flashing

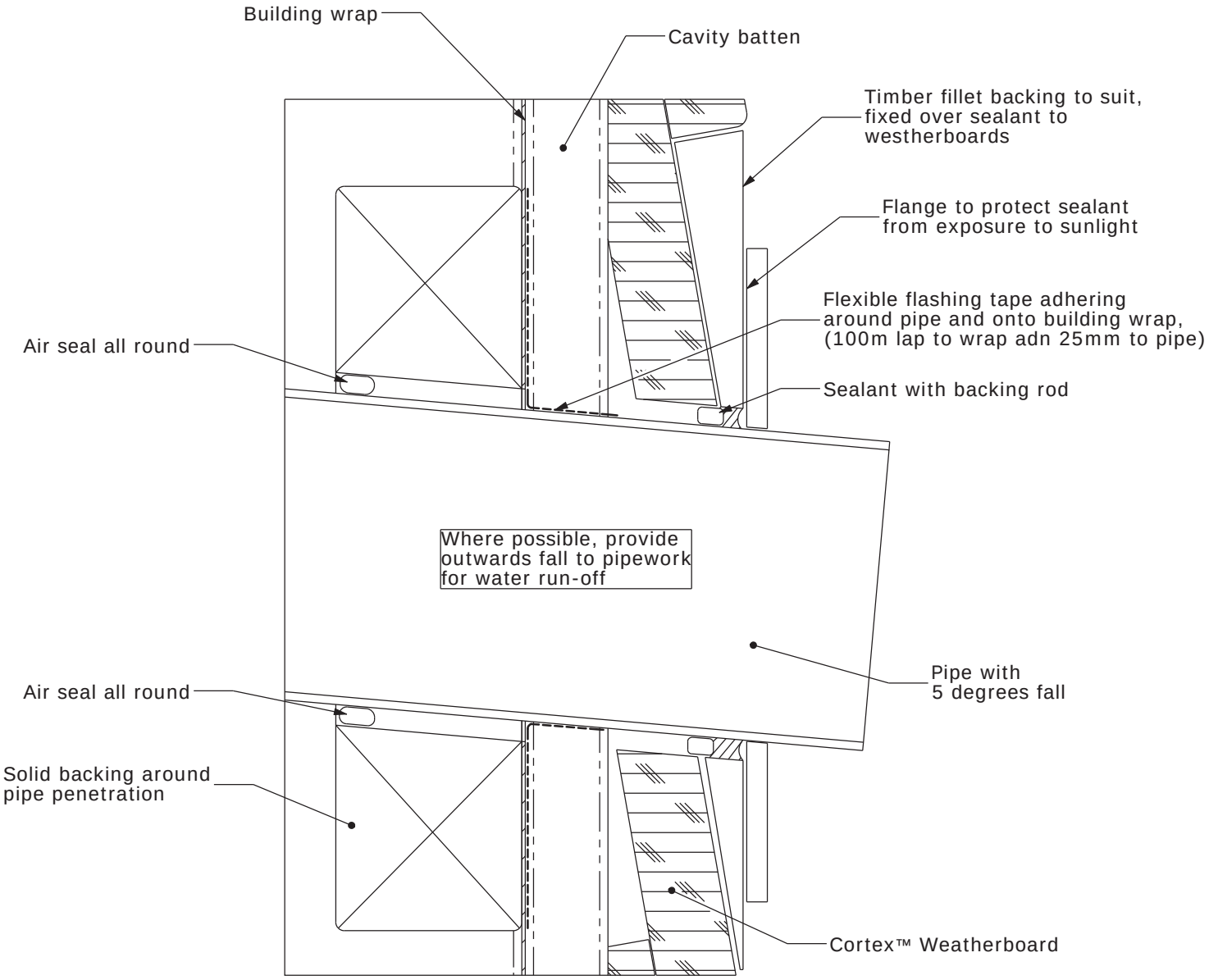
8/04/2008

Cortex Installation Details

Sheet Size: A4
Sheet Scale: 1:2

Bevelback Weatherboard - Cavity - Apron Flashing

Cortex_BVB_ApronFlashing



Cortex
Prefinished Weatherboards

Fig C-24 Pipe Penetration

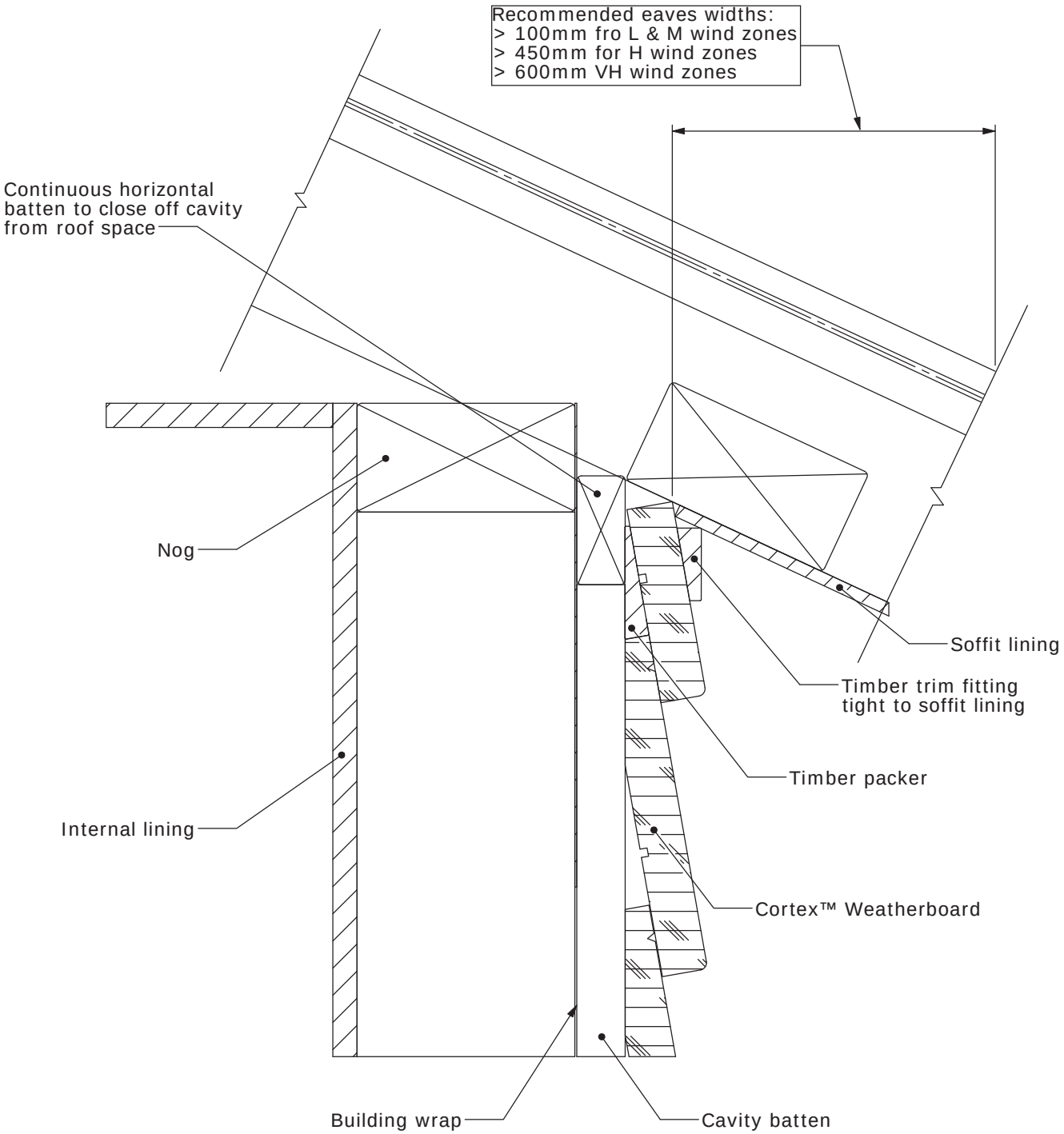
4/04/2008

Cortex Installation Details

Sheet Size: A4
Sheet Scale: 1:1.5

Default

2901-05-PipePenetration



Cortex
Prefinished Weatherboards

Fig C-25 Cladding to Soffit - Angled

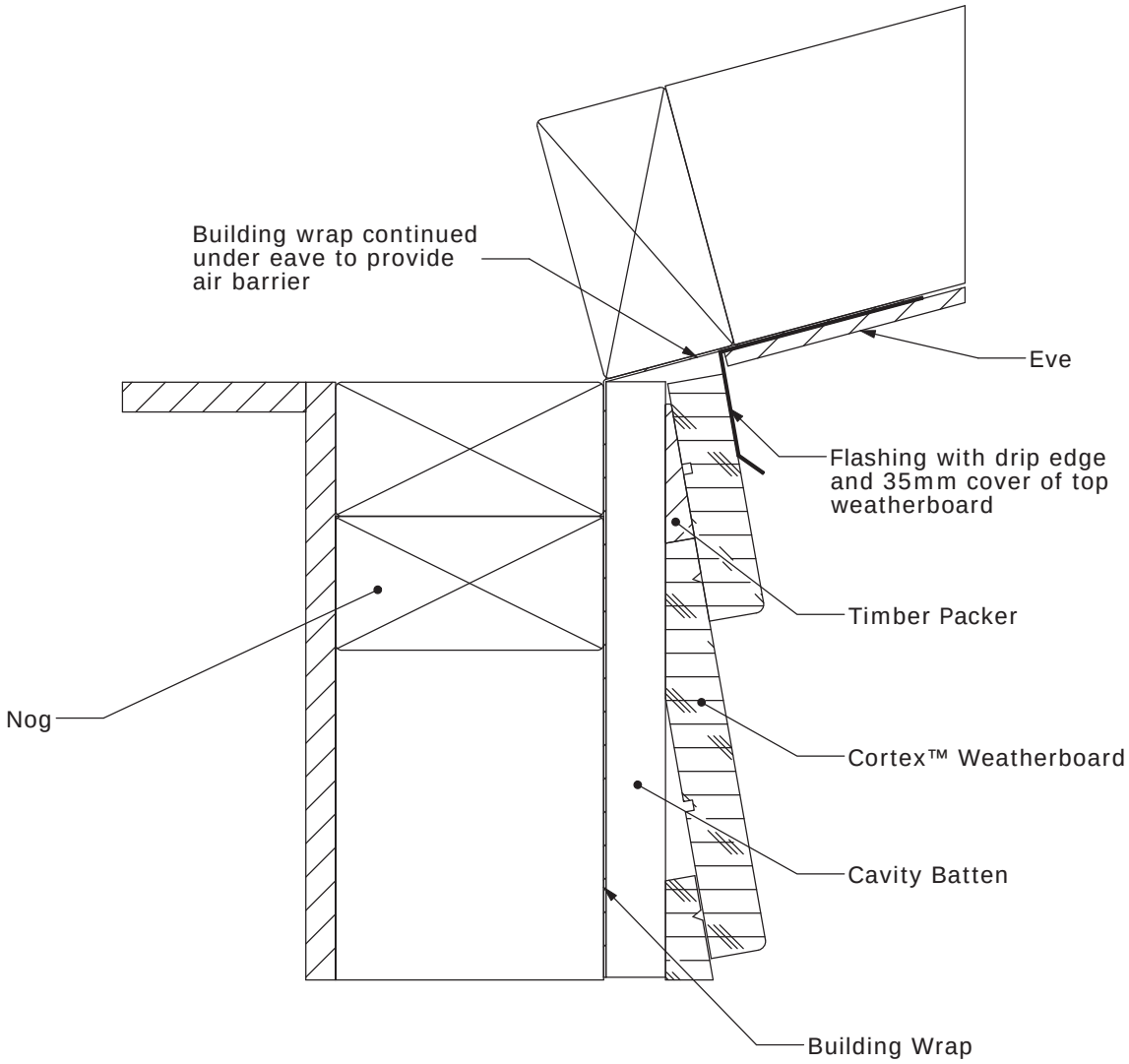
8/04/2008

Cortex Installation Details

Sheet Size: A4
Sheet Scale: 2:5

Bevelback Weatherboard - Cavity - Cladding to Soffit - Angled

Cortex_BVB_CladdingToSoffit_Angled



Cortex
Prefinished Weatherboards

Fig C-27 Cladding to Soffit - Raked

2/04/2008

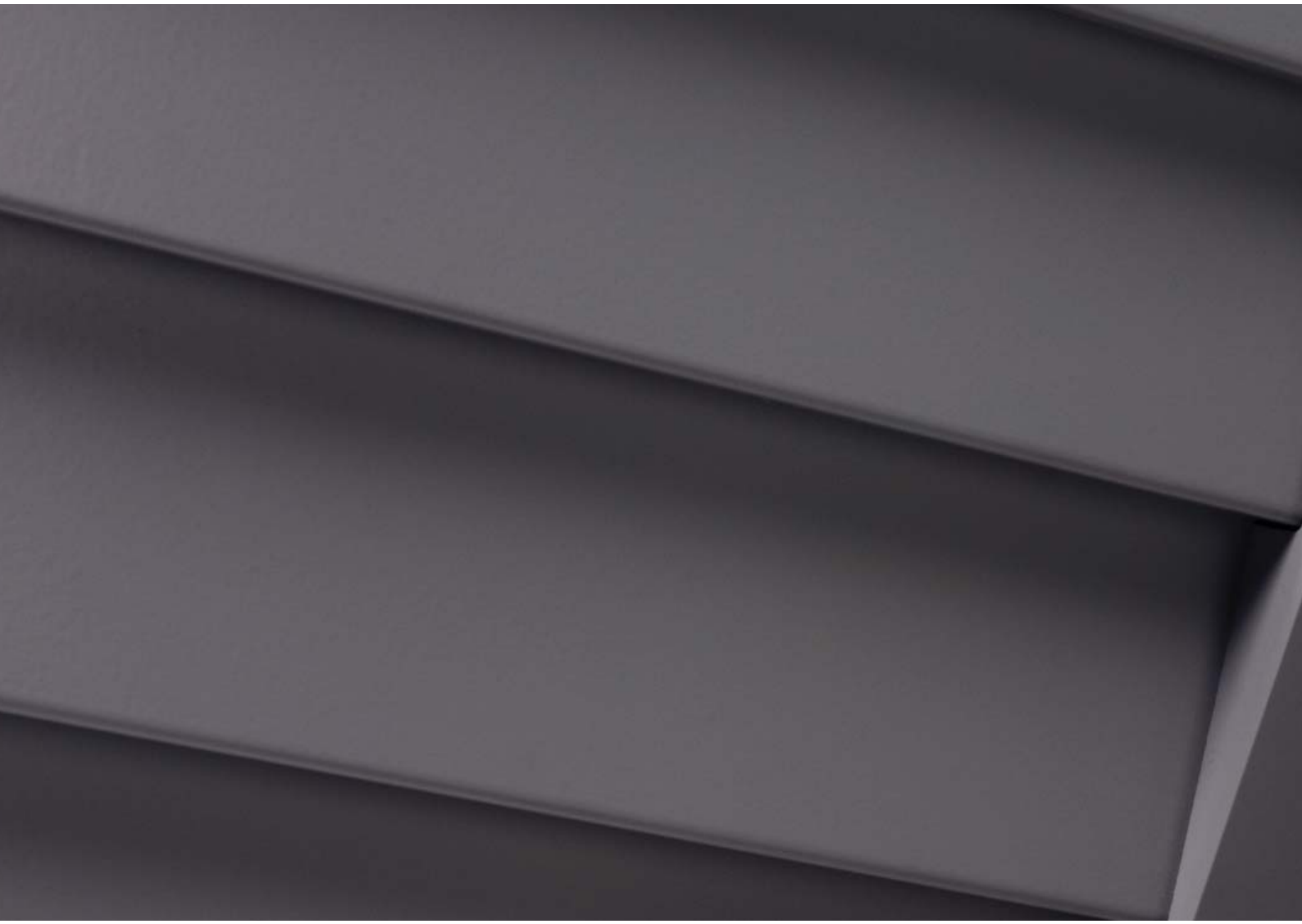
Cortex Installation Details

Sheet Size: A4
Sheet Scale: 1:2

Bevelback Weatherboard - Cavity - Soffit - Raked Reversed

2901-05-CladdingToSoffit_RakedReversed

Cortex™
Prefinished Weatherboards



Contact Cortex

0800 CORTEX
(06) 834 34 35
www.cortex.co.nz