



SHADOWCLAD®
STRUCTURAL
Natural
GROOVE

SHADOWCLAD®
STRUCTURAL
Natural
TEXTURE

SHADOWCLAD®
STRUCTURAL
Ultra
GROOVE

SHADOWCLAD®
STRUCTURAL
Ultra
TEXTURE

SHADOWCLAD®
FLASHINGS

SHADOWCLAD® SPECIFICATION & INSTALLATION GUIDE

**FOR MIXED CLADDING SYSTEMS
ON CAVITY CONSTRUCTION**

SEPTEMBER 2018



shadowclad®

MIXED CLADDING SYSTEMS
ON CAVITY CONSTRUCTION

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1.0 SHADOWCLAD® PRODUCT RANGE

Manufactured in New Zealand by Carter Holt Harvey, Shadowclad® panels are suitable for use as an exterior wall cladding and are H3 treated for this purpose.

Shadowclad is manufactured under a third party audited quality control programme to monitor compliance with AS/NZS 2269 Plywood Structural. All Shadowclad products carry Engineered Wood Products Association of Australasia (EWPAA) Joint Accreditation System – Australia and New Zealand (EWPAA/JAS-ANZ) certification.

For information relating to Ecoply® structural plywood and applications other than exterior cladding, please contact Carter Holt Harvey Plywood Pty Ltd (CHH Plywood) on 1800 338 463.

Shadowclad products must be competently installed in accordance with good building practices and sound design principles to satisfy the requirements of the Building Code of Australia published as part of the National Construction Code Series 2016, Volume Two, (NCC 2016, Building Code of Australia - Volume Two). This is the responsibility of building owners and the design professionals and builders that they engage. **This Shadowclad® Specification & Installation Guide for Mixed Cladding should be read in conjunction with the Shadowclad Specification & Installation Guide for Cavity Construction, which contains information, limitations, and cautions regarding the properties, handling, installation, usage, and the maintenance of Shadowclad products.** However, to the maximum extent permitted by law, CHH Plywood assumes no legal liability to you in relation to this information.

Having trouble installing Shadowclad®? Visit www.shadowclad.com.au or download the Shadowclad APP to view the installation animation of common Shadowclad junctions.

Important Notice & Warning

While the products in this document possess the characteristics described, no representation is made that the products will be effective in all locations and circumstances. Much depends upon building design, construction practices and the environment in which the products are used. Statements about the attributes and performance characteristics of the products are made on the assumption that the products are properly stored, handled, installed, used and maintained in their relevant application.

You should not rely solely on this document when using the products. CHH Plywood recommends obtaining professional building advice which takes into account your particular circumstances and site conditions. CHH Plywood is not involved in, and does not assume responsibility for, the selection, installation or maintenance of our products in situ.

Failure to install CHH Plywood in accordance with applicable building regulation requirements and instructions may lead to personal injury, loss or damage, and may adversely affect the performance of the products.

1.1 TECHNICAL INFORMATION & CAD DETAILS

This brochure should be read in conjunction with the Shadowclad® Specification and Installation for Cavity Construction. When specifying or installing any Shadowclad product visit www.shadowclad.com.au or call 1800 338 463 to ensure you have current specification material and any relevant technical notes.

1.2 FLASHING DESCRIPTIONS & RANGE FOR MIXED CLADDING SYSTEMS

Shadowclad® Aluminium Exterior Flashing Range

Manufactured from extruded aluminium the Shadowclad® flashings range is purpose designed to complement Shadowclad panels used in exterior applications with alternate cladding systems.

Note: Stainless steel fasteners should not have contact with or pierce aluminium flashings. Where stainless steel fasteners are to pierce flashings, stainless steel flashings should be used.

The range includes internal and external angles, horizontal and inter-storey 'Z' flashings and a cavity base closure. The Shadowclad flashings range has now been expanded to include a 'T' flashing for mixed junctions. Refer to table 1 in this guide.

Aluminium horizontally installed flashings come in 3600mm lengths and vertically installed angles are available in 3000mm lengths. Refer to the Shadowclad Specification and Installation Guide for other flashings.

The information, details and performance statements provided in this guide are based on Shadowclad plywood panels and Shadowclad flashings being used together as a system. CHH Plywood does not recommend that Shadowclad plywood panels be installed with non-CHH Plywood flashings. Flashings not supplied by CHH Plywood must, as a minimum, comply with the performance requirement of the NCC 2016, Building code of Australia - Volume Two and be compatible for use with H3 treated plywood. It is the designer's responsibility to ensure that any non-CHH Plywood flashings are fit for purpose and compatible with Shadowclad products and any other building materials or components of the exterior wall.

Aluminium Flashing Finishes

Shadowclad aluminium flashings are available in either natural anodised finish (silver colour), for immediate installation or in a mill finish allowing customers to powder coat flashings to any desired colour finish. Refer to your local powder coating supplier for more information.

Shadowclad vertical aluminium flashings are provided in 3.0m lengths.

Sea Spray Exposure

For coastal areas with high risk of wind blown sea spray salt deposits CHH Plywood recommends the use of stainless steel flashing (and fasteners). Coastal areas with high risk of wind blown sea spray salt deposits are further defined for high or very high environments as defined in notes 3 and 4 of table 35.1a Acceptable Corrosion Protection for Sheet Roofing of the NCC 2016 Building code of Australia - Volume Two. Please note the 'T' flashing is not available in stainless steel therefore specific design is required.

Table 1

Aluminium

Shadowclad® Mixed Junction Flashings Range

| Flashing | Line Drawing | Description | Finish Available | Length (mm) |
|--------------|--------------|---|---------------------------|-------------|
| 'T' Flashing | | 'T' Flashing for mixed cladding junctions | Natural Anodised, or Mill | 3000 |



1.3 PRESERVATIVE TREATMENT

The standard treatment for Shadowclad® panels is H3 LOSP (Azole) for use as exterior cladding. H3 LOSP treated Shadowclad is treated in accordance with AS/NZS 1604.3.

Shadowclad® is envelope preservative treated. Where sheets are cut, cuts must be coated with a brush on timber preservative in accordance with the relevant manufacturer's instructions. Protim® Solignum® XJ Clear Timber Protective (XJ Clear), Arch Lonza Tanalised® Enseal Clear or Tanalised® Ecoseal, is recommended. Failure to properly apply preservative to cut edges will negatively affect the durability of the cut panels.

H3 LOSP treatment does not discolour the panel surface and does not use water in the treatment process allowing panels to remain at uniform dimensions.

When coating H3 LOSP treated plywood some residual solvent may be present on the sheet surface from the treatment process. Sheets feeling greasy to touch should be placed in a well ventilated area and allowed to flash off to ensure proper adhesion of paints and stains to the sheet surface.

Mechanical fasteners are required to fix H3 LOSP treated Shadowclad to framing. Do not glue Shadowclad to frames.

Table 2: Preservative Treatment Options

| H3 LOSP (Azole) | |
|-----------------------------|---|
| Preservative Carrier | Light organic oil (white spirits) |
| Colour | Natural |
| Fungicide | Propiconazole and Tebuconazole |
| Insecticide | Permethrin |
| Other Chemicals | Butyl Oxitol (co-solvent to assist active stability) |
| Mouldicide | IPBC |
| Notes | Solvent does not affect dimensions. Solvent smell disappears when exposed to air flow |
| Applications | Exterior (service performance subject to detailing and coatings used) |

1.4 PRODUCT IDENTIFICATION

In accordance with AS/NZS 2269, every sheet of Shadowclad plywood has the following information marked on the back:

- Brand name: e.g. SHADOWCLAD®.
- Intended application: e.g. STRUCTURAL.
- Glue bond: e.g. A BOND.
- Formaldehyde emission class: e.g. E0.
- Australasian Standard: e.g. AS/NZS 2269:2012.
- Treatment Standard (if applicable) e.g. AS/NZS 1604.3:2012.
- Date and time of manufacture: e.g. 01/12/15 12:34:56.
- The Engineered Wood Products Association of Australasia (EWPA) brand and mill number: e.g. 911 (Tokoroa mill).

Treated Example:

SHADOWCLAD® STRUCTURAL A BOND
E0 AS/NZS 2269.0:2012
AS/NZS 1604.3:2012 400 64 H3 E LOSP
RETREAT CUTS PAT 01/12/15 12:23:45



911

See important notice and warning on page 3.

2.0 DESIGN CONSIDERATIONS

2.1 DESIGN RESPONSIBILITY

Design responsibility lies with the building owner and the professionals that they engage. The specifier for the project must ensure that the details in the specification for their individual projects are appropriate for the intended application. The specifier must also ensure that additional detailing is provided for specific design, alternate cladding systems, or any areas that fall outside the scope and specifications of this literature. It is the specifier's responsibility to ensure that non-CHH Plywood products are fit for purpose, and compatible with Shadowclad® products.

Good detailing which avoids moisture or dust accumulation on the sheet surface can help increase durability and aesthetics. Roof overhangs contribute to performance as they offer shade and will protect walls from rain and dust. Trims should be bevelled to shed moisture and flashings should be detailed with gaps that do not trap water at the panel edges.

2.2 LITERATURE SCOPE

The information and details within this guide are for cavity wall construction only, and may not be suitable for construction of buildings in bush fire prone areas.

Shadowclad can be used for those structures which fall within the scope of the NCC 2016, Building Code of Australia - Volume Two. Shadowclad is recommended for a drained and ventilated cavity, where the cladding is fixed onto timber battens fixed over the timber frame and wall underlay.

All alternate cladding systems detailed (weatherboard and brick) must comply with the performance requirements of the NCC 2016, Building Code of Australia - Volume Two and be detailed and installed to the manufacturers installation details as applicable.

2.3 CODE COMPLIANCE

Shadowclad 'T' flashings and associated details, as an Alternative Solution, have been appraised by BRANZ as suitable for use with cavity wall construction based on instructions details included in this literature (for New Zealand conditions).

2.4 HEALTH & SAFETY

Shadowclad should be installed and used as per the Safety Data Sheet (SDS) which can be downloaded from www.shadowclad.com.au.

Always wear safety glasses or non-fogging goggles when cutting Shadowclad panels and flashings.

If wood dust exposures are not controlled when machining (sawing, routing, planing, drilling etc.) a class P1 or P2 replaceable filter or disposable face piece respirator should be worn.

Wear comfortable work gloves to avoid skin irritation and the risk of splinters. Wash hands with mild soap and water after handling panels.

2.5 STORAGE & HANDLING

Shadowclad® Panels:

- Keep Shadowclad® panels dry.
- Store under cover.
- Handle and stack with care to avoid damage.
- Stack flat; clear of ground, on at least three evenly spaced bearers.
- Store in well-ventilated areas away from sources of heat, flames or sparks.

Shadowclad Flashings:

- Keep dry. Should a shipment of Shadowclad flashings arrive in a wet condition, they should be immediately dried before storing.
- When storing flashings avoid contact with other metals which may cause scratches or marks. The use of shelving or racks faced with dry wood is recommended.
- Keep away from caustics, nitrates and acids.

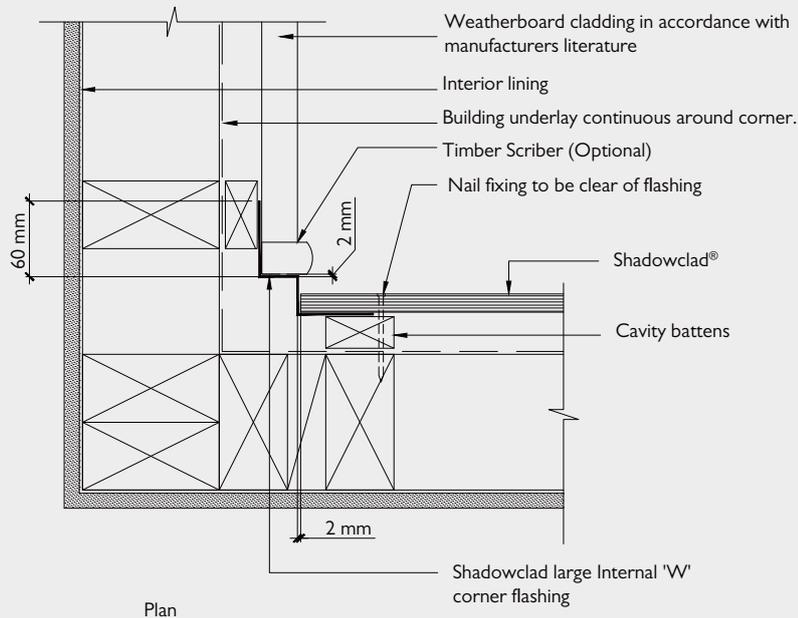
3.0 INSTALLATION – SHADOWCLAD® FLASHINGS INCORPORATING MIXED CLADDINGS

3.1 SHADOWCLAD® & WEATHERBOARD VERTICAL JUNCTIONS

Flashings should have expansion joints where necessary to provide adequate allowance for thermal expansion as set out below:

- Expansion joints to be provided for joined flashings when their combined length exceeds 8 metres.
- Even if less than 8 metres in length, where both ends of a flashing are constrained and fixed allowance should be made for expansion.

SC060: Shadowclad® to Weatherboard Internal Junctions



Note.

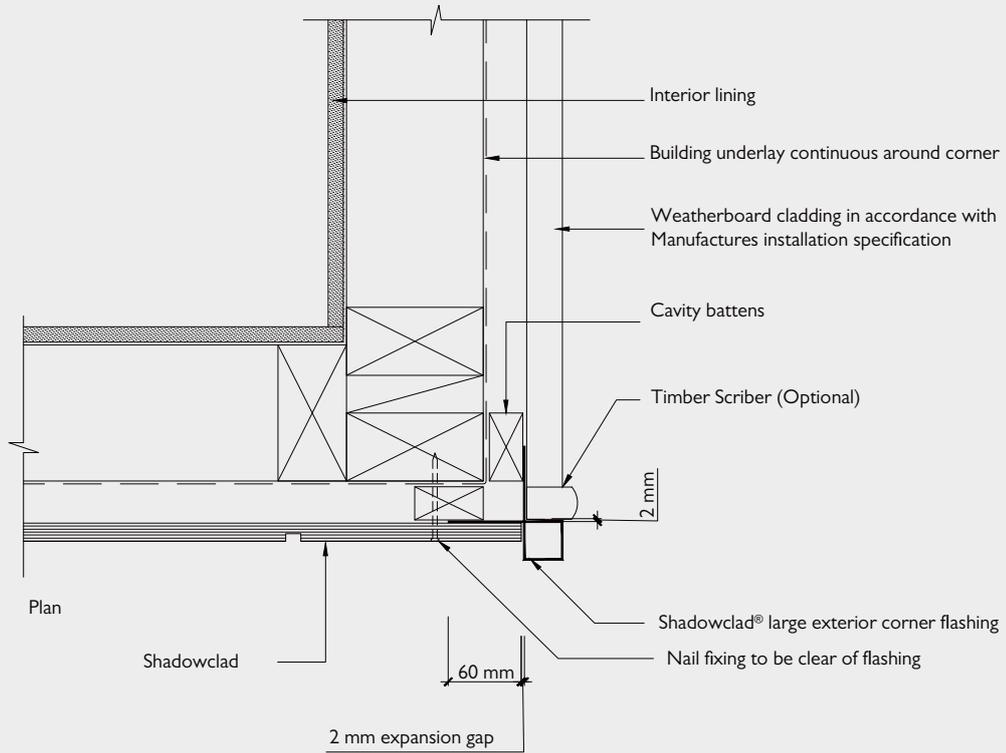
1. Allow 2 mm expansion gap between flashing and cladding
2. Treat all Shadowclad cut edges with XJ Clear or similar

See important notice and warning on page 3.

SHADOWCLAD® MIXED CLADDING SYSTEMS ON CAVITY CONSTRUCTION | 1800 338 463 | www.shadowclad.com.au

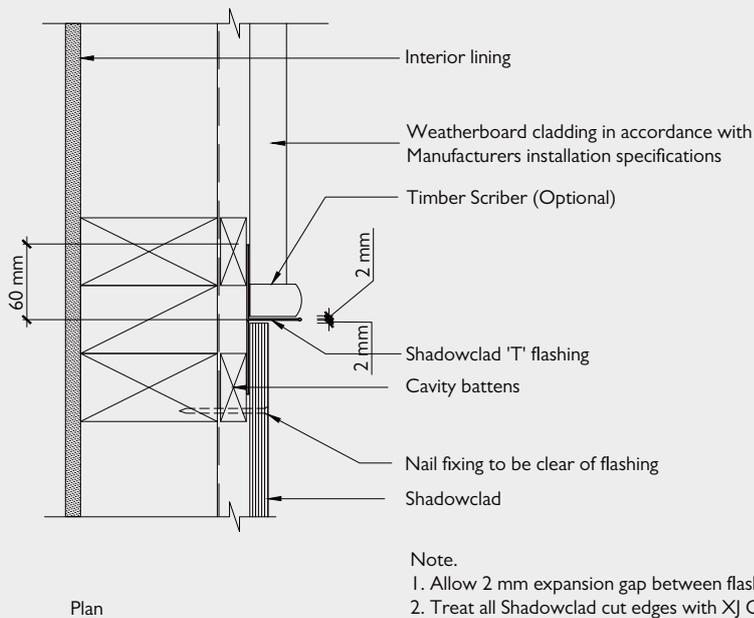
This Brochure should be read in conjunction with the current Shadowclad® Specification and Installation Guide For Cavity Construction.

SC061: Shadowclad® to Weatherboard External Junctions



- Note.
1. Allow 2 mm expansion gap between flashing and cladding
 2. Treat all Shadowclad cut edges with XJ Clear or similar

SC062: Shadowclad to Weatherboard Vertical Junction



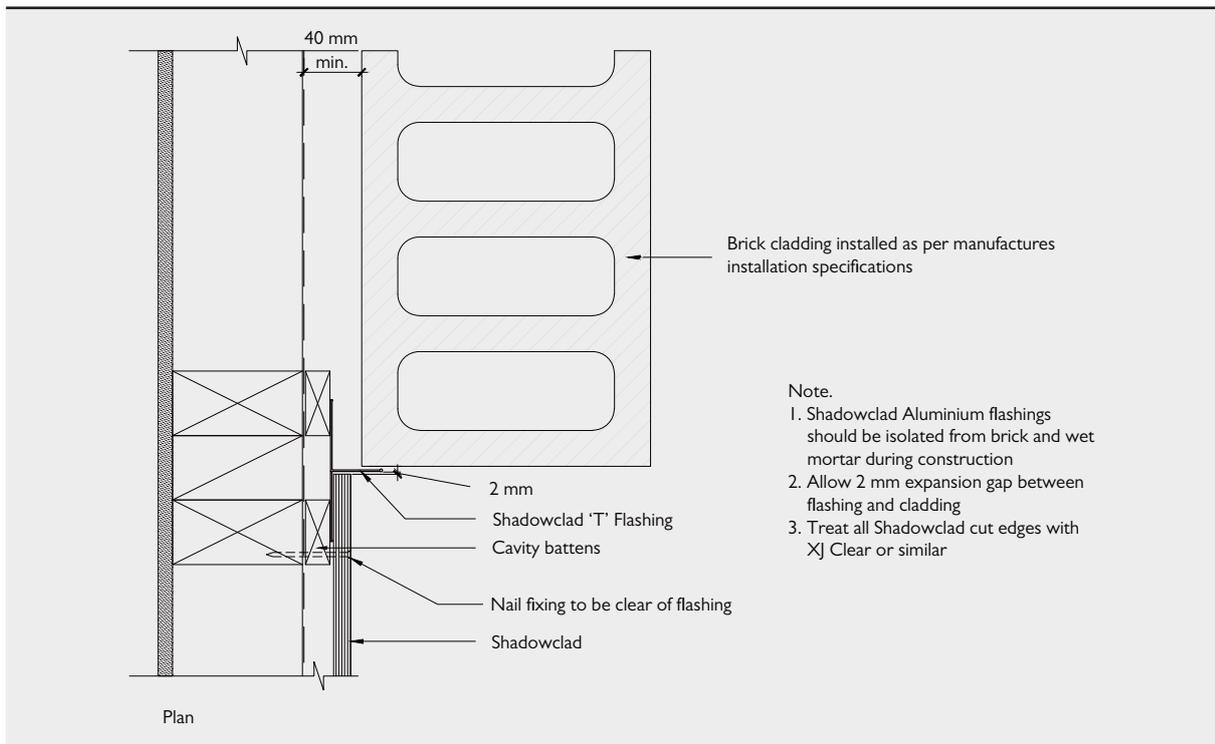
- Note.
1. Allow 2 mm expansion gap between flashing and cladding
 2. Treat all Shadowclad cut edges with XJ Clear or similar



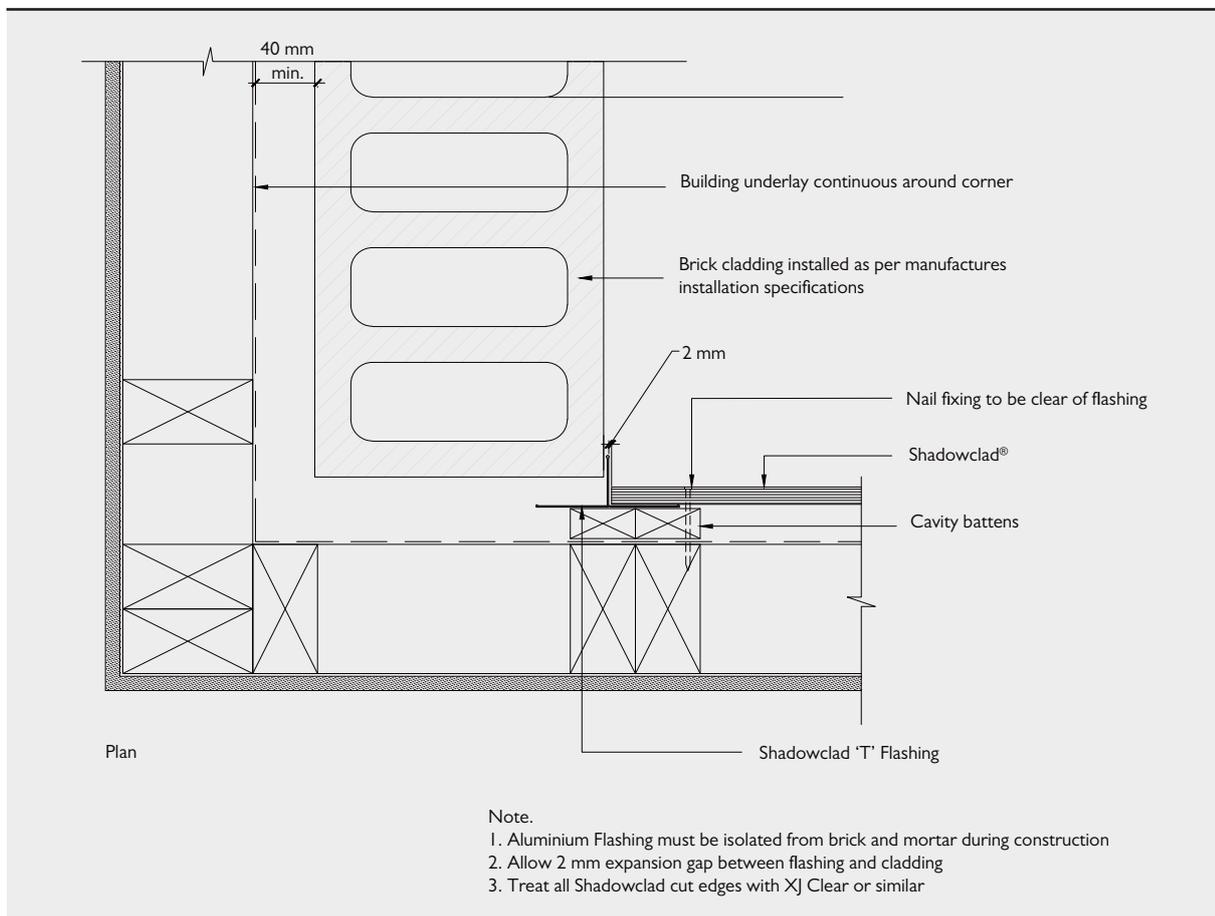
3.2 SHADOWCLAD® & BRICK VERTICAL JUNCTIONS

Shadowclad® Aluminium flashings should be isolated from brick and wet mortar during construction.

SC066: Shadowclad to Brick Vertical Junctions

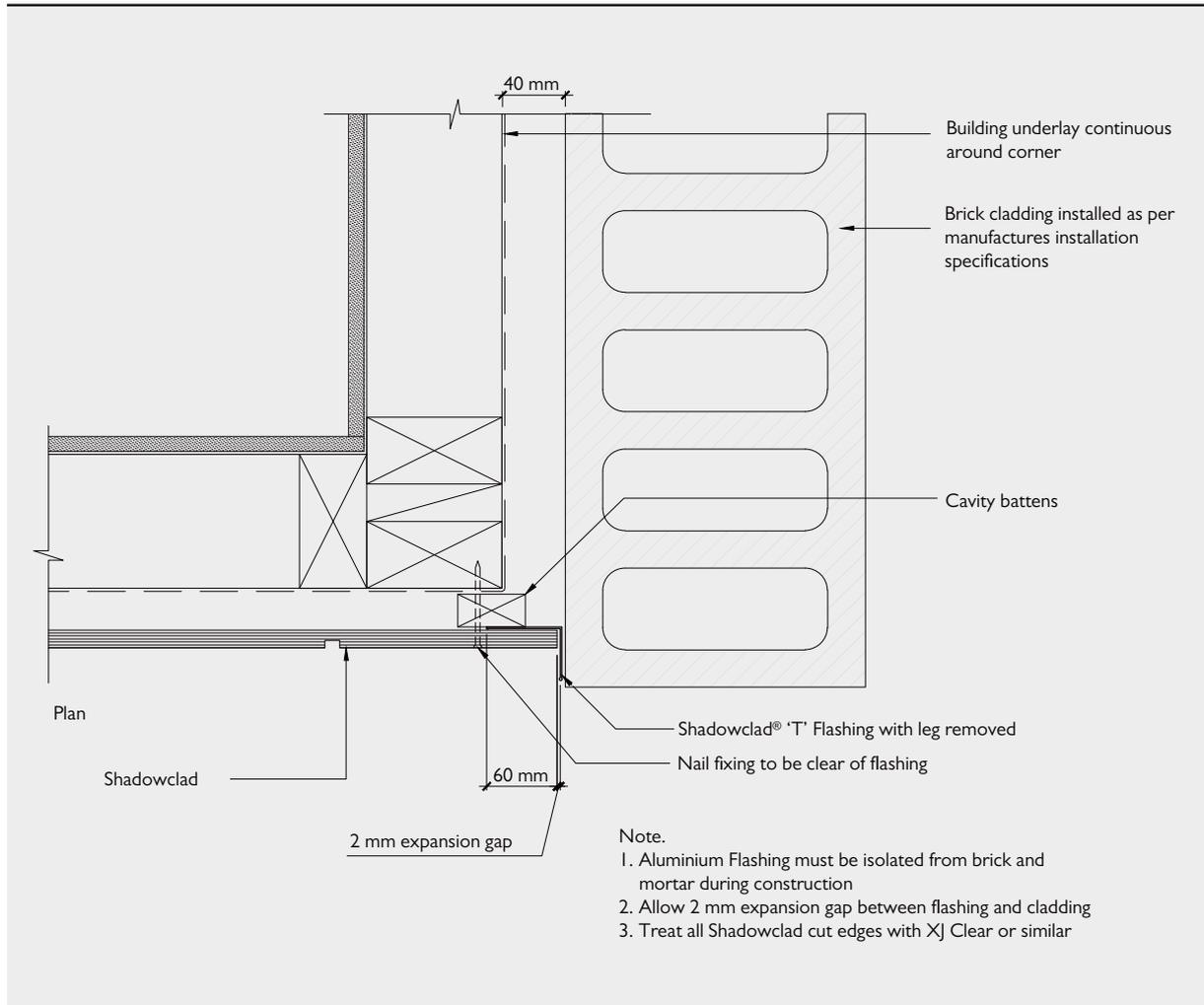


SC067: Shadowclad® to Brick Internal Junctions



See important notice and warning on page 3.

SC068: Shadowclad® to Brick External Junctions



4.0 REFERENCES & SOURCES OF INFORMATION

- National Construction Code series 2016, Building Code of Australia - Volume two.
- AS/NZS 2269:2012 "Plywood Structural".
- AS/NZS 1604.3:2010 "Specification for Preservative Treatment, Part 3: Plywood".
- AS 1720.1:2010 "Timber Structure Standard : Design".
- AS 1684.2:2010 Non Cyclonic Areas.
- AS 3715:2002 "Metal Finishing – Thermoset powder coating for architectural application of aluminium and aluminium alloys".
- Safety Data Sheet.
 - SDS Shadowclad® Azole Treated Plywood.
 - SDS Aluminium flashings.
- SDS Shadowclad Ultra LOSP Pre-primed Treated Plywood.
- APA (www.buildabetterhome.org).
- EVWPAA (www.ewp.asn.au).

Standards can be purchased online at <https://infostore.saiglobal.com/store/>.

NCC 2016, Building Code of Australia - Volume Two can be downloaded free of charge at www.services.abcb.gov.au/NCCOnline.

Line drawings with this literature can be downloaded from www.shadowclad.com.au.

5.0 LIMITATIONS

The information contained in this document is current as at September 2018 and is based on data available to CHH Plywood at the time of going to print.

All photographic images are intended to provide a general impression only and should not be relied upon as an accurate example of Shadowclad products installed in accordance with this document or the NCC 2016 Building code of Australia - Volume Two compliance documents.

CHH Plywood reserves the right to change the information contained in this document without prior notice. It is your responsibility to ensure that you have the most up to date information available, including at the time of applying for a building consent. You can call 1800 338 463 or visit www.shadowclad.com.au to obtain current information.

CHH Plywood has used all reasonable endeavours to ensure the accuracy and reliability of the information contained in this document. However, to the maximum extent permitted by law, CHH Plywood assumes no responsibility or liability for any inaccuracies, omissions or errors in this information nor for any actions taken in reliance on this information.

See important notice and warning on page 3.

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This Brochure should be read in conjunction with the current Shadowclad® Specification and Installation Guide For Cavity Construction.

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 **CarterHoltHarvey**
Plywood

Phone: 1800 338 463
www.shadowclad.com.au

September 2018

