Window Installation Guide
## Contents

<table>
<thead>
<tr>
<th>Dwg. No.</th>
<th>Dwg. Description.</th>
<th>Rev.</th>
<th>Rev. Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>IN-01</td>
<td>Introduction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-02</td>
<td>Introduction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-03</td>
<td>Introduction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-04</td>
<td>System Components</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-05</td>
<td>System Components</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-06</td>
<td>Step 1 Preliminary check of trim opening</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-07</td>
<td>Step 2 Wall underlay preparation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-08</td>
<td>Step 3 Position unit in opening</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-09</td>
<td>Step 4 Fix off unit</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-10</td>
<td>Step 4a Fix of unit continued</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-11</td>
<td>Step 4b Fix of unit continued</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-12</td>
<td>Step 5 Tape the fixing fin</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-13</td>
<td>Step 6 Fix cavity battens (if required by cladding type)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-14</td>
<td>Step 7 Fit Cladding (weatherboard shown, example)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-15</td>
<td>Step 7a Fit cladding (masonry veneer above window shown, example)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-16</td>
<td>Step 7b Fit Cladding (weatherboard shown, example)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-17</td>
<td>Step 7c Fit Cladding (flat Sheet types shown, example)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-18</td>
<td>Head flashings and end treatments</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-19</td>
<td>Type A</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-20</td>
<td>Type B</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-21</td>
<td>Type C</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-22</td>
<td>Masonry veneer beside and above window, with steel lintel angle in course</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-23</td>
<td>Masonry veneer beside and above window, with steel lintel angle fixed to lintel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-24</td>
<td>Masonry veneer beside window, other cladding above window</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-25</td>
<td>Masonry veneer continued, common jamb detail</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-26</td>
<td>Stucco</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-27</td>
<td>Horizontal bevel-back weatherboards</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-28</td>
<td>Weatherboards with facings, Head and sill with Smartfit head flashing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-29</td>
<td>Weatherboards with facings, Jamb detail with Smartfit head flashing above</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-30</td>
<td>Rusticated weatherboards</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-31</td>
<td>Fibre cement weatherboards</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-32</td>
<td>Horizontal profiled metal</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-33</td>
<td>Fibre cement sheet and flush-finished fibre cement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-34</td>
<td>Plywood sheet cladding</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-35</td>
<td>E.I.F.S, generic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-36</td>
<td>E.I.F.S, generic, top corner sealing detail</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-37</td>
<td>Hebel with Smartfit head flashing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-38</td>
<td>Rockcote INTEGRA with Smartfit head flashing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-39</td>
<td>Rockcote INTEGRA Without Smartfit head flashing</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-40</td>
<td>Scyon Linea weatherboard - no facings</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-41</td>
<td>Scyon Linea weatherboard - with facings head &amp; sill detail</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-42</td>
<td>Scyon Linea weatherboard - with facings jamb detail</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Smartfit Window Installation

## Contents

<table>
<thead>
<tr>
<th>Dwg. No.</th>
<th>Dwg. Description.</th>
<th>Rev.</th>
<th>Rev. Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>IN-43</td>
<td>Additional Details - Soffit at window / door head</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-44</td>
<td>Additional Details - No Smartfit head flashing with claddings above</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-45</td>
<td>Additional Details - Soffit fitted after joinery - All frames</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-46</td>
<td>Additional Details - Soffit fitted after joinery - Bifolds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-47</td>
<td>Additional Details - Soffit fitted after joinery - Sliders / stackers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-48</td>
<td>Additional Details - Full height unit to enclosed decks</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-49</td>
<td>Additional Details - Full height unit to sump threshold</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-50</td>
<td>Additional Details - Full height unit to floor</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-51</td>
<td>25mm reveals (shown with BB WB cladding)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-52</td>
<td>Sliding door frames (shown with BB WB cladding)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-53</td>
<td>Bifold frames, head fixing. Head flashing above and no head flashing options</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-54</td>
<td>Slider and stacker frames, head fixing. Head flashing above and no head flashing options</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-55</td>
<td>Code Compliance - Product substitution</td>
<td></td>
<td></td>
</tr>
<tr>
<td>IN-56</td>
<td>On-site application for minor variation to approved plans (example)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Introduction

This guide details the preparation, sequence and methods of installation of the Smartfit window and door system into buildings.
This document should be read in conjunction with BRANZ appraisal No. 868 (2014) and CodeMark™ certificate (cert no CMA-CM40120), which are included in this guide.

Product Description.

The Smartfit Window and Door installation system is a variant of the Altus Pacific suite. While the internal components are common to the Altus Pacific Suite, the external frame comprises of specially designed extruded aluminium sections and reinforced nylon injection moulded components, pre assembled to form an integral, weatherproofed window or door ready for installation in prescribed cavity wall cladding situations. The window and door units are manufactured in approved production facilities.

The Smartfit Window and Door system enables windows and doors to be attached to buildings and made weathertight using methods that differ from conventional detailing as outlined in NZBC Acceptable solution E2/AS1 Third Edition, Amendment 6 and the WANZ guide to Window Installation. The window or door is delivered to site ready for installation as a pre finished assembly complete with integral head and jamb flashings and sill support bar. The Smartfit window and door system incorporates integral drainage mechanisms to receive, manage and discharge water safely from the installation to the exterior of the building. The window or door trim openings need no special preparation prior to installing units other than folding the building wall underlay inwards.
The Smartfit installation System can be used with following cladding types on a drained and ventilated cavity only*:

a. Masonry Veneer with 40 to 50mm cavity
b. Stucco, and similar proprietary systems
c. Horizontal Bevelback Timber weatherboards
d. Horizontal rebated Bevelback Timber weatherboards
e. Horizontal Rusticated weatherboards
f. Fibre Cement weatherboards
g. Proprietary Fibre Cement weatherboard systems
h. Flat sheet type claddings (FC sheet and Plywood)
i. E.I.F.S, and similar proprietary systems
j. Aerated Autoclaved Concrete Panel systems (AAC)*
k. Other cladding systems covered by a valid BRANZ appraisal that specify a nominal 20mm (minimum 18mm) drained and vented cavity; or systems covered by a valid Codemark Product Certificate that specify a nominal 20mm (minimum 18mm) drained and vented cavity.
l. Other cladding types not covered by the above are on application - Please contact Altus.

*May also be used in AAC panel systems that are closed cavity.

The Smartfit window or door frame outer facing is set at a fixed distance from the wall framing. Thinner cladding types will leave a larger gap to finish between cladding face and window facing. This can be overcome by selecting a larger cavity size than 20mm. Cavities larger than 20mm nominal (excluding masonry veneer) are outside the scope of the BRANZ appraisal and Codemark certification. Larger cavity sizes or variations away from the Smartfit detailing must be approved by the BCA prior to construction.

The Smartfit system can be used with any wall framing dimension depth and any thickness or type of rigid air barrier.

Special requirements

1. Wall Framing must at least protrude over slab edge
2. Windows and doors are installed prior to any cladding fixing
3. Wall underlay's must be either BRANZ appraised or CodeMark™ certified and be used within the limitations as stated by the manufacturer.
4. Flashing tapes must be Smartfit branded tapes as supplied by the joinery manufacturer.
Features of the system

The Smartfit system improves weathertightness by reducing complexity and risk and simplifies the installation of windows and doors into buildings. The key feature of the Smartfit system is the relocation of the weatherline and airseal around windows and doors out to the wall underlay line, or outer framing line. Current practice as described in E2 AS1 shows the weatherline reaching all the way back to the internal wall lining, which consequently requires the building framing in this area to be protected by waterproof tapes in case of window or installation failure. The relocation of the weatherline and airseal line is possible by moving the at risk parts of the window or door frame out into the cavity and cladding space. This places less emphasis on window and door frame joints having to perform faultlessly over their lifetime and eliminates the need for any protective taping measures in the trim opening and air seals back at the internal wall lining line. The window or door trim space around the reveal now becomes part of the internal wall space rather than an external weathering area.

Other benefits of the Smartfit system are improved productivity on the building site and less materials required during installation. The window or door comes as a complete ready to install package with no loose parts requiring separate fitting at the building site. The window or door is simply lifted into the opening and fixed. The installation is then completed by taping the joinery unit to the wall underlay to create a continuation of the wall underlay weatherline. Subsequent cladding can then be applied around the unit without the need for complex cladding cuts and critical sealing details around flashings.

The Smartfit installation system improves the current situation and better addresses adjacent wall system weathertightness failure with water management features at all points of the connection between a window and the cladding.

The Smartfit installation system is closely aligned with E2 AS1 in terms of how windows connect to claddings and how failure water from the installation or other areas is managed. Each Smartfit detail can trace a clear path back to the equivalent E2 AS1 detail but with the Smartfit advantages added.

Key Features;

- No flexible flashing tapes required within the window or door trim opening.
- Sill support bar is inclusive in the window or door sill ensuring total and permanent support.
- Head flashing, head flashing end dams and cavity closer are inclusive in the window or door head.
- Jamb flashings are inclusive in the window and door jambs.
- Sill corner soakers and drainage blocks are inclusive with and solid fixed to window or door frames.
- No cladding saw cuts are required around head flashing horns.
- No P.E.F rod and expanding foam or sealant air seals required between reveal and trim opening.
- Less reveal packing and fixing.
- Window is taped directly to outside face of building wall underlay with Smartfit flashing tape.
- Window to wall framing trim gaps are not critically sized and can be insulated.
- Window and door frames are square cut for joint strength.
- Windows and some door frames reside over cavity space.
- Simplification removes quality and material issues and the subsequent long term risk.
System Components:

- Masonry veneer (MV)
- Aerated concrete panels (AAC)
- EIFS

Top hub, complete with end dams.
Top hub is not required when:
- No head flashing is required

Masonry Veneer (MV) end dam.
Fills the cavity space between head flashing horns and the back flashing.
- Only required with Top hub

Head flashing horns for:
- MV are flush with jamb facing
- AAC are flush with jamb facing
- EIFS are flush with jamb facing.

Head flashing is integral to window or door unit. It is complete with drained cavity closer.
Head flashing is not required when:
- Units finish hard up to soffit
- Under a MV lintel angle (option)
- One AAC head option is selected

Window or door jamb

Window or door sill complete with integrated support bar.

Soaker drainage block out in cavity space under mid frame penetrations (concealed)

Window or door fixing and taping fin - 4 sides of unit.

Bottom corner soaker complete with drainage function and outlet.

Window or door internal reveal

Window or door head (concealed under head flashing)

Window or door integral jamb flashing
System Components:

- Head flashing horns wrap around the front of the cladding a specified distance.
- Head flashing is integral to window or door unit. It is complete with drained cavity closer.
- Head flashing is not required when:
  - Units finish hard up to soffit
- Scrber cap. Adjustable. Fills the space between head flashing horns and face of cladding. Two sizes (depths).
- Window or door internal reveal
- Window or door head (concealed under head flashing)
- Window or door internal jamb flashing
- Soaker drainage block out in cavity space under mid frame penetrations (concealed)
- Bottom corner soaker complete with drainage function and outlet.
- Window or door fixing and taping flange - 4 sides of unit.

### Top Hub
- Complete with end dams.
- Top hub is not required when:
  - No head flashing is required.

### Scribe Cap
- Adjustable.
- Fills the space between head flashing horns and face of cladding.
- Two sizes (depths).

### Weatherboard - horizontal bevelback
- Weatherboard - horizontal rebated bevelback
- Weatherboard - horizontal rusticated
- Fibre cement weatherboards
- Horizontal profiled metal
- Fibre cement sheet
- Plywood sheet
- Stucco
- Scyon Linea weatherboard
STEP 1 - Preliminary check of trim opening

1.1 IMPORTANT NOTE;
The wall framing must at least be flush or protrude out over the floor edge. 5mm nominal is ideal.

1.2 Check trim opening for level, plumb, twist and squareness. Check outer window mounting surface is free from any protrusions and misaligned timber.

1.3 The trimmer must be fixed as such to resist torsional loads placed upon it from the weight of the installed and glazed window.

1.4 Check concrete slab edge is smooth and even, devoid of spill and boxing ridges. Any substantial edge breakouts that could affect sill sealing must be reinstated.
STEP 2 - Wall underlay preparation

2.1 Cut the wall underlay at 45° away from each corner.
2.2 Fold flaps tightly into opening and secure on all sides.
2.3 Trim off excess after fixing.

The Smartfit window and door system can be used with rigid air barriers (RAB). The reveal depth is altered to suit and fixing screw length should be adjusted accordingly. No sill taping of the trim opening is required if using a RAB.

External sheet bracing to wall framing must leave an even mounting surface for the window or door to seat properly on all sides. This may require the sheet brace to run past window openings or stop sufficiently short to allow for fin fixing and taping to occur.

Fix the wall underlay to framing using approved fixings.
STEP 3 - Position unit in opening

3.1 Position unit into opening.

3.2 Push outer fixing flange hard against the framing ensuring it is evenly seated and devoid of twist. Minor shimming under outer fixing fin is permissible to eliminate twist or to position window accurately to the reveal wall board groove or architrave.

3.4 Use full depth rectangular packers between framing and reveal to level the unit if required. If the floor or trimmer is straight and level, the window or door may sit hard down.

3.5 Diagonally measure to check for square and pack reveals if required.

3.6 Fix off unit as described in Step 4

3.7 Remove any packers from head reveal area

3.8 Cladding fixing starts after window install.

Note: The remaining trim gap dimension between reveal and framing is not important.
STEP 4 - Fix off unit

4.1 Do not fix through any plastic parts.

4.2 Fixing requirements @ Head & Jambs through outer fin:
10g x 32 SS screws @ 300 ctrs and not more than 150mm from corners
Holes are pre machined in head and jambs for screw fixings.

4.3 Fixing requirements @ Sill.
10g x 32 SS screws @ 300 ctrs not more than 150mm from corners.
Holes are pre machined in sill for fixings. Refer to subsequent details for timber or concrete sill fixing.

4.4 Reveal Fixing:
The reveal is not the primary means for attaching the window to the building. The frequency of reveal fixings and packers should follow good carpentry practice to prevent the reveal from being unduly flexible in service. Remove any head packers after fixing reveals. If no head flashing is present, reveal fixings at the head are required in accordance with 4.5. Sliding and hinged door jambs at lock points will require a positive reveal fixing. Pack between reveal and house framing and nail fix reveal to a suitable standard to resist jamb movement from potential lock loads.

4.5 Windows with head hard to soffit and no head flashing required (not shown):
Fixings: 2 off 75mm Jolt Head Nails @ 450ctrs and not more than 150mm from each end through reveal at head only. See IN-43 for example.

Note:
Before attempting to install a Smartfit window unit, installers are advised to familiarise themselves with the Smartfit window system components shown on Dwg. No's IN-04 and IN-05.
4a.1 Do not fix through any plastic parts.

4a.2 Fixing requirements @
Head & Jambs through outer fin;
10g x 32 SS screws
@ 300 ctrs and not more than 150mm from
Corners.
Holes are pre machined in head and jambs
for screw fixings.

Notes;
Screw positions can be optimised at time of
manufacture to suit window size and
windload. Screw fixing hole positions could
differ from those specified in this guide.

Sliding and hinged door jambs at lock points
will require a positive reveal fixing. Pack
between reveal and house framing and nail
fix reveal to a suitable standard to resist
jamb movement from potential lock loads.

4a.3 Fixing requirements @ Sill.
10g x 32 SS screws @ 300 ctrs not
more than 150mm from Corners.
Holes are pre machined in sill for
fixings. Refer to subsequent details
for timber or concrete sill fixing.
In some case top fixing through reveal
or additional fixing tag up on top of
floor will be required

4a.4 Reveal Fixing:
The reveal is not the primary means for attaching the window to the building.
The frequency of reveal fixings and packers should follow good carpentry
practice to prevent the reveal from being unduly flexible in service.
Remove any head packers after fixing reveals.
If no head flashing is present, reveal fixings at the head are required in
accordance with 4a.5.

4a.5 Windows with head hard to soffit and no head flashing
required (not shown):
Fixings: 2 off 75mm Jolt Head Nails
@ 450ctrs and not more than 150mm from each end through
reveal at head only. See IN-43 for example.
STEP 4b - Fix off unit continued

4b.1 For windows with head hard to soffit and no head flashing present (not shown); See specific detail on Dwg. No. IN-43.

NOTE: Heavy duty head flashing (shown N.T.S) is required for Bi-fold door units. See specific detail on Dwg. no. IN-53.

4b.2 Fixing requirements @Head & Jambs; 10g x 32 SS screws @ 300 ctrs and not more than 150mm from Corners.

4b.3 Note: Window reveal to building framing trim clearances are not important. 5mm nominal shown all round to allow for squaring unit.

Note: Use top row of holes for fixing into timber, Use bottom row for fixing into Concrete.

4b.4 FIXING REQUIREMENTS @ Sill. 10g x 32 SS screws @ 300 ctrs not more than 150mm from Corners.

4b.5 Reveal fixing: *See note 4.4 on sheet IN-09

Minor shimming under outer fixing fin is permissible to eliminate twist or to position window accurately to the reveal wall board groove or architrave.

4b.6 Fixing requirements @ head & jambs. 10g x 32 SS screws @ 300 ctrs not more than 150mm from corners.
STEP 5 - Tape the fixing fin

5.1 Smartfit flashing tape to be fitted before fixing the cavity battens that are adjacent to the window.

5.2 Use only Smartfit 60mm wide flashing tape.

5.3 Half the tape (30mm) to cover the fixing fin and half (30mm) to cover the wall underlay. All fixings and unused fixing holes must be covered by tape (except sill fixing holes into concrete slab).

5.4 The ends of each preceding piece of tape should be fully covered by the subsequent piece.

5.5 Start at the sill - then jambs and lastly the top strip over the head flashing.

5.6 Additional wall underlay from overlap above lapped over head flashing and flashing tape.

5.7 It is permissable to fill the trim cavity between the window reveal and house framing with insulation material.
**STEP 6 - Fix cavity battens**  (if required by cladding type)

6.1 Fix cavity battens in accordance with E2/AS1 or proprietary cladding system suppliers requirements to suit cladding type

6.2 Cavity battens, notch and run over head flashing fin

6.3 Cavity battens, notch and run over sill fixing fin

6.4 Cavity battens on outer stud or as close to the window trim opening as possible. It is possible to have a reduced cavity batten immediately adjacent to window jamb on top of fixing fin.
STEP 7 - Fit cladding

Weatherboard shown, example

In all cases, cladding is fitted after window installation. Sheet cladding products will need joins to allow cladding to be presented about a window after the window is in position.
STEP 7a - Fit cladding

Masonry veneer above window shown, example

- Masonry veneer lintel angle in masonry course (other options available)
- Window jamb in Masonry veneer cavity
- Top hub
- Internal timber reveal
- Head flashing upstand
- Masonry veneer lintel angle should reference this surface of the plastic top hub but not bear loads on it
- Masonry veneer cavity end dam component to be trimmed to back of, or bent around behind lintel angle as shown. Apply sealant to remaining gaps to form dam.
- This surface against framing and wall underlay
- This surface against framing and wall underlay
- No head flashing horns
- Window jamb

REAR VIEW, FROM INSIDE, top left corner of window, house framing not shown.

FRONT VIEW, FROM OUTSIDE, top left corner of window, cladding and framing not shown.
The head flashing horns run in front of the cladding face. There is no saw cut required to let the head flashing horns into the cladding.

The scriber cap is loose and runs fore and aft in a track in the top hub. Once the weatherboards are installed, apply sealant between the scriber cap and weatherboard face prior to pushing the scriber cap home hard to the face of the weatherboard.

A small hanger coming out from under the scriber cap will rest on the face of the weatherboard. The finished scriber will trap this hanger in position. It is possible to trim this hanger back so as not to protrude out the side of the finished scriber.

The Weatherboard that is cut up and over the top hub must be a neat fit to the side of the top hub with no more than 2mm side float.
**STEP 7c - Fit cladding**

Flatt sheet types shown, example

The head flashing horns run in front of the cladding face. There is no saw cut required to let the head flashing horns into the cladding.

The scriber cap is adjustable and runs fore and aft in a track in the top hub. Once the flat sheet cladding has been installed, apply sealant between the scriber cap and cladding face prior to pushing the scriber cap home hard to the face of the cladding.

A small hanger coming out from under the scriber cap will rest on the face of the cladding. The finished scriber will trap this hanger in position. It is possible to trim this hanger back so as not to protrude out the side of the finished scriber.

The flat sheet type cladding that is cut up and over the top hub must be a neat fit to the side of the top hub with no more than 2mm side float.

In all cases, cladding is fitted after window installation. Sheet cladding products will need joins to allow cladding to be presented about a window after the window is in position.
There are three categories of claddings that will define the need for a head flashing and the end treatment of the head flashing:

See Dwg. No’s. 19, 20, 21 for Types A, B and C

There are many more methods available for joining claddings to Smartfit windows that are not detailed in this guide.

Please contact Altus for any requirements outside of the details shown.
Window and Door Installation

Head flashings and end treatments - TYPE A

**Type A.**
- Masonry veneer beside window with other cladding type on battens above the window.
- Bevel back weatherboards with additional wide facing top and sides and applied weatherhead above top facing.
- Hebel aerated concrete panels.
- E.I.F.S. (Generic)- Proprietary systems may require different head flashing end treatment. Contact cladding manufacturer.
- Rockcote Integra with Smartfit head flashing.

- A Smartfit head flashing is required.
- The head flashing horns will be flush with the window jambs.
- The top hub will have masonry veneer end dams fitted.

**Notes:**
- MV Steel lintel angle should reference this surface of the top hub but not to bear loads on it.
- MV Steel lintel angle should reference this surface of the top hub but not to bear loads on it.

---

This Drawing is Protected by Copyright © Altus NZ Ltd

IN-19
Head flashings and end treatments - TYPE B

Type B.
- Masonry veneer with masonry veneer beside and above window on steel lintel angle.
- Windows hard to soffit for all cladding types.
- Scyon Linea weatherboard option - additional facings with separate head flashing above.
- Rockcote Integra with no head flashing.

- No Smartfit head flashing or top hub is required.
- Inclusive soffit bar is an additional option instead of applying suitable trim (by others) to finish the gap between window head and construction above (soffit, lintel angle etc.)

There is a further 'hard to soffit' option for pre-fabricated wall construction. See IN-45, IN-46 and IN-47.
Head flashings and end treatments - TYPE C

Type C.
- Weather boards of all types.
- Flat sheet claddings of all types.
- Horizontal profiled metal.
- Stucco.
- Scyon Linea weatherboard option - no additional facings.

- A Smartfit head flashing is required complete with top hubs, scribe caps and head flashing horns of a predetermined length.
Smartfit Window Installation

Masonry veneer  Masonry veneer beside and above window, with steel lintel angle embedded in course

Additional layer of wall underlay lapped over flashing.

Head flashing turned into angle or flat steel lintel. Extend flashing 200mm each side of opening

See IN - 44 for head taping detail

Drainage holes in masonry veneer

Galvanised or stainless steel lintel. See further details for more lintel options

Sealant to gap

Flashings around window openings in masonry veneer by others and in accordance with NZBC E2/AS1 Paragraph 9.2.4 and Fig. 73C

Follow NZBC E2/AS1 detailing for masonry veneer in the areas adjacent to the window installation

It is permissible to fill the trim cavity between the window reveal and house framing with insulation material.

Sill flashing with drip edge, extend 200mm each side of window. Position sill flashing against trimmer prior to installing window. Sill support bar of window runs over sill flashing.

H3.2 timber kick-out fillet

40-50

Flashings around window openings in masonry veneer by others and in accordance with NZBC E2/AS1 Paragraph 9.2.4 and Fig. 73C

Additional layer of wall underlay lapped over flashing.

Sill flashing with drip edge, extend 200mm each side of window. Position sill flashing against trimmer prior to installing window. Sill support bar of window runs over sill flashing.

H3.2 timber kick-out fillet
Smartfit Window Installation

Masonry veneer: Masonry veneer beside and above window, with steel lintel angle fixed to timber lintel

- Additional layer of wall underlay lapped over flashing and lintel angle
- Head flashing turned into steel lintel. Extend flashing 200mm each side of opening
- Galvanised or stainless steel lintel
- Soffit bar or suitable trim to close gap
- Flashings around window openings in masonry veneer by others and in accordance with NZBC E2/AS1 Paragraph 9.2.4 and Fig. 73C
- Flashing tape covering fixings and unused fixing holes
- Drainage holes in masonry veneer
- It is permissible to fill the trim cavity between the window reveal and house framing with insulation material.
- Sill flashing with drip edge, extend 200mm each side of window. Position sill flashing against trimmer prior to installing window. Sill support bar of window runs over sill flashing.
- H3.2 timber kick-out fillet

Follow NZBC E2/AS1 detailing for masonry veneer in the areas adjacent to the window installation.

This Drawing is Protected by Copyright © Altus NZ Ltd.
Smartfit Window Installation

Masonry veneer

- Masonry veneer beside window and other cladding above window

Batten out as required

Other cladding above window

Flashing tape covering fixings and unused fixing holes

End dam flap bent or trimmed to back of veneer or cladding above window. Apply sealant to remaining gaps to form dam.

Cladding above window to reference top hub.

Head flashing horns cut flush to window jambs

Flashings around window openings in Masonry veneer by others and in accordance with NZBC E2/AS1 Paragraph 9.2.4 and Fig. 73C

Additional wall underlay from overlap above lapped over head flashing and flashing tape.

Wall underlay

Temporary packers if required are to be removed from head after fixing.

Fixings - see step 4

Flashings around window openings in Masonry veneer by others and in accordance with NZBC E2/AS1 Paragraph 9.2.4 and Fig. 73C

It is permissible to fill the trim cavity between the window reveal and house framing with insulation material.

Sill flashing with drip edge, extend 200mm each side of window. Position sill flashing against trimmer prior to installing window. Sill support bar of window runs over sill flashing.

H3.2 timber kick-out fillet

Follow NZBC E2/AS1 detailing for masonry veneer in the areas adjacent to the window installation

This Drawing is Protected by Copyright © Altus NZ Ltd.
Note:
Grooved reveals shown on all details for consistency only. All details may be used with architrave reveals. If specifying no reveal or returned wallboard into window frame, please consult joinery manufacturer for additional details and trim options.

It is permissible to fill the trim cavity between the window reveal and house framing with insulation material.

Follow NZBC E2/AS1 detailing for masonry veneer in the areas adjacent to the window installation.
Stucco

40mm Cavity Battens

Flashing tape

End dam flap bent or trimmed to back of cladding. Apply sealant to remaining gaps to form dam.

Stucco above window to leave a minimum 5mm gap to head flashing.

Make a seal around head flashing horn.

Head flashing horn. Make a seal between cladding and head flashing horn.

Suitable cavity base angle closer or similar for 40mm cavity. Integral cavity closer on Smartfit head flashing is complete with drain slots.

Additional wall underlay from overlap above lapped over head flashing and flashing tape.

Wall underlay

Fixings - see Step 4 Temporary packers if required are to be removed from head after fixing.

Flashing tape covering fixings and any unused fixing holes

It is permissible to fill the trim cavity between the window reveal and house framing with insulation material.

Packers

Fixings - see Step 4

Note;
The installation detailing for Stucco cladding as drawn is outside the scope of NZBC E2/AS1 and NZS 4251.1:2007 due to the cavity depth and jamb flashing set-up. It is the responsibility of the designer to verify compliance with the NZBC for the Stucco cladding system.
Horizontal bevel-back weatherboards

Cavity battens

Flashing tape

Cant strip

Weatherboards above window sit on top hub to enforce 5mm gap to head flashing.

Scriber cap

Hanger, trap between cladding face and scriber

Scriber, profile to final shapes and seal to cladding

Trim under window as necessary

Bevel-back weatherboards

Flashing tape covering fixings and any unused fixing holes

Wall underlay

Cavity battens

Packers

The weatherboard that is cut up and over the window must be a neat fit to the side of the top hub with no more than 2mm of side float. The boards below require a front jamb flange cover of 8mm minimum.

Additional wall underlay from overlap above lapped over head flashing and flashing tape.

Wall underlay dressed into opening and stapled.

It is permissible to fill the trim cavity between the window reveal and house framing with insulation material.

Temporary packers if required are to be removed from head after fixing.

Fixings - see Step 4
Weatherboards with facings  Head and sill detail, with Smartfit head flashing

There are many other different ways to those detailed to achieve wide facings around a Smartfit window or door. Contact FWDS for more information.
Weatherboards with facings  Jamb Detail, with Smartfit head flashing above

- Bevel-back weatherboard
- Cavity battens, first batten away from trim opening
- Wall underlay
- Flashing tape covering fixings and any unused fixing holes
- Packers
- Masonry veneer end dam in position behind head flashing
- Line of Smartfit head flashing finishes flush with jambs
- Line of weatherhead over. Run 10mm min. past scribe
- Additional reduced cavity batten adjacent to opening to receive facing board fixings if required (not shown).

The weatherboard that is cut up and over the window must be a neat notched fit to the side of the top hub's masonry veneer end dam with no more than 2mm side float. The boards below require a front jamb flange cover of 8mm minimum.

There are many other different ways to those detailed to achieve wide facings around a Smartfit window or door. Contact FWDS for more information.
**Rusticated weatherboards**

- Cavity battens
- Flashing tape
- Weatherboards above window sit on top hub to enforce 5mm gap to head flashing.
- Scriber cap
- Hanger, trap between cladding face and scriber
- Rusticated weatherboards
- Trim under window as necessary.

**Flashings**

- Flashing tape covering fixings and any unused fixing holes
- Wall underlay
- Cavity battens, first batten away from trim opening
- Rusticated weatherboards
- Scriber cap sealed to face of weatherboards
- Head flashing horn

**Wall underlay**

- Additional wall underlay from overlap above lapped over head flashing and flashing tape.
- Wall underlay dressed into opening and stapled
- It is possible to fill the trim cavity between the window reveal and house framing with insulation material.

**Temporary packers**

- Temporary packers if required are to be removed from head after fixing.

**Fixings**

- Fixings - see Step 4

**Additional wall underlay**

- Additional wall underlay from overlap above lapped over head flashing and flashing tape.

**Weatherboard**

- The Weatherboard that is cut up and over the window must be a neat fit to the side of the top hub with no more than 2mm side float. The boards below require a front jamb flange cover of 8mm minimum.

**Packers**

- Additional reduced cavity batten adjacent to opening to receive scriber fixings if required (not shown).
- Scriber fixed and Sealed to face of Weatherboards

**Min. dimension**

- Min. dimension: must cover scriber

**Line of head flashing**

- Line of head flashing over

---

This Drawing is Protected by Copyright © Altus NZ Ltd.
Fibre cement weatherboards

- Cavity battens
- Flashing tape
- FC weatherboards above window sit on top hub to enforce 5mm gap to head flashing.
- Scriber cap
- Hanger, trap between cladding face and scribe

Temporary packers if required are to be removed from head after fixing.

The weatherboard that is cut up and over the window must be a neat fit to the side of the top hub with no more than 2mm side float.

The boards below require a front jam flange cover of 8mm minimum.

Additional wall underlay from overlap above lappe over head flashing and flashing tape.
Wall underlay dressed into opening and stapled
It is permissible to fill the trim cavity between the window reveal and house framing with insulation material.

Flashings - see Step 4

Fixings - see Step 4

Scriber fixed and Sealed to face of Weatherboards

Additional reduced cavity batten adjacent to opening to receive scriber fixings if required (not shown).

Scriber cap sealed to face of weatherboards

Head flashing horn

Min dimension: must cover scriber

Line of head flashing over

8mm min cover

Additional wall underlay from overlap above lappe over head flashing and flashing tape.
Wall underlay dressed into opening and stapled
It is permissible to fill the trim cavity between the window reveal and house framing with insulation material.

Flashings - see Step 4

Fixings - see Step 4

Scriber fixed and Sealed to face of Weatherboards

Additional reduced cavity batten adjacent to opening to receive scriber fixings if required (not shown).

Scriber cap sealed to face of weatherboards

Head flashing horn

Min dimension: must cover scriber

Line of head flashing over

8mm min cover

This Drawing is Protected by Copyright © Altus NZ Ltd.
Horizontal profiled metal

Cavity battens
Flash tape
Cladding cut line above window to be 5mm off head flashing surface.

Sealant
Scriber cap pushed back and sealed to face of cladding
Cladding cut line immediately beside top hub directly behind scriber cap. Cladding cut must be below scriber cap top surface.

Jamb flashing, finishes up under head flashing and scriber cap. Let cladding at lower cut line into jamb flashing. Jamb flashing finishes down onto and in front of sill flashing upstand.

The profiled Metal cladding that is cut up and over the window head must be cut to allow the cladding behind the scriber cap to run lower than the cut line above the window to give the scriber cap a surface to reference and be sealed to. The cladding must be cut neat down the sides of the top hub with no more than 2mm side float.

Additional wall underlay from overlap above lappe over head flashing and flashing tape. Wall underlay dressed into opening and stapled.It is permissable to fill the trim cavity between the window reveal and house framing with insulation material.

Temporary packers if required are to be removed from head after fixing.

Front elevation cladding cut at top of jamb LH

Cladding cut to sit on top of the top hubs - 5mm off head flashing.

Cut to suit Jamb Flashing

Flashing tape covering fixings and any unused fixing holes
Wall underlay

Cavity battens, first batten away from trim opening

Preformed jamb flashing lapping over sill flashing
Vertical compressible foam
Profilerd metal Cladding
End of Sill Flashing closed and scribed to cladding
Head flashing horn
Min dimension is to cover jamb flashing

Additional wall underlay from overlap above lappe over head flashing and flashing tape. Wall underlay dressed into opening and stapled.It is permissable to fill the trim cavity between the window reveal and house framing with insulation material.

Temporary packers if required are to be removed from head after fixing.

Front elevation cladding cut at top of jamb LH

Cladding cut to sit on top of the top hubs - 5mm off head flashing.

Cut to suit Jamb Flashing

Flashing tape covering fixings and any unused fixing holes
Wall underlay

Cavity battens, first batten away from trim opening

Preformed jamb flashing lapping over sill flashing
Vertical compressible foam
Profilerd metal Cladding
End of Sill Flashing closed and scribed to cladding
Head flashing horn
Min dimension is to cover jamb flashing

Additional wall underlay from overlap above lappe over head flashing and flashing tape. Wall underlay dressed into opening and stapled.It is permissable to fill the trim cavity between the window reveal and house framing with insulation material.

Temporary packers if required are to be removed from head after fixing.

Front elevation cladding cut at top of jamb LH

Cladding cut to sit on top of the top hubs - 5mm off head flashing.

Cut to suit Jamb Flashing

Flashing tape covering fixings and any unused fixing holes
Wall underlay

Cavity battens, first batten away from trim opening

Preformed jamb flashing lapping over sill flashing
Vertical compressible foam
Profilerd metal Cladding
End of Sill Flashing closed and scribed to cladding
Head flashing horn
Min dimension is to cover jamb flashing

Additional wall underlay from overlap above lappe over head flashing and flashing tape. Wall underlay dressed into opening and stapled.It is permissable to fill the trim cavity between the window reveal and house framing with insulation material.

Temporary packers if required are to be removed from head after fixing.
Fibre cement sheet and flush-finished fibre cement

- Cavity battens
- Cavity spacers, set to fall, where required for sheet fixing
- Flashing tape
- FC sheet above window to sit on top hub to enforce 5mm gap to head flashing.
- Scriber cap
- Hanger, trap between cladding face and scriber
- Scribe

Trim under window as necessary

In all cases, cladding is fitted after window installation. Sheet cladding products will need joins to allow cladding to be presented about a window after the window is in position.

- Flashing tape covering fixings and any unused fixing holes
- Wall underlay
- Cavity battens, first batten away from trim opening
- FC sheet cladding
- Scriber cap sealed to face of FC sheet
- Head flashing horn

Min dimension: must cover scriber

The FC sheet that is cut up and over the window must be a neat fit to the side of the top hub with no more than 2mm side float.

The Sheet edges at window jambs require a front jamb flange cover of 8mm minimum.

This Drawing is Protected by Copyright © Altus NZ Ltd.
Plywood sheet cladding

Cavity battens

Flashing tape

Cavity spacers, set to fall, where required for sheet fixing

Ply sheet above window to sit on top hub to enforce 5mm gap to head flashing.

Scriber cap

Hanger, trap between cladding face and scriber

Scriber

8 mm cover

Trim under window as necessary

In all cases, cladding is fitted after window installation. Sheet cladding products will need joins to allow cladding to be presented about a window after the window is in position.

Flash tape covering fixings and any unused fixing holes

Wall underlay

Cavity battens, first batten away from trim opening

Plywood cladding

Scriber cap sealed to face of plywood sheet

Head flashing horn

Min dimension: must cover scriber

Additional wall underlay from overlap above lapped over head flashing and flashing tape.

Wall underlay dressed into opening and stapled.

It is permissible to fill the trim cavity between the window reveal and house framing with insulation material.

Temporary packers if required are to be removed from head after fixing.

Fixings - see Step 4

Flash tape

Cavity battens

Wall underlay

Packers

The ply sheet that is cut up and over the window must be a neat fit to the side of the top hub with no more than 2mm side float.

The Sheet edges at window jambs require a front jamb flange cover of 8mm minimum

Additional reduced cavity batten adjacent to opening to receive scriber fixings if required.

Scriber fixed and sealed to face of ply sheet.

8 mm min cover

Line of head flashing over

This Drawing is Protected by Copyright © Altus NZ Ltd.
Smartfit Window Installation

**EIFS**

- Cavity battens
- Flashing tape
- EIFS & coating
- Cavity spacers set to fall
- uPVC or metal trim
- Top hub with masonry veneer end dams fitted. Remove or bend flaps behind EIFS.
- EIFS above window to reference top hub to enforce minimum 5mm gap to head flashing. Seal between cladding system, top hub and head flashing at the ends. Continue seal down jambs.
- Notch jamb flashing return leg underneath Aluminium Head Flashing

**10mm min cover**

EIFS sill flashing system over 3 way corner flashing with 10° min. fall to exterior

EIFS & coating

Refer to E2 / AS1 for additional information required to complete this detail

Flash tape covering fixings and any unused fixing holes

Wall underlay

First cavity batten away from trim opening.

Battens to be styrene

 EIFS & coating

Sealant with bond breaker

Additional wall underlay from overlap above lapped over head flashing and flashing tape.

Wall underlay dressed into opening and stapled.

It is permissible to fill the trim cavity between the window reveal and house framing with insulation material.

Temporary packers if required are to be removed from head after fixing.

Fixings - see Step 4

8mm Min Cover

The installation details as drawn are indicative only. Refer to the EIFS system supplier for proprietary flashing and installation details. Thicker cavity batten options will deliver a more recessed window.

This Drawing is Protected by Copyright © Altus NZ Ltd.
Top hub has masonry veneer end dams present. Bend over or break off flaps behind EIFS.

Run sealant up jamb, continuing up head flashing slope to diminished point at the head flashing / cladding top corner junction.
Hebel With Smartfit head flashing

Masonry veneer end dam in position.

Front part of top hub removed to allow cavity based failure water from above to exit off ends of head flashing

AAC panels, bottom edge cut to suit

Sealant to 3 - 6mm gap to cladding manufacturers specifications

Head flashing horns cut flush to window jambs

Drainage slots at ends of sill to be left clear. See elevation detail at right.

Damp proof coating applied to sill as per manufacturers literature. Min 15deg slope to sill

HEBEL 50mm or 75mm Powerpanel

DPC sill flashing to the back of the cladding. Fixed to face of sill trimmer before window is installed.

For more information see 'CSR hebel' window flashing details 'www.csrhebel.co.nz'

Hebel is a closed cavity system

Flashing tape covering fixings and any unused fixing holes

Fixings - see Step 4

Packers

Seal against sill and up jambs fully, but ensure drain slot outlet remains open to front.

Front Elev. RH sill / Jamb junction (N.T.S)

Sealant at sill

Window sill

Sealant at jamb

Hebel panel

Sealant, covered with acrylic coating. Seal up and over head flashing ends to meet head seal.

Ensure no gaps remain.

Wall underlay

24 or 35

DPC jamb flashing

Installed after window.

Fit tight to window jamb.

Additional wall underlay from overlap above lapped over head flashing and flashing tape.

Wall underlay

Reveal fixings: Refer step 4.5

Temporary packers if required are to be removed from head after fixing.

Wall underlay

Masonry veneer end dam in position.

Front Elev. RH sill / Jamb junction (N.T.S)
Smartfit Window Installation

Rockcote INTEGRA

*40mm cavity battens
*Panel & coating
Flash tape

Masonry veneer end dam in position, flap bent back or trimmed to back of cladding. Apply sealant to remaining gaps to form dam.

Panel system to reference top hub to enforce 5mm gap above head flashing. Continue jamb seal up and over head flashing to terminal point.

*Proprietary trim

*For all final dimensions and detailing refer to the current Rockcote technical details relating to Smartfit windows.

It is possible to use Rockcote Integra 20mm battens. The window will not appear as recessed.

*Sealant, drain holes in sill frame to remain clear
*Flashing

*Panel & Coating

Flash tape covering fixings and any unused fixing holes

Wall underlay

*Rockcote system cavity batten, first batten away from trim opening

*Panel & coating

Masonry veneer end dam in position behind head flashing horn

Line of Head Flashing over

Packers

Flash tape
Cavity battens
Wall underlay

HEAD

Fixings - see Step 4

SILL

Additional wall underlay from overlap above lapped over head flashing and flashing tape.

Wall underlay dressed into opening and stapled.

Temporary packers if required are to be removed from head after fixing.

Flashing tape

Masonry veneer end dam in position, flap bent back or trimmed to back of cladding. Apply sealant to remaining gaps to form dam.

Panel system to reference top hub to enforce 5mm gap above head flashing. Continue jamb seal up and over head flashing to terminal point.

*Proprietary trim

*For all final dimensions and detailing refer to the current Rockcote technical details relating to Smartfit windows.

It is possible to use Rockcote Integra 20mm battens. The window will not appear as recessed.

*Sealant, drain holes in sill frame to remain clear
*Flashing

*Panel & Coating

Flash tape covering fixings and any unused fixing holes

Wall underlay

*Rockcote system cavity batten, first batten away from trim opening

*Panel & coating

Masonry veneer end dam in position behind head flashing horn

Line of Head Flashing over

Packers

Flash tape
Cavity battens
Wall underlay

HEAD

Fixings - see Step 4

SILL

Additional wall underlay from overlap above lapped over head flashing and flashing tape.

Wall underlay dressed into opening and stapled.

Temporary packers if required are to be removed from head after fixing.
Rockcote INTEGRA Without Smartfit head flashing

40*mm cavity battens
*Panel & coating
See IN-44 for head taping detail

*3M All Weather Flashing Tape 8067 to be installed against jamb batten to form stope.

*3M All Weather Flashing Tape 8067 from wall underlay to head flashing.

*Resene edge seal head flashing

*For all final dimensions and detailing refer to the current Rockcote technical details relating to Smartfit windows

It is possible to use Rockcote Integra 20mm battens. The window will not appear as recessed

*Sealant, drain holes in sill frame to remain clear
*Flashing, notch clear of drain holes
*Panel & coating

Flash tape covering fixings and any unused fixing holes

Wall underlay

*Rockcote system cavity batten, first batten away from trim opening

*Panel & coating

Temporary packers if required are to be removed from head after fixing.

Wall underlay dressed into opening and stapled.

79701 Soffit seal, evenly seated against wall underlay

Reveal fixings with no head flashing: Refer step 4.5

Flashing tape

Cavity battens

Packers

JAMB

*Sealant

This Drawing is Protected by Copyright © Altus NZ Ltd.
Scyon Linea weatherboard - no facings

- H3.1 treated timber cant strip
- Flashing tape
- Cavity batten
- Scyon Linea weatherboard

Weatherboards above window sit on top hub to enforce 5mm gap to head flashing.

- Scriber cap
- Hanger, trap between cladding face and scriber
- Scriber, profile to final shapes around cap and hangar and fix and seal to cladding

- Temporary packers if required are to be removed from head after fixing.

- Fixings - see step 4

- Additional wall underlay from overlap above lapped over head flashing and flashing tape.
- Wall underlay dressed into opening and stapled.
- It is possible to fill the trim cavity between the window reveal and house framing with insulation material.

- Trim under window as necessary
- 10mm min cover
- Cavity batten

- Refer to the James Hardie Scyon Linea weatherboard technical manual for further details

- Flashing tape covering fixings and any unused fixing holes
- Wall underlay

The weatherboard that is cut up and over the window must be a neat fit to the side of the top hub with no more than 2mm side float.

The boards below require a front jamb flange cover of 8mm minimum.

- Additional reduced cavity batten adjacent to opening to receive scriber fixings if required.
- Scriber fixed and sealed to face of weatherboards
- 8mm min cover
- Line of head flashing over

Refer to the James Hardie Scyon Linea weatherboard technical manual for further details.

This Drawing is Protected by Copyright © Altus NZ Ltd.
Scyon Linea weatherboard - with facings

- Flashing tape or alternatively additional layer of wall underlay over head flashing
- Linea weatherboard
- Cavity batten
- H3.1 treated timber cant strip
- James Hardie uPVC vent strip
- 50mm strip of sealant at both ends of head flashing

**Head flashing with 15° slope**
- H3.1 packers to suit.
- Fix over window frame head seal.
- See IN-44 for head taping detail

**Wall underlay**
- 10mm min.

**5mm x 3mm inseal 3109 to overlap optional**

Refer to the James Hardie Scyon Linea weatherboard technical manual for further details

**Sealant must be installed between head flashing and trim in VH and EH wind zones**

**20mm stop ends to head flashing**

**79701 Soffit Seal, evenly seated against wall underlay**

**Wall underlay dressed into opening and stapled.**

- It is possible to fill the trim cavity between the window reveal and house framing with insulation material.

- Temporary packers if required are to be removed from head after fixing.

**Reveal fixings with no head flashing:**
- Refer Step 4.5

**5mm x 3mm inseal 3109 to overlap optional**

**10mm min. cover**

**Jamb facing board beyond**

**Planted sill trim under window as required**

**Cavity batten**

**Flashings tape covering fixings and any unused fixing holes**

**Wall underlay**
Refer to the James Hardie Scyon Linea weatherboard technical manual for further details.

Scyon Linea weatherboard - with facings  Jamb detail

- Flashing tape covering fixings and any unused fixing holes
- Wall underlay
- Cavity batten
- Linea weatherboard
- Scribe sized to suit. Fixed and sealed to face of weatherboards
- H3.1 packers to suit.
- Optional facing trim, fix in accordance with James Hardie instructions
- 5mm x 3mm inseal 3109 to overlap optional
- Additional reduced cavity batten adjacent to opening to receive fixings if required.
- Line of Head Flashing over, 10mm min. past scribe
- Line of planted sill below

10
Additional Details - soffit at window / door head

Notes:
- No head flashing is required.
- No top hubs are required.
- No fin fixing available at head.
- No continuous tape along head (where soffit is immediately above).
- Ensure rubber soffit seal contacts wall underlay / soffit evenly.
- Remove packers at head reveal once fixed.
- Primary head fixing is through reveal.
- Fix through front fin for the other three sides of the unit.
- Soffit may be sloping (down from wall).
- Finished soffit is 15mm higher than underside of lintel (Suitable for 19, 25mm reveals). 30mm reveals require a different offset. Agree offset with joinery supplier.

Apply horizontal flashing tape strip to sill first (If not concrete). Run jamb flashing tape over sill strip and up jamb to the highest available point overlapping the ends of the rubber soffit seal. Then overlay a further horizontal tape patch making sure that the ends and sides of the rubber seal are covered. Additionally, this area can be further tape patched or stapled to hold down tape edges.
Additional Details - no Smartfit head flashing

Notes:
- No head flashing is required.
- No top hubs are required.
- No fin fixing available at head.
- Tape is required along the head (where there is not a soffit immediately above).
- Ensure rubber soffit seal contacts wall underlay / soffit evenly.
- Remove packers at head reveal once fixed.
- Primary head fixing is through reveal.
- Fix through front flange for the other three sides of the unit.

Apply horizontal flashing tape strip to sill first (If not concrete). Run jamb flashing tape over sill strip and up jamb to overlap the ends of the rubber soffit seal. Then overlay a further continuous horizontal tape strip along the window frame head and rubber seal making sure that the ends and sides of the rubber seal are covered. Additionally, further tape patches can be applied to hold down tape edges.

Fixing requirements at head only;
2 off 75mm Jolt Head Nails @ 450 ctrs and not more than 150mm from each end.
All other fixings see Step 4.

79701 Soffit seal under tape
79701 Soffit seal, evenly seated against wall underlay
Jamb tape
Jamb
Head
TOP RIGHT CORNER DETAIL

This Drawing is Protected by Copyright © Altus NZ Ltd.
Apply horizontal flashing tape strip to sill first (If not concrete). Run jamb flashing tape over sill strip and up jamb to overlap the ends of the rubber seal and continue to the top of the head fixing tab. Then overlay a further continuous horizontal tape strip along the window frame head fixing tab making sure that the ends and sides of the rubber seal, head fixing tab and jamb are covered. Additionally, further tape patches can be applied to hold down tape edges.

Note;
This detail can be used when the joinery units are to finish up to a soffit but there is no soffit construction present at joinery installation time. This could occur where wall panels complete with joinery are prefabricated off site and soffit construction is added later. Full head taping of the unit is possible with this method. Apply further tape patches or wall underlay aprons above to prevent water ingress during construction time if required. The reveal fixing is no longer the primary structural fixing as described in step 4.5 and detailed in IN-43 so can be unspecified.

Adjustable soffit bar is optional. Alternative is timber finishing bead or flashing.

Extra framing above joinery for soffit fixing after window installation

100mm Min to face of cladding

Flashimg tape continuous along head

It is permissible to fill the trim cavity between the window reveal and house framing with insulation material.

Temporary packers if required are to be removed from head after fixing.
Additional Details - Soffit fitted after joinery

Bifold frames

100mm Min to face of cladding

Extra framing above joinery for soffit fixing after window installation

Extra soffit nogging above door to pick up head fixings

15mm

Temporary packers if required are to be removed from head after fixing.

Don't push wallboard hard into reveal groove.

It is permissible to fill the trim cavity between the window reveal and house framing with insulation material.

Apply horizontal flashing tape strip to sill first (if not concrete). Run jamb flashing tape over sill strip and up jamb to overlap the ends of the rubber seal and continue to the top of the head fixing tab. Then overlay a further continuous horizontal tape strip along the window frame head fixing tab making sure that the ends and sides of the rubber seal, head fixing tab and jamb are covered. Additionally, further tape patches can be applied to hold down tape edges.

Note;
This detail can be used when the joinery units are to finish up to a soffit but there is no soffit construction present at joinery installation time. This could occur where wall panels complete with joinery are prefabricated off site and soffit construction is added later. Full head taping of the unit is possible with this method.

Apply horizontal flashing tape strip to sill first (if not concrete). Run jamb flashing tape over sill strip and up jamb to overlap the ends of the rubber seal and continue to the top of the head fixing tab. Then overlay a further continuous horizontal tape strip along the window frame head fixing tab making sure that the ends and sides of the rubber seal, head fixing tab and jamb are covered. Additionally, further tape patches can be applied to hold down tape edges.

Note;
This detail can be used when the joinery units are to finish up to a soffit but there is no soffit construction present at joinery installation time. This could occur where wall panels complete with joinery are prefabricated off site and soffit construction is added later. Full head taping of the unit is possible with this method.

Apply horizontal flashing tape strip to sill first (if not concrete). Run jamb flashing tape over sill strip and up jamb to overlap the ends of the rubber seal and continue to the top of the head fixing tab. Then overlay a further continuous horizontal tape strip along the window frame head fixing tab making sure that the ends and sides of the rubber seal, head fixing tab and jamb are covered. Additionally, further tape patches can be applied to hold down tape edges.

Note;
This detail can be used when the joinery units are to finish up to a soffit but there is no soffit construction present at joinery installation time. This could occur where wall panels complete with joinery are prefabricated off site and soffit construction is added later. Full head taping of the unit is possible with this method.

Apply horizontal flashing tape strip to sill first (if not concrete). Run jamb flashing tape over sill strip and up jamb to overlap the ends of the rubber seal and continue to the top of the head fixing tab. Then overlay a further continuous horizontal tape strip along the window frame head fixing tab making sure that the ends and sides of the rubber seal, head fixing tab and jamb are covered. Additionally, further tape patches can be applied to hold down tape edges.

Note;
This detail can be used when the joinery units are to finish up to a soffit but there is no soffit construction present at joinery installation time. This could occur where wall panels complete with joinery are prefabricated off site and soffit construction is added later. Full head taping of the unit is possible with this method.
**Smartfit Window Installation**

**Additional Details - Soffit fitted after joinery**  
*Slider / Stacker frames*

100mm Min to face of cladding

- Extra framing above joinery for soffit fixing after window installation
- Soffit lining
- Adjustable soffit bar is optional. Alternative is timber finishing bead or flashing

*Sliding door*
- 1 off, 10g x 50 wood screw @ 450 ctrs through frame pocket

*Stacker door*
- 2 off, 10g x 50 wood screws @ 450 ctrs through frame pockets.

Apply horizontal flashing tape strip to sill first (If not concrete). Run jamb flashing tape over sill strip and up jamb to overlap the ends of the rubber seal and continue to the top of the head fixing tab. Then overlay a further continuous horizontal tape strip along the window frame head fixing tab making sure that the ends and sides of the rubber seal, head fixing tab and jamb are covered. Additionally, further tape patches can be applied to hold down tape edges.

**Note;**
This detail can be used when the joinery units are to finish up to a soffit but there is no soffit construction present at joinery installation time. This could occur where wall panels complete with joinery are prefabricated off site and soffit construction is added later. Full head taping of the unit is possible with this method.

*A Sliding or Stacker door frame head will need extra head fixing if it is spanning any significant distance between mullions and jambs unsupported. A Stacker door has no available reveal fixing room so frame fixings are necessary.
Note:
For full height joinery units finishing to floor, the wall framing must be at least flush or protrude out beyond the floor edge.

Note:
It is not important to maintain a 5mm nominal gap between reveal and floor or framing. Provide appropriate separation between the reveal, any aluminum member and concrete.

Details to be read in conjunction with NZBC E2/AS1, Figure 17A "Level thresholds for enclosed decks".
Operating gear for Bifold doors runs in this gap. Sufficient clearance is required. Consult joinery supplier.

10g x 50 SS screws into plugs @ 300 ctrs and not more than 150mm from corners.

Pre Fix angle to frame using 2 off 8g Csk SS screws @ 300 ctrs

12 x 75 x 50 x 3.0 thick Angle, continuous.

Compressible foam tape full length of sill. Run out ends and lap with jamb flashing tape. Foam tape must be of a thickness to ensure full contact and sufficient compression between back of angle and floor edge.

Establish support blocks under face of angle to resist rotational sill loads if gaps are present between slab edge and angle. Fix blocks to angle during trial installation.

Concrete slab

There is no practical sill support bar fixing available through the front of the support bar as shown in Fig 17B of NZBC E2/AS1. Use additional angle fix method as shown. Airseal is completed using single sided compressible foam seal tape behind the angle. Ensure a good seal is made.

Details to be read in conjunction with NZBC E2/AS1, Figure 17B "Level thresholds for ground level".

Note:
For full height joinery units finishing to floor, the wall framing must be at least flush or protrude out beyond the floor edge.

Note:
It is not important to maintain a 5mm nominal gap between reveal and floor or framing. Provide DPC or similar separation between reveal, any aluminium member and concrete.

Check concrete slab edge is smooth and even, devoid of spill and boxing ridges. Any substantial edge breakouts that could affect sill sealing must be reinstated. If the rubber seal is prevented from making a suitable seal against the edge of the slab, a wet seal may be used between sill support bar vertical fin and slab edge. This includes situations where the use of a rigid air barrier effectively pushes the sill fixing fin further from the floor edge. Run the rubber sill seal out just beyond the furthermost edges of the support bar fin. Ensure the jamb flashing tapes lap the ends of the sill fin and seal.
Additional Details - full height unit to floor

79700 Sill Seal to be evenly seated along floor edge. Run out ends and lap with jamb tape.

Fixing requirements at sill;
10g x 32 SS screws (or longer if sill bar is packed off floor edge) into plugs @ 300 ctrs and not more than 150mm from corners.
Note: Use bottom row of fixing holes for expansive type fasteners.

Fixing requirements at sill;
10g x 50 SS screws (or longer) into plugs @ 300 ctrs and not more than 150mm from each end. Pack unit to level under fixing tag if required.

Note;
Check concrete slab edge is smooth and even, devoid of spill and boxing ridges. Any substantial edge breakouts that could affect sill sealing must be reinstated. If the rubber seal is prevented from making a suitable seal against the edge of the slab, a wet seal may be used between sill support bar vertical fin and slab edge. This includes situations where the use of a rigid air barrier effectively pushes the sill fixing fin further from the floor edge. Run the rubber sill seal out just beyond the furthermost edges of the support bar fin. Ensure the jamb flashing tapes lap the ends of the sill fin and seal.

Note;
For full height joinery units finishing to slab floor, the wall framing must be at least flush or protrude out beyond the floor edge.

Note;
It is not important to maintain a 5mm nominal gap between reveal and floor or framing. Provide appropriate separation between reveal, any aluminum member and concrete. Reveals may or may not be present.

Units may be rebated into floor edge

Details to be read in conjunction with NZBC E2/AS1, Figure 17C "Door sills for cavity construction".
25mm reveals (shown with BB WB cladding) 30mm reveals similar

Cavity Battens
Flashing Tape and extra underlay
Cant strip
Weatherboards above window sit on top hub to enforce 5mm gap to head flashing.
Scriber cap

Hanger, trap between cladding face and scriber

Scriber, profile to final shapes and seal to cladding

Trim under window as necessary.

Bevel-back Weatherboards

8 mm cover

Flashings Tape covering fixings and any unused fixing holes
Packers

The Weatherboard that is cut up and over the window must be a neat fit to the side of the top hub with no more than 2mm side float. Boards below require a front flange jamb cover of 8mm minimum

Additional reduced Cavity Batten adjacent to opening to receive scriber fixings if required. (Not shown)

Scriber fixed and Sealed to face of Weatherboards

Min dimension is to cover scriber

Line of Head Flashing over

8mm min cover
Sliding door frames (shown with BB WB cladding)

Cavity Battens

Flashing Tape and extra underlay

Cant strip

Weatherboards above window sit on top hub to enforce 5mm gap to head flashing.

Scriber cap

Hanger, trap between cladding face and scriber

Scriber

79700 Sill Seal to be evenly seated along floor edge. Run out ends and lap with jamb tape

Fixing requirements at sill; 10g x 32 SS screws (or longer) into plugs @ 300 ctrs and not more than 150mm from Corners

Note: Use bottom row of fixing holes for expansive type fasteners.

IMPORTANT NOTE;
For full height joinery units finishing to slab floor, the wall framing must be at least flush or protrude out beyond the floor edge.

Note;
It is not important to maintain a 5mm nominal gap between reveal and floor or framing. Provide appropriate separation between reveal, any aluminum member and concrete.

Reveals may or may not be present.

Units may be rebated into floor edge

Wall Underlay

Cavity Battens, first batten away from trim opening

Bevel-back Weatherboard

Cladding

Scriber cap sealed to face of weatherboards

Head flashing horn

Min dimension is to cover scriber

Wall underlay dressed into opening and stapled

Temporary packers if required are to be removed from head after fixing.

Use additional fixing tag when no sill reveal is present.

Fixing requirements at sill; 10g x 32 SS screws (or longer) into plugs @ each end and @ 300 ctrs. Pack unit to level under fixing tag if required.

Packers

The Weatherboard that is cut up and over the door must be a neat fit to the side of the top hub with no more than 2mm side float.

Boards below require a front flange jamb cover of 8mm minimum

Additional reduced Cavity Batten adjacent to opening to receive scriber fixings if required. (Not shown).

Fixing Tape covering fixings and any unused fixing holes

Scriber fixed and Sealed to face of Weatherboards

8mm min cover Line of Head Flashing over

This Drawing is Protected by Copyright © Altus NZ Ltd.
Heavy Duty Head Flashing is required for Bi-Folds. Fix flashing to the lintel with 10g x 32 SS screws @ 200 Ctrs. Cluster 4 screws @ 50mm cts where bifold wheel sets park when closed and where panels stack when open.

M6 Adjuster screws (supplied fitted to unit). Install unit and use adjusters if needed to raise, lower or straighten head. Range = +/- 3mm

10g x 50 wood screws at 300 cts through reveal. Screw can be used to adjust pitch of head assembly in tandem with front adjuster screw.

79701 Soffit Seal, evenly seated against wall underlay

Extra soffit nogging above door to pick up head fixings

See IN-43 for additional end taping detail of 79701

Soffit Lining

Optional soffit bar, set to allow frame to adjust up if needed.

10g x 65 SS screws @ 200 cts. Cluster 4 screws @ 50mm cts where bifold wheel sets park when closed and stack when open.

10g x 50 wood screws at 300 cts through reveal. Screw can be used to adjust pitch of head assembly in tandem with front adjuster screw.

Suitable clearance is required for later adjustment.
**Slider and stacker frames, head fixing**

*A Sliding or Stacker door frame head may need extra fixing if it is spanning any significant distance between mullions and jambs unsupported. A Stacker door is unlikely to have any available reveal fixing room.*

- **10g x 32 SS screws @ 300 ctrs and not more than 150mm from ends**

*Sliding door;*
1 off, 10g x 50 wood screw @ 450 ctrs through frame pocket

*Stacker door;*
2 off, 10g x 50 wood screws @ 450 ctrs through frame pockets.

**79701 Soffit Seal,**
evenly seated against wall underlay

See IN-43 for additional end taping detail of 79701

**Soffit Lining**

**Optional soffit bar**

**15mm**

**HEAD, with head flashing**

No packers to head.

**HEAD, hard to soffit or no head flashing option**

No packers to head.
Code Compliance - product substitution

An onsite inspection process by the BCA is required to check that what is built has been built in accordance with the consented plans.

From time to time, it is desirable to substitute the product that was approved for use in the original consent for another product that will deliver a similar outcome.

The following pages describe the steps to take when a client wishes to change from conventionally installed windows and doors to Smartfit windows and doors.

The Smartfit window and door system is installed differently to a conventional window and door system; however the end result has no material effect on construction and is fully compliant with the NZ Building Code.

A conventional window and door system installation is deemed to comply with the NZ Building Code if the installation details follow the acceptable solution as drawn in E2/AS1.

A Smartfit window and door system installation is deemed to comply with the NZ Building Code as the system has been tested in accordance with E2/VM1 and carries Codemark certification (CMA-CM 40120). In addition to Codemark, Smartfit windows and Doors have been BRANZ appraised, No. 868 (2014).

So long as there are no changes to window or door opening sizes, it is not necessary to apply for a formal amendment to the building consent when substituting conventional windows and doors for Smartfit windows and doors. If there are changes to the size of the opening a formal amendment will need to be applied for along with drawings showing the intel and opening sizes.

The substitution is approved on site by the building inspector via an "Onsite application for minor variation to approved plans" form.

The process to follow is described below but could differ with each BCA:

1. The builder or owner orders, receives and installs the Smartfit joinery in accordance with the Smartfit installation guide.

2. The applicant completes the "Onsite application for minor variation to approved plans" form, which must be signed by the owner acknowledging the variation and hands the form and supporting documentation to the building inspector during the site inspection.

3. The inspector ticks the "Yes" box to confirm that the variation is minor and does not materially affect compliance.

During the early stages of the Smartfit product introduction, it would be prudent to complete step 2 prior to step 1 until the product and process has some familiarity with the local Building Consent Authority (BCA).

Filling out the form:

The agents name is "Fletcher Window and Door Systems". In addition, add the supplying window fabricators business name and contact details

To accompany the completed form, the supplying fabricator must include two copies of:

- The BRANZ Appraisal, No. 868 (2014)
- The Codemark certificate, CMA-CM 40120
- The relevant installation detail from the Smartfit Installation guide

The owner must complete and sign the form.

The form over page is for Auckland City. Each BCA will have a similar method. Please enquire with BCA for guidance.
This application is to advise Auckland Council that the following minor variation is proposed to be undertaken on the building situated at the address listed below. It is the owner’s responsibility to notify Council of any changes to the approved plans; this document once signed by the owner serves as acknowledgement. The variation must be approved by the Building Inspector before work can proceed.

<table>
<thead>
<tr>
<th>Building consent N°:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Site address:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Agents name:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fletcher Window and Door Systems</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Postal address:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Agents role in project:</th>
</tr>
</thead>
<tbody>
<tr>
<td>System Supplier / Manufacturer</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Contact phone number:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

The following documents must be provided with this application form:

- Two copies of SMARTFIT window technology installation details; SMARTFIT CODEMARK and BRANZ appraisal certificates must accompany this application (must be handed to Inspector for inspection to proceed)

No changes to the size of the windows or doors are permitted (if sizes differ, a formal amendment must be sought)

Windows / doors must be fitted into a cavity system; direct fixed installations not permitted

<table>
<thead>
<tr>
<th>SMARFIT windows and doors to replace existing joinery units</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Owner’s name:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Owner’s signature:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

By signing this statement the owner gives the agent authority to act on their behalf

Council use only:

<table>
<thead>
<tr>
<th>The variation is minor and does not materially affect compliance</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Inspector’s signature:</th>
<th>Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Inspector’s name:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
</tr>
</tbody>
</table>

THIS VARIATION IS NOT APPROVED UNTIL SIGNED AND APPROVED BY A COUNCIL BUILDING INSPECTOR