

Insulated Roof & Wall Panels

Installation Guide



Architectural Wall Panels (AWP)
KS600-1000 CX/EB/FL-FL-S/MR/MM/PL/WV
KS1000 CW/LV/TL
Horizontally Laid

November 2014



Note: Panels can be installed in either a tiered or coursed sequence.

Visually check internal liner joint to ensure panels are joined fully. Check panel cover width module as works progress to ensure "creep" does not occur, particularly important when windows are incorporated into the elevation.

This is a generic AWP installation guide, however details may differ from project to project. Project specific construction details must be used, please contact Kingspan Technical Services for further information

Note: Ensure steelwork is suitably lined, levelled and within tolerance.

Minimum bearing face for vertical joint steelwork is 130mm.

Minimum bearing face for intermediate support is 50mm. All subject to required number of primary panel fastener and wind loadings.

Fasteners to suit project specification requirements i.e. carbon / stainless steel.

When integrated, ribbon windows are installed in conjunction with horizontally laid Architectural Wall Panels. Should the vertical top hats terminate above and continue below the window units, please contact Kingspan Technical Services for shoe and deflector details.

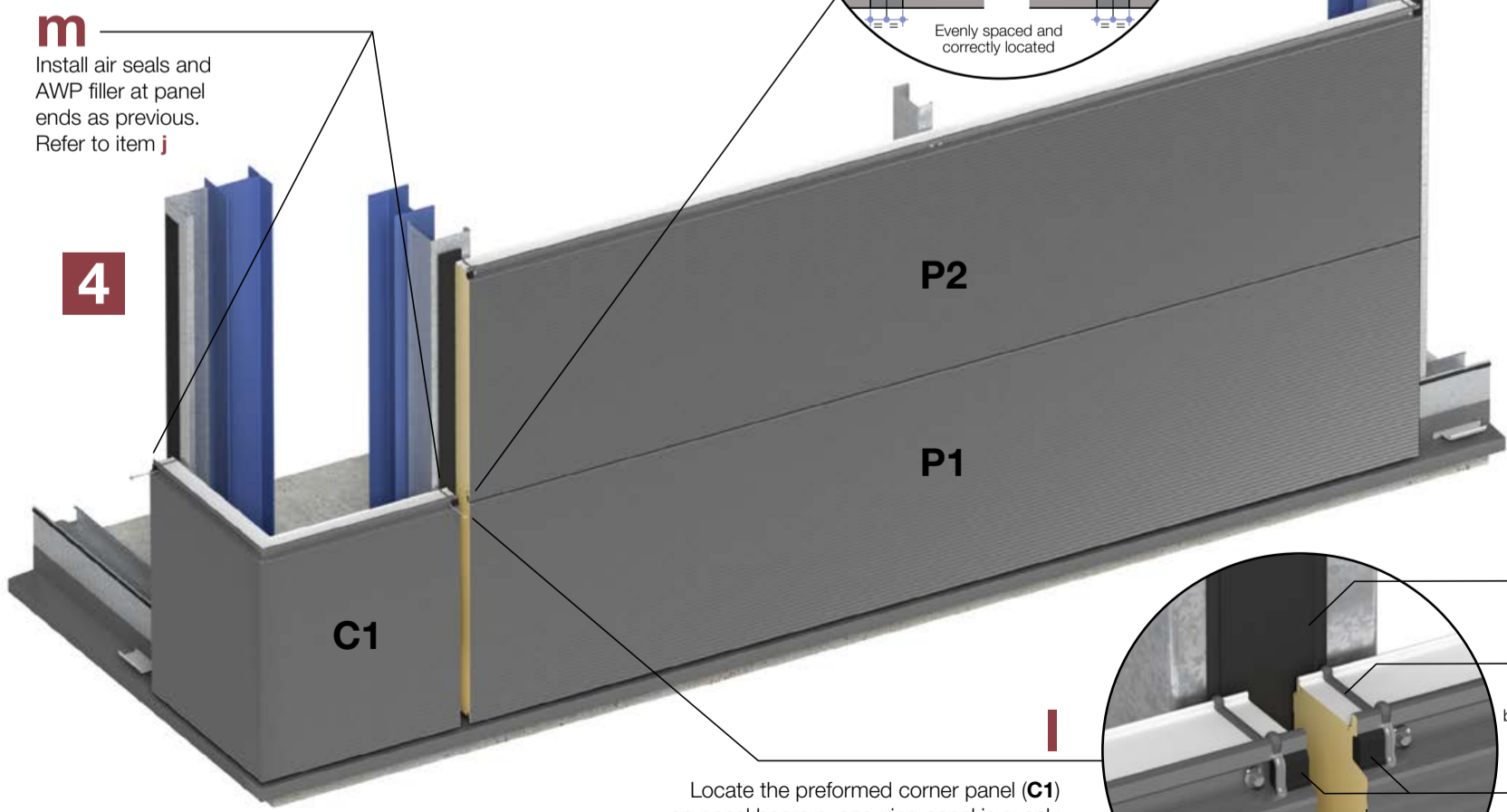
Gun-grade sealant referred to are: - non-setting butyl sealant
- silicone sealant

Tape sealant referred to is butyl tape sealant.

Note: As an alternative to using butyl air sealants, a PVC foam tape (SVG25) can be used for an air seal.

Please refer to Technical Update EU87 on Internal Air Seals and consult with our Kingspan Technical Services for further guidance.

All sealants to suit project specification requirements. Low air leakage rates can be achieved, for further information contact Kingspan Technical Services



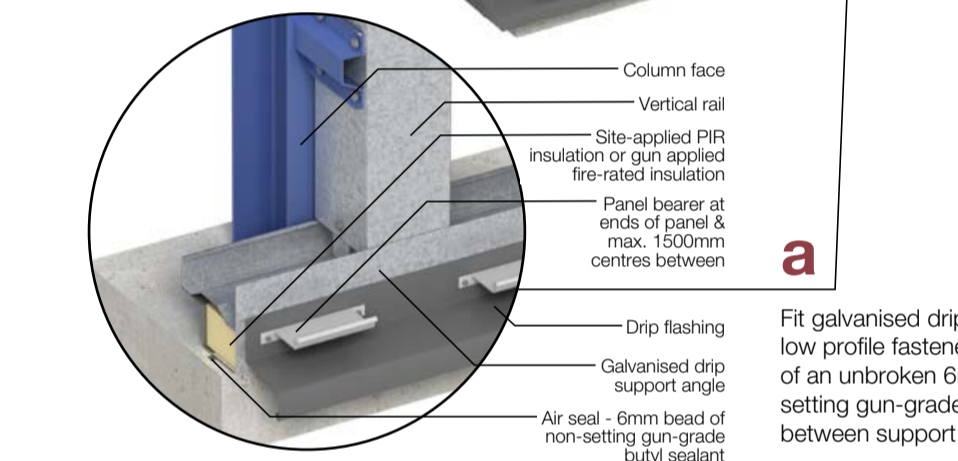
m Install air seals and AWP filler at panel ends as previous. Refer to item j

4

l Locate the preformed corner panel (C1) on panel bearers, ensuring panel is evenly spaced and correctly positioned between the vertical joint centres. Install main fasteners through the male joint

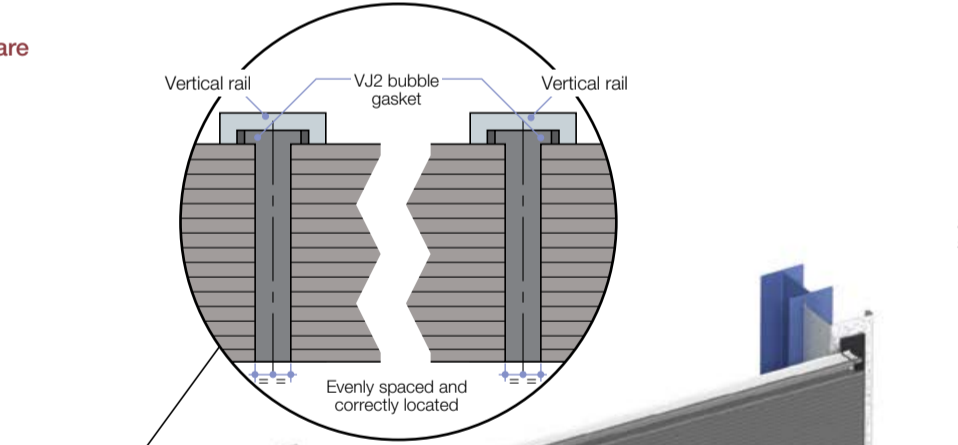


Air seal - VJ2 EPDM bubble gasket 95 x 10mm
Air seal - non-setting gun-grade butyl sealant to male joint
AWP joint filler and silicone sealant
Gap subject to vertical joint option

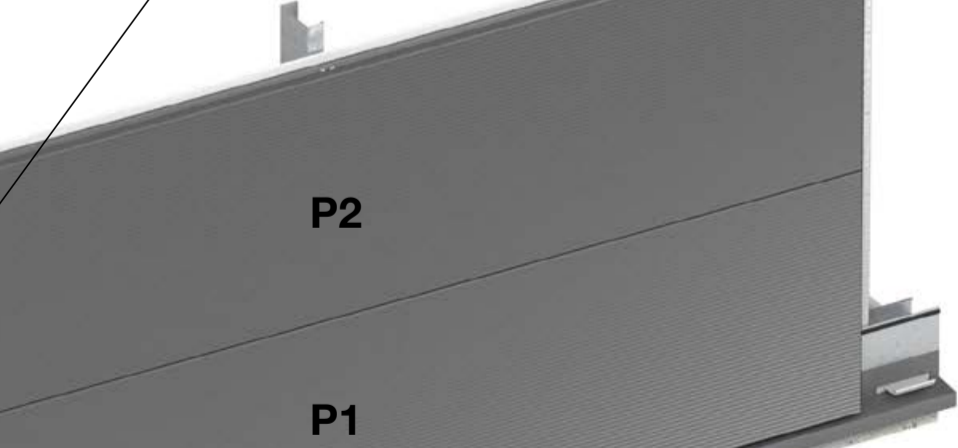


a Column face
Vertical rail
Site-applied PIR insulation or gun applied fire-rated insulation
Panel bearer at ends of panel & max. 1500mm centres between
Drip flashing
Galvanised drip support angle
Air seal - 6mm bead of non-setting gun-grade butyl sealant

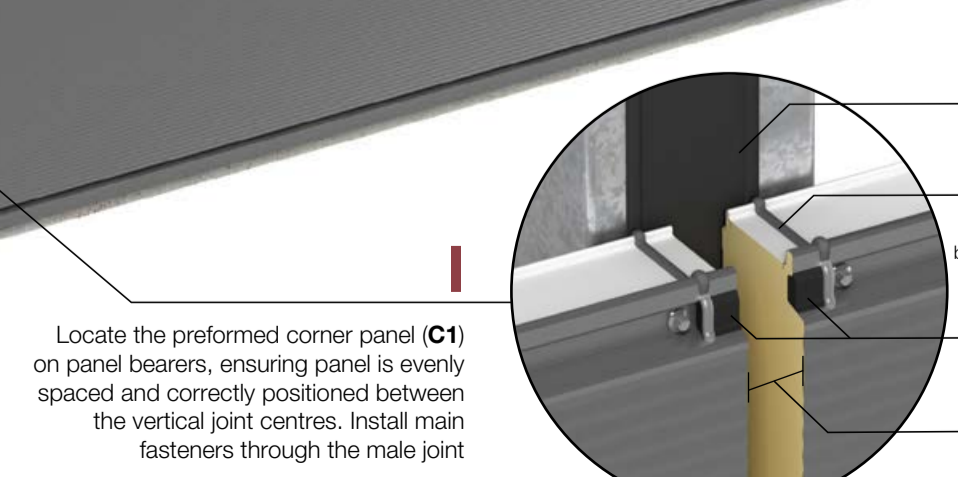
Fit galvanised drip support angle using low profile fasteners. An air seal consisting of an unbroken 6mm Ø bead of non-setting gun-grade butyl sealant is required between support angle and floor



h Vertical rail
VJ2 bubble gasket
Vertical rail
Evenly spaced and correctly located

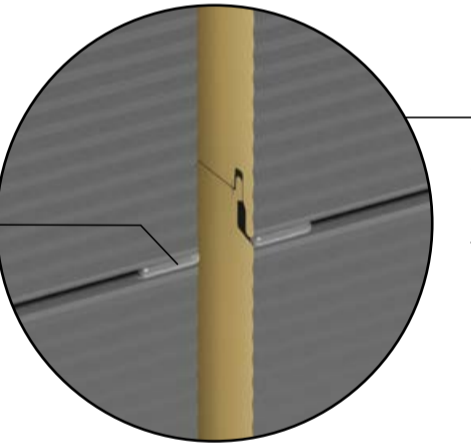


p Prior to installation of the top hat, apply a silicone sealant to horizontal panel joint at panel ends, in line with AWP filler



q Apply 4mm Ø butyl tape sealant (site-applied) to internal legs of top hat
Note: When using WV (Wave) profile, use 9 x 6mm PVC foam tape

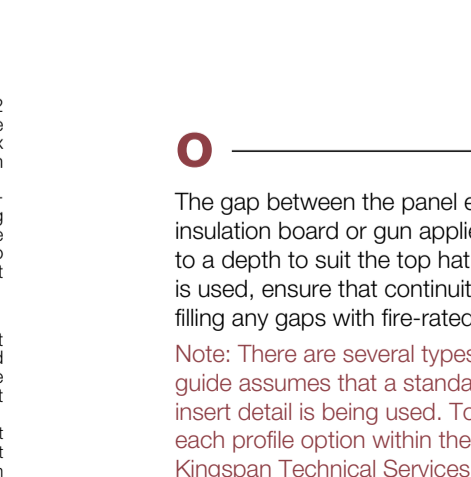
o The gap between the panel ends is to be filled with PIR insulation board or gun applied fire-rated canister insulation to a depth to suit the top hat section. If PIR insulation board is used, ensure that continuity of insulation is achieved by filling any gaps with fire-rated canister applied insulation
Note: There are several types of vertical joint options. This guide assumes that a standard steel top hat with flush insert detail is being used. Top hat options may vary for each profile option within the AWP range. Please contact Kingspan Technical Services for guidance



p Prior to installation of the top hat, apply a silicone sealant to horizontal panel joint at panel ends, in line with AWP filler

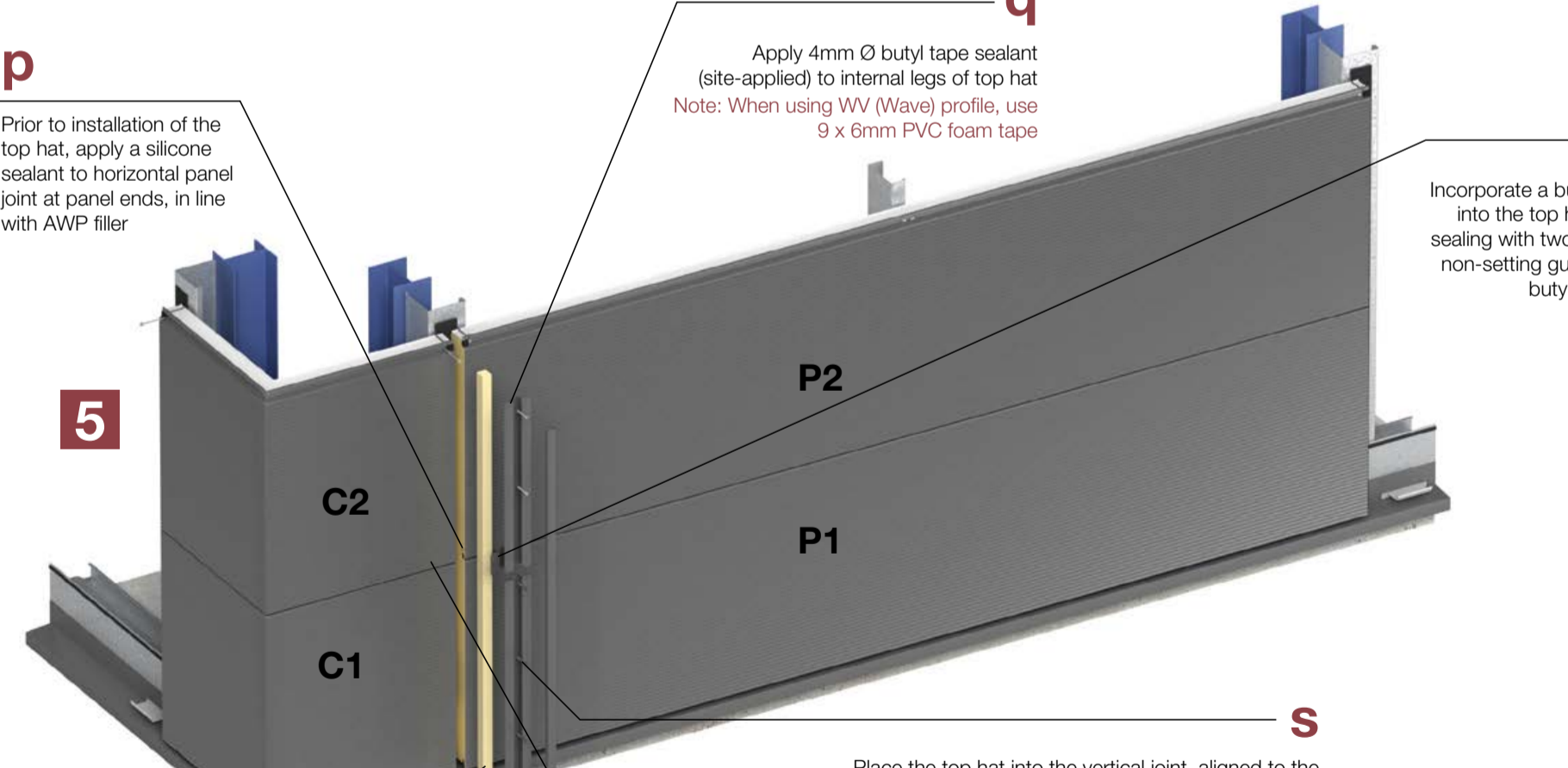


q Apply 4mm Ø butyl tape sealant (site-applied) to internal legs of top hat
Note: When using WV (Wave) profile, use 9 x 6mm PVC foam tape

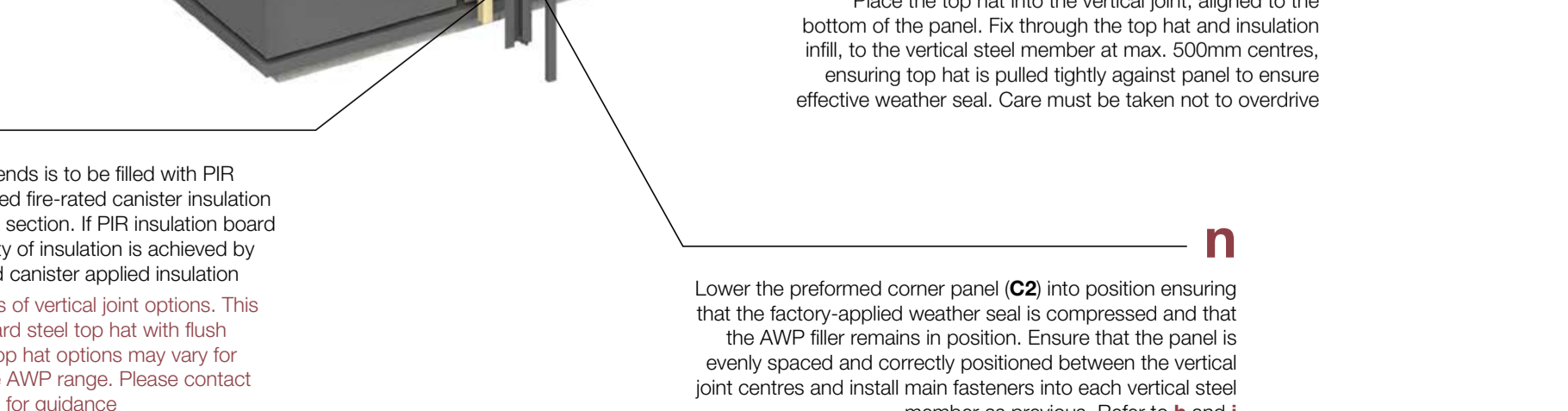


r Incorporate a butt strap into the top hat joint, sealing with two runs of non-setting gun-grade butyl sealant

n Lower the preformed corner panel (C2) into position ensuring that the factory-applied weather seal is compressed and that the AWP filler remains in position. Ensure that the panel is evenly spaced and correctly positioned between the vertical joint centres and install main fasteners into each vertical steel member as previous. Refer to h and i

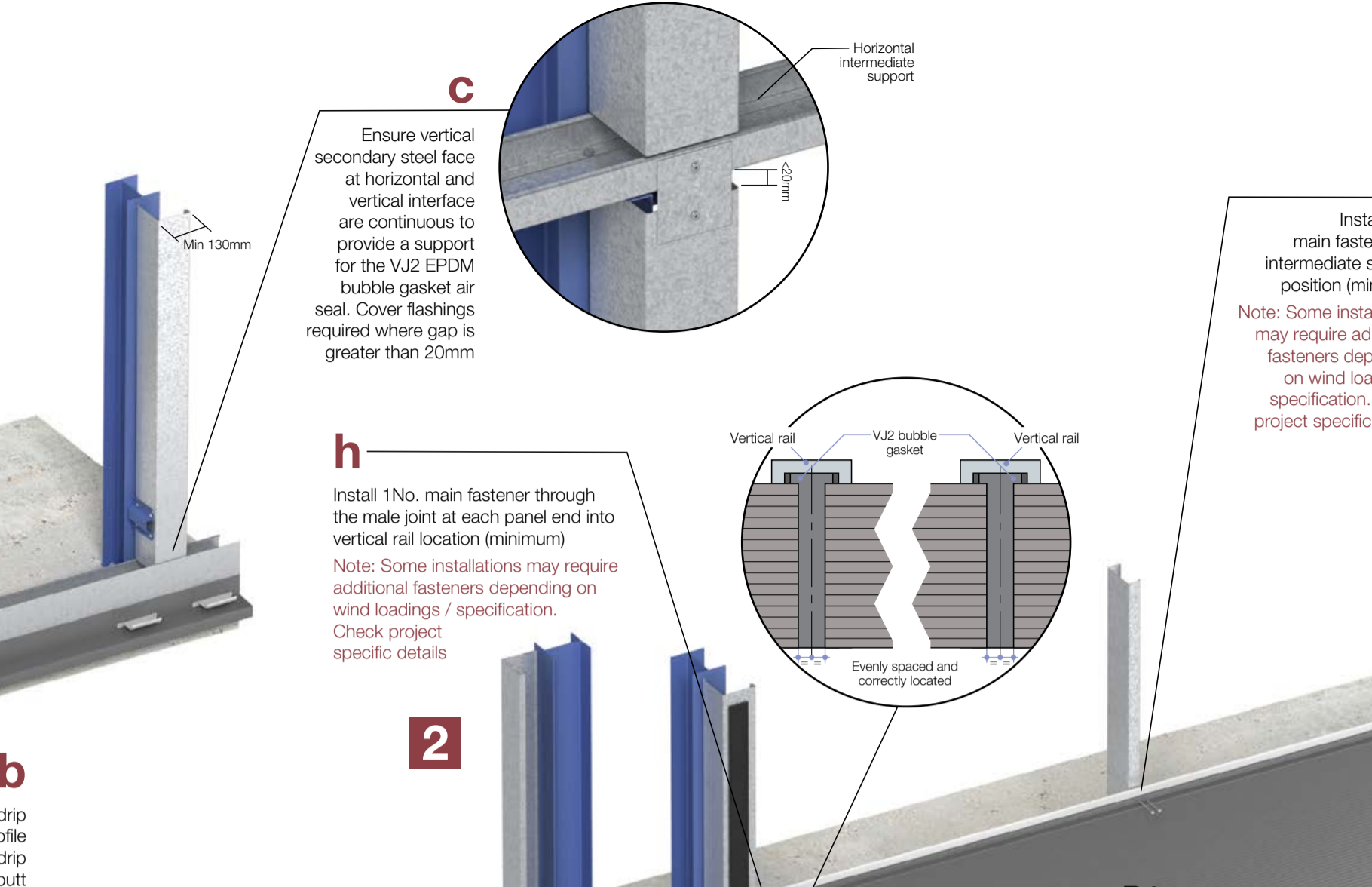


s Place the top hat into the vertical joint, aligned to the bottom of the panel. Fix through the top hat and insulation infill, to the vertical steel member at max. 500mm centres, ensuring top hat is pulled tightly against panel to ensure effective weather seal. Care must be taken not to overdrive



t Push fit top hat insert into position

o The gap between the panel ends is to be filled with PIR insulation board or gun applied fire-rated canister insulation to a depth to suit the top hat section. If PIR insulation board is used, ensure that continuity of insulation is achieved by filling any gaps with fire-rated canister applied insulation
Note: There are several types of vertical joint options. This guide assumes that a standard steel top hat with flush insert detail is being used. Top hat options may vary for each profile option within the AWP range. Please contact Kingspan Technical Services for guidance



c Ensure vertical secondary steel face at horizontal and vertical interface are continuous to provide a support for the VJ2 EPDM bubble gasket air seal. Cover flashings required where gap is greater than 20mm

d Fit panel bearers, located maximum 150mm from panel ends and at maximum 1500mm centres. Ensure that bearers are accurately lined and levelled

e A VJ2 EPDM bubble gasket is required at each vertical panel joint detail to provide an air seal. Apply gasket to the vertical steel member, ensure that it overlaps the vertical leg of the drip flashing

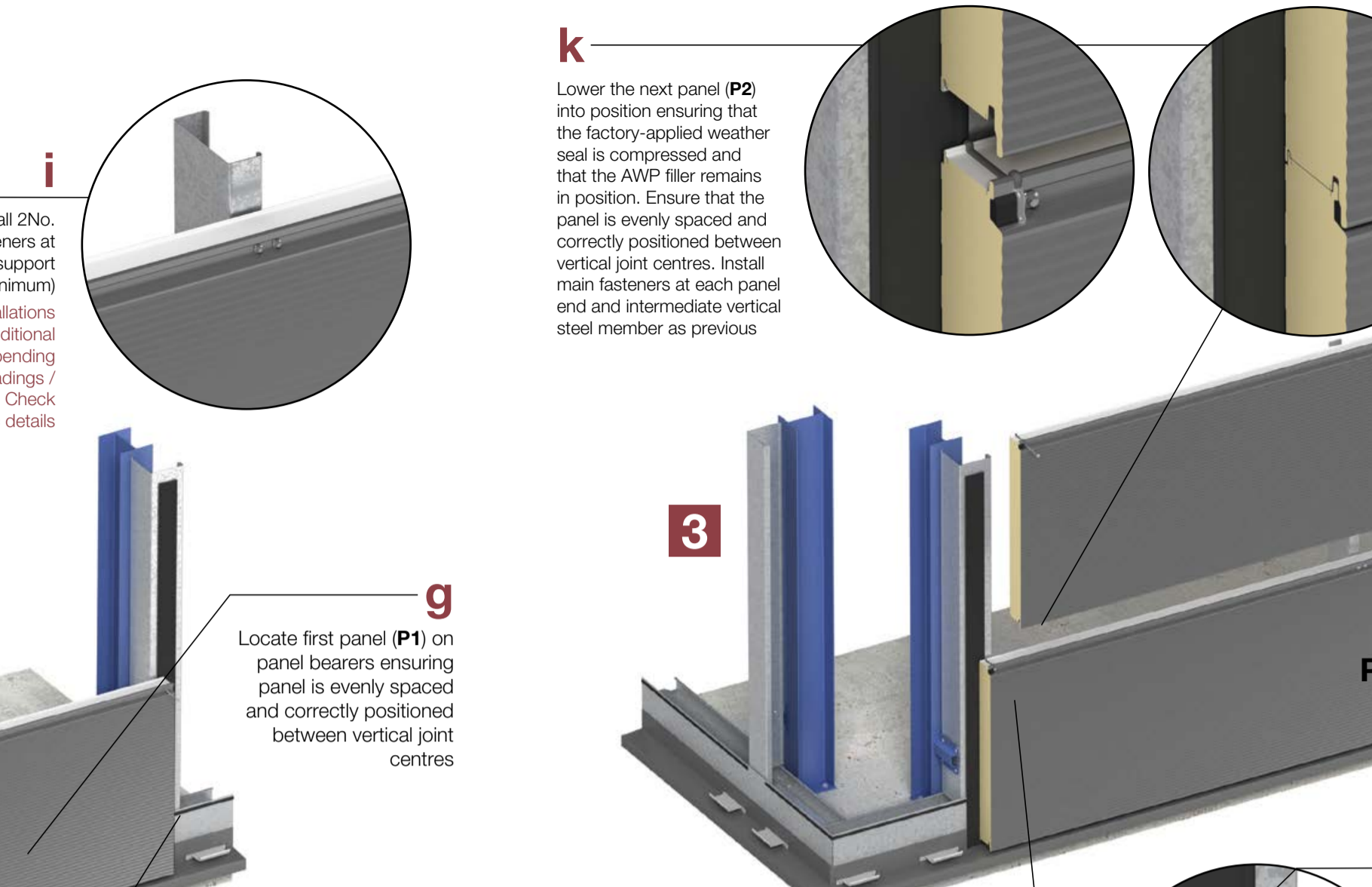
f Apply an unbroken 6mm Ø bead of non-setting gun-grade butyl sealant to provide an air seal between back of panel and drip support angle. This air seal should meet the previously installed bubble gasket

g Locate first panel (P1) on panel bearers ensuring panel is evenly spaced and correctly positioned between vertical joint centres

h Install 1 No. main fastener through the male joint at each panel end into vertical rail location (minimum)
Note: Some installations may require additional fasteners depending on wind loadings / specification. Check project specific details

i Install 2 No. main fasteners at intermediate support position (minimum)
Note: Some installations may require additional fasteners depending on wind loadings / specification. Check project specific details

j Bed an AWP filler in silicone sealant at panel ends, and run a non-setting gun-grade butyl sealant air seal across male joint



k Lower the next panel (P2) into position ensuring that the factory-applied weather seal is compressed and that the AWP filler remains in position. Ensure that the panel is evenly spaced and correctly positioned between vertical joint centres. Install main fasteners at each panel end and intermediate vertical steel member as previous

l Column face
VJ2 EPDM bubble gasket
Vertical rail
AWP horizontally laid
Air seal - 6mm bead of non-setting gun-grade butyl sealant

m Air seal - VJ2 EPDM bubble gasket 95 x 10mm
Air seal - non-setting gun-grade butyl sealant to male joint
AWP joint filler and silicone sealant

n Lower the preformed corner panel (C2) into position ensuring that the factory-applied weather seal is compressed and that the AWP filler remains in position. Ensure that the panel is evenly spaced and correctly positioned between the vertical joint centres and install main fasteners into each vertical steel member as previous. Refer to h and i

o The gap between the panel ends is to be filled with PIR insulation board or gun applied fire-rated canister insulation to a depth to suit the top hat section. If PIR insulation board is used, ensure that continuity of insulation is achieved by filling any gaps with fire-rated canister applied insulation
Note: There are several types of vertical joint options. This guide assumes that a standard steel top hat with flush insert detail is being used. Top hat options may vary for each profile option within the AWP range. Please contact Kingspan Technical Services for guidance

p Prior to installation of the top hat, apply a silicone sealant to horizontal panel joint at panel ends, in line with AWP filler

q Apply 4mm Ø butyl tape sealant (site-applied) to internal legs of top hat
Note: When using WV (Wave) profile, use 9 x 6mm PVC foam tape

r Incorporate a butt strap into the top hat joint, sealing with two runs of non-setting gun-grade butyl sealant

s Place the top hat into the vertical joint, aligned to the bottom of the panel. Fix through the top hat and insulation infill, to the vertical steel member at max. 500mm centres, ensuring top hat is pulled tightly against panel to ensure effective weather seal. Care must be taken not to overdrive

t Push fit top hat insert into position

u Air seal - VJ2 EPDM bubble gasket 95 x 10mm
Air seal - non-setting gun-grade butyl sealant to male joint
AWP joint filler and silicone sealant
Top hat
Top hat insert for flush option

v Site-applied PIR insulation or gun applied fire-rated canister insulation

w Low profile fastener

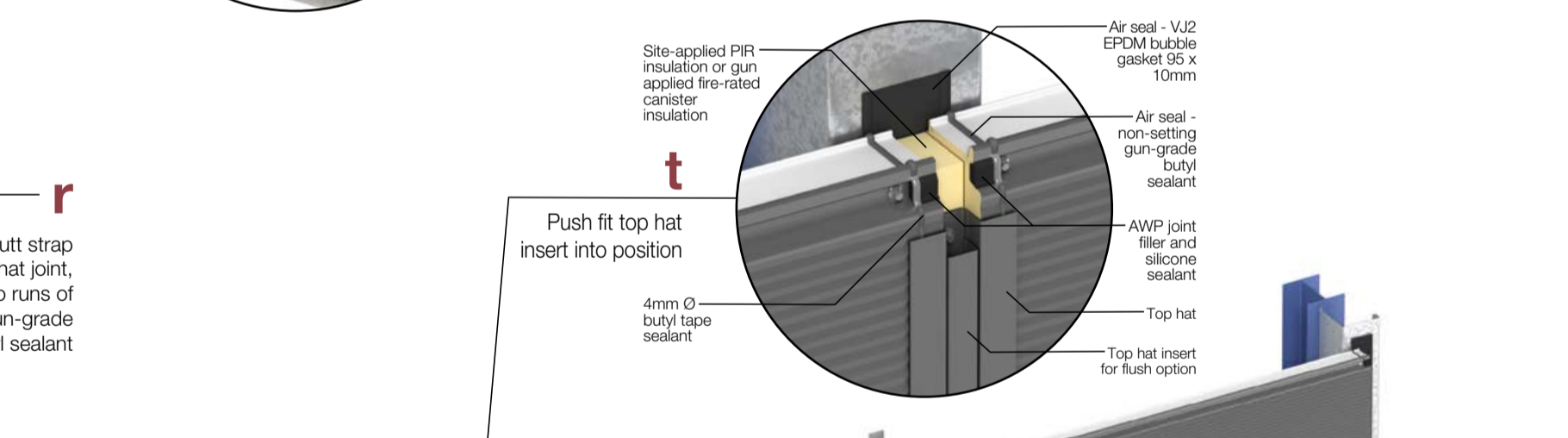
x VJ2 EPDM bubble gasket

y Butyl tape sealants
6mm
4mm Ø

z AWP filler
Butt strap



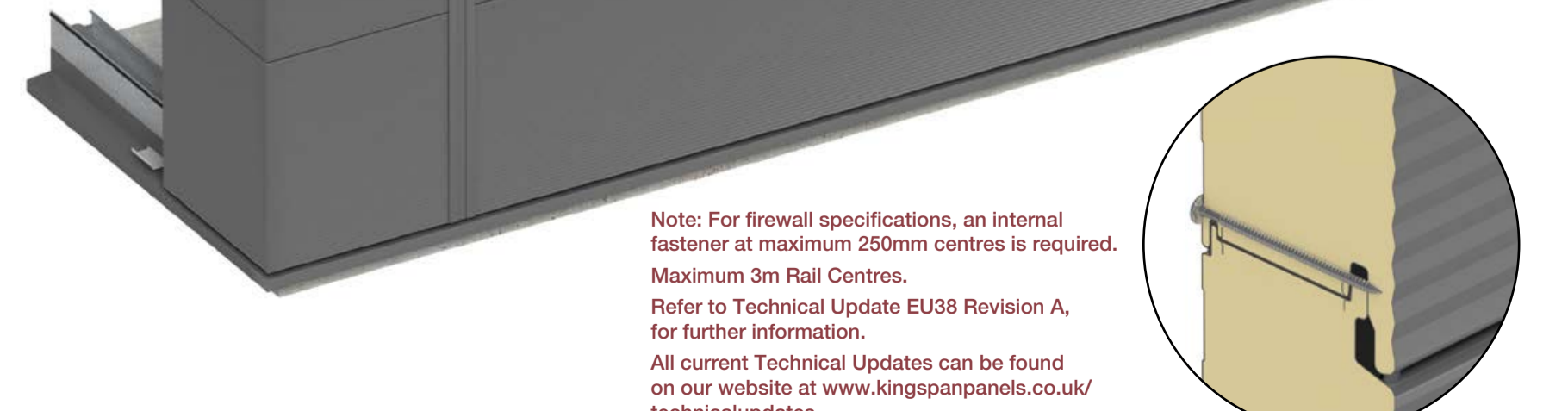
a Locate the preformed corner panel (C1) on panel bearers, ensuring panel is evenly spaced and correctly positioned between the vertical joint centres. Install main fasteners through the male joint



b Prior to installation of the top hat, apply a silicone sealant to horizontal panel joint at panel ends, in line with AWP filler



c Apply 4mm Ø butyl tape sealant (site-applied) to internal legs of top hat
Note: When using WV (Wave) profile, use 9 x 6mm PVC foam tape

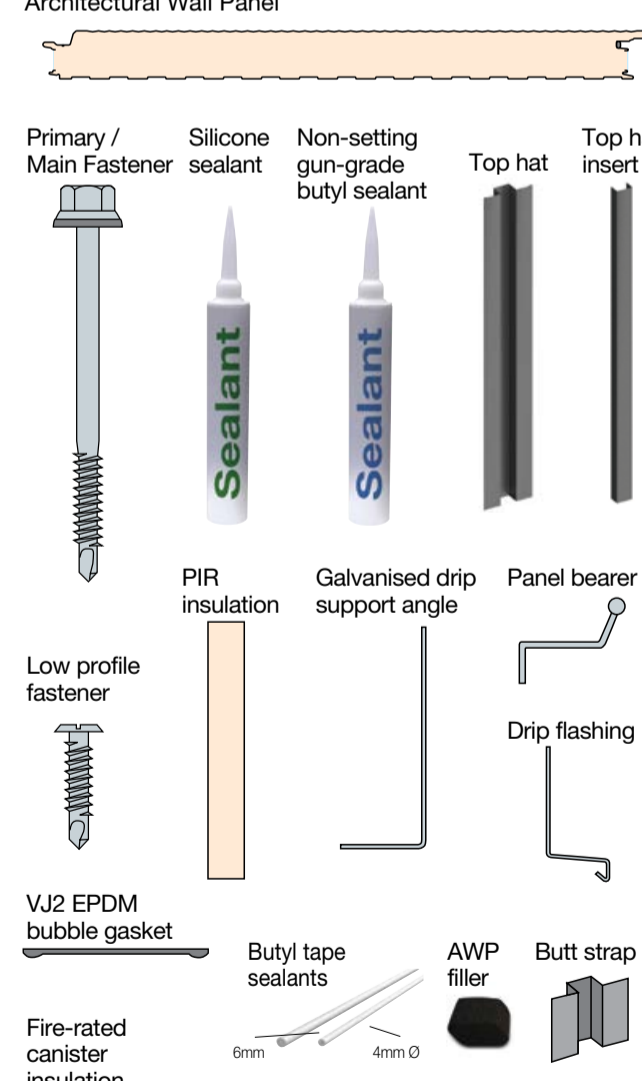


d Incorporate a butt strap into the top hat joint, sealing with two runs of non-setting gun-grade butyl sealant

n Lower the preformed corner panel (C2) into position ensuring that the factory-applied weather seal is compressed and that the AWP filler remains in position. Ensure that the panel is evenly spaced and correctly positioned between the vertical joint centres and install main fasteners into each vertical steel member as previous. Refer to h and i

Components

Architectural Wall Panel

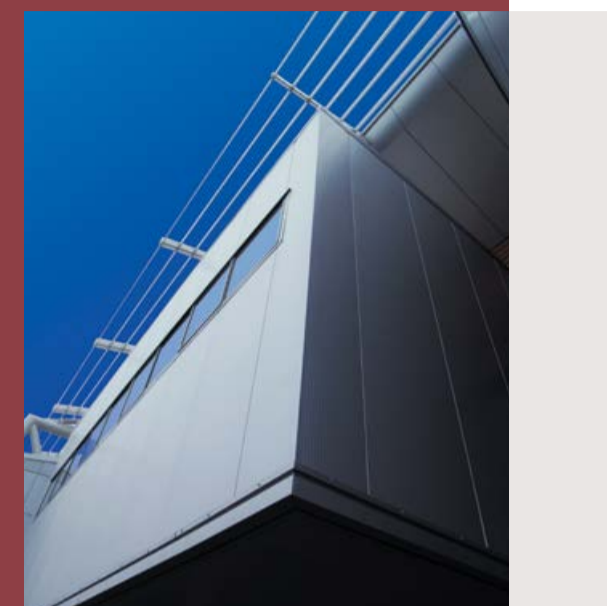


This installation guide should be read in conjunction with the 'project specific' design drawings and method statements. Although this installation guide is deemed to be correct at the time of publication, Kingspan reserves the right to amend the information at any time in the future. Installation guides are available for most of Kingspan insulated roof and wall panels
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Note: For firewall specifications, an internal fastener at maximum 250mm centres is required. Maximum 3m Rail Centres. Refer to Technical Update EU38 Revision A, for further information. All current Technical Updates can be found on our website at www.kingspanpanels.co.uk/technicalupdates

Insulated Roof & Wall Panels

Installation Guide



Architectural Wall Panels (AWP)
KS600-1000 CX/EB/FL/FL-S/MR/MM/PL/LW
KS1000 CW/LV/TL
Vertically Laid



Note: Ensure steelwork is suitably lined, levelled and within tolerance. Visually check internal liner joint to ensure panels are joined fully. Check panel cover width module as works progress to ensure "creep" does not occur, particularly important when windows are incorporated into the elevation.

Joints need to be aligned correctly during installation to prevent the 'saw tooth' effect at the drip.

Fasteners to suit project specification requirements i.e. carbon / stainless steel. Gun-grade sealant referred to are: - non-setting butyl sealant - silicone sealant

Tape sealant referred to is butyl tape sealant.

Note: As an alternative to using butyl air sealants, a PVC foam tape (SVG25) can be used for an air seal.

Please refer to Technical Update EU87 on Internal Air Seals and consult with our Kingspan Technical Services for further guidance.

All sealants to suit project specification requirements.

This is a generic AWP installation guide, however details may differ from project to project. Project specific construction details must be used, please contact Kingspan Technical Services for further information.

Low air leakage rates can be achieved, for further information contact Kingspan Technical Services

a Apply an unbroken 6mm Ø bead of non-setting gun-grade butyl sealant to provide an air seal between back of panel and closure flashing

b Line, level and fix drip flashing using low profile fasteners. Joints in the drip flashing to incorporate butt straps sealed with two runs of non-setting gun-grade butyl sealant

c Apply an unbroken 6mm Ø bead of non-setting gun-grade butyl sealant to provide an air seal between back of panel and closure flashing

d Install cladding rail extension plate to open ends of sheeting rails to provide suitable bearing for fixing of panels on return elevation

e Apply an unbroken 6mm Ø bead of non-setting gun-grade butyl sealant to top rail to provide an air seal

f Install internal corner flashing with low profile fasteners

g Apply an unbroken 6mm Ø bead of non-setting gun-grade butyl sealant to internal corner flashing ensuring it meets the previously installed air seals

h Locate first panel (P1) ensuring it is correctly positioned lined and levelled and a minimum of 5mm off the drip flashing at the back, as illustrated in item a

i Install min. 1No. main fastener through the male joint at the top and bottom, and also min. 2No. at intermediate locations

j At corner positions through fix min. 2 No. countersunk fasteners into female panel joint at each horizontal rail location

k Run a non-setting gun-grade butyl sealant across male joint ensuring it meets previously installed air seal

l Bed an AWP filler in silicone sealant at top of panel only, and run a non-setting gun-grade butyl sealant across male joint ensuring it meets previously installed air seal

m Locate next panel (P2) into position ensuring that the factory-applied weather seal is compressed and that the AWP filler remains in position. Ensure panel is lined and levelled correctly in line with adjacent panel and install min. 1No. main fastener through the male joint at the top and bottom, and also min. 2No. at intermediate locations

n Repeat processes k to m to complete elevation

o Install site-applied PIR insulation board and gun applied fire-rated canister insulation into female joint to fill the gap between panels (P1) and (P5) to ensure continuity of insulation

p Cut panel (P5) to size using an Evolution type circular saw, ensuring it meets the outside edge of (P1)

q Locate panel (P5) into position ensuring factory-applied weather seal is compressed and AWP filler remains in position

r At corner positions, through-fix min. 2No. countersunk fasteners into panel (P5) cut edge, at each horizontal rail location

s Apply 4mm Ø butyl tape sealant (site-applied) to the internal legs of external corner flashing and ensure sealant is positioned weather side of fasteners

t Fix external corner flashing with low profile stitching screws at max. 450mm centres

u Apply 4mm Ø butyl tape sealant (site-applied) to the internal legs of external corner flashing and ensure sealant is positioned weather side of fasteners

v Apply 4mm Ø butyl tape sealant (site-applied) to the internal legs of external corner flashing and ensure sealant is positioned weather side of fasteners

w Apply 4mm Ø butyl tape sealant (site-applied) to the internal legs of external corner flashing and ensure sealant is positioned weather side of fasteners

x Apply 4mm Ø butyl tape sealant (site-applied) to the internal legs of external corner flashing and ensure sealant is positioned weather side of fasteners

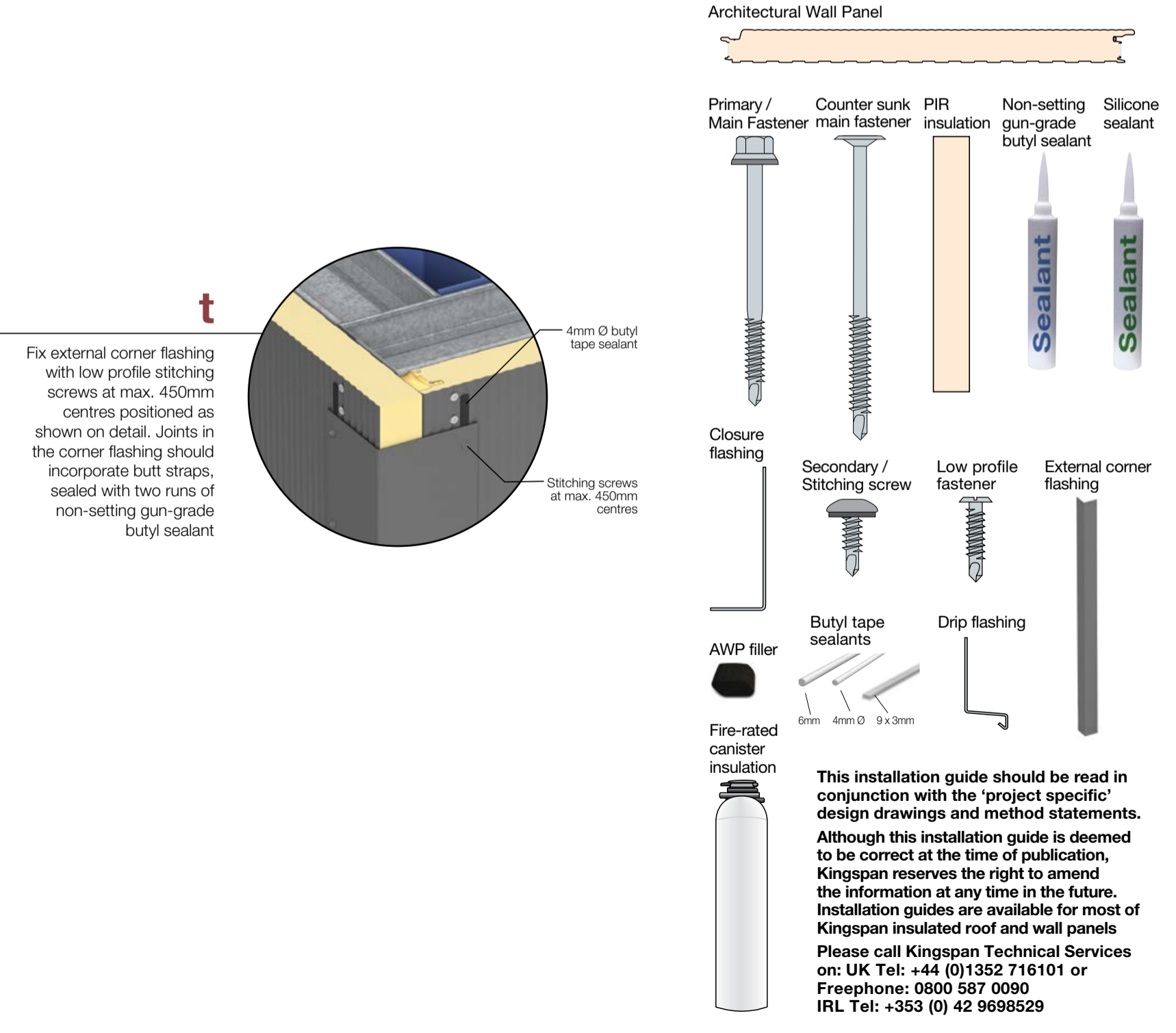
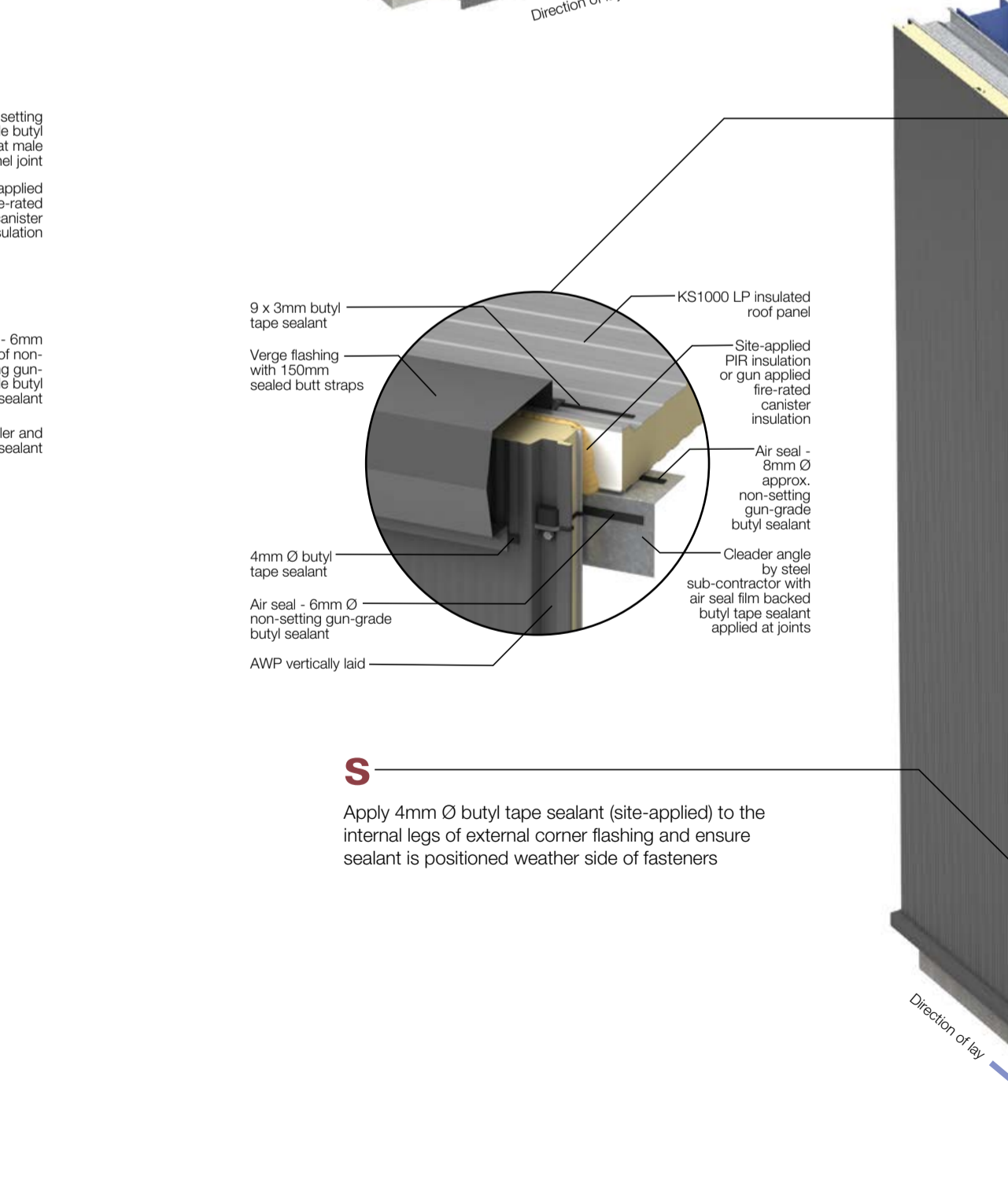
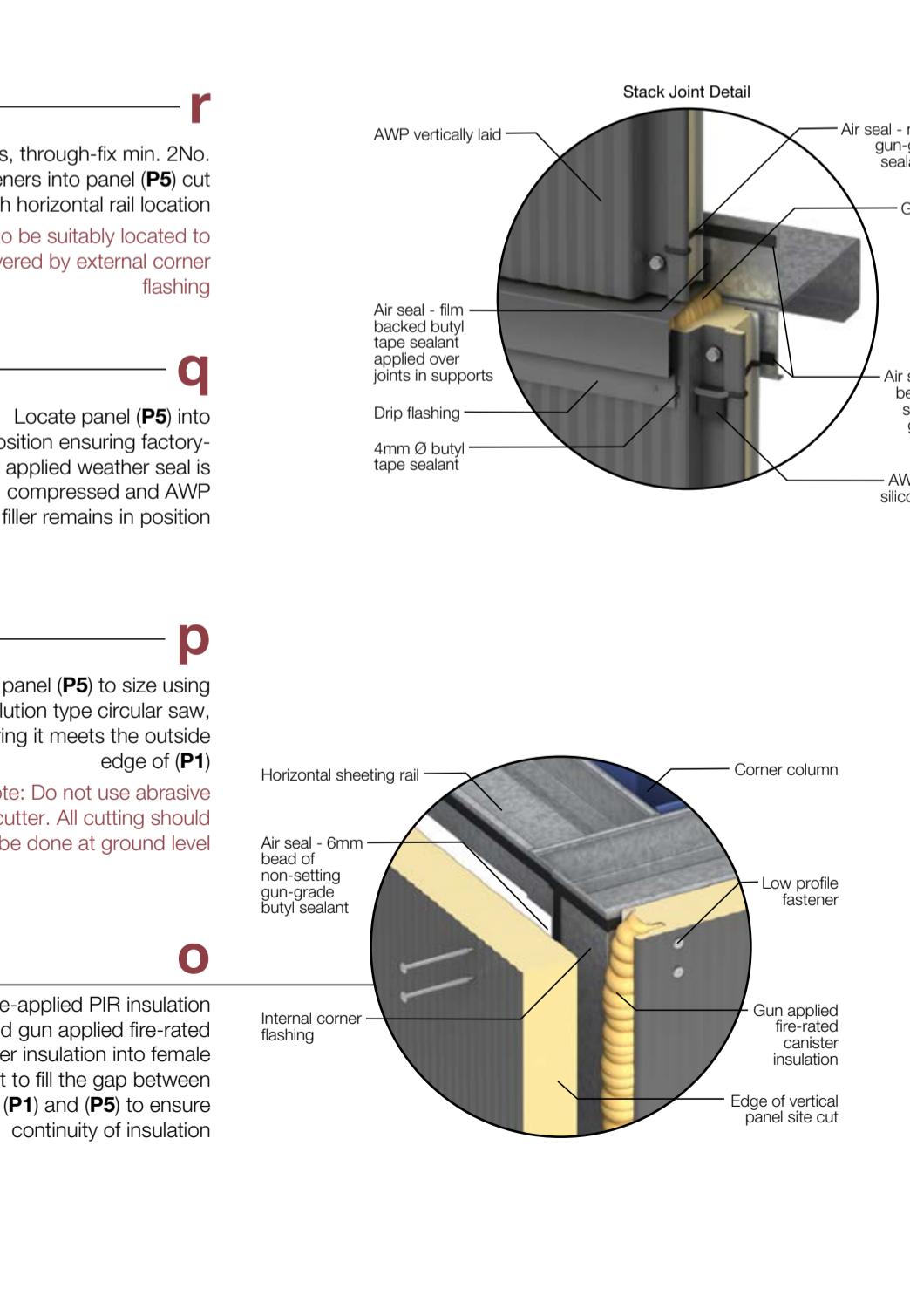
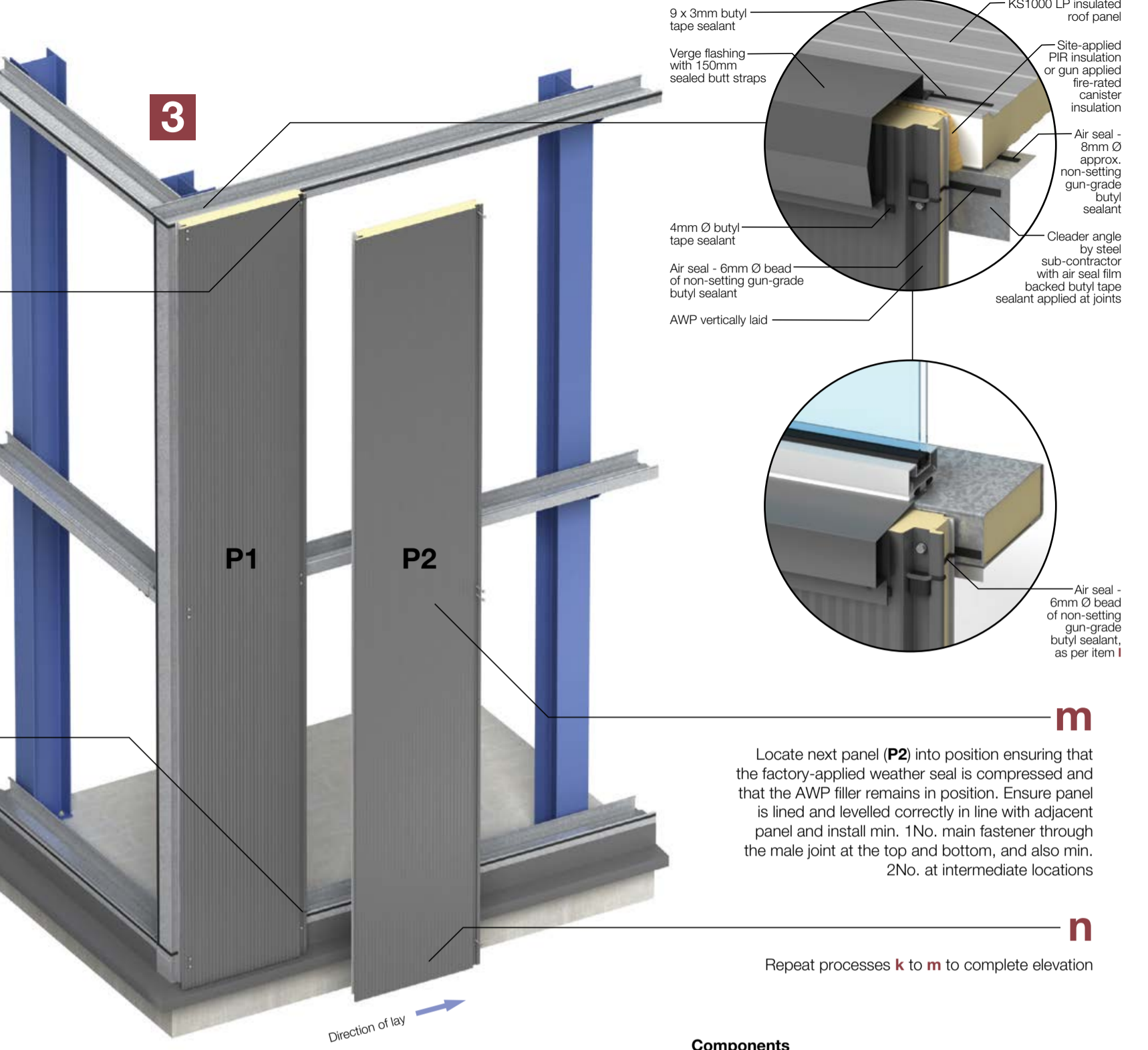
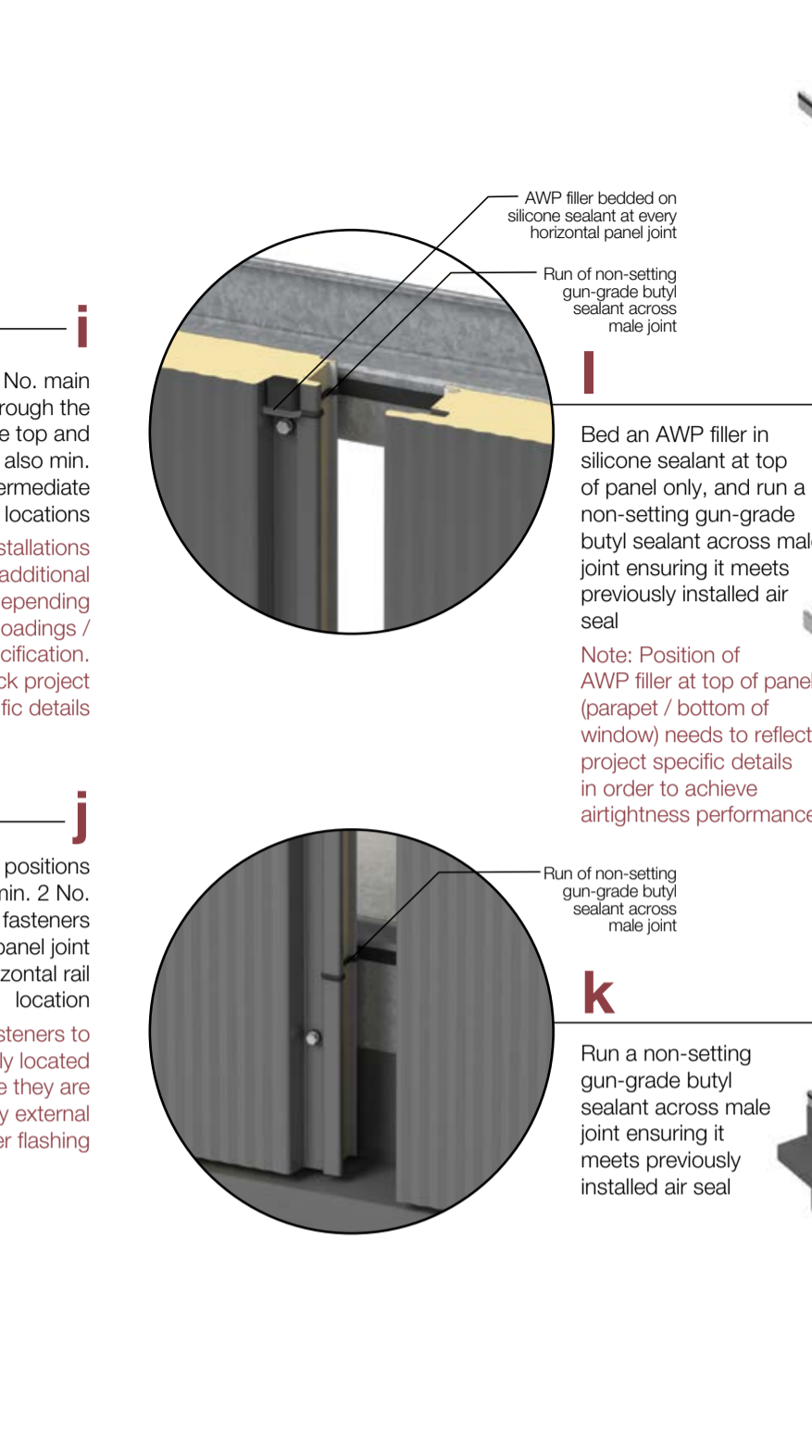
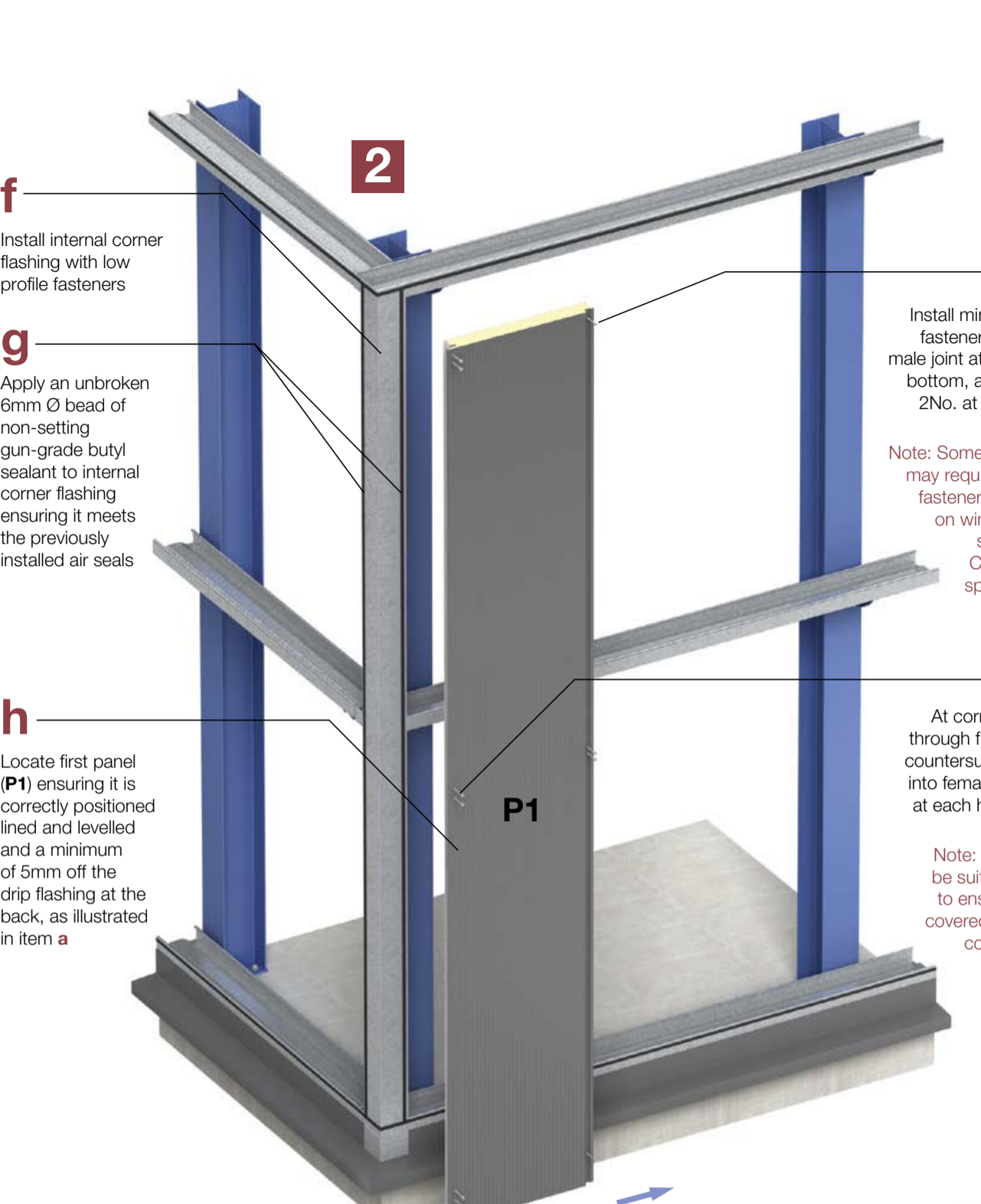
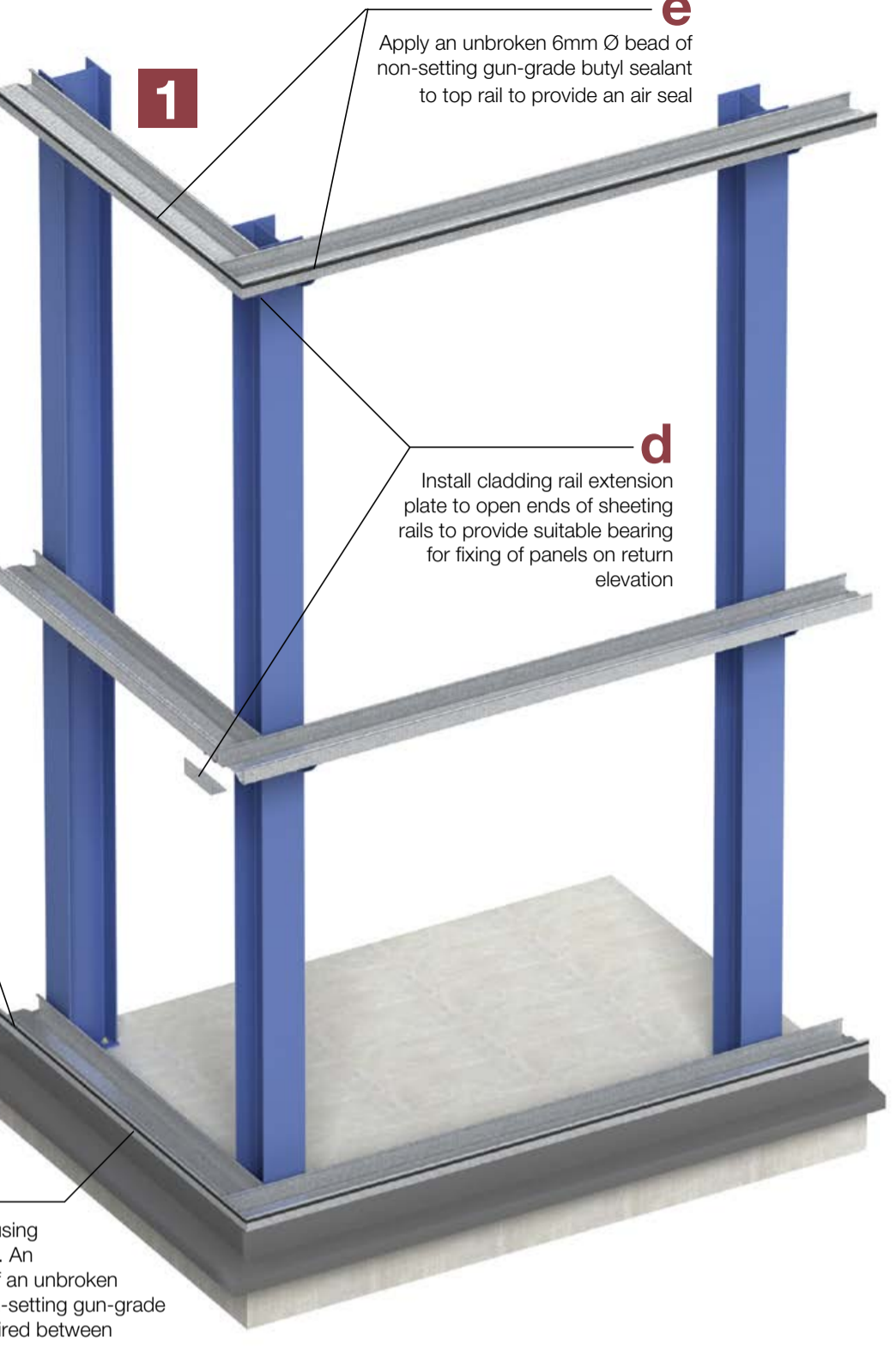
y Apply 4mm Ø butyl tape sealant (site-applied) to the internal legs of external corner flashing and ensure sealant is positioned weather side of fasteners

z Apply 4mm Ø butyl tape sealant (site-applied) to the internal legs of external corner flashing and ensure sealant is positioned weather side of fasteners

aa Apply 4mm Ø butyl tape sealant (site-applied) to the internal legs of external corner flashing and ensure sealant is positioned weather side of fasteners

ab Apply 4mm Ø butyl tape sealant (site-applied) to the internal legs of external corner flashing and ensure sealant is positioned weather side of fasteners

ac Apply 4mm Ø butyl tape sealant (site-applied) to the internal legs of external corner flashing and ensure sealant is positioned weather side of fasteners



- Components**
- Architectural Wall Panel
 - Primary / Main Fastener
 - Counter sunk main fastener
 - PIR insulation
 - Non-setting gun-grade butyl sealant
 - Silicone sealant
 - Closure flashing
 - Secondary / Stitching screw
 - Low profile fastener
 - External corner flashing
 - AWP filler
 - Butyl tape sealants
 - Drip flashing
 - Fire-rated canister insulation

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