

Evolution Panelised Façade

Axis, Recess, Multi-Groove

Installation Guide

Horizontally Laid



Evolution Panelised Façade - Horizontally Laid



Evolution Axis

Evolution Axis is an unprofiled insulated panel system; the perfect solution if you are looking to achieve a minimalist facade on buildings with large, flat surface areas.

Length: 2.0-7.0m

Widths: 900/1000 mm

Evolution Recess

Evolution Recess features depth and dimension through the folding of the panel edge and the insertion of a 10mm or 20mm gasket between the panels, creating a unique 3D effect.

Length: 2.0-7.0m

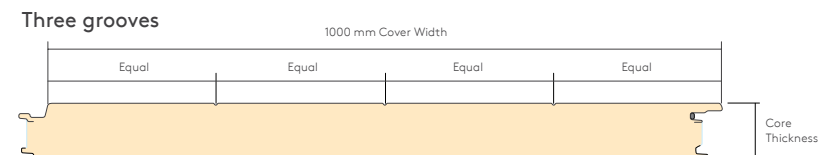
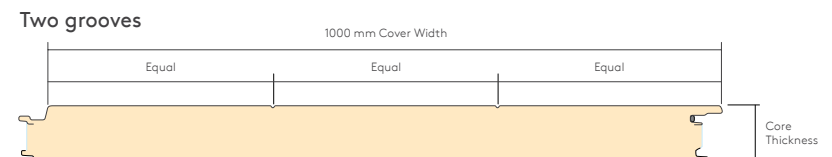
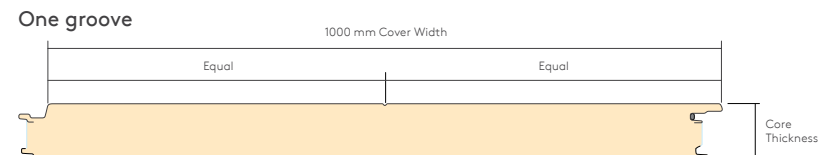
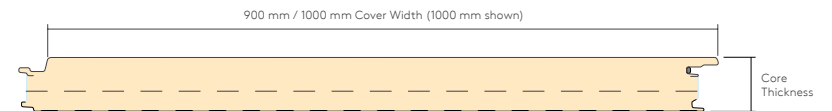
Widths: 900/1000 mm

Evolution Multi-Groove

Evolution Multi-Groove has one, two or three grooves engineered into its surface, creating subtle shadow lines on the building's facade and an illusion of smaller panel widths without the installation time constraints.

Length: 2.0-7.0m

Width: 1000 mm only



Note: Dimensions are nominal. Actual dimensions will vary due to manufacturing tolerances. Precise dimensions must always be measured from actual samples. All measurements in mm.

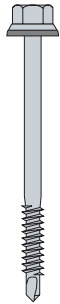
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Components

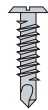
Evolution Panelised Façade



Primary fastener with washer
(Carbon Steel with minimum 16mm washer type 4)
NOT BY KINGSPAN



Low profile fastener or rivet
(Carbon Steel)
NOT BY KINGSPAN



VJ2 EPDM bubble gasket
(Code: VJ2)



Push-In EPDM bubble gasket
(for Evo Recess only)



Panel bearer
(Code: PB50/80/100)



Butt strap
(Code: AWPBS)



Base channel
(Code: BC50/80/100/140/200)



AWP filler
(Code: 3FILL)



Top hat
(Code: TOPHATA)



Roller - gasket installation



Top hat insert
(Code: TOPHATINF)



Butyl tape sealant
(Code: SEXT)



6x4mm

Gun-grade sealant
NOT BY KINGSPAN

Butyl Mastic or neutral cure silicone



Canister applied fire-rated PU foam
NOT BY KINGSPAN



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Notes

This is a generic Evolution Panelised Façade installation guide. Details may differ from project to project. Project specific construction details must be used unless those details are contrary to the principles of the Kingspan details; in which case specific instruction should be sought.

Sequence

The panels are laid horizontally from base to top. The panels can not be back-laid.

Support Structure

Ensure steelwork is suitably plumb, level and within tolerance before starting the installation of the panels. If the panels have vertical joints (top hats) then check the bearing width, location and straightness of the structural support at that location.

The minimum bearing face for intermediate supports is 60mm. The minimum bearing width at panel end is 140mm, refer to Kingspan details. The bearing needs to be wide enough to accommodate the number of fixings required.

The support must provide a full bearing surface for the panel

Install

We recommend the use of mechanical handling systems for the movement & lifting of panels into position.

When practical, cut panels on ground prior to installation. Clean any swarf from the panel immediately

The protective film is to be removed from the external weather face of panel & internal liner before to installation.

Gun-grade sealant is butyl sealant for air seals and neutral cure silicone for weather seals.

Fixings

The number of fasteners must be calculated based on spans, wind loads and fastener capacity.

All fasteners to be minimum Class 4 Carbon steel with coloured heads (if visible), refer to the specification. Check that the fixing thread and drill tip is correct for connection to the structure.

Install fasteners with the recommended screw gun speed selection. Use correct socket and drive, including depth-locating nose piece to prevent over driving. Refer to the fastener manufacturer's recommendations.

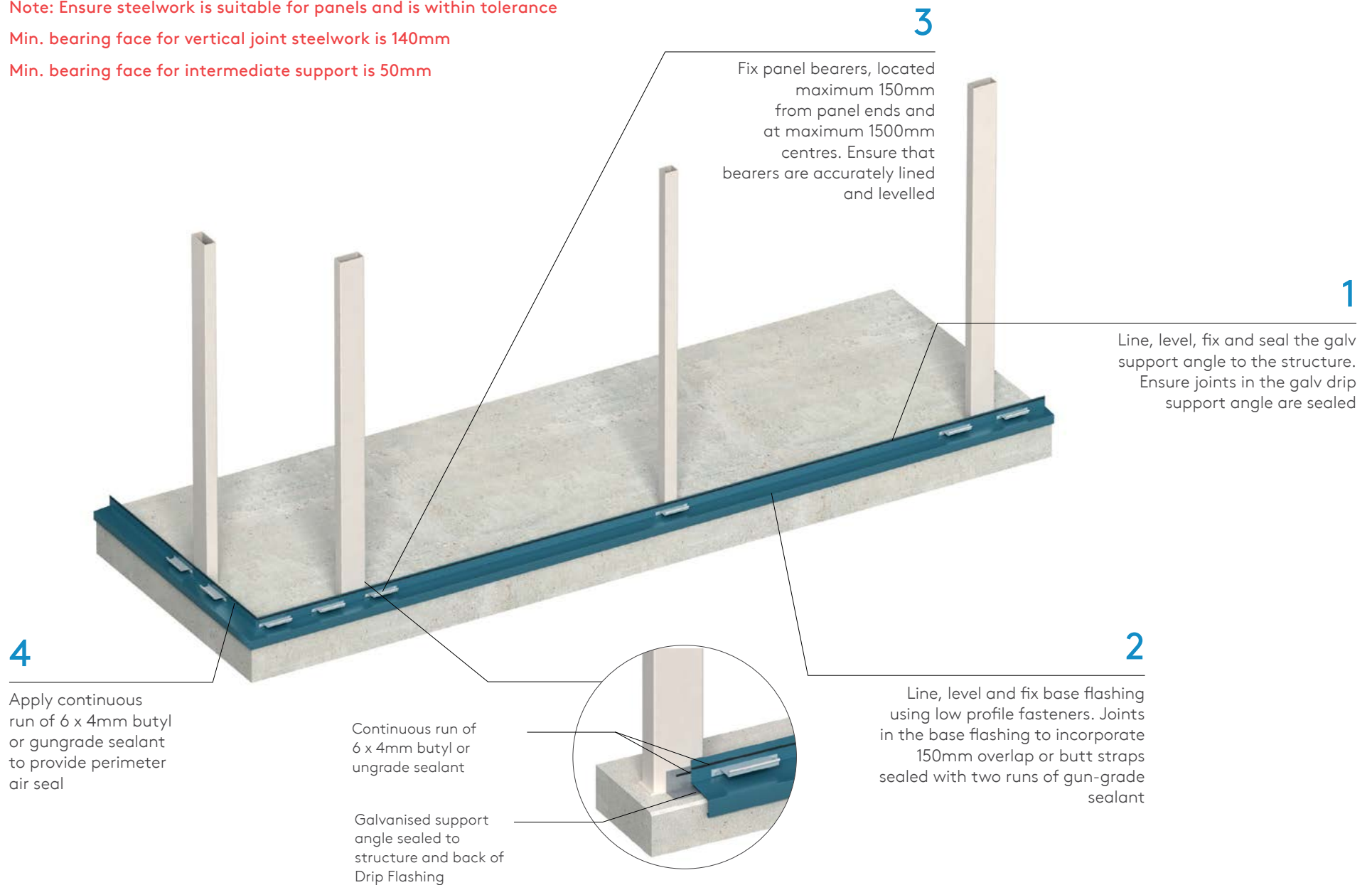
Contact Kingspan Technical Services for project specific advice on High Humidity buildings and cyclonic regions.

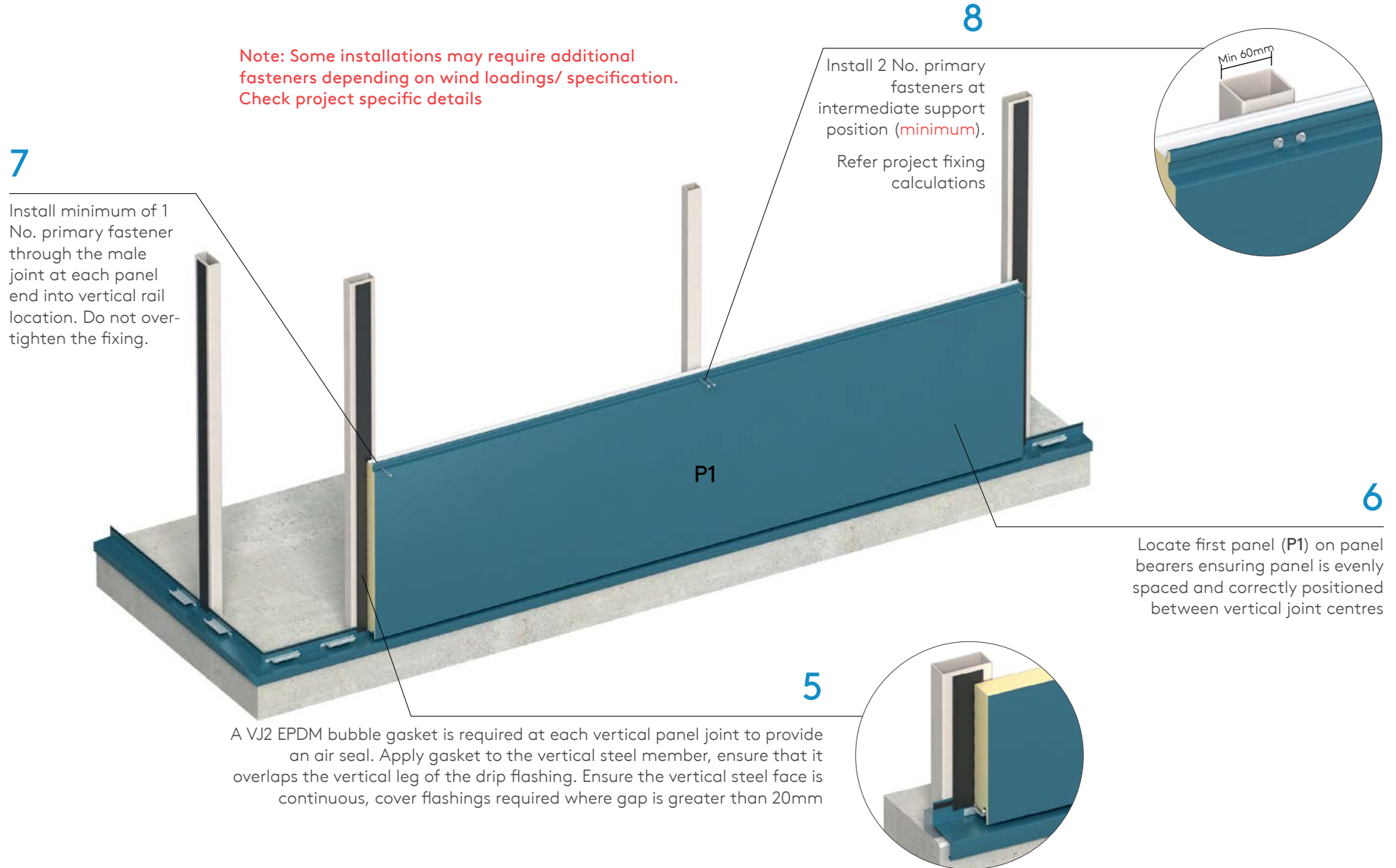


Note: Ensure steelwork is suitable for panels and is within tolerance

Min. bearing face for vertical joint steelwork is 140mm

Min. bearing face for intermediate support is 50mm





Note: Some installations may require additional fasteners depending on wind loadings/ specification. Check project specific details

7
Install minimum of 1 No. primary fastener through the male joint at each panel end into vertical rail location. Do not over-tighten the fixing.

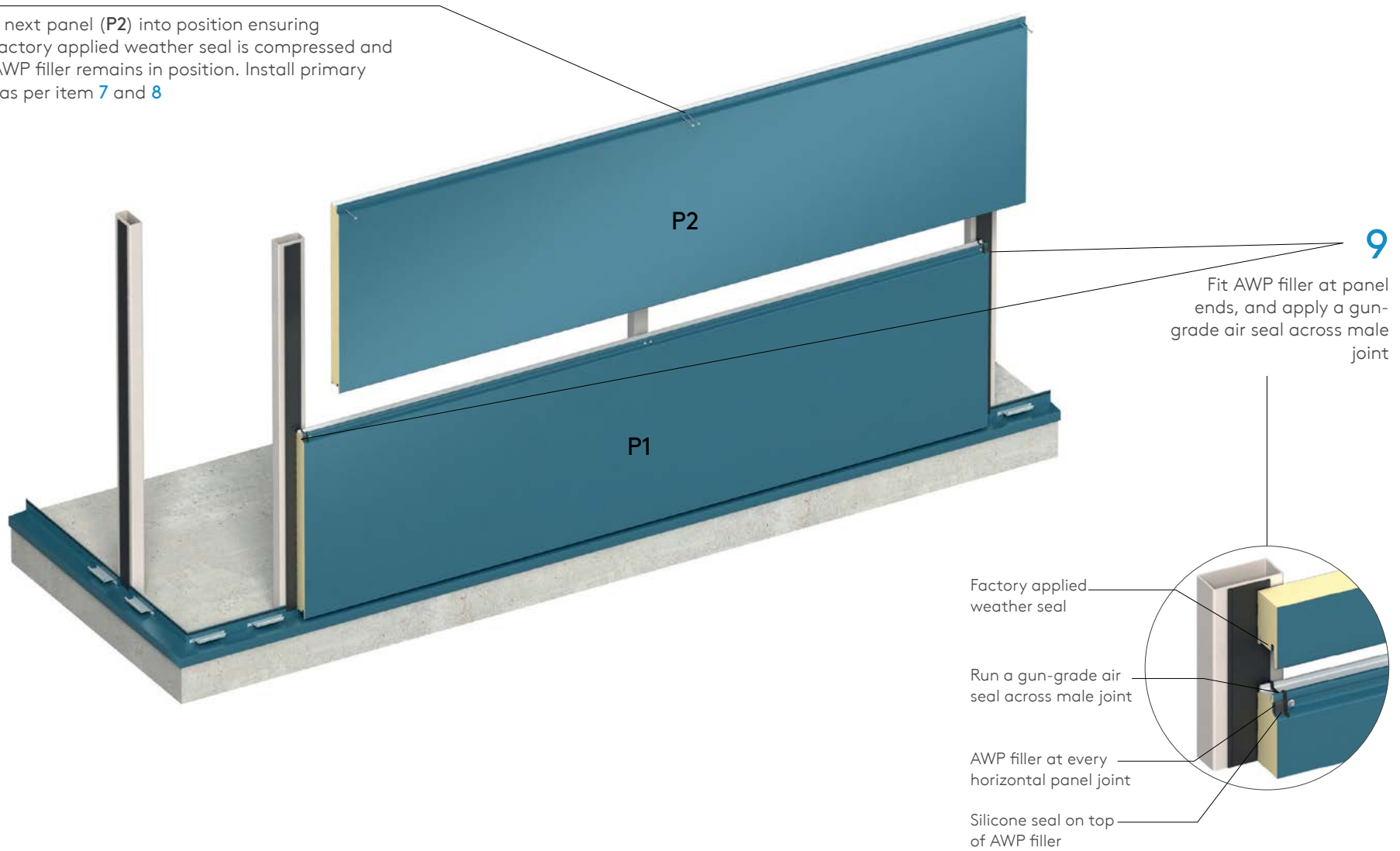
8
Install 2 No. primary fasteners at intermediate support position (**minimum**). Refer project fixing calculations

6
Locate first panel (P1) on panel bearers ensuring panel is evenly spaced and correctly positioned between vertical joint centres

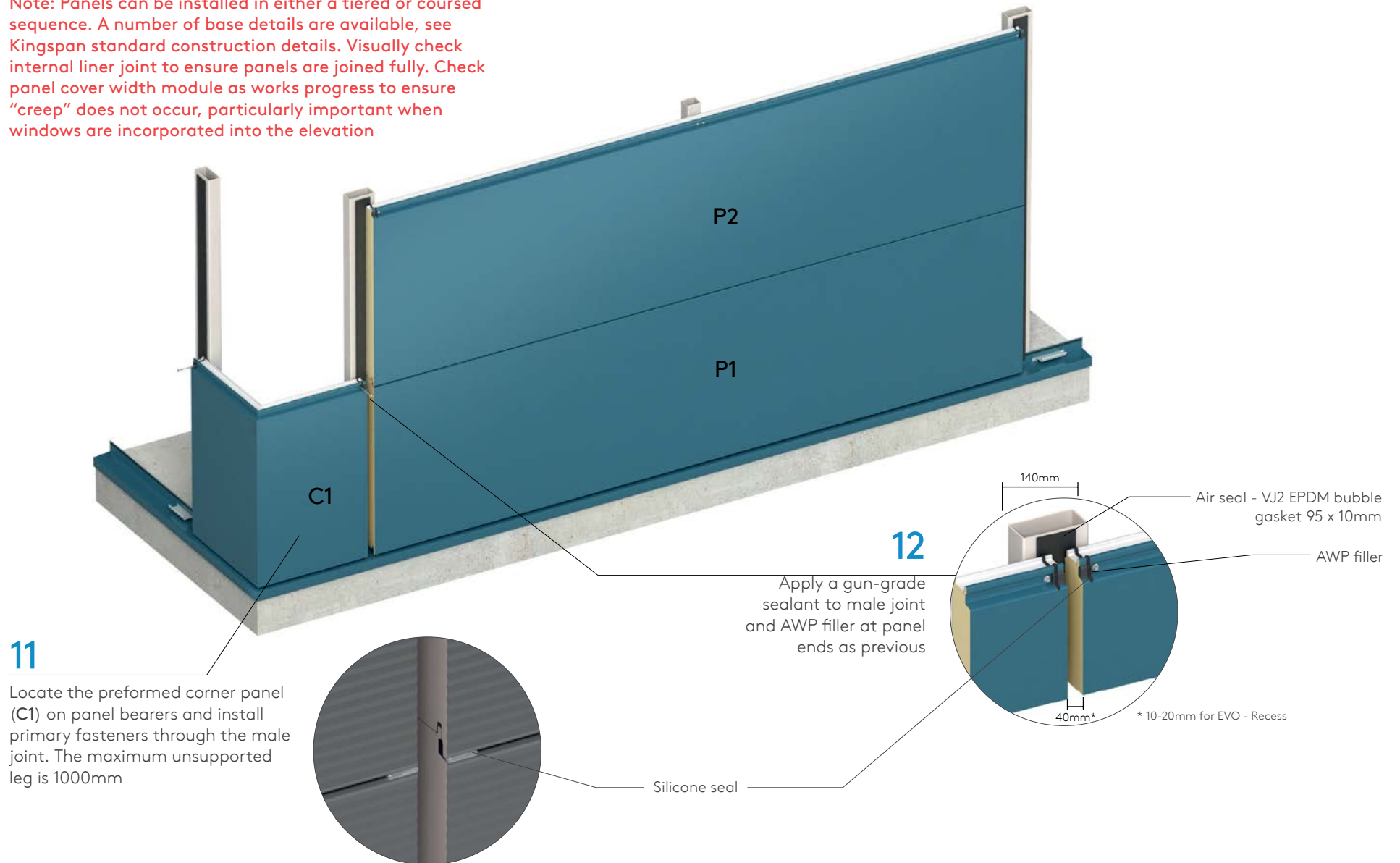
5
A VJ2 EPDM bubble gasket is required at each vertical panel joint to provide an air seal. Apply gasket to the vertical steel member, ensure that it overlaps the vertical leg of the drip flashing. Ensure the vertical steel face is continuous, cover flashings required where gap is greater than 20mm

10

Lower the next panel (P2) into position ensuring that the factory applied weather seal is compressed and that the AWP filler remains in position. Install primary fasteners as per item 7 and 8



Note: Panels can be installed in either a tiered or coursed sequence. A number of base details are available, see Kingspan standard construction details. 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



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The gap between the panel ends is to be filled with PIR insulation board to a depth to suit the top hat section, ensure that continuity of insulation is achieved by filling any gaps with canister applied fire-rates PU foam

15

The gap between the panel ends is to be filled with PIR insulation board to a depth to suit the top hat section, ensure that continuity of insulation is achieved by filling any gaps with canister applied fire-rates PU foam

Silicone sealant

13

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. Install primary fasteners through the male joint

P2

P1

C2

C1

16

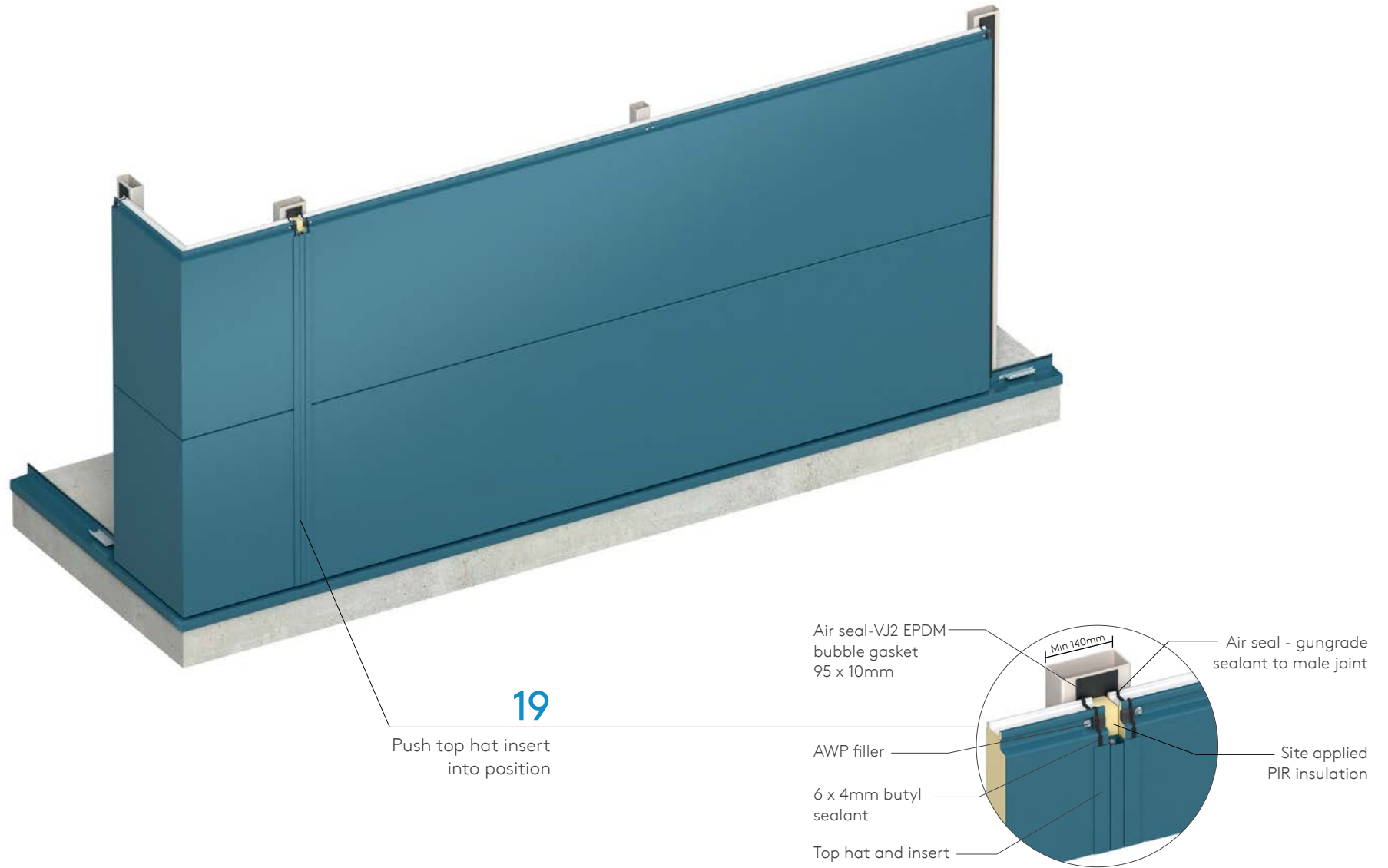
Apply 6 x 4mm butyl sealant to internal legs of top hat (or to panel)
Note: When using WV (Wave) profile, use 9 x 6mm PVC foam tape

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

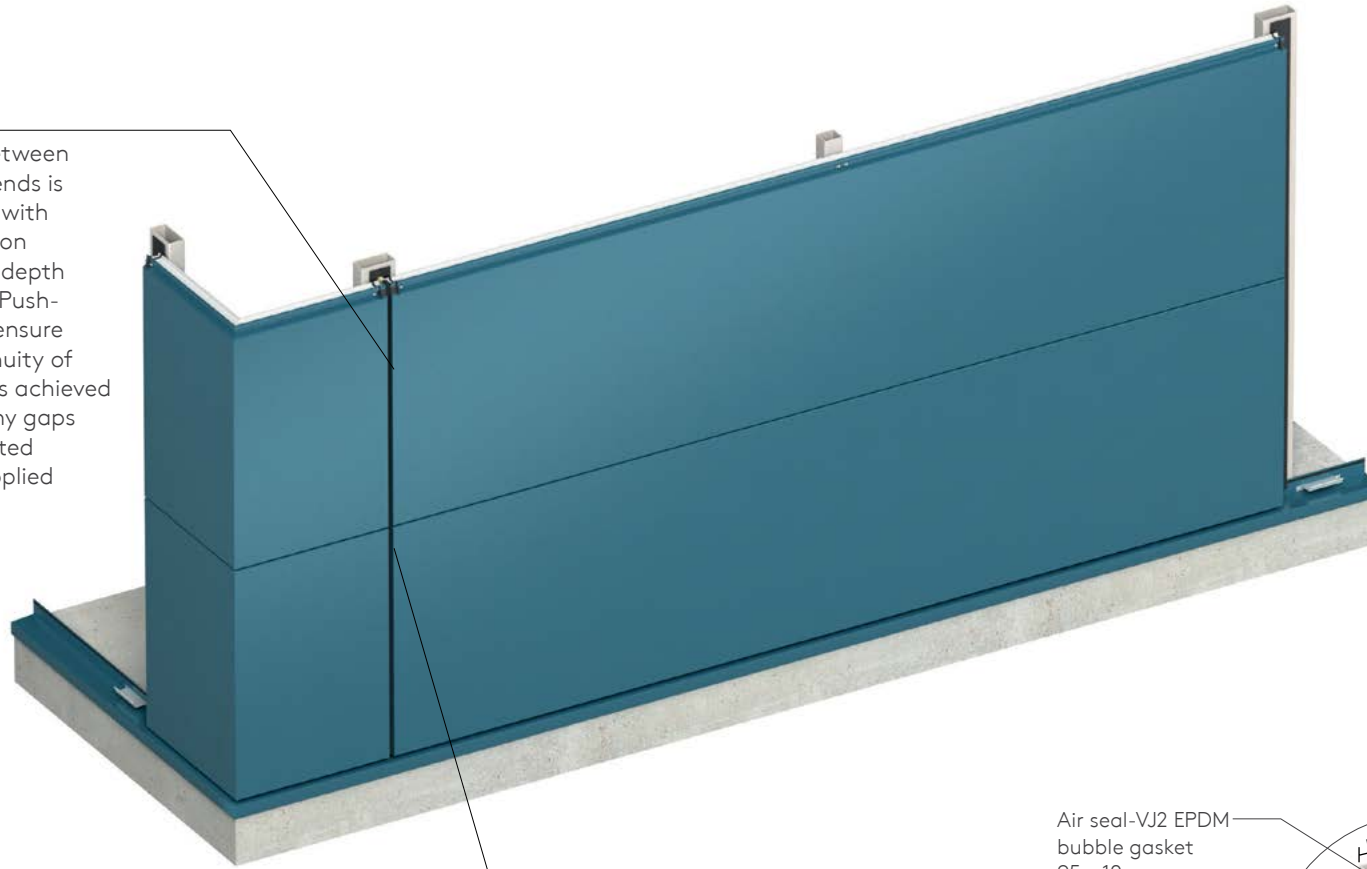
17

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



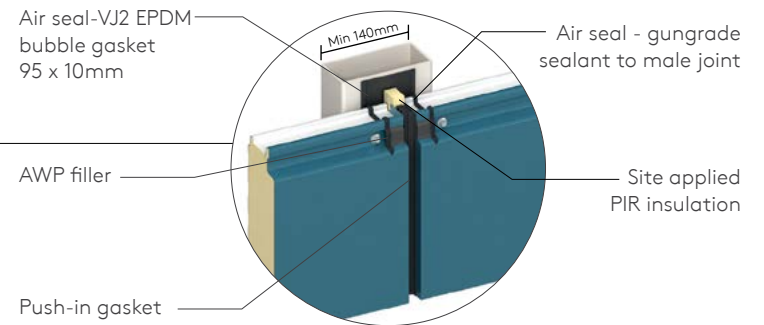
20

The gap between the panel ends is to be filled with PIR insulation board to a depth to suit the Push-In gasket, ensure that continuity of insulation is achieved by filling any gaps with fire rated canister applied insulation



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Push EPDM gasket into the vertical joint with a penny roller so that the face of the gasket is recessed 18mm in from the panel face



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Panel Handling

Appropriate personnel protective equipment should always be worn to avoid cuts and abrasions to installers and panels.

Individual panels should always be lifted from a pack and not dragged over others.

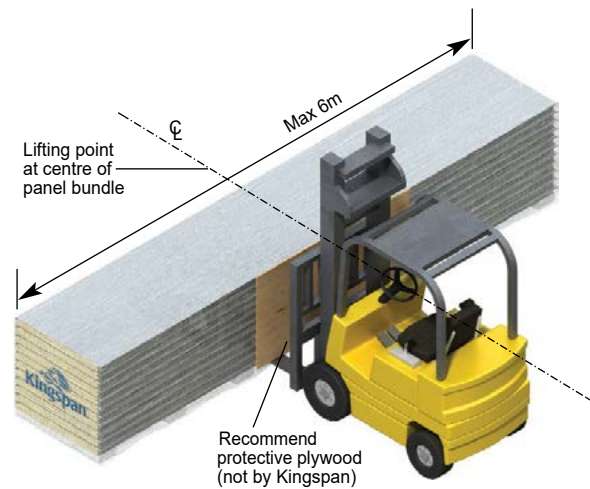
The weight of individual panels for lifting can be determined from the information on the packing slip.

For larger panels the contractor would normally arrange to use appropriate material installation equipment to help lift the panels into position.

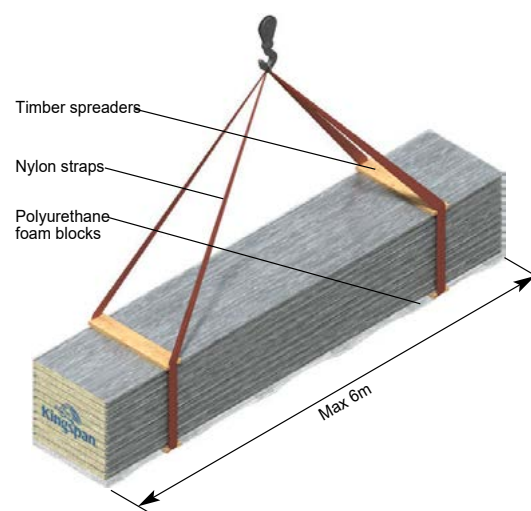
Lift only one bundle at a time. Do not stack more than two bundles high

Protecting Film

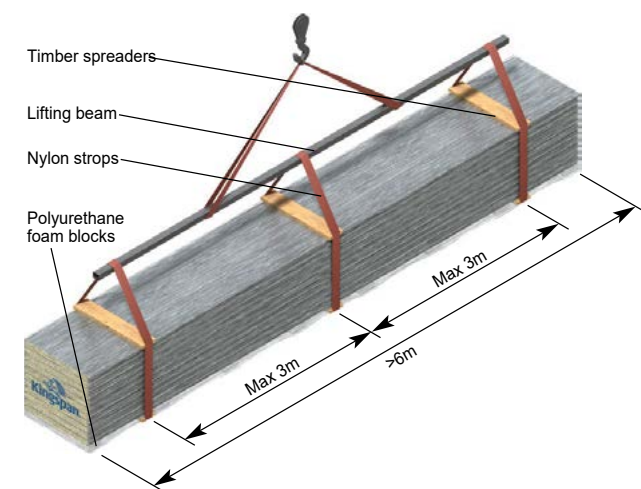
When panels are supplied with a plastic protective film this should be removed prior to site installation.



The recommended loading/unloading method for bundles less than or equal to 6m is to use a single forklift with widely spaced forks placed under the centre of the bundle as shown.



The recommended lifting method for bundles more than or equal to 6m can be handled with a forklift spreader or a crane by using nylon straps and timber spreaders as shown.



The recommended lifting method for bundles more than 6m, by crane, is by using three points of support. To prevent damage from nylon straps, use wood spreaders at top and bottom at lifting locations as shown.

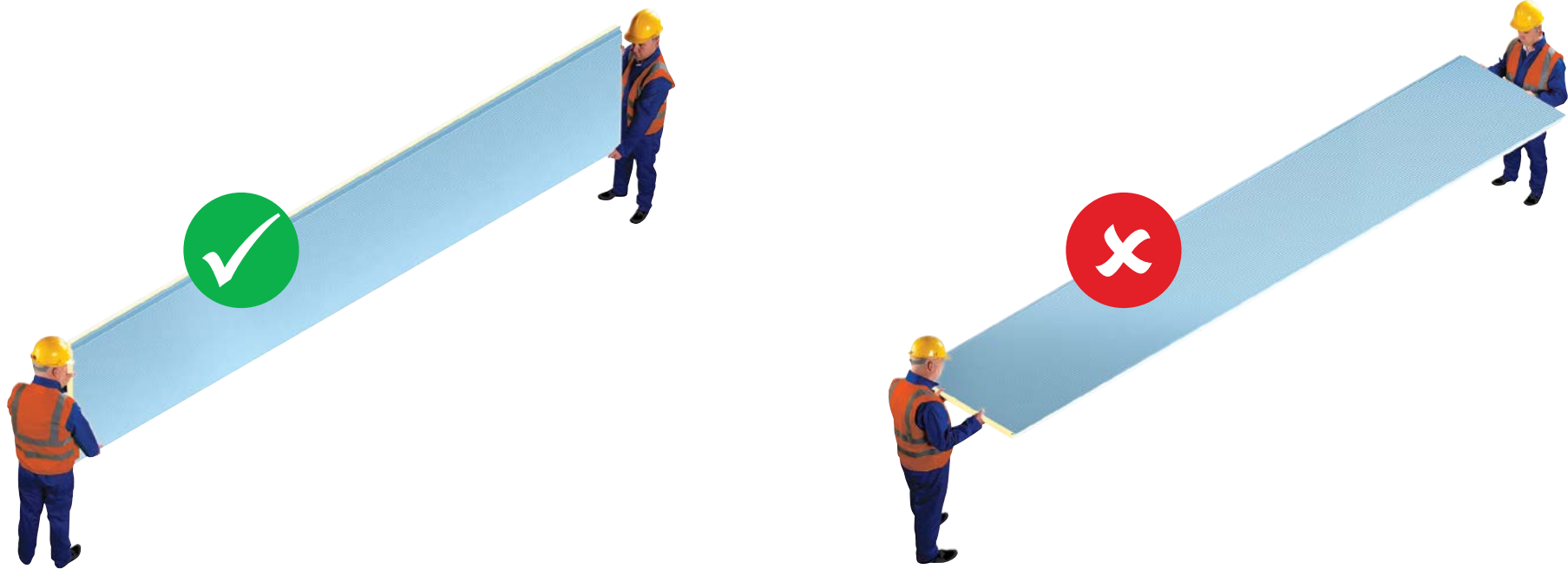
For illustration purposes only

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Correct and Incorrect Panel Handling

Caution

Individual panels should never be moved in a flat position as excessive flexing may result. Excessive flexing ruptures a panel's core, permanently distorts the facings and may lead to thermal blistering. When moving a panel, it must be turned on its edge first, then supported at each end with as many men as necessary to safely handle.



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