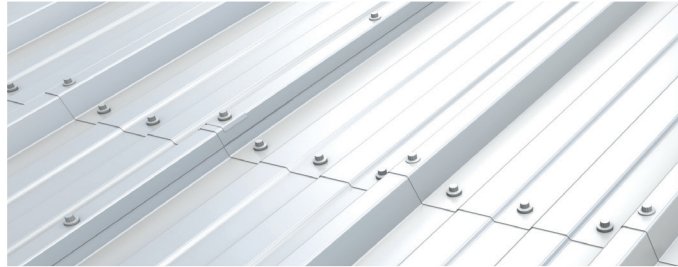


KS1000RW Trapezoidal Roof Panel Installation Guide

Multiple Panels Eaves to Ridge
75mm End Lap



Factory Applied Weather Seal
(FAWS) to side laps only



KS1000RW Trapezoidal Roof Panel

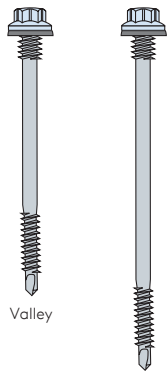
Multiple Panels Eaves to Ridge 75mm End Lap

Components

KS1000RW Trapezoidal Roof Panel



Primary / main fastener with min. 19mm dia washer
(Carbon Steel)
(Not by Kingspan)



Valley

Crown

Secondary / stitching screws with min. 14mm dia washer
(Carbon Steel)
(Not by Kingspan)



Panel

Fire rated canister foam
(Not by Kingspan)



Profiled ridge filler (Code: 3RWFill)



Neutral cure gun-grade sealant
(Not by Kingspan)



Saddle washer



Storm 35-23 (RW)

Butyl tape sealant
(Code: SEXT)



6x4mm

Cordless drill
(Not by Kingspan)



Depth locator

Butyl co-laminate tape sealant



50x6mm butyl tape with PE foam co-laminate centre

This installation guide should be read in conjunction with the 'project specific' design drawings and method statements.

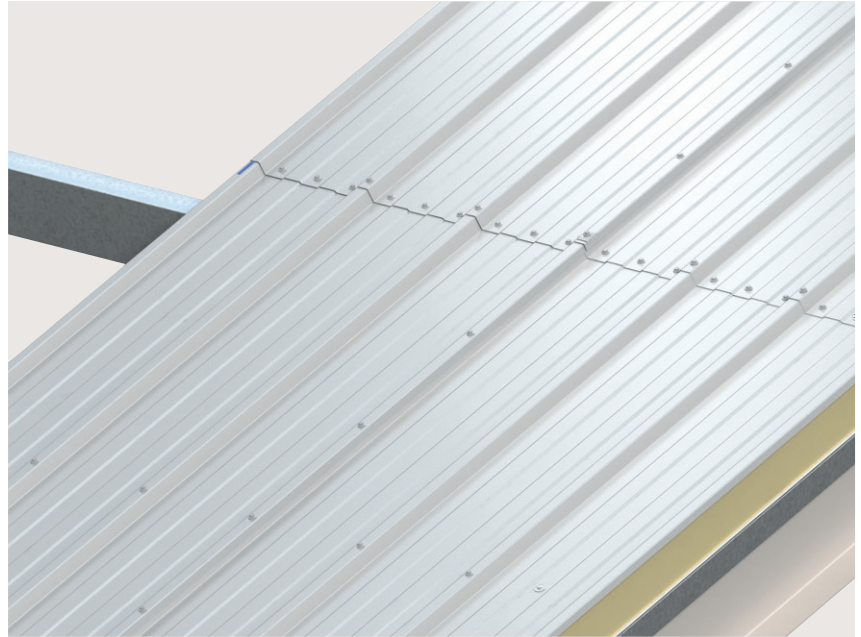
Although this installation guide is deemed to be correct at the time of publication, Kingspan reserve the right to amend the information at any time in the future. Installation Guides are available for the full range of Kingspan Insulated Roof, Wall and Facade Systems.

KS1000RW Trapezoidal Roof Panel

Multiple Panels Eaves to Ridge 75mm End Lap

Notes:

- Ensure steelwork is suitable for panels and is within tolerance.
- Ensure lower panel is bearing on to purlin by a minimum of 50mm.
- A factory Applied Weather Seal (FAWS) is applied to all panel side laps.
- Apply 6mm x 4mm butyl air seal to ridge, verge & eaves positions.
- Gun-grade sealant referred to is neutral cure gun-grade sealant.
- End lap air seal 50 x 6mm butyl tape with PE foam co-laminate centre.
- All sealants to suit project specification requirements.
- Protective film to be removed from external weather face of panel & internal liner, where applicable, prior to installation.
- Colour of sealants within this installation guide are for illustration purposes.
- KS1000 RW Roof panel can be turned up at the ridge.
- Penetrations larger than 300mm x 300mm must be framed out with structural steel.
- Clean swarf off panels immediately when created.
- Ensure panel joints are pulled tight to adjacent panels to close any gaps as works progress.
- This installation guide provides generic guidance on installation methods, however, should be read in conjunction with project specific specifications and construction details.
- Install fasteners with recommended screw gun speed selection for type of steel, use correct socket and drive bit, including depth – locating nose piece, unless fastener has feature to prevent overdriving, in line with fastener manufacturers.



Please contact Kingspan Technical Services Department for guidance:

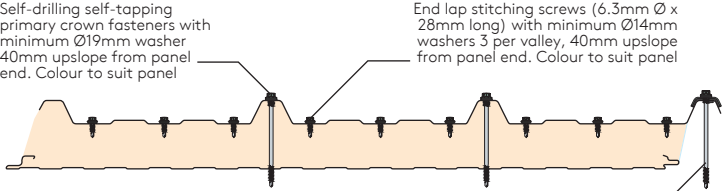
- Internal air seals
- High humidity & hygiene internal environments
- Project specific advise
- Cyclonic regions and areas of high localised suction

KS1000RW Trapezoidal Roof Panel

Multiple Panels Eaves to Ridge 75mm End Lap

Fastener Layouts

End / Side Lap

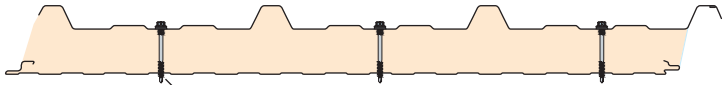


Self-drilling self-tapping primary crown fasteners with minimum Ø19mm washer 40mm upslope from panel end. Colour to suit panel

End lap stitching screws (6.3mm Ø x 28mm long) with minimum Ø14mm washers 3 per valley, 40mm upslope from panel end. Colour to suit panel

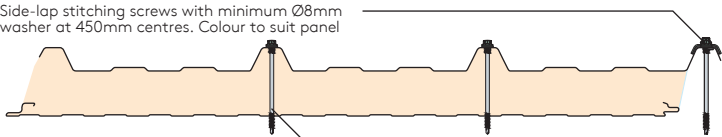
Additional self-drilling self-tapping primary crown fastener with Ø19mm washer and saddle washer at 3 & 4-way lap joints only, 40mm upslope from panel end. Colour to suit panel.

Ridge



Self-drilling, self tapping primary valley fasteners with minimum 19mm Ø non-ferrous EPDM backed washer, 1 at each valley at each support

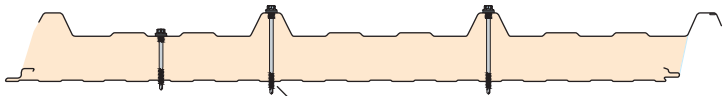
Standard Intermediate & Side Lap



Side-lap stitching screws with minimum Ø8mm washer at 450mm centres. Colour to suit panel

Self-drilling self-tapping primary crown fasteners with minimum Ø19mm washer. Colour to suit panel

Verge



Self-drilling, self tapping primary fasteners with minimum 19mm dia non ferrous EPDM backed washer. 1 in the valley, 2 in the crown at each support

**Note: Minimum number of fasteners as illustrated.
Number of fasteners must be calculated on the project specific spans and wind loads**

KS1000RW Trapezoidal Roof Panel

Multiple Panels Eaves to Ridge 75mm End Lap

1

Apply 6x4mm butyl sealant neutral cure gun-grade butyl sealant to provide perimeter air-seal

Internal ridge flashing with 150mm overlaps sealed with neutral cure gun-grade sealant

Air seal – 6x4mm butyl tape or non-setting neutral cure gun-grade butyl sealant

Internal ridge flashing with 150mm overlap sealed with air seal, film backed butyl tape or neutral cure gun-grade sealant

Air seal – 6x4mm butyl tape or non-setting neutral cure gun-grade butyl sealant

The KS1000RW Trapezoidal Roof Panel must bear a min of 50mm on the purlin

2

Position first panel (P1) with a minimum bearing of 50mm onto the purlin. Fix first panel (P1) with 2No. primary crown fasteners and 1No. primary valley fastener per purlin (minimum) at eaves and intermediate locations subject to wind loadings

10mm min
50mm min

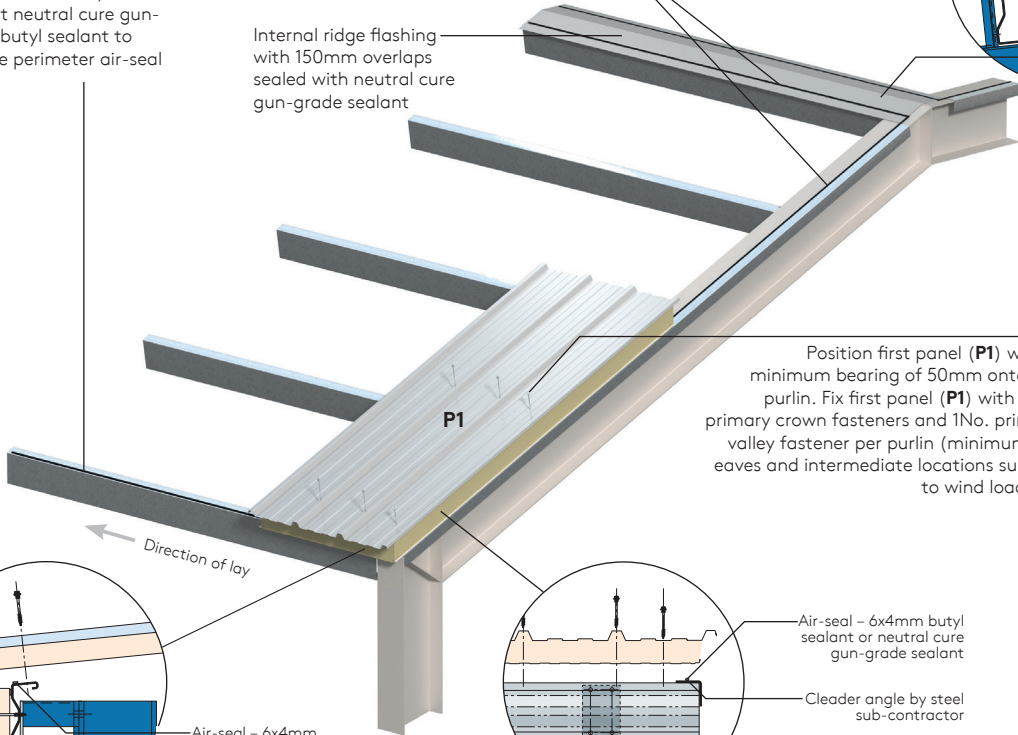
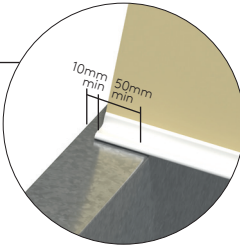
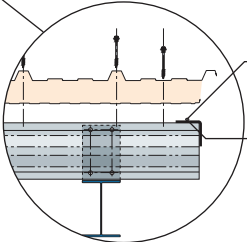
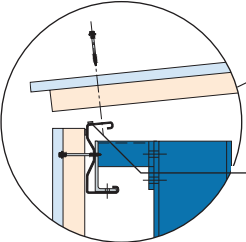
Direction of lay

P1

Air-seal – 6x4mm butyl sealant or neutral cure gun-grade sealant

Cledder angle by steel sub-contractor

Air-seal – 6x4mm butyl sealant or neutral cure gun-grade sealant



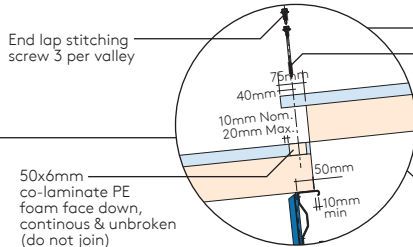
Trapezoidal Roof KS1000 RW

Multiple Panels Eaves to Ridge 75mm End Lap

3

Apply 1 strip of 50x6mm butyl co-laminate tape sealant horizontally across the end lap. The strip sealant should be positioned 10mm nominal up from the end lap edge and should commence / terminate either end leaving sufficient area to apply a 6x4mm butyl tape sealant in order to complete the end lap detail.

Care should be taken to ensure the butyl tape sealant is not stretched and is firmly placed into the corners of the trapezoidal profile before removal of the release paper



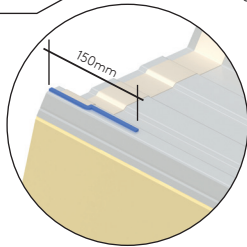
50x6mm co-laminate PE foam face down, continuous & unbroken (do not join)

Position 2 No. primary crown fasteners 1 No. primary valley fastener at the verge locations

5

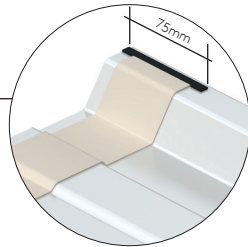
Apply 150mm length of 6x4mm butyl tape sealant formed to end of 50x6mm butyl co-laminate tape sealant onto the weatherside of the crown profile on (P1) as illustrated.

Ensure this is tightly abutted with the 50x6mm butyl co-laminate tape sealant



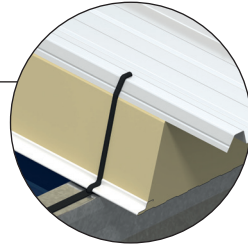
4

Apply 75mm length 6x4mm butyl tape sealant ensuring this is tightly abutted with the 50x6mm butyl co-laminate tape sealant at the end lap



7

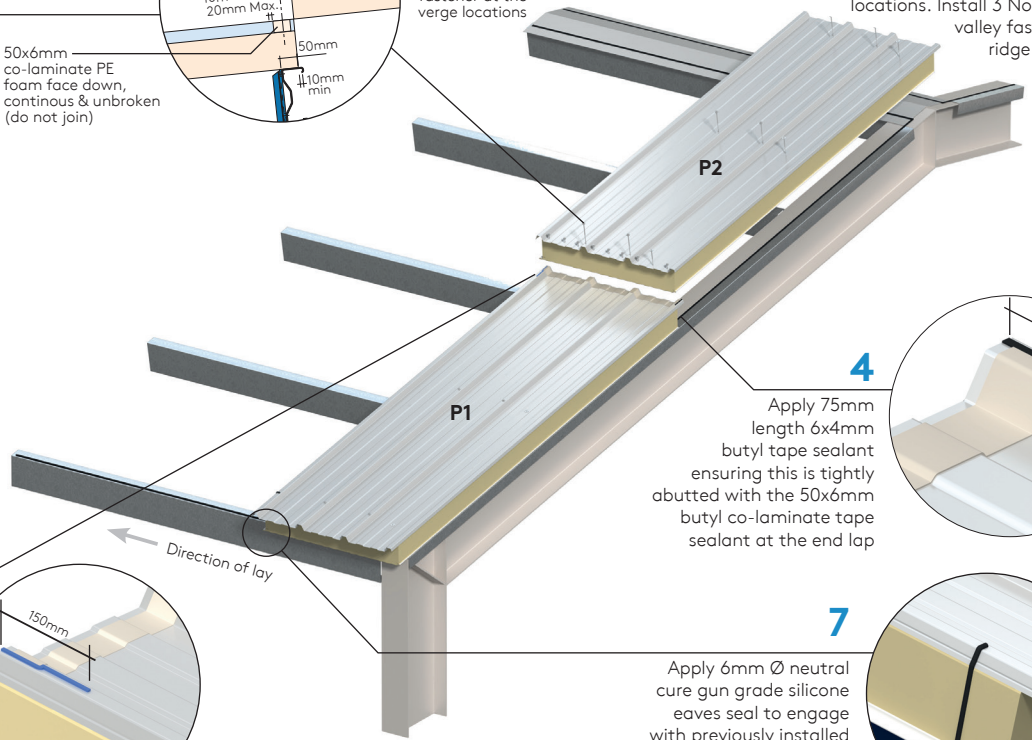
Apply 6mm Ø neutral cure gun grade silicone eaves seal to engage with previously installed perimeter butyl sealant under panel



6

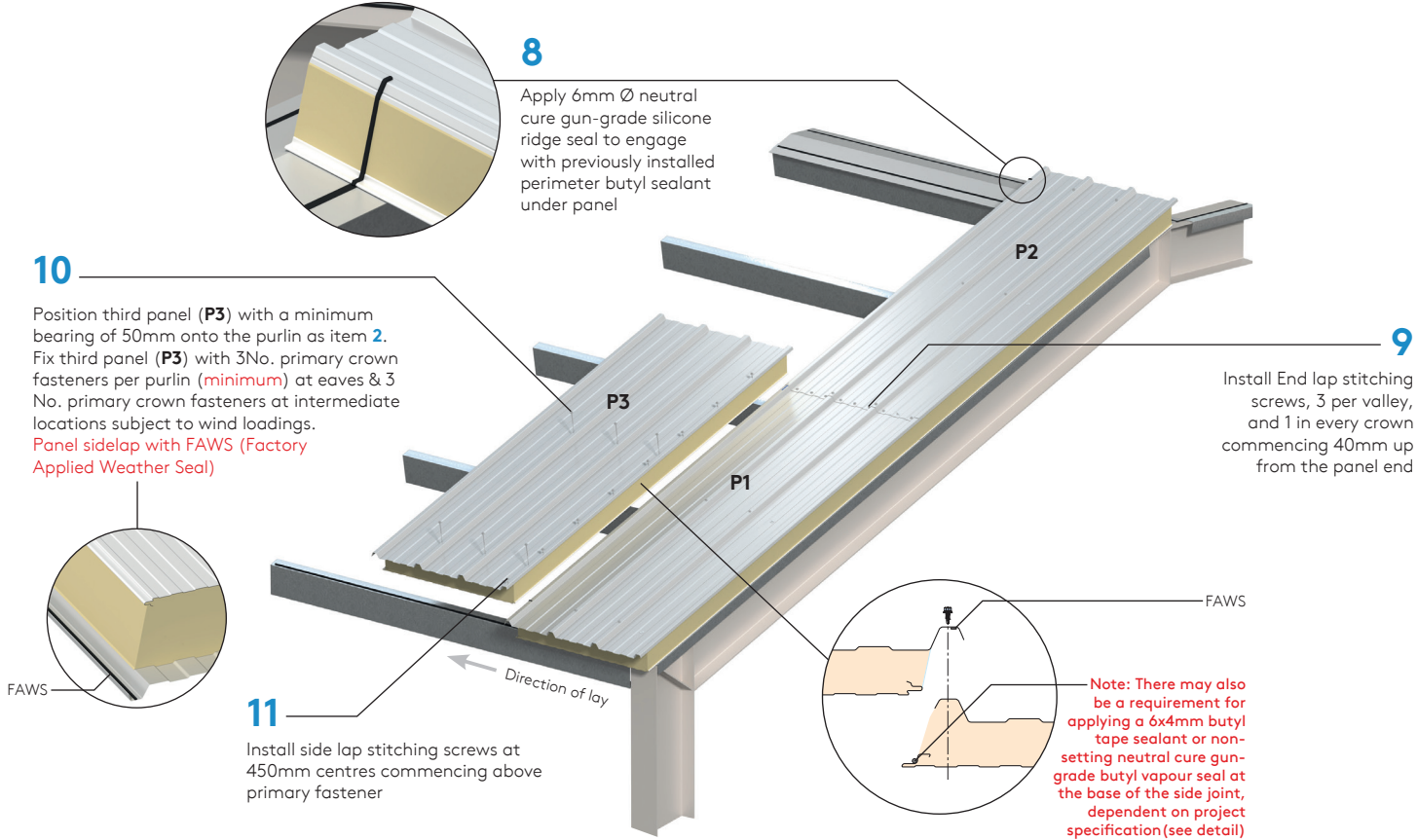
Position & fix second panel (P2) with 2 No. primary crown fasteners and 1 No. primary valley fasteners per purlin (minimum) at panel end lap and intermediate locations. Install 3 No. primary valley fasteners at ridge position.

Subject to wind loadings



KS1000RW Trapezoidal Roof Panel

Multiple Panels Eaves to Ridge 75mm End Lap



8

Apply 6mm Ø neutral cure gun-grade silicone ridge seal to engage with previously installed perimeter butyl sealant under panel

10

Position third panel (P3) with a minimum bearing of 50mm onto the purlin as item 2. Fix third panel (P3) with 3No. primary crown fasteners per purlin (minimum) at eaves & 3 No. primary crown fasteners at intermediate locations subject to wind loadings. Panel sidelap with FAWS (Factory Applied Weather Seal)

9

Install End lap stitching screws, 3 per valley, and 1 in every crown up from the panel end

11

Install side lap stitching screws at 450mm centres commencing above primary fastener

Note: There may also be a requirement for applying a 6x4mm butyl tape sealant or non-setting neutral cure gun-grade butyl vapour seal at the base of the side joint, dependent on project specification (see detail)

FAWS

FAWS

Direction of lay

KS1000RW Trapezoidal Roof Panel

Multiple Panels Eaves to Ridge 75mm End Lap

12

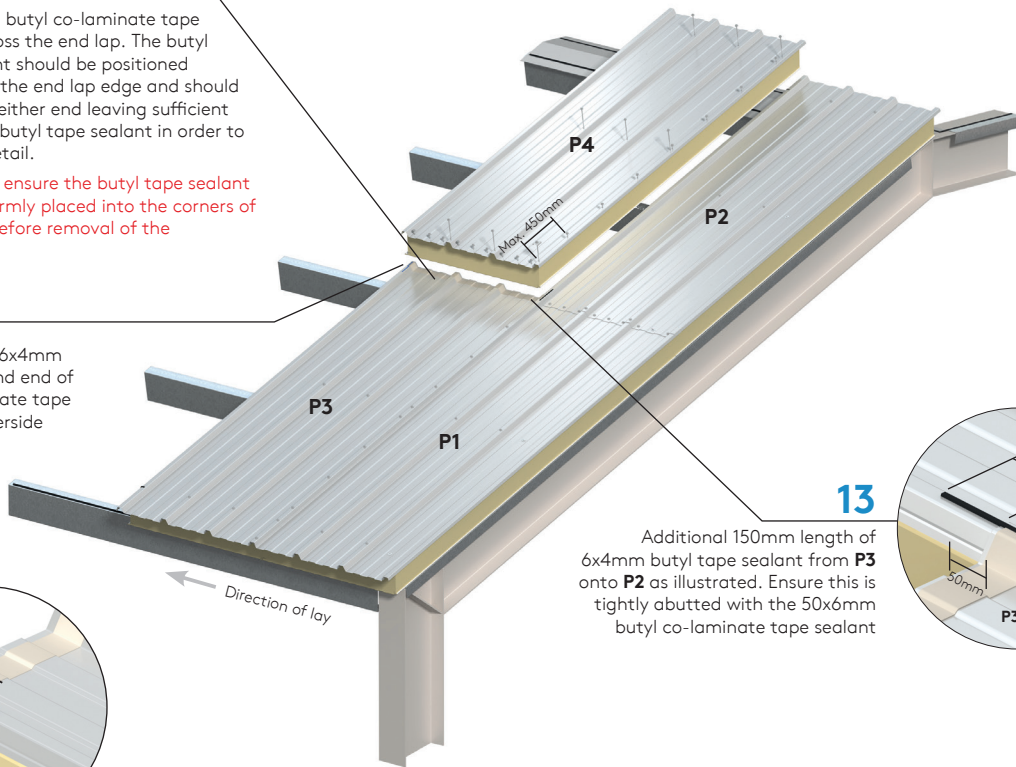
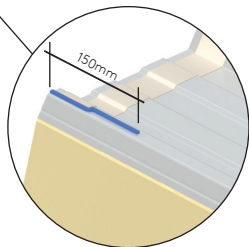
Apply 1 strip of 50x6mm butyl co-laminate tape sealant horizontally across the end lap. The butyl co-laminate tape sealant should be positioned 10mm nominal up from the end lap edge and should commence / terminate either end leaving sufficient area to apply a 6x4mm butyl tape sealant in order to complete the end lap detail.

Care should be taken to ensure the butyl tape sealant is not stretched and is firmly placed into the corners of the trapezoidal profile before removal of the release paper

14

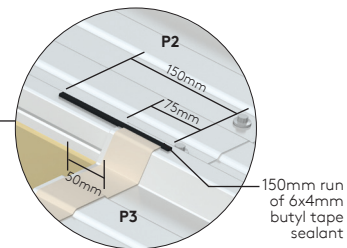
Apply 150mm length of 6x4mm butyl tape sealant around end of 50x6mm butyl co-laminate tape sealant onto the weatherside of the crown profile on (P1) as illustrated.

Ensure this is tightly abutted with the 50x6mm butyl co-laminate tape sealant



13

Additional 150mm length of 6x4mm butyl tape sealant from P3 onto P2 as illustrated. Ensure this is tightly abutted with the 50x6mm butyl co-laminate tape sealant



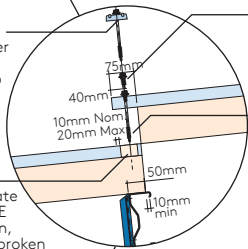
KS1000RW Trapezoidal Roof Panel

Multiple Panels Eaves to Ridge 75mm End Lap

15

Position & fix fourth panel (**P4**) with 3 No. primary crown fasteners per purlin (**minimum**) at panel end lap and intermediate positions & 3 No. primary valley fasteners into valleys at ridge position (**minimum**) subject to wind loadings

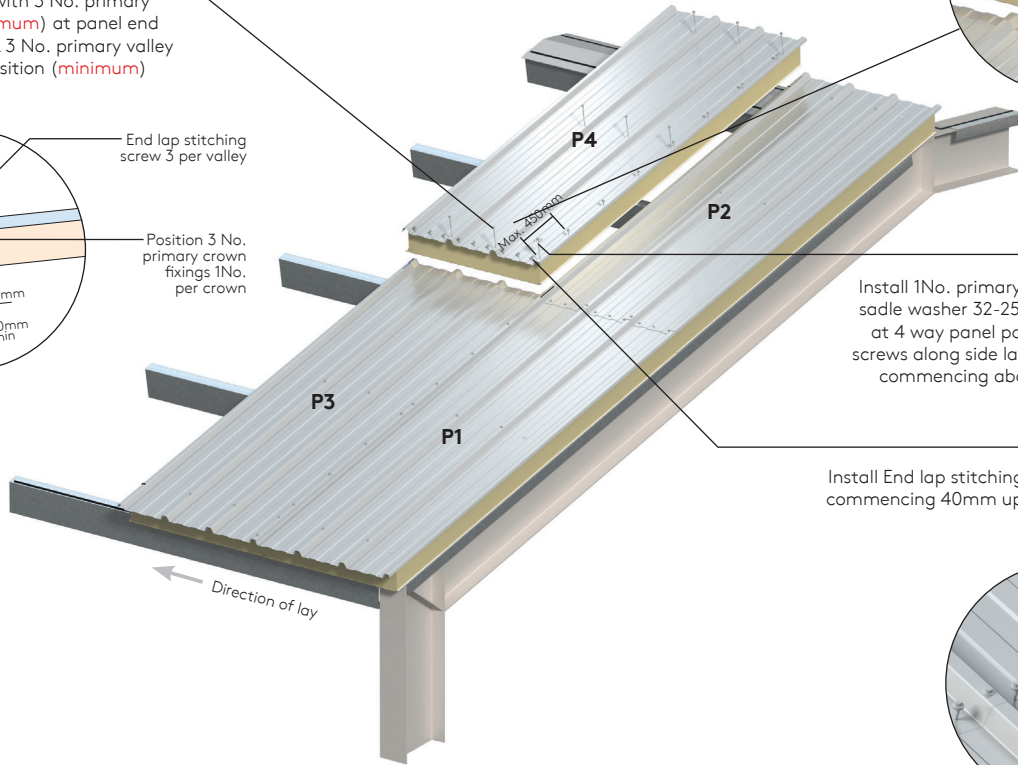
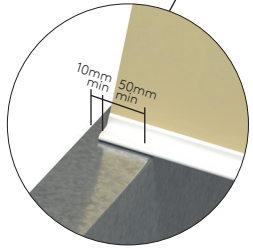
Position of 1No. primary fastener including 32x25 saddle washer to crown at 3 & 4 way lap only



End lap stitching screw 3 per valley

Position 3 No. primary crown fixings 1No. per crown

50x6mm butyl co-laminate tape sealant, PE foam face down, continuous & unbroken (do not join)

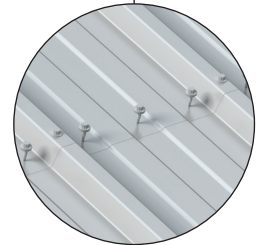
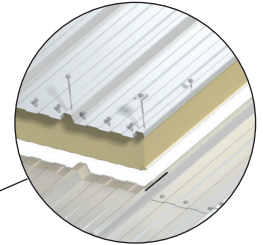


16

Install 1No. primary crown fastener and saddle washer 32-25 to crown into purlin at 4 way panel position. Add stitching screws along side lap at 450mm centres commencing above primary fastener

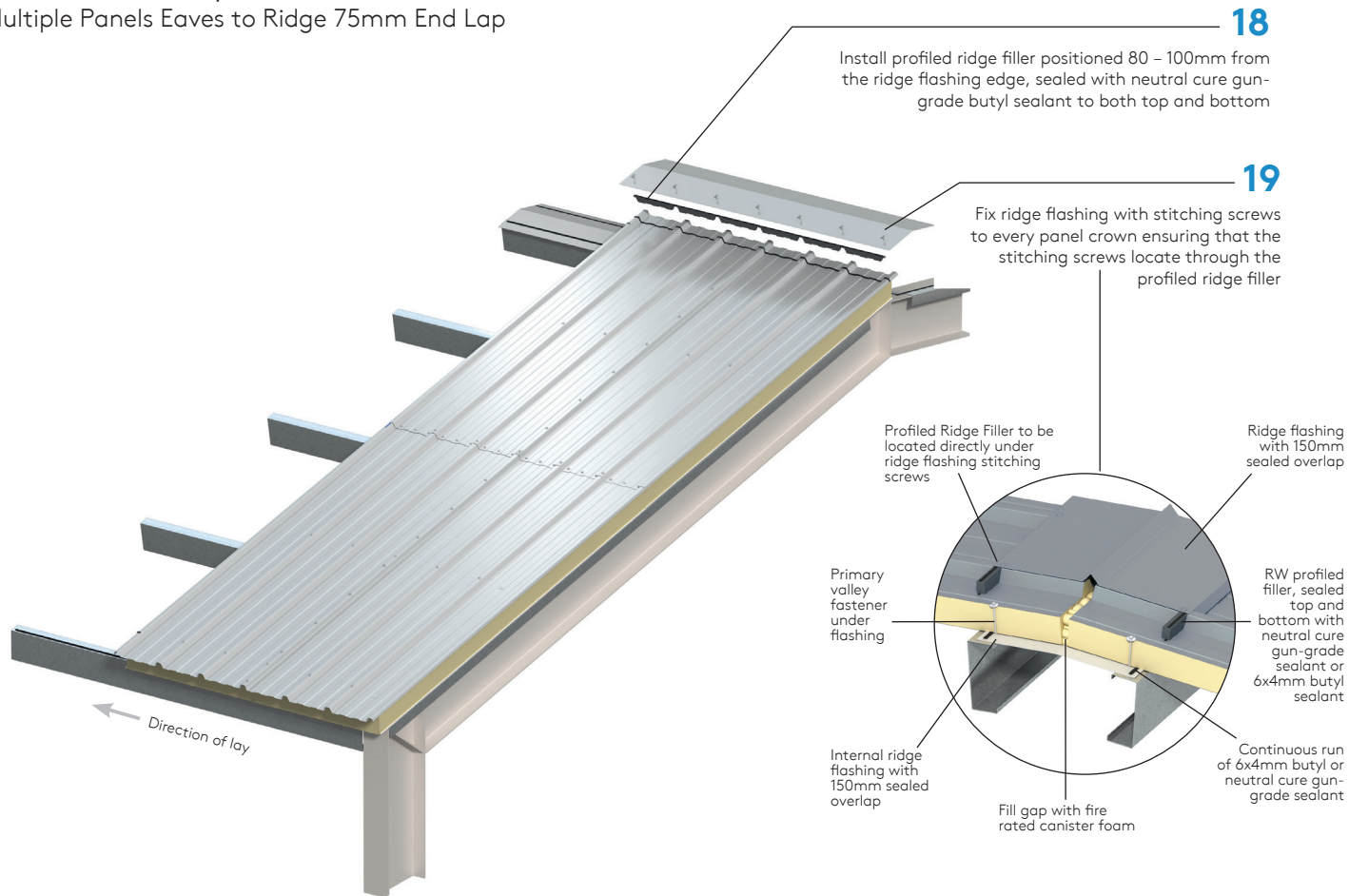
17

Install End lap stitching screws 3 per valley, commencing 40mm up from the panel end



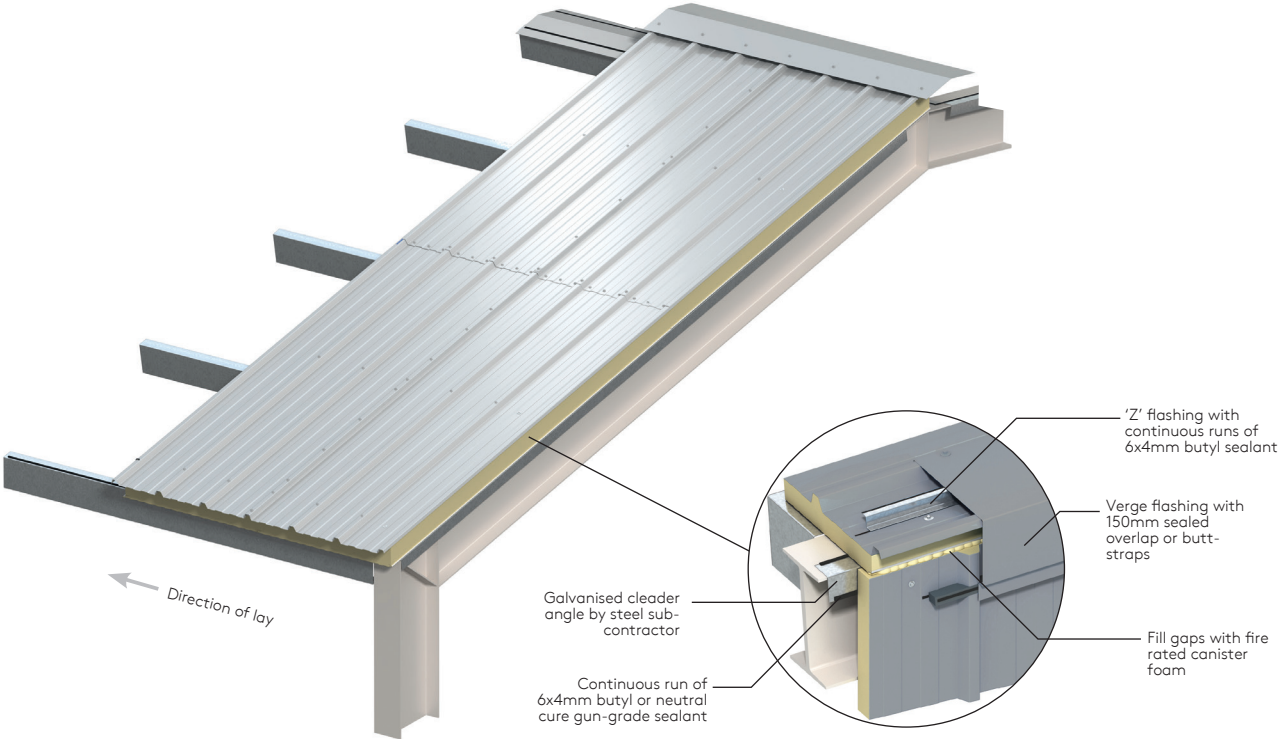
KS1000RW Trapezoidal Roof Panel

Multiple Panels Eaves to Ridge 75mm End Lap



KS1000RW Trapezoidal Roof Panel

Multiple Panels Eaves to Ridge 75mm End Lap



Panel Handling

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

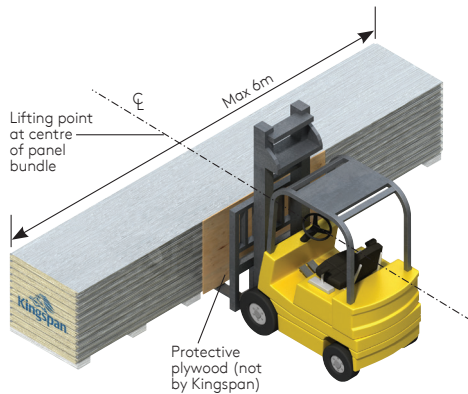
Individual panels should always be lifted from a pack and not dragged over others.

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

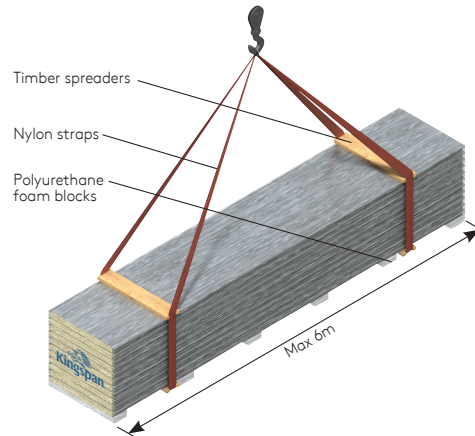
For larger panels the contractor would normally arrange to use appropriate material installation equipment to help lift the panels into position.

Protecting Film

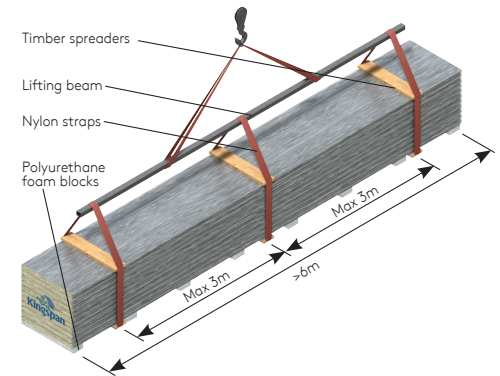
When panels are supplied with a plastic protective film this should be removed during site installation.



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 no more than or equal to 6m can be handled with a crane by using nylon straps and timber spreaders as shown.



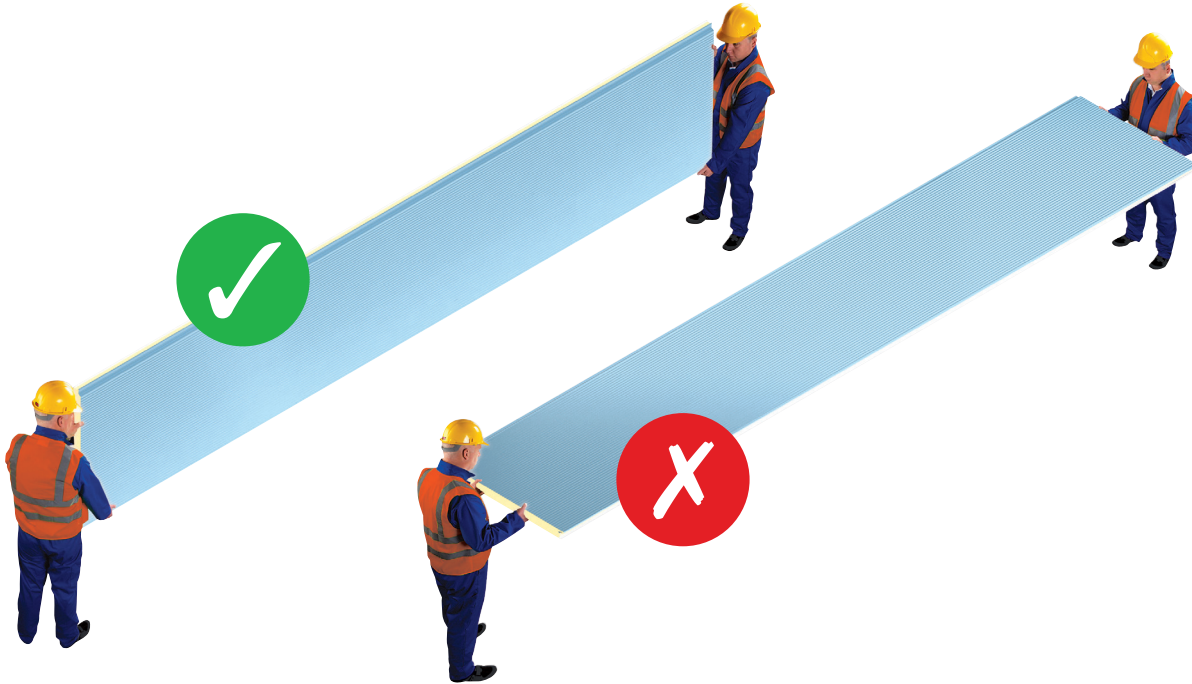
The recommended lifting method for bundles more than 6m, by crane, is by using three points of support. To prevent damage from nylon straps, use timber spreaders at top and bottom at lifting locations as shown.

Panel Handling

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.



Installation guides are available for most of Kingspan insulated roof and wall panels.
For the most up to date version of this Installation guide please [click here](#) or scan the QR code below. Alternatively, please call Kingspan on:

AUS: +61 2 8889 3000
www.kingspanpanels.com.au



For the product offering in other markets please contact your local sales representative or visit www.kingspanpanels.com

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