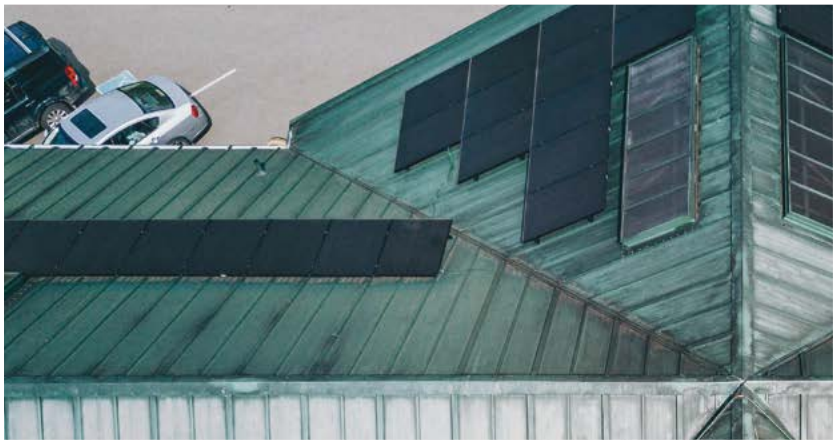
Insulated Panels
North America

Installation Guide
KingRib 3/5 Roof Series

Insulated Roof System





Kingspan®

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Disclaimer

This KingRib installation guide is only to be used in conjunction with panel installation drawings and Kingspan recommended details. Details shown in project shop drawings take precedence over any similar information in this manual. Shop drawings may be prepared either by Kingspan or by the panel contractor. Kingspan Technical Service Department is available to assist the panel contractor in the review of shop drawings.

IMPORTANT!
Please read all information related to your project before receiving materials at the job site and before starting the installation.

This installation guide is intended to provide the panel contractor with recommended methods, procedures and guidelines for the installation of the KingRib roofing system. Information presented is accurate but may not cover all situations, building conditions and / or details of your specific project. Consult your Kingspan technical representative where this guide does not cover your unique construction requirements. It is the sole responsibility of the project engineer and panel installer to ensure specified air and weather tightness of a building by good design and workmanship in accordance with approved drawings using only the appropriate type of sealants.

It is the sole responsibility of the owner's representative and panel installer to maintain quality workmanship in accordance with approved shop drawings to establish all the required seals which ensure the best performance of the roof system.

Follow the architect's approved shop drawings and engineering calculations for your project specific fastening patterns. The engineer of record is responsible for verifying applicable design loads and panel fastening requirements.

All safety procedures, including adequate fall protection, are the responsibility of the panel contractor.

1 Introduction

1.1

KingRib roof product is an insulated roof system that provides weather tightness, airtightness, thermal, fire, structural and durability performance for a variety of applications. These combined features facilitate rapid build speed and enhanced site quality along with building regulation compliance. KingRib is ideal for new or retrofit applications.

Kingspan Technical Service provides full technical support for designers and contractors,

Tel: Florida: 386-626-6789 California: 209-531-9091
Ontario: 905-951-5600 British Columbia: 604-607-1101

For installation assistance: installation@kingspanpanels.com
For engineering assistance: technicalservice@kingspanpanels.com

KingRib roof panels are available in the following configurations:

Thermal Performance at 75˚F			Thermal Performance at 40˚F		
Thickness	U-Factor	R-Value	Thickness	U-Factor	R-Value
1.5	0.093	11	1.5	0.081	12
2.5	0.056	18	2.5	0.049	20
4	0.035	29	4	0.030	33
5	0.028	36	5	0.024	41
6	0.023	43	6	0.020	49

1.2 Panel Design

The KingRib panel design allows the building designer a choice of R-values for different applications, as well as the ability to balance initial cost and long-term energy savings.

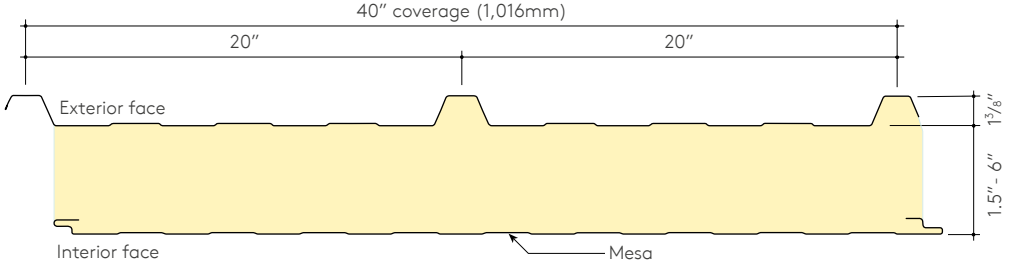
KingRib panels feature aesthetically appealing minor profile ribs in between providing a sharp linear accent.

KingRib is available in variety of lengths. A wide range of color and finish options are available to enhance the aesthetic appeal of the roof.

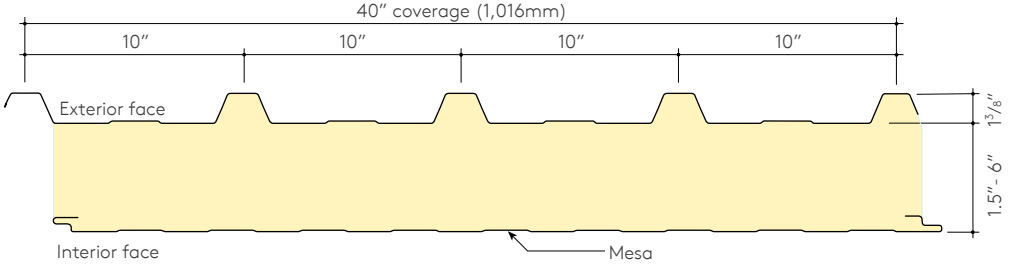
To complete the KingRib system, integrated accessories including architectural trims and some penetration solutions are available.

The panel joints are through fastened at the highrib, spaced according to requirements.

KingRib 3



KingRib 5



2 Inspection upon Delivery

Panels are carefully packaged in large shrink-wrapped bundles, then shipped on flat bed trailers to the construction site. When a shipment is received, check all items against the shipping document for quantities, dimensions, colors, transit damage, etc. Document any shortage of panels and accessories or panel damage on the bill of lading and have it signed by the driver. It is the receiver's responsibility to make any damage claims immediately, and without report, it is implied that product was received in full and without damage. Please note that although every effort is made to prevent shipping damage, Kingspan is not responsible for damage which may occur during transportation, delivery, storage or on-site handling. Photos taken of damaged panels while on the truck will help facilitate your claim with the shipping company.

3 Panel Handling

3.1 Panels Handled by Forklift

3.1.1 The recommended loading / unloading method for bundles less than or equal to 30' is to use a single forklift with widely spaced forks (minimum 60") placed under the center of the bundle as shown in Fig 3.1a. Panel bundles over 30' in length may be moved by using two forklifts spaced equally along the length of the bundle as shown in Fig 3.1b. Inspect travel route to assure a reasonable level and compacted surface free of ruts and excavations. Use care to not over engage forks, use of foam blocks on the mast can help prevent fork damage to adjacent bundles and soften contact with the fork truck's mast. Incorrect handling practices can result in damage to the panels foam and or metal facing. Panel damage due to rough terrain or improper lifting techniques is not the responsibility of Kingspan.

CAUTION

Use care to not over engage forks, use of foam blocks on the mast can help prevent fork damage to adjacent bundles and soften contact with the fork truck's mast. Incorrect handling practices can result in damage to the panels foam and or metal facing. Panel damage due to rough terrain or improper lifting techniques is not the responsibility of Kingspan.

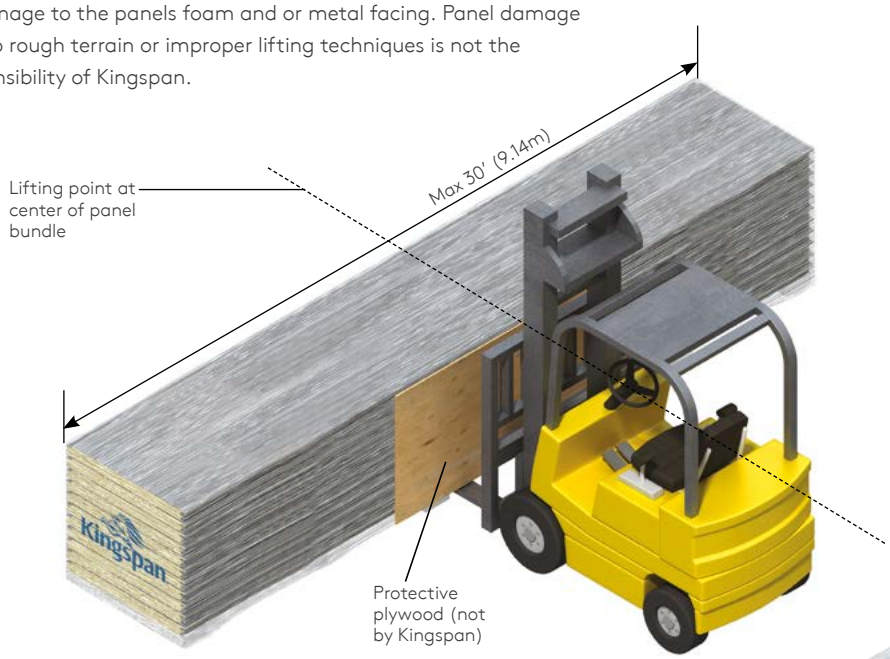


Fig. 3.1a

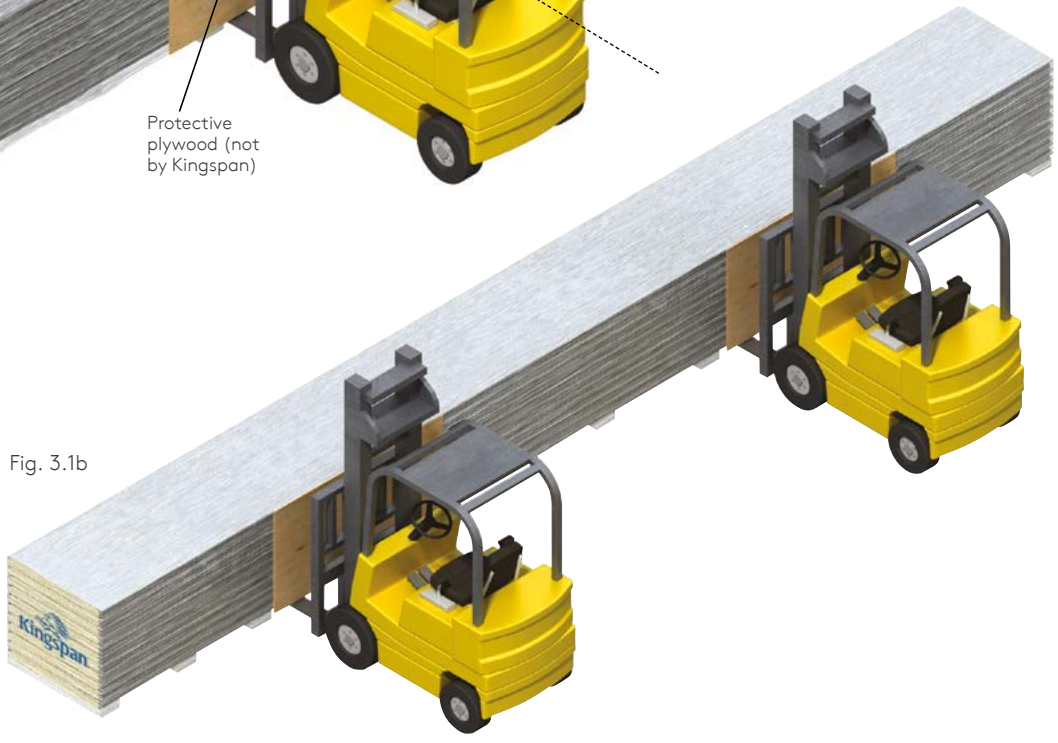


Fig. 3.1b

3 Panel Handling

3.2 Panels Handled by Crane

3.2.1 The recommended crane lifting method is to use nylon straps positioned at a minimum of two points along the length of the bundle. Suitable wood spreaders should be used and located at the top and bottom of the bundles at the strap positions to protect the edges of the upper and lower panels. Extreme care should be taken to avoid bumping and snatching of the bundles when lifting.

3.2.2 Panel bundles with a total length of not more than 30' (9.14 m) can be handled with a crane by using nylon straps and wood spreaders as shown in Fig. 3.2. For suggested wood spreader dimensions, see Fig. 3.3.

Fig. 3.2

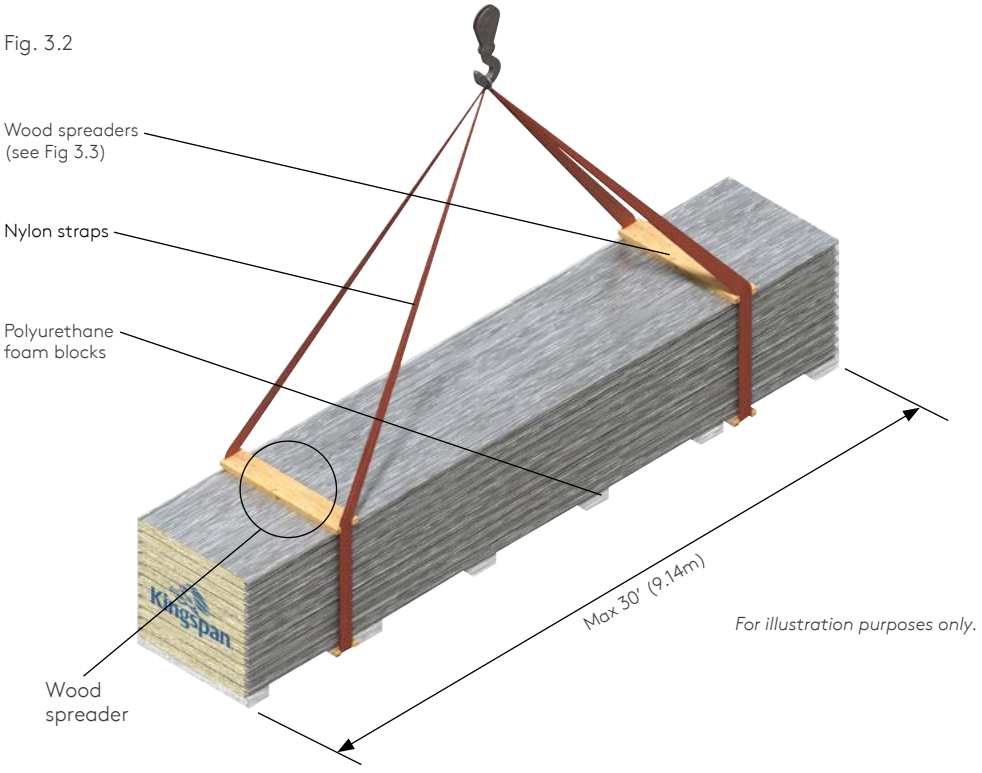
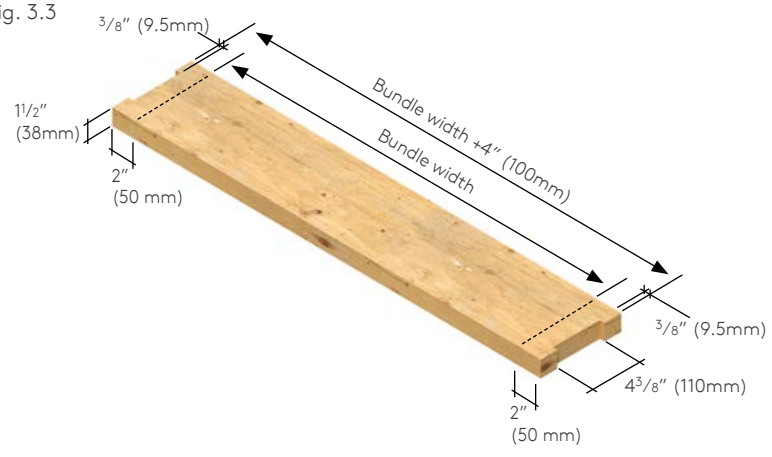


Fig. 3.3



3 Panel Handling

3.2.3 When lifting bundles with a crane longer than 30' (9.14m), three points of support are required from lifting beam to bundle, as shown in Fig. 3.4. To prevent damage from nylon straps, use wood spreaders at top and bottom at lifting locations as shown in Fig. 3.4 and Fig. 3.5.

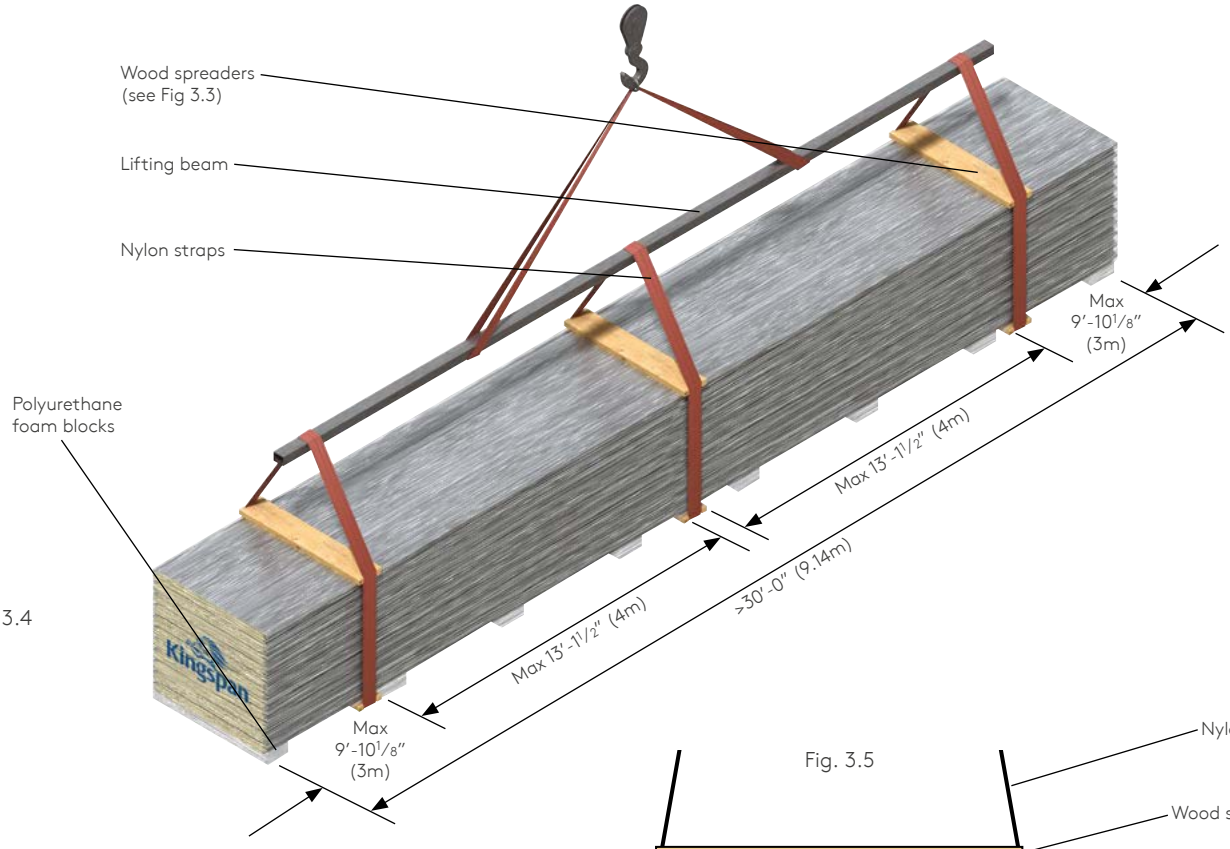
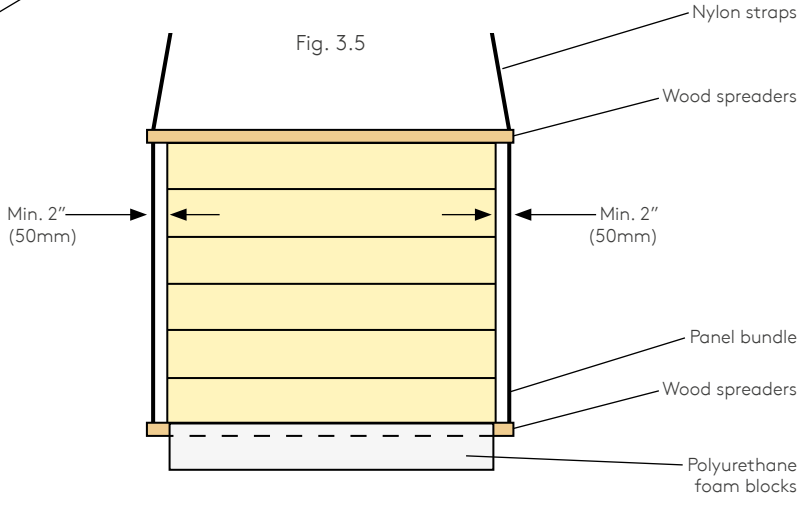


Fig. 3.4

Fig. 3.5

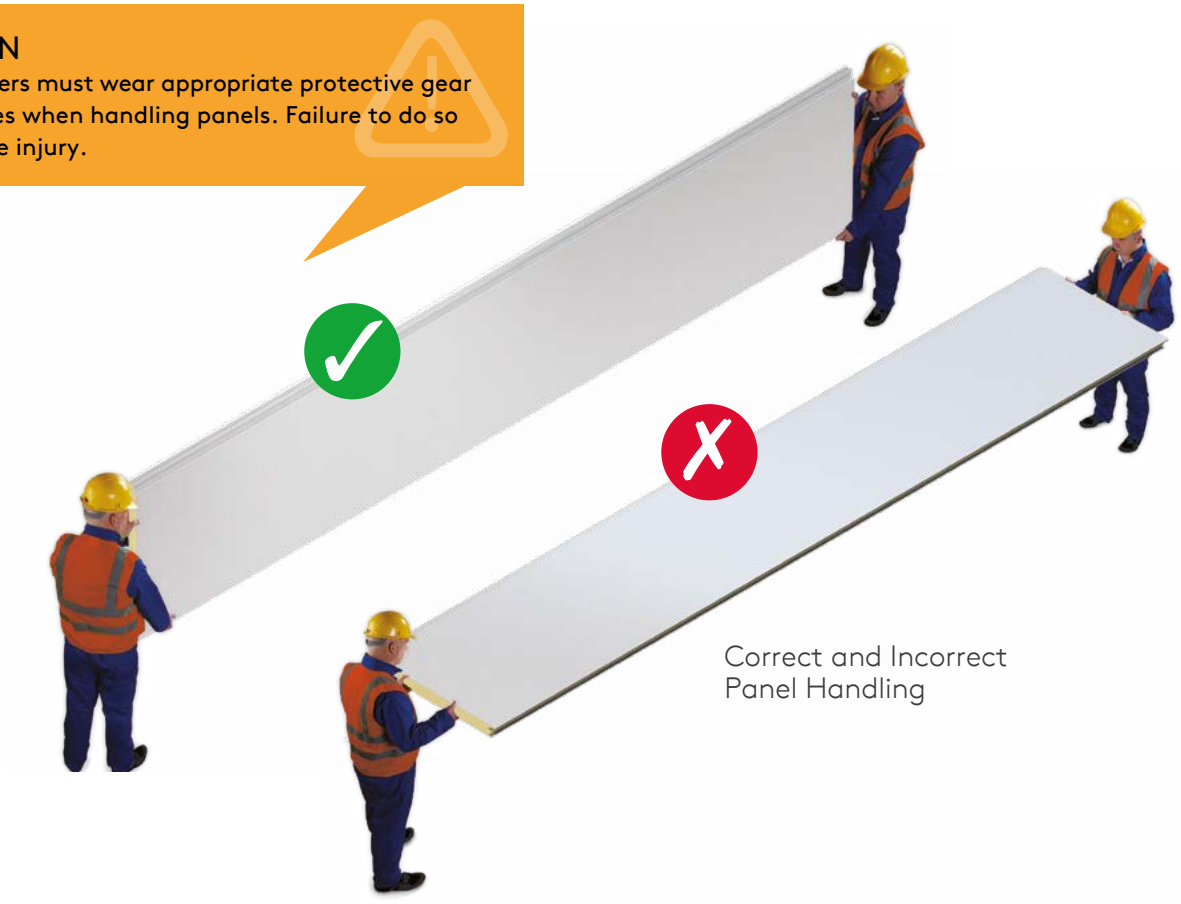


3 Panel Handling

3.3 Handling Individual Panels

CAUTION

3.3.1 Workers must wear appropriate protective gear at all times when handling panels. Failure to do so may cause injury.



Correct and Incorrect Panel Handling

CAUTION

3.3.2 Individual panels should never be moved in a flat position as excessive flexing may result. Excessive flexing that 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. It is the handler/installer's responsibility to prevent damage to the panel, site damage to panels is not the responsibility of Kingspan.

NOTE

Panels exposed to direct sunlight may exhibit thermal bow, which can hinder panel engagement. This can be corrected by either placing the panels in a shaded area, or by flipping the panels over exposing the cool side of the panel to the sunlight for approximately 15 minutes. Panels forced flat or installed while exhibiting effects of thermal bow can result in damage to foam and metal facers that are not the responsibility of Kingspan.

3 Panel Handling

3.4 Panels Lifting using Vacuum Equipment

Panel installation time can often be reduced by using vacuum lifting equipment. The following items need to be verified by the equipment supplier prior to use: lifting equipment must be adequate for panel lengths and weights, and provide sufficient mobility and reach for the project conditions.

Vacuum heads (cups) must be suitable to safely lift panels with profiled and / or embossed surfaces. Fluted profiles may require specific vacuum heads.

Kingspan recommends using Rotaboy and Cladboy vacuum lifting systems. For equipment parameters and availability, please contact: AutoMak Assembly Inc. at 1-219-310-8458 / info@automakassembly.com

CAUTION

3.3.3 To prevent joint damage and possible delamination, never lift a panel from the top sheet only. Lift from underneath the entire panel.

CAUTION

3.3.4 Never drag a panel from a bundle or across other surfaces. It will scratch and damage the panel coating/finish. Always lift panels when removing from bundle.

4 Panel Storage on Site

4.1
Site must have adequate storage space to receive and store the panel bundles. This space must be level, firm, clean and free from standing water. Bundles should be stored in a dry condition, with one end slightly elevated to facilitate moisture drainage.

4.2
Panels should be inspected upon delivery for presence of moisture. If moisture is present, bundles should be slit open immediately to allow ventilation and drainage, slits should be approx. 12" intermittently placed near the bottom of the wrapped bundle.

4.3
If panels are to be used immediately, bundles should be placed at pre-planned strategic locations around the building perimeter, as close as possible to the specific work areas. Review installation shop drawings to determine the best locations.

4.4
Panels in opened bundles should be covered by a plastic sheet or tarp at the end of the working day. The covering and bundles must be securely fastened to prevent wind damage (see Fig 4.1).

4.5
When handling panels and / or panel bundles, ropes, steel cables or chains must not be used.

4.6
Avoid outdoor storing for longer than 60 days. Moisture between panels can cause corrosion or staining. Staining of any kind is not considered to be a cause for rejection.

4.7
If panels are not to be used immediately, then they should be stored under a temporary shelter with the plastic removed from the top and sides of the bundles. Recover the bundles with a protective tarp and adequately secure both tarp and panels to prevent wind damage (see Fig 4.1).

NOTE
When stacking bundles (maximum two high) limit storage time to 30 days to prevent panel damage.

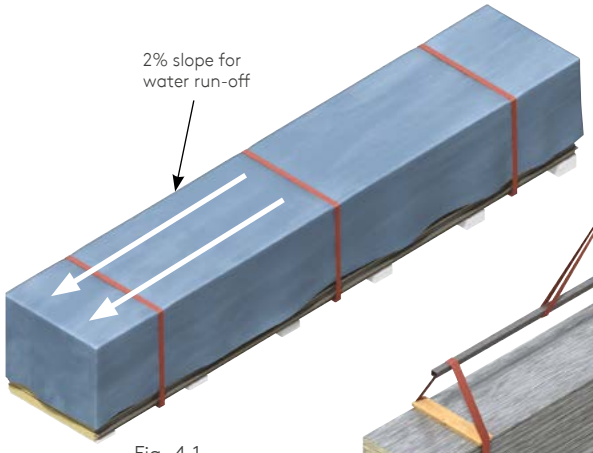


Fig. 4.1

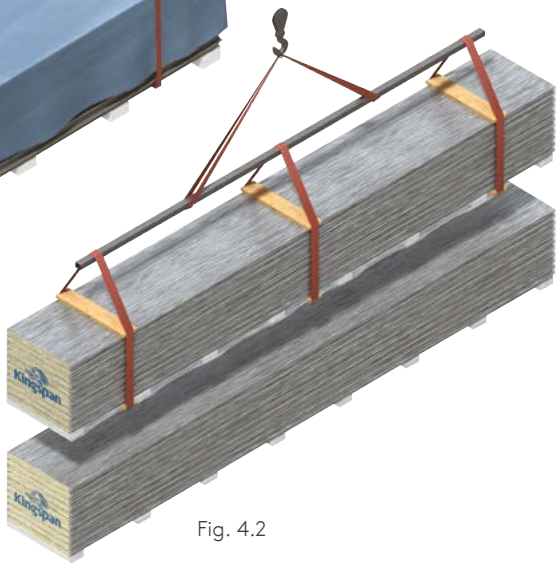


Fig. 4.2

5 Handling and Storage of Items and Accessories

5.1
Care should be taken during unloading and storage to prevent damage to small items, ie. trims fasteners, clips, sealants, etc.

5.2
Cover all pallet crates or boxes to protect materials from weather but allow for ventilation to prevent condensation. Temperature sensitive items such as butyl tapes and sealants should be stored under controlled conditions to maintain suitable application characteristics.

6 Removal of Protective Film

6.1

IMPORTANT!
If panels will not be installed within 60 days of production, the bundles should be unstacked and the protective film removed from each panel. Carefully restack the panels and protect from the elements. Failure to remove the film within this time period may result in excessive film adhesion and breakdown of the plastic, making removal extremely difficult. In addition, failure to remove the film as instructed may result in a transfer of adhesive residue.

Kingspan cannot be responsible for every condition encountered. When extremes are encountered, trials should be conducted to determine if any undesired side effect will result. Film removal and panel cleaning is the responsiblity of the installation contractor when extreme conditions are encountered.

6.2
It is recommended to remove protective film as panels are installed. Film on installed panels should be removed by the end of each day.

6.3
Loosen film along male edge and peel it off and down at approximately 45° angle from both sides of panels (see Fig. 6.1).

6.4
If adhesive residue remains on panel surfaces after the protective film is removed, panels may be cleaned with a rag soaked in 409, Oil-flo 141 or equivalent. Inquiring about factory peal-coat removal can help avoid conditions that require cleaning. After cleaning, rinse thoroughly. For safety, provide adequate eye and skin protection, ventilation and follow all other manufacturer's instructions.

Peel film off at approximately 45° angle from both sides of the panel

Fig 6.1

7 Structural Steel Framing

7.1
Review shop drawings prior to installation to verify that structural members are in the correct location.

7.2
Installer must examine the alignment of the structural steel prior to installation of the roof panels. The roof structure must be square and provide adequate support to framing members intended to support the panel system. Supporting steel must be in the same plane and free of obstructions such as weld marks, bolts or screw heads. The recommended roof plane tolerances are 0" inward, and not to exceed + 3/16" from the control with a maximum 1/8" deviation for any member in any 10' direction.

7.3
Panel supports must extend to the outer extremities at all panel terminations.

7.4
Any variance from tolerances can affect both performance and aesthetics and must be reported to the architect and general contractor. All out of tolerance framing must be corrected by the responsible party prior to panel installation.

8 Panel Cutting Procedures

8.1
Personnel working with panel cutting equipment should wear respiratory and eye protection at all times.

8.2
Panel cutting should take place prior to panel installation whenever possible.

8.3
Use the appropriate cutting tools with extreme care to avoid panel delamination. Do not use a cutting disk, torch, and other high heat producing methods for cutting. Hot filings may damage the painted surface of the panel. Kingspan recommends use of a circular saw with a fine tooth carbide tip blade (40 tooth minimum). A band saw with a suitable metal cutting blade may also be used. Use of reciprocating saws is not recommended and damage that may result is not Kingspan's responsibility.

8.4
For small penetrations, a Dremel type router may be used to cut each face of the panel, and a serrated bread knife may be used to cut the foam core.

8.5
Power snips, nibblers or hand snips may be used to cut trims and flashings.

NOTE
Do not use an electric grinder, reciprocating saw, or any tool that may cause serious delamination.

8 Panel Cutting Procedures

8.6

Step 1: Mark the cut line on the interior and exterior panel facings.

Step 2: Leave protective film in place during cutting. If film has already been removed, apply masking tape adjacent to the area to be cut.

Step 3: Recheck measurements and proceed with cutting operation. Cut the interior face of the panel and about ¼ of the foam thickness using a circular saw with a fine toothed carbide tipped blade. Then carefully turn panel over and cut the exterior face and the remainder of the foam.

Step 4: For panels located at framed opening locations where 50% or more of the panel width is removed, cut interior face and foam to a depth of approx. 1/4". Flip panel over and cut exterior face and foam to a depth of approx. 1/4". Then cut through the joints on the edge of the panel that is to be removed for the opening. Lift the panel into place, secure with fasteners as required, then use a serrated bread knife to fully cut through the foam and remove the cut section of panel.

Step 5: File or sand off any burrs or rough spots at the cut line. Sweep off all metal shavings etc. Best practices include use of touch up paint on any cut edge. The panel is now ready to be erected.

Fig. 8.1

NOTE
When cutting the KingRib panel from the liner side, place foam block spacers underneath the panel to prevent damage to the ribs.

9 Sealant Placement

9.1

Apply a bead of butyl sealant to interior female joint to ensure a proper vapor barrier. Joint should be dry and clean before applying sealant.

Applying sealant on site (Fig. 9.1).

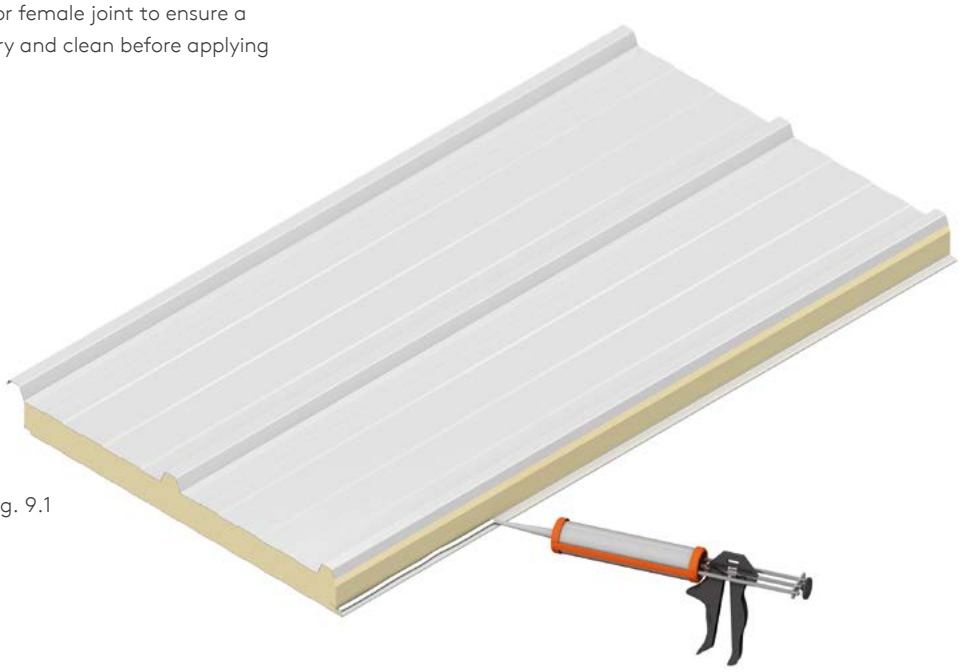


Fig. 9.1

Fig. 9.1a

9.2

Butyl sealant should be applied to the top of the supporting steel structure along the entire roof perimeter as shown in the project shop drawings. This is necessary to provide a proper vapor barrier.

10 Panel Touch-up Paint

10.1
The panel erector is to touch up all exposed cut edges with touch up paint. Contact Kingspan Customer Service for information on appropriate touch up paint.

11 Panel Cleaning and Maintenance

11.1
Proper installation and maintenance are extremely important in obtaining the very best service and appearance from pre-painted metal insulated panels. Exposed fasteners may require periodic maintenance where fastener tightness is checked to ensure all seals are maintained.

11.2
All dirt, oil, grease, fingerprints, metal filings or other contaminants should be removed to assure proper service life of the paint system. The installer should wipe-down the panels as they are erected.

11.3
Dirt pickup may cause apparent discoloration of the paint after prolonged exposure. Slight chalking from strong sunlight exposure may also cause a change in appearance. A thorough cleaning will usually restore the original appearance of the panels.

11.4
In many cases, a simple low pressure wash of the building with plain water will be adequate. In areas of heavy dirt deposits, a solution of water and detergent (⅓ cup liquid Tide per gallon of water) may be used. Use a soft rag, sponge, or soft bristle brush to clean. A clean water rinse should follow.

11.5
Mildew may occur in areas subjected to high humidity. To remove mildew, use the following solution followed with a clear water rinse: ⅓ cup of detergent (Tide), ⅔ cup of tri-sodium phosphate (Soilex), 1 quart sodium hypo chlorite 5% solution (Clorox), 3 quarts water.

11.6
Caulking compounds, oil, grease, tars, wax and similar substances can be removed by wiping with a cloth soaked with WD-40 lubricant. Test on an inconspicuous area first. Do not rub excessively or damage to the finish may result. Wipe only contaminated areas and follow with detergent cleaning and thorough rinsing.

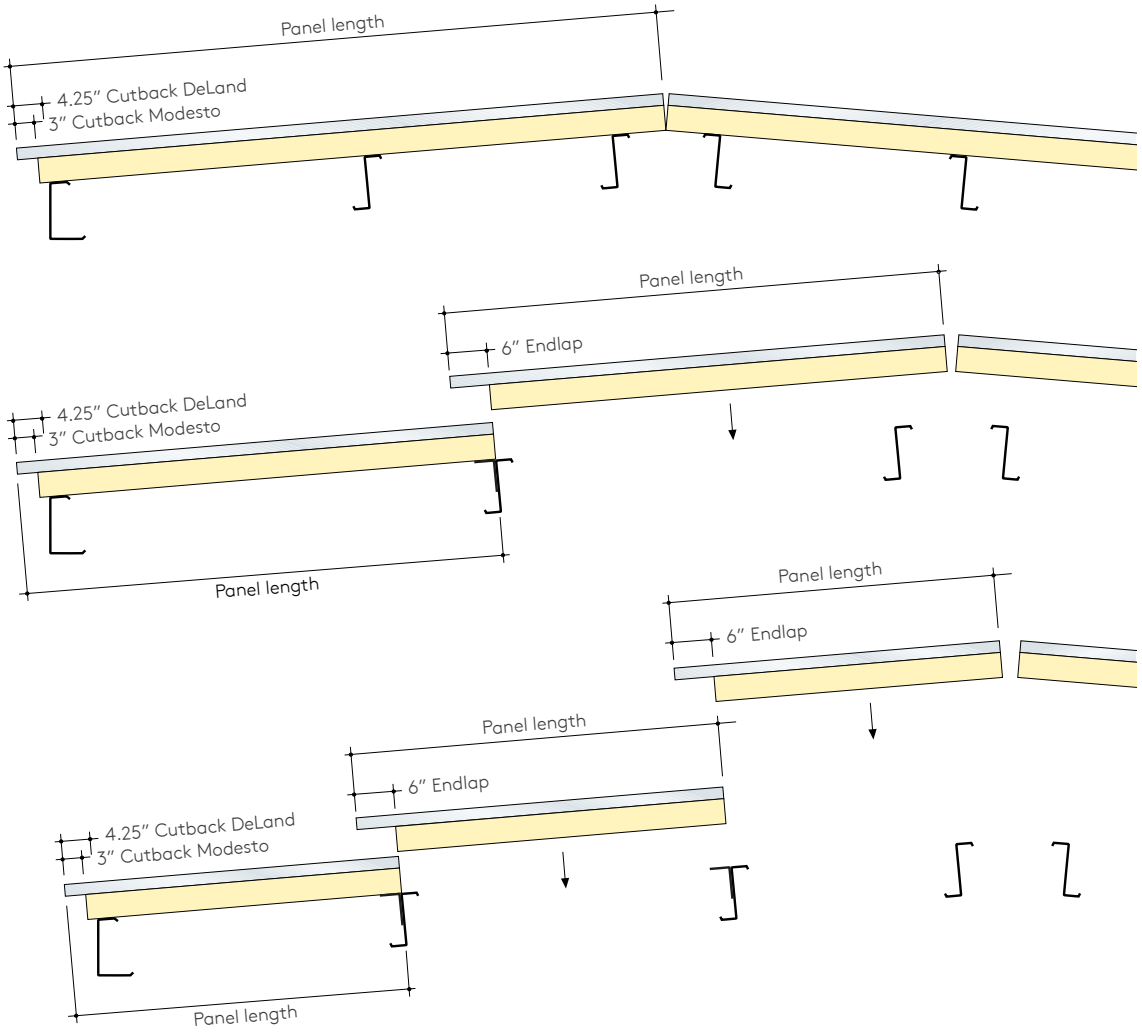
11.7
To remove oxidation and tough stains, use a household cleaner recommended for use on porcelain skins and bathtubs. This should be followed with a thorough rinsing. Wire brushing or any abrasive material may damage the painted surface and should not be used.

CAUTION
Strong solvents and abrasive cleaners should be avoided. Any cleaning method used should be first trialed in an inconspicuous area to ensure there is no unintended side effect.

11.8
Contact Kingspan Customer Service to receive a copy of the complete Kingspan Panel Maintenance Manual.

KingRib Roof Installation

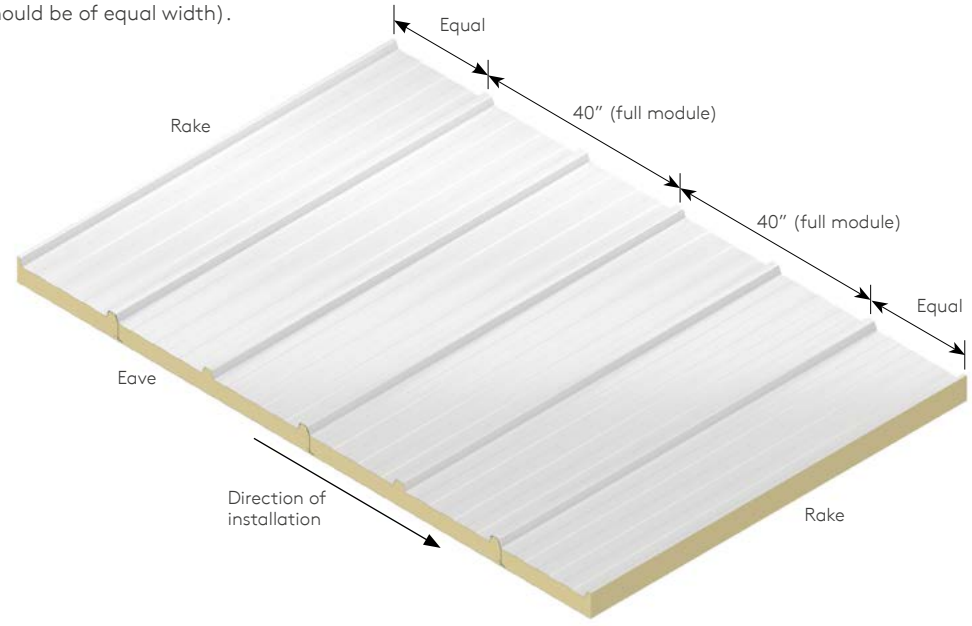
IMPORTANT INSTALLATION NOTE!
All panel ends must be fully supported, added support angles will be required at all endlap locations.



KingRib Roof Installation

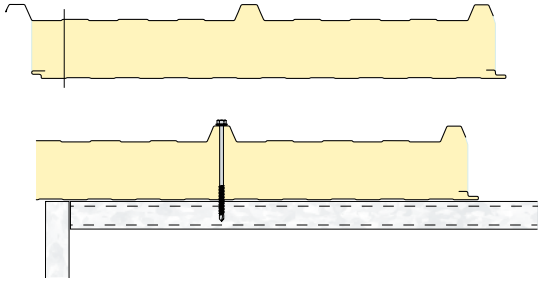
A Prior to cutting the first panel for installation, verify that the shop drawings show the correct roof panel layout (the panels on each end of the roof should be of equal width).

Single roof panel, staggered endlap, non-staggered

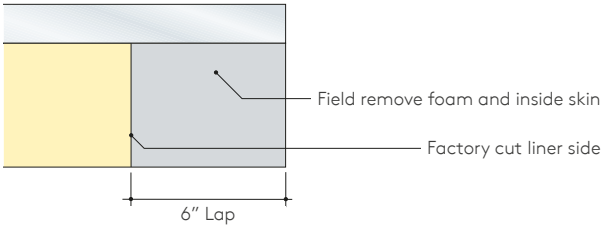


Starter Panel

Starting from the female side of the panel, cut the panel as necessary so that the panels on each end of the roof are of equal width. The outer cut edge of the panel should be flush with the outside face of the wall panel as shown.



Prepare panel endlaps by removing the liner side facing and foam at factory cutback locations using a serrated bread knife and scraper blade. Be sure to remove all residual foam from the underside of the top skin to ensure a proper seal at panel endlaps and eaves.



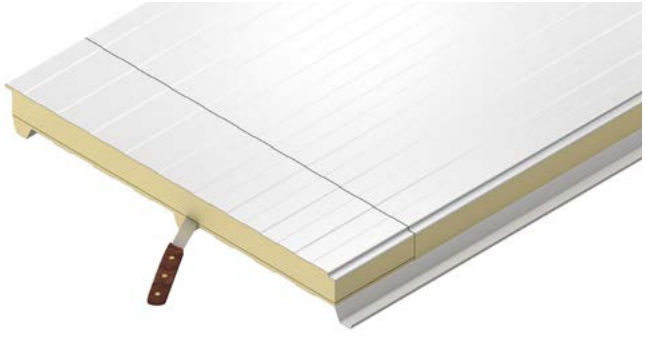
KingRib Roof Installation

Cutback preparation

For panels without factory cutbacks, cut the bottom metal skin using the appropriate saw. For panels with factory cutbacks, proceed directly to step 2.

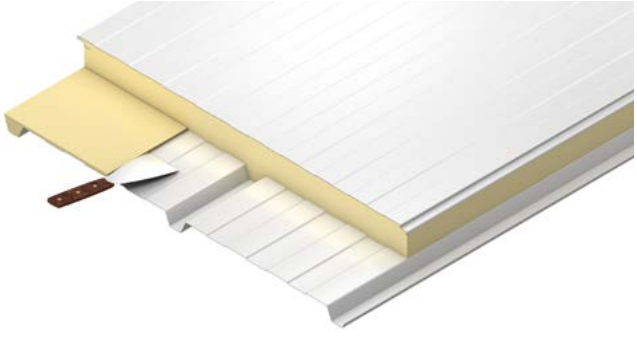
Cut the bottom metal skin using the appropriate tool

Using a serrated knife, cut through the foam



Using the same knife, cut along the bottom edge of the foam

Remove the cutback section

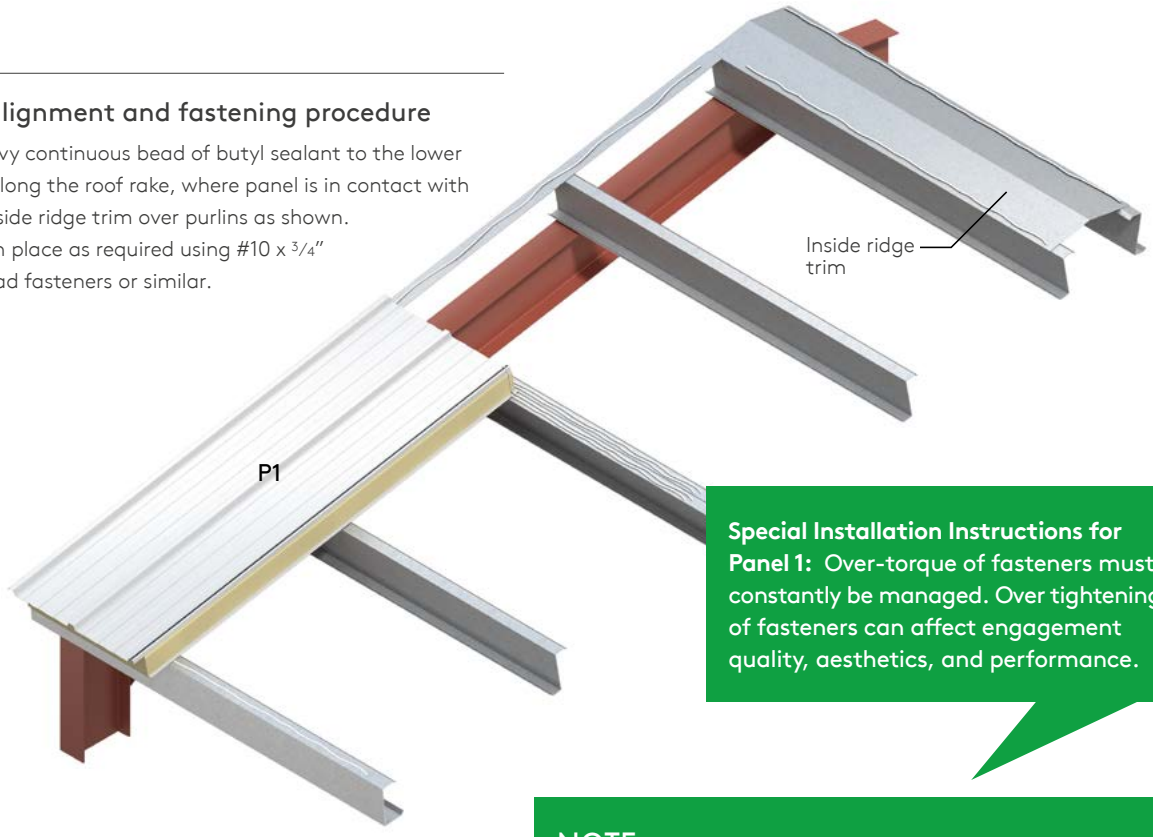


Remove all residual foam from the underside of the top skin to ensure a proper seal

KingRib Roof Installation

First panel alignment and fastening procedure

B Apply a heavy continuous bead of butyl sealant to the lower purlin and along the roof rake, where panel is in contact with steel. Set inside ridge trim over purlins as shown. Hold, trim in place as required using #10 x 3/4" Phil Pan Head fasteners or similar.

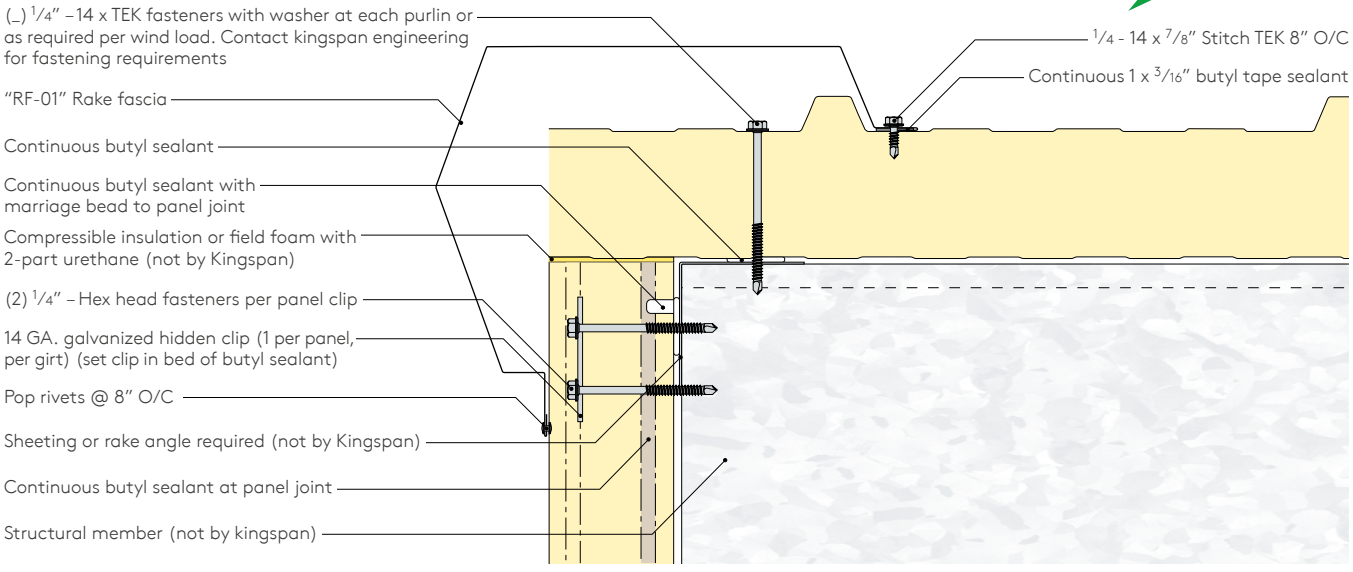


C The first row of panels must be laid true to line, using a laser or string with square. The starter panel should be through fastened into the rake angle and purlins as shown on the shop drawings. Fastener spacings and types are determined by wind loads – contact Kingspan Technical Services for assistance or your Engineer of Record.

Special Installation Instructions for Panel 1: Over-torque of fasteners must constantly be managed. Over tightening of fasteners can affect engagement quality, aesthetics, and performance.

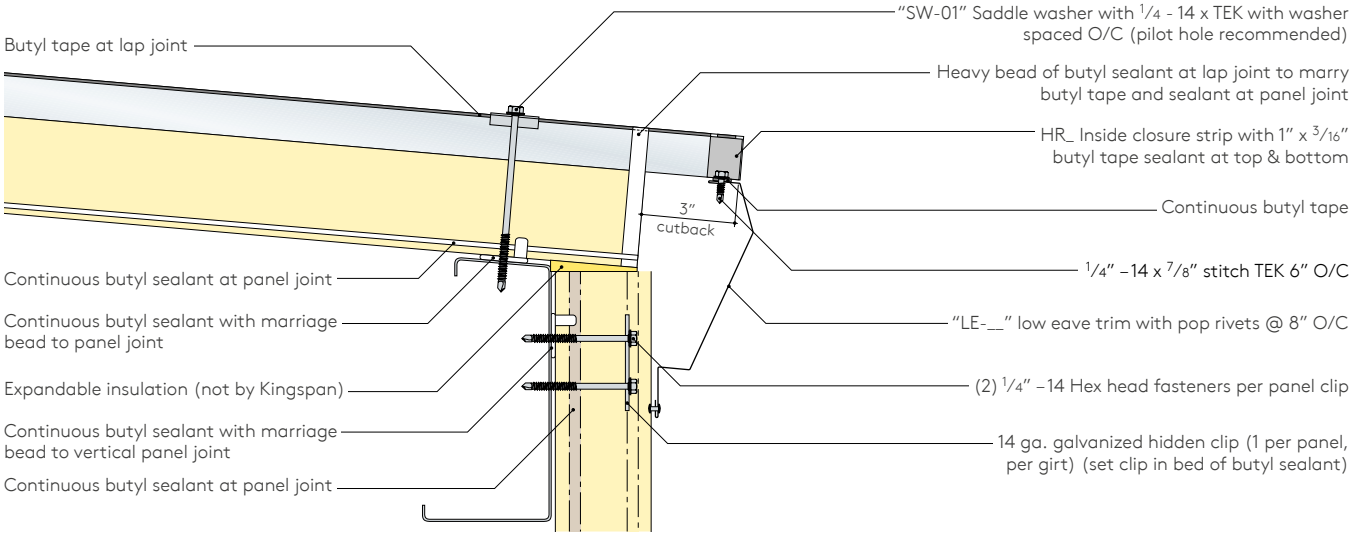
NOTE
Special Ridge and Valley Installation Instructions: For gable roofs and valley conditions, interior ridge and valley flashings MUST be installed prior to installing panels. Panels must be fastened and seamed before installing exterior ridge trims. See step for more information regarding ridge trim assembly.

Rake Detail

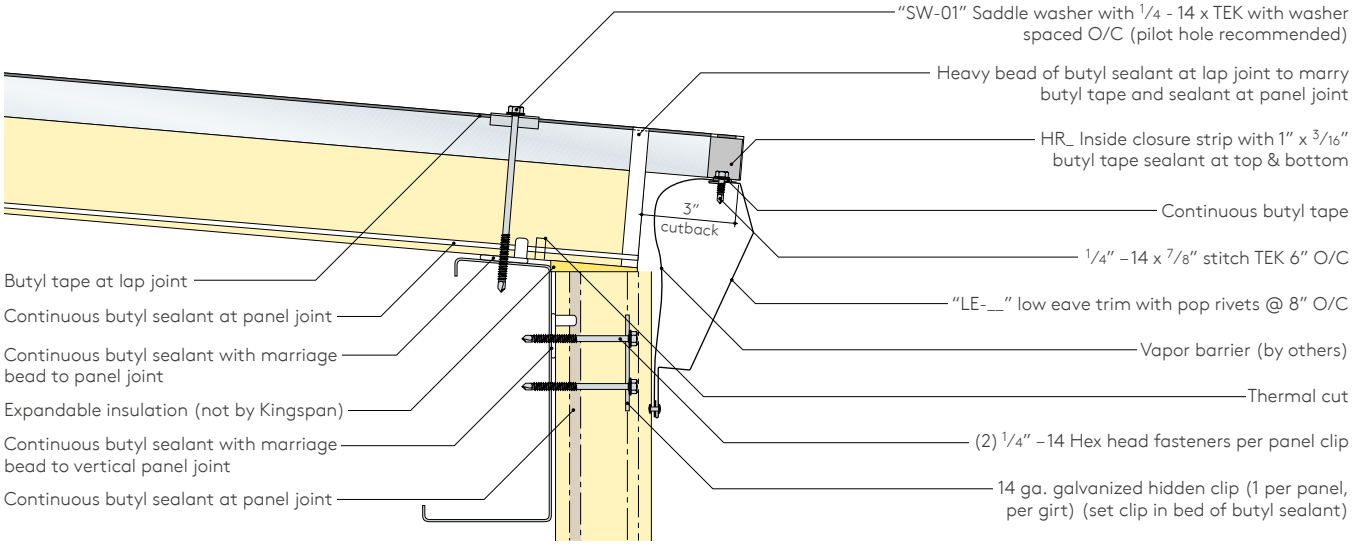


KingRib Roof Installation

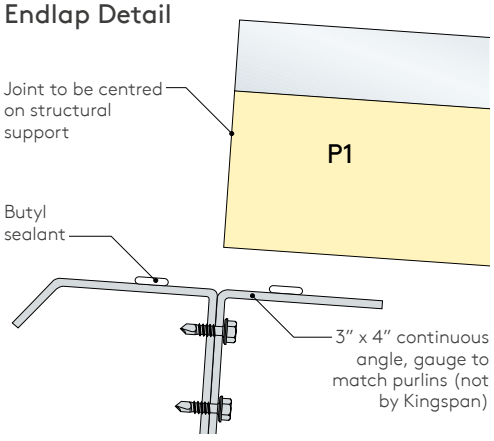
Low Eaves without Gutter Detail



Eaves Detail - Cold Climates



Endlap Detail



NOTE

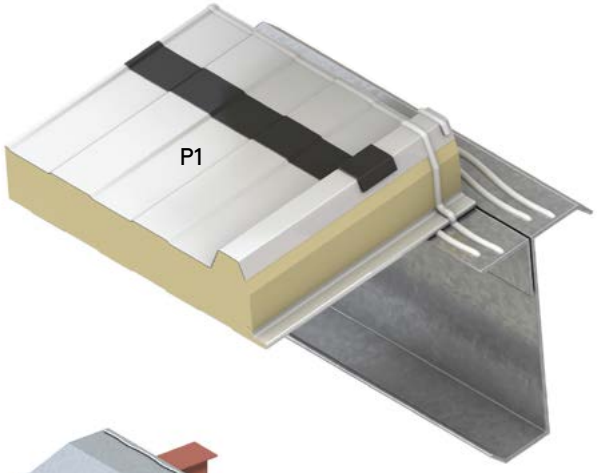
Cold climate areas and cold storage applications typically utilize field cut thermal breaks as depicted here and in the Cold Storage details.

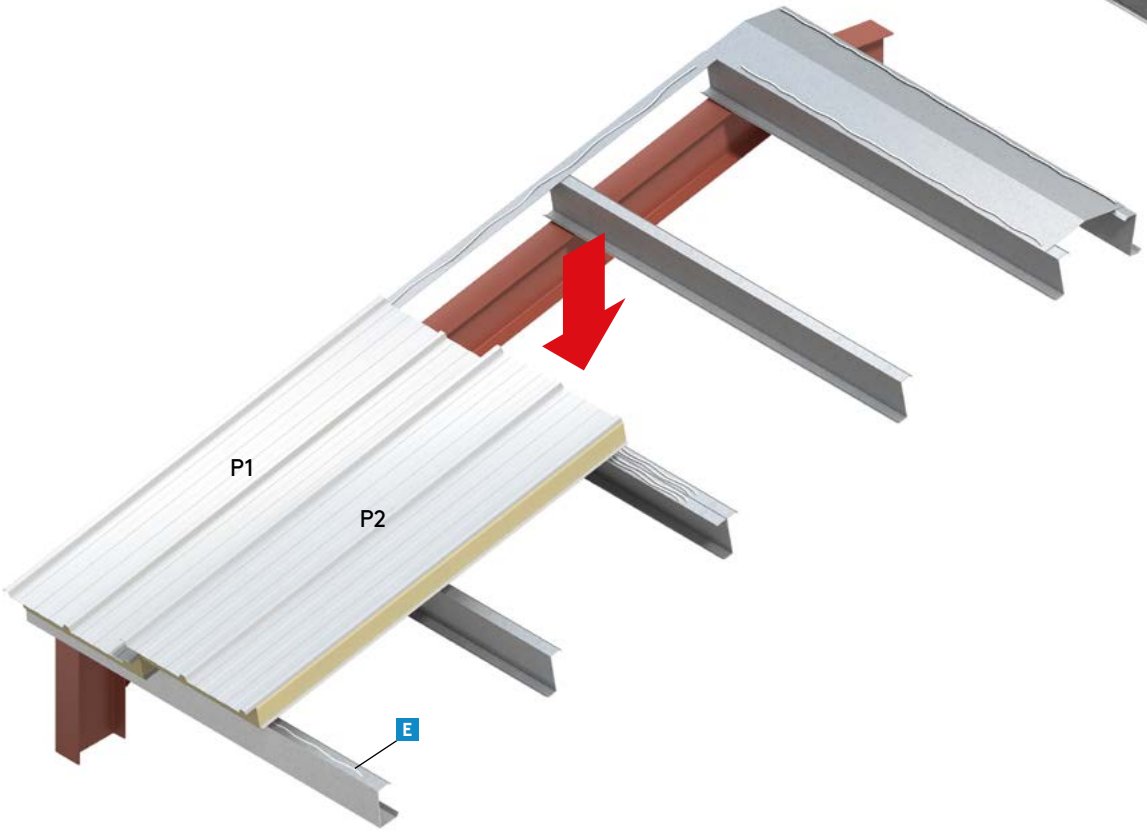
KingRib Roof Installation

Panel Connection at Lap Joint

D1 Once P1 is set, ensure that all panel ends are seated into butyl beads applied to the structure and that all panel ends are fully supported by structure, purlin or support angle.

D2 Check panel module and alignment before fastening. Fasteners will be required at structure contacts as per plan, fastners at the overlap rib should not be applied until the overlapping panel has been placed.





E Apply continuous butyl sealant to top of panel endlap purlin and panel endlap support angle.

F Set panel P2 in place, maintain alignment with panel P1 and the rake angle.

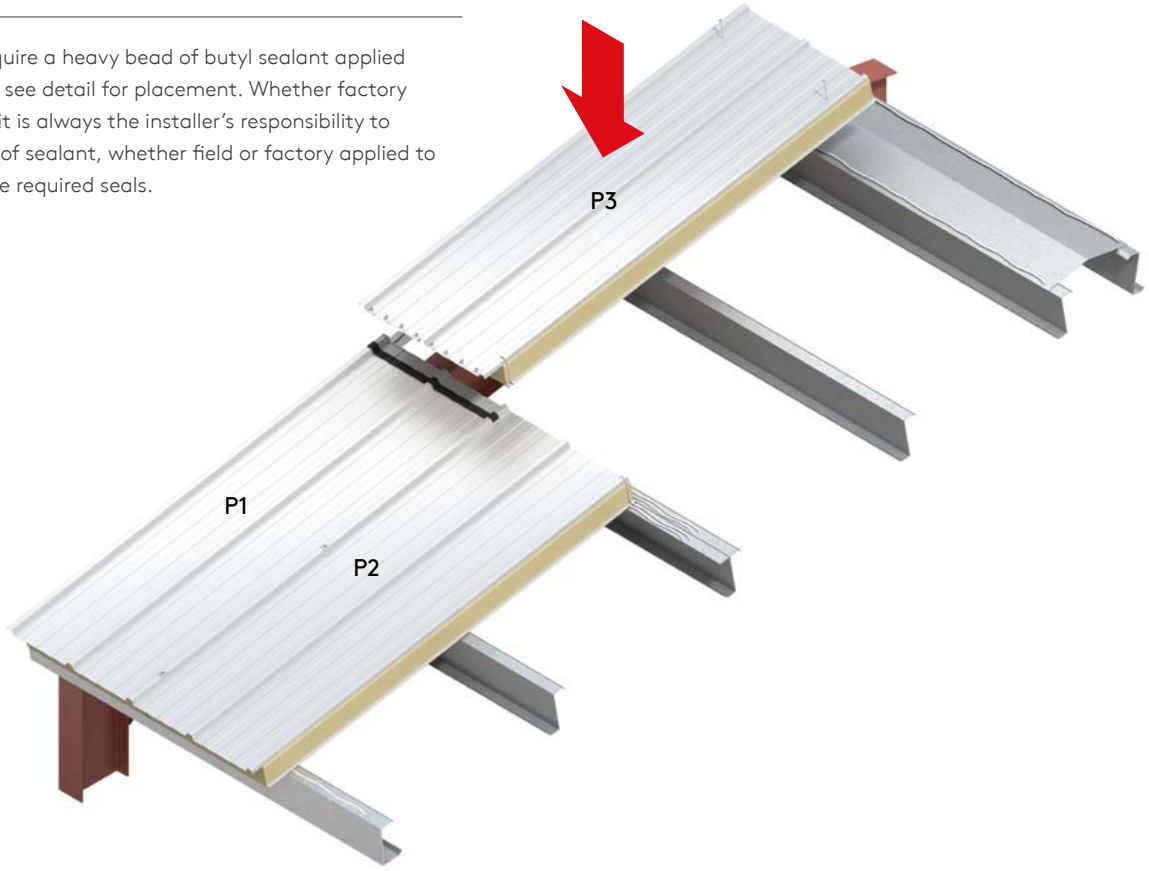
F1 Securely holding the panel in place, drive the self-drilling through-fasteners as required.

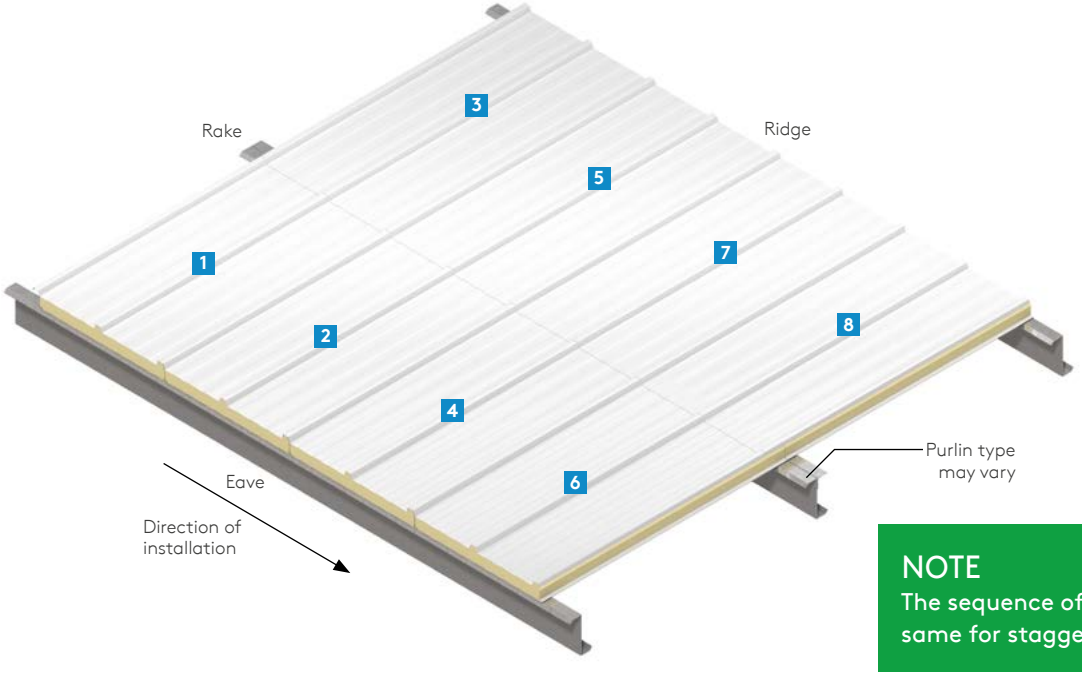
G Cut the female joint and seam off panel P3 so that it is the same width as panel P1. Remove the foam and inner panel skin below the factory cutback and clean the bottom side of the upper skin to remove all foam residue. This procedure exposes 6" of the P3 top panel skin that will overlap panel P1.

H Securely holding the panel in place, drive the self-drilling through-fasteners as required.

KingRib Roof Installation

I Lastly, P1 will require a heavy bead of butyl sealant applied along its length, see detail for placement. Whether factory or field applied, it is always the installer's responsibility to verify adequacy of sealant, whether field or factory applied to fully establish the required seals.

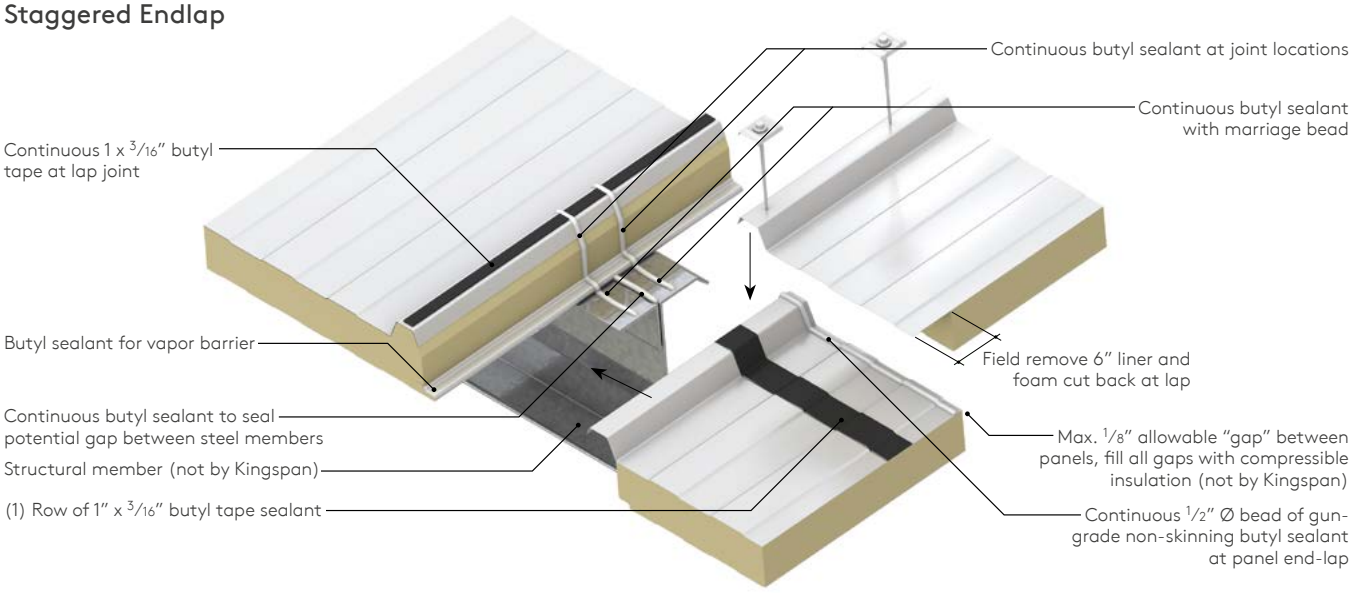




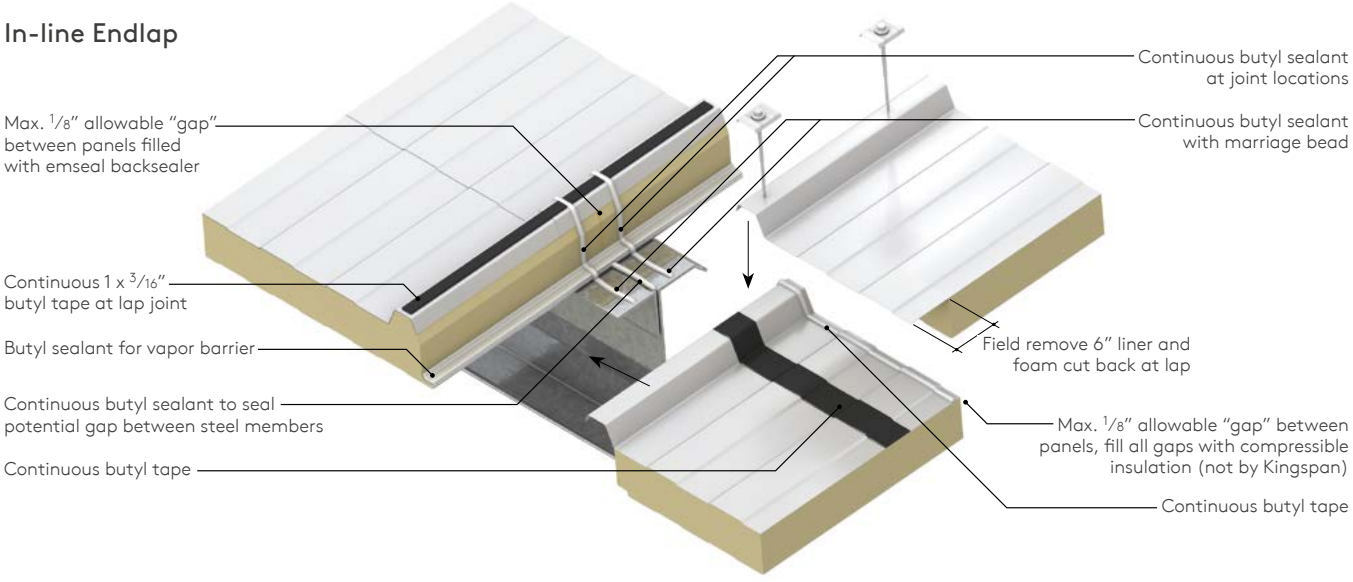
NOTE
The sequence of installation is the same for staggered or in-line endlaps.

KingRib Roof Installation

Staggered Endlap

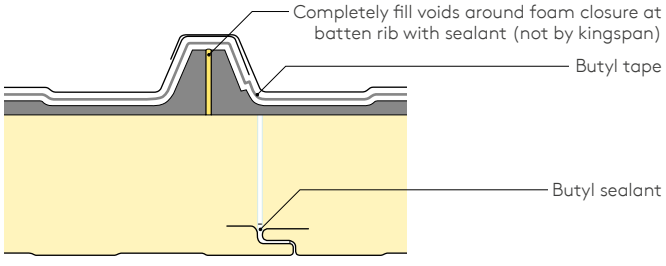


In-line Endlap



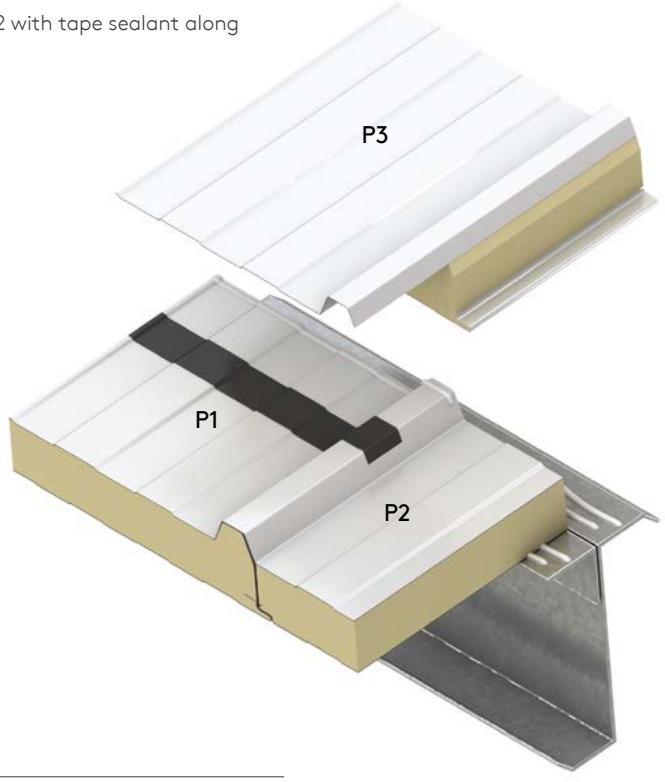
J Place a marriage bead of butyl sealant up the vertical leg of panel P1 at eave location only as shown in accompanying Low Eave Sealant at Standing Rib detail.

Low Eave Sealant at Standing Rib Detail



KingRib Roof Installation

K Merge sealant tape across panel P2 with tape sealant along male leg of panel P1.

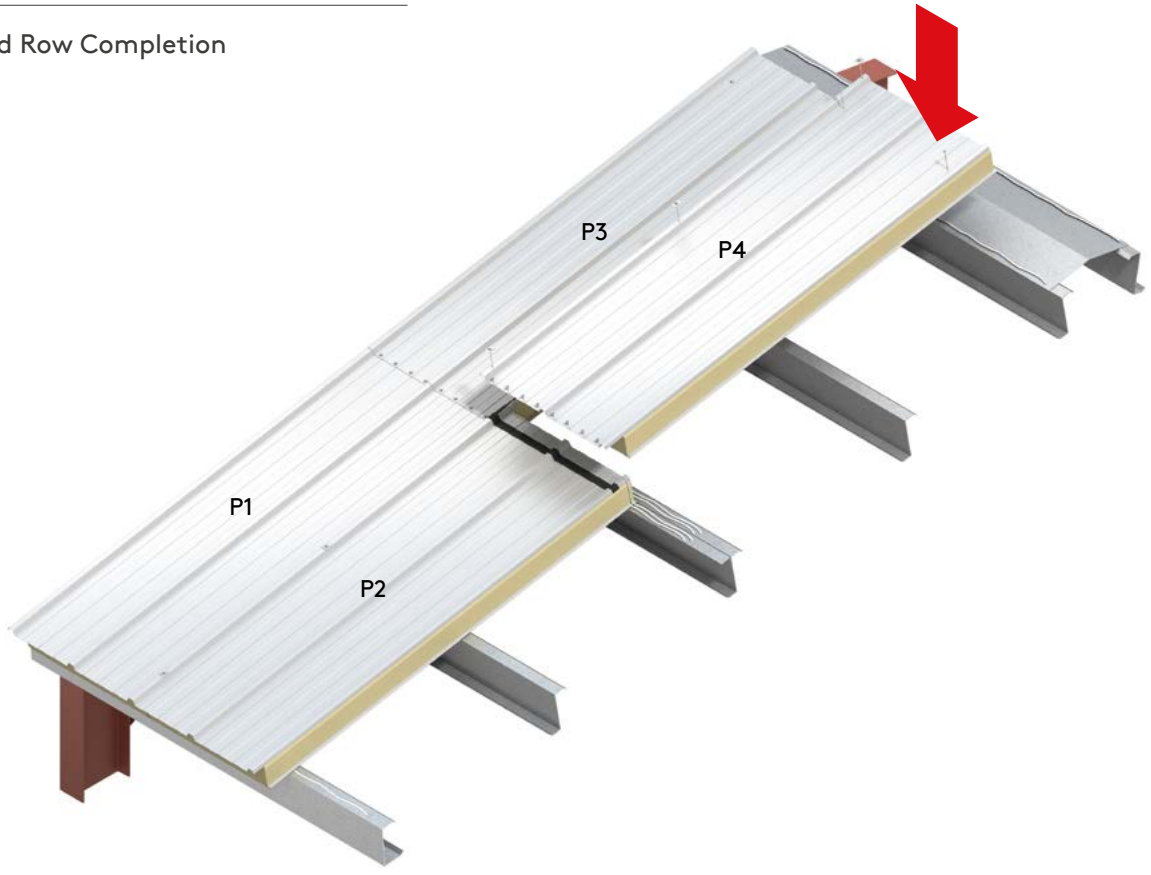


L 1 Engage panel joints, utilizing a hinge motion can help facilitate the panel to lower and seat into the joinery.

2 Standing on the unfastened panel helps press it into place while fasteners are being applied. On occasion, finesse may be required to help facilitate a full engagement, any pressure should be applied gently in a controlled manner directly to the foam itself and managed as to not damage the panel. Methods that shock the panel such as with Sledge hammer use are not recommended.

KingRib Roof Installation

Second Row Completion



M Remove 6" cutback on panel P4 and apply 1/4" bead of butyl sealant to Female portion standing seam panel and the required butyl sealant to the interior female joint of the panel.

N Verify butyl sealant has been placed on purlin and angle supports at all panel terminations as shown above.

O Set panel P4 in place, utilizing the hinge and fastener methods previously mentioned and verifying a full engagement that creates the interior seal.

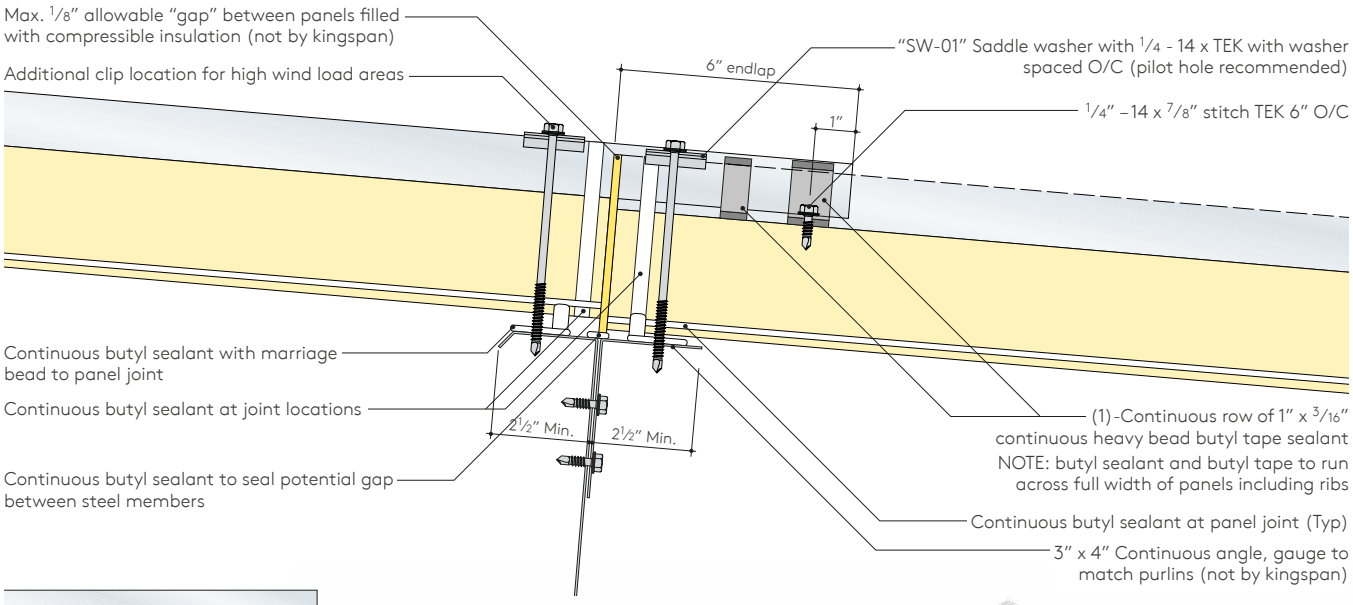
P Install all fasteners as required as each panel is installed, then complete endlap stitching of panel P4 to P2, except where P5 and P6 will overlap.

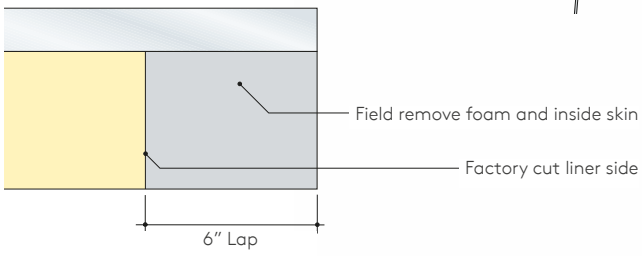
Q Repeat steps **D** through **P** as necessary to complete roof installation.

R Apply through fasteners and washers as required.

KingRib Roof Installation

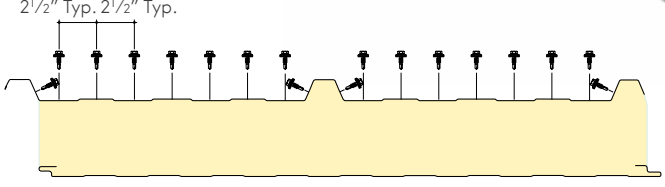
Endlap Detail





NOTE
Min. 5" wide support at each endlap for proper panel attachment.

TEK Screw Position

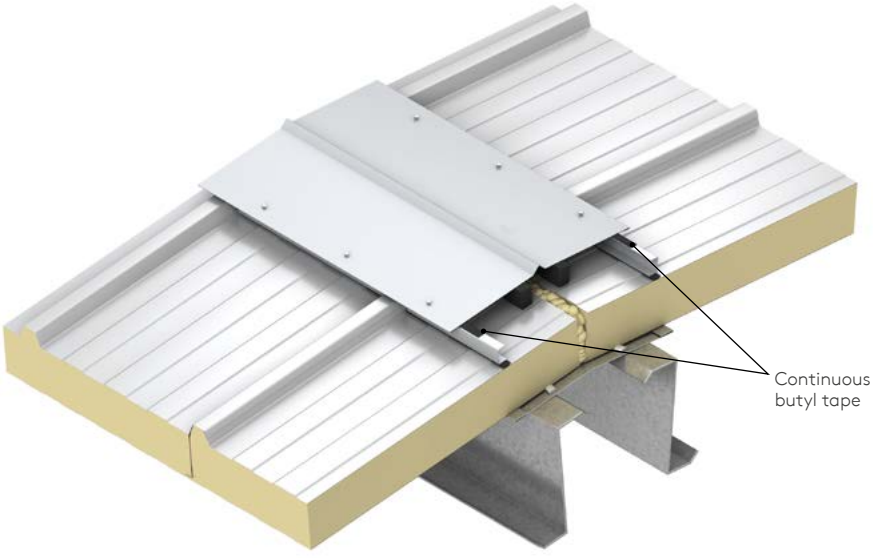


1/4" - 14 x 7/8" low profile TEK screws fasten between every minor rib
(use vibration resitant / anti-blackout type)

KingRib Roof Installation

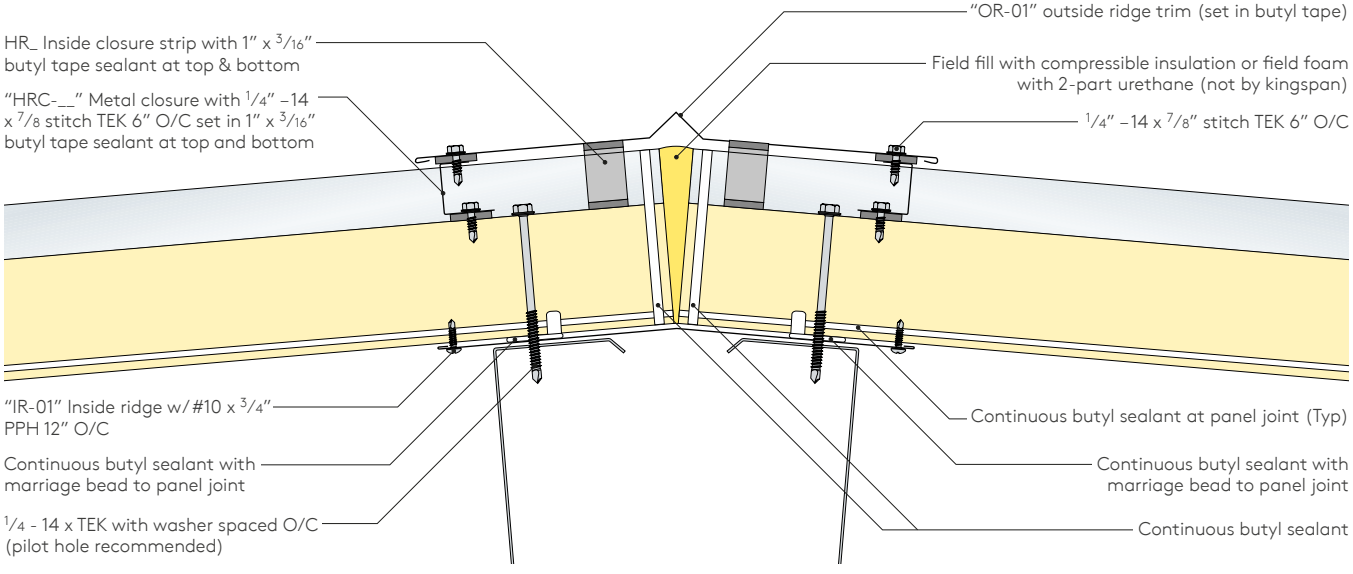
S Ridge Trim Assembly

- While installing rake and eave flashings, always remove any metal chips or fillings left from screws of sheet metal fabrication as they may rust and stain the panel.
- Run continuous butyl tape over each metal flashing covering foam closures, and over enclosed panel seams. Continue for the length of the roof. Each layer requires a continuous seal establishment.
- Verify the position of closure in relation to ridge flashing or highpoint flashing. Set the flashing trim in place temporarily and mark with chalk exact position of the assembly.
- Apply butyl tape above and below the foam closure as shown below. Sealant tape must be applied to clean dry surfaces.
- Set the foam closure in place ensuring the continuity of seal. If any voids remain, add butyl sealant and re-set the insert. Set the metal cover trims over the foam closure, compressing the butyl tape.
- Ridge trim endlaps will require stitch screws (4" max spacing) across the width to facilitate and maintain the endlap's seal.



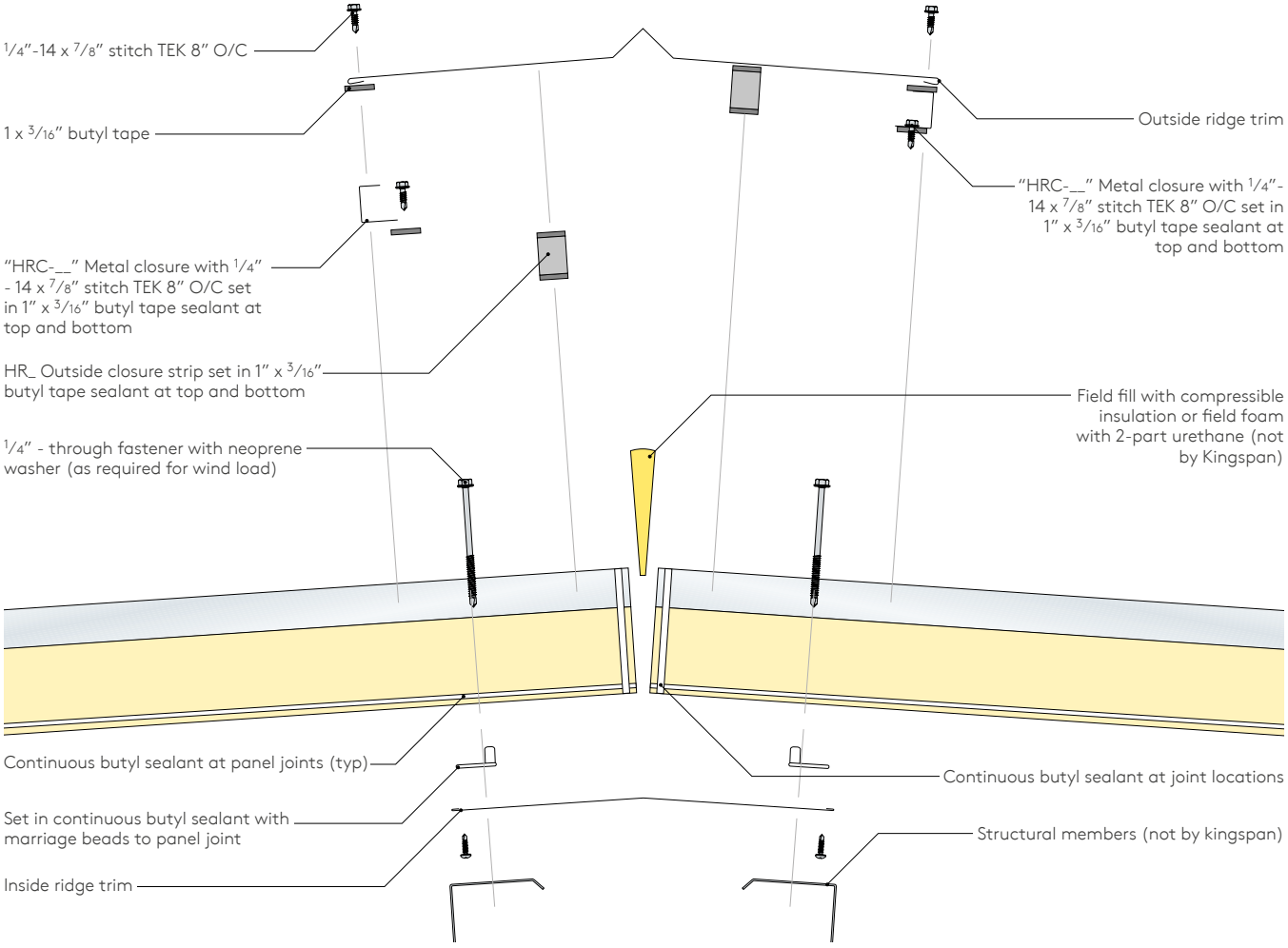
CAUTION
Do not step on ridge flashing at any time as damage to weather seal can result.

Ridge Detail

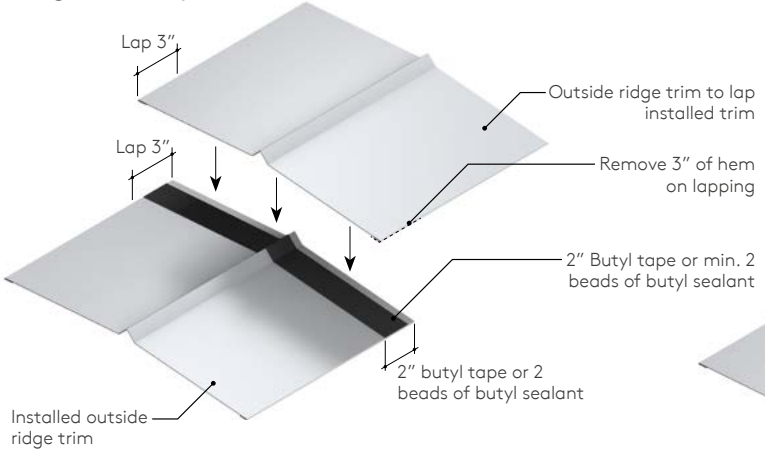


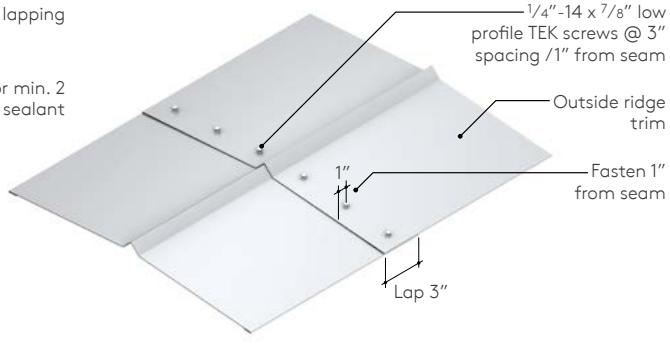
KingRib Roof Installation

Ridge Assembly Components



Ridge Trim Lap

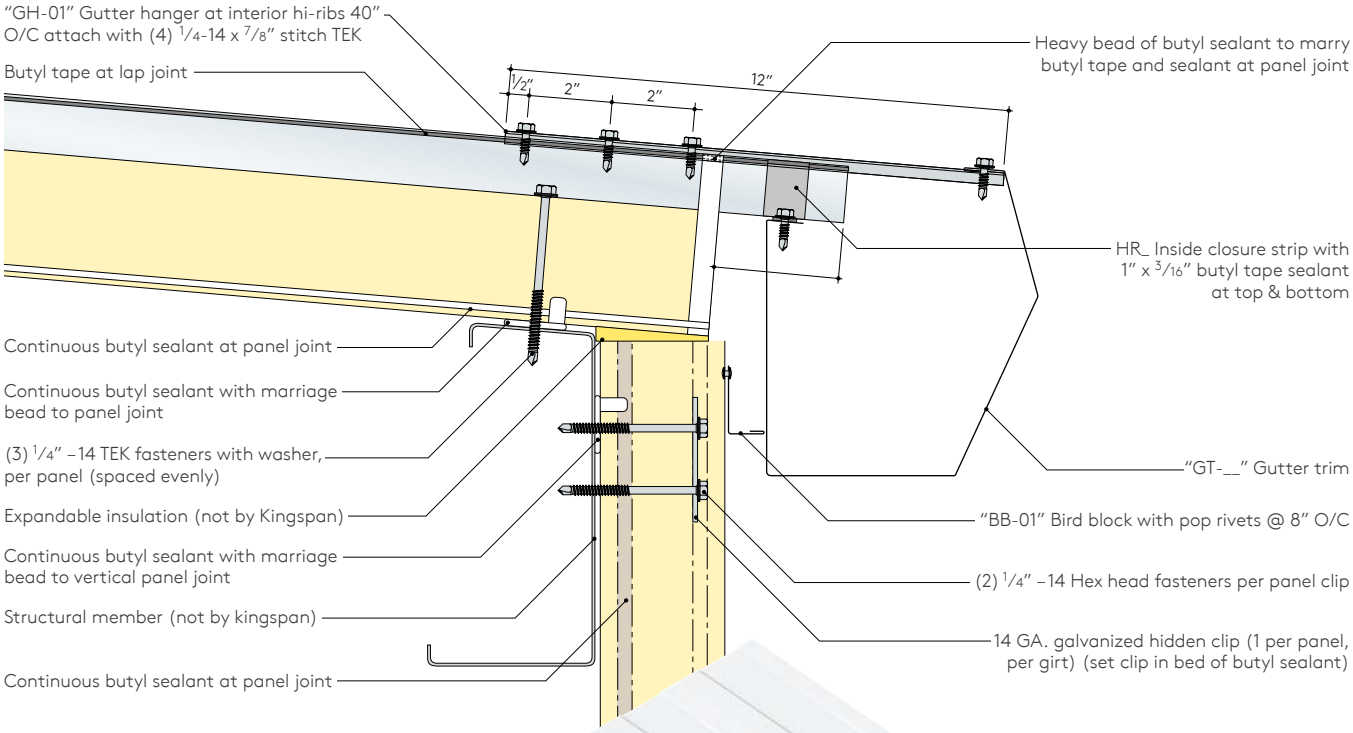




KingRib Roof Installation

T After all panels are installed and fully fastened, and upper ridge flashing is completed, proceed with eave and rake flashings.

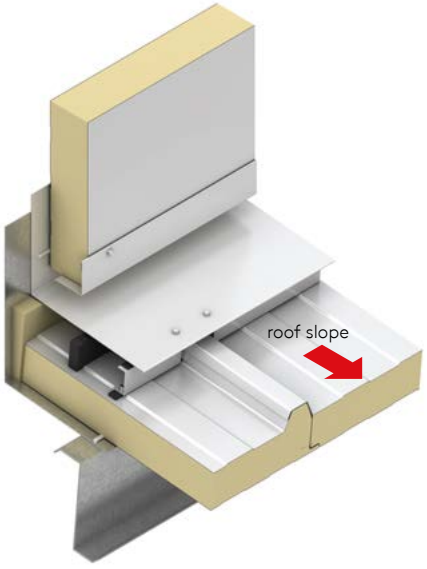
Eave Detail

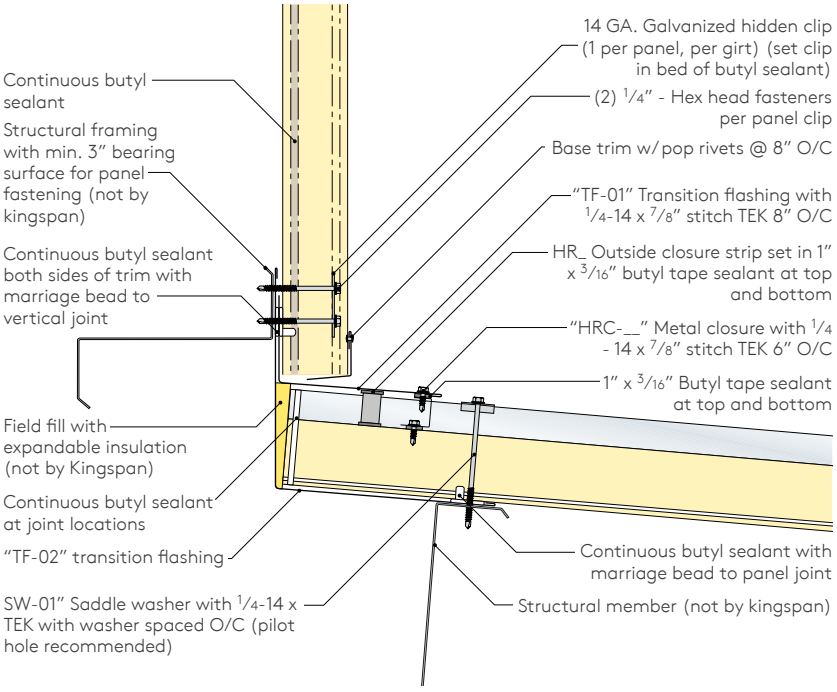


KingRib Roof Installation

Wall Base at High Eave

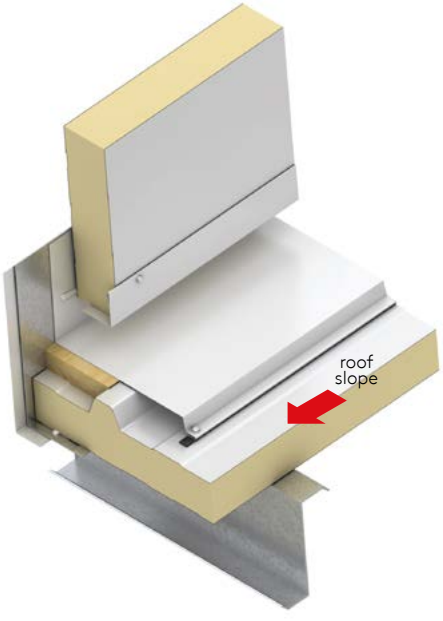
U Use ridge closure insert and trim with low-profile fasteners and sealing clips. Run continuous butyl tape sealant on the underside of transition flashing, along the line of contact with closure trim.

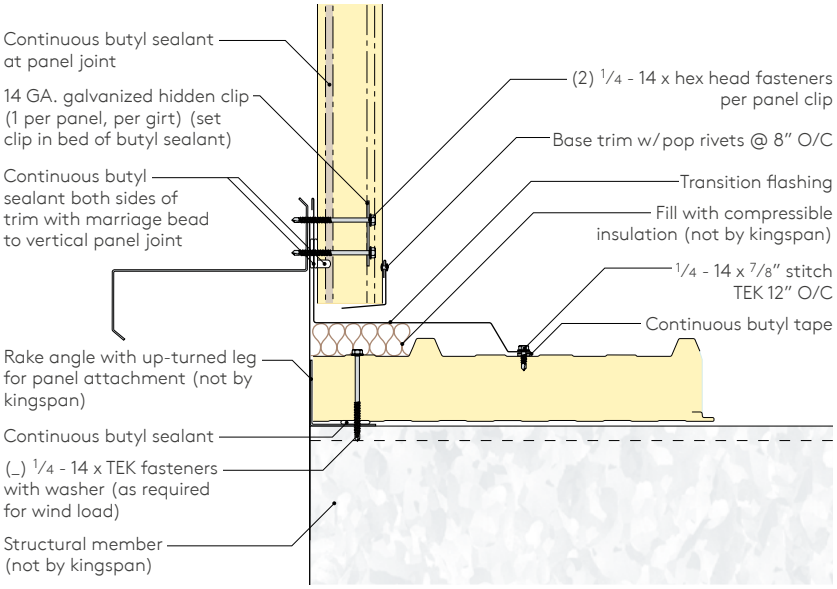




Wall Base at Rake Position

V Apply continuous bead of butyl sealant to transition flashing along the line of contact with panel skin. Use low-profile fasteners with sealing washers to secure the flashing in place.





KingRib Roof Installation

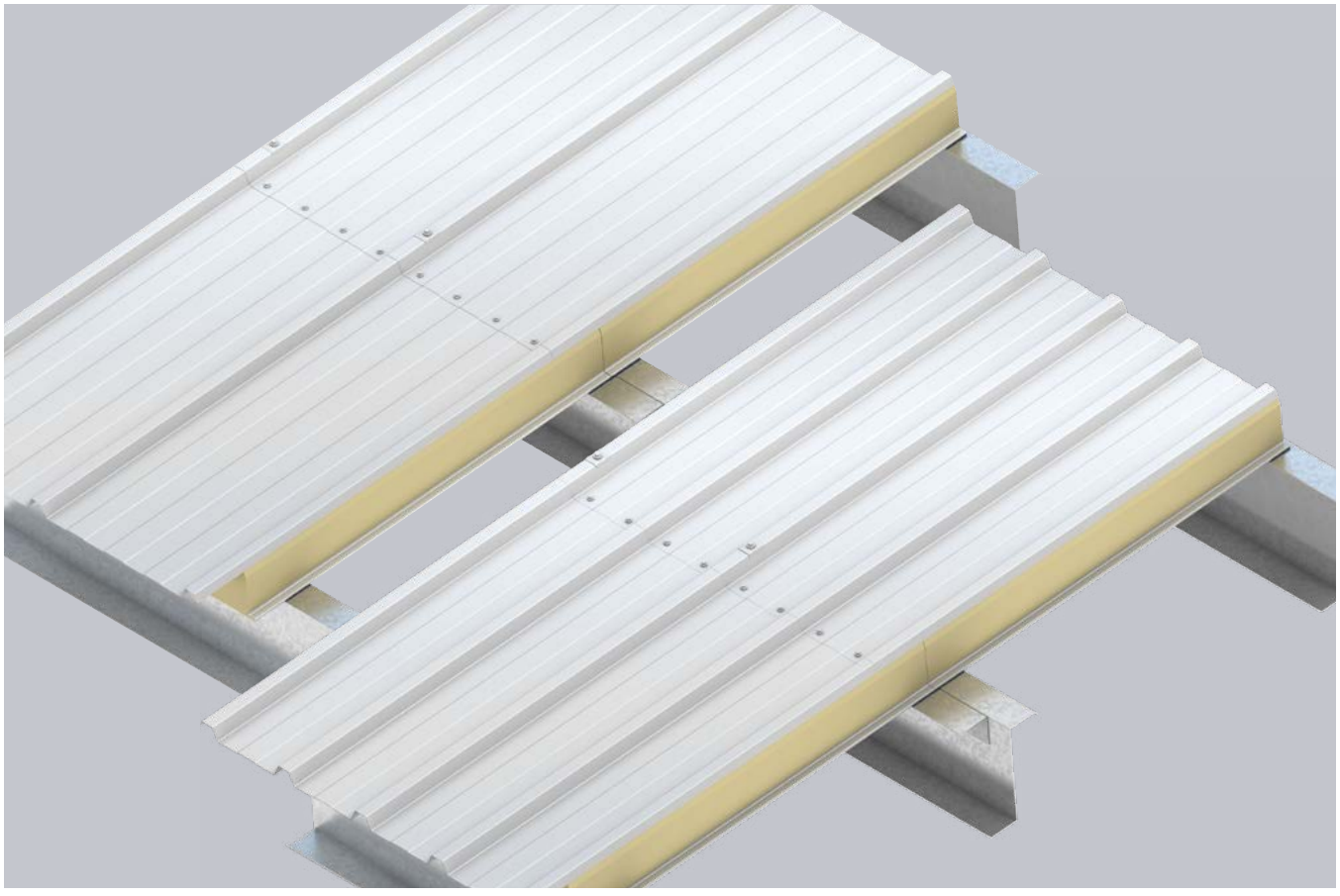
Disclaimer

These details are provided as a guideline for correct panel and associated component installation, and are based on industry accepted practices.

Refrigeration equipment in combination with the temperature differential between building exterior and interior can create air pressure differentials within the building (warm air from one side of the building is drawn through air leaks in the building envelope). As a result, vapor seals are of primary concern for adequate cold environment/storage performance.

In general, cold storage facilities require the primary vapor barrier to be on the exterior (i.e. warm side), rather than interior side of the panel.

Projects located in extreme cold and / or high snow loads may require modifications to these details – contact Kingspan Technical Services for specific project recommendations.



KingRib Roof Installation

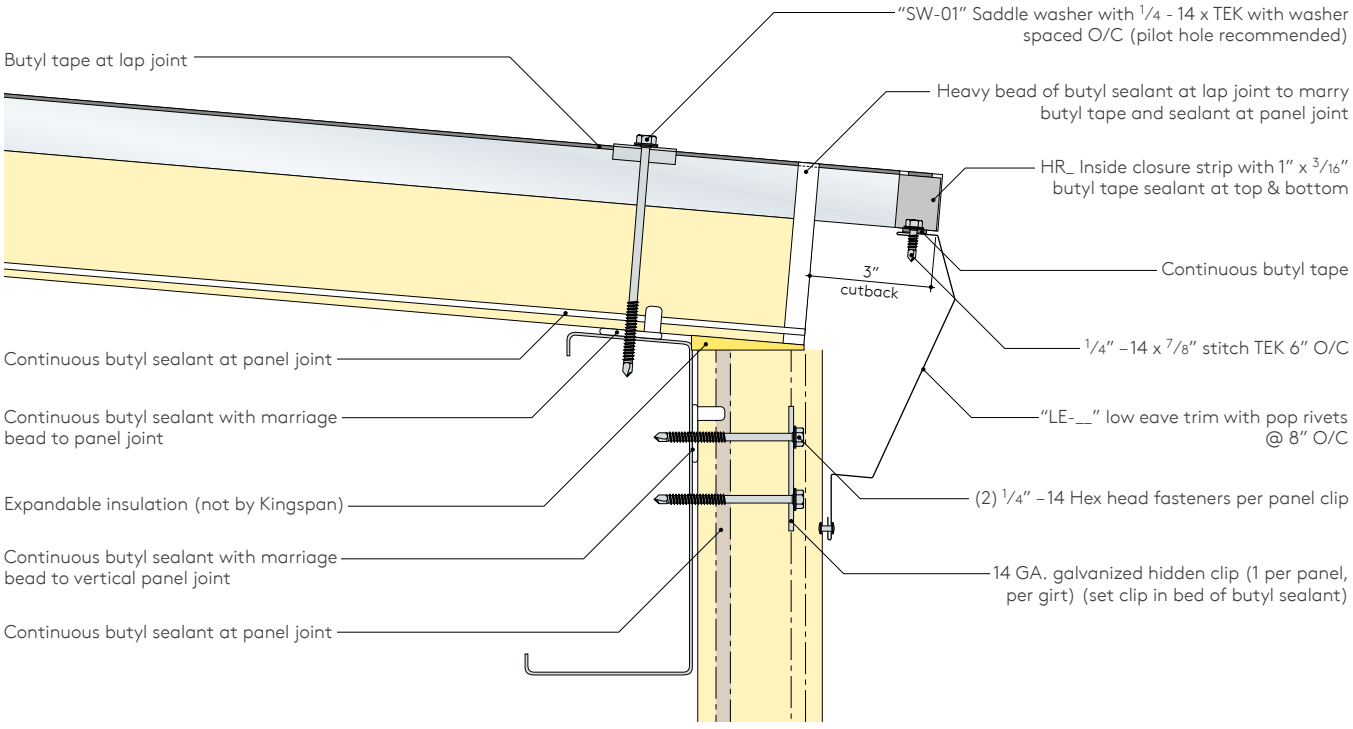
Ridge Closure Assembly, Cold Climate

NOTE

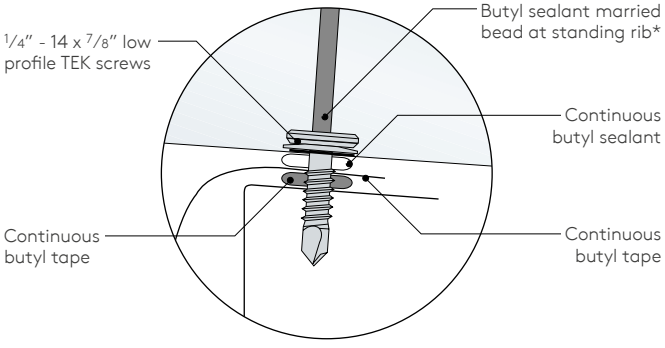
1 Panels need to be completely installed and fully fastened before beginning ridge installation.
2 Panel guide line marks should be used to position components correctly.
3 Apply continuous butyl tape across entire panel including ribs. Set foam closure into place, then apply continuous butyl tape over top of foam closure before installing metal ridge closure trim.
4 Fasten metal ridge closure trim at 6″ –12″ O/C (fasteners spacing may vary with wind load).
5 At the rakes, field cut the end of the foam closure and ridge closure trim to fit with the rake fascia.

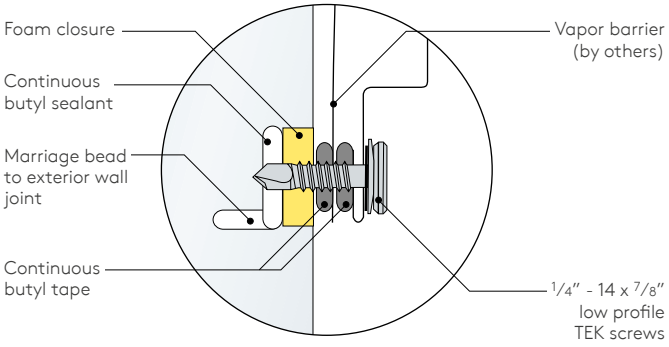
KingRib Roof Installation

Low Eaves without Gutter Detail

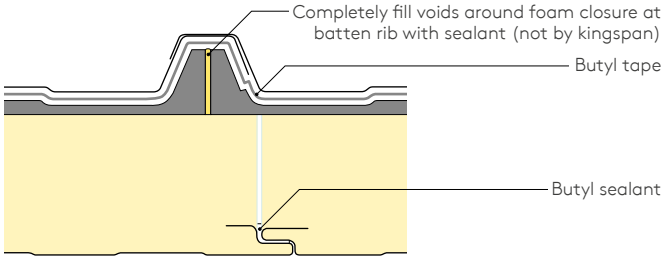


Low Eave Vapor Barrier Detail



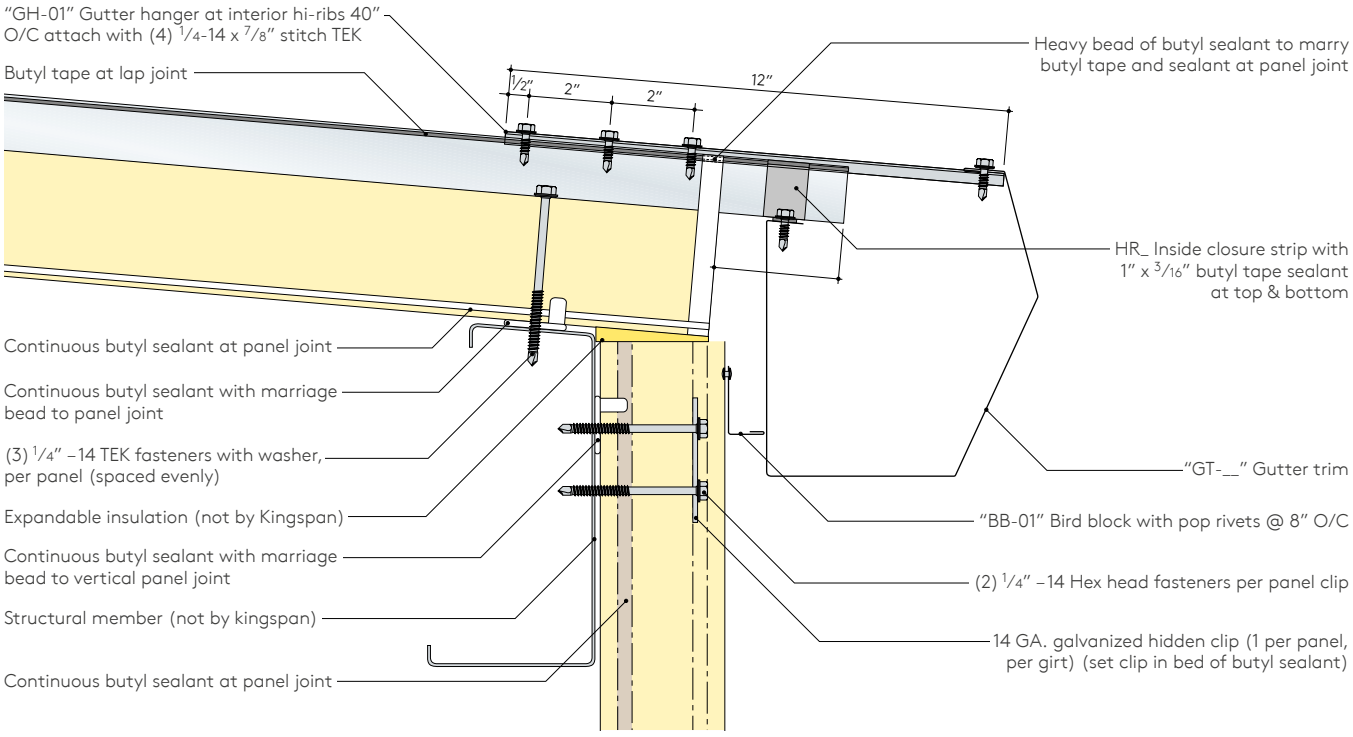


Low Eave Sealant at Standing Rib Detail

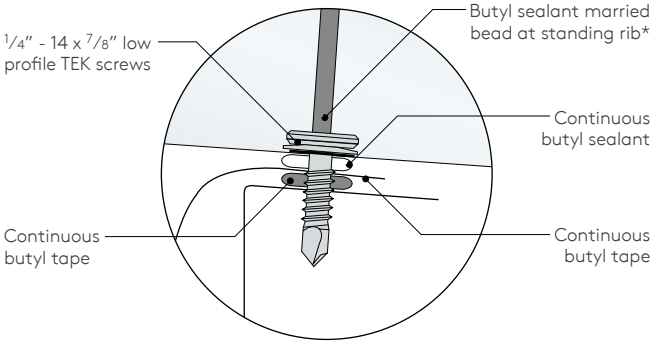


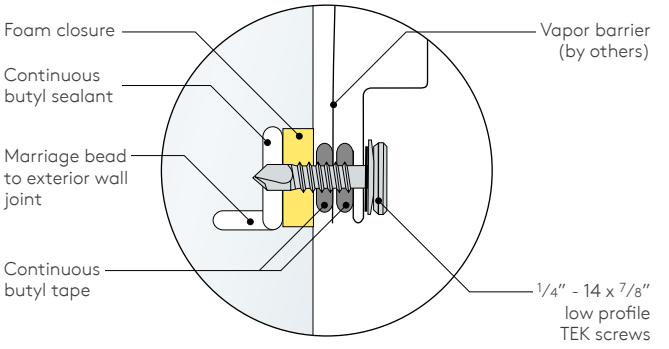
KingRib Roof Installation

Low Eave with Gutter Detail



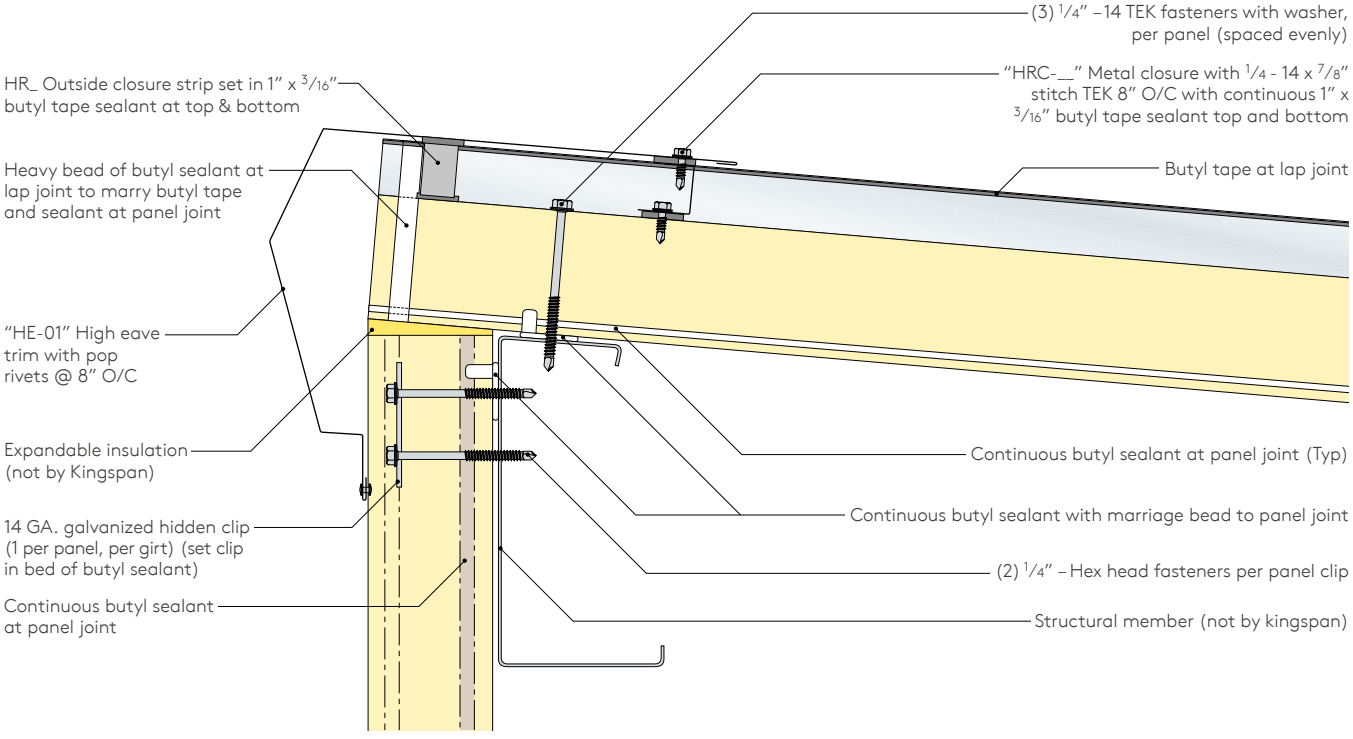
Low Eave with Gutter Vapor Barrier Detail



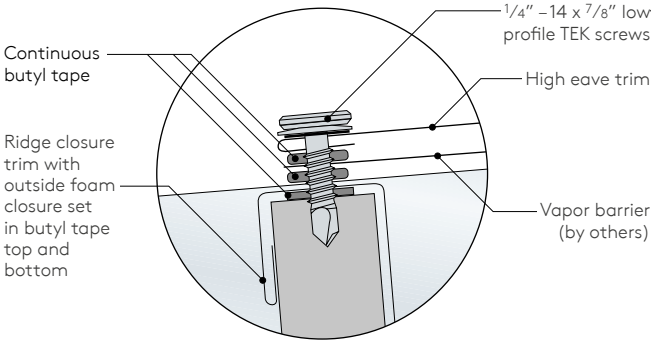


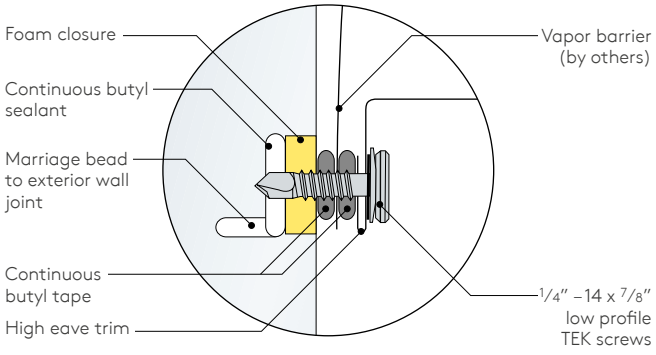
KingRib Roof Installation

High Eave Detail, Cold Climate



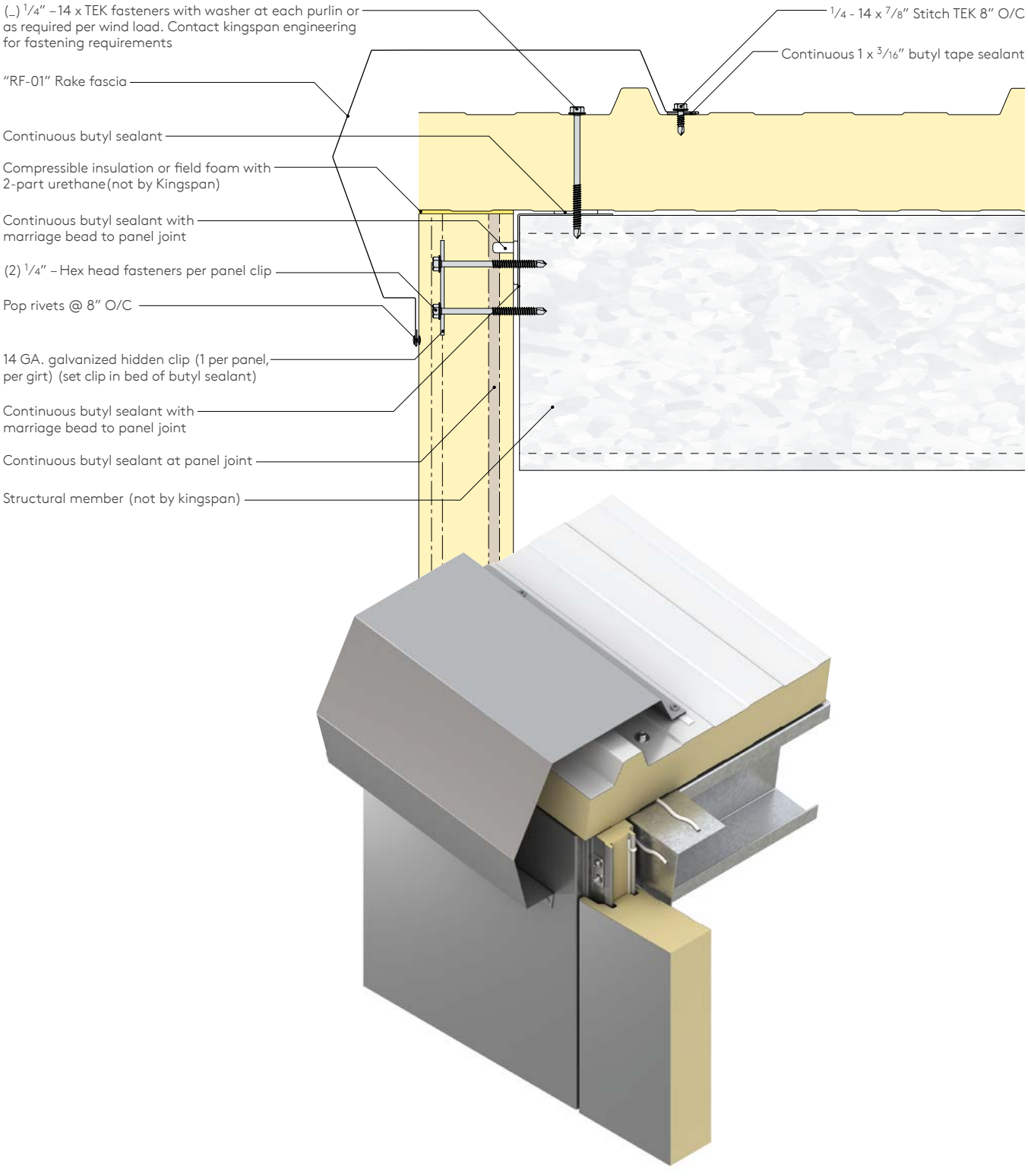
High Eave Vapor Barrier Detail





KingRib Roof Installation

Rake Detail, Cold Climate



Materials, Tools and Hardware

Tools and Sealants

Electric snips

Circular saw with fine tooth carbide blade

Power nibbler

Power drill

Drilling bits and sockets

Expandable foam

Caulking gun

Butyl sealant tape

Laser or gravity levellers

Fastening Hardware

Primary fastener

Through fastener (primary fastener extended by 1")

Secondary fastener

Rivet fastener

Clip

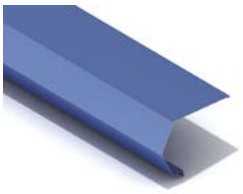
Knife and Scraper

Flashings

Flashings

Rake Fascia

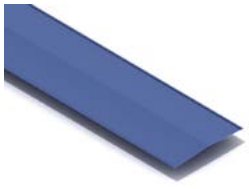
Eave closure trim



High Eave Flashing

Gutter trim (by others)

High Eave transition



Inside Ridge trim

Outside Ridge flashing

Rake transition

Roof accessories such as gutters, downspouts and rake trims are available through Kingspan. Suggested details for these conditions are included in this manual. Accessories such as ridge ventilators, skylights, smoke hatches, dektites etc. are available through outside vendors (contact Kingspan for more information).

Miscellaneous Information

1. To prevent galvanic action, isolate any aluminum surfaces from direct ferrous steel contact with any of the following methods :
   a. Any approved sealant or sealant tape.
   b. A non-absorbent gasket.
   c. Duct tape or equivalent type tape.
   d. Paint the incompatible metal with a coating of heavy bodied bituminous paint.

2. Flatness: Oil canning or "Scalloping" is an inherent condition of light gauge cold-formed metal products. Products with broad, flat areas or minor profiling can exhibit these inherent qualities at certain view angles. This does not affect the structural integrity or performance of the panel.

   Kingspan closely monitors production to ensure delivered product stays within industry expectations for IMP manufacturers and the steel industry which supplies the coil.

   Oil canning or perceived waviness that are within Kingspan's QC tolerances are not grounds for panel or trim rejection.

3. Although Kingspan's Urethane core is acceptable for use in non-combustible building assemblies in accordance with International Building code (IBC) and have been exhaustively tested for fire resistivity based on their end use, they are not non-combustible in and of themselves. They are not "fire rated" per ASTM E119. Therefore, they shall not be exposed to extremely high temperatures or direct flame at any time. Simply stated, do not use a welding torch on or near insulated panels any more than you would on a wooden building assembly. Refer to panel test data information under "Fire" for detailed information on ignition, heat of combustion, and surface burning.

Contact Details

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Issue 5: 06/2026