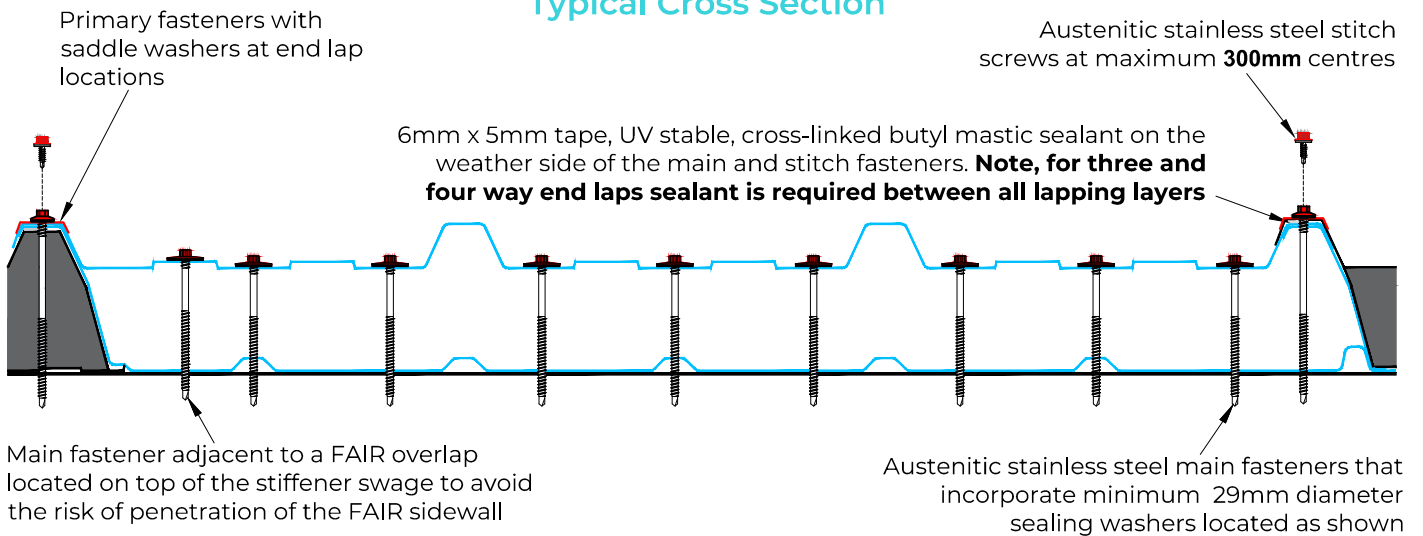


## ROOFLIGHT APPLICATION GUIDE

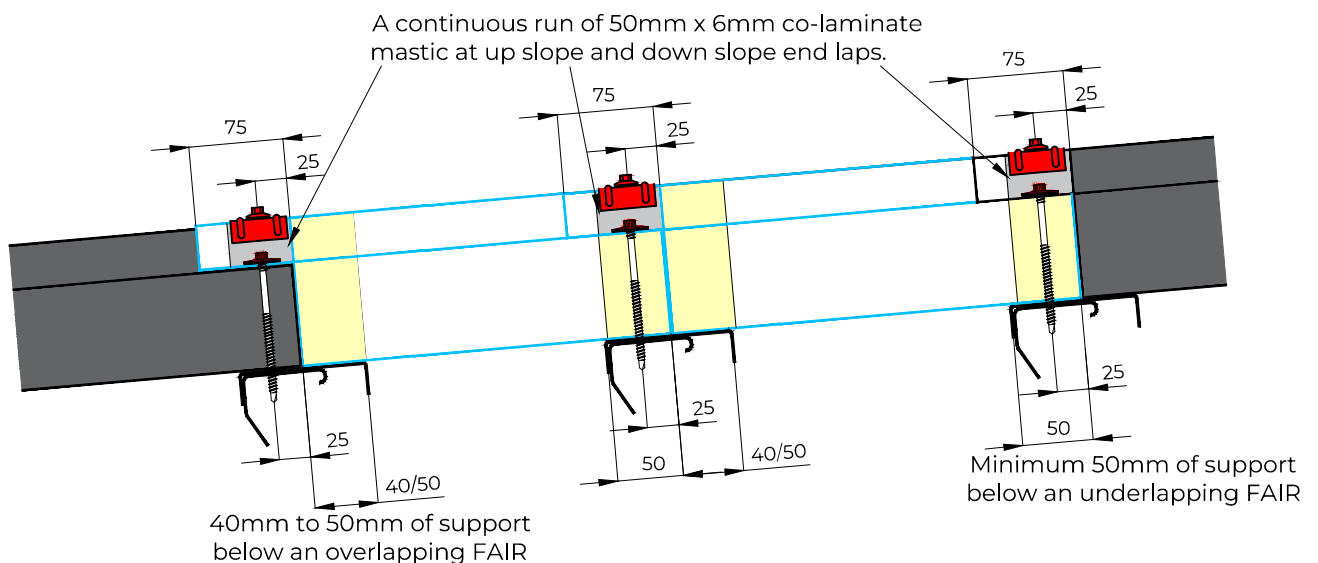
Factory assembled insulating rooflight (FAIR) to match Kingspan KS1000RW 75mm end lap only

### Typical Cross Section



**Note, a purpose made, correctly adjusted screw gun is required for installation of all fasteners. Impact drivers and high speed guns operating at over 2000 rpm must not be used**

### Typical End Laps

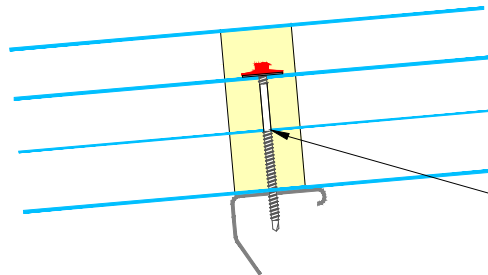


**Use 1.5mm/1.6mm gauge, galvanised steel purlin extension plates, 1000mm x 100mm/120mm, and with a 25mm downturn on both sides, to achieve the recommended support for FAIRs and composite panels**

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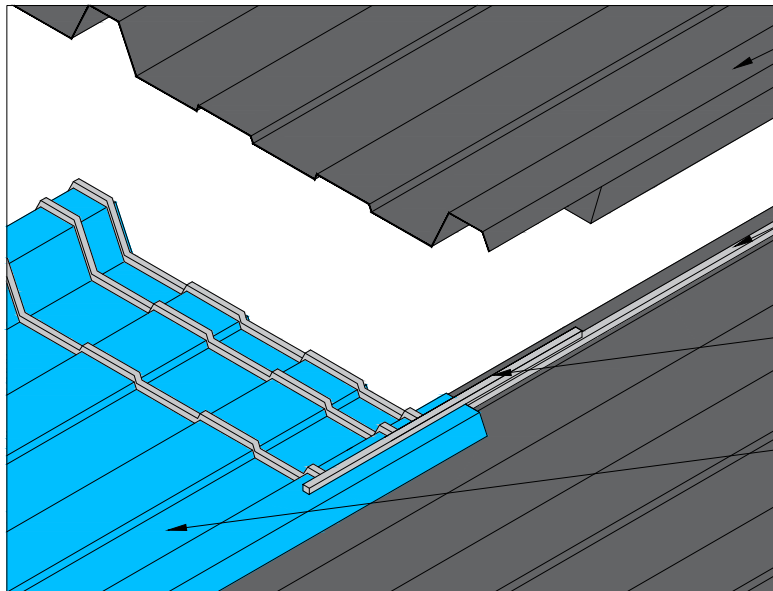
## Intermediate Purlins



Main fasteners must pass through the centre of the high compression resistance fillers that should be located over a purlin or purlin extension plate

## 3 and 4 Way Lap Joints

### Upslope End Lap



Composite panel or FAIR overlapping at end and side

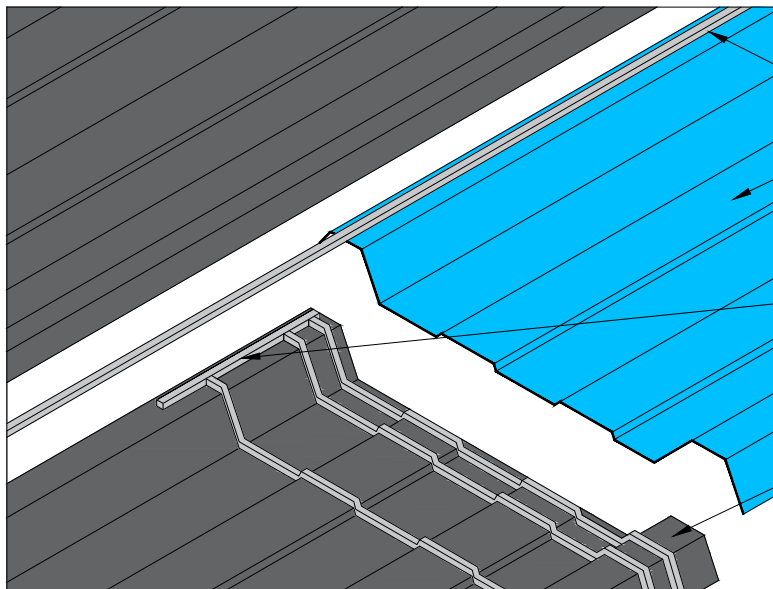
Continuous run of side lap sealant full length of the roof slope

Additional strip of sealant over the end lap, the length of the end lap plus another 75mm to 100mm upslope

FAIR

**Note: There should be sealant as shown between every lapping element in an end lap joint.**

### Downslope End Lap



Continuous run of side lap sealant full length of roof slope

FAIR overlapping at end and underlapping at side

Additional strip of sealant within the end lap, the length of the end lap plus another 75 to 100mm downslope

Composite panel or FAIR

## Recommended outer sheet types

Filon outer sheet type <sup>(1)</sup>	Non-fragility classification to ACR[M]001	Expected period of non-fragility	Recommended frequency of roof access	Recommended purlin spans
CE30E & CEDR24E	B	25 years	Frequent	Up to 2.0m
CE36E & CEDR30E	B	25 years plus	Frequent	Up to 2.25m <sup>(2)</sup>
SUPASAFE E	B	30 years	Very frequent	Up to 2.5m <sup>(2)</sup>

<sup>(1)</sup>A CE24E outer sheet is not recommended for a FAIR with a 75mm cutback.

<sup>(2)</sup>FAIRs that require an insulating core and a mid-span stiffener are only supplied with a polycarbonate core.

## Fire Performance

Filon Grade 300: B<sub>ROOF</sub>(t4) to BS EN 13501 Part 5.

Filon Grade 104: B<sub>ROOF</sub>(t4) to BS EN 13501 Part 5. TP(a) rating to BS 2782-0 Method 508A

Filon Grade 101: B<sub>ROOF</sub>(t4) to BS EN 13501 Part 5. TP(a) rating to BS 2782-0 Method 508A

For further information, please refer to Filon Technical Information Sheet: TIS003 England  
TIS003-1 Wales  
TIS003-2 Scotland  
TIS003-3 Northern Ireland

A standard FAIR has a **Filon Grade 300** outer sheet and a **Filon Grade 104** liner.

## U-Value W/m<sup>2</sup>K

### Double skin

3.22. Non-compliant for a building that is not exempt from Building Regulations.

### Triple skin

2.12 as standard, 1.71, 1.37, 1.17, 1.00 and 0.87 are also available.

## Recommended Components

Note that the expected non-fragility period of rooflights is affected by all components used within the roof assembly and when a specific period of non-fragility is required all components used should have the same degree of durability as the rooflights. This would typically require the use of austenitic stainless steel fasteners and minimum Class A butyl mastic for the rooflight installation, always consult the component manufacturer or supplier.

**End lap sealant:** 50mm x 6mm co-laminate mastic.

**Purlin extension plates:** 1.5mm/1.6mm gauge, galvanised steel, 1000mm x 100mm/120mm with a 25mm downturn on both sides.

**Main fasteners pan fix:** SFS SXC5-S29-6.3 x length or Ejot CF29-JT3-D6H-5.5/6.3 x length or Fixfast MF3-SS-HT-L29-5.5 x length or Ash & Lacy BM-CPLS-S29-5.5/6.3 (light steel) / BM-CPHS-S29-5.5/6.3 (heavy steel) x length.

**Side lap main fasteners crown fix:** SFS SXC5-S19-6.3 x length or Ejot CF15-JT3-D6H-5.5/6.3 x length or Fixfast MF3-SS-HT-A19-5.5 x length or Ash & Lacy BM-CPLS-S16/S19-5.5/6.3 (light steel) / BM-CPHS-S16/S19-5.5/6.3 (heavy steel) x length.

**Side lap stitch fasteners:** SFS SXL2-AV19-6.3 x 28 or Ejot CF15/19-JT3-2-6.3 x 25 or Fixfast MF2-SS-A15/A19-6.3 x 25 or Ash & Lacy BM-ST27-S19.

## Typical Fixing Specification

### Minimum roof pitch:

In accordance with *BS 5427: Code of practice for the use of profiled sheet for roof and wall cladding on buildings*, Filon rooflights are suitable for a finished roof pitch of at least 4° (5.5° design pitch). For lower roof pitch solutions, please contact Filon Technical Department.

### Main fasteners:

Filon FAIRs should be secured to purlins with minimum 5.5mm diameter, self drill/tap austenitic stainless steel screws that incorporate minimum 29mm diameter sealing washers, typically coloured poppy red. Three main fasteners should be located in the profile troughs. Note that the fastener situated adjacent to a FAIR overlap at a side lap joint should be located on top of the stiffener as shown in the cross section drawing on Page 1. This will prevent the fastener penetrating the sidewall of the FAIR. All fasteners that penetrate the FAIR must pass through an internal high compression resistance filler to ensure the optimum sealing performance of the fastener washer.

### End laps:

Any end laps should be located directly over a purlin or purlin extension plate. The end lap length is typically 75mm. The end of an underlapping FAIR box liner should be supported by 50mm of length by the purlin or a purlin extension plate to maintain the expected impact resistance. An overlapping FAIR may be supported by a minimum of 40mm. The end lap joints should be sealed with a continuous run of 50mm x 6mm co-laminate mastic.

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## Side laps:

The side lap joints should be stitched at maximum 300mm centres with austenitic stainless steel stitch screws. Primary fasteners of sufficient length with poppy red saddle washers should be used at end lap joints and intermediate positions. The side lap joints should be sealed with minimum one run of 6mm x 5mm tape or 6mm bead, cross-linked, butyl mastic sealant located on the weather side of the stitch fasteners. **Note that there should be sealant located between all lapping layers in a three or four way end lap joint.** FAIR to FAIR side laps should be treated in the same manner as for FAIR to composite panel side laps. **Note that it is recommended to restrict the number of FAIRs sidelapping to one another to maximum three units.** This will reduce the risk of sheet tiers running out of true if there are small tolerance differences in the cover width of end lapping FAIRs and composite panels.

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