

# Technical Information Sheet

## Rooflight Application Guide



TIS102 April 2020

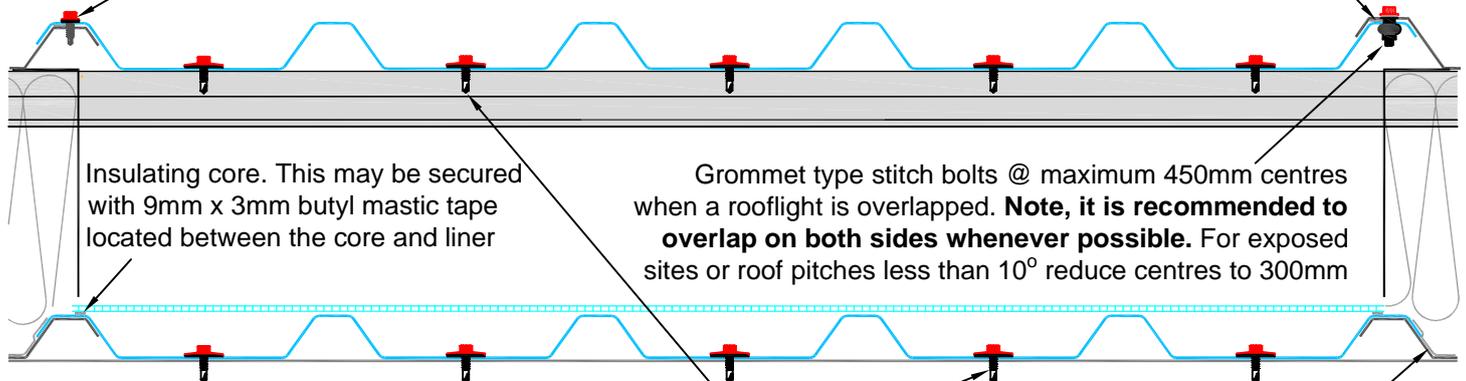
Previous issue August 2018

### Site assembled rooflight for use with a built-up profiled metal system that incorporates a 0.7mm gauge steel 'walkable' liner

#### Typical cross section

Stitch screws @ 450mm centres where rooflight overlaps (preferred option). For exposed sites or roof pitches less than 10° reduce centres to 300mm

Continuous run of 6mm bead or 6mm x 5mm tape, cross-linked butyl mastic sealant on the weather side of the stitch fasteners



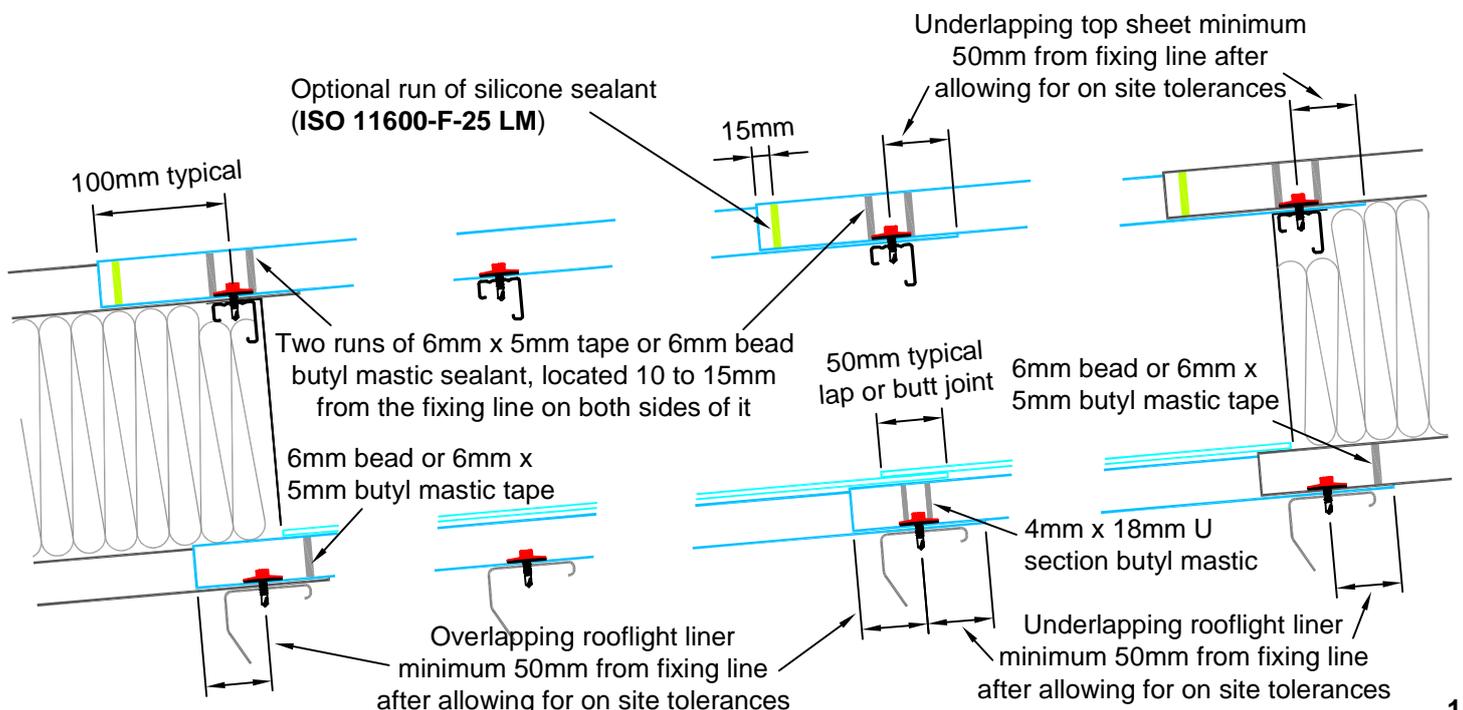
Insulating core. This may be secured with 9mm x 3mm butyl mastic tape located between the core and liner

Grommet type stitch bolts @ maximum 450mm centres when a rooflight is overlapped. **Note, it is recommended to overlap on both sides whenever possible.** For exposed sites or roof pitches less than 10° reduce centres to 300mm

Minimum 5.5mm diameter austenitic stainless steel main fasteners that incorporate minimum 29mm diameter sealing washers @ maximum 200mm centres for outer sheets or minimum 5 fasteners per sheet width for liners. Minimum 19mm diameter sealing washers may be used with a CE36E, CEDR30E or Supasafe E sheet subject to wind loads.

Liners should overlap on both sides. Use 50mm wide, film backed butyl tape to provide an air seal

#### Typical end laps and intermediate purlins



Optional run of silicone sealant (ISO 11600-F-25 LM)

Underlapping top sheet minimum 50mm from fixing line after allowing for on site tolerances

100mm typical

15mm

Two runs of 6mm x 5mm tape or 6mm bead butyl mastic sealant, located 10 to 15mm from the fixing line on both sides of it

50mm typical lap or butt joint

6mm bead or 6mm x 5mm butyl mastic tape

6mm bead or 6mm x 5mm butyl mastic tape

4mm x 18mm U section butyl mastic

Overlapping rooflight liner minimum 50mm from fixing line after allowing for on site tolerances

Underlapping rooflight liner minimum 50mm from fixing line after allowing for on site tolerances



**Recommended sheet types**

| <b>Filon outer sheet type</b> | <b><sup>1</sup>Non-fragility classification to ACR[M]001 with a minimum CE30 liner</b> | <b><sup>2</sup>Expected period of non-fragility</b> | <b>Recommended frequency of roof access</b> | <b><sup>3</sup>Recommended purlin spans when using a CE30 liner</b> |
|-------------------------------|--|---|---|---|
| <sup>4</sup> CE18E            | B  | 25 years  | Infrequent                                  | 1.35m to 2.0m   |
| <sup>4</sup> CE24E            | B  | 25 years  | Infrequent                                  | 1.35m to 2.0m   |
| CE30E @ CEDR24E               | B  | 25 years plus                                       | Frequent                                    | 1.35m to 2.0m   |
| CE36E & CEDR30E               | B  | 25 years plus                                       | Frequent                                    | 1.35m to 2.0m   |
| SUPASAFE E                    | B  | 30 years  | Very frequent                               | 1.35m to 2.0m   |

<sup>1</sup>Roof systems that incorporate a 0.7mm gauge steel liner are designed to be Class B non-fragile at the lining out stage and a minimum CE30 rooflight liner will be Class B non-fragile when fixed and sealed as recommended. A CE18 or CE24 liner will be classified as fragile at the lining out stage and should not be used.

<sup>2</sup>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.

<sup>3</sup>A higher specification liner than a CE30 will be required in the event that purlin spans are less than 1.35m or more than 2.0m. Please contact the Filon Technical Department for recommendations.

<sup>4</sup>CE18E and CE24E outer sheet types will provide a Class B non-fragile classification when used with a correctly installed minimum CE30 liner but higher specification outer sheets may be required in areas of high wind loads or snow loads.

**Fire performance**

Outer sheet: Filon Grade 300 that is rated AB, Class 3 to BS476 Parts 3 and 7 as standard.

Liner: Filon Grade 104 that is rated AA, Class 1 to BS476 Parts 3 and 7 as standard.

Note that Filon Grade 101, designated Class 0 by definition in Building Regulations, is also available.

For further information, please refer to Filon Technical Information Sheet TIS003.

TIS102 April 2020



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

#### Double skin

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

#### Triple skin

1.7 as standard, 1.3 and 1.0 are also available. For other U-value requirements please contact Filon Technical Department.

### 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 GRP trapezoidal 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.

#### Liner main fasteners

The Filon liners should be secured to purlins with minimum five fasteners per sheet width that are located in the profile troughs. The fasteners should be minimum 5.5mm diameter, self drill/tap screws that incorporate minimum 29mm diameter sealing washers. Minimum 19mm diameter sealing washers may be used with a Filon CE36, CEDR30 or Supasafe liner.

#### Liner end laps

Liner end laps should be located directly above a purlin and the edges of any sheet in the joint should be minimum 50mm from the fixing line. The end lap joints should be sealed with a continuous run of 6mm bead or 6mm x 5mm cross-linked, butyl mastic sealant tape.

Note that for rooflight to rooflight liner end laps it is recommended that they should be sealed with a continuous run of 4mm x 18mm U section butyl mastic centred over the fixing line, applied before the main fasteners are installed.

#### Liner side laps

The Filon liners should be lapped over the adjacent metal liners on both sides and the joints sealed with 50mm wide, cross-linked, film backed butyl mastic tape that is located along the full length of the joints to provide an air seal.

#### Core panel

The core panel should be secured to the liner with a continuous run of 9mm x 3mm cross-linked butyl mastic tape located between the core panel and the sidelapping profile crowns of the liner. The core panels may be end lapped at intermediate purlin positions. The lap joint should be typically 50mm long and the use of sealants is not required. Alternatively the core panels may be butt jointed. The spacer system brackets may be located either side of the rooflight area to avoid fouling with the core panel. The core panel may also be notched around a spacer bracket in the event that it is preferable to locate it within the rooflight area. Note, consult the spacer system manufacturer for their recommendations.

#### Outer sheet main fasteners

The Filon outer sheets should be secured to the spacer system with minimum 5.5mm diameter, austenitic stainless steel self drill/tap screws that incorporate minimum 29mm diameter sealing washers, typically coloured poppy red, at maximum 200mm centres across the sheets located in the profile troughs. Subject to wind loads, minimum 19mm diameter sealing washers may be used with a Filon CE36E, CEDR30E or Supasafe E outer sheet.

#### Outer sheet end laps

The end laps of the Filon outer sheets should be located directly over the spacer bar and the edges of any sheet in the joint should be minimum 50mm from the fixing line, typical end lap length is 150mm. The end lap joints should be sealed with two continuous runs of 6mm bead or 6mm x 5mm tape, cross-linked butyl mastic sealant. The sealant should be located within 10mm to 15mm of the fixing line on either side of it. An optional run of gun applied silicone to classification ISO 11600-F-25 LM, may be applied 15mm from the leading edge of the overlapping sheet within the joint to provide a supplementary seal and prevent dirt ingress. Note that rooflight to rooflight external skin sheet end laps may be fixed and sealed as above.

TIS102 April 2020



**Typical fixing specification continued**

**Outer sheet side laps**

The side lap joints should be stitched at maximum 450mm centres with standard stitch screws where the rooflight overlaps the metal sheet. If the rooflight should have to underlap the adjacent metal sheet or lap to another rooflight, purpose made rooflight stitch fasteners such as expanding rubber grommet bolts should be used. Note that it is preferable to overlap the metal sheets on both sides whenever possible. On exposed sites or roof pitches below 10° reduce stitch centres to 300mm. The side lap joints should be sealed with a single continuous run of 6mm bead or 6mm x 5mm tape, cross-linked butyl mastic sealant located on the weather side of the stitch fasteners.

**Notes**



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