BMDS CPR CE Marking Declaration of Performance

Product Group  Profiled Single Skin Rooflights - GRP

Declaration Reference: CE-GRP-007

1. Unique identification code of the product-type:
   Light transmitting Trilite CE30 profiled GRP sheets for internal roofs, walls and ceilings. Specific identification information is contained on the shipping / delivery notes.

2. Type, batch or serial number or any other element allowing identification of the construction product as required under Article 11(4) of the CPR:
   Type number allowing identification is provided on the shipping / delivery note.

3. Intended use or uses of the construction product, in accordance with the applicable harmonized technical specification, as foreseen by the manufacturer:
   Light transmitting Trilite CE30 GRP rooflight sheet for discontinuously laid internal roof, wall and ceiling linings for buildings.

4. Name, registered trade name or registered trade mark and contact address of the manufacturer as required under Article 11(5):
   Brett Martin Daylight Systems Ltd,
   Sandford Close, Aldermans Green Industrial Estate, Coventry, CV2 2QU
   Tel 024 76602022  Fax 024 76602745  Email: covsales@brettmartin.com

5. Where applicable, name and contact address of the authorised representative whose mandate covers the tasks specified in Article 12(2):
   Bill Hawker, Technical Director, Brett Martin Daylight Systems Ltd,
   Sandford Close, Aldermans Green Industrial Estate, Coventry, CV2 2QU

6. System or systems of assessment and verification of constancy of performance of the construction product as set out in CPR, Annex V:
   System 4

7. In case of the declaration of performance concerning a construction product covered by a harmonized standard:
   EN 1013 : 2012
8. Declared performance:

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[CE Mark]

Brett Martin Daylight Systems Ltd
Coventry, CV2 2QU

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EN 1013 : 2012

Light transmitting Trilite CE30 GRP rooflight sheet for discontinuously laid internal roof, wall and ceiling linings for buildings.

Weight Grade (defined in accordance with NA to BS EN 1013) - CE30

<table>
<thead>
<tr>
<th>Property</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>External fire performance</td>
<td>NPD - UK fire ratings declared separately</td>
</tr>
<tr>
<td>Reaction to fire</td>
<td>NPD - UK fire ratings declared separately</td>
</tr>
<tr>
<td>Water vapour permeability</td>
<td>$1.5 \times 10^{-5}$ mg/(m h Pa)</td>
</tr>
<tr>
<td>Water / air permeability</td>
<td>Pass</td>
</tr>
<tr>
<td>Release of dangerous substances</td>
<td>NPD</td>
</tr>
<tr>
<td>Dimensional tolerances</td>
<td>Pass</td>
</tr>
<tr>
<td>Shatter properties (safe breakability) as:</td>
<td>NPD</td>
</tr>
<tr>
<td>- Small hard body impact resistance</td>
<td>NPD</td>
</tr>
<tr>
<td>- Large soft body impact resistance (assembly)</td>
<td>NPD Performance to ACR(M)001 declared separately in accordance with NA to BS EN 1013 and NARM NTD03 (2014)</td>
</tr>
<tr>
<td>Mechanical resistance</td>
<td>NPD</td>
</tr>
<tr>
<td>Flexural tensile strength</td>
<td>NPD</td>
</tr>
<tr>
<td>Resistance to fixings</td>
<td>See fixing instructions TB156</td>
</tr>
<tr>
<td>Durability, as variation (after ageing):</td>
<td>NPD</td>
</tr>
<tr>
<td>- of yellowness index</td>
<td>NPD</td>
</tr>
<tr>
<td>- of the light transmission</td>
<td>NPD</td>
</tr>
<tr>
<td>- on flexural strength for:</td>
<td>NPD</td>
</tr>
<tr>
<td>&gt; flexural strength, and</td>
<td>NPD</td>
</tr>
<tr>
<td>&gt; flexural modulus</td>
<td>NPD</td>
</tr>
</tbody>
</table>

9. The performance of the product identified in points 1 and 2 is in conformity with the declared performance in point 8. This declaration of performance is issued under the sole responsibility of the manufacturer identified in point 4.

Signed for and on behalf of the manufacturer by:

Name: Bill Hawker
Function: Technical Director

Signature: [Signature]
Place & date of Issue: BMDS – 17-Apr-14
INSTALLATION INSTRUCTIONS : In-Plane Site Assembled GRP Rooflights
Triple Skin with Cleartherm - Trilite 1.8, Trilite 2.4 and Trilite 3.0
Minimum Roof Pitch 6˚

Correct installation of rooflights is important to ensure they achieve the correct level of safety performance, and give long term weather tightness.

GENERAL ARRANGEMENT

1 SPACER BRACKET POSITIONING & CLEARTHERM SHEET LENGTH - Generally, spacer brackets are positioned outside of the area of rooflight, necessitating the use of 3m spacer bars. Cleartherm sheets are normally fitted in standard 6m sheet lengths butted up to one another for lowest cost. (Butt joints between sheets do not need to be aligned with purlins or laps in the liner or outer sheet). Or, spacer bar brackets can be positioned as normal within the rooflight area (avoiding the need for longer spacer bars). Cleartherm sheets should then be fitted in single span lengths, butted together along the line of the spacer bar with the end of the sheet notched to clear the spacer bar bracket.

2 FIXING SEQUENCE - Either, Cleartherm is laid and secured over the liner panel (after the liner has been fitted as normal): the spacer bar system, fillers and/or flashings to stop insulation migration are then fitted as normal. Cleartherm sheets should not be exposed to weather before the outer sheet is fitted. Or, the Cleartherm sheet can be installed at the same time as the outer sheet, simply sliding into position under the spacer bars: limiting sheet lengths to double spans may assist with this.

LINER PANEL

3 MAIN FASTENERS - LINER PANEL - Stainless steel 5.5mm diameter fasteners either fitted with a large diameter (29/32mm) washer with bonded seal or passing through brackets. * see over for typical references. Liner panels should be secured with 5 fasteners at each purlin and should extend a minimum of 50mm beyond the fixing line at each end after allowing for on site tolerances. Fixed spacer bar brackets can be regarded as a single fastener.

4 SIDELAPS - LINER PANEL - Both sides of the liner panel should lap over the adjacent metal sheet. Apply 50mm wide film backed butyl tape over laps to prevent opening, improve resistance to impact and achieve good airtightness and vapour control.

5 ENDLAPS - LINER PANEL - Endlaps should be sealed with a 6x5mm strip of pale coloured butyl mastic (BMDS:Class A) inside the lap, along the line of the fasteners or alternatively with 50mm wide film backed butyl tape over the lap.

CLEARTHERM LAYER

6 Cleartherm can be laid in place after the liner has been fixed and sealed, simply secured with 50mm film backed butyl tape along each side lap. Or, 9x3mm sealant can be applied to the crown of each side corrugation of the liner panel and the Cleartherm layer placed on top.

OUTER SHEET

7 MAIN FASTENERS - OUTER SHEET - Stainless steel 5.5mm diameter fasteners fitted with a large diameter (29/32mm) washer with bonded seal, located in the centre of the top flange of the Ashgrid bar, zed spacer or equivalent, typically poppy red colour. There should be at least five main fasteners per purlin, fitted in the trough, max. 200mm apart; usually this necessitates one fixing per trough. Do not use lightweight washers. * see over for typical references.

8 ENDLAP SEALANT - OUTER SHEET - Endlaps should be sealed with 2 rows (6x5mm section) of UV stable pale coloured cross linked butyl mastic (BMDS:Class A). This should be positioned above and below the line of fasteners, no more than 25mm from the line of the fasteners. If a seal is required at the tail of the lap, gun applied silicon (ISO11600-F-25LM) should be used.

9 SIDE STITCH FASTENER - ROOFLIGHT OVERLAP - Brett Martin Daylight Systems recommend GRP overlaps the metal on both sides if possible. This reduces the cost of fasteners and the number of fastener types on site, and improves ease of installation. Standard stitching screws should then be fitted at 300mm to 400mm centres. Use of stainless steel fasteners is recommended, typically poppy red colour. * see over for typical references.

10 SIDE STITCH FASTENER - ROOFLIGHT UNDERLAP - If it is necessary for the GRP to underlap the metal on one side, expanding rubber bolts should be fitted at 300mm to 400mm centres. Use of stainless steel fasteners is recommended, typically poppy red colour. * see over for typical references.

11 SIDELAP SEALANT - OUTER SHEET - Single strip (6x5mm) of UV stable pale coloured cross linked butyl mastic (BMDS:Class A) - positioned on the crown of the sheet just outside the line of sidelap fasteners.
INSTALLATION INSTRUCTIONS: In-Plane Site Assembled GRP Rooflights
Triple Skin with Cleartherm - Trilite 1.8, Trilite 2.4 and Trilite 3.0
Minimum Roof Pitch 6°

<table>
<thead>
<tr>
<th>Manufacturer</th>
<th>SFS</th>
<th>EJOT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Main Fasteners - Outer sheet</td>
<td>SX315-L12-A32-6 x 40</td>
<td>CF29-JT3-3.5 x 32</td>
</tr>
<tr>
<td>Overlapping Side Stitch</td>
<td>SX312-A16-0x 35</td>
<td>CF15-JT3-2H-5.5x30</td>
</tr>
<tr>
<td>Underlapping Side Stitch</td>
<td>LL-S-S16-0.5 x 25 + cap</td>
<td></td>
</tr>
<tr>
<td>Main Fasteners - Liner Panel</td>
<td>SX39-L12-A32-6 x 29</td>
<td>CF29-JT3-3.5 x 32</td>
</tr>
</tbody>
</table>

ENDLAP - CLADDING OVER ROOFLIGHT

1. Spacer bracket positioning
2. Main fastener through centre of endlap into the spacer bar system.
3. Liner sheet to extend minimum of 50mm beyond fixing line
4. Liner endlap sealant
5. Endlap - CLADDING OVER ROOFLIGHT

ENDLAP - ROOFLIGHT TO ROOFLIGHT

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2. Main fastener through centre of endlap into the spacer bar system.
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4. Liner endlap sealant
5. Endlap - ROOFLIGHT TO ROOFLIGHT

ENDLAP - ROOFLIGHT OVER CLADDING

1. Spacer bracket positioning
2. Main fastener through centre of endlap into the spacer bar system.
3. Liner sheet to extend minimum of 50mm beyond fixing line
4. Liner endlap sealant
5. Endlap - ROOFLIGHT OVER CLADDING

ESSENTIAL HANDLING & STORAGE RECOMMENDATIONS refer to:
Brett Martin Daylight Systems Ltd
Sandford Close
Alderman’s Green Industrial Estate
Coventry
CV2 2QU

Product Description: Brett Martin Daylight Systems Trilite GRP sheeting is a translucent glass reinforced UV stable polyester sheet, incorporating the Superlife™ UV protective coating on the weather surface; it is also available coloured or as an opaque sheet. Brett Martin Daylight Systems GRP sheets are manufactured to BS4154 under our ISO9001:2000 approved design and manufacturing system. They have been tested for fire retardance in accordance with BS476, and are available with fire ratings of SAA or SAB to BS476 part3, Class 1 or Class 3 to BS476 part7 or Class 0 to BS476 Part6.

Handling: Trilite GRP sheets have sharp edges which can easily cut the hands. Industrial gloves should be worn when handling the sheets.

As sheets have a large surface area they become difficult to handle in windy conditions. Special care should be taken when carrying them up and down ladders and across exposed rooftops. To facilitate handling individual sheets may be rolled up parallel to their corrugations and taped or strapped.

Stacking and Storage: Trilite GRP sheets are delivered loose unless otherwise specified. This facilitates unloading by hand as required on most sites.

Sheets should be stacked on flat ground, on 75mm wide wooden battens (free from nails and debris) not more than 1.5m apart. Different profiles on the same stack must be separated with battens, located directly above each other. Maximum stack height should be 1.5m. Care should be taken to ensure that no sharp objects are under the sheets.

Trilite GRP sheets should be stored indoors if possible, or under cover to prevent damage from rain and sun. If this is not feasible, then the sheets should be covered with a tarpaulin and carefully weighted or banded. (It should be noted that strong winds will tend to lift even fairly heavy weights off stacks, so banding is preferable.)

Maintenance: In typical UK conditions there should be no significant deterioration or yellowing of Brett Martin Daylight Systems rooflights for 20 years; we would expect these sheets to remain serviceable in excess of 25 years, subject to correct maintenance.

Rooflights, fixings and sealants should be inspected for damage every 2-3 years. Fixings should be retightened or replaced as necessary. Rooflights should be cleaned if necessary using warm water and mild detergent to prevent any growth which may attack the protective surface, or dirt accumulation which could lead to heat build up. Use of harsh chemicals or abrasive cleaners should be avoided.

Rooflights should not be painted over with an opaque covering. This can be dangerous, and may cause premature failure.

CDM Regulations: CDM Regulations require that all risks are assessed and minimised, but do not define any specific measures required to achieve this. HSE Guidance Notes to CDM Regulations refer to unprotected fragile roofing materials as a typical hazard to be avoided. For details on non-fragility classifications of Brett Martin Daylight Systems Trilite GRP see Technical Bulletins 121, 122, 129 & 130.
Health Data: Brett Martin Daylight Systems GRP roofing sheets present no hazards to health, however precautions should be taken when cutting sheets to ensure the airborne dust concentrations remain within the occupational exposure limit as recommended by the Health and Safety Executive in the latest edition of guidance note EH40\(^1\) (reprinted annually).

\textit{inhalation}: There are no significant risks from inhalation, except when cutting quantities of sheets with power tools, when exposure to large amounts of dust is possible. The glass fibres used to make Brett Martin Daylight Systems GRP sheeting are of such dimensions that they are not respirable and long term study has revealed no increase in respiratory diseases amongst workers exposed to fibres of these dimensions\(^2\). However irritation to the upper respiratory tract may be caused by exposure to high concentrations of airborne glass fibre dust. The effect should be transitory and leave no permanent disability but the use of face masks is recommended wherever dust is likely to be a problem.

\textit{skin contact}: Direct contact with dust on the skin may cause slight irritation. The severity will vary from individual to individual but in all cases may be reduced or eliminated by wearing suitable protective clothing.

\textit{ingestion}: GRP sheeting may be considered biologically inert.

\textit{eye contact}: Treatment for particles of GRP dust caught in the eye is as for any other form of dust. Flush the eye with copious quantities of clean water and seek medical attention. When using powered cutting tools always wear goggles.

Fire and Explosion Hazard Data: Trilite GRP sheeting contains fire retardant agents and has been tested in accordance with BS476. If exposed to high temperatures it can be made to burn and will give off noxious fumes when it does.

\(^1\) Currently 10mg/m\(^3\)