



# energysaver



## Factory Assembled Insulating Rooflights



Daylight Systems

Daylight not only improves the internal environment of a building but, also significantly impacts the energy efficiency of the facility.

Energysaver factory assembled insulating rooflights, manufactured by Brett Martin Daylight Systems, have been specifically designed to maximise the transmission of natural daylight into any building requiring composite panels whilst reducing the carbon footprint.



# Save energy with natural daylight

- Improves concentration
- Leads to better productivity
- Creates environments people want to spend time in
- Reduces energy costs and helps meet Part L

**Energysaver rooflights provide an excellent, cost effective way of getting natural light into a wide variety of buildings. Brett Martin Daylight Systems offers safe, affective rooflights that remain simple to install and are very cost effective.**



# Daylight Systems

Your Brightest Rooflight Choice

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Install more rooflight and help achieve compliance with Parts L2A & L2B for your building.





# The unique rooflight!

Energysaver – the tailored, trouble-free and cost-effective solution for daylighting composite panel applications



Energysaver is an innovative triple skin rooflight offering maximum daylight potential and thermal performance for wide-span buildings, helping a building achieve compliance with Parts L2A and L2B of 2006 Building Regulations.

With unique design features offered as standard, Energysaver provides superior product and installation benefits:

- Compatible with a wide range of composite roof panels
- Transparent internal insulating membrane creating outstanding thermal performance at minimal extra cost
- Can be tailored to meet specification requirements achieving optimum levels in insulation, safety and fire ratings
- Rapid installation
- 'Fit and forget' trouble-free installation
- Ease of handling on site

Brett Martin Daylight Systems offers exceptional technical expertise from project concept through to on-site installation. With various options available, each Energysaver is manufactured to a customer's exact specification.

## Wide range of applications

Energysaver improves the internal environment in a diversity of industrial, commercial and leisure buildings.

- Developed to reduce the risk of condensation, it is ideal for sports halls and similar high occupancy buildings
- GRP provides diffused light and minimises distracting shadows
- Provides a bright internal environment in retail stores which improves store performance

- **Trilite GRP range has full BBA approval**



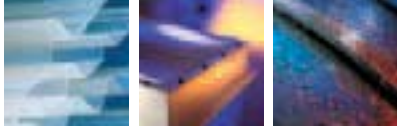
- **Industry wide recommendation**

*"During the development of Energysavers, Brett Martin Daylight Systems and SFS Intec worked closely together to design-out the potential problems and thus ensure the product could be fixed using traditional procedures to give optimum performance with regards to weather-tightness and structural stability of the rooflight unit.*

*Brett Martin Daylight Systems' design of Energysavers is our preferred choice and we believe it will also be favoured by the majority of specifiers and contractors as their preferred choice."*

Peter Reilly, Technical Manager





## Daylight Systems

**Brett Martin Daylight Systems** is the UK's largest rooflight manufacturer, providing the widest variety of rooflight products ever available from one source.

# Energy Performing Buildings

Energysaver make a significant contribution to reducing a building's carbon footprint and energy costs, and to improving the overall internal environment.

### Energysavers

Rooflights have a major impact on the energy efficiency of a building. Part L and research demonstrates that installing between 15%-20% rooflights can greatly reduce a buildings CO<sub>2</sub> emissions.

### Rooflights are performance enhancers

Rooflights don't just improve the external environment. They improve the internal environment too. People prefer natural light to electric light and there is a growing body of scientific evidence to suggest that it helps us perform better. Studies have shown that school children learn better, hospital patients recover faster, factory workers are more productive and shoppers linger longer, spending more.

### Thermally efficient daylight

In order for a building to meet its CO<sub>2</sub> emissions targets as set out by Part L 2006 a minimum performance standard for rooflights averaged over the whole roof has been set at 2.2W/m<sup>2</sup>K. In practice, this is easily achieved by specifying Energysaver with a U value of 1.9 as standard and with options of 1.3, 1.0 and 0.9W/m<sup>2</sup>K which significantly contribute to reducing the need for artificial lighting and ultimately reducing carbon emissions to the environment.

### Sustainability

Brett Martin Daylight Systems is actively committed to implementing an environmental policy to create a 100% carbon neutral organisation:

- Developing products that last the full estimated life time of a building, therefore reducing additional usage of raw materials
- Recycle Brett Martin Daylight Systems rooflights at the end of their life
- Minimising polluting emissions to water, air and soil
- Minimising waste and maximising re-use and recycling where possible through the Environmental Policy ISO 14001

### Solar control

Independent research carried out by the De Montfort University shows that in a large volume building, with evenly distributed rooflights and moderate internal heat gains, a rooflight area up to 20% will not cause solar gain.

### 15%-20% roof area

Installing from between 15% to 20% of the roof area in Energysaver rooflights is a practical solution to ensure the lighting levels within the building are adequate and will reduce the artificial lighting requirement. The notional building used in the Regulations assumes 20% roof area in rooflights and research demonstrates that installing less than this amount will make compliance more difficult.



To find out more about Part L 2006 and the implications for rooflights, request the Brett Martin Daylight Systems Part L brochure or visit our website at [www.daylightsystems.com](http://www.daylightsystems.com).

**TECHNICAL SUPPORT**  
Further advice on Part L and De Montfort University work is available from Brett Martin Daylight Systems' technical department



Manufactured in a controlled factory environment to tight tolerances, each Energysaver is made to a customer's exact specification achieving quick, simple and reliable installation on site and increased economies in terms of time saved on installation, reduced labour costs and avoiding any remedial work.

### Long life expectancy

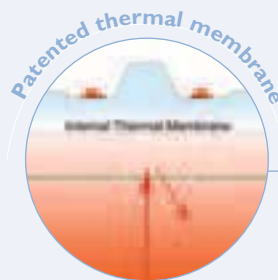
- Brett Martin Daylight Systems Trilite range of GRP sheet has 'Superlife' enhanced UV protection with option to upgrade to 'Diamond' long-life protection against weathering, UV degradation and chemical attack.
- Marlon CS Longlife profiled polycarbonate has co-extruded UV protection.



- Enhanced UV protection minimising long-term discolouration
- Extends life expectancy

### Thermal performance

- Patented thermal membrane held under bi-lateral tension (to eliminate wrinkles) between the weather and liner sheets, achieves insulation value of 1.9 W/m<sup>2</sup>K and f-factor of 0.8 at minimal extra cost (with U-value options available down to 0.9 W/m<sup>2</sup>K) without any thermal bridges, minimising risk of condensation.



- Energy efficient
- Reduces risk of condensation

### Robustness

- Reinforced end fillers add robustness and protection allowing handling and installation without damage; the external reinforcement also protects the filler and thermal membrane.



- Adds robustness and rigidity
- Protects thermal membrane and filler



## Tailor Energysaver to suit specification

Brett Martin Daylight Systems' extensive range of options ensures that features can be easily incorporated into the design of Energysaver to ensure all specification conditions are met. Refer to pages 8 and 9 and talk to our technical team to discuss your requirements.



Hardpak™ internal support



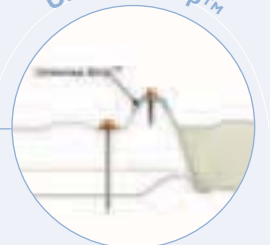
- Ultimate support for fasteners to eliminate 'dishing' around fastener
- Allows simple, rapid, reliable, weatherproof fastener installation

Non-fragile weather sheet



- Achieves Class B non-fragility
- Can be specified for long-term non-fragility

Underlap strip™



- Quick and simple installation using standard stitching screws
- Ensures weather-tightness

### Weather-tightness

- Hardpak™ are unique rigid internal supports designed to fit over purlins, specially developed to provide simple and speedy, installation and ensure reliable weather-tightness, minimising risk of any remedial work.
- Hardpak™ internal supports have been further developed giving an improved compressive modulus of 8MPa (will deflect less than 0.2mm if subjected to the evenly distributed weight of a 90kg man). This rigidity provides outstanding support for fasteners, allowing them to be fully tightened ensuring washers seal reliably, without risk of 'dishing' and 'ponding' around fasteners.

### Non-fragility

- All Energysavers are Class B non-fragile to ACR[M]001:2005 when new and fully fixed.
- It is simple to specify Energysavers that can be expected to retain Class B non-fragility for 25 years (Trilite 3.0 and above).
- Safelight Energysavers provide the optimum level of safety and can be guaranteed to remain non-fragile for 30 years.

### Easy and reliable installation

- Underlap Strip™ is a galvanised steel strip allowing sidelaps to be stitched with standard sidelap fasteners for economy, simplicity, speed and reliability of installation.
- Underlap Strip™ is specially profiled to match the underlap corrugation, adding rigidity and ensuring fasteners are located correctly, and is fitted in a single, continuous length which allows reliable fixing at any point.



# Specification & options

Tailor Energysaver to whatever performance you require to meet specification. Full technical advice and back-up is provided from our team of technical experts to ensure a correctly designed and specified non-fragile Energysaver option that will also meet all other criteria such as light transmission, type of light, aesthetics and budget.

## Standard energysaver properties & other options available

| PROPERTY                                   | STANDARD   | OTHER OPTIONS   |
|--|--|---|
| Thermal performance (U-value)              | 1.9W/m <sup>2</sup> K (from triple skin construction)                                | 1.3, 1.1 or 0.9W/m <sup>2</sup> K   |
| Material                                   | GRP  | Polycarbonate   |
| Outer sheet weight                         | Trilite 2.4kg/m <sup>2</sup> or 3.0 kg/m <sup>2</sup>                                | Trilite Ultra 3.6kg/m <sup>2</sup> , 4.5kg/m <sup>2</sup> or Safelight (5.5kg/m <sup>2</sup> )                              |
| Non fragility when new (impact resistance) | Class B to ACR[M]001:2005  |   |
| Expected period of non-fragility           | Trilite 2.4 kg/m <sup>2</sup> : 5-20 years, Trilite 3.0 kg/m <sup>2</sup> : 25 years | Safelight (5.5kg/m <sup>2</sup> ): Warranted for over 30 years  |
| Light transmission                         | 67 - 70% diffused  | Wide range of tints and colours   |
| Life expectancy                            | 25 years +   | Warranted for over 30 years   |
| UV protection and durability               | Superlife  | Diamond for extra UV, chemical and abrasion resistance  |
| Fire rating: Weathersheet<br>Liner         | SAB to BS 476 part 3<br>Class 1 to BS 476 part 7                                     | All ratings up to and including Class 0 (as defined by Building Regulations and BS 476 part 6)                              |
| Internal supports                          | Hardpak™ 50mm wide   | 100mm wide fillers allow greater tolerance to purlin positioning or use Uni FAIR for total independence from purlin spacing |
| Underlap strip™                            | Symmetrical fully profiled galvanised metal strip                                    |   |

## Material options

### GRP

Manufactured for over 50 years, Brett Martin Daylight Systems' Trilite brand is used extensively to provide natural daylight into a wide range of buildings and continues to be the UK's leading brand of GRP rooflight as a result of its consistent quality, strength and high light transmission levels.

- Provides diffused light and minimises distracting shadows and is ideal in sporting, commercial, industrial and retail applications
- Most complete range of 'safe' GRP rooflights available
- Can be specified to satisfy safety requirement and provide non-fragile classification
- Will resist temperatures of 300°C for over 5 minutes to avoid interfering with sprinkler system operation



- Meets the required safety standard Class B non fragile to ACR[M]001:2005
- Available in weights of 2.4kg/m<sup>2</sup> or 3.0kg/m<sup>2</sup>
- Weather sheets supplied with 'Superlife' enhanced UV surface protection



- Range of heavyweight sheets offering significantly greater safety margins than the minimum standard.
- Advanced reinforcement provides optimum strength
  - Weather sheets supplied with 'Superlife' enhanced UV surface protection
  - Available in weights of 3.6kg/m<sup>2</sup> or 4.5kg/m<sup>2</sup>



- Safelight is the safest rooflight available, with unequalled safety margins and unmatched rigidity ensuring it will not be damaged by inadvertent foot traffic.
- Safelight is supplied with 'Diamond' long life surface protection as standard, providing optimum weather performance
  - Safelight reinforcement system for best possible strength and rigidity
  - Non-fragility can be guaranteed due to minimal reliance on condition of fixings





## Polycarbonate

### marlon CS LONGLIFE

Brett Martin Daylight Systems' popular brand of profiled polycarbonate, Marlon CS Longlife, provides outstanding impact resistance and co-extruded UV protection.

- 98% of harmful UV rays eliminated to reduce effect of sheet weathering
- Excellent light transmission
- Wide and increasing profile range available
- Self-venting material which softens and opens in the event of a fire allowing smoke, flames and fumes to escape
- Achieves a non-fragility rating without need for additional safety measures



## Weather sheet safety options

| Safety Options               | GRP         |             |                  |                  |             | Polycarbonate      |
|------------------------------|-------------|-------------|------------------|------------------|-------------|--------------------|
|                              | Trilite 2.4 | Trilite 3.0 | Trilite Ultra 36 | Trilite Ultra 45 | Safelight   | Marlon CS Longlife |
| Non-Fragility Classification | B           | B           | B                | B                | B           | B                  |
| Safety Level                 | Good        | High        | Very High        | Very High        | Exceptional |                    |
| Roof Access                  | Infrequent  | Infrequent  | Regular          | Frequent         | Frequent    | Frequent           |
| Lifecycle (years)            | 5-20        | 25+         | 25+              | 25+              | 30+         | 15+                |

**NOTE:** Brett Martin Daylight Systems recommend that you never walk on rooflights

## Universal FAIR

Universal FAIR is a patented option, offering a continuous internal support structure which allows fasteners to be positioned at any point along the length of the rooflight, whilst also ensuring a U-value of 2.2W/m<sup>2</sup>K is achieved. The intermediate sheet provides full support at fixing positions, eliminating 'dishing' around fasteners, ensuring a weathertight seal is simply and reliably achieved. This concept avoids the need for intermediate Hardpak™ fillers, simplifying the ordering process, and is particularly beneficial in refurbishment projects where purlin spacing is not known or variable, or wherever steelwork tolerances are greater than normal.



## Diamond protection

Available for GRP Trilite and Trilite Ultra weather sheets: Optional unique 'Diamond' long life (standard on Safelight) gives protection against weathering, UV degradation and chemical attack, giving a life expectancy of over 30 years.

## Foam fillers, tapes & sealants

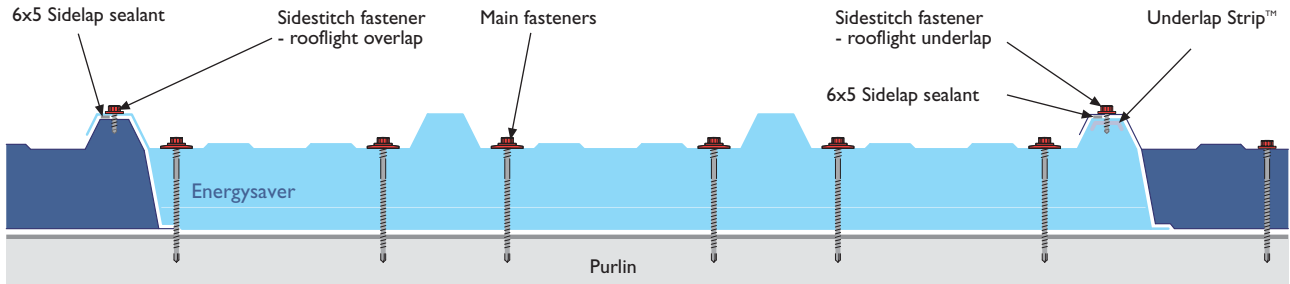
Profiled foam fillers are available in a wide range of options to match profiled sheet used in Energysaver across the range. Fillers can easily be matched within short turnaround times through an extensive database of roof sheet specifications, ensuring all products required to finish the job are available. This includes the relevant tapes, sealants and adhesives.



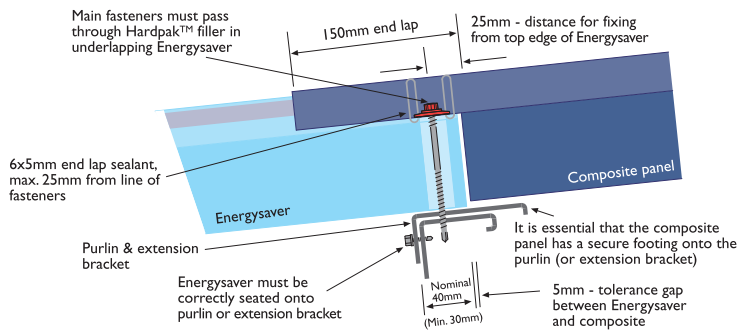


# Installation details for Trilite Energysaver

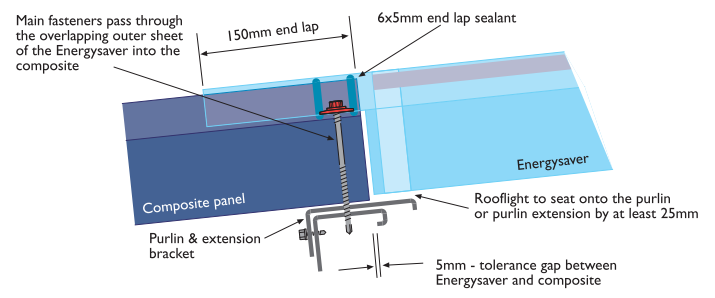
## Cross section of Energysaver



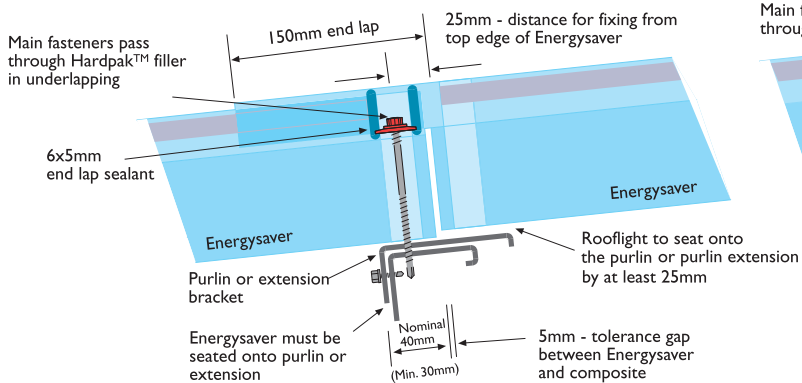
## Composite over Energysaver



## Energysaver over composite

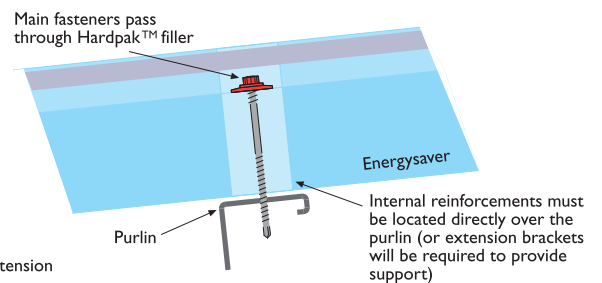


## Energysaver over Energysaver



## Mid span arrangement

(Note: This does not apply to Universal FAIR)



### TECHNICAL SUPPORT

Please note that the drawings above summarise installation details for Trilite Energysaver; full details are given in Technical Bulletin 125. Details vary for Trilite Ultra, Safelight and Marlon CS; please refer to Technical Bulletins 124 and 138 for details.

**Brett Martin Daylight Systems** is the only European manufacturer of all the main rooflight materials. The company's extensive product range is backed by exceptional technical expertise, which means we can match any requirement and offer independent advice on the most appropriate product for any project.



## Daylight Systems

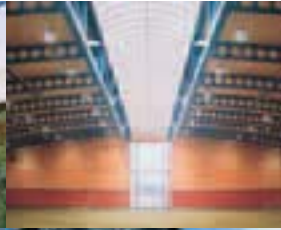
### multivault



### ritchlightultra



### marvault



### mardome



### xlok



### energysaver

### trilite

### marloncs LONGLIFE

### rainwater

### marlonfsx LONGLIFE

### marlonst LONGLIFE

#### Modular Vault Rooflights

Comprehensive range of modular length, double or triple skin vault rooflights available in GRP and polycarbonate. Suitable for either flat, pitched or curved roofs, Multivaults are a cost-effective range of vaulted rooflight options that are easily incorporated into new or refurbished roofs.

#### Pitched Rooflight Systems

Attractive glazing bar systems, with excellent weather resistance and durability, widely specified where reliability is paramount. Many options for ventilation and solar control are available with glazing in either glass or polycarbonate. This is an ideal system for large area glazing up to 5m span and any length.

#### Vault Rooflight Systems

Continuous run vault rooflights ideal for use on sports halls, assembly halls and over corridors. Marvault HF is a vault rooflight system with a maximum span of 9m and hidden fixings, which can achieve U values as low as 1.6W/m<sup>2</sup>K. Marvault RL barrel vaults provide long term reliability and high quality detailing, with different ventilation options available.

#### Dome Rooflights

A range of modular pyramid and dome rooflights with unique security and water-proofing features. These are reliable, safe, secure and well insulated rooflights. Suits new build or refurbishment projects, replacing just the glazing or the whole unit.

#### Panel Glazing Systems

Continuous run rooflights. These versatile interlocking panel glazing systems are ideal for the creation of covered play areas and walkways. Panels are fully factory assembled for fast and simple site installation, without the need for glazing experience. With up to 4 1/2m span between supports, top hung vents and a non-fragile option, this is a highly affordable system.

#### Energysaver

Factory Assembled Insulating Rooflights manufactured to suit a customer's exact specification. Delivered to site as a complete ready to install unit. A cost-effective rooflight option that can be incorporated into most new or refurbished roofs. Manufactured in both GRP and polycarbonate in formats to suit all composite panel roofs.

#### In Plane Site Assembled Rooflights

Site assembled rooflights, manufactured in both GRP and polycarbonate, are quick and easy to install. All sheets achieve the highest levels of profile accuracy and cover a range of options, including safety levels, U values and fire ratings. Single, double and triple skin rooflights are available for a huge variety of applications from canopies to warehouses and factories to retail and leisure facilities.

#### Industrial Rainwater Systems

An extensive range of rainwater management systems to suit every designer's needs.

#### Solid Polycarbonate Sheet

Solid polycarbonate sheet with shatter resistance up to 200 times that of glass, ideal for canopy glazing applications. Marlon FSX Longlife has co-extruded UV protection on both sides to cut out 98% of harmful UV radiation, and offers excellent resistance to weather and atmospheric conditions.

#### Multi-wall Polycarbonate Sheet

Multi-wall polycarbonate sheet with a shatter resistance up to 200 times that of glass. Available in five structures and nine tints, to provide a range of thermal performance and light transmission options. Co-extruded UV protection cuts out 98% of harmful UV radiation.

#### Accessories

A comprehensive range of accessories including foam fillers, available in a wide range of options, and tapes, sealants and adhesives, manufactured and sourced from the best in the industry.



# Daylight Systems



## Daylight Systems

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Install more rooflights and help achieve compliance with Parts L2A & L2B for your building.



All reasonable care has been taken in the compilation of the information contained within this literature. All recommendations on the use of our products are made without guarantee as conditions of use are beyond the control of Brett Martin. It is the customer's responsibility to ensure that the product is fit for its intended purpose and that the actual conditions of use are suitable. Brett Martin pursues a policy of continuous product development and reserves the right to amend specifications without prior notice.