



energysaver



Daylight Systems

COMPOSITE PANEL ROOFLIGHTS - FAIRS





Save energy with natural daylight

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

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, effective rooflights that remain simple to install and are very economic.



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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 2010 (2013 edition) 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

“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.”

Simon Cooper, Technical Manager

SFS intec



- Trilite GRP range has full BBA approval
- Industry wide recommendation



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 CO₂ 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 CO₂ emissions targets, as set out by Part L 2010 (2013 edition), a minimum performance standard for rooflights averaged over the whole roof has been set at 2.2W/m²K. In practice, this is easily achieved by specifying Energysaver which has a U value of 1.9 as standard and with options of 1.3, 1.0 and 0.9W/m²K which significantly contribute to reducing the need for artificial lighting and ultimately reducing carbon emissions to the environment.

15% – 20% roof area

Installing from between 15% – 20% of the roof area in Energysavers 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 12% roof area in rooflights and research shows that installing less than this amount will make compliance more difficult.

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.

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

To find out more about Part L 2010 (2013 edition) and the implications for rooflights, contact our technical team.



Technical Support

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



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Features & benefits

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.

Superlife

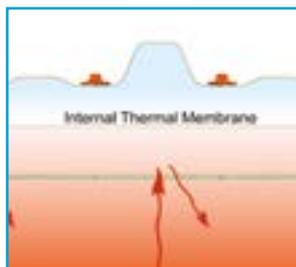


- Enhanced UV protection minimising long-term discolouration
- Extends life expectancy

Thermal performance

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

Patented Thermal Membrane



- 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.

Reinforced End Filler



- Adds robustness and rigidity
- Protects thermal membrane and filler

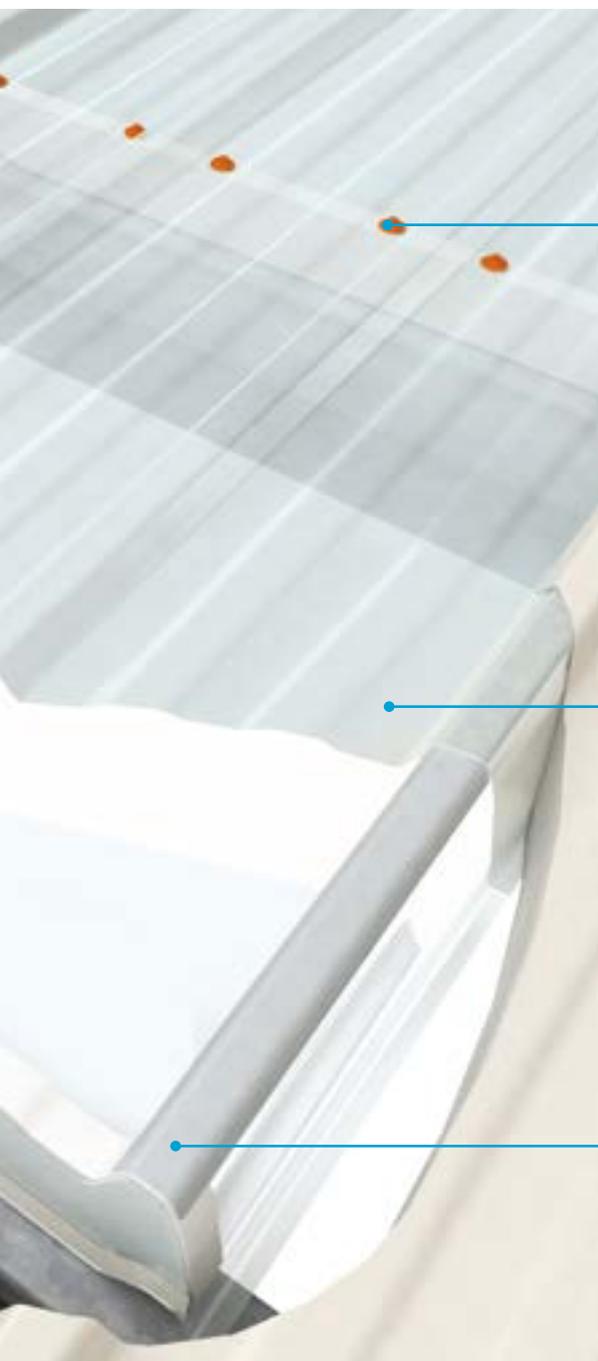


ecopac™

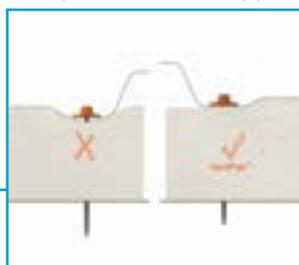
- All Energysavers are packed in specially designed robust and weatherproof packaging to provide ultimate protection against damage during transit or movement on site, and against dirt or weather ingress during storage on site.

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



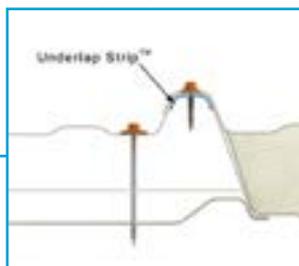
- Ultimate support for fasteners to eliminate 'dishing' around fastener
- Allows simple, rapid, reliable, weatherproof fastener installation

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 when new and fully fixed.
- It is simple to specify Energysavers that can be expected to retain Class B non-fragility for 25 years (Trillite 3.0 and above).
- Safelight Energysavers provide the optimum level of safety, achieving non-fragility without dependence on any other component so can be expected 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.

Specifications & 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 ² K (from triple skin construction)	1.3, 1.1 or 0.9W/m ² K
Material		GRP	
Outer sheet weight		Trilite 2.4kg/m ² or 3.0 kg/m ²	Trilite Ultra 3.6kg/m ² , 4.5kg/m ² or Safelight (5.5kg/m ²)
Non fragility when new (impact resistance)		Class B to ACR[M]001	
Expected period of non-fragility		Trilite 2.4 kg/m ² : 5-20 years, Trilite 3.0 kg/m ² : 25 years	Safelight (5.5kg/m ²): over 30 years
Light transmission		67 - 70% diffused	Wide range of tints and colours
Life expectancy		25 years +	Over 30 years
UV protection and durability		Superlife	Diamond for extra UV, chemical and abrasion resistance
Fire rating:	Weathersheet	SAB to BS 476 part 3	All ratings up to and including Class 0 (as defined by Building Regulations and BS 476 part 6)
	Liner	Class 1 to BS 476 part 7	
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

trilite

- Meets the required safety standard Class B non fragile to ACR[M]001
- Available in weights of 2.4kg/m² or 3.0kg/m²
- Weather sheets supplied with 'Superlife' enhanced UV surface protection

triliteultra

- 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/m² or 4.5kg/m²

safelight

- 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
- Unmatched rigidity ensures non-fragility (Class B non-fragile to ACR[M] 001) can be retained for over 30 years, with minimal risk from poor fixing or fixing degradation

Weather sheet safety options

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

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/m²K 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.

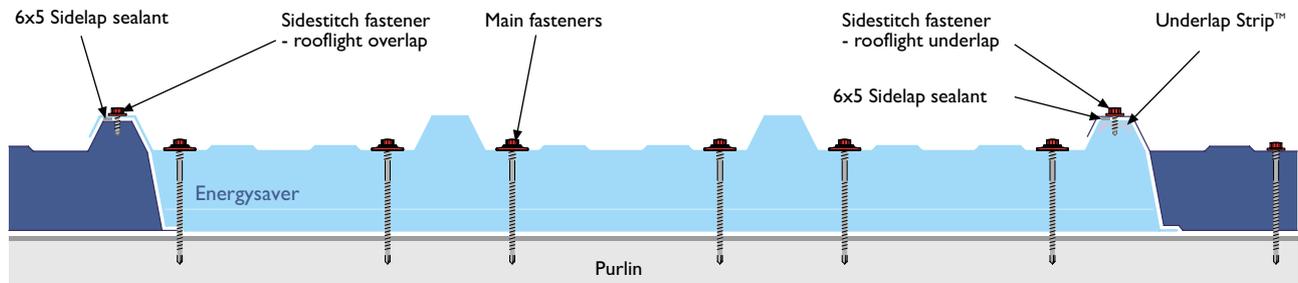
roofsealants

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.

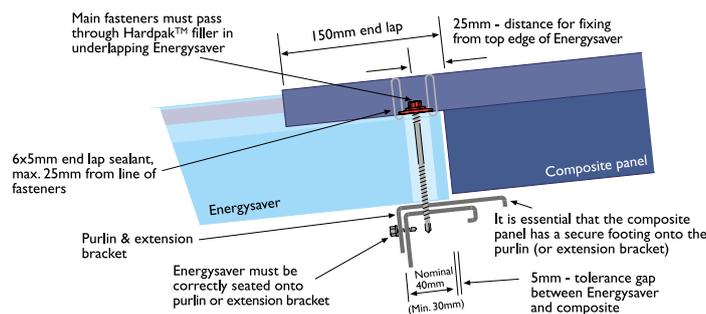


Installation details for Trilite Energysaver

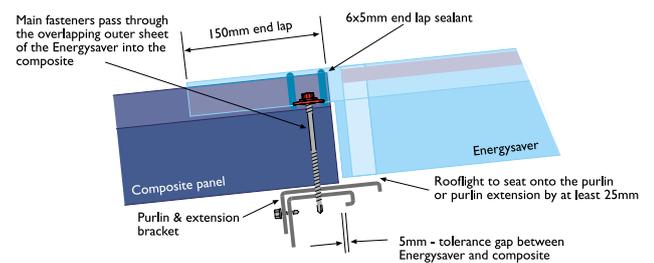
Cross section of Energysaver



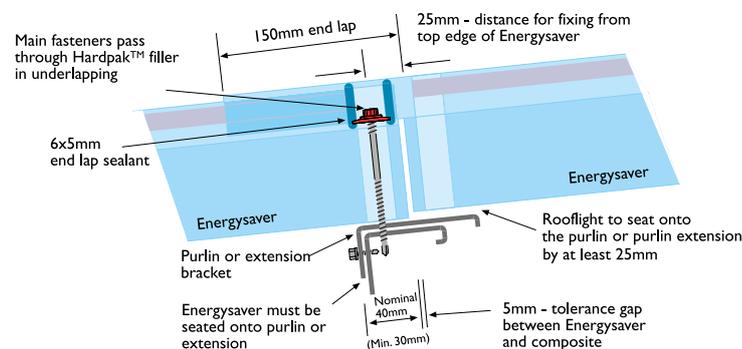
Composite over Energysaver



Energysaver over composite

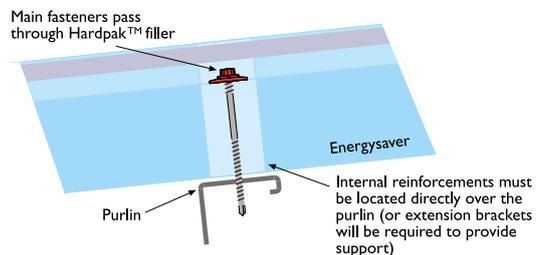


Energysaver over Energysaver



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 and Safelight; please refer to Technical Bulletin 124 for details.

