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*StepSafe, Contour, Contour OTT and Arch-Light are Trademarks of Hambleside Danelaw Limited.*

**ENVIRONMENTAL STATEMENT**

The Company is committed to an environmental policy that will minimise as far as is possible any detrimental effect to the environment, which may arise as a result of its production process.

All employees are informed of their duty to ensure that materials used during the course of production and the disposal of scrap materials is carried out in controlled conditions and in full compliance with all legislation in force. The disposal of such product is only handled by appropriate waste management organisations.

Wherever practical the Company's products are designed to be recyclable after their useful life.

The Company will continue to explore all possibilities to ensure that it takes all reasonable steps to protect the environment.

**MISSION STATEMENT**

Hambleside Danelaw Limited is a market leader in the manufacture and supply of roofing, cladding and ventilation products. Our key objectives are:

1. To respond to our customers' needs and meet our customers' stated requirements with a comprehensive range of cost-effective, quality-assured products which exceed their technical expectations and increase their levels of satisfaction.
2. To remain at the forefront of technology in our market by continuing to achieve technical excellence in our manufacturing processes.
3. To pursue a policy of continuous improvements in the company's performance and to return a profit for our investors.
4. To provide technical assistance in the design and development of customers' products and services.
5. To strengthen our business relationships by cultivating our reputation as a trustworthy and customer-oriented supplier.
6. To expand our production facilities in a controlled manner in response to our customers' needs, ensuring all our operations comply with BS EN ISO 9002 and British Board of Agrément Standards and with due regard to the safety of our employees, customers and products.
7. To provide our work force with secure and rewarding employment, encouraging growth and employee involvement and offering opportunities for personal development in a safe, team-working environment.

GRP Flashings

Flat Roofing

Rooflights

Roof & Cavity Ventilation

GRP Cladding & Roofing

This manual provides detailed information on the Company's range of rooflight and cladding profiles. There is a considerable selection and the range is extended by the varying weights and materials used to produce the product.

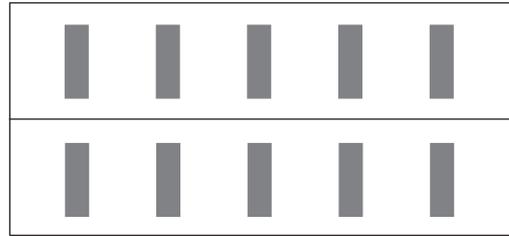
Hambleside Danelaw has been manufacturing products for the Construction industry since 1975 and has been the innovator of many new ideas specifically for the roofing and ventilation sector of the construction industry. These innovations have included the first automated manufacture of Valley Troughs, the Bonding Gutter™, the first semi-rigid advanced polyester composite and GRP roofing systems for flat and low pitched roofing (Dryseal™), and the advanced polyester composite rooflights.

### Natural Light for buildings

BS8206 details the standard for natural light and the role of rooflights in achieving this.

Natural light plays an important part of any building design, but how those rooflights are incorporated into the building will affect their performance. There are practical considerations to be made when specifying them. For example, the number of side and end laps between the rooflight and the metal work should be kept to a minimum. This will naturally restrict the number of rooflights that may be used on a building. In addition the thermal properties of rooflights are generally poor leading to

heat loss. Whilst this can be reduced through the use of factory assembled insulated rooflights or built up systems it is primarily due to these factors that the usual balance for a typical roof construction is 10% rooflights, 90% metal.



*Typical rooflight layout.*

### In-plane rooflights – site assembled

Site assembled units are normally used in conjunction with roofing systems incorporating profiled metal liners. Rooflights used on insulated buildings should be double skinned to reduce heat loss and minimize condensation. These can be site-assembled or factory manufactured units. All rooflights manufactured by the Company are produced to the specifications for material and performance requirements as given in BS 4154: Part 1: 1985.





### StepSafe – an Advanced Polyester Composite (APC) Rooflight

These rooflights are manufactured from advanced composite materials. StepSafe is extremely strong, with excellent weathering properties and this product has been specifically engineered to meet the most stringent roof safety demands. Available in two standard weights, 2.22 kg/m<sup>2</sup> and 4.05 kg/m<sup>2</sup>, and with three grades of fire retardancy. These products have been designed to provide an alternative to the traditional GRP rooflight with far superior performance. The standard surface finish for top sheet applications is Melinex 389\*, a high performance UV resistant film.

### Contour GRP Rooflights

These are traditional in-plane GRP rooflights finished with our standard film surface, Melinex 389\*. These rooflights are available in four standard product glass weights, 1.83 kg/m<sup>2</sup>, 2.44 kg/m<sup>2</sup>, 3.06 kg/m<sup>2</sup> and 3.66 kg/m<sup>2</sup> with three grades of fire retardancy. Other weights are available to special order.

The Company does not recommend the use of 1.83 kg/m<sup>2</sup> for top sheet rooflights in single skin applications but it may be used in certain factory assembled rooflight configurations as a liner. Please obtain further information from our sales office.

Matching profiles for 'secret fix' roofing or vertical cladding are also available.

### Factory Assembled Insulated Rooflights (FAIRS)

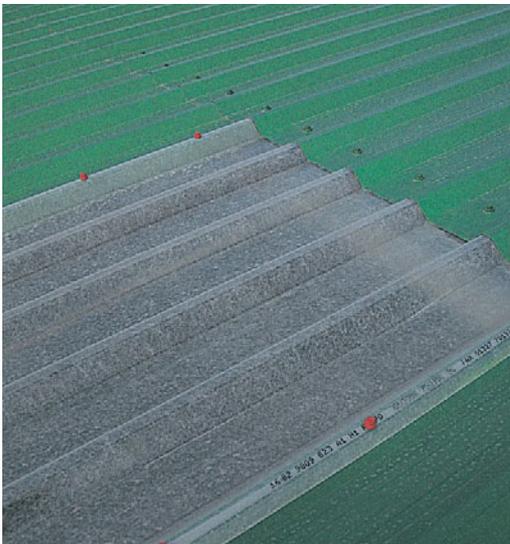
FAIRS are normally used in conjunction with composite panels and over purlin board linings or where fine dust or fumes are likely to be present. They consist of two skins of translucent sheet, the external sheet to conform to the roof sheet profile, and a separate inner liner sheet to meet the requirements imposed by the lining material. On factory manufactured units, flat or profiled liners with an upstand to form a box are bonded to the underside of the external sheet.

StepSafe and Contour FAIRS units are available to match most metal composite panel systems.

### Out of Plane Rooflights

Arch-Light GRP barrelled rooflight, full barrel rooflight system. The complete system provides for fixed and opening units for ventilation purposes.

\*Melinex is the registered trademark of Du Pont (UK) Limited.



### GRP Cladding

Full range of colour pigmented Contour GRP sheets to give opaque finish, available in standard product weights of 1.53 kg/m<sup>2</sup>, 1.83 kg/m<sup>2</sup>, 2.44 kg/m<sup>2</sup>, 3.06 kg/m<sup>2</sup> and 3.66 kg/m<sup>2</sup>. Other weights are available to special order.

For certain applications it is possible to have the protective surface film removed, for example where supplementary bonding processes are required. Please contact our sales office for further details.

### Contour Over Roofing – Contour OTT

GRP roof profiles designed to over roof existing roof surfaces where there may be a need to leave the original roof surface in place i.e. original asbestos sheeting, or where a light weight application is desirable. Sheet weight is usually either 2.44 kg/m<sup>2</sup> or 1.83 kg/m<sup>2</sup>.

### StepSafe and Contour – Profiles

Over 600 different product profiles are available. New profiles can be introduced to meet specific design requirements on a lead time as fast as 24 hours from approved drawings. All sheets are manufactured in sinusoidal, trapezoidal, and ribbed trapezoidal formats to match most fibre-cement, aluminium, and steel profiles. Special configurations and flat sheeting are also available.



Sinusoidal



Trapezoidal



Ribbed Trapezoidal

### Dimensions

Sheets are supplied in lengths to suit customer requirements. Widths conform to the metal profile, which is to be matched.

Flat sheet can also be supplied, normally in widths of up to 1500mm and in rolls of up to 30.5 metres long. Other widths can be supplied up to 1.84 metres according to specification. Consideration should always be given to handling and storage.

### Appearance

StepSafe and Contour sheets are supplied in a natural translucent finish as standard. Tinted semi-opaque and opaque colours are available on request. Coloured nylon identity thread is not used with coloured sheets.

### Surface Finish

**Melinex 389:** UV resistant film – standard finish for top sheet applications.

**Platinum finish:** Specialist finish offering the highest weathering UV protection.

**Melinex 301:** Film surface protection where high UV protection is not a prime consideration.

**Film free surface:** For applications requiring secondary bonding.

### Accessories

Standard fixings and flashing accessories are available from Company nominated stockists for both StepSafe and Contour profiled sheeting.

### Roofing and Cladding Terminology: Common terminology

**Forward and rib face:** Classified as the roof profile.

**Reverse profile:** Classified for use in wall applications.

**Reversible:** Retains its profile shape, whichever way up the product is. If special surface finishes are involved then care must be exercised to ensure the sheets are correctly installed.



**BS 1494-1 : 1964**

Specification for fixing accessories for building purposes. Fixings for sheet, roof and wall coverings. Hook bolts, nuts; drive screws; washers; self-tapping screws; roofing bolts, nuts, clips; roofing screws; sheeting clips. Materials (steel and aluminium), dimensions.

**BS 476-3 : 1975**

Fire tests on building materials and structures. External fire exposure roof test.

Designed to measure the ability of a representative section of a roof, rooflight, dome light or similar components to resist penetration by fire, when its external surface is exposed to heat radiation and flame. Also measures the extent of surface ignition.

**BS 2782-3 : Methods 320A to 320F : 1976**

Methods of testing plastics.  
Mechanical properties.  
Tensile strength, elongation and elastic modulus.

**BS 2782-10 : Method 1001 : 1977**

Methods of testing plastics.  
Glass reinforced plastics.  
Measurement of hardness by means of a Barcol impressor.

**BS 2782-5 : 1981**

Methods of testing plastics.  
Optical and colour properties, weathering.  
Determination of changes in colour and variations on properties after exposure to daylight.

**BS 4154-1 : 1985**

Corrugated plastics translucent sheets made from thermo-setting polyester resin (glass fibre reinforced). Specification for material and performance requirements.  
Gives requirements for material and performance of corrugated translucent sheets made from glass fibre reinforced thermo-setting polyester resin.

**BS 4154-2 : 1985**

Corrugated plastics translucent sheets made from thermo-setting polyester resin (glass fibre reinforced). Specification for profiles and dimensions.  
Gives dimensional requirements for a range of profiles for corrugated translucent sheets made from glass fibre reinforced thermo-setting polyester resin.

**BS 3900 : Parts D8, D9 and D10 : 1986**

Determination of colour and colour difference.

**BS 4370-10 : Part 1 : 1978 : Part 3 : 1988**

Methods of test for rigid cellular materials.

**BS 476-6 : 1989**

Fire tests on building materials and structures. Method of test for fire propagation for products. Determination of the fire test performance of products used as internal linings in buildings.

**BS 2782-4 : Method 432A : 1991**

Methods of testing plastics.  
Chemical properties.  
Determination of residual styrene monomer content in reinforced plastics based on unsaturated polyester resins.

**BS 7543 : 1992**

Guide to durability of buildings and building elements, products and components.  
Gives guidance on durability, required and predicted service life and design life of (primarily new) buildings and their components and/or parts. Also gives guidance on presenting information on the service and design life when a detailed brief is being developed.

**BS 8206-2 : 1992**

Lighting for buildings. Code of practice for daylighting.  
Includes the design of electric lighting when used in conjunction with daylight. Sunlight and skylight data are given.

**BS 5427-1 : 1996**

Code of practice for the use of profiled sheet for roof and wall cladding on buildings.

**BS 476-7 : 1997**

Fire tests on building materials and structures. Method of test to determine the classification of the surface spread of flame on products.

**BS 6399-2 : 1997**

Loading for buildings. Code of practice for wind loads.

The British Standards detailed on this page are all relevant to rooflights and APC/GRP but they are a guide only and further Standards may be applicable.

**Building Regulations – Fire**

StepSafe and Contour SAA 0, SAA 1 and SAB 3 sheeting may be used under the Building Regulations 1993 on single skin applications, for:

- a) Chequerboard rooflighting on factories and warehouses. For single skin applications the area of each light must not exceed 5m<sup>2</sup> and the distance between the lights must not be less than 3 metres if SAB 3 sheeting is to be used. For areas in excess of 5m<sup>2</sup> then SAA 1 or SAA 0 should be specified. Rooflights must be distributed evenly and must not exceed 20% of floor area.
- b) Complete or part roofs over covered ways or loading bays, providing that one long side is permanently open.
- c) Complete or part roofs over garages, conservatories, or outbuildings so long as the floor areas do not exceed 40 m<sup>2</sup>.
- d) Complete or part roofs over single storey detached stores or agriculture buildings to be used only for storage or housing livestock and which can be classed as partially exempt buildings under Class 6, schedule 2.

StepSafe and Contour SAB 3 sheet can be used as the outer skin on double skin applications. The regulations allow StepSafe and Contour SAA 1 sheeting to be used for part or complete roofs and for underlining panels on double skin applications.

Attention is drawn to the requirements of part E14 Building Regulations 1993 which requires cavity barriers to be constructed to restrict the penetration and movement of smoke or flame within any cavity on double skin applications.

**Other products manufactured by Hambleside Danelaw Limited**



**Danelaw**

GRP flashings and roof and cavity ventilation systems



**Dryseal**

Advanced polyester composite resin and semi-rigid GRP roof systems for low pitched and flat roofs. Suitable for new build and renovation work.

**Canopies**

The Company can provide complete canopy systems for domestic and commercial applications for instance as carports, bus shelters, bicycle shelters and walkway covers. Please contact our sales office for further information.

**Special Manufacture**

Hambleside Danelaw can provide a design service to help develop and produce a particular profile to meet specific customer requirements. In such cases the copyright and design of the profile remains the property of Hambleside Danelaw Limited unless a consideration is agreed in writing between the customer and the company. Please contact our sales office for further information.

**Web Site**

Full information on all the Company's products is available through our web site:

**[www.hambleside-danelaw.co.uk](http://www.hambleside-danelaw.co.uk)**

This site also contains information on the other activities of the Hambleside organisation.

**General**

All orders, including special manufacture, are subject to the Company's Standard Terms and Conditions. A full copy of our Terms and Conditions of Sale is reproduced at the end of this manual.

**Product specification**

All recommendations and information contained within this manual have been provided in good faith without guarantee or warranty. Hambleside Danelaw Limited reserves the right to change the specification of its products at any time. No liability can be accepted for any losses, claims or demands, which may arise as a result of this manual. This statement does not affect statutory rights. The Company's full terms and conditions of sale are published in full within this manual.

**Guarantee – Service Life**

Hambleside Danelaw Limited (Hambleside) hereby guarantee that:

- StepSafe APC rooflights will have a service life of thirty years.
- Contour GRP roof lights will have a service life of twenty-five years.
- Contour OTT will have a service life of twenty-five years.

StepSafe APC rooflights, Contour GRP rooflights and Contour OTT are hereinafter referred to as the “product”.

The Guarantee shall only apply to product exposed to normal industrial conditions within Northern European Union Countries. Normal industrial conditions is defined as there being no unusually high levels of chemical or other pollutants within the external or internal atmosphere of the premises where the rooflights are incorporated which would adversely affect the service life expectancy of the product.

The Service Life Guarantee is also subject to the following conditions:

- The installation of the product including storage and handling must be completed in accordance with instructions and specifications of Hambleside in respect of the product which are detailed within the relevant technical manual section.
- That the product is subject to a regular annual maintenance schedule in accordance with our written policy.
- That damage to the protective weather film of the product is notified to us within 5 working days of its discovery in order that Hambleside may inspect the product and repair using the appropriate materials to reinstate an effective weathering surface.
- That all fixings used in the installation of the product must be of stainless steel construction.
- That all fixings are regularly inspected on an annual basis and replaced if necessary if any damage or evidence of corrosion is present.
- That the sealant is applied correctly and regularly inspected on an annual basis and repaired if necessary.
- That access to the roof is restricted to authorised contractors only. Authorised contractors are defined as those persons knowledgeable of roofing construction, who are fully aware of HSE considerations in respect of roof work and who have been formally approved by the person responsible for the building management to have access to the roof.

Subject to those conditions and should the product fail for reasons other than as a result of accidental or malicious damage, the movement within the building or acts of God, then Hambleside Danelaw Limited’s liability under this Guarantee shall be:

- Within the first 10 years from date of supply to replace the product without cost.
- Between 11 and 15 years to replace the product, with 25% of the then applicable cost being charged to the customer.
- Between 16 and 20 years to replace the product with 50% of the then applicable cost being charged to the customer.
- Between 21 and 25 years to replace the product with 75% of the then applicable cost being charged to the customer.
- Between 26 and 30 years to replace the product with 85% of the then applicable cost being charged to the customer.

For StepSafe Non-fragility Guarantee please see page 2.4.

Service life is defined in BS 7543:1992 Section 1 Clause 2.4 and section 2 Clause 7, as the actual period of time during which no excessive expenditure is required on operation, maintenance, or repair of a component or construction (as recorded in use). The start of the service life is taken from when a building or part of a building is completed and hand over for occupancy has taken place. The end of the service life is taken as the point in time when the only way to deal with the unacceptable loss of performance is by replacement or excessive expenditure on operation maintenance and repair.

**Product Testing**

The Company’s full product range is regularly tested and appraised by BBA, Rapra Technology Limited and the Birmingham City Laboratories. The Company also regularly conducts in house testing to ensure roof profile product compliance with HSE guidelines for roof safety.

In addition to the normal testing programmes the Company also uses the latest computerised technology involving the use of fibre optics to determine the structural changes which occur during moments of high stress. The tests are covered in greater detail within the relevant product information section of this manual.

**Quality standards**

Hambleside Danelaw's Advanced Composite and GRP production facility is based at Inverness and is an Investor in People Company with BS EN ISO 9002 approval.



INVESTOR IN PEOPLE

The Hambleside Danelaw production facility at Inverness, Scotland is recognised for its achievements in working to the Investor in People standard.

**NBS Plus**

The Company is also a member of the RIBA NBS Plus electronic 'library' service. This facility provides a link between our Company product information to clauses within the National Building Specification. This is the most authoritative and widely used system for specifying products.



**Continuing Professional Development (CPD) Seminar Programme**

The Company is a member of both the RIBA Providers Network and the Construction CPD Certification Service.

With the continuing pace of development within the construction industry, which is facing more controls and demands than ever before, Hambleside Danelaw have introduced a series of specially designed seminar presentations. These are aimed directly at the professional architect, specifier and facility manager. The courses cover a range of topics including health and safety matters and product application. For further information, please contact

Hambleside Danelaw Limited,  
CPD Seminars,  
2-8 Bentley Way,  
Royal Oak Industrial Estate,  
Daventry, Northamptonshire,  
NN11 5QH.  
Telephone: 01327 701900

Specific web site: [www.focusoncpd.co.uk](http://www.focusoncpd.co.uk)



**Trade organisations**

Hambleside Danelaw is a member of the British Cladding Council and the Association of Rooflight Manufacturers. It is also an associate member of the National Federation of Roofing Contractors.

