



Roofing

design

Specification guide



Sarnafil®



Sarnafil – the specifier's system of choice

Whatever the scale, design or function of your building, specifying Sarnafil provides a high degree of design freedom, without compromising performance or aesthetics.

Why specify Sarnafil?

New build or refurb, public building, commercial premises or dwelling – whatever your project, Sarnafil roofing provides the optimum combination of characteristics and advantages:

Here are just a few of the reasons why Sarnafil is the roofing system of choice for so many specifiers:

- Long term performance
- Low life cycle costs
- Contribution to sustainability
- Excellent design versatility
- Superior aesthetics
- Proven peace-of-mind

In addition to this unique combination of Sarnafil advantages, we offer the specifier an unparalleled level of technical support, right from the outset.

Our Technical Advisers draw on many years experience to provide expertise when and where it's needed. They can help you to arrive at the best possible

solution, taking into account all of the parameters which may have a bearing on the success of your project:

Specification considerations

- Does the roof contribute to sustainable construction?
- Will the roof design enable compliance with the Building Regulations Part L?
- Is the roof visible from public vantage points? – and therefore are aesthetics important?
- Does the supporting structure place weight restrictions on the roof?
- How can the roof be drained most effectively? – and can it play a part in reducing pressure on mains drainage?
- What level of guarantee is required? – for example, should wind uplift calculations be covered?
- How do any additional considerations like the integration of rooflights or Health & Safety equipment affect the specification?



Maggie's Centre in Hammersmith, London provides care and support for cancer sufferers and their families. Maggie's Centres reflect the vision of their founder, Maggie Keswick Jencks, in linking well-designed buildings and space with healing.

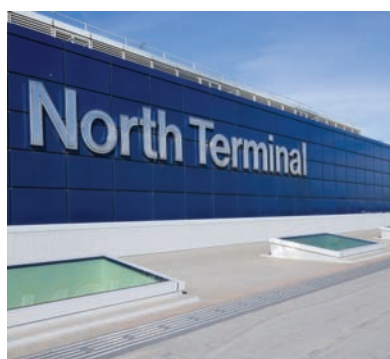
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Left: The Lantern Centre, Telford

Bottom left: Gatwick Airport North Terminal

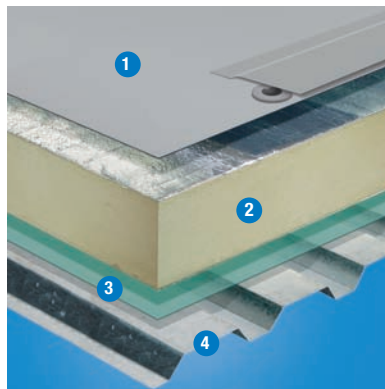
Bottom right: Driffield School, Yorkshire





Sarnafil roofing systems overview

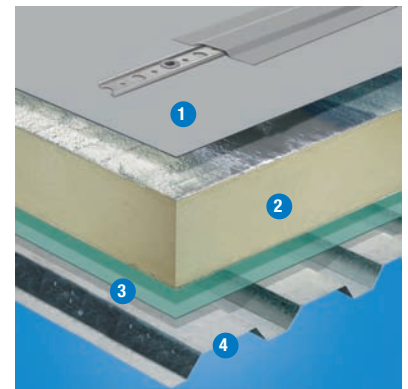
We offer a wide range of systems utilising a variety of components and fixings to cater for virtually any roof construction.



Sarnafast Mechanically Fastened System

The Sarnafast System offers speed, security and economy of installation in applications which provide regular fixing centres, typically profiled steel decks. Ideal for applications with the following criteria:

- Location subject to high winds
- Large roof area
- Fastrack installation requirement
- Impracticability of adhered attachment



Sarnabar Mechanically Fastened System

The Sarnabar System features linear fastening bars which are attached at right angles to the direction of the membrane. This versatile system is ideal for use when fixing points are dictated by existing timber joists or channel reinforcement, or for use on concrete roofs where the Sarnafast system is less practical. Ideal for applications with the following criteria:

- Location subject to very high winds
- Concrete Deck
- Irregular or bespoke design
- Impracticability of adhered or Sarnafast attachment



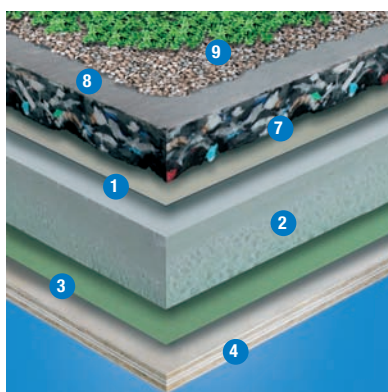
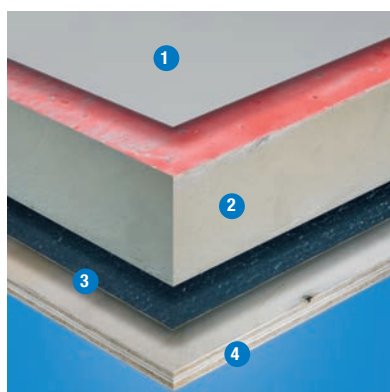


Sarnafil offers a complete range of roofing systems to meet a wide variety of different criteria.

Key to diagrams:

1. Sarnafil membrane
2. SarnaTherm insulation
3. Sarnavap vapour control layer
4. Structural deck
5. Sarnafelt or protection sheet
6. Ballast
7. AquaDrain
8. Moisture retention fleece
9. Growing medium & Planting

Main picture: The striking roof on London's Emirates Stadium features a special colour Sarnafil membrane.



Sarnafil Adhered Systems

These fall into two categories. Fully Adhered Systems, in which all elements within the roof build-up above the deck are adhered to each other; and Composite Adhered Systems in which the membrane is adhered to a thermal insulation board that is mechanically fastened to the structural deck. Suitable for applications with the following criteria:

- Superior aesthetics
- Reduced noise during installation
- Impracticability of mechanical fastening
- High humidity in building below
- Complex roof shapes

Sarnafil Ballasted & SarnaVert Green Roof Systems

This broad range of roofing solutions is characterised by an additional top layer of stone ballast, pavers or a planting medium which secures the loose-laid waterproofing membrane. Ballasted/green roofs can be of either warm roof construction (shown above), or inverted construction with moisture-resistant insulation.

These Systems are specified for a variety of reasons, from fire requirements and acoustics, to amenity provision, aesthetics, drainage and creation of wildlife habitats.

Sarnafil Solar Roof Systems

We can provide solutions utilising polycrystalline and monocrystalline PV arrays, as well as bifacial solar PV systems. In addition to our standard roof waterproofing membranes, we also offer a highly reflective white membrane which not only improves the interior climate of the building through reduced surface temperatures, but also makes a substantial contribution to the improved performance of reflective rooftop solar systems. To complete the system, we can supply various mounting systems that can be incorporated into the waterproofing whilst maintaining the Sarnafil Guarantee.



Aesthetics – realise your vision with Sarnafil

Flat, pitched, domed, vaulted...new build or refurbishment... whatever the roof type, Sarnafil roofing offers huge scope for the specifier to create a roof with aesthetic appeal to match its high performance.

Versatile performance

In roofing applications where aesthetics are important, Sarnafil roofing systems offer the specifier almost unlimited creative freedom. They can be applied to virtually any roof shape or construction and are equally suitable for contemporary or traditional designs.

Compared to many other flat roofing materials or systems, Sarnafil provides a clean, almost seamless appearance.

Sarnafil membranes

Our roofing membranes come in a range of colours, many of which have been carefully formulated to give the appearance of traditional roofing materials like lead and copper. Sarnafil lead grey membrane is used extensively in the refurbishment of roofs on historic buildings on which the problem of lead theft has become a major issue in recent years.

The new Sarnafil highly reflective white membrane is used in solar installations to increase reflectivity and therefore solar efficiency.

Aesthetic profiles

To assist the designer in the creation of a dramatic roof design, or to imitate the appearance of traditional metal roofing systems with reduced costs and easier installation techniques, Sika produces two decorative profiles that are hot air welded to the Sarnafil membrane.

Decor Profile reproduces the appearance of traditional metal standing seam roofing systems. It is available as standard in Lead Grey, Copper Patina, Copper Brown and Light Grey.

The larger **Batten Profile** simulates the appearance of a traditional lead batten roll and is therefore available in lead grey only. Both profiles are suitable for use on adhered projects of any design, shape and/or pitch.



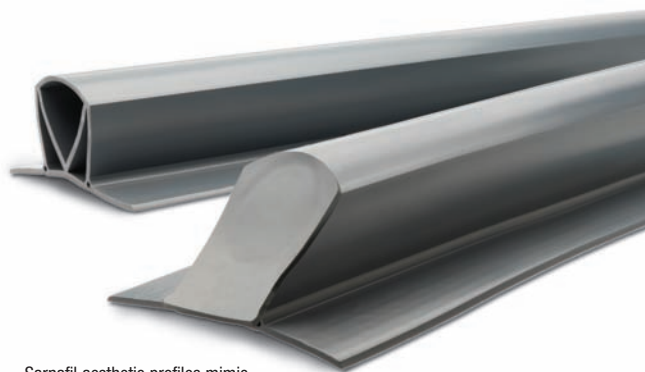


The Sarnafil fully adhered system facilitated the unusual waveform structure of the roof at the Robin House Childrens' Hospice in Balloch, Scotland.

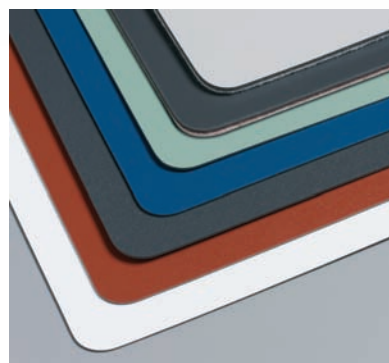
Architect: Gareth Hoskins Architects
Roofing Contractor: Miller Roofing Ltd
Client: Childrens' Hospice Association Scotland



ITM Communications, Blackpool



Sarnafil aesthetic profiles mimic the appearance of traditional metal roofing systems.



Sarnafil membranes are available in a range of colours

Sarnafil®



Sustainable, high performance roofing

Sarnafil roofing provides the specifier with solutions that combine sustainability and environmental performance, with other desirable attributes like versatility, aesthetics and long term performance.

Advanced polymer technology increases membrane life

The first Sarnafil roofs were installed more than forty years ago, with early examples still providing reliable protection today. Since that time independent testing has repeatedly confirmed our membrane formulation as the best in the industry. Sarnafil membranes have an independent BBA certified life expectancy 'in excess of forty years'*.

Lower whole life costs

Durability and low maintenance are two key factors in any whole life cost assessment. Sarnafil membranes consistently demonstrate a low whole life cost when calculated using the Whole Life Cost methodology.

Thermal performance

In addition to meeting demands for lower 'U' Values, Building Regulations Part L (England and Wales) and Section 6 of the SBSA Technical Handbooks (Scotland) require designers to consider both air leakage and the thermal transmittance of penetrating elements (thermal bridging). This integrated approach to better management and conservation of energy is

reflected in the Sarnafil 'system' approach to roofing. A wide range of SarnaTherm insulation options are available to suit virtually any application or roof construction.

Sarnafil's Accredited Details, thermally modelled by the BRE, are available to download from our website.

ISO 14001 accredited manufacture

All Sarnafil roofing membranes are manufactured in our production facilities in Switzerland, which have been ISO 14001 accredited since 2002.

Excellent environmental ratings

An additional benefit of manufacturing in Switzerland is its energy production, 85% of which harnesses the forces of nature through hydropower. This significantly reduces greenhouse gas emissions (carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O) and chlorofluorocarbons (CFCs) during manufacture, giving Sarnafil membranes an outstanding Ecopoint rating. In the BRE's 'Green Guide' Sarnafil roofing systems can achieve an A+ rating and they have also made significant contributions to the 'excellent' BREEAM ratings of a number

* For full details of Sarnafil's BBA Certification, please visit www.sarnafil.co.uk





Sarnafil roofing was specified for the roof on this innovative conversion of a Suffolk Martello Tower. This historic building is now a highly individual private home. The roof has been designed to withstand high wind loadings resulting from the building's exposed coastal position.

Architect: Piercy Conner
Roofing Contractor: Cambridge Polymer Roofing Ltd
Client: Duncan Jackson

of UK buildings.

Acoustic performance

The flexibility of on-site construction enables Sarnafil roofing systems to accommodate most acoustic requirements for a building, for both internal and external sources.

Fire performance

Sarnafil membranes are self extinguishing on all common insulants and meet the Building Regulations requirements for external fire spread resistance, enabling the specifier to meet the client's insurance demands without compromising on aesthetics, acoustics or installed cost requirements. Many of the Sarnafil systems are also LPCB and Factory Mutual tested and approved.

Resistance to wind uplift

With Sarnafil, the performance of your roof against wind uplift is guaranteed. As part of the specification process we calculate the roof wind loading using bespoke software to provide calculations that are covered by our Design Insurance.



The Bodleian Book Storage Facility, Swindon



Otterburn Brewery, Honiton, Devon



More than a roof – extending roof function

Designing with Sarnafil opens up possibilities to explore unusual designs or to extend the function of your roof, to provide amenities for building users or to further improve the system's environmental performance.

Look beyond the obvious

New build or refurbishment, large or small... whatever the project, Sarnafil roofing offers huge scope for the specifier to create a roof that exceeds expectations, including multi-function roofs.

Green roofing and roof terraces

The use of plants on roofs can be dated back to the Hanging Gardens of Babylon, a typical example of this type of roofing being used for amenity and aesthetic reasons. More recently, green roofs have been used for both aesthetic and environmental reasons, with the green roof replacing the green 'footprint' lost by the erection of the building.

Today, the significant contributions of the green roof towards sustainable drainage systems are increasingly being recognised, as well as their role in helping to support biodiversity in urban environments.

Sarnafil's SarnaVert system provides options for biodiverse, extensive and intensive green roofs and enables the specification of hybrid systems to suit local environmental and design requirements.

In addition to its SarnaVert system, Sarnafil also offers solutions for creating paved roof terraces as a further amenity for building occupants, as well as roof access walkways and other safety features.

Solar roofing

Sika offers a range of options for the installation of solar PV and solar thermal arrays, allowing building owners to benefit from low-cost renewable energy as well as revenue from the Government's Feed In Tariffs.

The system includes support and fixing systems for panels, special reflective roof membranes and a tried and tested fixing process utilising direct welding to Sarnafil membranes.

Innovative solar roofing solutions are continually researched at the Sika Solar Park in Stuttgart, Germany.





Solar roofing research is undertaken at the Sika Solar Centre in Stuttgart, Germany, where there are at least ten different types of array at any one time.



A complete, integrated roof system

The Sarnafil system includes a wide range of integrated products designed to meet specific requirements from efficient drainage to the provision of natural light.

Roof system components

We offer a complete system of compatible roofing components to meet virtually any specification requirement. Membranes, thermal insulants, vapour control layers, flashings, sealants and fixing systems are all part of our 'holistic' approach to roofing. This ensures effective integration of individual components and provides the basis for our comprehensive roofing guarantees.

Rooflights

We offer a complete range of SarnaLite rooflights which are fully compatible with Sarnafil systems and meet the 'U' value requirements of the Building Regulations Part L.

SarnaLite rooflights can provide a combination of natural light, ventilation and smoke evacuation within a building - all with the peace-of-mind that comes with a Sarnafil comprehensive guarantee. Whether for a refurbishment or new build project, with a requirement for individual modular units or continuous barrel vaults, the SarnaLite range of rooflights provides either standard dimensioned or custom made solutions.

Rainwater outlets

Compatible sealing of rainwater outlets to the roof membrane is critical to the long-term performance of the roof. As Sarnafil rainwater outlets are hot air welded directly to the membrane, there are no clamp rings or mastic seals to worry about.

A further requirement of the Building Regulations is the reduction of thermal bridges. To help meet this requirement, Sarnafil has introduced the Double L rainwater outlet, which is fully insulated and sealable to the vapour control layer. An additional benefit is its high drainage capacity, which can reduce outlet quantities. To help specifiers to take advantage of this benefit, Sarnafil offers a drainage calculation service covered by our Design Insurance. Details of the flow rates of Sarnafil rainwater outlets can be found on the Sarnafil website, at www.sarnafil.co.uk.

Other Sarnafil products

Our product range encompasses everything to complete your roof design, including lightning protection clips, safety walkways and fall arrest systems. For further information, please call 01603 709360, or visit www.sarnafil.co.uk.





Sarnafil roofing has played a part in the restoration of one of Scotland's finest buildings, Aberdeen's iconic Marischal College, now occupied by Aberdeen City Council

Architect: Holmes Partnership
Main Contractor: Sir Robert McAlpine
Client: Aberdeen City Council



Sarnafil Constant Force post Fall arrest system and Sarnatred anti-slip walkways



Sarnafil 'Double L' outlet



Thermally-efficient SarnaLite rooflights



Choose Sarnafil roofing for peace-of-mind

With performance that's been proven over four decades, Sarnafil is the trusted roofing solution for buildings of all sizes and functions.

Welcome to our world

Sarnafil was an early pioneer of single ply waterproofing membranes in the 1960's, at the company's headquarters in Switzerland. Since then, the performance and longevity of Sarnafil roofs has been demonstrated in millions of successful applications worldwide, in every conceivable climate. Today, the company continues to set new standards for quality and performance in roofing.

Integration and control, from concept to completion

The Sarnafil system approach starts with design and specification support delivered via a nationwide team of Technical Advisers, supported by in-house sales support and technical resources. Through these resources Sarnafil takes responsibility for many aspects of the design, including wind uplift calculations. Installation is carried out only by Sarnafil trained specialist subcontractors, with site work inspected by the Applications Department – the team that is also responsible for training the installers.

This tightly controlled quality management system ensures that standards are maintained and specifications are adhered to. The result is a range of roofing systems which offer probably the most comprehensive guarantees of their kind.

Sarnafil means peace of mind

The first Sarnafil roofs were installed more than 40 years ago, and many of these early installations are still providing reliable protection today. Within the single ply roofing industry Sarnafil sets the quality and longevity standards by which others are judged, ensuring your roof remains as watertight as our guarantee.

Some of Britain's best known buildings feature Sarnafil roofs, including The Emirates Stadium, London; St Davids Hotel, Cardiff and The Arndale Centre, Manchester amongst many others.





ICC, London ExCel, is one of Europe's largest auditoriums. The adjoining ExCel building also has a Sarnafil roof.

Main Contractor: Sir Robert McAlpine
Envelope Contractor: Hathaway



Whether new build or refurbishment – some of Britain's landmark buildings feature Sarnafil roofs.

Top left: The National Gallery of Scotland, Edinburgh

Top right: Air Traffic Control Tower, Edinburgh

Bottom left: St Davids Hotel, Cardiff

Bottom right: St Pancras Station, London



Draw on our knowledge and expertise

We offer a comprehensive range of information and support resources for architects, contractors and other specifiers, including:

- Experienced Technical Advisers, who can help you to develop specifications
- Comprehensive technical literature
- Scaleable, layered CAD detail drawings thermally modelled by the BRE available to download free online at **www.sarnafil.co.uk**

We are the complete single ply roofing specialist for:

- Surveys and site inspections
- Specification and design support
- New installations
- Refurbishment
- Solar roofing solutions
- CPD Seminars
- Installer training
- ISO 9000:2000 quality management system
- ISO 14001 environmental management system

The Single Ply Roofing Association (SPRA) represents membrane manufacturers, associated component manufacturers and specialist sub contractors and aims, through a quality assured partnership, to ensure the delivery of best value single ply roofing systems.

By specifying products and specialist installation by SPRA Manufacturer, Associate and Contractor members you can be assured that all parties meet strict quality criteria. Compliance with these criteria and with the Code of Conduct is assessed at application, by annual audit and by random spot checks.

For further information, and to obtain copies of the SPRA Design Guide and other documents, go to www.spra.co.uk or call 0115 914 4445.



For further information about Sarnafil products and our range of services, please call us on 01603 709360 or visit www.sarnafil.co.uk.

To the best of our knowledge all information contained in this brochure was correct at the time of issue. Printed on paper from sustainable forests.



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