



## PROTAN EXPOSED ROOF SYSTEMS

Single Ply Roofing Systems for Your Home

## Protan Solutions

Protan is Scandinavia's largest producer of thermoplastic roofing and is at the forefront of membrane technology. Protan (UK) Ltd offers a range of durable membranes which offer flexibility of design required for modern roofing systems. More than 70 million square metres of Protan roofing membranes have been installed throughout Europe since 1971 and our oldest roofs continue to be fully functional today.

Protan's exposed roof systems incorporate new and innovative methods of fixing, time and labour saving devices, and improved wind uplift resistance with an increased focus on pre-fabrication off-site.

Protan's exposed roof systems include:

- Standard Overlap System
- Secret-Fix System
- Vacuum Roofing System
- Pre-Fabricated Sheets System
- Adhered System



## Protan Exposed Roof Systems

### Pre-fabrication Capabilities

Protan has four manufacturing facilities throughout Europe which can pre-fabricate membrane off-site ensuring waste is kept to a minimum and installation time on-site is reduced. Early consultation ensures optimal design using **PROPLAN** (page 4) providing outstanding

technical service to the construction market.

### Environmentally Considerate

Protan prides itself on delivering new and innovative solutions that are environmentally friendly. Protan's manufacturing systems are ISO14001 certified and are

continuously improved to enhance environmental performance.

In addition, Protan SE1.2mm membrane has been the subject of an Environmental Product Declaration which is available on request.

## When Designing A Roof

Unprotected roofs are exposed to all of nature's elements: sun, wind, rain, temperature variations and also pollution. Provision should be made for:

- Weather resistance
- Thermal insulation
- Sound insulation
- Strength and stability
- Fire resistance
- Good aesthetics

Flat roofs have the advantage that irregular plan forms can be accommodated, giving benefits over pitched roofs where the geometry of the roof often dictates the form of the building.

Planning restrictions, particularly in urban environments require maximum use of available building height. A flat roof also enables the building to be extended vertically more easily and gives easier access for roof maintenance and arrangement of roof mounted plant and equipment. Protan roofing systems are equally suitable for sloping or curved roofs including vertical applications and in both cold and warm roof constructions.



## Protan Membranes

All Protan's membranes are BBA, NBI and IAB certified and approved, with a proven durability in excess of 30 years. Protan is also a full member of SPRA; demonstrating the company's commitment to the improvement of single ply roofing materials and their installation. Single ply PVC membrane benefits from an A+ BREEAM rating when used within certain roofing systems. For further information please contact the Technical Services department or visit [www.thegreenguide.org.uk](http://www.thegreenguide.org.uk)



All Protan membranes are designed with an anti-slip texture to the upper surface to reduce the likelihood of slipping whilst walking on the membrane.

**Protan SE Membrane** This membrane is used in the Standard Overlap, Secret-Fix, Vacuum and Pre-Fabricated Sheet systems. Only SE membrane can be used for mechanically fixed applications as the integral polyester knit gives the membrane the tensile strength required. SE membrane is available in thicknesses of 1.2, 1.6 and 1.8mm and widths of 1, 2 and 3.96m.

**Protan EX-A Membrane** This membrane is used in the Adhered System and consists of a fleece backed 1.5mm membrane reinforced with knitted polyester. The membrane has been developed for adhering to a variety of substrates on both new build and refurbishment projects.



*Protan membrane is available in a variety of RAL and bespoke colours.*



## PROTAN Technical Support

Protan (UK) Ltd provides a complete service from conception to completion. The earlier we are involved in the project, the more assistance and advice we can offer on design and the optimum roofing solution. This service is delivered by our highly experienced in-house Technical Services department.

Protan also offers an NBS specification writing service to assist specifiers.

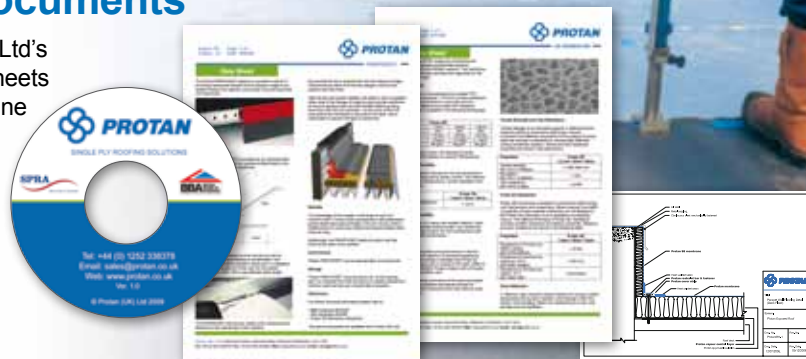
Protan's technical service includes on-going site inspections to ensure our membrane is installed to Protan's stringent guidelines by one of our Partner Contractors. All of our Partner Contractors are trained to the highest standards in our training facility and by ongoing assessment to ensure our completed projects remain watertight for the length of the warranty and beyond.

Protan provides a full 15 year warranty for all new build exposed roof systems, which can include the complete roof build-up.

## Online Technical Documents

You can download all of Protan (UK) Ltd's technical documents including datasheets and CAD drawings by registering online at [www.protan.co.uk](http://www.protan.co.uk)

**Wind load design:** Wind load calculations, based upon information provided by the specifier, are carried out by our Technical Services department.



*All Protan's technical documents are available on CD.*

## ProPlan

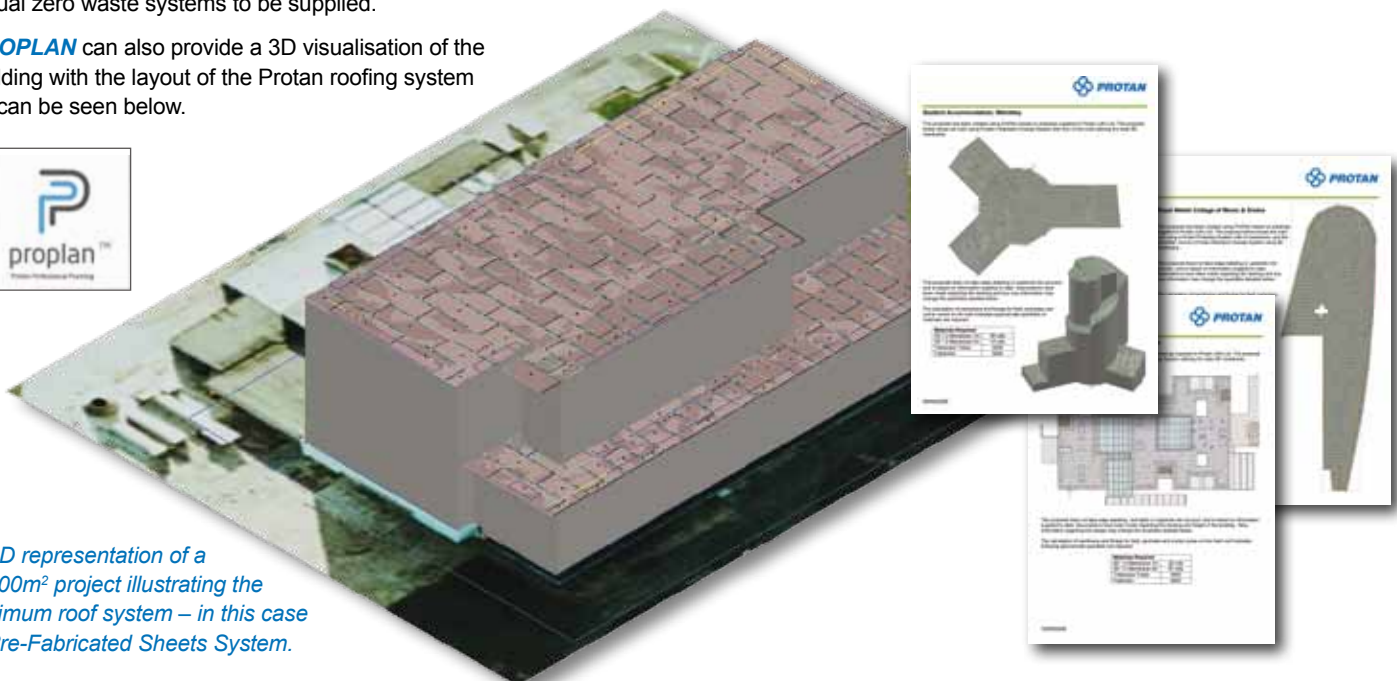
**PROPLAN** is a unique piece of software developed by Protan to work within AutoCAD Architecture. The software enables the membrane layout to be specified to the exact roll and fixing. It also allows easy comparison of different Protan roofing systems, whether it is Standard Overlap using 1m or 2m sheets, or 3.96m pre-fabricated sheets made to specific lengths.

Architectural CAD drawings can be imported directly into **PROPLAN** which then produces the optimum design for the different Protan roofing systems.

**PROPLAN** can also schedule all of the materials required for the roof enabling virtual zero waste systems to be supplied.

**PROPLAN** can also provide a 3D visualisation of the building with the layout of the Protan roofing system as can be seen below.

*“ProPlan enables virtual zero waste systems to be supplied, leading to reduced costs and site waste”*



*A 3D representation of a 4,500m<sup>2</sup> project illustrating the optimum roof system – in this case a Pre-Fabricated Sheets System.*



## Standard Overlap System

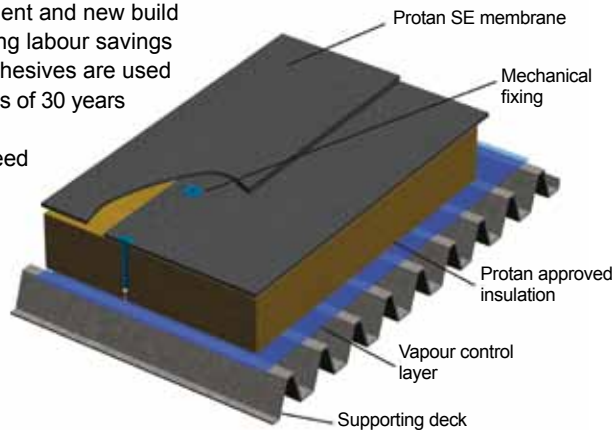
In the Standard Overlap System, the membrane is fixed to the substrate within its sidelap and overlapped by the adjacent sheet. Mechanical fixing and hot-air welding along the laps guarantees a homogenous seam which is of greater strength than the membrane itself. Protan SE membrane can be supplied in both 1m and 2m wide sheets. The use of 2m wide sheets in the field area provides significant labour and time savings for the contractor.

Protan's EX membrane is a fleece backed version of SE membrane to be used with the Standard Overlap System for refurbishment or cold roof applications.

Protan's Standard Overlap System is also FM Approved when installed to FM guidelines. Please contact Protan (UK) Ltd for further information.

### Benefits

- Can be installed on a variety of roof decks including steel, timber and concrete
- Applicable for refurbishment and new build
- Quick installation providing labour savings
- Fully recyclable as no adhesives are used
- Proven durability in excess of 30 years
- Use of 2m wide sheets increases installation speed
- Pre-fabrication possible



### Telescopic Tubes

Protan's telescopic tube washers and fastener combination provide a thermal break and practically eliminates cold bridging. The tubes also prevent the fasteners from penetrating the membrane under foot traffic and ensure more positive fixing.





## Secret-Fix System

Protan has developed a unique system with factory engineered backing strips, which enable non-penetrating mechanical attachment of the membrane.

Protan's unique Secret-Fix System may be specified on projects where uplift and/or timescales are a significant factor. The system has been developed with high strength backing strips which are factory welded to the underside of the membrane. The system provides great resistance to wind uplift because fixings are distributed over the entire membrane area.

Using the Secret-Fix System is often cost effective, because it requires less welding and subsequently reduces installation time.

Secret-Fix membrane can be manufactured individually to the customers needs, attaching the Secret-Fix strips at intervals that are ideally suited to the roof and environment.

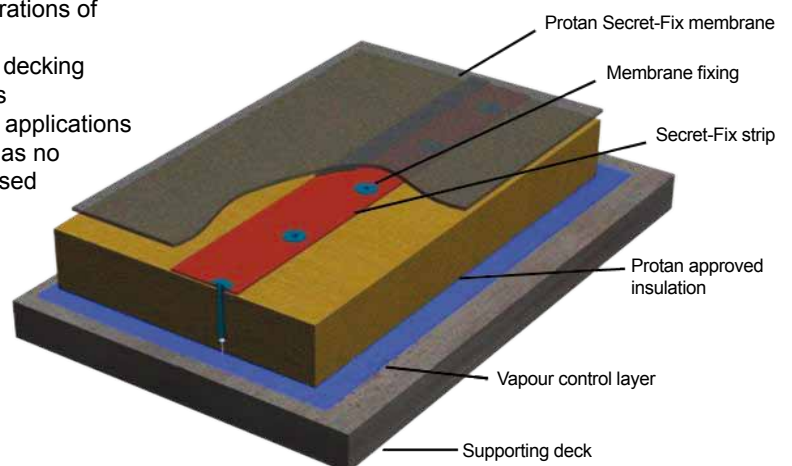
### Benefits

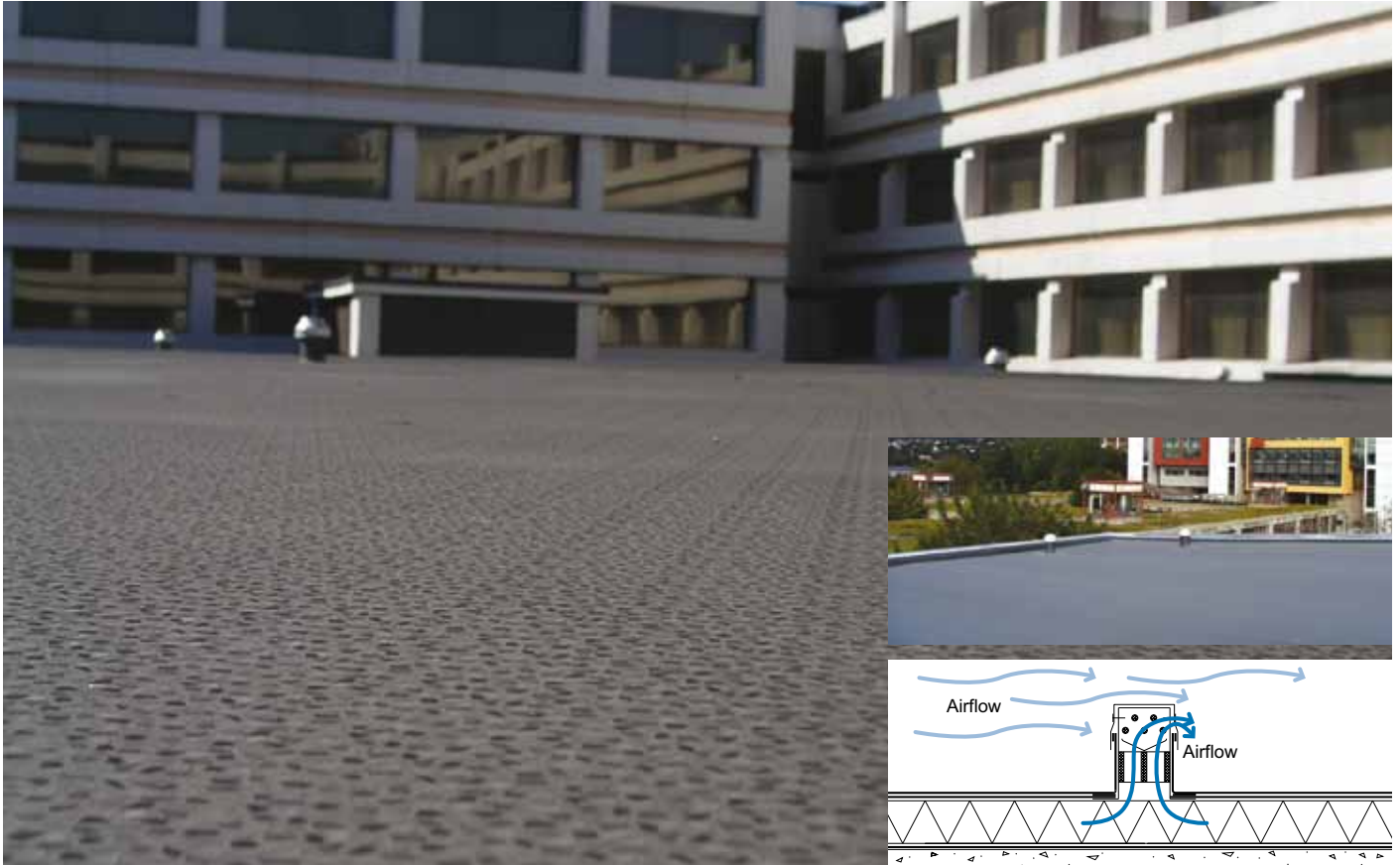
- High wind uplift resistance
- Optimises fixing density
- Fast installation
- Can be combined with Standard Overlap to offer maximum design flexibility
- No or few penetrations of the membrane
- Ideal for profiled decking with wide crowns
- Ideal for vertical applications
- Fully recyclable as no adhesives are used



***“Ideal for projects in high wind areas or when fast track installation is required”***

Protan's Secret-Fix System is also FM Approved when installed to FM guidelines. Please contact Protan (UK) Ltd for further information.





## Vacuum Roofing System

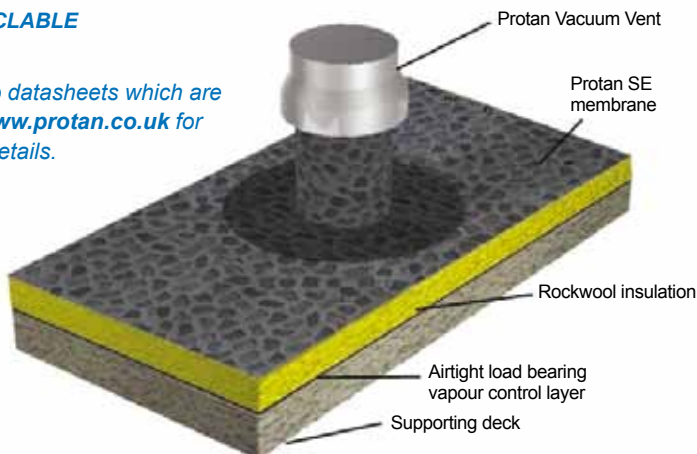
Protan's unique vacuum roofing system, works with the forces of nature to provide durability and protection even in the most extreme conditions. Since the installation of the first Norwegian vacuum roof in 1985, the system has been adopted for over 2 million square metres of roofs throughout Europe.

The vacuum roofing system works by loose laying Protan SE membrane, only fixing around the perimeter and penetrations. Strategically placed vents create negative pressure within the system fixing the membrane to the substrate. The stronger the wind forces, the better the system works. The system is suitable for new and refurbishment projects, especially those with structural concrete or concrete slab decks.

A key component is an airtight load bearing vapour control layer. The system introduces controlled airflow beneath the membrane through specifically designed air vents, therefore the substrate must be airtight.



Please refer to datasheets which are available at [www.protan.co.uk](http://www.protan.co.uk) for full technical details.



## Harnessing the force of nature

### Sustainable and energy efficient

- Fully recyclable as no adhesives are used
- The airtight fit helps achieve and can exceed Part L regulations
- The supporting structures and vapour control layer are not penetrated by fasteners

### Cost-effective

- No fasteners ensure rapid installation with reduced labour time
- Cost saving is possible depending upon the geometry of the building





## Pre-fabricated Sheets System

Protan Pre-Fabricated Sheets are ideal for large simple roof designs that would traditionally require the use of the one metre Standard Overlap System. They enable large areas of Protan membrane to be installed rapidly by reducing the number of welding operations.

Protan Pre-Fabricated Sheets are manufactured off-site with Secret-Fix strips factory welded using high frequency welding technologies to the underside at regular centres.

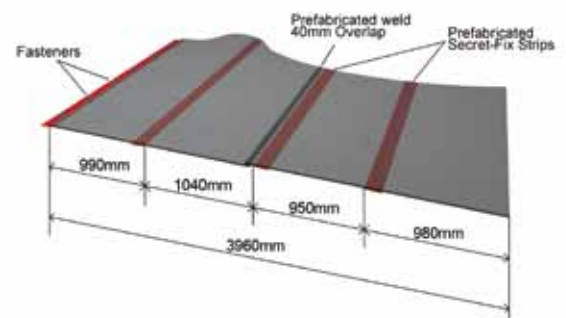
The Secret-Fix strips are normally placed at one metre intervals to simulate a one metre Standard Overlap System, however the distance between the strips can be reduced to combat expected high wind uplift. Pre-Fabricated Sheets when used to simulate a one metre Standard Overlap System, significantly reduce the amount of membrane required as the system only requires the sheets to be overlapped and welded twice per four metre sheet as opposed to five overlapped welds for the equivalent area of a one metre system.

### Benefits

- Significant membrane saving
- Labour saving system
- Fast track installation
- No penetration in the membrane
- No adhesives required
- Bespoke membrane sizes to suit



Please refer to datasheets which are available at [www.protan.co.uk](http://www.protan.co.uk) for full technical details.



### Pre-Fabricated Sheets Video



Protan has produced a 'Pre-Fabricated Sheets' video and an animation, detailing the system and its inherent benefits and applications, as well as a guide to its installation.

Please visit [www.protan.co.uk](http://www.protan.co.uk) to view both these files.



## Adhered System

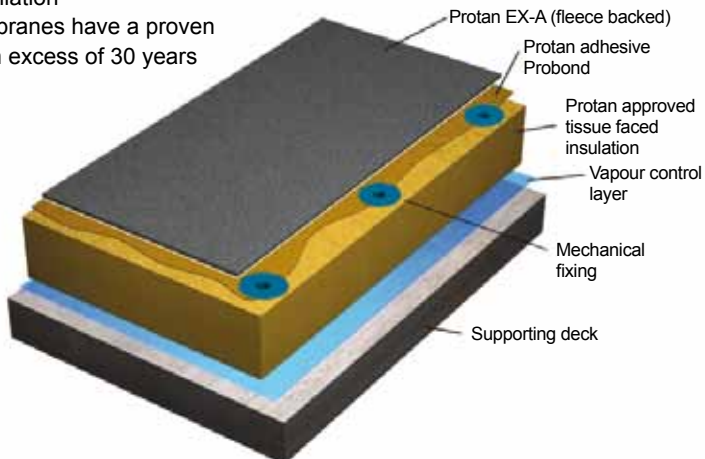
For the Adhered System, Protan has developed the Protan EX-A fleece backed membrane.

The Protan Adhered System is fully bonded to the substrate or insulation. It is the only Protan system to use adhesives.

Protan's Adhered System utilises the EX-A membrane for the majority of the application with G membrane used for detailing. This makes it ideal for buildings with high levels of humidity (i.e. swimming pools) or where mechanical attachment is difficult.

### Benefits

- Can avoid penetration of the roof deck and vapour control layer
- Can be installed on a variety of substrates
- Applicable for refurbishment and new build
- Quick installation
- EX-A membranes have a proven durability in excess of 30 years



*Protan's Adhered System can avoid penetration of the roof deck and vapour control layer*





## Details & Accessories

A full range of roofing fittings, accessories and pre-fabricated components are used to provide complete and reliable roofing systems. Each element has been carefully designed and manufactured to give durable, watertight performance and visual appeal.

The pre-fabrication of components ensures quick and cost effective installation providing savings to the contractor.

### Omega Profile

One of the most popular accessories that Protan offers is the Protan Omega Profile. This architectural detail is welded to the top of the membrane and can be used to either add definition and styling to the roof; or it can be very effectively used to emulate a standing seam or metal roof.

### POCKET

The Protan pocket detail is an excellent method of providing mechanical restraint at the change of angle to an upstand without the need for cover strips or puncturing of the roof membrane.





**CASE STUDY:**  
**Imperial Wharf**

**Customer:** St George Plc  
**Size:** 1,000m<sup>2</sup>  
**System Used:** Standard Overlap SE 1.2

Imperial Wharf is one of London's premier riverside addresses. Protan SE 1.2 was selected as the best roofing material. Its hot air-welded properties give it a visually seamless finish complementing the sleek design of the project. The architect also chose to use Protan Omega Profiles across the roofs to add another architectural dimension and give the roofs more character.

**CASE STUDY:**  
**The Elysian**

**Customer:** O'Flynn Construction  
**Size:** 3,500m<sup>2</sup>  
**Systems Used:** Standard Overlap SE 1.2, Adhered GX180

O'Flynn Construction wanted to build a premier complex of both quality accommodation and unparalleled retail opportunities.

Protan's distribution partner Colas supplied SE and GX membrane for this project in both dark grey and red. Protan membrane can be installed onto vertical and horizontal surfaces making it the perfect choice for providing the continuity required when waterproofing the flat roofs and upstands, subtly matching the colour scheme of the buildings whilst ensuring superior waterproofing for the roof and its various details.

The complex went on to win the much coveted 'Irish Residential Property of the Year'.



**Also available from Protan...**

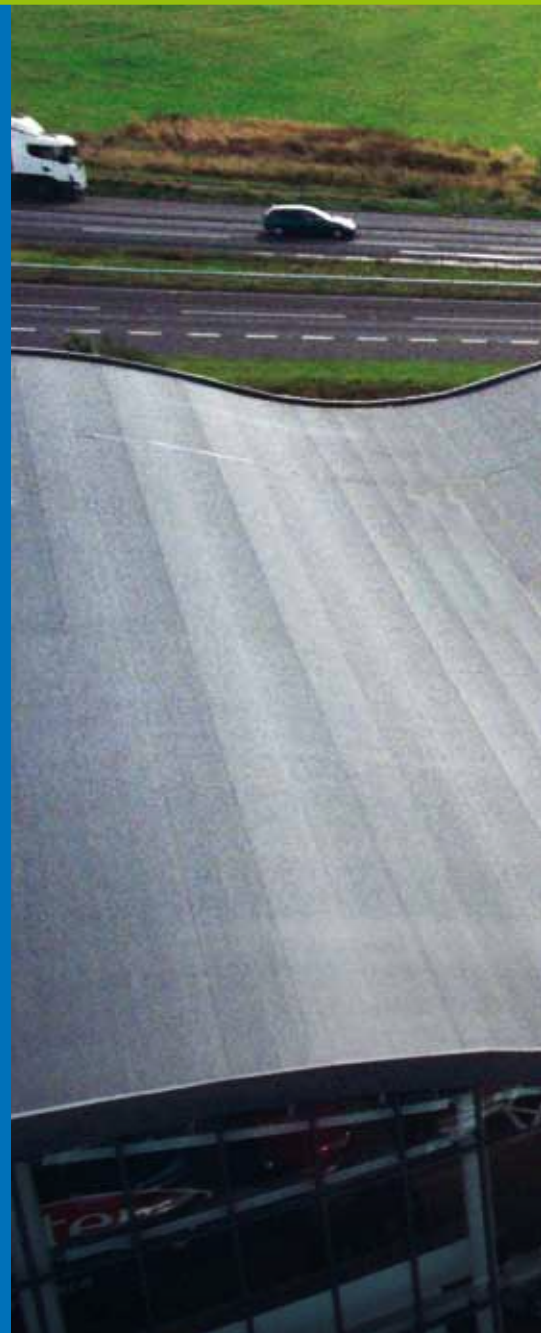


**CASE STUDY: PROTECTED SYSTEM**  
**East Cheshire Hospice**

**Customer:** East Cheshire NHS Trust  
**Size:** 350m<sup>2</sup>  
**System Used:** Extensive Roof System

Protan specified a Extensive Roof System as the best roofing solution for the customer. The roof meets the customers requirement for good thermal and acoustic insulation as well as being almost self-sufficient. Green roofs also shelter the waterproofing membrane from UV rays, pollution and wind, improving their longevity, therefore satisfying the customers need for a roof with a long lifespan.

*For further information on Protan's Protected Systems or more case studies please refer to [www.protan.co.uk](http://www.protan.co.uk)*



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