



CASE STUDIES





Protan is a Nordic industry group that is a world-leader in membrane technology. We develop and produce membranes, roof systems, technical textiles and ventilation systems.

Our main office is located in Drammen. We have over 700 employees in 15 countries, and a total turnover of over NOK 1.2 billion.

Our largest business area is roofs and membranes. We have also specialized in tailor-made ventilation systems for mines and tunnels. In addition, we manufacture PVC storage and industry halls, flood protection, solutions for the farm fishing industry, oil bags, oil booms etc. These products are exported all over the world. Protan is also one of the biggest roofing entrepreneurs in the Nordic region.

With over 70 years' experience, Protan has developed innovative solutions that are adapted to a global market and demanding climates. We work closely with our customers and suppliers to stay at the forefront of technology, the environment and competence. This gives us unique experience and insight that means that we can deliver flexible, tailor-made solutions adapted to local needs - if the customer needs waterproof environmental roofing, demanding ventilation or other technical protection.

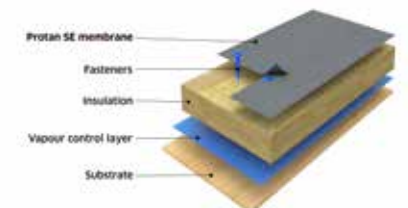


Protan Roof Systems

STANDARD OVERLAP

The Protan Standard Overlap system is a mechanically-fixed roof system, typically installed on profiled metal or wood-based panel roof decks.

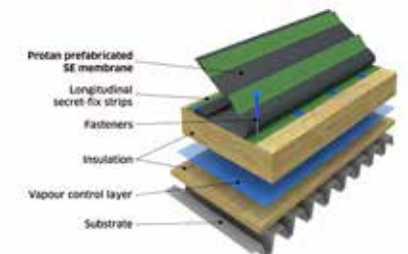
As no adhesives or solvents are used, all materials and components of the Protan Standard Overlap system are fully recyclable.



PREFABRICATED

The Protan Prefabricated system is mechanically-fixed roof system in which Protan's unique, prefabricated rolls of Protan G or SE membrane are installed.

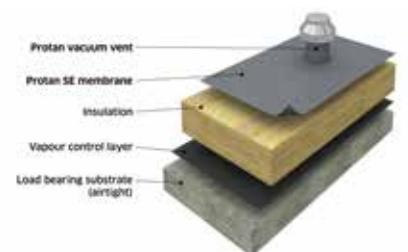
Prefabricated, 3.96m-wide rolls of membrane can be manufactured to any length and can cut on-site hot air welding by up to 70%.



VACUUM

The Protan Vacuum system requires no mechanical restraint (except for around the perimeter and penetrations) or adhesives and is ideal for air-tight roof decks.

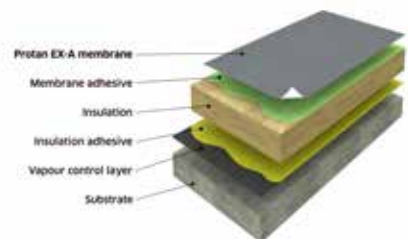
When combined with prefabricated membranes, the Protan Vacuum system can massively reduce labour and material costs.



ADHERED

The Protan Adhered system is ideal for concrete roof decks and buildings with high humidity, or chemically-active environments – swimming pools, for example.

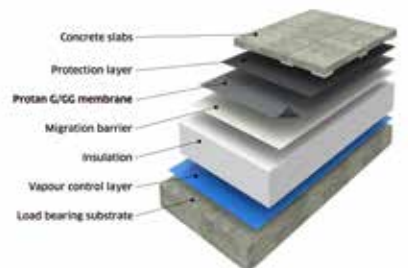
Wind uplift pressures must be taken into account when specifying a Protan Adhered system, especially when working on tall buildings, or those in exposed locations.



PROTECTED

The Protan Protected system is designed for installation on roofs that require regular access and roofs that are used as recreational areas.

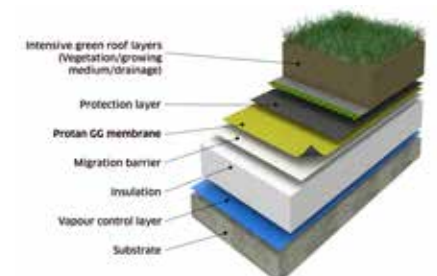
If the dry weight of the ballast is 80kg/m² or more, the Protan G membrane can be loose-laid, except for around the perimeter and penetrations.



GREEN

The Protan Green roof system can accommodate bio-diverse, extensive and intensive planting schemes, which add an environmentally-friendly aesthetic to a building.

Green roofs can assist sustainable urban drainage systems and provide an ideal habitat for local flora and fauna.





PROTAN STANDARD OVERLAP SYSTEM Hollowford Centre, Peak District

Main contractor

Protan partner roofing contractor

Protan membrane installed

Protan SE 1.2mm membrane (290m²)

The Lindley Educational Trust delivers outdoor activity programmes for young people under the age of 25. Growing demand for its resources at its 40+ years old Hollowford Centre has prompted the Trust to invest in an upgrade and extension to the main building that – even against the backdrop of the Peak District scenery – delivers a ‘wow factor’ for the 8000+ visitors each year.

The front façade has been extended and a corridor converted and remodelled into a modern reception area featuring a new, curving flat roof and floor to ceiling glazing. FCB Building and Roofing Ltd (FCB) turned to leading single-ply membrane manufacturer, Protan.

The new roof over both the entrance canopy and the new extension, linked with a gutter, comprises 18mm plywood decking; polyethylene vapour control layer; foil-faced PIR insulation; and is waterproofed by Protan SE 1.2mm PVC single-ply membrane. The Protan membrane was mechanically fixed to resist high wind uplift pressures caused by the site’s exposed location.

“We needed more space, as more people than ever are accessing our provision and the old building was in need of repair,” explained Lindley Educational Trust’s Head of Centres, Mark Williams. “We wanted to create a ‘wow factor’, a good first impression. The modern image and curved edge of the new roof look great!”

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Mark Williams
Head of Centres, Lindley Educational Trust



PROTAN STANDARD OVERLAP SYSTEM Redfields Garden Centre, Fleet

Protan partner roofing contractor
Protan membrane installed

Protan SE 1.6mm membrane (300m²)

Redfields Garden Centre is delivering maximum impact with minimal environmental repercussions through the use of Protan PVC single-ply membranes.

Newspan Building Solutions designed, detailed and built an entirely new 5,700m² steel structure from the ground up, with double-glazed curtain walling and a striking, 57m-long curving porch, which references a leaf in its design.

Waterproofed by Protan membrane installed by Latchmore Roofing Ltd, the porch serves to help achieve compliance with Building Regulations Part L; gives the building a presence; provides dry access for visitors; and reduces potential nuisance to neighbouring residential properties from solar glare. The top of the porch is stepped with a 100mm drop between the two sections. Newspan designed each porch roof section to feature 'ribs' to reflect leaf veining, with the front edge tapered to reflect undulations.

Latchmore Roofing Ltd mechanically fixed 300m² of Protan SE 1.6mm PVC single-ply membrane to the porch roof using two different shades of grey - one for each section. The same Protan membrane was also used to trim the steel I-beam along the facing edge.

"The roof design was extremely intricate. Our lads like using Protan. They find it very easy to work with and we find the company reliable on delivery, so it was an obvious choice for this complex project," explained Latchmore Roofing Ltd's Estimator, Mike Pearce.

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Mike Pearce
Estimator, Latchmore Roofing Ltd



PROTAN PREFABRICATED SYSTEM

Huddersfield Leisure Centre, Huddersfield



Project value £36,000,000
Main contractor
Protan partner roofing contractor
Protan membranes installed Prefabricated Protan SE 1.2mm membrane (6,500m²)
Prefabricated Protan G 1.5mm membrane (1,500m²)

It was agreed to use a prefabricated system. This would meet the high performance criteria dictated by the exposed location and size of the roof. It would also be as cost effective, quicker to install and minimise on-site wastage.

A £36m leisure centre is delivering best value for its developer from the roof down.

The new Huddersfield Leisure Centre, built by BAM for Kirklees Council, will benefit the health and well-being of the local people and environment largely through the choice of roofing material: a combination of 6,500m² of prefabricated Protan SE and 1,500m² of prefabricated Protan G PVC single-ply membranes.

The ecology requirements and local area prompted the choice of single-ply and green roofing.

A fully adhered system was specified for the

single-ply element, but it was agreed to use a prefabricated system instead, not only on the single-ply roof, but the green roof. This would meet the high performance criteria dictated by the exposed location and size of the roof, which an adhered system would struggle to comply with. It would also be as cost-effective, quicker to install, and minimize on-site wastage."

A council spokesperson said, "The area of green roof was chosen so that it would be aesthetically pleasing for people living in neighbouring homes, which overlook this area of the development.

"Grey water recycling will be used for the toilets at the leisure centre. This sustainable feature offers reduced mains water consumption and environmental impact."

Protan G and SE PVC single-ply membranes were developed to withstand the harshest weather conditions found in Europe and are proven to provide a durable waterproof covering with a service life in excess of 30 years. Prefabricated membranes are manufactured to order, with Protan's in-house *ProPlan* software used to calculate the most efficient usage of material to minimise waste.

Protan's innovative prefabricated system can cut on-site hot air welding by up to 70% on a typical 10,000m² roof, equivalent to 60 hours less labour and its associated cost.

A spokesperson for Kirklees Council added, "Managed by Kirklees Active Leisure, it will be a flagship centre with two sports halls, swimming pool, fitness suite, climbing wall, squash courts, martial arts – the biggest and best leisure centre in the area."



PROTAN PREFABRICATED SYSTEM Telford and Wrekin BSF Schools

Main contractor
Protan partner roofing contractor
Protan membrane installed

Prefabricated Protan SE 1.2mm membrane (22,000m²)

Protan gave us and our clients the quality and robustness required, which – with the speed of installation achieved using its prefabricated membrane – helped achieve strict budget and programme constraints.

Value in multiple aspects is being protected for some of the last schools to be constructed under the Building Schools for the Future (BSF) programme, including Ercall Wood Technology College (opposite, top) and Burslem College (opposite, bottom).

Telford and Wrekin Council appointed Shepherd Construction Ltd as their framework partner to develop a standardised design approach for the construction or refurbishment of eight schools under the BSF scheme. All eight feature flat roofs constructed using prefabricated Protan SE 1.2mm PVC single-ply membrane installed by Roofdec Ltd.

In total, over 22,000m² of Protan membrane was installed over 120mm foil-faced PIR insulation and polyethylene vapour control layer onto a 0.7mm profiled galvanised steel roof deck.

“The Telford batch of schools required a cost-efficient, robust and technically sound roofing solution. The single-ply roofing membrane enables the roofline to be kept low, allowing for a more contemporary approach. The key criteria have been the use of efficient, standardised components across the batch to ensure the greatest economy of scale during procurement and the minimisation of waste. Protan gave us and our clients the quality and robustness required, which – with the speed of installation achieved using its prefabricated membrane – helped achieve strict budget and programme constraints.”



PROTAN VACUUM SYSTEM

Butlins Splash Waterworld, Skegness

Project value	£16,000,000
Main contractor	
Protan partner roofing contractor	
Protan membrane installed	Protan SE 1.2mm membrane

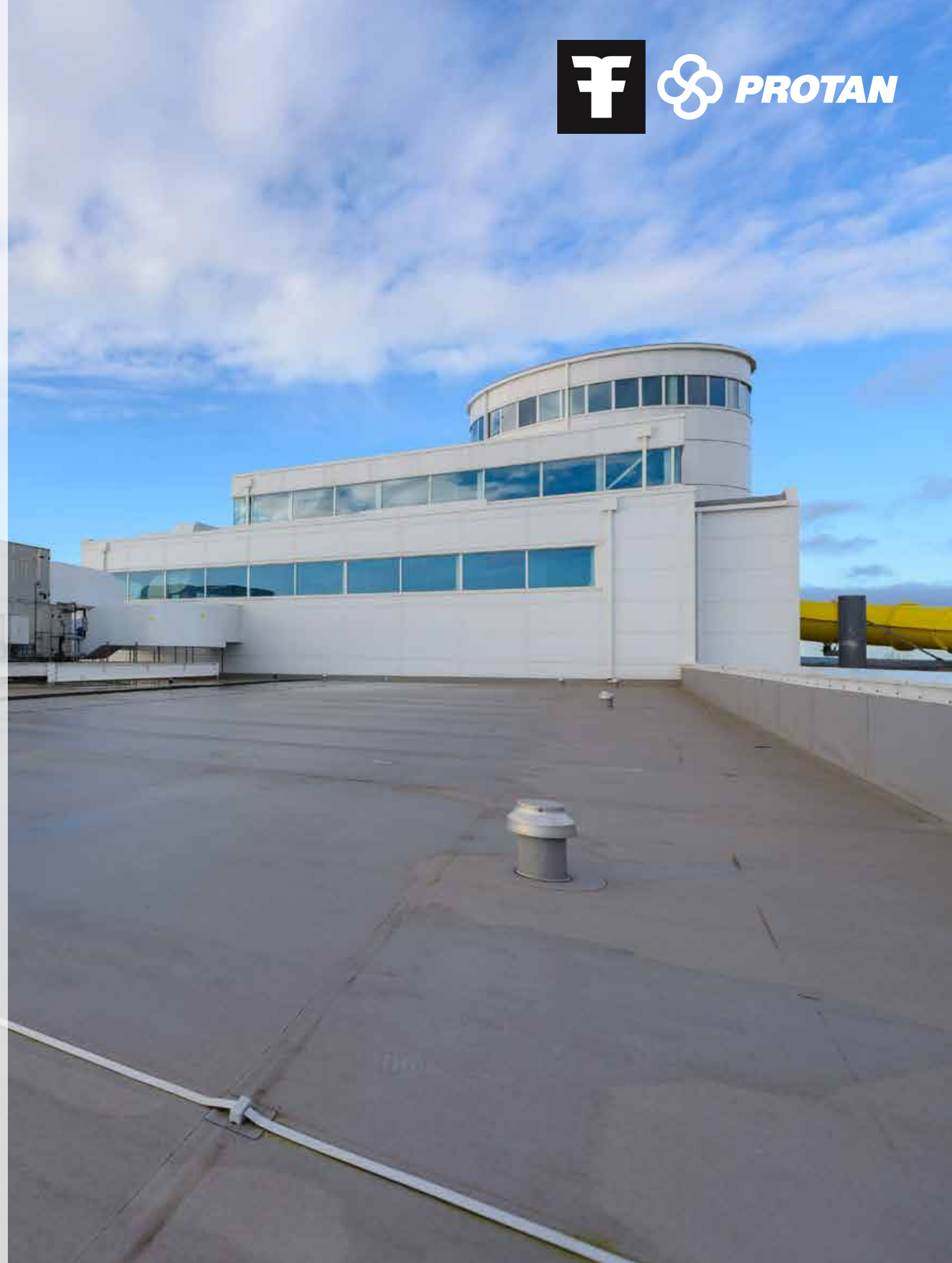
The Protan Vacuum system is quicker to install than conventional fully-adhered or mechanically-fixed systems and sat well with the roofing specification of a PIR insulated roof panel.

Butlins Skegness' new £16m Splash Waterworld is using state-of-the-art roofing technology to ensure that it protects value for owner Bourne Leisure for decades to come.

Almost entirely under cover to enable visitor use year-round, the refurbished, remodelled and extended waterpark is waterproofed by 2,000m² of Protan SE 1.2mm PVC single-ply membrane installed in a Protan Vacuum system.

The Protan Vacuum system is quicker to install than conventional fully-adhered or mechanically-fixed systems and sat well with the roofing specification of a PIR insulated roof panel.

"The Protan single-ply membranes provided good roof performance across the spectrum of the building's usage, with one guarantee covering all the new roofs. It also significantly reduced the number of mechanical fixings, accelerating installation time and giving and end result that was more appealing to the eye."





PROTAN STANDARD OVERLAP SYSTEM Ashbridge Nursery, Preston

Project value £1,400,000
Protan partner roofing contractor
Protan membrane installed Protan SE 1.6mm membrane (300m²)

Protecting a £1.4m long-term investment should be plain sailing through use of state-of-the-art technology at Ashbridge Nursery, Preston.

The advanced technology applies not only to the education and care provision, but extends through to the building design and materials, according to owner Stuart Carr. He and his architects Bramley Pate & Partners, capitalised on the site's location next to the River Ribble to create a three-storey, 100-place nursery that looks like an ocean liner. Thus, the stainless steel and aluminium structure is complemented by 'maritime grey' Protan SE 1.6mm PVC single-ply membrane across seven curving and monopitch roof areas.

Standard Overlap system will protect the children, staff and contents below against the elements for decades to come.

"The whole essence of the nursery is state-of-the-art quality, mirroring that at its associated Ashbridge School, which is

Independent Schools Inspectorate rated as excellent," explained Stuart Carr. "I wanted the best materials and equipment and view the whole project as a long-term investment."

Single-ply was specified for the project for its ability to accommodate the flowing roof shapes. We chose Protan for its combination of quality, cost-competitiveness, and technical support."

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PROTAN VACUUM SYSTEM Lakeland Climbing Centre, Kendal

Protan partner roofing contractor
Protan membrane installed Protan EX 1.2mm membrane (324m²)

Lakeland Climbing Centre is almost 30m high and thus subject to severe weather and wind loadings. The existing 30+ years-old roof had reached the end of its working life and needed to be replaced, but with minimal impact on the centre below.

The solution was to overlay the roof with Protan EX 1.2mm PVC single-ply membrane installed in a Protan Vacuum system.

The first thought was to mechanically fix over the existing screed, but pull-out tests and the varying densities of concrete and screed made this impractical. Adhering the membrane was out of the question too because of the surface finish and it would still require additional mechanical restraint because of the roof height and exposure, . "Protan's Vacuum system was the only practical solution, to be honest."

Centre owner, Jeremy Wilson, added, "We were delighted with the minimal disruption whilst the work was being carried out and with the finished result."

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Jeremy Wilson
Owner, Lakeland Climbing Centre



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