




PROTAN BLUEPROOF

WATER ATTENUATION SYSTEM FOR ROOFS

CONTROLLING THE FORCES





GROWING PROBLEMS WITH STORM FLOODS

Existing sewers in urban areas are not adequate for the growing extreme weather.

Extreme weather is the new norm

The weather has become more extreme, with increasing rainfall and cloudbursts. The number of heavy, stormy rainclouds which are increasing rapidly do the most damage. Buildings have to withstand brutal, short-duration cloudbursts.

Extreme rainfall creates a huge problem with excess water and flooding. Our sewers are not adequate for future extreme weather.

1/3rd of property owners interviewed in Protan's surface water report from 2016 said that they have been exposed to excess water over the past three years.

The problem is greatest in urban areas, where the ground is constantly being sealed with impermeable paving. That means the loss of green areas that is used to drain away rainfall.

Extreme weather strikes mercilessly and costs communities huge sums of money. Flooding, and managing it, cost the UK around £2.2 billion each year: we currently spend around £800 million per annum on flood and coastal defences; and, even with the present flood defences, we experience an average of £1,400 million of damage; if no preventative measures are taken these costs will rise.

We need sustainable solutions that can effectively help solve both current and future challenges caused by storm floods. Protan BlueProof is a revolutionary system that can save local authorities and communities a lot of money in having to deal with flooding.





1

Extreme downpour hits the roof.



2

Water volumes build up on the roof.



3

The water is retained on the roof and drained slowly and under control into a small rain garden or the sewers.



RENOVATION



NEW BUILD



Safe
Sustainable
Cost effective
Space-saving

BlueProof

- A revolutionary new solution

We need sustainable solutions that can effectively help solve both current and future challenges caused by storm floods. Protan BlueProof is a revolutionary system that can save local authorities and communities a lot of money in having to deal with flooding.

With this system, water is gradually drained and allowed into the storm drain network, avoiding overloading resulting in floods. The system not only solves current problems with storm floods, but also those of the future.

Most flat roofs in the UK are designed to withstand a lot of weight. In the UK, flat roofs have a defined bearing capacity, and in most cases can withstand rainfall of 300mm/m² (2.94kN/m²). The roof, or parts of it, can act as a temporary store for storm water. The water is allowed to drain slowly and under control into the storm drains.

SAFE

The system is SINTEF-approved, developed with high skills, long experience and an extensive tradition within roofing.

SUSTAINABLE

The most sustainable system for water attenuation.

COST EFFECTIVE

The most cost-effective system compared with other water attenuation systems

SPACE-SAVING

The system frees up space that would otherwise be used for water management.

EXAMPLE

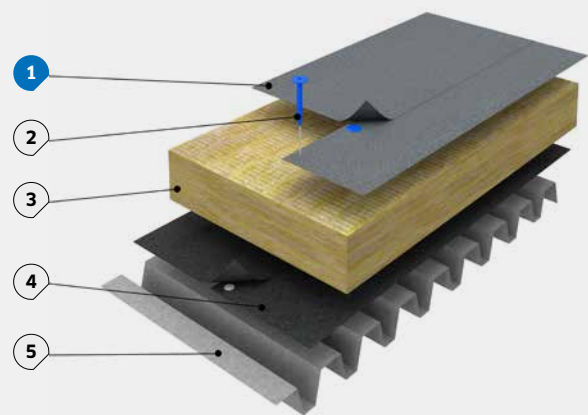
Without BlueProof: If we have a regular flat roof of 1000m² with a downpour of 50mm within an hour, the roof will discharge 50,000 litres of water to the sewers per hour.

With BlueProof: A downpour causes the water build up on the roof. The water flow from the roof is slowed down and controlled, so that it can take up to 24 hours before the 50,000 litres of water is finally discharged to the sewers. The discharge rate can be typically reduced by 70-80%.

Protan BlueProof redefines the importance of the roof: Water on roofs need no longer be drained away as fast as possible.



PROTAN BLUEPROOF - NEW-BUILD



1 Protan BP membrane

2 Fasteners

3 Insulation

4 Temporary waterproofing/
Vapour control layer

5 Substrate



RENOVATION



NEW BUILD



Quick Installation
Eco-friendly storm water management
Passive water attenuation system
Cost effective solution

New-build and renovation projects

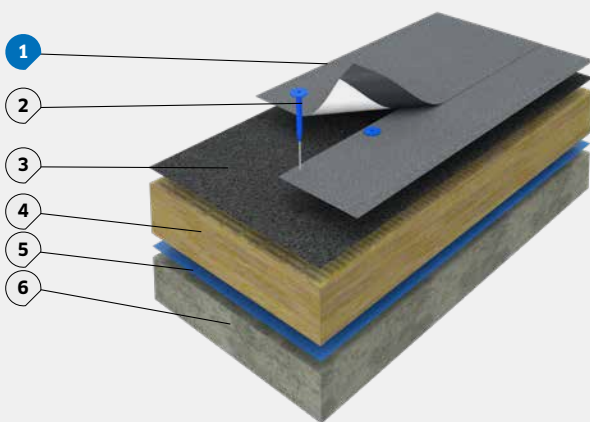
Protan BlueProof is suitable for both new-build and renovation. Installation is performed using one of several familiar roofing methods.

Most common of these roofing methods are mechanical and vacuum fastening, but bonding or other known systems may also be used based on what is best for the individual building.

Protan BlueProof Solutions are developed for both conventional and syphonic drains.

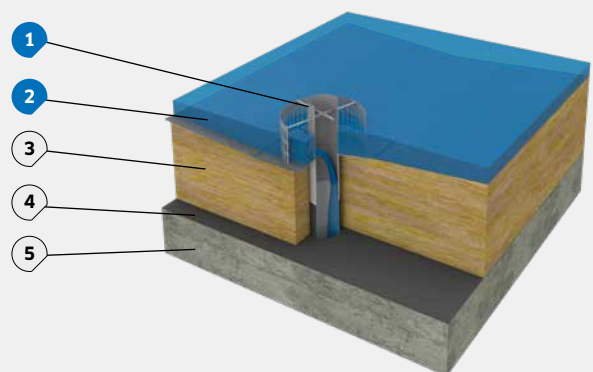
Protan BlueProof systems utilise Protan BP and Protan BPX membranes. Protan BP and Protan BPX are strong and robust PVC membranes with an extra strong polyester reinforcement. Protan BPX has, in addition, a polyester felt laminated to its reverse side and is primarily intended for use in renovating bitumen roofing systems.

PROTAN BLUEPROOF - RENOVATION

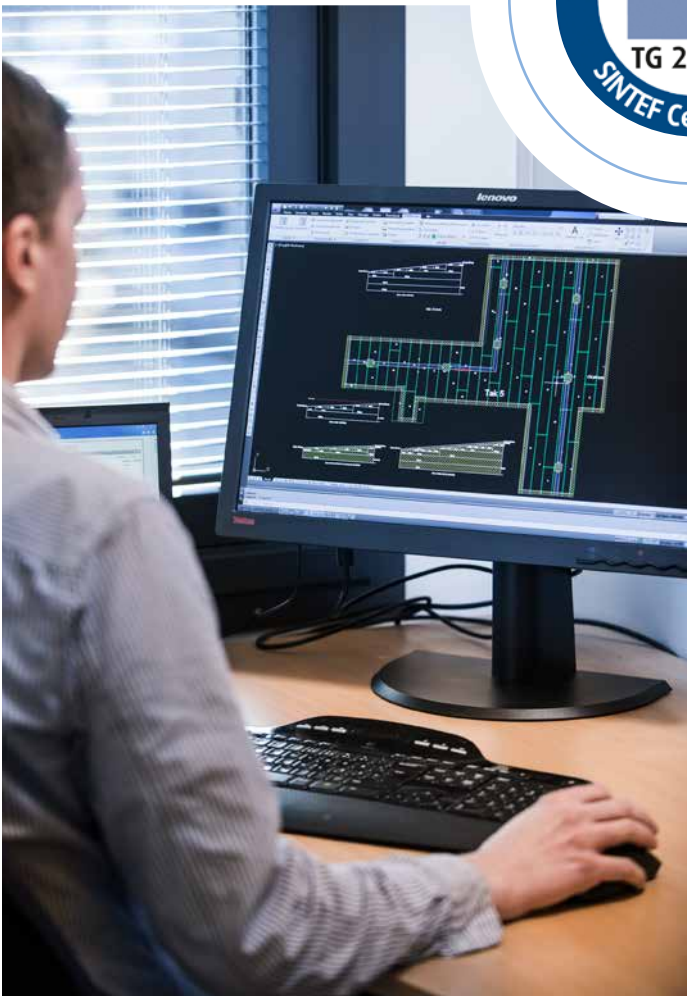


- 1 Protan BPX roof covering
- 2 Fasteners
- 3 Existing roof covering
- 4 Existing insulation
- 5 Vapour barrier
- 6 Load-bearing surface

PROTAN BLUEPROOF - NEW-BUILD



- 1 Protan BP Drains and Restrictor system
- 2 Protan BP roof covering
- 3 Insulation
- 4 Vapour barrier
- 5 Load-bearing surface





RENOVATION



NEW BUILD

45 YRS

With 45 years of experience, we have gained solid knowledge and expertise.

Support all the way

Protan assures you the skills required to install BlueProof. We undertake to qualify the personnel performing the work from start to finish.

The Protan BlueProof system is calculated and planned in detail by Protan roofers and roof contractors installing the system must undergo our qualification program. Our experienced technicians are also present to contribute to the processes along the way. Full function testing is carried out at the end of the project to test the roof surface.

Consultancy service

Our technical team provides volume and load calculations when the Protan BlueProof system is used. This includes calculations of water load from heavy rainfall (from UK rainfall data) for any given roof.

Protan BlueKalk

We perform calculation of attenuation and drainage from the roof using our calculation tool Protan BlueKalk. Protan BlueKalk computes attenuation, water depth and total water volume as well as weight per area of roof. In the calculations, the roof's design, fall and surface area, rainfall and specific release requirements from the building to the sewers are taken into account.

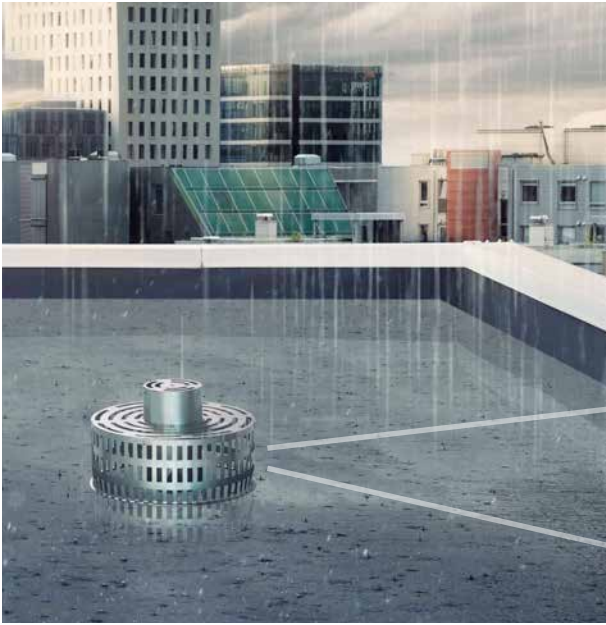
The calculation provides a full overview of all components to be included in the system and documents properties.

Maintenance

All roofs need regular inspection and maintenance. The Protan BlueProof roofing system requires annual inspection to avoid any adverse incidents. We can advise on best practice.



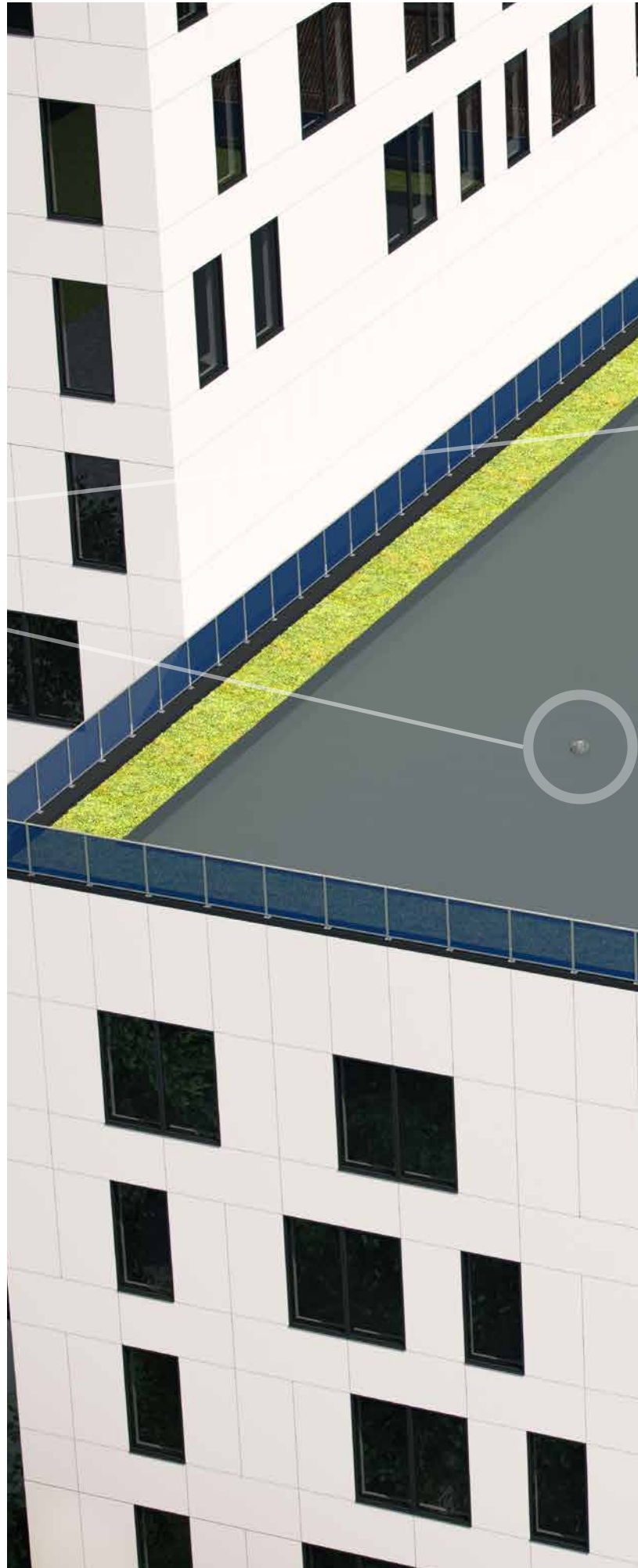
For more information,
please see our website:
protan.co.uk/blueproof



BlueProof EXPANDS THE FUNCTION OF THE ROOF

The vast majority of flat roofs are suitable for water attenuation and can have multiple functions.

The BlueProof system can be successfully combined with recreational areas, environmentally friendly green zones and energy production. Protan takes the environment seriously, and is concerned with sustainable roof solutions.





It's a matter
of time!



Protan is a Norwegian industry group that is a world leader in membrane technology. Our largest business area is roofing and membranes. Protan develops and supplies ventilation systems for mines and tunnels, as well as technical textiles for a range of applications.



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