

## Data Sheet

Protan G is designed for use in ballasted and protected membrane applications. These systems are suitable for new build and refurbishment applications.

Protan G membrane is also used for forming details in mechanical attached systems.

### Protan G Membrane

Protan G membrane is manufactured from pliable PVC reinforced with glass fibre. The PVC contains stabilisers which make the product resistant to both high and low temperatures, UV-stable, and a fungicide for added protection against microbe attack.

Protan G membrane is available in the following thickness and specification:

Protan G	
Thickness	1.5mm
Roll Length	15m
Roll Width	2m
Weight	1.5kg/m <sup>2</sup>
Weight of glass fibre core	50 g/m <sup>2</sup>

Protan G membrane must only be used for protected roofs or details on mechanically fixed roofs. The membrane must not be mechanically fastened.

### Low Temperature Flexibility

Protan G was designed in Norway for the low temperature conditions in Scandinavia during winter months. The material remains flexible at low temperatures, during installation and use, without fracturing.

Properties	Protan G 1.5mm
Foldability at low temperatures - EN 495- 5:2001	≤ -30°C

### Water Vapour Permeability

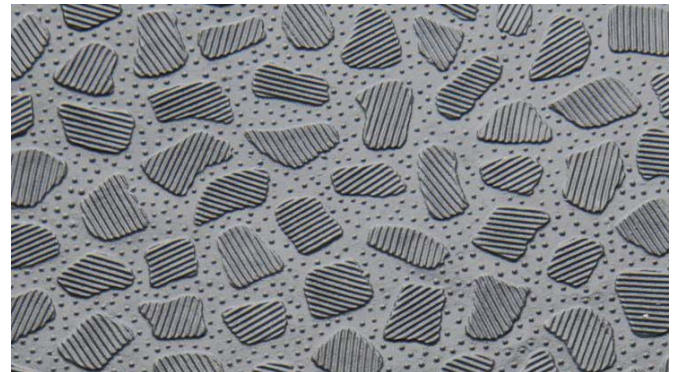
Protan G membrane is a vapour permeable material. When loosely laid this membrane provides an ideal design solution for roof constructions with limited risk of interstitial condensation.

### Durability

Accelerated weathering tests and performance in service confirm that satisfactory retention of physical properties is achieved. All available evidence indicates that Protan G membranes should have a life in excess of 30 years. Refer to BBA Certificate No. 00/3755. Protan's oldest roof is 36 years old, and continues to perform well.

### Other properties

Resistant to root penetration according to FLL approval.



### Tensile Strength and Tear Resistance

Tensile strength is an important property in determining the material's ability to resist wind uplift forces, thermal movement and differing movements of the building structure. Tensile and tear resistance properties are shown in the table below:

Properties	Protan G 1.5mm
Tensile strength EN 12311-2:2000(A)	≥ 450 N/50 mm
Elongation EN 12311-2:2000(A)	≥ 180%
Tear resistance EN 13210-2:2000	≥ 110N

### Puncture Resistance

Details of puncture resistance are shown in the following table:

Properties	Protan G 1.5mm
Resistance to Puncture by Static Loading EN 12730:2001(A)	≥ 15 kg
Resistance to Puncture by impact at +23°C EN 12691:2006(A)	≥ 400 mm
Resistance to Puncture by impact - 10°C EN 12691:2001	≤ 20 mm/diam

### Fire Resistance

When tested in accordance with BS 476-3: 2004, a system comprising of:

A 18mm thick orientated strand board deck and a layer of Protan G fully adhered using a butanone adhesive achieved an EXT.F.AA rating.

Please note, the Protan G membrane must only be used for detailing on exposed systems.

The membranes used in the loose-laid and ballasted specification including a minimum depth of 50mm aggregate or paving should be deemed to satisfy BS 476-3: 2004.

## Data Sheet

### Colours

Protan G		
Colour	Protan Ref.	Closest RAL No.
Dark grey	F94	7012
Light grey	F91	7040
Copper Green*	F41	6021
Black*	F99	7021
Red*	F12	3013

\*subject to minimum order

### Chemical Resistance

The chemical resistance of Protan membranes depends upon concentration, duration of contact and temperature. The table below provides a guide to the resistance of Protan G 1.5mm thickness membrane at ambient temperature, to various common substances. For further information please contact Protan (UK) Ltd.

Material	Resistance
Aluminium	Well suited
Asphalt	Not resistant
Bitumen	Not resistant
Carbon monoxide	Well suited
Carbon tetrachloride	Conditional
Caustic potash	Well suited
Common salt	Well suited
Copper & ferrous materials	Well suited
Detergents	Well suited
Diesel oil & fuel oil	Conditional
Ethyl ether	Not resistant
Fats (animal and vegetable)	Not resistant
Formaldehyde	Conditional
Iron residues	Conditional
Motor oils	Conditional
Nitric acid	Conditional
Non-aromatic mineral oils	Conditional
Oils (animal and vegetable)	Not resistant
Paraffin	Conditional
Petrol	Not resistant
Salt of aluminium	Not resistant
Salt of ammonium	Well suited
Salt of calcium	Well suited
Salt of magnesium	Well suited
Salt of potassium	Well suited
Salt of sodium	Well suited
Sea water	Well suited
Soaps	Well suited
Softeners	Not resistant
Solvent	Not resistant
Steam	Well suited
Tar	Not resistant
Turpentine oil	Not resistant
Urea	Well suited
Weed killer (aqueous)	Well suited
Wood preservative	Conditional

### Anti-Slip Surface

All Protan G membranes have a unique anti slip surface as standard. Compared with non-textured materials this feature provides a significant safety factor when walked upon in wet weather.

### Storage

Protan G membranes must be stored dry. At the building site, it is important that rolls are stored on pallets (raised from the floor) and that they are covered with a tarpaulin.

### Environment

Protan G membrane can be recycled after its working life if it has not been in contact with Protan Bonding Adhesive.

### References

For further technical information please refer to:

- BBA Certificate 00/3755
- IAB Certificate 06/0263
- SINTEF NBI Approval 2008
- FLL Approval

All of the above documents are available from Protan (UK) Ltd.