

Protan GG is the principal material used for parking decks, in roofs with planting and in culverts and in ground structures. This membrane system is suitable for new build and refurbishment applications.

Protan GG

Manufactured from pliable PVC with a glass fibre carrier. The PVC contains stabilisers, which make the product resistant to high and low temperatures. Protan GG is available in the thickness and specifications as shown below.

	<i>Protan GG</i>
<i>Thickness</i>	<i>2,0 mm</i>
<i>Weight</i>	<i>≥ 2,15 kg/m²</i>

Low temperature flexibility – weather conditions

Protan GG is 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. The material can be installed in all kinds of weather conditions, even when it is raining.

	<i>Protan GG</i>
<i>Flexibility at low temperatures EN 495-5</i>	<i>- 30 °C</i>

Water vapour permeability

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

Tensile strength and tear strength

Tensile strength is an important property in determining the material's ability to resist different movements. Tensile and tear strength properties are shown in the table below.

	<i>Protan GG</i>
<i>Tensile strength EN 12311-2</i>	<i>≥ 600 N/50 mm</i>
<i>Elongation at break EN 12311-2</i>	<i>> 200 %</i>
<i>Tear resistance EN 12310-2</i>	<i>> 130 N</i>

Puncture resistance

Protan GG membrane is resistant to normal foot traffic. A protecting layer shall cover Protan GG before installing the surface construction. Details of puncture resistance are shown in the following table.

	<i>Protan GG</i>
<i>Penetration by increasing force on EPS 20 kg/m² EN 12730</i>	<i>≥ 250 N</i>
<i>Resistance to puncture by impact + 23 °C ≤ 15 mm EN 12691</i>	<i>≤ 12 mm</i>
<i>Resistance to puncture by impact ÷ 20 °C ≤ 20 mm EN 12691</i>	<i>≤ 12 mm</i>

Chemical resistance

The chemical resistance of Protan GG depends upon concentration, duration of contact and temperature. The table below indicates the resistance of Protan GG at normal temperature to various common substances. Please contact Protan TS- Department for particular concentrations and other materials.

<i>Material</i>	<i>Resistance</i>	<i>Material</i>	<i>Resistance</i>
<i>Aluminium</i>	<i>Well suited</i>	<i>Paraffin</i>	<i>Conditional</i>
<i>Asphalt</i>	<i>Not resistant</i>	<i>Petrol</i>	<i>Not resistant</i>
<i>Bitumen</i>	<i>Not resistant</i>	<i>Salt of Aluminium</i>	<i>Not resistant</i>
<i>Caustic potash</i>	<i>Well suited</i>	<i>Salt of Ammonium</i>	<i>Well suited</i>
<i>Carbon Monoxide</i>	<i>Well Suited</i>	<i>Salt of Calcium</i>	<i>Well suited</i>
<i>Carbon tetrachloride</i>	<i>Conditional</i>	<i>Salt of Magnesium</i>	<i>Well suited</i>
<i>Common salt</i>	<i>Well suited</i>	<i>Salt of Potassium</i>	<i>Well suited</i>
<i>Copper & ferrous materials</i>	<i>Well suited</i>	<i>Salt of sodium</i>	<i>Well suited</i>
<i>Detergents</i>	<i>Well suited</i>	<i>Sea water</i>	<i>Well suited</i>
<i>Diesel oil & fuel oil</i>	<i>Conditional</i>	<i>Soaps</i>	<i>Well suited</i>
<i>Ethyl ether</i>	<i>Not resistant</i>	<i>Softeners</i>	<i>Not resistant</i>
<i>Fats (animal & vegetable)</i>	<i>Not resistant</i>	<i>Solvent</i>	<i>Not resistant</i>
<i>Formaldehyde</i>	<i>Conditional</i>	<i>Steam</i>	<i>Well suited</i>
<i>Iron residues</i>	<i>Conditional</i>	<i>Tar</i>	<i>Not resistant</i>
<i>Motor oils</i>	<i>Conditional</i>	<i>Turpentine oil</i>	<i>Not resistant</i>
<i>Nitric acid</i>	<i>Conditional</i>	<i>Urea</i>	<i>Well suited</i>
<i>Non-aromatic mineral oils</i>	<i>Conditional</i>	<i>Weed killer (aqueous)</i>	<i>Well suited</i>
<i>Oils (animal & vegetable)</i>	<i>Not resistant</i>	<i>Wood preservatives</i>	<i>Conditional</i>

Ageing

Accelerated weathering tests have indicated that the minimum life expectancy of Protan GG is 25 years.

Anti slip surface

Protan GG has an unique slip resistance surface as standard. Compared with non-textured materials it provides a significant safety factor when walked on in wet weather.

