

# GSE white geomembranes

Cool and durable geomembranes



Our white performance  
geomembranes are cooler  
and more durable.



**Our white performance finish can be added to any high-density polyethylene (GSE® HD) or linear low-density polyethylene (GSE® LL) geomembrane, offering substantial technical benefits to containment applications.**

As the white finish reflects sunlight, the geomembrane can be up to 40°C (104°F) cooler than dark or black geomembranes that absorb heat.

This reduced temperature positively affects the durability of the geomembrane, its weldability, quality control, ease of installation, and the imperviousness of the overall system.

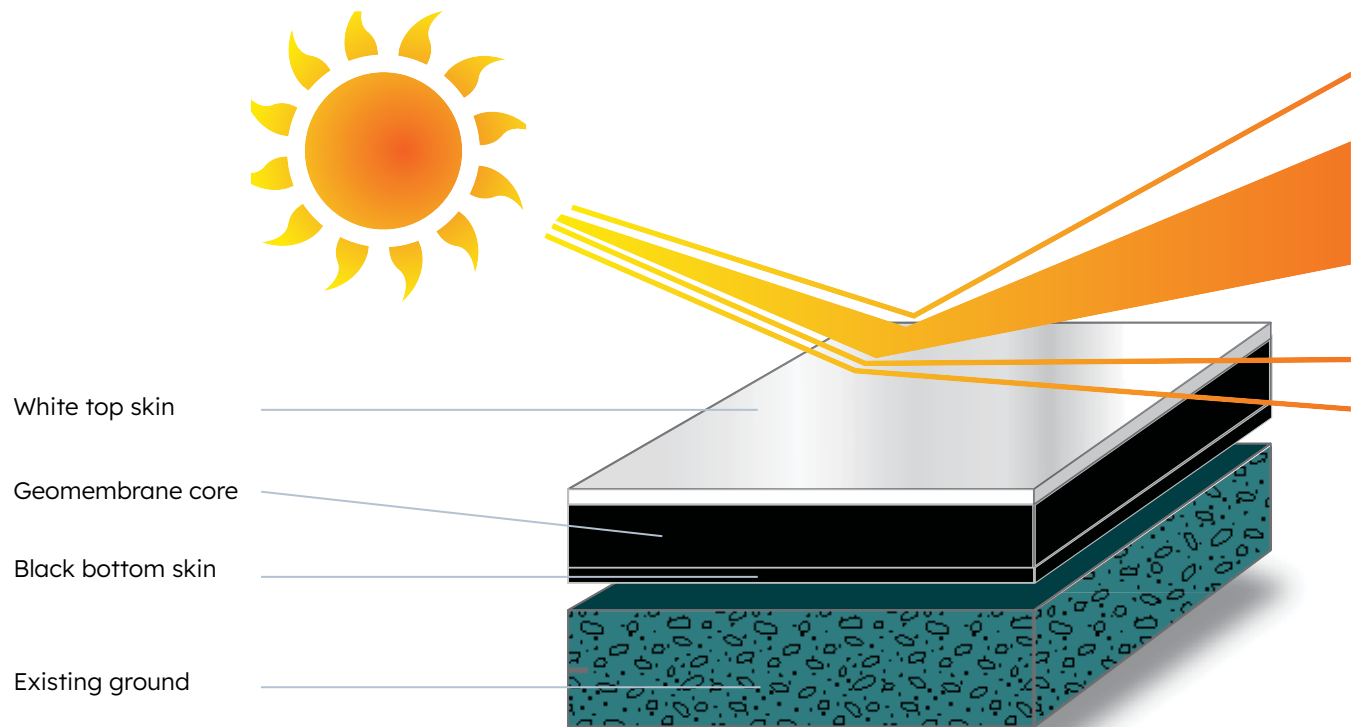
### How it's made

Our white performance finish is a thin white polyethylene layer that is coextruded within any typical three-layer **GSE** geomembrane to form a monolithic material with uniform properties.

The three layers of a traditional black PE membrane comprise ≈97% polyethylene (PE) resin, 2%–3% carbon black for protection from UV radiation, and ≈ 1% anti-oxidants to slow down the oxidation of the geomembrane. In white **GSE** geomembranes, the core and bottom layer (≈97% of thickness) are made of the same raw materials and additives as traditional black

geomembranes. The top layer (≈3% of thickness) is modified with the addition of a white pigment, Titanium Dioxide (TiO<sub>2</sub>), and UV additives that give the geomembranes the same UV resistance as traditional black geomembranes.

As the TiO<sub>2</sub> is used in similar concentrations as the carbon black and also behaves in the same manner, the monolithic properties of the coextruded PE layers remain the same. The mechanical, physical and durability properties, such as tensile strength, stress crack resistance and oxidative induction time (OIT) properties, also remain the same.



## DURABILITY

Our white performance finish geomembranes lowers the impact of heat degradation. Studies using an accelerated-aging xenon irradiation chamber show that our white liner improves UV resistance, helping to maintain the geomembrane's temperature at 40°C (104°F) cooler. Due to the cooler temperature, contraction and expansion are reduced by up to 40%. This protects the mechanical properties, and extends the service life of the geomembrane.

## EASY INSTALLATION

On a hot day, the surface temperature of black liners can exceed 72°C (162°F). The resulting thermal expansion and contraction cause the liner to wrinkle and deform, making installation difficult. Cooler White Prime Finished geomembranes are easier to install as the material is more predictable.

In addition, the white layer improves extrusion welding practices, providing a visual guide for preparatory grinding. When a black welding rod is used, extrusion welded patches are easily located due to the color contrast with the white surface. There is also better quality control thanks to easier visual detection of pre or post-installation damage (any damage greater than the thickness of the white layer is easily seen).





## **OUR WHITE PERFORMANCE FINISH FITS OUR GEOMEMBRANE RANGE**

By simply changing the pigment that is used on the surface of black geomembranes, Solmax is able to offer the white performance finish for most of its standard PE series. It can also be combined with other prime finishes, such as the conductive finish or with other standard finishes such as textured and smooth surfaces.

## About us

Solmax is a world leader in sustainable construction solutions, for civil and environmental infrastructure. Its pioneering products separate, contain, filter, drain and reinforce essential applications in a more sustainable way – making the world a better place. The company was founded in 1981, and has grown through the acquisition of GSE, TenCate and Propex. It is now the largest geosynthetics company in the world, empowered by more than 2,000 talented people. Solmax is headquartered in the province of Quebec, Canada, with subsidiaries and operations across the globe.

## Uncompromised quality

Our products are manufactured to strict international quality standards. All our products are tested and verified at our dedicated and comprehensive laboratories which maintain numerous accreditations. We offer our partners a wide scope of testing according to published standards to ensure products delivered to sites meet specified quality requirements.

# Let's build infrastructure better

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