

# GSE HDH

Resilient, high temperature liners



# FACING THE CHALLENGE

**Polyethylene geomembranes have a long-established reputation of protecting the environment against hazardous materials, and are trusted by engineers and regulators around the world to line landfills, ponds, mine leach pads, and other applications.**

However, certain processes produce highly elevated temperatures, presenting a unique challenge for engineers responsible for protecting the environment.

Prolonged exposure to temperatures above 60 C (140 F) can have a negative effect on standard PE geomembranes. When the temperature exceeds 60 C (140 F), the liner's mechanical properties begin to break down, causing an acceleration in stress cracking and oxidation. This, in turn, leads to potential failure.

## LAYING THE GROUNDWORK

Solmax's innovative team of engineers combined high temperature resins with our proprietary formula of carbon black, UV stabilizers, and antioxidants to develop a liner that withstands the effects of extreme temperatures.

Our **GSE® HDH** high temperature liner delivers the same durability and chemical resistance as standard liners, but will retain its mechanical and physical properties in applications with sustained elevated temperatures of up to 95 C (203 F).

Our high temperature resins meet the stringent requirements of US PPI TR4 and European EN ISO 9080, and are approved by these organizations for high temperature liquid conveying. Our stabilization package has undergone an extensive battery of testing at temperatures up to 95 C (203 F) with outstanding results.





**GSE HDH is also resistant and weldable at lower temperatures, which is particularly useful when construction takes place in conditions around 0 C.**

## WITHSTANDING THE HEAT

In extreme temperatures, standard PE liners may weaken and need to be replaced more frequently to maintain continuous barrier performance.

In laboratory tests, at elevated temperatures **GSE HDH** high temperature liners showed improved tensile strength and superior resistance to stress cracking, punctures, and UV degradation, making it essential for high temperature applications where liner integrity and long service life are required.

## BENEFITS

- Solmax's advanced resin gives exceptional long-term strength, even at elevated temperatures, and helps prevent the accelerated degradation that can occur when normal polyethylene reaches elevated temperatures.
- Solmax's proprietary stabilization package prevents premature oxidation and induction that can occur when normal geomembranes are used at elevated temperatures. This reduces environmental stress cracking and allows

tie-ins for subsequent phases of work or repairs to mechanical damage that can occur.

- **GSE HDH** high temperature liners are welded with standard welding equipment and the same construction quality control procedures that are expected of high performance geomembranes.
- **GSE HDH** high temperature liners are engineered to provide exceptional quality, chemical resistance, and service life in prolonged exposure to temperatures up to 95 C (203 F).

## APPLICATIONS

- Bioreactor landfill
- Mine leach pads
- Secondary containment
- Oil & gas operations industrial ponds
- Food processing systems
- Hot liquid storage tanks
- Process water containment
- Wastewater treatment

## 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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