The Pioneer Of Geosynthetics

S I N C E 1 9 7 2

Application Sheet

Linear Low Density Polyethylene Geomembranes

AN INNOVATION IN FLEXIBLE LINERS

GSE UltraFlex geomembranes are high quality liner low density polyethylene (LLDPE) geomembranes that provide the following benefits:

- Superior flexibility
- Outstanding elongation
- Remarkable puncture resistance
- Proven reliability

GSE LLDPE geomembranes includes GSE UltraFlex in green, white, or black color, and is available in a smooth, textured or Conductive surface.

GSE UltraFlex smooth & textured geomembranes.

PREMIUM RAW MATERIALS

GSE UltraFlex products are made from high quality linear low density polyethylene resins. The inherent structure of the resin is the reason this geomembrane possesses such enhanced flexibility. The absence of leachable additives in all GSE geomembranes allows them to maintain excellent resistance to brittleness that may occur over time when plasticizers and/or fillers are used.

GSE QUALITY ASSURANCE SYSTEMS

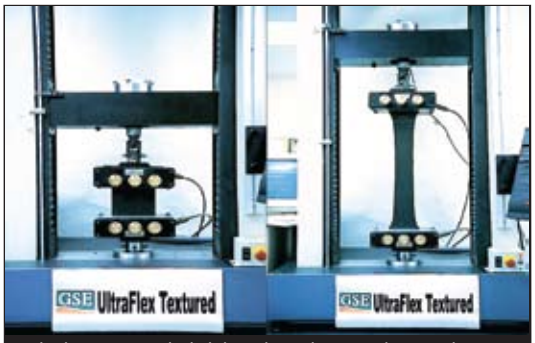
All GSE geomembrane production involves three levels of quality assurance. First, raw material suppliers must comply with GSE specifications on incoming resin. Before the resin is unloaded, GSE verifies the raw material test results that are submitted by our raw material suppliers by performing selected conformance tests. The second level of QA begins during actual production. As each roll is produced it is electronically monitored continuously over the full area for pinholes. Finally, GSE UltraFlex products undergo a rigorous Quality Assurance program after production to ensure the mechanical properties are intact and meet GSE current quality standards. GSE conducts routine in-house testing of the physical properties of GSE UltraFlex on every roll as it is produced.

ELONGATION PROPERTIES UNIQUE TO LLDPE GEOMEMBRANES

GSE UltraFlex geomembranes have higher tensile break elongation than do HDPE geomembranes. The excellent puncture resistance and ability to absorb multi-directional strain makes LLDPE perfect for applications such as landfill caps, closures, or any other situation where large differential settlement is expected such as bioreactors. Additional applications include mining projects, solid and liquid waste containment and aquaculture.

GSE UltraFlex smooth utilized in a landfill.

Special non-routine testing such as wide-width and multiaxial has been performed on GSE UltraFlex geomembranes to provide a more in-depth perspective of their unique and beneficial properties. In particular, the elongation tendencies of the GSE UltraFlex products have been thoroughly investigated. The wide-width tensile test is a measure for in-plane elongation properties. The multiaxial test simulates out-of-plane deformation, which is commonly expected to occur in many lining projects where the geomembrane is subjected to high localized stress. In both of these tests, the GSE UltraFlex products have dramatically high elongation properties.



The elongation potential in both the machine and transverse direction make GSE UltraFlex ideal for any application where maybe anticipated.

-Continued-

Application Sheet

BENEFITS OF A ROUGHENED SURFACE

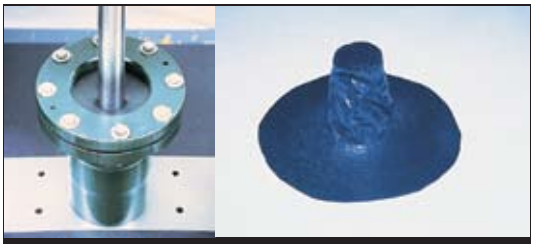
Perhaps the most important attribute textured geomembranes offer is the ability to improve geosynthetic profile stability which ultimately maximizes the available volume that can be contained by the geomembrane. The ability to line steeper slopes allows increases in design capacity providing cost savings. As mentioned previously, GSE UltraFlex textured is available with a white upper surface. The white surfaced geomembrane has the same physical properties as the black surfaced geomembrane with the added benefit of a light reflective layer. This light reflective layer reduces heat gain, thereby reducing wrinkling, subgrade desiccation and worker fatigue.

IN-LINE TEXTURING DECREASES LEAD TIME

GSE UltraFlex textured is manufactured using co-extrusion technology – the same technology used to produce GSE HD textured, GSE Conductive and GSE White geomembranes. GSE UltraFlex textured meets the increasing need for relatively thin LLDPE geomembranes because it is an in-line one-step texturing process. Availability to GSE customers is increased and lead times are minimized.

PROVEN RELIABILITY

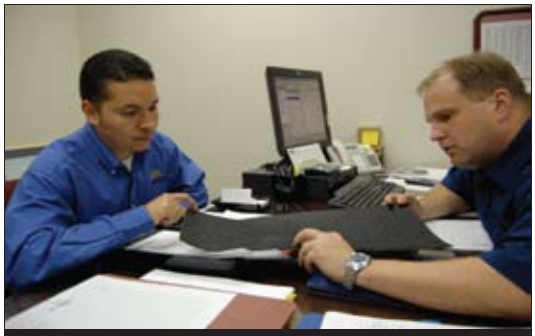
GSE UltraFlex geomembranes have a long history of reliability. In fact, every GSE UltraFlex geomembrane used for containment purposes has proven to be successful. In addition to their exceptional performance, GSE UltraFlex products have excellent weldability under a variety of conditions. Extrusion and fusion welding can be performed with ease and confidence.



Outstanding puncture resistance.

ENGINEERING SUPPORT

The GSE Engineering Support Staff is comprised of multidisciplinary product professionals to support you across a range of project requirements. This includes knowledge in geomembrane, geosynthetic clay liners, geonet, geocomposite, nonwoven geotextile and concrete protection products and application solutions. Rely on our technical staff to help you solve your project issues.



GSE Engineering Support Staff.

CUSTOM FABRICATION

The GSE Custom Fabrication Group builds products to your exact specifications. We have extensive experience in prefabricated polyethylene products and components. A few examples of our custom fabricated products are Aqua Tanks, Quick Containment, concrete protection liners, boots, sumps, pads, pipes, daily covers, temporary containment, containment boom and other products to fulfill your fabrication needs.

StudLiner Sumps.

INSTALLER NETWORK

The GSE Installer Network leads the industry with the most experienced, large, and flexible crews available around the world to meet your installation requirements. Each installer is equipped with state-of-the-art welding and testing equipment to ensure a successful installation. Selecting a qualified installer with the right product knowledge is critical to your success. Let GSE connect you to the right installer to handle your installation project of any size from start to finish.

AP17 UltraFlex RD2/23/11

NORTH AMERICA 800.435.2008 281.443.8564 • **EUROPE & AFRICA** 49.40.767420 • **ASIA PACIFIC** 66.2.937.0091 • **SOUTH AMERICA** 56.2.595.4200 • **MIDDLE EAST** 20.23.828.8888

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