



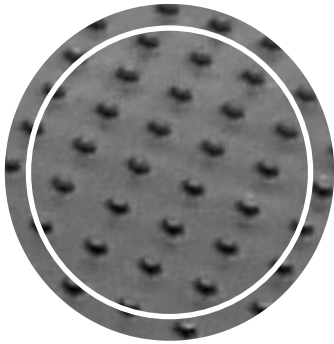
# Drain Liner® Geomembrane

Applications for HDPE and LLDPE Agru Drain Liner® include single- or double-lined projects where containment drainage and leak detection are critical such as landfills, waste ponds/lagoons, mining heap leach pads and process ponds. Using Drain Liner® in place of a geonet and geomembrane results in significant cost savings in material and installation.



For more information about Agru America  
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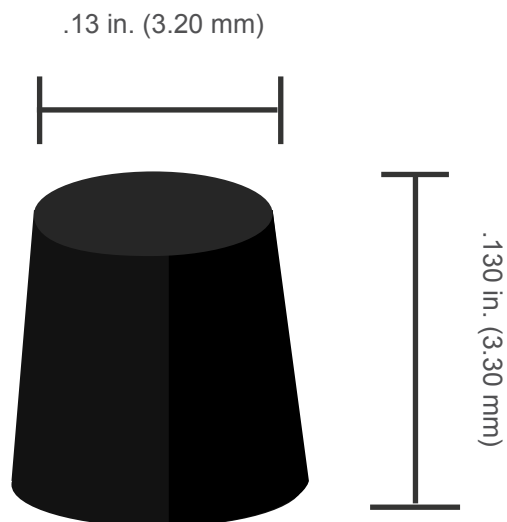
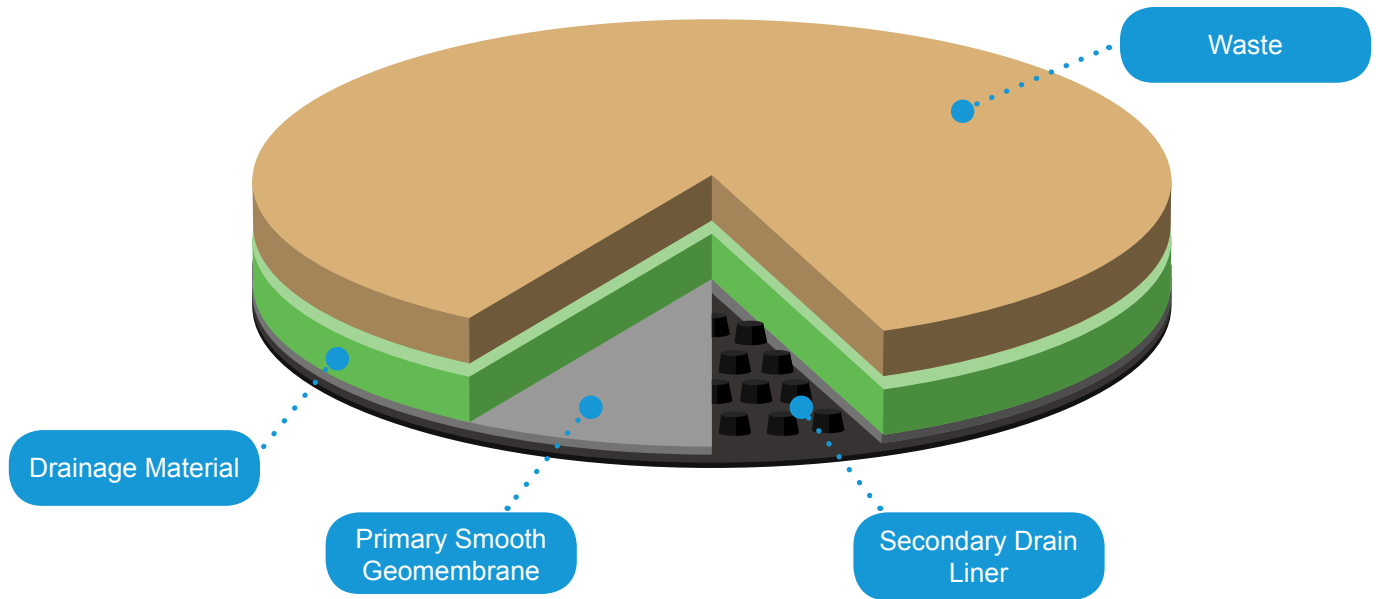
Agru America uses only the highest grade HDPE and LLDPE resins made in North America. Our structured geomembranes are manufactured on state-of-the-art equipment using a flat cast extrusion process as opposed to blown film extrusion. This results in a consistent core thickness that corresponds to higher tensile strength values than traditional textured materials. It also gives consistent structuring because the material production rollers are embossed with the appropriate pattern for the structured lines requirements, resulting in higher flow rates and consistent drainage capacity.

Figure 1: Installation of Drain Liner® as secondary Geomembrane on project in Utah





## Dual Liner® System Profile



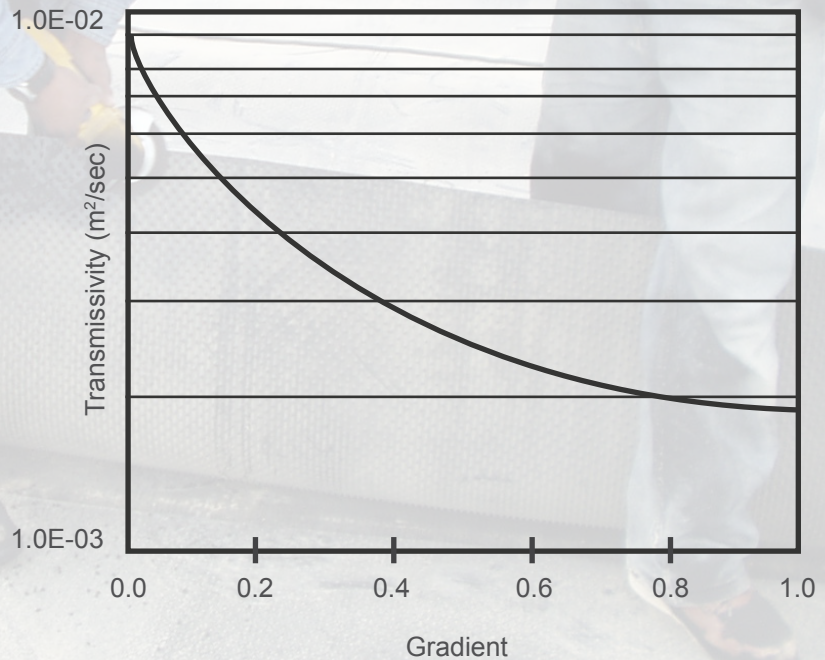
### Benefits

- Integrated Drainage System (IDS)
- Consistent pattern
- High water flow rate
- Specify Agru Smooth Liner® or MicroSpike Liner® for bottom of liner surface
- Resistance to long term creep



## Transmissivity Testing

**Drain Liner®/Smooth HDPE**  
Transmissivity under 15,000 psf  
Normal stress  
ASTM D4716



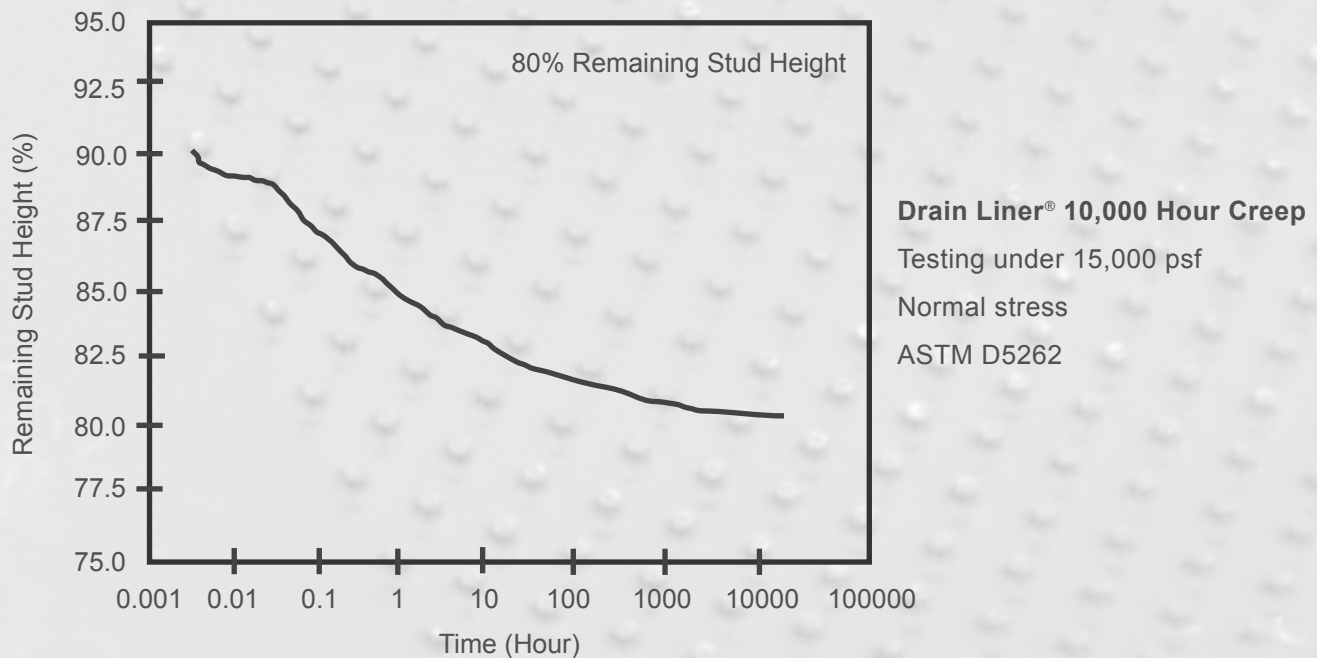
The in-plane drainage capacity of Drain Liner® is always higher than a conventional geonet. This is because the structure and spacing of the studs allows flow at very low gradients and provides a less turbulent and more constant bi-directional flow over time, resulting in minimal reduction due to creep.

Our Drain Liner® structure enables faster detection of potential leaks because the flow path is more direct than with a conventional geonet. The studs used for this structure also help reduce the potential of chemical or biological clogging because they do not form intermediate dams or inhibit water flow.





## Long Term Creep Testing



Factors that make Agru Drain Liner® an Integrated Drainage System (IDS), with decided advantages over conventional geonets, include:

- One-layer installment as an integral drain with the primary or secondary liner, depending on installation. This reduces installation time dramatically and lowers material, installation and CQA costs. It also provides better consistency and a bi-directional flow.
- Higher flow rates than a conventional geonet
- Minimal reduction for creep (80% retention under 15,000 psf loading).
- Less risk of chemical/biological clogging.
- Faster response time for leak detection.
- Studs totally integrated with the liner-single production process.
- No need to cut and piece together geonet section or discard the end of rolls, which reduces overall waste.
- Excellent fluid barrier.
- The product is manufactured in modern Agru plants that meet stringent quality control standards.

For more information on Agru America Drain  
Liner® and other Agru products, please reach  
out to us.



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(800) 373-2478 | Fax: (843) 527-2738  
500 Garrison Road, Georgetown, SC 29440 USA  
[salesmkg@agruamerica.com](mailto:salesmkg@agruamerica.com)  
[twitter.com/agruamerica](https://twitter.com/agruamerica)  
[linkedin.com/company/agru-america-inc](https://linkedin.com/company/agru-america-inc)  
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