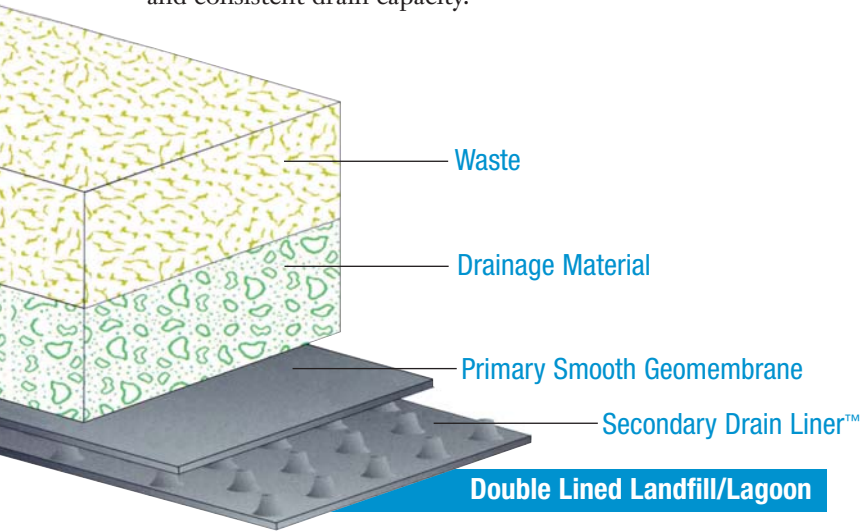


# Drain Liner™ Geomembrane

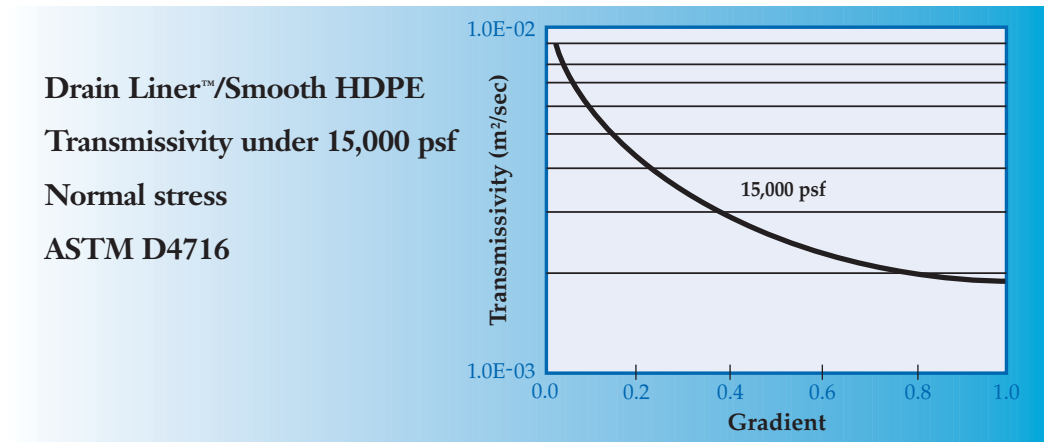


Applications for HDPE and LLDPE Agru Drain Liner™ include single or double lined projects where containment and leak detection are critical i.e. landfills, waste ponds/lagoons, mining heap leach pads and process ponds. Recent bids for installations have indicated cost savings of over \$3,000.00 per acre with the use of Drain Liner™ as a replacement for the geomembrane/geonet combination.

Agru America's structured geomembranes are manufactured on state-of-the-art manufacturing equipment using a flat cast extrusion manufacturing process as opposed to blown film extrusion. Agru America uses only the highest grade of HDPE and LLDPE resins manufactured in North America. The flat cast process results in a consistent core thickness resulting in higher tensile strength values than traditional textured materials. It also gives consistent structuring as the material production rollers are embossed with the appropriate pattern for the structured liner requirements. This results in higher flow rates and consistent drain capacity.



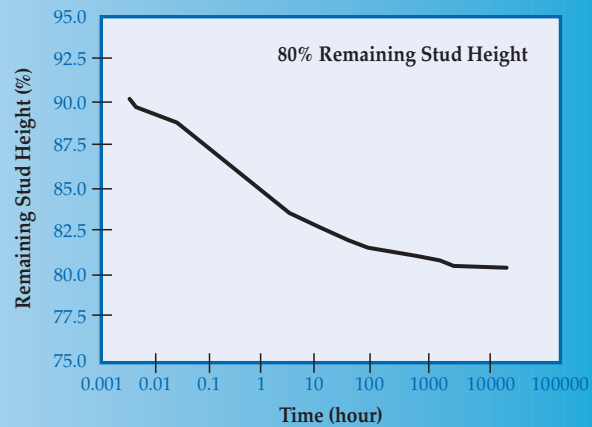
- Integral Drain Structure - Top Side
- Smooth Bottom
- Consistent Pattern
- High Water Flow Rate
- Combine with Smooth/Micro Spike®
- Resistance to long term creep



The in-plane drainage capacity of the drain liner used as either a primary or secondary liner is always higher than a conventional geonet due to the structure of the studs and stud spacing which results in a more laminar (less turbulent) flow and a constant bi-directional flow over time and minimal reduction due to creep. Additionally, the drain liner allows flow at very low gradients due again to the stud spacing and integral design.

Detection of potential leaks is faster with a drain liner structure than with a conventional geonet which forms an indirect flow path due to the net structure. Also, reduction factors for the potential of chemical or biological clogging are less for a stud or drain liner structure due to the fact that the studs do not form intermediate dams or inhibit water flow.

**Drain Liner™ 10,000 hour Creep  
Testing under 15,000 psf  
Normal stress  
ASTM D5262**



Thus, the Drain Liner™ is a synthetic drainage media which has decided advantages over conventional geonets:

- Installed in one layer as an integral drain with the primary or secondary liner (depending on installation)
  - Installation time cut dramatically
  - Cost effective lagoon solution-significantly reduced material and installations costs
  - Less CQA cost
  - Better consistency
  - Bi-directional Flow.
- Higher flow rates than a conventional geonet
- Minimal reduction for creep (80% retention under 15,000 psf loading)
- Less impact by chemical/biological clogging
- Faster response time for leak detection
- Studs totally integrated with the liner-single production process
- No waste due to cutting and fitting of geonet sections or discard of end of rolls
- Excellent fluid barrier
- Manufactured in the most modern plant meeting stringent quality control standards

**When engineers specify AGRU Drain Liner® or any other Agru product, the client not only gets a superior material with higher performance but also substantial cost savings.**

***Why specify or use anything else!***

Agru has over 20 years experience with Geomembranes and 50 years experience with Thermoplastic Extrusion Agru offers a wide range of concrete protective liners (Sure Grip), pipe fittings and semi-finished materials.

Executive Offices: 500 Garrison Road, Georgetown, SC 29440

843-546-0600

800-321-1379

Fax: 843-546-0516

Sales Office: 700 Rockmead, Suite 150, Kingwood, TX 77339

281-358-4741

800-373-2478

Fax: 281-358-5297

email: [salesmkg@agruamerica.com](mailto:salesmkg@agruamerica.com)

[www.agruamerica.com](http://www.agruamerica.com)

