drenotube® life span Q&A

GEOTEXTILE

Answer from our present geotextile supplier HUESKER Synthetic GmbH (in red color):

In our opinion the weak point is the nonwoven geotextile. Alcaline waste leachates or extreme oxidizing reactions affect the tensile properties and it is applicable to all geotextiles. Howerver according to Huesker (our geotextile German supplier) our geotextile is leachate resistant. For non-leachate applications it would be no problem.

Does the geotextile fibers contain antioxidants and/or stabilizers?

Yes, it contains HALS, Hindered Ammine Light Stabilizers

The HALS help in antioxidation, but there are also some antioxidants typical for any PP granule such as Irganox3114 and Irgafos 168.

This kind of chemicals are FDA approved since tenths of years and do not give toxicity to the fibers

Are the fibers stretched before the production process to be oriented?

Yes, the fibers are stretched in order to optimize the orientation of the molecules and give back the best tenacity

Is the material UV stabilized?

Yes it is UV stabilized. The limit of one month to be covered is the max allowed by the CE rules. It represents the limit after which the degradation process starts.

Is there any resistance of the product proven against leachate? Sometimes the end product might be in contact with leachate.

Virgin PP with the grade of crystallization we use is inert to most of the chemicals and it has no problem in contact with leachate.

CORUGATED PIPE & NETTING

Corrugated pipe is made of high density polyethylene and also the net. In the Ineos Chemical Resistance Guide (attached document) you can check the compatibility with various chemicals. However life expectancy on the corrugated high-density polyethylene (HDPE) pipe that manages storm water far surpassed the 100-year service requirement in the harsh environmental conditions. Source: Drexel University Dr. Grace Hsuan

EXPANDABLE POLYSTYRENE AGGREGATE

Expanded polystyrene can remain buried in a wet environment for decades without degradation. By its nature EPS is a closed-cell foam. Closed cells allow only minimal amounts of moisture to be temporarily absorbed.

Chemical Absorption

- Polystyrene is an inert, large molecular weight compound that does not breakdown in aqueous solutions.
- Polystyrene does not act as an adsorbent like activated carbon, nor is polystyrene very permeable to liquids. Source: StyroChem

Chemical Degradation

- The chemical resistance of polystyrene is well known. It is not attacked or degraded by long exposures to either bleach, soap solutions, or common household products that are poured down the drain.
- Polystyrene is virtually resistant to all aqueous media including dilute acids and bases. Source: StyroChem

Temperature Stability

- Polystyrene has the ability to tolerate extreme temperature ranges. It has a continuous use temperature range of -40ºC to +60ºC
- Polystyrene is not brittle at subzero temperature. Over time polystyrene may soften in boiling water.
- Products made of polystyrene will not be affected by the harshest of temperature climates or changes. Source: StyroChem

Life Span

- Expanded polystyrene is a highly stabile compound. The expected life span is indefinite. The product will last for well over 100 years. Source: StyroChem

Chemical Resistance

- Resistant to: concentrated and diluted inorganic acids (with the exception of oxidizing acids), alkalis, alcohols (with the exception of high molecular alcohols), water.
- Non-resistant to: organic solvents, aromatic hydrocarbons.
  Source: Hanser Werkstoff-Führer Hellerich; Harsch; Haenle