Applications

2H GEOdek® Stormwater Infiltration





TÜV NORD

Stormwater is not waste water

Natural pathway

Stormwater is naturally clean! The diversion of stormwater to the sewer system interferes with the natural pathway of stormwater infiltration! Infiltration recharges the groundwater and prevents the city drains and sewerage works from overloading.

Flooding and/or poor waste water treatment is often caused by stormwater, which cannot flow in its natural way. Natural infiltration occurs wherever the soil has uncovered surface and enough infiltration capacity to take the flow. Technical infiltration with 2H GEOdek®, however, can be achieved in areas where the natural infiltration capacity is poor. Infiltration with 2H GEOdek® can even take place below sealed surfaces, such as streets and parking lots.

Infiltration of large water quantities on small areas

Enhancing infiltration

Stormwater infiltration: a concept is coming up

The concept is easy: The stormwater is collected on the surface and conducted into a 2H GEOdek® storage/infiltration tank below ground. The stormwater flow is large compared to the infiltration flow. A 2H GEOdek® attenuation system stores the excess stormwater during the storm and then releases it afterwards.



100% solution with 97% void space

Stormwater attenuation is nowadays the preferred stormwater management concept. Local administrations encourage infiltration but because of water table considerations attenuation or the slow release of stormwater into the drains is the more common approach. 2H GEOdek® infiltration boxes are > 97% void and are made from a rigid and environmentally friendly Polypropylene matrix. The boxes exhibit exceptional strength and are resistant to all the chemicals normally found below ground.
2H GEOdek® is available in a variety of grades suitable for the different types of load to which it is subjected. Worldwide, 2H GEOdek® is manufactured by a unique process which makes it possible to manufacture the boxes to the strength needed. Standard boxes are available in seven strengths.

Advantages of 2H GEOdek®

- No need for stormwater drains
- Decentralised, flexible and tailor-made solutions
- Lower waste water discharge charges
- Easy and quick installation with 2H GEOdek®





Laydown procedure: A few hours for a truckload

The construction starts with the excavation of a hole. Next, a layer of geotextile fabrics and membrane (in the case of attenuation systems) is placed into the hole. The 2H GEOdek® boxes are laid side by side. Successive layers in multi-layer systems are laid crosswise (90° to the previous). Connecting elements are not needed. The standard box has a length of 2400 mm, a width of 325 mm and a height of 600 mm. The boxes can be cut at the construction site to the size needed. Installation needs only seconds per box due to their lightweight structure. Finally, pipework is connected, geotextile wrapped around and the earth-cover is backfilled and compacted with light plant.

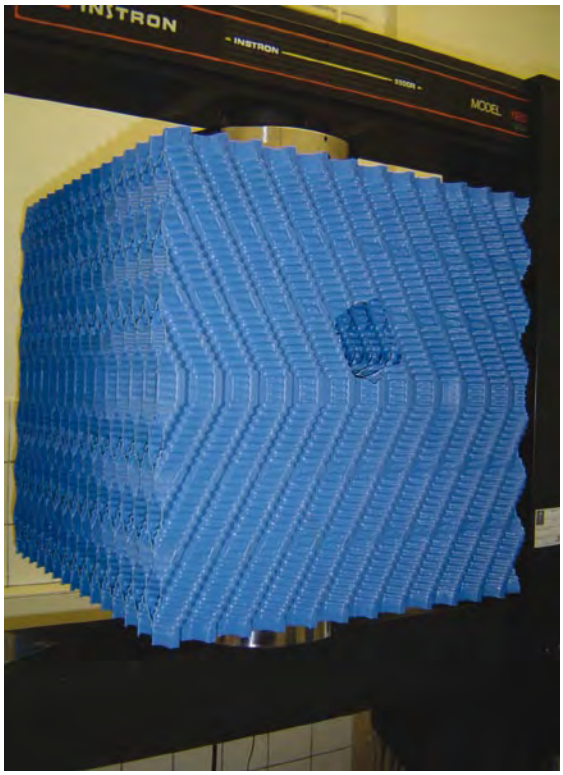
Know-how

Research & Development

The strength of 2H GEOdek® boxes is proven and independently tested; the quality of 2H GEOdek® boxes is guaranteed by highest quality control systems.

The GEA 2H Water Technologies R&D department provides steady product improvement, optimising and quality monitoring which includes confirmation of test results by independent institutes such as TÜV and BBA.

In the past ten years, all over the world, attenuation and infiltration projects have been completed with 2H GEOdek®.



Multifunctional

Further applications

2H GEOdek® boxes can be used in waste water and cooling water plants.

Rainwater Harvesting

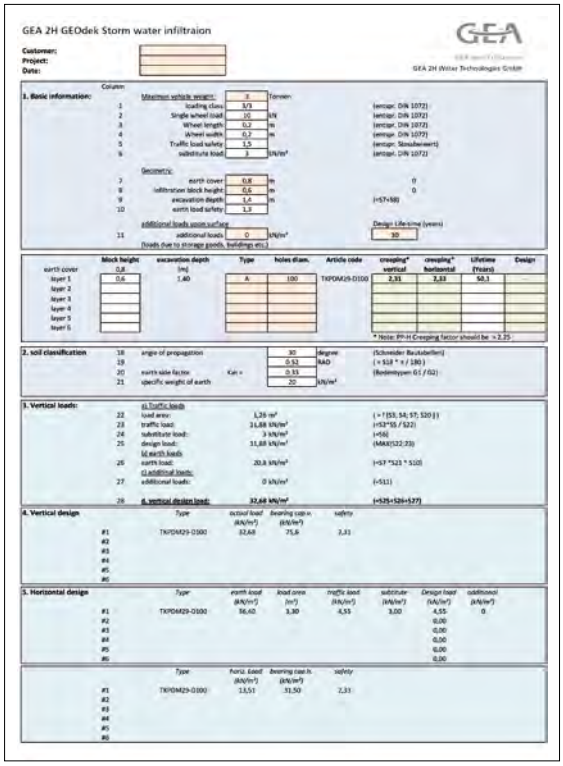
The outstanding properties of 2H GEOdek® are also used for rain water harvesting tanks which can be built without concrete or steel surrounds. The construction resembles the attenuation system. Infiltration is prevented by an impermeable membrane around the fill structure.

Infiltration of treated effluents

2H GEOdek® boxes are also used for the infiltration of treated effluent from medium and small waste water treatment plants.

GEOdek® infiltration boxes – certified by TÜV Nord

GEOdek®-design program



Flexibility

Standard boxes

2H GEOdek® storage systems are designed with respect to type of traffic load and earth coverage

For the selection of the appropriated type we use our GEOdek® design program. With this user friendly program you can easily choose the appropriated type of GEOdek® boxes for single or multi layer systems.

The seven different types of boxes allow a most economically and ecologically-friendly realization of your projects.

Leading competence

Worldwide presence

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2H GEOdek®
Stormwater infiltration below
a public parking area.



2H GEOdek®
Attinghausen, Switzerland:
Road-runoff treatment

GEA Heat Exchangers

GEA 2H Water Technologies GmbH

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