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TEXDRAIN

OPTIMAL DRAINAGE FOR ANY SITUATION

INSTALLATION GUIDE

REV: 09-27-2016

Texel GEOSYNTHETICS

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NOTE : The concept has to be determined by the engineer in charge of the project. Any information, verbal or written, forwarded by Texel Technical Materials, cannot in any way be interpreted as conceptual information. Any information must be verified and approved by the engineer in charge of the project.

1. PRODUCT DESCRIPTION AND USE

1.1 Product

TEXDRAIN is a drainage geocomposite designed to intercept and accelerate the evacuation of infiltrating waters. It comes in two models: TEXDRAIN 80V, for vertical drainage (with sheath for pipe to be inserted on site), and TEXDRAIN 80H, for horizontal drainage (without sheath). It comes in a roll in the standard available sizes.

1.2 Application

TEXDRAIN's drainage core, perfectly enveloped between two geotextile filters, offers a permeability 1,000 to 10,000 times greater than that of the soil in place, thus promoting the migration of water through the geotextile to the outlet pipe.

TEXDRAIN products ensure efficient drainage of road infrastructures, acting as a drainage screen along the pavement of bridge abutments, embankments and retaining walls. They are suitable for parks, parking lots, railroads, sports fields, landfill sites, airports, concrete slabs, etc.

2. RECEIVING, HANDLING AND STORAGE

2.1 Receiving

TEXDRAIN rolls are packed when manufactured to withstand standard on-site handling. An adequate mode of transportation must be used to avoid damage during delivery on-site.

Each roll is assigned a unique series number that may be used to trace the production lot, if required. Labels are placed on the following locations:

- On the packaging at the end of the roll;
- On the material to one of the ends of the roll
- In the cardboard tube to one of the ends of the roll

When rolls are received, it is important to check the condition of the rolls and packaging.

2.2 Handling

The installer must handle the rolls without damaging them in any way. The rolls can be handled using a forklift or appropriate nylon straps so as not to damage the packaging or the product.

When unloading at the worksite, make sure not to drag the material on the floor of the trailer or along the ground, as this can result in damaging the packaging and the product.

2.3 Storage

From the time they are received until they are used, the rolls must be stored on a clean, non-abrasive surface and be protected from any mechanical damage, prolonged exposure to ultraviolet rays, puncturing, tearing and anything else that could affect their quality. Damaged packaging can be repaired by applying protective adhesive tape, or a new bag can be used. Unused parts of the roll must be repackaged to protect them until they are used.

Figure 1: Example of pyramid storage

2.4 Health and safety

⚠	At each step of the conception until completion, each worker must work safely. Whether it is for the materials, tools or machineries operation, working environment, the health and the safety should be priorities

3. INSTALLATION INSTRUCTIONS

3.1 TEXDRAIN 80V

3.1.1 Use on roads (draining screen along the road)

TEXDRAIN 80V must be installed as close as possible to the vertical border of the road. The geocomposite can be vertically secured with wooden stakes while it is backfilled. The installation depth varies, depending on how thick the foundation must be.

Figure 2 – Installation of TEXDRAIN 80 V for road use

The drainage collectors must be connected to catch basins or the outlet pipe. They must be installed on a slope to ensure proper runoff (usually at least 0.5%).

The collector pipe must be placed at least 150 mm below the structure line. TEXDRAIN is available in heights of 0.85 and 1.2 metres (drainage core height). Make sure that the height of the TEXDRAIN selected clears the height of the base course without coming in direct contact with the asphalt pavement.

The depth of the TEXDRAIN 80V is determined using this equation:

Installation depth = TEXDRAIN drainage core height + Drain diameter

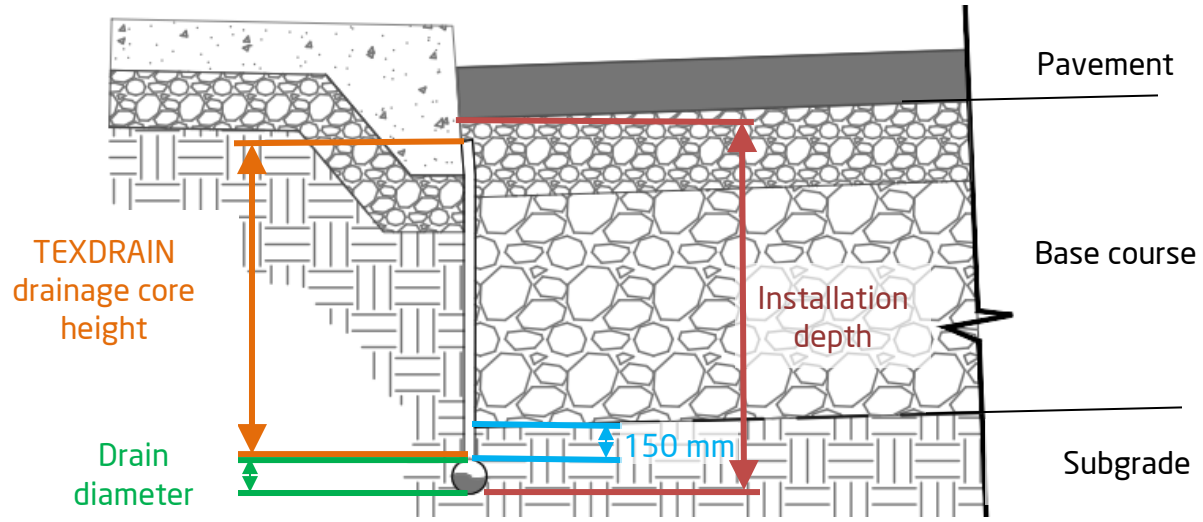

Figure 3 – Installation depth

The collector pipe is inserted in the geotextile sheath with a specially designed cord.

Figure 4 – Cord used to insert the pipe in the geotextile sheath

A minimum overlap of 100 mm. may be required, depending on the work site conditions. A heat-welded seam can also be used in place of an overlap.

Backfilling with TEXDRAIN 80V involves successive layering according to the technical specifications. Special care must be taken not to perforate the geocomposite during compaction.

For reconstruction projects that do not require total road excavation, TEXDRAIN 80V can be installed with a trenching machine. This method makes it possible to lay the product and backfill continuously while ensuring worker safety.

Figure 5 – Laying TEXDRAIN 80V with a trenching machine

3.1.2 Use with building foundations

TEXDRAIN 80V can be used as a drainage screen for foundation walls. It must be placed between the waterproofing membrane and the backfill (see Figure 6). The geocomposite can be held in place with pieces of wood nailed to the top section.

If the drainage depth needed is greater than the height of TEXDRAIN 80V, a strip of TEXDRAIN 80H can be installed at the top. The strips must overlap by at least 100 mm. The two strips can be held in place with temporary staples to provide enough support until the embankment is backfilled.

The collector pipe is inserted in the geotextile sheath with a specially designed cord.

Backfilling with TEXDRAIN 80V involves successive layering according to the technical specifications.

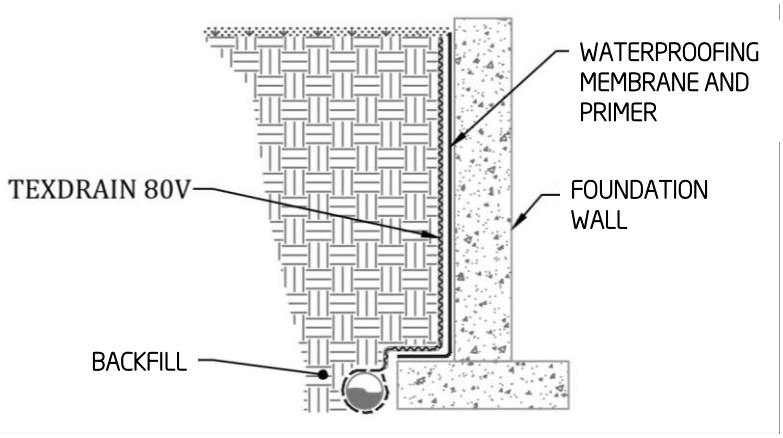

Figure 6 – Cross-section of TEXDRAIN 80V for use with foundation walls

3.2 TEXDRAIN 80H

3.2.1 Use on roads

When TEXDRAIN 80H is used on road application, it is usually placed under a rigid pavement surface. The drainage geocomposite can be installed at two levels: at the infrastructure or directly under the concrete slab. An overlap of 300 mm. is recommended in both cases.

When backfilling, trucks must back over compacted granular material of at least 300 mm. thick to dump the load. The backfill must be spread with a crawler-tracked machine.

The degree and type of compaction and the maximum thickness of layers must be based on the foundation soil properties and the backfill material.

⚠	No vehicle can be driven directly on top of TEXDRAIN 80H.

3.2.2 Use for bridge abutment drainage

TEXDRAIN 80H is installed vertically with a strip width extending to the evacuation system and spacing that was determined during the project design phase.

The geocomposite can be held in place with pieces of wood nailed to the top section.

If a longer strip is needed, one can be assembled with a 300 mm. overlap held in place with temporary staples to provide enough support until it is backfilled.

Backfilling with TEXDRAIN 80H involves successive layering according to the technical specifications.

Figure 7 – Installing TEXDRAIN 80H for bridge abutment drainage

3.2.3 Use for a drainage shield on a rocky face

TEXDRAIN 80H is installed vertically with a strip width and spacing that was determined during the project design phase.

If a longer strip is needed, one can be assembled with a 300 mm. overlap held in place with temporary staples to provide enough support until it is backfilled.

Backfilling with TEXDRAIN 80H involves successive layering according to the technical specifications

Figure 8 – Installing TEXDRAIN 80H as a drainage shield on a rock face

3.2.4 Use for roofing

TEXDRAIN 80H can be used as a drainage geocomposite on roofs. It must be installed on top of the waterproofing membrane, as shown in the figure below.

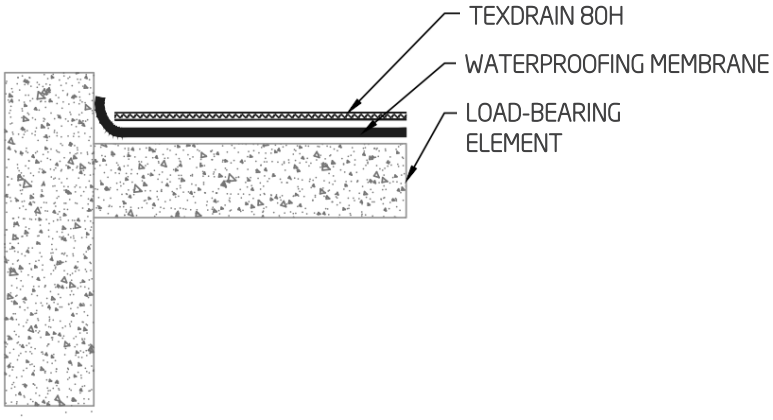

Figure 8 – Cross-section of TEXDRAIN 80H installation for roofing

An overlap of 100 mm. may be required.