GEOfabrics®

Installation Guidance Document

Installing Protexia cuspated drainage products

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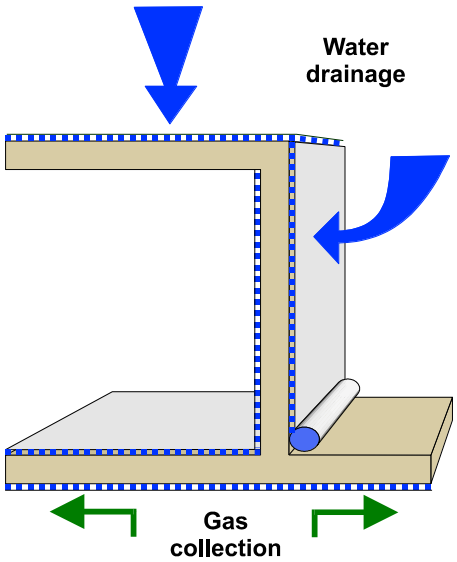
Installation of GEOfabrics Cuspates

Introduction

This document covers the general installation of Protexia cuspated drainage systems. Further attention may be required to address site-specific requirements and conditions.

These guidelines are intended for the installer and to promote the most efficient and effective installation, whilst maintaining quality, maximising the products' performance, and without compromising health and safety.

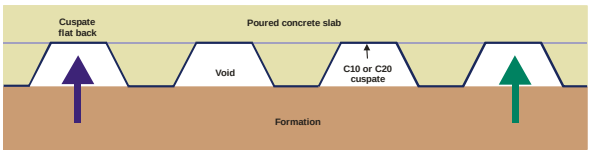


Characteristics and Properties

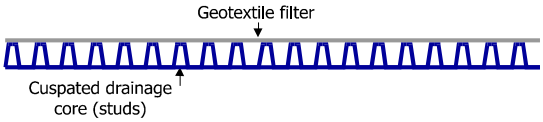
- These cuspated products are manufactured from extruded polyethylene sheet.
- The range includes products with a polypropylene geotextile filter bonded to the studs and products that are fully wrapped with a geotextile.
- The products are typically delivered to site as 0.9m or 1.0m wide by 50m long rolls.
- All cuspated products are delivered to site in shrink-wrap packaging

Standard cuspates

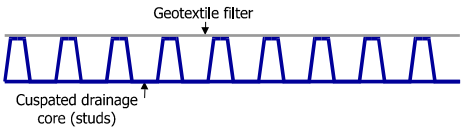
The core-only cuspates – C10 with a 10mm cup height and C20 with a 20mm cup height - are generally used as void formers beneath concrete slabs or behind renders to form a drainage path. They are laid with the cups pointing towards the gas or water source and the flat back facing the concrete or render



FC12 and FC25 are formed from a cuspate and geotextile filter bonded to the stud face. They are used as drainage layers between a structure and backfill. They can be installed vertically or horizontally, but always with the geotextile filter towards the backfill.

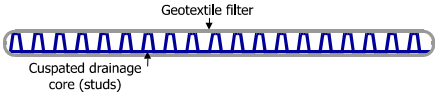


FC12

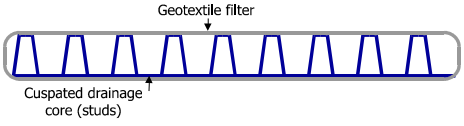


FC25

(These are always placed with the textile filter towards the backfill)



FCF12



FCF25

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FcF12 and FcF25 fully-wrapped versions are used as fin drains in highway works and are deployed beneath membranes to form gas protection systems for building.

The products can also be used for other specialist applications including green roof systems and for land and sports-field drainage. Please contact GEOfabrics Limited for further advice and assistance.

Unloading, handling and storage

- Depending on the product, roll weight can be between 49kg and 81kg and hence appropriate equipment is required for unloading and handling.

- The shrink-wrap packaging is intended to keep the material in a compact form during transit, not to protect the contents from physical damage and the effects of weathering. This packaging should not be removed until immediately prior to installation.

- If it is necessary for the products to be stored prior to their installation, they should be stacked on level dry ground, not more than three rolls high, and no other material should be stacked on top of the rolls.

Equipment

The following should be considered for use during installation in addition to conventional personal protective equipment (PPE) for when working on site (hard hat, work boots and high visibility coat):

- Gloves
- Safety glasses
- Stanley knife or similar
- Sand bags or tyres
- Waterproof adhesive tape

Method of Laying

- Rolls can be transferred to the working area of the site and the packaging removed without causing damage to the material.
- Unroll by hand on level ground. It may be easier to cut the required length from a roll prior to positioning if the product is to be placed vertically against a structure.
- Ensure that the product is placed facing the correct way (see page 2).
- Adjacent or subsequent rolls should be butt jointed without an overlap.
- The core-only products - C10 and C20 - should have the edges sealed with duct tape or similar to prevent grout entering the drainage void during compaction of the concrete.
- The geotextile-faced cores – FC12 and FC25 - have an additional 100mm wide geotextile flap at one edge. This should be used as an overlap between adjacent rolls and should be taped in place prior to backfilling.
- The fully-wrapped cores – FcF12 and FcF25 - should either be positioned at discrete intervals or butted up to each other, as shown on the project drawings.
- When installed vertically behind walls, each length should be held in place using sandbags (or other weight) at the top of the structure. The lengths can be fixed to the wall with suitable Hilti-type fixings plus waterproofing sealant, if these will not damage any structural waterproofing systems in use.
- When installed horizontally, sandbags should be placed at discrete intervals to ensure the product is not dislodged by the wind before backfilling

Backfilling

- Site or other equipment should never be driven directly on any geosynthetic product.
- Care must be taken not to dislodge the cuspates during the backfilling operation. Only hand-propelled rollers should be used to compact a fill within 1.0m of any cuspate.

Further information can be found at www.geofabrics.com or enquiries can be emailed to info@geofabrics.com.

These notes are written in good faith and comprise several years' experience of a number of different installers. While it is intended to provide the best practice for installation these guidelines offer no guarantee for the quality and performance of the installation.