

## Hydroduct® 220

Pre-fabricated geocomposite drain for use as a combined drainage and protection layer with Grace waterproofing membranes

### Advantages

- **Enhances waterproofing** – eliminates hydrostatic pressure build-up
- **Efficient water collector/deflector** – can be used as a sandwich drainage layer between lagging and the reinforced concrete structure
- **Smooth polymeric sheet** – compatible with Preprufe®, Procor®, or Bituthene® membranes
- **Simple convenient drainage and protection layer** – serves as robust membrane protection and drainage
- **Geotextile fabric filter** – allows ground water to pass into the drain core while restricting the movement of soil particles
- **High flow capacity** – drains 186 L/min./m (15 gals/min./ft) width
- **Rot proof** – unaffected by permanent immersion in water, bacteria, dilute acids and alkalis
- **Economical** – eliminates imported aggregate drainage layers
- **Studded core** – allows water to flow to designated drainage collection points

### Description

Hydroduct® 220 is a strong, preformed 10 mm (0.375 in.) thick geocomposite drainage sheet system, comprising a hollow studded polystyrene core, covered on one side with a non-woven, needle punched polypropylene filter fabric and on the other side with a smooth polymeric sheet.

### Use

Hydroduct 220 has been specially developed to provide a simple and highly practical collector and deflector of unwanted ground water on foundation walls, retaining walls, tunnels and planters. It can be used with Preprufe, Procor, or Bituthene waterproof membranes. When installed it protects the membrane from damage and minimizes the build-up of percolated surface water against the structure. The construction of the studded sheet also creates an air void to isolate the structure from the effects of the surrounding ground.

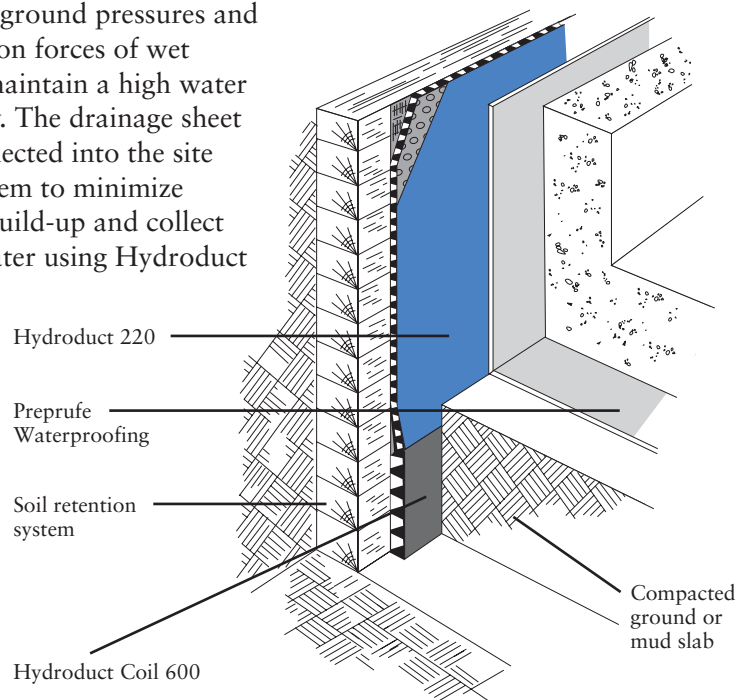
Hydroduct 220 has been designed to withstand ground pressures and the compaction forces of wet concrete to maintain a high water flow capacity. The drainage sheet must be connected into the site drainage system to minimize hydrostatic build-up and collect infiltrated water using Hydroduct

Coil 600 or traditional perforated pipes wrapped and linked with the geotextile filter fabric to prevent clogging.

### Application Procedures

#### Safety, Storage and Handling Information

All construction products must be handled properly. Grace Protection Board Adhesive is extremely flammable. Material Safety Data Sheets (MSDS) are available at [www.graceconstruction.com](http://www.graceconstruction.com) and users should acquaint themselves with this information. Carefully read detailed precaution statements on product labels and the MSDS before use.



## Supply

### Hydroduct 220

Roll Size	1.2 m x 15.2 m (4 ft x 50 ft) 18.6 m <sup>2</sup> (200 ft <sup>2</sup> )
Packaging	6 rolls/pallet
Weight	19 kg (42 lbs)/roll

### Complementary Materials

Hydroduct Tape	25 mm x 61.0 m (1 in. x 200 ft) rolls [2 x 15.2 m (50 ft) strips per roll of Hydroduct]
Hydroduct Coil 600	15.2 m (50 ft) roll

## Physical Properties

Property	Typical Value	Test Method
<b>Drainage Core</b>		
Polymer	High Impact Polystyrene	
Thickness	9.5 mm (0.375 in.) nominal	ASTM C366 Method B
Compressive Strength	718 kPa (15,000 lbs/ft <sup>2</sup> )	ASTM D1621
Flow Rate (gradient 1.0, load 172 kPa)	186 L/min./m (15 gal/min./ft)	ASTM D4716
<b>Geotextile</b>		
Type	Nonwoven	
Polymer	Polypropylene	
Weight	136 g/m <sup>2</sup> (4.0 oz/yd <sup>2</sup> )	ASTM D3776
Tensile Strength	445 N (100 lbs)	ASTM D4632
Trapezoidal Tear	222 N (50 lbs)	ASTM D4533
Apparent Opening Size	0.150-0.212 mm (70-100 U.S. sieve)	ASTM D4751
Permittivity	6095 L/min./m <sup>2</sup> (150 gal/min./ft <sup>2</sup> )	ASTM D4491
Mullen Burst	1480 kPa (215 lbs/in. <sup>2</sup> )	ASTM D3786
Puncture Strength	30 kg (65 lbs)	ASTM D4833

## Installation

Position Hydroduct so that the geotextile fabric filter is facing toward the groundwater, soil or overburden. In vertical applications, Hydroduct 220 Drainage Composites can be applied to the substrate vertically or horizontally but, in either case, should extend from the perimeter

discharge pipe to a point approximately 150 mm (6 in.) below the anticipated grade line.

When adhering Hydroduct 220 directly to Bituthene waterproofing membranes, Hydroduct Tape should be used. When using Hydroduct Tape, press firmly to ensure good adhesion. Substrate and job site

conditions will determine the attachment pattern. Abut adjacent rolls with excess fabric overlapping in shingle fashion.

For inside and outside corners, abut adjoining drainage composite at the corner. Cover open core with extra geotextile filter fabric.

The exposed core along the top terminations should be covered with a strip of geotextile to prevent intrusion of soil into core. At the bottom termination extend the Hydroduct 220 Drainage Composite out from the structure so that it passes behind and under the perimeter discharge pipe. Additional geotextile should be wrapped over the pipe to prevent soil intrusion.

To secure Hydroduct 220 around protrusions, apply Hydroduct Tape around the protrusion in a picture frame configuration. Cut Hydroduct 220 to fit snugly around the protrusion. Press the cut edge firmly into Hydroduct Tape.

In horizontal applications, adhere Hydroduct 220 with Hydroduct Tape. Substrate and job site conditions will determine attachment pattern. Additional consideration should be given in high wind exposures. Abut all edges tightly with the excess geotextile placed over the adjacent roll in shingle fashion.

Hydroduct 220 should be covered promptly. Do not leave Hydroduct 220 exposed to sunlight for more than two weeks. Motor vehicles, construction equipment or other trades should not be allowed directly on the Hydroduct 220.

**For Technical Assistance call toll free at 866-333-3SBM (3726).**

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