Acceptable

HYDRODUCT® 220

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

Description

Hydroduct® 220 is a strong, preformed 0.44 in. (11 mm) thick geocomposite drainage sheet system, comprising a hollow studded polystyrene core, covered on one side with a nonwoven, needle punched polypropylene filter fabric and on the other side with a smooth polymeric film.

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 17 gals/min./ft (211 L/min./m) 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

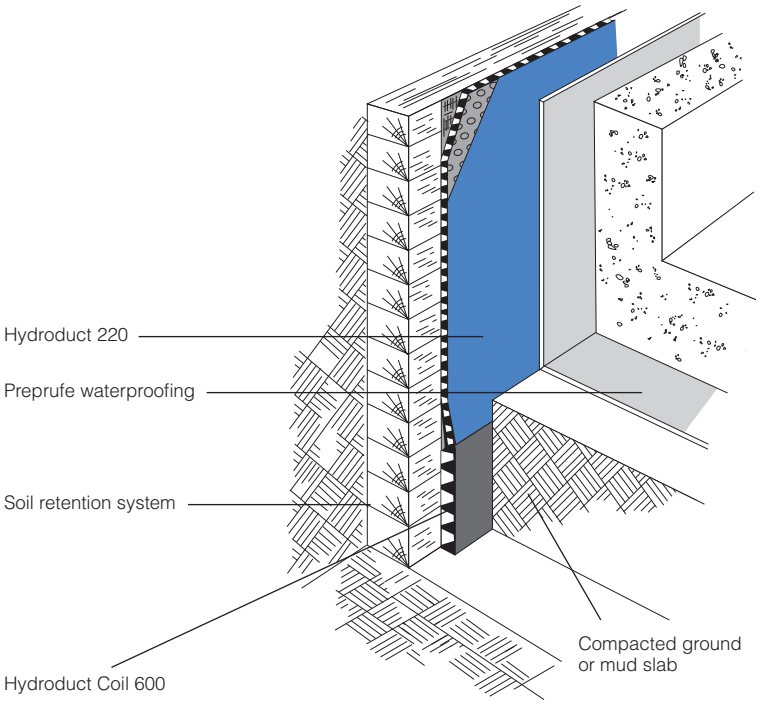
Product Advantages

- Enhances waterproofing
- Efficient water collector/deflector
- Smooth polymeric sheet
- Simple convenient drainage and protection layer
- Geotextile fabric filter
- High flow capacity
- Rot proof
- Economical

Use

Hydroduct 220 is designed primarily for use with waterproofing materials in vertical installations. 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.



Drawings are for illustration purposes only.
Please refer to graceconstruction.com for specific application details.

Supply

Hydroduct 220	
Roll size	4 ft x 50 ft (1.2 m x 15.2 m) 200 ft² (18.6 m²)
Packaging	6 rolls/pallet
Weight	38 lbs (17.2 kg)/roll
Complementary Materials	
Preprufe Detail Tape	2 in. x 50 ft (50 mm x 15 m) roll/16 rolls per carton
Hydroduct Coil 600	50 ft (15.2 m) roll

Physical Properties

Property	Typical Value	Test Method
Drainage Core		
Polymer	High impact polystyrene	
Thickness	0.44 in. (11 mm) nominal	ASTM C366 method B
Compressive strength	15,000 lbs/ft² (718 kPa)	ASTM D1621 (modified)
Flow rate (gradient 1.0, load 172 kPa)	17 gal/min./ft (211 L/min./m)	ASTM D4716
Geotextile		
Type	Nonwoven	
Polymer	Polypropylene	
Weight	4.0 oz/yd² (136 g/m²)	ASTM D3776
Tensile strength	100 lbs (445 N)	ASTM D4632
Apparent opening size	70 U.S. sieve (0.21 mm)	ASTM D4751
Flow rate	165 gal/min./ft² (6724 L/min./m²)	ASTM D4491
CBR puncture	275 lbs (1.22 kN)	ASTM D6241

Application Procedures

Safety, Storage and Handling Information

All construction products must be handled properly. Material Safety Data Sheets (MSDS) are available at graceconstruction.com and users should acquaint themselves with this information. Carefully read detailed precaution statements on product labels and the MSDS before use.

Installation

Position Hydroduct so that the geotextile fabric filter is facing toward the groundwater, soil or overburden. The solid polymeric film provides extra protection for waterproofing such as Procor or Bituthene and should not be removed.

In vertical applications, Hydroduct 220 Drainage Composites can be applied to the substrate vertically but should extend from the perimeter discharge pipe to a point approximately 6 in. (150 mm) below the anticipated grade line.

When adhering Hydroduct 220 directly to Bituthene waterproofing membranes, Preprufe Detail Tape should be used. When using Preprufe Detail Tape, press firmly to ensure good adhesion. Substrate and job site conditions will determine the attachment pattern. Additional consideration should be given in high wind exposures. 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 Preprufe Detail Tape around the protrusion in a picture frame configuration. Cut Hydroduct 220 to fit snugly around the protrusion. Press the cut edge firmly into Preprufe Detail Tape.

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.

www.graceconstruction.com

For technical assistance call toll free at 866-333-3SBM (3726)

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We hope the information here will be helpful. It is based on data and knowledge considered to be true and accurate and is offered for the users' consideration, investigation and verification, but we do not warrant the results to be obtained. Please read all statements, recommendations or suggestions in conjunction with our conditions of sale, which apply to all goods supplied by us. No statement, recommendation or suggestion is intended for any use which would infringe any patent or copyright. W. R. Grace & Co.–Conn., 62 Whittemore Avenue, Cambridge, MA 02140. In Canada, Grace Canada, Inc., 294 Clements Road, West, Ajax, Ontario, Canada L1S 3C6.

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HYD-040H Printed in U.S.A. 10/13 FA/PDF

GRACE

CANNONDESIGN

SUBMITTAL IDENTIFICATION SHEET

To be completed by Contractor/CM

WEBSTER UNIVERSITY ISB
PROJECT NAME

8274 BIG BEND BLVD
ADDRESS

NUMBER

WEBSTER UNIVERSITY
OWNER

CANNON DESIGN
ARCHITECT / ENGINEER

DEVIN D GATES
SUBMITTED BY

071326-001
CONTRACTOR / CM SUBMITTAL NO.

CANNON DESIGN SUBMITTAL NO.

DRAWING / DETAIL REFERENCE

071326
SPECIFICATION SECTION / PARAGRAPH

Grace
MANUFACTURER / SUPPLIER

ITEM / PRODUCT ID

REQUIRED DATE

PRIORITY

◯ CRITICAL

ITEM BEING SUBMITTED (check only one)

- ◯ Shop Drawings
- ◯ Samples (_____ copies)
- ◯ LEED Submittal
- ◯ Certification / Qualifications
- ◯ Record Documents
- ◉ Product Data
- ◯ Coordination Drawing
- ◯ Calculations
- ◯ Schedules
- ◯ O&M Manuals
- ◯ Other _____

ITEM BEING SUBMITTED FOR (check only one)

◉ Action ◯ Information Only ◯ Record

REMARKS OR DEVIATIONS

CONTRACTOR / CM CERTIFICATION
(SUBMITTALS NOT CERTIFIED WILL BE RETURNED WITHOUT REVIEW)

PARIC

PARIC CORPORATION
SUBMITTAL STAMP

THIS SHOP DRAWING HAS BEEN REVIEWED BY PARIC CORPORATION

Subcontractor remains responsible for dimensions, quantities, coordination with other trades and compliance with contract documents.

By:
Devin D. Gates

DEVIN D GATES — 05/18/16
REVIEWED BY — DATE

To be completed by Reviewer

07 1326-001
CANNON DESIGN SUBMITTAL NUMBER

5/19/16
RECEIVED DATE

- ◯ A. No Exceptions Taken
  No further review of submittal is required.
- ◯ B. Make Corrections Noted
  Incorporate corrections in work; resubmission is not required.
- ◉ C. Revise and Resubmit
  Revise as noted, and resubmit for review.
- ◯ D. Rejected
  Submittal is not in compliance with Contract Documents; provide new submittal.
- ◯ E. For Record / Information Only
  Submittal was reviewed for Record / Information purposes only.
- ◯ F. Not Required for Review
  Submittal is not required by Contract Documents and has not been reviewed.

Review is for conformance with the design concept of this project and for general compliance with contract documents. Contractor is responsible for quantities, dimensions and compliance with contract documents and for information that pertains to fabrication processes, construction techniques and coordination of this work with all trades which will be affected thereby. This review is null and void if submittal deviates from contract documents and does not indicate or note deviations.

A/E COMMENTS ◯ See attached sheet(s) for additional comments

1. KWA has reviewed the supplied documents. KWA has approved the following products:
   a. Bituthene Liquid Membrane
   b. Bituthene Mastic
   c. Hydroduct 220
   d. Perm-a-barrier WB Primer
   e. STYROFOAM Brand Square Edge Insulation
2. KWA has rejected the following product:
   a. Bituthene 3000/3000 HC
3. Contractor shall coordinate this product with all material that will be in contact with it, for compatibility and that no issues with the warranty will occur.
4. “Bituthene 3000/3000HC” does not meet requirements. “Bituthene 3000 and Bituthene Low Temperature” meets specified requirements.

REVIEWED BY — 5/24/16
DATE

PARIC
EXPERIENCE. EXCELLENCE.
77 Westport Plaza
Suite 250
St. Louis, MO 63146

TRANSMITTAL

No. 15051-0040

Paric Corporation

PROJECT: Webster University Interdisciplinary Science Building

DATE: 05/18/2016

TO: Cannon Design
1100 Clark Ave
St Louis MO 63102

RE: Waterproofing materials product data

ATTN: Kelvin Patel

JOB: 15051

WE ARE SENDING:	SUBMITTED FOR:	ACTION TAKEN:
☐ Shop Drawings	☑ Approval	☐ Approved as Submitted
☐ Letter	☐ Your Use	☐ Approved as Noted
☐ Prints	☐ As Requested	☐ Returned After Loan
☐ Change Order	☐ Review and Comment	☐ Resubmit
☐ Plans		☐ Submit
☐ Samples	**SENT VIA:**	☐ Returned
☐ Specifications	☐ Attached	☐ Returned for Corrections
☐ Other:	☐ Separate Cover Via:	☑ Due Date: 03/28/2016

Item	*Package*	*Code*	*Rev.*	*Copies*	*Date*	*Description*	*Status*
Submittal		071326-001	1		05/18/2016	Waterproofing materials product data	Submitted

NOTES:

CC: Paric Corporation, Kathy Bathe

Project Coordinator: Paric Corporation, Kathy Bathe

Signed: _____
Devin Gates