

# HYDRODUCT® TUNNEL DRAIN

Pre-fabricated geocomposite drain for use as a combined drainage and protection layer

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## Product Description

HYDRODUCT® TUNNEL DRAIN is a strong, preformed 0.6 in. (16 mm) thick geocomposite drainage sheet, comprising a polypropylene drainage core of fused, entangled monofilaments with a specialized nonwoven geotextile bonded to one side. Both the core and the geotextile contain effective fire retardants.

## Uses

HYDRODUCT® TUNNEL DRAIN has been specially designed to provide a simple and highly practical collector and deflector of unwanted ground water in tunnel applications. It can be used with Preprufe and Preprufe SCS Waterproofing Systems. When installed it protects the membrane from damage and minimizes the build-up of percolated surface water against the structure. The construction of the drainage core also creates an air void to isolate the structure from the effects of the surrounding ground.

HYDRODUCT® TUNNEL DRAIN 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 tunnel's drainage discharge system to eliminate hydrostatic build-up.

## Product Advantages

- **Enhances waterproofing**—eliminates hydrostatic pressure build-up
- **Efficient water collector/deflector**—can be used as a sandwich drainage layer between soil retention system and the reinforced concrete structure
- **Simple convenient drainage and protection layer**—serves as robust membrane protection and drainage
- **Geotextile fabric filter**—provides a protection layer for waterproofing membrane
- **High flow capacity**—drains 18 gals/min./ft (225 L/min./m) width under 5000psf pressure
- **Rot proof**—unaffected by permanent immersion in water, bacteria, dilute acids and alkalis
- **Economical**—eliminates imported aggregate drainage layers

## Application Procedures

### Safety, Storage and Handling Information

All construction products must be handled properly. Safety Data Sheets (SDS) are available at [gcpat.com](http://gcpat.com) and users should acquaint themselves with this information. Carefully read detailed precaution statements on product labels and the SDS before use.

### Installation

HYDRODUCT® TUNNEL DRAIN is installed by a GCP approved waterproofing applicator. GCP provides designers and engineers with a customized solution for the most complex waterproofing challenges.

## Packaging

PROPERTY	ENGLISH UNITS	METRIC UNITS
Core Width	39.0 in.	99.1 cm
Length	150.0 ft	45.7 m
Area	54.2 yd <sup>2</sup>	45.3 m <sup>2</sup>
Area	487.5 ft <sup>2</sup>	45.3 m <sup>2</sup>
Roll Diameter	44.0 in.	1.1 m
Gross Roll Weight	100 lbs.	45.4 kg

## Typical Properties

PROPERTY	ENGLISH UNITS	METRIC UNITS
Core Material	Polypropylene	
Thickness	0.6 in.	16 mm
Total Weight	29.5 oz/yd <sup>2</sup>	1000 g/m <sup>2</sup>
Core Weight	24.0 oz/yd <sup>2</sup>	813.8 g/m <sup>2</sup>
Compressive Load Test	1 >30,000 psf	kN/m <sup>2</sup> No Failure*

## Typical Flow Rates

PRESSURE	1.0 GRADIENT	0.5 GRADIENT	0.2 GRADIENT
250 psf	21.0 gal/min/ft	14.5 gal/min/ft	9.6 gal/min/ft
500 psf	21.0 gal/min/ft	13.8 gal/min/ft	8.2 gal/min/ft
1000 psf	19.7 gal/min/ft	13.0 gal/min/ft	8.0 gal/min/ft
3000 psf	18.9 gal/min/ft	13.2 gal/min/ft	7.7 gal/min/ft
5000 psf	18.1 gal/min/ft	12.2 gal/min/ft	7.5 gal/min/ft

<sup>1</sup>Test method: ASTM 1621 D modified and ASTM D 4716

\*Failure defined as reaching yield point or no continued measurable flow under stated load.

\*\*Custom widths and lengths available in 2011, consult your GCP representative.

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