TECHNICAL DATA

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AQUADRAIN® 15X

SUBSURFACE DRAINAGE COMPOSITE

DESCRIPTION

Aquadrain 15X drainage composite is a twopart prefabricated sheet drain consisting of a 3-dimensional polypropylene formed dimple core covered with a non-woven polypropylene filter fabric on one side. The formed dimple core provides compressive strength and collects water for flow to drainage discharge pipes. The filter fabric allows water or other liquids to pass into the drainage core while restricting the passage of soil particles. The filter fabric is bonded to each dimple to minimize fabric intrusion into the core resulting from backfill pressure. The polypropylene core resists chemical attack and degradation in soil.

APPLICATIONS

Aquadrain 15X is a cost-effective drainage sheet designed to replace or complement aggregate drainage backfills. It is designed primarily for vertical sub-surface applications requiring a high compressive strength and high flow capacity. Applications include foundation walls, retaining walls, bridge abutments, planters, tunnels and other earth-covered structures. Aquadrain 15X can also function as a protection course when installed over a waterproofing membrane.

INSTALLATION

Install Aquadrain 15X with the plastic core toward the structure; filter fabric side outward toward direction of expected water flow. Product rolls may be installed horizontally or vertically oriented. For attaching the drainage composite to waterproofing membrane, concrete or wood, several methods may be used including washer-head fasteners, general construction adhesive, double-sided tape, wood lathing or insulation stick pin anchors. Discuss material compatibility with waterproofing supplier before using mechanical fasteners or adhesives.

To attach drain sheet to bare earth, use 4”-8” (100mm-200mm) soil anchor pins with washers.

Aquadrain 15X may be installed starting at the bottom or top of the wall. Starting at the base of the wall, install the first course of Aquadrain 15X with the bottom edge overlapping the top core flange edge of Aquadrain 100BD. (Refer to Aquadrain 100BD TechData Sheet for base drain installation instructions.) Position filter fabric flap from bottom of Aquadrain 15X over the front of Aquadrain 100BD and secure with adhesive or tape. Install subsequent Aquadrain 15X rolls with core edges abutting previous roll edges with core flange edge side upstream. This core flange position minimizes water seepage behind the drain core similar to the way roof
shingles work. Another installation technique is to simply overlap the drain sheet edges in a manner similar to the way roof shingles work shedding water to the outside. Either method requires the filter fabric edge flap to cover roll lap joints and secured with construction adhesive or duct tape. Cut drain composite as required to fit around penetrations and other details. Always seal open core edges with filter fabric flap or other applicable material including cut core edges around penetrations.

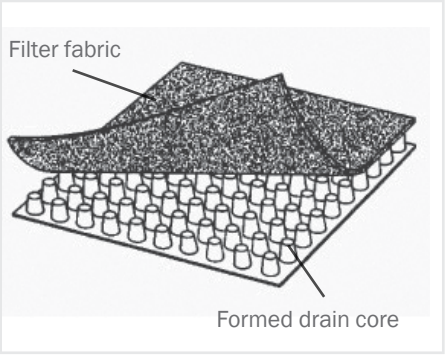
With conventional discharge pipe surrounded by gravel is used, position the drain core between the discharge pipe and the structure. Also wrap gravel with geotextile to prevent soil erosion into discharge pipe.

Extend Aquadrain 15X installation to 6” (150 mm) below the finished grade line. Wrap excess filter fabric flap behind the core edge at the top of the wall, and any system termination to prevent soil intrusion. Backfill with compacted soil directly against the filter fabric

For installation against property line retention walls, place Aquadrain 15X with the filter fabric side facing outward against the retaining wall. Follow installation techniques described above. Then place waterproofing or pour structural concrete directly against the drain core.

PACKAGING

Aquadrain 15X is available in 4’ x 52’ rolls (1.22 m x 15.85 m) 208 sq ft per roll; individually packaged in a green plastic bag with white text.



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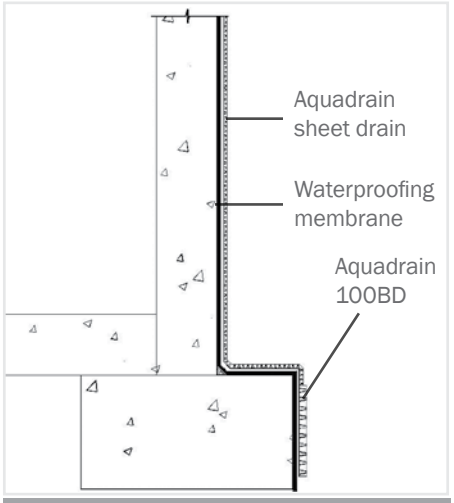
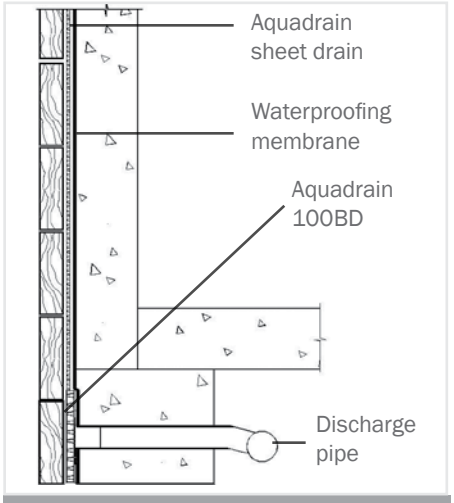
SUBSURFACE DRAINAGE COMPOSITE

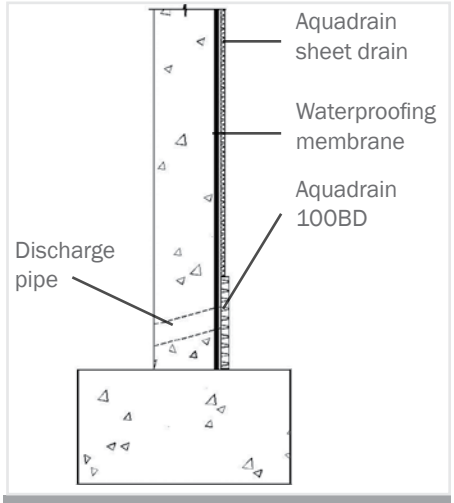
TECHNICAL DATA			
PROPERTY	TEST METHOD	TYPICAL VALUE	METRIC VALUE
NONWOVEN FILTER FABRIC PROPERTIES			
Material	N/A	Polypropylene	Polypropylene
Weight	ASTM D3776	4.0 oz/yd^2	136 g/m^2
Grab Tensile Strength	ASTM D4632	100 lbs.	0.45 kN
Puncture Strength	ASTM D3787	65 lbs.	0.29 kN
Trapezoidal Tear	ASTM D4533	40 lbs.	0.17 kN
Burst Strength	ASTM D3786	185 psi	1,270 Kpa
Elongation	ASTM D4632	50 percent	50 percent
Apparent Opening Size	ASTM D4751	70-100 U.S. std. sieve	0.5-0.212 mm
Permeability	ASTM D4491	0.20 cm/sec	0.20 cm/sec
Flow Rate	ASTM D4491	150 gpm/ft^2	6,105 l/min/m^2
DRAINAGE CORE PROPERTIES			
Material	N/A	Polypropylene	Polypropylene
Thickness	ASTM D1777	7/16 (0.43) inch	11.1 mm
Compressive Strength	ASTM D1621 (mod)	15,000 lbs./ft^2	718 kPa
DRAINAGE COMPOSITE PROPERTIES			
Flow Capacity	ASTM D4716	20 gpm/ft. of width	251 l/min/m of width
Roll Length	N/A	52 ft.	15.8 m
Roll Width	N/A	4 ft.	1.22 m
Roll Weight	N/A	39 lbs.	17.7 kg



FOUNDATAION WALL



PROPERTY LINE WALL



RETAINING WALL

Aquadrain published flow performance and load values are determined by applicable industry testing methods. Specific project performance requirements and product selection should be determined by the project designer. Do not drive vehicles directly on drainage composite prior to concrete or backfill placement. Repair damaged or disrupted drainage system prior to backfill or cover material placement. Product should not be used as a surface material exposed to sunlight. Aquadrain is resistant to chemicals found in normal soil conditions. Additional geotextile filter fabric may be required for use around discharge pipes and other detailing.

SEPTEMBER 2010

IMPORTANT: The information contained herein supersedes all previous printed versions, and is believed to be accurate and reliable. For the most up-to-date information, please visit www.CETCO.com. CETCO accepts no responsibility for the results obtained through application of this product. CETCO reserves the right to update information without notice.

www.CETCO.com
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