AQUADRAIN® 30H
SUBSURFACE DRAINAGE COMPOSITE

DESCRIPTION

AQUADRAIN 30H drainage composite is a two part prefabricated sheet drain consisting of a 3-dimensional polypropylene formed dimple core covered with a woven polypropylene filter fabric bonded to oneside. 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 30H is a cost-effective drainage sheet designed to replace or complement aggregate drainage backfills. It is designed primarily for horizontal split-slab and plaza deck construction where light to heavy vehicular traffic and pedestrian traffic will be experienced. Other applications include bridge abutments, tunnels and under interior floor slabs. AQUADRAIN 30H has very high compressive strength and moderate flow capacity. Concrete can be poured directly against the filter fabric. AQUADRAIN 30H can also function as a protection course when installed over a waterproofing membrane.

INSTALLATION

For horizontal split-slab construction, such as parking and plaza decks, install AQUADRAIN 30H directly over the waterproofing membrane with the filter fabric side up toward direction of expected water flow. 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.

For horizontal work, AQUADRAIN 30H may be loosely laid (with all edges abutted) directly over the waterproofing membrane. AQUADRAIN 30H must be secured if high winds are expected prior to the pour of concrete or placement of paver system. Install AQUADRAIN 30H with flange edge of the core at the higher side of the deck slope (away from the drain) so that the lapped flange edge sheds water like a roof shingle.

Install subsequent AQUADRAIN 30H rolls with core edges abutting previous roll edges with flanged core edge side upstream (away from drain). This core flange position minimizes water seepage behind the drain core similar to the way roof shingles work.
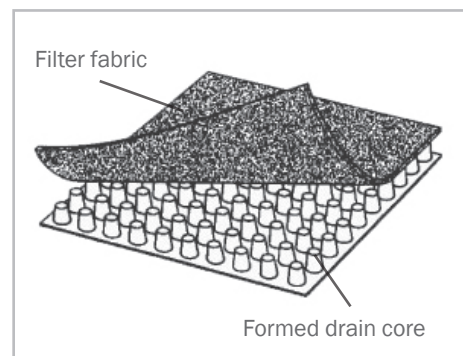
Secure filter fabric edge flap over roll lap joints with construction adhesive or duct tape. Cut drain composite as required to fit around penetrations and other details. Always seal open core edges with filter fabric flap or other applicable material including cut core edges around penetrations.

AQUADRAIN 30H should be used with proper drain discharges located throughout the deck area or sloped to drain at deck edge per specific project design. Specific project performance requirements and overlaying wearing surface selection should be determined by the project designer.

Minimize direct traffic on the drain composite until wearing surface is in place. Do not drive vehicles directly on drainage composite prior to wearing surface placement. Repair damaged or disrupted drainage system prior to wearing surface placement. Product should not be left exposed to prolonged sunlight prior to wearing surface placement.
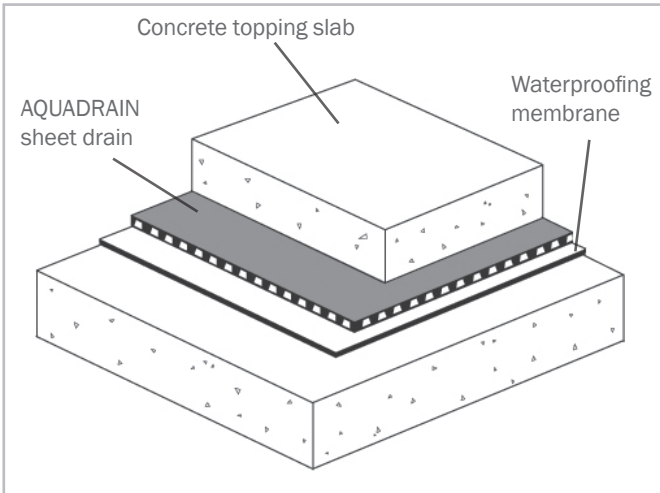
PACKAGING

AQUADRAIN 30H is available in 1.22 m x 15.24 m rolls (4' x 50') 200 sq ft per roll.
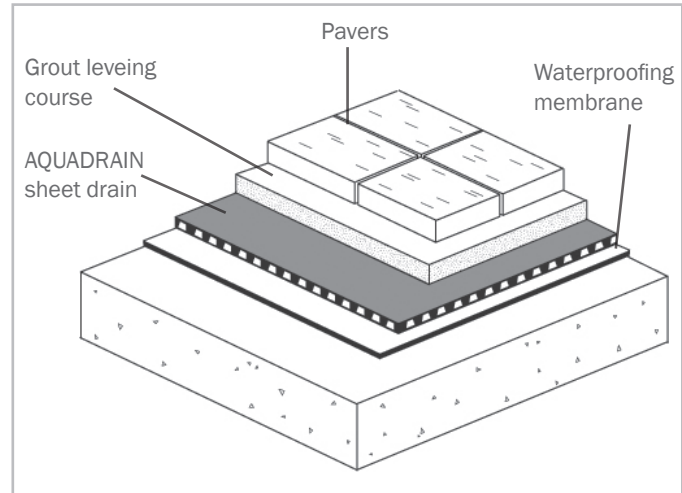

Filter fabric

Formed drain core

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TECHNICAL DATA

PROPERTY	TEST METHOD	TYPICAL VALUE	METRIC VALUE
WOVEN FILTER FABRIC PROPERTIES			
Material	N/A	Polypropylene	Polypropylene
Weight	ASTM D3776	6.6 oz/yd^2	224 g/m^2
Grab Tensile Strength	ASTM D4632	400 x 280 lbs.	1.7 x 1.2 kN
Puncture Strength	ASTM D3787	130 lbs.	0.57 kN
Trapezoidal Tear	ASTM D4533	110 x 80 lbs.	0.49 x 0.35 kN
Burst Strength	ASTM D3786	500 psi	3,447 Kpa
Elongation	ASTM D4632	24%	24 %
Apparent Opening Size	ASTM D4751	45 U.S. std. sieve	0.35 mm
Permittivity	ASTM D4491	1.5 cm/sec^{-1}	1.5 cm/sec^{-1}
Flow Rate	ASTM D4491	110 gpm/ft^2	4,475 l/min/m^2
DRAINAGE CORE PROPERTIES			
Material	N/A	Polypropylene	Polypropylene
Thickness	ASTM D1777	0.40 inch	10.1 mm
Compressive Strength	ASTM D1621 (mod)	30,000 lbs./ft^2	1,436 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	47 lbs.	18.1 kg

SPLIT-SLAB CONSTRUCTION

PLAZA DECK - PAVERS

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.

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