

AQUADRAIN® 20H

SUBSURFACE DRAINAGE COMPOSITE

DESCRIPTION

AQUADRAIN 20H drainage composite is a twopart prefabricated sheet drain consisting of a 3-dimensional polypropylene formed dimple core covered with a woven polypropylene filter fabric bonded to 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 20H 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 pedestrian and light vehicular traffic will be experienced. Other applications include bridge abutments, tunnels and under interior floor slabs. AQUADRAIN 20H has high compressive strength and high flow capacity. Concrete can be poured directly against the filter fabric. AQUADRAIN 20H 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 20H 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 20H may be loosely laid (with all edges abutted) directly over the waterproofing membrane. AQUADRAIN 20H must be secured if high winds are expected prior to the pour of concrete or placement of paver system. Install AQUADRAIN 20H 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 20H 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.

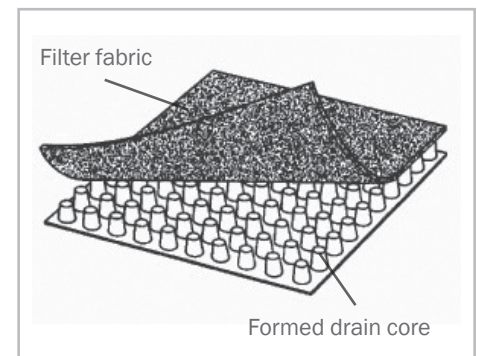
Secure filter fabric edge flap over roll lap joints with construction adhesive or duct tape. Cut drain composite as required to fit around penetrations and other details. Always seal open core edges with filter fabric flap or other applicable material including cut core edges around penetrations.

AQUADRAIN 20H 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.

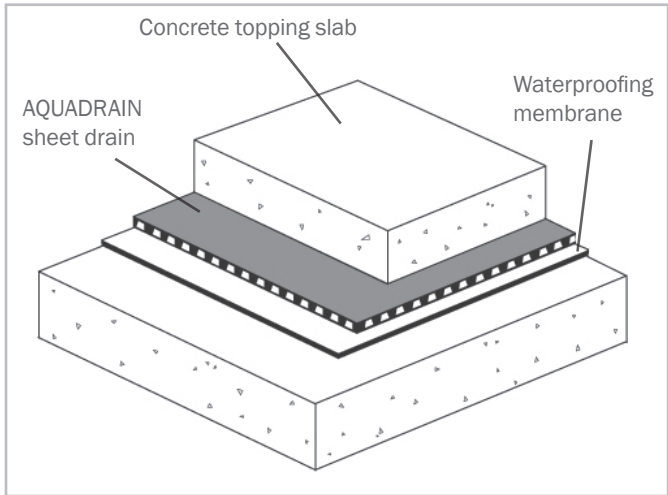
PACKAGING

AQUADRAIN 20H is available in 1.22 m x 15.24 m rolls (4' x 50') 200 sq ft per roll.

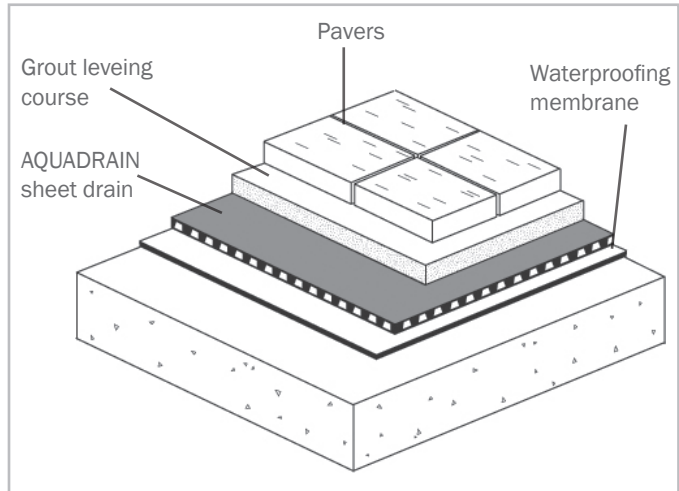


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TECHNICAL DATA			
PROPERTY	TEST METHOD	TYPICAL VALUE	METRIC VALUE
WOVEN FILTER FABRIC PROPERTIES			
Material	N/A	Polypropylene	Polypropylene
Weight	ASTM D3776	6.6 oz/yd²	224 g/m²
Grab Tensile Strength	ASTM D4632	365 x 200 lbs.	1.6 x 0.89 kN
Puncture 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	40 U.S. std. sieve	0.425 mm
Permittivity	ASTM D4491	1.98 sec ⁻¹	1.98 sec ⁻¹
Flow Rate	ASTM D4491	145 gpm/ft²	5,905 l/min/m²
DRAINAGE CORE PROPERTIES			
Material	N/A	Polypropylene	Polypropylene
Thickness	ASTM D1777	0.40 inch	10.1 mm
Compressive Strength	ASTM D1621 (mod)	21,000 lbs./ft²	1,005 kPa
DRAINAGE COMPOSITE PROPERTIES			
Flow Capacity	ASTM D4716	23 gpm/ft. of width	285 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.	21.3 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.

North America: cetco@mineralstech.com | www.cetco.com

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