

# AQUADRAIN 10MMHW

## SUBSURFACE DRAINAGE COMPOSITE

### DESCRIPTION

AQUADRAIN 10MMHW drainage composite is a twopart prefabricated sheet drain consisting of a 3-dimensional HDPE 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 HDPE core resists chemical attack and degradation in soil.

### APPLICATIONS

Aquadrain 10MMHW 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 10MMHW has high compressive strength and high flow capacity. Concrete can be poured directly against the filter fabric. Aquadrain 10MMHW 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 10MMHW 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 10MMHW may be loosely laid (with all edges abutted) directly over the waterproofing membrane. Aquadrain 10MMHW must be secured if high winds are expected prior to the pour of concrete or placement of paver system. Install Aquadrain 10MMHW 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 10MMHW 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

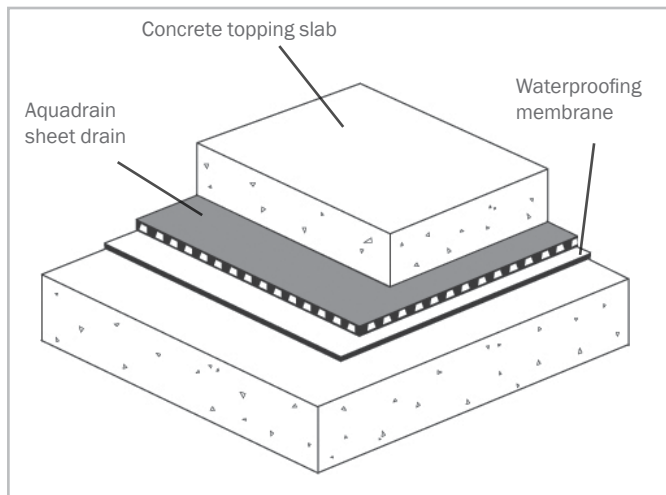
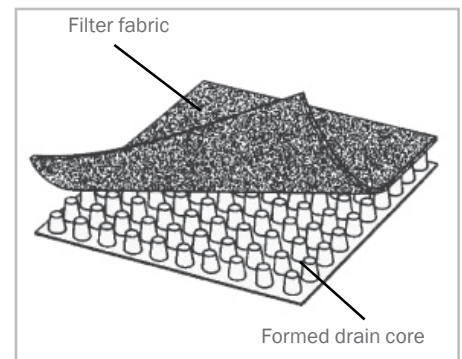
flap or other applicable material including cut core edges around penetrations.

Aquadrain 10MMHW 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.

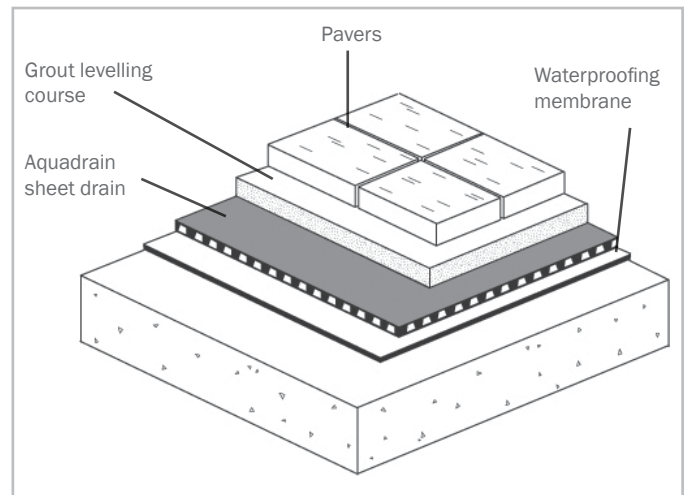
Minimize direct traffic on the drain composite until wearing surface is in place. Do not drive vehicles directly on drainage composite prior to wearing surface placement. Repair damaged or disrupted drainage system prior to wearing surface placement. Product should not be left exposed to prolonged sunlight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

### PACKAGING

AQUADRAIN 10MMHW is available in 1.22 m x 12.5 m rolls, 15.5 sqm per roll.



SPLIT-SLAB CONSTRUCTION



PLAZA DECK - PAVERS

## AQUADRAIN 10MMHW SUBSURFACE DRAINAGE COMPOSITE

### TECHNICAL DATA

#### FILTER GEOTEXTILES

Raw material	Polypropylene			
	Test Method	Unit	Typical Value	Tolerance
Weight	EN ISO 9864	g/m <sup>2</sup>	200	±10%
Tensile strength MD/CMD	EN ISO 10319	kN/m	15-16	-10%
Extension at max load MD/CMD	EN ISO 10319	%	> 25/20	±30%
CBR puncture resistance	EN ISO 12236	kN	1.8	±10%
Cone drop test	EN ISO 13433	mm	21	±20%
Vertical water permeability	EN ISO 11058	mm/s	100	±30%
Opening size	EN ISO 12956	micron	420	±30%

#### DRAINAGE CORE

Raw material	HDPE			
	Test Method	Unit	Typical Value	Tolerance
Compressive strength	EN ISO 25619-2	kN/m <sup>2</sup>	860	±15%
Foil thickness	ASTM D1777	mm	1.2	±20%
Thickness	ASTM D1777	mm	10	±20%

#### GEOCOMPOSITE

Tensile strength (MD/CMD)	EN ISO 10319	kN/m	16/18	-10%
Elongation at max load (MD/CMD)	EN ISO 10319	%	90/70	±30%

#### HYDRAULIC PERFORMANCES

Drain flow capacity MD (20 kPa, S/R, i = 0.04)	EN ISO 12958	l/m-s	0.6	-20%
Drain flow capacity MD (20 kPa, S/R, i = 1)	EN ISO 12958	l/m-s	3.5	±20%
Drain flow capacity MD (170 kPa, S/R, i = 0.04)	EN ISO 12958	l/m-s	0.55	-20%
Drain flow capacity MD (170 kPa, S/R, i = 1)	EN ISO 12958	l/m-s	3.0	±20%

S/R contact = Soft/Rigid

#### DURABILITY

Forecast of minimum durability (natural soils 4 < pH < 9 and T < 25°C) = 5 years (EN 12447)

Product to be covered within 2 weeks after installation (EN 12224)

#### STANDARD DIMENSIONS

Width	m	1.22	±5%
Length	m	12.5	±5%
Rolls/pallet	No.	12	



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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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 contact CETCO sales team. CETCO accepts no responsibility for the results obtained through application of this product. CETCO reserves the right to update information without notice.



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