

# CCW MIRADRAIN® 8000

## Drainage Composite



### Description

CCW MiraDRAIN 8000 is a high-performance, chemical-resistant, rigid PVC drainage composite consisting of a three-dimensional, high-impact PVC core, and a woven filter fabric. The filter fabric is bonded to the individual dimples of the molded PVC core to minimize fabric intrusion into the flow channels caused by backfill pressure. The fabric serves as a filter to prevent the passage of particles into the core while allowing surface moisture to pass freely.

CCW MiraDRAIN 8000 is designed for use in horizontal and vertical drainage applications, where single-sided subsurface drainage is required. The chemical-resistant PVC core is designed specifically for applications where chemical exposure is possible, i.e., airports, helicopter pads, and industrial applications. CCW MiraDRAIN 8000 is particularly resistant to petrochemicals and may be used to provide subsurface drainage around underground storage tanks.

### Features/Benefits

- Relieves hydrostatic pressure buildup against subterranean surfaces
- Hydrocarbon-resistant PVC core
- Consistent, multi-directional core configuration provides a uniform flow path for water to escape
- High-flow drainage capacity - up to three times the flow capacity of aggregate or sand
- No-clogging drainage performance
- High-compressive-strength system withstands installation and in-situ earth stresses
- Enhances waterproofing system by channeling water away and providing a secondary water retention layer
- Cost-saving, lightweight, easy-to-install panels eliminate the need for aggregate

### Installation

CCW MiraDRAIN prefabricated drainage panels may be installed in a variety of construction applications. They may be installed against retaining walls, foundation walls (both waterproofed and non-waterproofed) and split slabs. CCW MiraDRAIN can be cut with a utility knife or scissors. Slurries, shotcrete or concrete may be placed directly onto either side of the panels. The panels can terminate at the top of the footing and are flexible enough to form right angles to cover the top of the footing. CCW MiraDRAIN eliminates the need for a protection course over waterproofing systems. Native soils can be used over CCW MiraDRAIN. (Contact your local CCW representative for specific guidelines).

For standard installation details, follow the CCW MiraDRAIN detail drawings. For non-standard installation instructions contact your local Carlisle Coatings & Waterproofing representative.

Property	Method	Unit	Typical Value
CORE			
Thickness	ASTM D1777	in (mm)	0.40 (10.16)
Compressive Strength	ASTM D1621 (mod)	gpm/ft <sup>2</sup> (l/min/m)	18,000 (862)
Maximum Flow Rate <sup>1</sup>	ASTM D4716	psf (kPa)	21 (260)
Installed Vertically <sup>2</sup>	ASTM D4716	gpm/ft (l/min/m)	18.5 (230)
Installed Horizontally <sup>3</sup>	ASTM D4716	gpm/ft (l/min/m)	3.8 (47)
FABRIC (FW402)			WOVEN
Apparent Opening Size	ASTM D4751	US Std Sieve (mm)	40 (0.43)
Water Flow Rate	ASTM D4491	gpm/ft <sup>2</sup> (l/min/m)	145 (5,907)
Grab Tensile Strength	ASTM D4632	lbs (N)	365 (1624)
Grab Elongation	ASTM D4632	%	24
CBR Puncture Strength	ASTM D4833	lbs (N)	675 (3004)
SYSTEM			
Performance Index	*		27,198

All flow rates were tested at 3600 psf.

\*Drainage Performance Index is a function of ASTM D4833, D4632 and D1621

<sup>1</sup>In plane flow rate @ gradient of 1.0

<sup>2</sup>Installed flow rate with soil overburden at vertical gradient of 1.0

<sup>3</sup>Installed flow rate with concrete overburden at horizontal gradient of 0.05

### Foundation Walls/Vertical Applications

The CCW MiraDRAIN panel can be installed in rows or columns with the fabric side toward the soil. Each method has its advantages depending on the criteria of the project as to which method is best.

When installing the CCW MiraDRAIN in rows:

- Place the longitudinal edge of the core against the wall so that it is flush with the wall footing.
- Attach subsequent panels in shingle fashion, placing the longitudinal edge of the upper panel over the flanged longitudinal edge of the lower panel.

When installing the CCW MiraDRAIN in columns:

- Start at the low point of the wall and attach the panel to the wall.
- Adjacent panels should be joined together with the lateral edge of the connecting panel placed over the flanged edge of the previous panel.

The fabric from the adjacent panels should overlap the preceding panel. The fabric can be adhered with CCW CAV-GRIP, CCW

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Contact Adhesive, CCW-704 Mastic, CCW LM-800XL or duct tape. The top or terminal edge of the CCW MiraDRAIN should be sealed by wrapping the extra filter fabric around to the back side of the panel, and if there is insufficient fabric, the core shall be cut out from the fabric by a depth of 3 dimples to provide excess fabric for wrapping behind the core. This will prevent soil or other foreign construction materials from intruding into or behind the panels. A "set back" or "ledge" condition may be encountered on some construction applications. Where this condition exists, CCW MiraDRAIN panels should be installed beginning at the bottom of the wall and ending at the ledge. Subsequent courses of CCW MiraDRAIN should be installed flat against the upper wall portion and placed so that 4-6" (10-15 cm) extend down and over the lower edge. The overlapping CCW MiraDRAIN sections will be pushed flush against the wall during backfilling.

### Attachment Method – No Waterproofing Membrane

The CCW MiraDRAIN should be attached to non-waterproofed walls with CCW CAV-GRIP contact adhesive, SecurTAPE™ tape or concrete nails. The CCW MiraDRAIN will be permanently secured upon completion of backfilling. Backfilling should be placed within two weeks. Backfill to at least 6" (15 cm) above the top edge of the CCW MiraDRAIN.

### Attachment Method – CCW Waterproofing Membranes

The CCW MiraDRAIN should be attached with CCW CAV-GRIP contact adhesive or CCW SecurTAPE. Apply CAV-GRIP over entire surface of waterproofing membrane and mate the two surfaces together. The CCW MiraDRAIN will be permanently secured upon completion of backfilling. Backfilling should be placed as soon as possible. Backfill to at least 6" (15 cm) above the top edge of the CCW MiraDRAIN.

### Attachment Method – CCW MiraCLAY Waterproofing Membrane

The CCW MiraDRAIN should be attached over the CCW MiraCLAY membrane using fasteners compatible with substrate and 1" washers.

### Attachment Method – Soldier Pile Supported Excavations

The CCW MiraDRAIN should be secured with the appropriate fasteners for the substrate, i.e. concrete, masonry, wood or soil. Prevent concrete from flowing behind the CCW MiraDRAIN core by sealing the backside of the panel with a strip of CCW-705, CCW-701 or duct tape. Sealing the backside of the panel is not necessary if CCW waterproofing membrane is applied over the CCW MiraDRAIN prior to pouring concrete or shotcreting. Voids in the soil or lagging that exceed 6" (150 mm) across and 5" (12.5 cm) deep must be filled to provide support for the CCW MiraDRAIN.

### Underslab/Horizontal Applications

#### Floor Slabs and Concrete-Lined Channels

Proper preparation of the subgrade will require grading to a 2% minimum slope. The area of installation should be clear of rubble, rock, large soil clods, etc. Place CCW MiraDRAIN with the fabric side toward the soil. The flange of the second and subsequent panels should be placed over the back side of the preceding dimpled core and butted as close as possible to the preceding panel. The panel joints, longitudinal and transverse on the CCW MiraDRAIN

core, should be sealed with a strip of CCW-705, CCW-701 or duct tape. This will aid in preventing concrete or soil from intruding into the CCW MiraDRAIN core during subsequent construction phases. Construction traffic should be minimized over the installed CCW MiraDRAIN. Sand and/or concrete may be poured directly over the CCW MiraDRAIN core.

### Drainage Collector/Discharge System

#### Collector Pipe

Place collector pipe as required in design details. For installations where a collector pipe is specified, encapsulate the collector pipe in a gravel bed with a supplemental section of filter fabric as a separator/filter.

### Limitations

- Limit ultraviolet exposure by backfilling within 30 days of installation. Any panels damaged during installation should be replaced by the installer.
- CCW MiraDRAIN is resistant to chemicals in normal soil environments. However some reagents may affect its
- performance. CCW representatives should be consulted concerning the suitability of CCW MiraDRAIN in unusual soil environments.

### Packaging

4' x 50' (1.22 m x 15.24 m) rolls

CCW MiraDRAIN is made in the USA and is sold through a highly qualified sales representative network.

### Storage

Do not store CCW MiraDRAIN 8000 in direct sunlight or at temperatures exceeding 95°F. Improper storage could lead to product deterioration making proper installation of CCW MiraDRAIN 8000 difficult.

### Limited Warranty

Carlisle Coatings & Waterproofing Incorporated (Carlisle) warrants this product to be free of defects in workmanship and materials only at the time of shipment from our factory. If any Carlisle materials prove to contain manufacturing defects that substantially affect their performance, Carlisle will, at its option, replace the materials or refund its purchase price. This limited warranty is the only warranty extended by Carlisle with respect to its materials. There are no other warranties, including the implied warranties of merchantability and fitness for a particular purpose. Carlisle specifically disclaims liability for any incidental, consequential, or other damages, including but not limited to, loss of profits or damages to a structure or its contents, arising under any theory of law whatsoever. The dollar value of Carlisle's liability and buyer's remedy under this limited warranty shall not exceed the purchase price of the Carlisle material in question.