



CCW MiraDRAIN® 2000 Drainage Composite

DESCRIPTION

CCW MiraDRAIN 2000 is an intermediate flow drainage composite consisting of a three-dimensional, high-impact polystyrene core, and a nonwoven filter fabric. The filter fabric is bonded to the dimpled polystyrene core to minimize fabric intrusion and to prevent the passage of soil particles into the core while allowing water to pass freely.

TYPICAL USES

CCW MiraDRAIN 2000 is designed for use in vertical, single-sided drainage applications. Its intermediate flow rate and compressive strength make CCW MiraDRAIN 2000 ideal for use in shallow depths not exceeding 10 ft; where high-flow and high-compressive strength requirements do not exist.

The flat side of CCW MiraDRAIN 2000 fits directly against wall surfaces making it ideal for foundation walls, retaining walls, bridge abutments, and other similar structures. CCW MiraDRAIN 2000 also serves as a protection course over CCW waterproofing membranes.

FEATURES AND BENEFITS

- Relief of hydrostatic pressure buildup against subterranean surfaces
- Intermediate flow drainage capacity
- No-clogging drainage performance
- Intermediate compressive strength system that can withstand installation and in-situ earth stresses
- Enhancement of 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

GENERAL INFORMATION

CCW MiraDRAIN prefabricated drainage panels may be installed in a variety of construction applications. They may be installed against retaining walls and foundation walls (both waterproofed and non-waterproofed). CCW MiraDRAIN can be cut with a utility knife or scissors. 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 Carlisle Coatings & Waterproofing representative for specific guidelines).

TECHNICAL DATA

PROPERTY	METHOD	UNIT	TYPICAL VALUE
CORE			
Thickness	ASTM D1777	in (mm)	0.25 (6.35)
Compressive Strength	ASTM D1621 (mod)	psf (kPa)	10,800 (517)
Maximum Flow Rate ¹	ASTM D4716	gpm/ft ² (l/min/m)	12.5 (155)
Installed Vertically ²	ASTM D4716	gpm/ft ² (l/min/m)	8.5 (106)
FABRIC (140NC)			
Apparent Opening Size	ASTM D4751	US Std Sieve (mm)	70 (0.212)
Water Flow Rate	ASTM D4491	gpm/ft ² (l/min/m)	140 (5703.6)
Grab Tensile Strength	ASTM D4632	lbs (kN)	100 (0.4)
Grab Elongation	ASTM D4632	%	60
Puncture Strength	ASTM D4833	lbs (kN)	65 (0.3)
SYSTEM			
Performance Index	*	—	14,050
<small>All flow rates were tested at 3600 psf. * Drainage Performance Index is a function of ASTM D4833, D4632 and D1621 ¹In plane flow rate @ gradient of 1.0 ²Installed flow rate with soil overburden at vertical gradient of 1.0</small>			

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 to adjacent panel with CCW CAV-GRIP, mastic 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 or CCW SecurTape. Apply CAV-GRIP over entire surface of waterproofing membrane and mate the two surfaces together.

ATTACHMENT METHOD – USING CCW MIRADRI 860/861, CCW 525, CCW SURE SEAL, OR CCW-500R WATERPROOFING MEMBRANES

The CCW MiraDRAIN should be attached with the CCW CAV GRIP contact adhesive or CCW SecurTape. Apply CAV-GRIP over entire surface of waterproofing membrane and mate the two surfaces together.

ATTACHMENT METHOD – USING CCW MIRACLAY WATERPROOF- ING MEMBRANE

The CCW MiraDRAIN should be attached over the CCW MiraCLAY membrane using concrete nails and washers.

DRAINAGE COLLECTOR/DISCHARGE SYSTEM

Collector Pipe

Place CCW QuickDRAIN or collector pipe as required in design details. The CCW QuickDRAIN should be installed adjacent to the CCW MiraDRAIN. Care must be taken to ensure a continuous drainage path between the CCW QuickDRAIN and the CCW MiraDRAIN panels. 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.

DETAIL REQUIREMENTS

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

PACKAGING

Packaging: 2' x 50' (0.6 m x 15.24 m) and 4' x 50' (1.22 m x 15.24 m) rolls Availability: CCW MiraDRAIN 2000 is made in the USA and is sold through a highly qualified sales representative network. CCW MiraDRAIN 2000 is readily available from a national system of Carlisle Coatings & Waterproofing distributors. Cost: Consult your Carlisle Coatings & Waterproofing representative for price quotes.

CAUTION / LIMITATIONS

Limit ultra-violet exposure by backfilling within 7 days of installation. Any panels damaged during installation should be replaced by the installer. Limitations: MiraDRAIN is resistant to chemicals in normal soil environments. However, some reagents may affect its performance. Carlisle Coatings & Waterproofing representatives should be consulted concerning the suitability of MiraDRAIN in unusual soil environments.

MAINTENANCE

CCW MiraDRAIN prefabricated drainage panels require no maintenance if installed in accordance with the manufacturer's instructions.

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.