



CCW MiraDRAIN®

9800

DRAINAGE COMPOSITE

DESCRIPTION

CCW MiraDRAIN 9800 is a high-performance, high-strength drainage composite consisting of a three-dimensional, high-impact polystyrene core, and a superior heavy weight nonwoven filter fabric. The filter fabric is bonded to the individual dimples of the molded polystyrene core to minimize fabric intrusion into the flow channels caused by backfill pressure. The fabric provides unmatched filtration, preventing small particles of soil from clogging the drainage channel while allowing subgrade moisture to pass freely.

TYPICAL USES

CCW MiraDRAIN 9800 is designed for use in high-flow, high-compressive strength, horizontal and vertical drainage applications where maximum filtration is required for subsurface drainage.

CCW MiraDRAIN 9800 is designed for use over CCW Waterproofing Membranes.

The flat side of CCW MiraDRAIN 9800 fits directly against wall surfaces making it ideal for planter, green roof and foundation wall applications. CCW MiraDRAIN 9800 also serves as a protection course over CCW MiraDRI Waterproofing Membranes.

FEATURES AND BENEFITS

- Manufactured at an ISO 9001:2000 Facility
- Relief of hydrostatic pressure buildup against subterranean surfaces.
- Consistent and proven long term performance due to a multi-directional core configuration which 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.
- Enhancement of waterproofing system by channeling water away and providing a secondary water retention layer.
- Cost-saving, light weight, 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 waterproofed retaining and foundation walls and planters. 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).

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 DRAIN GRIP™ 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, to 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" (10-15cm) extend down and over the lower edge. The overlapping CCW MiraDRAIN sections will be pushed flush against the wall during backfilling.

Attachment Method– Using CCW MiraDRI 860/861, CCW 525, CCW Sure Seal, or CCW-500R Waterproofing Membranes

The CCW MiraDRAIN should be attached with CCW DRAIN GRIP contact adhesive or CCW SecurTape. Apply DRAIN GRIP around the panel edge and in 4" (10cm) ribbons on the back of the CCW MiraDRAIN and on the corresponding surface of the CCW Membrane. After the CCW DRAIN GRIP has been allowed to dry, 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" (15cm) above the top edge of the CCW MiraDRAIN.

Attachment Method– Using CCW MiraCLAY Waterproofing Membrane

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

UNDERSLAB / HORIZONTAL APPLICATIONS

Planters

Place the CCW MiraDRAIN in the planter so that the fabric on the vertical and horizontal surfaces faces the soil. Utilize the installation procedures and attachment method appropriate for the type of substrate. Overlap the fabric of the vertical panel onto the horizontal panel at the transition point. If cutting of the panels is required, exposed cuts must be covered with supplemental pieces of filter fabric to prevent soil intrusion. A minimum overlap of 6" (15cm) will be required to cover cut sections.

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 pan-

els. 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: CCW MiraDRAIN 9800 is available in rolls of 4' by 50' (1.22m by 15.24m).

CAUTIONS / LIMITATIONS

Limit ultraviolet exposure by backfilling within 7 days of installation. Any panels damaged during installation should be replaced by the installer. *Limitations:* CCW 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 CCW MiraDRAIN in unusual soil environments.

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 effect 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.

TECHNICAL DATA

Property	Test Method	Unit	Typical Value
Core			
Thickness	ASTM D 1777	in (mm)	0.40 (10.16)
Compressive Strength	ASTM D 1621	psf (kN/m ²)	18,000 (862)
Maximum Flow Rate ¹	ASTM D 4716	gpm/ft ² (l/min/m ²)	17.5 (219)
Installed Vertically ²	ASTM D 4716	gpm/ft ² (l/min/m ²)	15.5 (193)
Installed Horizontally ³	ASTM D 4716	gpm/ft ² (l/min/m ²)	3.0 (38)
Fabric (180N)			
Apparent Opening Size	ASTM D 4751	US Std Sieve (mm)	80 (0.18)
Water Flow Rate	ASTM D 4491	gpm/ft ² (l/min/m ²)	95 (3,866)
Grab Tensile Strength	ASTM D 4632	lbs (kN)	205 (0.90)
Grab Elongation	ASTM D 4632	%	50
Puncture Resistance	ASTM D 4833	lbs (kN)	130 (0.58)
System			
Performance Index	*		31,325

All flow rates were tested at 3600 psf. ¹In plane flow rate @ gradient of 1.0
³Installed flow rate with concrete overburden @ horizontal gradient of 0.05

²Installed flow rate with soil overburden @ vertical gradient of 1.0
^{*}Drainage Performance Index is a function of ASTM D 4833, D 4632 and D 1621

