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CARLISLE COATINGS & WATERPROOFING

WATERPROOFING

MiraDRAIN® 6000DT

Description

CCW MiraDRAIN 6000DT is a high-strength drainage composite made up of a durable, nonwoven filter fabric that is bonded to the individual dimples of a molded polypropylene core to minimize fabric intrusion into flow channels due to backfill pressure. The filter fabric prevents the passage of soil particles into the core while allowing water to pass freely.

Designed for use in high-flow, high-compressive-strength, vertical drainage applications where single-sided subsurface drainage is needed and a heavier fabric is required, this product meets AASHTO M288-06 Class 2 and is ideally suited for Department of Transportation (DOT) projects. MiraDRAIN 6000DT also serves as protection course over CCW waterproofing membranes.

The flat side of MiraDRAIN 6000DT fits snugly against wall surfaces, making this product ideal for foundation walls, retaining walls, bridge abutments, and other structures.

Features and Benefits

- Relieves hydrostatic pressure buildup against subterranean surfaces
- 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
- 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
- The MiraDRAIN 6000DT has a heavier nonwoven filter fabric than the standard MiraDRAIN 6000/6200

Installation

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), lagging systems and buttress/landfills. 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. MiraDRAIN eliminates the need for a protection course over waterproofing systems. Native soils can be used over MiraDRAIN. (Contact your local Carlisle Coatings & Waterproofing 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.

Foundation Walls / Vertical Applications

The 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:

1. Place the longitudinal edge of the core against the wall so that it is flush with the wall footing.
2. Attach subsequent panels in shingle fashion with fabric overlap at bottom, placing the longitudinal edge of the upper panel over the flanged longitudinal edge of the lower panel and lap fabric from upper panel over lower panel.

When installing the CCW MiraDRAIN in columns:

1. Start at the low point of the wall and attach the panel to the wall.
2. 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 Contact Adhesive, CCW-704 Mastic, CCW LM-800XL, Aluma-Grip 701 or duct tape. The top or terminal edge of the 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, MiraDRAIN panels should be installed beginning at the bottom of the wall and ending at the ledge. Subsequent courses of MiraDRAIN should be installed flat against

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MiraDRAIN 6000DT

the upper wall portion and placed so that 4–6" (10–15 cm) extend down and over the lower edge. The overlapping MiraDRAIN sections will be pushed flush against the wall during backfilling.

Attachment Method – No Waterproofing Membrane

The MiraDRAIN should be attached to non-waterproofed walls with CCW CAV-GRIP contact adhesive, SecurTAPE™ tape or fasteners compatible with substrate and 1" washers. The 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 MiraDRAIN.

Attachment Method – CCW Waterproofing Membranes

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

Attachment Method – CCW MiraCLAY® Waterproofing Membrane

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

Attachment Method – Soldier Pile Supported Excavations

The MiraDRAIN should be secured with the appropriate fasteners for the substrate, i.e. concrete, masonry, wood or soil. Prevent concrete from flowing behind the 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 MiraDRAIN prior to pouring concrete or shotcrete. 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 MiraDRAIN.

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.

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 MiraDRAIN in unusual soil environments.

Packaging

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

MiraDRAIN 6000DT is made in the USA and is sold through a highly qualified sales representative network.

Typical Properties

Property	Method	Unit	Typical Value
CORE			
Thickness	ASTM D1777	in (mm)	0.40 (10.16)
Compressive Strength	ASTM D1621 (mod)	psf (kPa)	16,500 psi
Maximum Flow Rate	ASTM D4716	gpm/ft (l/min/m)	21 gpm/ft
FABRIC			
Apparent Opening Size	ASTM D4751	US Std Sieve (mm)	70 (0.212)
Water Flow Rate	ASTM D4491	gpm/ft² (l/min/m)	110 (4,481)
Grab Tensile Strength	ASTM D4632	lbs (N)	160 (712)
Grab Elongation	ASTM D4632	%	50
Trapezoid Tear Strength	ASTM D4533	lbs (N)	60 (267)
CBR Puncture Strength	ASTM D6241	lbs (N)	410 (1825)
Permittivity	ASTM D4491	sec^{-1}	1.5

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.

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