DMX Drain™ Installation Manual

Description

DMX Drain uses a specially formulated Polypropylene Resin that provides a high environmental stress crack resistance to alkalines and acids found in the soil. Polypropylene also has a higher impact resistance than Polystyrene when it comes to cold weather applications. DMX Drain 6000 is a high-strength drainage membrane coupled to a nonwoven filter fabric that is bonded to the individual dimples. The filter fabric also prevents soil particles from getting into the core, while allowing water to pass freely and drain away from the foundation, thereby reducing hydrostatic pressure.

DMX Drain also protects waterproofing membranes. The flat side of DMX Drain fits against the wall or waterproof surfaces.

Installation Instructions

DMX Drain can be installed against retaining walls, foundation walls (both waterproofed and non-waterproofed), lagging systems and Caisson walls. DMX Drain can be cut with a utility knife, so no special tools are necessary. The panels terminate at the top of the footing and if necessary can be formed over the footings. Please follow your local building codes for more details on coverage requirements.

Foundation Walls / Vertical Applications
DMX Drain rolls can be installed in rows or columns with the fabric side facing the soil.
Typically for foundations that are 10’ or less, DMX Drain can be installed in horizontal rows, however, for deeper foundations or walls, it might be easier to install DMX Drain 6000 vertically.

When installing DMX Drain in rows:

1. Unroll the DMX Drain product with the fabric tab at the bottom the wall so that it is flush with the wall footing.

2. Attach subsequent panels with fabric overlap at bottom, placing the fabric tab of the upper panel over top edge of the lower panel and tape the fabric tab onto the lower panel.

When installing DMX Drain in columns:

3. Start at the low point of the wall and attach the panel to the wall.

4. 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 Contact Adhesive, Mastic or sheathing tape. The top or terminal edge of DMX Drain 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, DMX Drain panels should be installed beginning at the bottom of the wall and ending at the ledge. Subsequent courses of DMX Drain 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 DMX Drain sections will be pushed flush against the wall during backfilling.

Attachment Method – No Waterproofing Membrane

DMX Drain should be attached to non-waterproofed walls with contact adhesive, or tape or DMX Washers. DMX Drain will be permanently secured upon completion of backfilling. Backfill should be placed as soon as possible. Backfill to at least 6" (15 cm) above the tape edge of DMX Drain.

Attachment Method – CCW Waterproofing Membranes

DMX Drain should be attached with Contact Adhesive, or tape. Apply contact adhesive over entire surface of waterproofing membrane and mate the two surfaces together. DMX Drain 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 DMX Drain.

Attachment Method – Waterproofing Membrane

DMX Drain should be attached over the waterproofing membrane using DMX Washers.

Attachment Method – Soldier Pile Supported Excavations

DMX Drain should be secured with the appropriate fasteners for the substrate, i.e. concrete, masonry, wood or soil. Prevent concrete from flowing behind the DMX Drain core by sealing the backside of the panel with a strip of sheathing tape. Sealing the backside of the panel is not necessary if waterproofing membrane is applied over the DMX Drain 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 DMX Drain.

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.

DMX Drain is resistant to chemicals in normal soil environments. However some reagents may affect its performance. DMX Plastics representatives should be consulted concerning the suitability of DMX Drain in unusual soil environments.

Packaging

Rolls of 4' x 50' (1.22 m x 15.24 m)
Rolls of 6’ x 50’ (1.85 m x 15.24 m)

DMX Drain is made in Canada and is sold through a highly qualified sales representative network.

Typical Properties

Property	Method	Unit	Typical Value
Core			
Thickness	ASTM D1777	in (mm)	7/16” (10 mm)
Compressive Strength	ASTM D1621	psf (kPa)	15,000 (718 kNm^2)
Maximum Flow Rate (1)	ASTM D4716	gpm/ft (l/min/m)	17 (213)
Installed Vertically (2)	ASTM D4716	gpm/ft (l/min/m)	12.5 (157)
Fabric			
Apparent Opening Size	ASTM D4751	US Std Sieve (mm)	50 Std. US. Sieve (0.300 mm)
Water Flow Rate	ASTM D4491	gpm/ft_2 (l/min/m)	150 gpm/ft^2 (6,095 l/min/m^2)
Grab Tensile Strength	ASTM D4632	lbs (N)	90 lbs (0.401 kN)
Grab Elongation	ASTM D4632	%	50 %
CBR Puncture Strength	ASTM D6241	lbs (N)	265 lbs (1.178 kN)

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