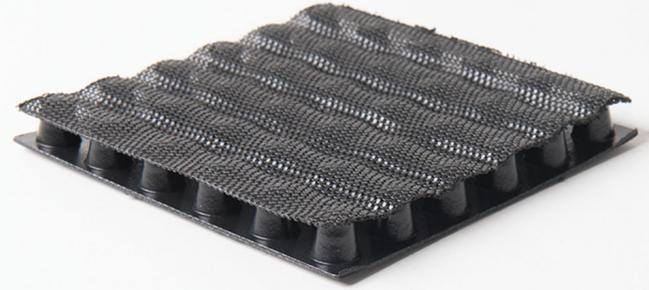


Mapedrain 50

Extra High-Strength, High-Flow, Pre-Fabricated
Drainage Composite



DESCRIPTION

Mapedrain[™] 50 is an extra high-strength, three-dimensional drainage composite. It consists of a woven filter fabric bonded to individual dimples of a molded polypropylene core, minimizing fabric intrusion into the drainage channels caused by overburden pressure. The filter fabric allows water to pass freely into the drainage core, which provides hydrostatic relief while preventing the passage of soil or sand particles that might clog the core. *Mapedrain 50*'s woven, monofilament fabric withstands high abrasion from applied overburden and prevents intrusion into the drainage core due to its low elongation characteristics. As such, the woven fabric is better suited to receive direct poured concrete than nonwoven geotextile fabrics.

FEATURES AND BENEFITS

- Lightweight and easy to install, *Mapedrain 50* provides cost savings and eliminates the need for aggregate backfill.
- *Mapedrain 50* also serves as a protection course for MAPEI waterproofing membranes.
- *Mapedrain 50* high-flow drainage provides up to three times the flow capacity of aggregate or sand.
- *Mapedrain 50*'s extra high compression strength withstands overburden pressure of automobiles, tractor trailers and fire trucks.
- *Mapedrain 50* channels water away from installed waterproofing systems.
- Native soils, gravel or concrete can be used over *Mapedrain 50*.
- Geotextile filter fabric ensures no-clog drainage by preventing intrusion of soil, concrete or construction grout into the flow channels.
- Unaffected by permanent immersion in water, bacteria, dilute acids and alkalis, *Mapedrain 50* will not deteriorate when exposed to these conditions.
- *Mapedrain 50* offers relief of hydrostatic pressure when connected to a passive gravity drain or operational sump pump.
- This product is specifically designed for projects demanding the highest compressive strength.

- The efficiency-oriented volume packaging of *Mapedrain 50* allows 7 rolls per pallet.
- The drain core is 40% post-industrial recycled polypropylene material.

WHERE TO USE

- *Mapedrain 50* is designed for use in horizontal applications requiring single-sided subsurface drainage from a high-flow composite with extra high compressive strength.
- Use with *Mapedrain TD* drainage composite and related accessories.
- For underground tunnels with earth-covered roofs
- For planters
- For applications under slabs, between split slabs and on plaza decks
- *Mapedrain 50* also can be used in vehicular traffic areas due to its extra high compressive strength.

LIMITATIONS

- *Mapedrain 50* is not designed or intended to be used as a waterproofing membrane. Rather, it is an accessory for waterproofing systems.
- Do not leave *Mapedrain 50* permanently exposed to ultraviolet (UV) light.
- Backfill must be uniformly compacted in lifts and must consist of clean, compactible soil. If angular aggregate is desired, it must be 3/4" (19 mm) or less, and free of debris, sharp objects and stones larger than 3/4" (19 mm).

SUITABLE SUBSTRATES AND SURFACE PREPARATION

- Before installation of *Mapedrain 50*, the substrate must be properly prepared or the waterproofing membrane completely installed.
- **Horizontal:** Substrates may be concrete, earth, sand, pea gravel or crushed stone. Earth and sand substrates should be compacted. Crushed stone must be compacted, smooth and not larger than 3/4" (19 mm). Concrete should be solid and smooth without ridges, sharp corners or honeycombing. Any voids and aggregate pockets exceeding 1" (2.5 cm) in diameter or a depth greater than 3/4" (19 mm) should be filled with a non-shrinking cement-based grout. Concrete or subgrade should have a minimum slope of 2%.

PRODUCT APPLICATION

Mapedrain 50 prefabricated drainage composite panels can be installed under concrete slabs, between split slabs, in planters and on roof decks (both waterproofed and non-waterproofed). *Mapedrain 50* can be cut to fit the application with a utility knife or scissors. Soil, gravel, slurries, shotcrete or concrete may be placed directly onto either side of the *Mapedrain 50* panels.

For standard installation details, follow the *Mapedrain* detail drawings at www.mapei.com. For non-standard installation instructions, contact a MAPEI representative.

Attachment Methods for Waterproofing Systems

Attaching to horizontal adhered waterproofing membranes

Mapedrain 50 should be attached using a *Mapebond*[™] contact adhesive, or an approved sealant or adhesive. Apply a *Mapebond* contact adhesive over the entire surface of the waterproofing membrane and to the back (plastic) side of the *Mapedrain 50* and allow to dry, and then apply the *Mapedrain 50* to the membrane.

Mapedrain 50 will be permanently secured upon installation of backfill. Overburden should be placed as soon as possible.

Horizontal Applications

Under floor slabs and other concrete slabs

1. Install *Mapedrain 50* with the fabric side toward the soil.
2. Place the flange of the second and subsequent panels over the back side of the preceding dimpled core and butted as close as possible to the preceding panel.
3. The longitudinal and transverse panel joints of the *Mapedrain 50* core should be sealed with a strip of *Planiseal*[®] *Membrane SA* sheet membrane or duct tape. This will aid in preventing concrete or soil from intruding into the *Mapedrain 50* core during subsequent construction phases.
4. Construction traffic should be minimized over the installed *Mapedrain 50*.
5. Sand, gravel and/or concrete may be poured directly over the *Mapedrain 50* core.

Plaza decks/split slabs

1. Install *Mapedrain 50* with fabric side up over a properly waterproofed substrate. The panels should be placed so that water does not run against the overlap.
2. Secure *Mapedrain 50* to the waterproofing membrane with ballast or a *Mapebond* contact adhesive. The first panels should be placed with the flanged edge uphill.
3. Place the flange of the second and subsequent panels over the flange of the preceding dimpled core and butted as close as possible to the preceding panel.
4. Overlap the fabric of the second and subsequent panels over the flange of the preceding panel and secure.

Planters

1. Place *Mapedrain 50* in the planter so that the fabrics on the vertical and horizontal surfaces face the soil.
2. Utilize the installation procedures and attachment method appropriate for the type of waterproofing that is used.
3. Overlap the fabric of the vertical panel onto the horizontal panel at the transition point and secure.
4. If cutting of a panel is required, the exposed cut must be covered with a supplemental piece of filter fabric to prevent soil intrusion. A minimum overlap of 6" (15 cm) onto the panel at each side of the cut will be required.

Mapedrain 50 laps

1. Overlap the flange of the plastic core from panel to panel and in shingle fashion to shed water, where water flow is a concern.
2. The fabric from the adjacent panels should overlap the preceding panel. The fabric can be adhered with a *Mapebond* contact adhesive, *Mapeflex*[®] *P1 FT*, *Mapeflex P2 NS* or *Planiseal Mastic*, or duct tape.

Mapedrain 50 termination

1. Terminate *Mapedrain 50* about 4" to 6" (10 to 15 cm) below the finished grade.
2. The termination edge of *Mapedrain 50* should be sealed by wrapping the filter fabric around to the back side of the panel. If there is insufficient fabric, cut and remove 3 to 4 rows of dimples from the core to provide excess fabric for wrapping behind the core. Wrapping the fabric around to the panel's back side prevents soil or construction debris from clogging the core.
3. Secure the fabric with a *Mapebond* contact adhesive, *Mapeflex P1 FT*, *Mapeflex P2 NS* or *Planiseal Mastic*, or duct tape.

Drainage collector/discharge system

1. Place *Mapedrain TD* as required in design details. *Mapedrain TD* should be installed adjacent to *Mapedrain 50*. Care must be taken to ensure a continuous drainage path between *Mapedrain TD* and the *Mapedrain 50* panels.
2. Determine the locations for *Mapedrain TD* fittings (end outlet, side outlet, splice and corner). Cut *Mapedrain TD* to the proper length between fittings, allowing for extra length for insertion into fittings. Insert *Mapedrain TD* completely into fittings. Tape the fittings with duct tape.
3. Connect the base fittings to 4" (10 cm) corrugated plastic drain pipe and run it to a sump pump or daylight.
4. Install overburden.

Collector pipe

1. Install *Mapedrain 50* as specified in the installation instructions above.
2. Place the collector pipe as required in the design details.
3. Encapsulate the collector pipe in a gravel bed with a supplemental section of a filter fabric as a separator/filter.

Product Performance Properties

Laboratory Tests	Results
Core Thickness – ASTM D1777 Compressive strength – ASTM D1621 Flow (hydraulic gradient = 1) – ASTM D4716	0.40" (10.16 mm) 33,000 psf (1 580 kN/m ²) 24 g/min/ft (298 L/min/m)
Fabric Apparent opening size (AOS) – ASTM D4751 Grab tensile – ASTM D4632 CBR puncture – ASTM D6241 Flow – ASTM D4491	40 U.S. sieve (0.42 mm) 370 x 250 lbs. (1.647 x 1.113 kN) 850 lbs. (3.781 kN) 60 gal/min/ft ² (2 460 L/min/m ²)

Storage

Protect product from UV light exposure. Store on a skid or pallet, and cover with polyethylene or tarp. Do not double-stack pallets.

CSI Division Classification

Subdrainage	33 46 00
-------------	----------

Packaging and Coverage

Roll: 4 x 50 ft. (1.22 x 15.2 m), covering 200 sq. ft. (18.6 m²); packaged 7 rolls per pallet

ADDITIONAL INFORMATION

For information on MAPEI's commitment to sustainability and transparency, as well as how MAPEI products may contribute to green building standards and certification systems, contact sustainability_USA@mapei.com (USA) or sustainability-durabilite@mapei.com (Canada).

LEGAL NOTICE

The contents of this Technical Data Sheet ("TDS") may be copied into another project-related document, but the resulting document shall not supplement nor replace requirements per the TDS in effect at the time of the MAPEI product installation. For the most up-to-date TDS and warranty information, please visit our website at www.mapei.com. **ANY ALTERATIONS TO THE WORDING OR REQUIREMENTS CONTAINED IN OR DERIVED FROM THIS TDS SHALL VOID ALL RELATED MAPEI WARRANTIES.**

Before using, the user must determine the suitability of our products for the intended use, and the user alone assumes all risks and liability. **ANY CLAIM SHALL BE DEEMED WAIVED UNLESS MADE IN WRITING TO US WITHIN FIFTEEN (15) DAYS FROM DATE IT WAS, OR REASONABLY SHOULD HAVE BEEN, DISCOVERED.**

CONTACT INFORMATION

MAPEI Headquarters of North America

1144 East Newport Center Drive
Deerfield Beach, Florida 33442
1-888-US-MAPEI (1-888-876-2734) / (954) 246-8888

Technical Services

U.S. and Puerto Rico:
Flooring: 1-800-992-6273
Concrete and heavy construction: 1-888-365-0614
Canada:
1-800-361-9309

Customer Service

1-800-42-MAPEI (1-800-426-2734)

Edition Date: July 7, 2023 MK 3000052 (23-1419)

For the most current product data and BEST-BACKEDSM warranty information,
visit www.mapei.com.

All Rights Reserved. © 2023 MAPEI Corporation.

