

Mapedrain TD Drainage Composite

High-Strength, High-Flow Drainage Composite for
Foundations



DESCRIPTION

Mapedrain™ TD Drainage Composite is a high-strength, three-dimensional modular drainage and collection composite for foundations. It consists of a nonwoven filter fabric that is bonded to and wrapped around a molded polypropylene core, minimizing fabric intrusion into the drainage channels that can be 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 TD Drainage Composite* is designed to replace a conventional gravel-covered pipe drain.

FEATURES AND BENEFITS

- Lightweight and easy to install, *Mapedrain TD Drainage Composite* provides cost savings and eliminates the need for aggregate backfill.
- Eliminates the traditional pipe-and-gravel “French drain” system around the base of the foundation, saving time and labor
- *Mapedrain TD Drainage Composite* high-flow drainage provides up to three times the flow capacity of aggregate or sand.
- *Mapedrain TD Drainage Composite*'s high compression strength withstands backfill pressure.
- *Mapedrain TD Drainage Composite* channels water away from installed waterproofing systems.
- Native soils can be used over *Mapedrain TD Drainage Composite*.
- 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 TD Drainage Composite* will not deteriorate when exposed to these conditions.
- *Mapedrain TD Drainage Composite* offers below-grade relief of hydrostatic pressure against foundation and retaining walls, when connected to a passive gravity drain or operational sump pump.
- The drain core is 40% post-industrial recycled polypropylene.

WHERE TO USE

- *Mapedrain TD Drainage Composite* is designed for use in applications requiring a high-flow composite with high compressive strength.
- Use with *Mapedrain* panels and *Mapedrain TD Fittings*.
- For below-grade vertical foundation structures, retaining walls and blindside applications

LIMITATIONS

- *Mapedrain TD Drainage Composite* is not designed or intended to be used as a waterproofing membrane. Rather, it is an accessory for waterproofing systems.
- Do not leave *Mapedrain TD Drainage Composite* 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 TD Drainage Composite*, the substrate must be properly prepared or the waterproofing membrane completely installed, except in blindside waterproofing applications.
- **Vertical (general):** Substrates may be concrete, shotcrete, wood lagging, steel sheet piling or secant piles. Substrates should be smooth and uniform without sharp protrusions or pockets. Fill tie-rod holes, honeycombs and voids with a non-shrinking cement-based grout. Grind all form fins, ridges and sharp corners, and remove excess concrete.
- **Wall lagging:** *Mapedrain TD Drainage Composite* can be installed over wood lagging gaps up to 2-1/2" (6.3 cm). Gaps larger than 2-1/2" (6.3 cm) should be completely filled with construction grout, wood or extruded polystyrene (at a minimum of 40 psi [0.28 MPa]). Do not use plywood or any other surface treatment that leaves voids in the lagging gaps.

PRODUCT APPLICATION

Mapedrain TD prefabricated drainage composite can be installed against retaining walls, foundation walls (both waterproofed and non-waterproofed) and lagging in conjunction with *Mapedrain* panels. *Mapedrain TD Drainage Composite* can be cut to fit the application with a utility knife or scissors. Backfill or gravel may be placed directly onto *Mapedrain TD Drainage Composite*. *Mapedrain TD Fittings* (end outlet, side outlet, splice and corner) should be used at inside/outside corners and discharge points.

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

Attachment Methods for Waterproofing Systems

Attaching to walls that have adhered waterproofing membranes

Mapedrain TD Drainage Composite 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 TD Drainage Composite* and allow to dry, and then apply the *Mapedrain TD Drainage Composite* to the membrane. *Mapedrain TD Drainage Composite* will be permanently secured upon installation of backfill. Backfill should be placed as soon as possible and extended to about 4" to 6" (10 to 15 cm) above the termination edge of *Mapedrain* panels.

Attaching to soil retention systems for blindside applications

Mapedrain TD Drainage Composite should be secured with fasteners compatible with the substrate (concrete, masonry, wood or soil) and 1" (2.5 cm) washers.

Attaching to walls with no waterproofing membrane

When *Mapedrain TD Drainage Composite* is to be attached to walls that lack a waterproofing membrane, use a *Mapebond* contact adhesive, an approved sealant or adhesive, or fasteners compatible with the substrate and 1" (2.5 cm) washers. *Mapedrain TD Drainage Composite* will be permanently secured upon installation of backfill. Backfill should be placed as soon as possible and extend to about 4" to 6" (10 to 15 cm) above the termination edge of *Mapedrain* panels.

Foundational Walls and Vertical Applications

Foundation drainage collector/discharge system

1. Install *Mapedrain TD Drainage Composite* vertically with the dimple side toward the soil.
2. Place *Mapedrain TD Drainage Composite* as required and adjacent to *Mapedrain* panels per the project's construction documents. Care must be taken to ensure a continuous drainage path between *Mapedrain TD Drainage Composite* and *Mapedrain* panels.
3. Determine the locations for *Mapedrain TD Fittings* (end outlet, side outlet, splice and corner). Cut *Mapedrain TD Drainage Composite* to the proper length between fittings, allowing for extra length for insertion into fittings. Insert *Mapedrain TD Drainage Composite* completely into the fittings. Attach the fabric of the *Mapedrain TD Drainage Composite* to the fittings using duct tape.
4. Secure the fittings and *Mapedrain TD Drainage Composite* to the base of the wall with soil, a *Mapebond* contact adhesive, *Mapeflex*® P1 FT or *Mapeflex* P2 NS. If no waterproofing was used, secure *Mapedrain TD Drainage Composite* with 1" (2.5 cm) washers and fasteners that are compatible with the substrate.
5. Connect the base fittings to 4" (10 cm) corrugated plastic drain pipe and run it to a sump pump or daylight. Special care should be taken to properly compact soil under the drain pipe to prevent settling of the drain pipe.
6. Backfill and compact the soil in lifts.

Product Performance Properties

Laboratory Tests	Results
Core Thickness – ASTM D1777 Compressive strength – ASTM D1621 Flow (hydraulic gradient = 1) – ASTM D4716	1" (2.5 cm) 9,500 psf (455 kNm ²) 30 g/min/ft (372 L/min/m)
Retention Fabric Apparent opening size (AOS) – ASTM D4751 Grab tensile – ASTM D4632 CBR puncture – ASTM D6241 Flow – ASTM D4491	70 U.S. sieve (0.212 mm) 100 lbs. (0.45 kN) 250 lbs. (1.113 kN) 140 gal/min/ft ² (5 704 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
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Packaging and Coverage

Roll: 12" x 165 ft. (30 cm x 50.3 m), covering 165 lin. ft. (50.3 m)

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.**

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For the most current product data and BEST-BACKEDSM warranty information,
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