MAPEDRAIN™ HS

HIGH-STRENGTH, HIGH-FLOW DRAINAGE MAT WITH PROTECTIVE FILM

PRODUCT DESCRIPTION

Mapedrain HS provides hydrostatic relief while preventing the passage of soil or sand particles which might clog the polypropylene core. Mapedrain HS includes a polymeric film on the back side to provide additional protection to waterproofing membranes.

FEATURES AND BENEFITS

- Lightweight and easy to install, Mapedrain HS provides cost savings and eliminates the need for aggregate backfill.
- Mapedrain HS also serves as a protection course for Polyglass below grade waterproofing membranes.
- Mapedrain HS's high compression strength withstands backfill pressure.
- Mapedrain HS channels water away from installed waterproofing systems.
- Native soils can be used over Mapedrain HS.
- Geotextile filter fabric prevents intrusion of soil, concrete, or construction grouts into the flow channels.
- Unaffected by permanent immersion in water, bacteria, dilute acids and alkalis: Mapedrain HS will not deteriorate when exposed to these conditions.
- Mapedrain HS 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 material.

TECHNICAL DESCRIPTION

Property	Test Method	Typical Result
Core		
Thickness	ASTM D1777	0.40" (10.16 mm)
Compressive strength	ASTM D1621	11,000 psf (527 kN/m^2)
Flow (hydraulic gradient = 1)	ASTM D4716	18 g/min/ft (223 L/min/m)
Fabric		
Apparent opening size (AOS)	ASTM D4751	70 U.S. sieve (0.212 mm)
Grab tensile	ASTM D4632	100 lbs. (0.45 kN)
CBR puncture	ASTM D6241	250 lbs. (1.113 kN)
Flow	ASTM D4491	140 gal/min/ft^2 (5,704 L/min/m^2)

LIMITATIONS

- Mapedrain HS is not designed or intended to be used as a waterproofing membrane. Rather, it is an accessory for waterproofing systems.
- Do not leave Mapedrain HS permanently exposed to ultraviolet (UV) light.
- Backfill must be uniformly compacted in 6–12" lifts and must consist of clean, compactible soil. If angular aggregate is desired, it must be ¾" (19 mm) or less, and free of debris, sharp objects and stones larger than ¾" (19 mm).
- Not intended for use under Horizontal underslab. Please contact a Polyglass Technical Service Representative for a recommendation.

PRODUCT DATA

Roll Size ..... 4' × 50' (1.22 m × 15.2 m)
Coverage ..... 200 ft^2 (18.6 m^2)
Rolls/Pallet 7

WHERE TO USE

- Vertical foundation structures
- Retaining walls
- Pre-applied or blind-side applications

PRODUCT CODES

- MDHS450

POLYGLASS MAPEI®

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SUITABLE SUBSTRATES AND SURFACE PREPARATION

- Before installation of Mapedrain HS, the substrate must be properly prepared or the waterproofing membrane completely installed, except in blindside waterproofing applications.
- *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 ¾" (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 ¾" (19 mm) should be filled with a non-shrinking cement-based grout.
- *Vertical:* 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 HS can be installed over wood lagging gaps up to 2 ½" (6.3 cm) to provide a uniform surface for waterproofing membranes. Gaps larger than 2 ½" (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 HS prefabricated drainage composite panels can be installed against retaining walls, foundation walls (both waterproofed and non-waterproofed), lagging walls and under slabs. Mapedrain HS can be cut to fit the application with a utility knife or scissors. The panels are flexible enough to form around inside and outside corners. Mapedrain HS eliminates the need for a protection course over Polyglass waterproofing systems.

For standard installation details, follow the applicable Polyglass detail drawings at www.polyglass.us. For non-standard installation instructions, contact a Polyglass representative.

ATTACHMENT METHODS FOR WATERPROOFING SYSTEMS

Attaching to walls that have adhered waterproofing membranes

- Mapedrain HS should be attached using a Polyglass approved contact adhesive. Apply approved contact adhesive to the surface of the waterproofing membrane and to the back (plastic) side of Mapedrain HS as needed prior to backfill.
- Backfill should be placed as soon as possible and extended to about 4"–6" (10–15 cm) above the termination edge of Mapedrain HS.

Attaching to soil retention systems for blindside applications

- Mapedrain HS should be secured with fasteners compatible with the substrate (concrete, masonry, wood or soil) and 1" (2.5 cm) washers. Prevent concrete from flowing behind the Mapedrain HS core by sealing the back side of the panel joints with a strip of Mapethene™ LT60 or HT60 sheet membrane (or duct tape). Sealing the back side of the panel is not necessary if a Mapeproof ™ AL waterproofing membrane is applied over Mapedrain HS before pouring concrete or applying shotcrete.

Attaching to walls with no waterproofing membrane

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

VERTICAL INSTALLATIONS

Installation in columns or rows

- Mapedrain HS panels can be installed in columns or rows with the fabric side toward the soil. Each installation method is acceptable and has its advantages depending on the specific project conditions.
- *In columns:* Start at the end of the wall and align the edge of Mapedrain HS with the corner. Install Mapedrain HS starting 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.
- *In rows:* Place the longitudinal edge of the core against the wall so that it is flush with the wall footing and attach the panel to the wall. Attach subsequent panels in shingle fashion with fabric overlap at the 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.

Mapedrain HS laps

- Overlap the flange of the plastic core from panel to panel and in shingle fashion to shed water, where water flow is a concern.
- The fabric from the adjacent panels should overlap the preceding panel. The fabric can be adhered with a approved contact adhesive or duct tape.

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Mapedrain HS termination

- Terminate Mapedrain HS about 4" to 6" (10 to 15 cm) below the finished grade.
- The termination edge of Mapedrain HS 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.
- Secure the fabric with a approved contact adhesive,

Wall setback or ledge conditions, if present

- Mapedrain HS panels should be installed beginning at the bottom of the wall and ending at the ledge.
- Subsequent courses of Mapedrain HS should be installed flat against the upper wall portion and placed so that 4" to 6" (10 to 15 cm) extend down and over the lower edge.
- The overlapping Mapedrain HS sections will be pushed flush against the wall when the backfill is installed.

Foundation drainage collector/discharge system

- At the bottom termination of Mapedrain HS extend it out from the structure so that it is positioned under the proposed location of the collector pipe.
- Place the collector pipe as required in the design details.
- Encapsulate the collector pipe in a gravel bed with a supplemental section of a filter fabric as a separator/filter.

CORPORATE HEADQUARTERS

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Product Disclaimer: Unless otherwise incorporated into or part of a supplemental manufacturer's warranty, Polyglass warrants its product(s) against manufacturing defects in its product that directly results in leakage for a period of 1 year. Refer to safety data sheet (SDS) for specific data and handling of our products. All data furnished refers to standard production and is given in good faith within the applicable manufacturing and testing tolerances. Polyglass U.S.A., Inc., reserves the right to improve and change its products at any time without prior notice. Polyglass U.S.A., Inc. cannot be held responsible for the use of its products under conditions beyond its own control. For most current product data, detail drawings and warranty information, visit www.polyglass.us

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