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## Technical Data Guide

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Dampproofing and  
Waterproofing

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# MasterSeal<sup>®</sup> 974, 975 and 976

## Polypropylene drain board systems

FORMERLY SONOSHIELD<sup>®</sup> DBS 2000, 6200, AND 9000

### PACKAGING

MASTERSEAL 974 AND 975  
4 by 50 ft (1.2 by 15.2 m) rolls

MASTERSEAL 976  
6 by 50 ft (1.8 by 15.2 m) rolls

### YIELD

MASTERSEAL 974 AND 975  
200 ft<sup>2</sup> (18 m<sup>2</sup>) per 4 by 50 ft  
(1.2 by 15.2 m) roll

MASTERSEAL 976  
300 ft<sup>2</sup> (27 m<sup>2</sup>) per 6 by 50 ft  
(1.8 by 15.2 m) roll

### COLOR

Black

### DESCRIPTION

MasterSeal 974, 975 and 976 constitute a series of polypropylene drain board systems that significantly reduce the amount of water coming into contact with the waterproofing membranes, relieve hydrostatic pressure, and extend the life of the waterproofing system.

#### MASTERSEAL 974

A cost-effective, high-strength polymeric core and non-woven geotextile filter fabric for vertical installations at shallower depths where moderate compressive strengths and flow capacity are adequate.

#### MASTERSEAL 975

Offers vertical drain solutions, incorporating a plastic sheet adhered to the back surface of the drain core. This offers a protective layer that prevents die cutting of the waterproofing membrane.

#### MASTERSEAL 976

A high-strength drain board ideally suited for horizontal applications. It utilizes a high-strength woven monofilament filter fabric that offers ideal drainage and support under concrete, soil and beddings.

### PRODUCT HIGHLIGHTS

- High-impact polypropylene core provides the toughest drain system available
- Dimpled core construction helps produce high water-flow rates
- Fully bonded geotextile fabric prevents blockage of the core
- Water-flow control relieves hydrostatic pressure on buildings and extends the life of waterproofing systems

### APPLICATIONS

#### MASTERSEAL 974

- Retaining walls
- Tunnel construction
- Bridge abutments
- Vertical substrates

#### MASTERSEAL 975

- Foundation walls
- Plaza decks
- Planter boxes
- Lagging walls
- Below grade with MasterSeal HLM 5000
- Vertical and horizontal substrates

#### MASTERSEAL 976

- Horizontal substrates
- Plaza decks
- Planter boxes
- Garden roofs and terraces
- Split-slab construction
- Parking decks

A brand of  
**MBCC** GROUP

## Technical Data

## Typical Properties

| PROPERTY                        | VALUE         |
|---------------------------------|---------------|
| <b>Roll weight, lbs (kg)</b>    |               |
| MasterSeal 974                  | 56 (25)       |
| MasterSeal 975                  | 64 (29)       |
| MasterSeal 976                  | 70 (32)       |
| <b>Material (filter fabric)</b> |               |
| MasterSeal 974                  | Nonwoven PP * |
| MasterSeal 975                  | Nonwoven PP * |
| MasterSeal 976                  | Woven PP *    |
| * PP - Polypropylene            |               |

## Test Data

| PROPERTY                                                | RESULTS      | TEST METHOD           |
|---------------------------------------------------------|--------------|-----------------------|
| <b>Core weight, oz/ft<sup>2</sup> (g/m<sup>2</sup>)</b> |              | ASTM D 3776           |
| MasterSeal 974                                          | 2.45 (750)   |                       |
| MasterSeal 975                                          | 2.75 (830)   |                       |
| MasterSeal 976                                          | 3.05 (930)   |                       |
| <b>Compressive strength, psf (kN/m<sup>2</sup>)</b>     |              | ASTM D 1621, modified |
| MasterSeal 974                                          | 11,000 (550) |                       |
| MasterSeal 975                                          | 15,100 (723) |                       |
| MasterSeal 976                                          | 18,000 (862) |                       |
| <b>Thickness, in (mm)</b>                               |              | ASTM D 1777           |
| MasterSeal 974                                          | 0.40 (10)    |                       |
| MasterSeal 975                                          | 0.40 (10)    |                       |
| MasterSeal 976                                          | 0.40 (10)    |                       |

## FILTER FABRIC PROPERTIES—MINIMUM AVERAGE ROLL VOLUME

| PROPERTY                                                         | RESULTS     | TEST METHOD |
|------------------------------------------------------------------|-------------|-------------|
| <b>Grab tensile, lbs (N)</b>                                     |             | ASTM D 4632 |
| MasterSeal 974                                                   | 110 (0.49)  |             |
| MasterSeal 975                                                   | 110 (0.49)  |             |
| MasterSeal 976                                                   | 365 (1.62)  |             |
| <b>Elongation, %</b>                                             |             | ASTM D 4632 |
| MasterSeal 974                                                   | 50          |             |
| MasterSeal 975                                                   | 50          |             |
| MasterSeal 976                                                   | 24          |             |
| <b>Trapezoidal tear, lbs (N)</b>                                 |             | ASTM D 4533 |
| MasterSeal 974                                                   | 50 (0.22)   |             |
| MasterSeal 975                                                   | 50 (0.22)   |             |
| MasterSeal 976                                                   | 115 (0.511) |             |
| <b>Puncture strength, lbs (N)</b>                                |             | ASTM D 4833 |
| MasterSeal 974                                                   | 65 (0.29)   |             |
| MasterSeal 975                                                   | 65 (0.29)   |             |
| MasterSeal 976                                                   | 105 (0.47)  |             |
| <b>Mullen burst, psi (kPa)</b>                                   |             | ASTM D 3786 |
| MasterSeal 974                                                   | 215 (1,482) |             |
| MasterSeal 975                                                   | 215 (1,482) |             |
| MasterSeal 976                                                   | 480 (3,304) |             |
| <b>Apparent opening size, sieve size (mm)</b>                    |             | ASTM D 4751 |
| MasterSeal 974                                                   | 70 (0.21)   |             |
| MasterSeal 975                                                   | 70 (0.21)   |             |
| MasterSeal 976                                                   | 40 (0.42)   |             |
| <b>Permittivity, sec<sup>-1</sup> (sec<sup>-1</sup>)</b>         |             | ASTM D 4491 |
| MasterSeal 974                                                   | 2.0 (2.0)   |             |
| MasterSeal 975                                                   | 2.0 (2.0)   |             |
| MasterSeal 976                                                   | 1.36 (1.36) |             |
| <b>Water flow rate, gpm/ft<sup>2</sup> (L/min/m<sup>2</sup>)</b> |             | ASTM D 4491 |
| MasterSeal 974                                                   | 140 (5690)  |             |
| MasterSeal 975                                                   | 140 (5690)  |             |
| MasterSeal 976                                                   | 100 (4074)  |             |
| <b>Weight typical, oz/yd<sup>2</sup> (g/m<sup>2</sup>)</b>       |             | ASTM D 5261 |
| MasterSeal 974                                                   | 4.0 (135)   |             |
| MasterSeal 975                                                   | 4.0 (135)   |             |
| MasterSeal 976                                                   | 6.5 (216)   |             |

**Test Data (continued)**

## FILTER FABRIC PROPERTIES—MINIMUM AVERAGE ROLL VOLUME

| PROPERTY                          | RESULTS | TEST METHOD |
|-----------------------------------|---------|-------------|
| <b>UV resistance, % (500 hrs)</b> |         | ASTM D 4355 |
| MasterSeal 974                    | 70      |             |
| MasterSeal 975                    | 70      |             |
| MasterSeal 976                    | 70      |             |

## COMPOSITE SYSTEM

| PROPERTY                                         | RESULTS  | TEST METHOD |
|--------------------------------------------------|----------|-------------|
| <b>Water-flow rate (V), gal/min/ft (L/min/m)</b> |          | ASTM D 4716 |
| MasterSeal 974                                   | 18 (223) |             |
| MasterSeal 975                                   | 18 (223) |             |
| MasterSeal 976                                   | 27 (334) |             |
| <b>Water-flow rate (H), gal/min/ft (L/min/m)</b> |          | ASTM D 4716 |
| MasterSeal 975                                   | 3.2 (40) |             |
| MasterSeal 976                                   | 5.4 (67) |             |

**HOW TO APPLY****SURFACE PREPARATION**

Surfaces to receive drain board should be relatively smooth and free of sharp or protruding objects.

**INSTALLATION**INSTALLATION ON VERTICAL SURFACES—  
MASTERSEAL 974 AND 975

1. Install MasterSeal 974 and 975 with the filter fabric side facing away from the wall so that backfill will be placed against the fabric. Cut panels to appropriate size using utility knife or scissors.
2. To install all panels, use a suitable bonding system that is compatible with the substrate. Typical installation of MasterSeal 974 and 975 over a cured waterproof membrane requires using an adhesive, two-sided mastic tape or a suitable MasterSeal sealant to hold the board in place. Backfilling at the end of installation completes the permanent placement.
3. To install panels longitudinally, start the first lift of drain panel at the bottom of the application area to ensure sound drainage. Install the next lift of drain panel by overlapping the panel's flat tab section onto the previously installed drain board. Complete the attachment by pulling the excess filter fabric down over the previously installed panel. This installation method will automatically create a step-down (shingle fashion) lap to properly drain water. Enclose all ends of the drainage panel with the attached fabric. Wrap the fabric over top drain board to prevent earth infiltration. The bottom of the panel should be placed behind the discharge pipe.

4. To install panels vertically, follow the same procedure for overlapping the panels. Work from one side of the application area to the other, keeping the fabric side out and the lap consistent.
5. Ensure that fabric covers all exposed core edges.
6. Place backfill as soon as possible after installation. Take care not to damage the drain panels during backfilling.

INSTALLATION ON HORIZONTAL SURFACES—  
MASTERSEAL 975 AND 976

1. The substrate below the MasterSeal 975 and 976 panels should have a minimum 2% slope.
2. Install drain panel with the filter fabric side up.
3. Adhere the drain panel at 10 ft (3.3 m) centers using two-sided mastic tape when necessary.
4. Overlap the sheets using the flat tab sections of each. Overlap the fabric onto the preceding panel and adhere the overlapped fabric with adhesive tape if necessary to prevent soil, sand, and concrete from entering the panel during construction.
5. Start the installation at the lowest point to ensure sound drainage and to create a shingling effect in the installation.
6. Overlapping of MasterSeal 975 and 976 panels in horizontal installations must take slope and water flow into account. Drain panels must be shingled in the direction of the water flow using sound waterproofing practices.
7. Ensure that fabric covers all exposed core edges.
8. Place backfill as soon as possible after installation. Take care not to damage the drain panels during backfilling.

**FOR BEST PERFORMANCE**

- Do not expose drain panel rolls to direct sunlight for prolonged periods.
- Ensure any exposed core area is covered with filter fabric.
- Repair tears or holes in the fabric by placing new cloth over damaged areas.
- In horizontal applications where reinforcing steel is to be placed, spread foot type rebar chairs or wide plastic bar holders are recommended. Repair any damage caused during steel installation.
- When the panels are cut around termination protrusions or planter installations, be sure to cover all cut areas with extra pieces of filter fabric to prevent intrusion. Cut sections generally require a 4–6" (100–150 mm) overlap.
- Use scissors or utility knives to cut drain panels. For cutting entire rolls, a cut-off saw with a carbide blade is recommended.
- Protect the installation's finished surface from damage by rocks or debris during construction and backfilling.
- Backfill should be placed as soon as possible after the drain panel installation.
- MasterSeal 974, 975 and 976 are made from highly chemical-resistant polypropylene and are suitable for use in a variety of applications. For specific chemical environments, contact Master Builders Solutions Technical Service to determine suitability.
- Proper application is the responsibility of the user. Field visits by Master Builders Solutions personnel are for the purpose of making technical recommendations only and not to supervise or provide quality control on the job site.

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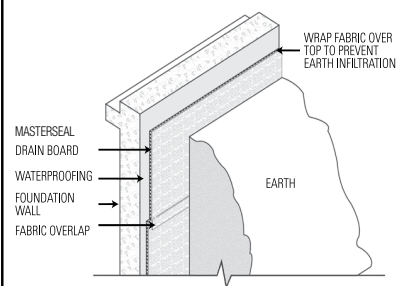
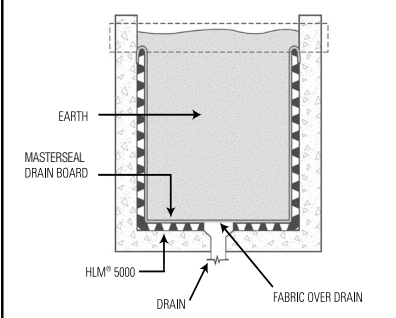
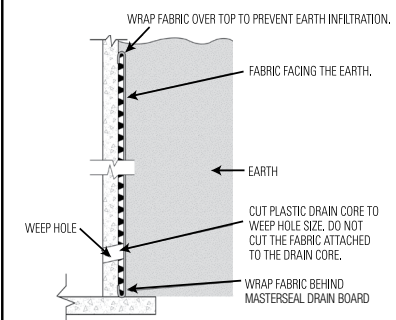
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