

## **TREMDrain Series Drainage Mats**

### **Multi-Composite Drainage and Protection Boards**

#### **Product Description**

The TREMDrain® Series of drainage mats consists of a family of drainage mats with a variety of combinations of filter fabrics, drainage cores and protective polymeric film. The fabric allows water to pass into the drainage core while keeping soil particles out. The drainage core acts as a protection course and creates a high capacity drainage plane. The addition of polymeric film prevents the drainage core from pressing into the waterproofing membrane. TREMDrain drainage mats are used in conjunction with TREMproof® and Paraseal® waterproofing membranes in both vertical and horizontal applications.

TREMDrain is a two-layer drainage mat consisting of a polystyrene core and nonwoven, needle-punched, polypropylene fabric.

TREMDrain 1000 consists of a polystyrene core and nonwoven, needle-punched, polypropylene fabric (PF). Available with or without the polymeric film attached to the back of the drainage core, it offers greater compressive strength than TREMDrain.

TREMDrain 2000 is a three-layer drainage mat including a woven polypropylene fabric, polystyrene core and polymeric film.

TREMDrain S has the highest compressive strength available within the TREMDrain series and consists of a nonwoven, needle-punched, polypropylene fabric, polystyrene core and polymeric film backing.

TREMDrain GS drainage mats consist of a perforated polystyrene core with fabrics attached to both sides. Installed with the dimples down, the core also functions as a water retention layer. Water retention of TREMDrain GS 1/2 in. core is 0.06 gal/sq ft and of TREMDrain GS 1 in. core is 0.11 gal/sq ft. When the dimples fill with water, excess water escapes through the perforations in the core and drains out through the dimple layer below. The spun-bound fabric on the dimple side of the core acts as a cushion to protect the membrane below. The fabric on the flat side of the mat is typically a spun-bound polypropylene fabric, but is also available as a copper hydroxide-treated non-woven, needlepunched fabric for systems with aggressive root structures.

TREMDrain 3000 is a two-part prefabricated drainage material and protection board consisting of a formed polystyrene core covered on one side with a woven polypropylene filter fabric. This fabric allows water to pass into the drainage core while restricting the movement of soil particles. The plastic core provides compressive strength and moderate flow capacity.

TREMDrain Total Drain is a two-layer drainage mat with a unique polystyrene core that consists of a high-profile drainage section for water collection and flow around the structure and a transition section to connect to other TREMDrain series drainage mats. TREMDrain Total Drain also includes a non-woven polypropylene filter fabric.

#### **Basic Uses**

The TREMDrain Series of mats are used with TREMproof and Paraseal waterproofing membranes serving both as a protection course and replacement for traditional pipe and stone drainage systems.

#### **Features and Benefits**

TREMDrain Series drainage mats are available in various combinations of fabrics and compressive strengths to provide the optimal level of performance for a range of applications. TREMDrain, TREMDrain 1000 and TREMDrain S feature a non-woven, needle-punched fabric that will allow water to pass through while filtering out soil particles. TREMDrain 2000 features a woven fabric, which has greater puncture resistance compared to the spun-bound fabric, making it ideal for horizontal applications where concrete will be poured on top of the drainage mat. TREMDrain 3000 is designed for horizontal applications requiring moderate flow capacity, high compressive strength and the strength and filtration properties of a woven geotextile.

#### **Limitations**

- Not for use beneath sand-set vehicular pavers.
- When installing TREMDrain GS, the type of plants and/or vegetation, soil type, and other related issues should be reviewed and specified by a regional horticulturist for accurate selection of vegetation for your specific region.

#### **Installation**

Refer to TREMDrain Series Application Instructions for specific application details. The techniques involved may require modification to adjust to job-site conditions. Consult your local Tremco Sales Representative for specific design requirements.

#### **Availability**

Immediately available from your local Tremco Sales Representative, Tremco Distributor or Tremco Warehouse.

#### **Warranty**

Tremco warrants its Products to be free of defects in materials, but makes no warranty as to appearance or color. Since methods of application and on-site conditions are beyond our control and can affect performance, Tremco makes no other warranty, expressed or implied including warranties of MERCHANTABILITY and FITNESS FOR A PARTICULAR PURPOSE, with respect to Tremco Products. Tremco's sole obligation shall be, at its option, to replace or refund the purchase of the quantity of Tremco Products proven to be defective and Tremco shall not be liable for any loss or damage.

Please refer to our website at [www.tremcosealants.com](http://www.tremcosealants.com) for the most up-to-date Product Data Sheets.

## TYPICAL PHYSICAL PROPERTIES

Physical Property	ASTM Test Method	TREMDrain	TREMDrain 1000/1000 PF	TREMDrain 2000	TREMDrain S	TREMDrain GS (1/2 in., 1 in)	TREMDrain 3000	TREMDrain TotalDrain
Typical Applications		Backfilled Wall, Blindside Wall	Backfilled Wall, Under Slab	Split Slab, Planters	Under Slab, Split Slab	Planters	Split Slab, Planters	Backfilled Walls, Blindside Walls
Flow Capacity per unit width	D4716	9 gpm/ft 112 lpm/m	18 gpm/ft 224 lpm/m	18 gpm/ft 224 lpm/m	9 gpm/ft 112 lpm/m	18/80 gpm/ft 224/994 lpm/m	13 gpm/ft 161 lpm/m	Transition: 18 gpm/ft 224 lpm/m High Profile: 80 gpm/ft 994 lpm/m
Roll Length		50 ft 15.8 m	50 ft 15.8 m	50 ft 15.8 m	50 ft 15.8 m	50 ft 15.8 m	50 ft 15.8 m	50 ft 15.8 m
Roll Width		4 ft 1.22 m	4 ft 1.22 m	4 ft 1.22 m	4 ft 1.22 m	4/3 ft 1.22/0.91 m	4 ft 1.22 m	2 ft 0.61 m
Roll Weight		28 lb 12.5 kg	38 lb 17 kg	46 lb 20 kg	30 lb 13.5 kg	40/44 lb 18/20 kg	42 lb 19 kg	30 lb 13.5 kg
<b>Fabric</b>								
Material		Nonwoven Needle-punched Polypropylene	Nonwoven Needle-punched Polypropylene	Woven Polypropylene	Nonwoven Needle-punched Polypropylene	Spun-bound Polypropylene	Woven Polypropylene	Nonwoven Needle-punched Polypropylene
Weight	D3776	3.5 oz/yd <sup>2</sup> 119 gm/m <sup>2</sup>	3.5 oz/yd <sup>2</sup> 119 gm/m <sup>2</sup>	6 oz/yd <sup>2</sup> 200 gm/m <sup>2</sup>	3.5 oz/yd <sup>2</sup> 119 gm/m <sup>2</sup>	4 oz/yd <sup>2</sup> 136 gm/m <sup>2</sup>	6 oz/yd <sup>2</sup> 200 gm/m <sup>2</sup>	4 oz/yd <sup>2</sup> 136 gm/m <sup>2</sup>
Grab Tensile Strength	D4632	100 lb 445 N	100 lb 445 N	365 x 200 lb 1620 x 890 N	100 lb 445 N	145 lb 645 N	410 x 220 lb 1824 x 979 N	115 lb 512 N
Puncture Strength	D4833	65 lb 289 N	65 lb 289 N	105 lb 470 N	65 lb 289 N	50 lb 222 N	105 lb 467 N	70 lb 310 N
Trapezoidal Tear	D4533	50 lb 220 N	50 lb 220 N	115 x 75 lb 510 x 330 N	50 lb 220 N	70 lb 310 N	115 x 75 lb 510 x 330 N	60 lb 260 N
Mullen Burst Strength	D3786	225 psi 1,554 kPa	225 psi 1,554 kPa	480 psi 3309 kPa	225 psi 1,554 kPa	150 psi 1,034 kPa	480 psi 3,309 kPa	250 psi 1,724 kPa
Grab Elongation	D4632	65%	65%	15%	65%	60%	15%	70%
AOS	D4751	70 sieve 210 micron	70 sieve 210 micron	40 sieve 380 micron	70 sieve 210 micron	80 sieve 180 micron	45 sieve 355 micron	70 sieve 210 micron
Permittivity	D4491	2.6 sec <sup>-1</sup>	2.6 sec <sup>-1</sup>	1.36 sec <sup>-1</sup>	2.6 sec <sup>-1</sup>	1.0 sec <sup>-1</sup>	1.36 sec <sup>-1</sup>	2.2 sec <sup>-1</sup>
Permeability	D4491	0.3 cm/sec	0.3 cm/sec	0.92 cm/sec	0.3 cm/sec	0.03 cm/sec	0.92 cm/sec	
Flow Rate	D4491	165 gpm/ft <sup>2</sup> 6,724 lpm/m <sup>2</sup>	165 gpm/ft <sup>2</sup> 6,724 lpm/m <sup>2</sup>	100 gpm/ft <sup>2</sup> 4074 lpm/m <sup>2</sup>	165 gpm/ft <sup>2</sup> 6,724 lpm/m <sup>2</sup>	80 gpm/ft <sup>2</sup> 3,260 lpm/m <sup>2</sup>	160 gpm/ft <sup>2</sup> 6,520 lpm/m <sup>2</sup>	150 gpm/ft <sup>2</sup> 6,113 lpm/m <sup>2</sup>
Root Barrier Fabric		None	None	None	None	Copper Hydroxide Treated Nonwoven, Needle-punched Polypropylene Available	None	None
<b>Core</b>								
Material		Polystyrene	Polystyrene	Polystyrene	Polystyrene	Polystyrene	Polystyrene	Polystyrene
Thickness		1/4 in. 6.35mm	7/16 in. 11mm	7/16 in. 11mm	1/4 in. 6.35mm	1/2 in., 1 in. 12mm, 25mm	1/4 in. 6.35mm	7/16 in., 1 in. 11mm, 25mm
Compressive Strength	D1621	10,800 lb/ft <sup>2</sup> 527 kN/m <sup>2</sup>	15,000 lb/ft <sup>2</sup> 732 kN/m <sup>2</sup>	21,000 lb/ft <sup>2</sup> 1025 kN/m <sup>2</sup>	30,000 lb/ft <sup>2</sup> 1,440 kN/m <sup>2</sup>	15,000 lb/ft <sup>2</sup> 732 kN/m <sup>2</sup> , 9,000 lb/ft <sup>2</sup> 431 kN/m <sup>2</sup>	33,000 lb/ft <sup>2</sup> 1,650 kN/m <sup>2</sup>	9,000 lb/ft <sup>2</sup> 431 kN/m <sup>2</sup>



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