

## GREEN ROOFS

# XF 3811R Drainage-Filter

Green Roof Drainage - intensive



**Description** XF 3811R is a geo-composite composed of fused three-dimensional entangled filaments drainage core sandwiched between 2 fabrics. It has excellent compressive strength to maintain high drainage rate under loads. The drainage core is 95% open to divert stormwater quickly. Top fleece serves as a filter fabric while bottom fleece serves as a protection layer for the roof membrane. It is water vapor permeable and diffusion open therefore suitable for installation on conventional and protected membrane roofs.

**Recommended Applications**

- Green roofs - intensive
- Exterior and interior planters
- Plaza deck
- Under paver drainage
- Under artificial turf
- Beneath slabs

**Features and Benefits**

- 3D open core provides a high drainage rate with minimal resistance
- Excellent compressive strength to maintain high drainage under loads
- Drainage core is resilient to transient loads and maintains flow
- Protects waterproofing during and after green roof installation
- Lightweight, flexible, easy and quick to install
- Conforms to irregular or curved roof surface
- Easy to cut and meet complicated landscape design requirements
- Durable, excellent chemical and biological resistances
- Recycled contents contributes towards LEED credits

**Installation** Install XF 3811R on top of root barrier, with filter fabric facing up and drainage core facing down. Butt adjacent rolls and use the built-in 4" (100mm) overlap on one side to create a continuous filter layer to prevent growing medium from clogging the drainage core. Cover with 48 hours to minimize UV damage.

### Technical Data

Physical Properties	Property	US Customary Units	Metric Units
	Core Material	Recycled Polypropylene	
	Total Thickness	0.44 in	11.2 mm
	Total Weight	24.0 oz/yd <sup>2</sup>	815 g/m <sup>2</sup>
	Core Thickness	0.37 in	9.5 mm
	Core Weight	16.0 oz/yd <sup>2</sup>	542 g/m <sup>2</sup>

### Quality Assurance

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Technical Data

Flow Rates	Pressure	0.02 Gradient	0.05 Gradient	0.10 Gradient
	25 psf	2.39 gal/min/ft	4.06 gal/min/ft	5.88 gal/min/ft
	50 psf	2.33 gal/min/ft	3.88 gal/min/ft	5.78 gal/min/ft
	100 psf	2.20 gal/min/ft	3.69 gal/min/ft	5.55 gal/min/ft
	200 psf	2.10 gal/min/ft	3.30 gal/min/ft	4.99 gal/min/ft

Typical flow vs. pressure to similar green roof application (ASTM D 4716) Sample Configuration: Plate/Neoprene/Enkadrain/Plate

Pressure	0.02 Gradient	0.05 Gradient	0.10 Gradient
1.2 kPa	29.7 l/min/m	50.4 l/min/m	73.0 l/min/m
2.4 kPa	28.9 l/min/m	48.2 l/min/m	71.8 l/min/m
4.8 kPa	27.3 l/min/m	45.8 l/min/m	68.9 l/min/m
9.6 kPa	26.1 l/min/m	41.0 l/min/m	62.0 l/min/m

Typical flow vs. pressure to similar green roof application (ASTM D 4716) Sample Configuration: Plate/Neoprene/Enkadrain/Plate

Fabric Properties

Property	US Customary Units	Metric Units	Test Method
Polymer	Polypropylene		
Fabric Color	Black		
Weight	4.5 oz/yd <sup>2</sup>	152.6 g/m <sup>2</sup>	ASTM D 5261
Grab Strength MD/CD	120.0 lbs	0.54 kN	ASTM D 4632
Grab Elongation	50%	50%	ASTM D 4632
Trapezoidal Tear	50.0 lbs	0.22 kN	ASTM D 4533
Puncture Strength	70.0 lbs	0.31 kN	ASTM D 4833
AOS (maximum average)	70 US Sieve	0.21 mm	ASTM D 4751
Flow Rate	120.0 gal/min/ft <sup>2</sup>	81.2 l/s/m <sup>2</sup>	ASTM D 4491
Permittivity	1.8 sec <sup>-1</sup>	1.8 sec <sup>-1</sup>	ASTM D 4491

Values are MARV Minimum Average Roll Value

Property	US Customary Units	Metric Units	Test Method
Polymer	PA6 & PET	PA6 & PET	
Fabric Color	Grey	Grey	
Weight	3.54 oz/yd <sup>2</sup>	120.0 g/m <sup>2</sup>	ASTM D 5261
Grab Strength MD/CD	125.0 lbs	556 N	ASTM D 4632
Grab Elongation	40%	40%	ASTM D 4632
Trapezoidal Tear	40.0 lbs	177.9 N	ASTM D 4533
Puncture Resistance	35.0 lbs	155.0 N	ASTM D 4833
AOS (maximum average)	45 US Sieve	0.357 mm	ASTM D 4751
Flow Rate	185.0 gal/min/ft <sup>2</sup>	125.6 l/s/m <sup>2</sup>	ASTM D 4491
Permittivity	2.5 sec <sup>-1</sup>	2.5 sec <sup>-1</sup>	ASTM D 4491

Values are MARV Minimum Average Roll Value

Polymer Properties

Polypropylene has excellent resistance to organic solvents, degreasing agents, acids, and alkalines. It has tensile strength superior to high density polyethylene. It has a low moisture absorption rate, is resistant to staining, and is very light weight.

Packaging

Property	US Customary Units	Metric Units
Product ID	3811-101-1001	3811-101-1001
Core Width	39.0 in	99.1 cm
Length	100.0 ft	30.5 m
Area	36.0 yd <sup>2</sup>	30.1 m <sup>2</sup>
Area	324.0 ft <sup>2</sup>	30.1 m <sup>2</sup>
Roll Diameter	27.0 in	68.6 cm
Gross Roll Weight	64.2 lbs	29.1 kg

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