

Description

Enkadrain 3811R is one of a new generation of environmentally conscious Enkadrain products. This drainage composite consists of a post-industrial recycled polypropylene drainage core of fused, entangled filaments and a geocomposite fabric bonded to each side. The entangled filaments are molded into a square waffle pattern that maintains the flexible design of other Enkadrain products. This product, because it exceeds 40% post-industrial recycled content, can help contribute up to 2 LEED points when used in conjunction with other recycled content products. Enkadrain 3811R can contribute towards additional LEED points when used with a green roof by reducing stormwater runoff, heat islands, and energy consumption. The second fabric eliminates the need for protection board and stops penetration and migration of bitumen membrane.

Recommended Applications

- Foundation walls
- Green roofs
- Plaza decks
- Retaining walls
- Beneath slabs
- Earth sheltered homes
- Underground parking
- Exterior planters

Features and Benefits

- Excellent durability
- Protects waterproofing during and after backfill
- Second fabric eliminates need for protection board
- Conforms to irregular surfaces and corners
- Waffle design creates open flow path — even during backfill
- Continuous flow even under high loads
- Long rolls reduce installation costs by reducing butt seams and eliminating interlocking
- Recycled content polymer contributes towards LEED points
- Increased flow rates over same thickness nylon and HDPE drains
- 3" fabric overlap flap on both sides

Technical Data

Physical Properties

Property	English Units	Metric Units
Core Material	Recycled Polypropylene	
Thickness	0.45 in	11.43 mm
Total Weight	23.7 oz/yd ²	803.7 g/m ²
Core Weight	16.0 oz/yd ²	542.6 g/m ²
Colbond Compressive Load Test ¹	>30,000 psf	kN/m ² No failure*

¹Colbond Test Method: ASTM D 1621 modified and ASTM D 4716

*Failure defined as reaching yield point or no continued measurable flow under stated load

Flow Rates

Pressure	1.0 Gradient	0.5 Gradient	0.2 Gradient
250 psf	20.2 gal/min/ft	13.6 gal/min/ft	7.7 gal/min/ft
500 psf	18.1 gal/min/ft	12.4 gal/min/ft	7.3 gal/min/ft
1000 psf	17.9 gal/min/ft	12.2 gal/min/ft	7.2 gal/min/ft
2000 psf	16.8 gal/min/ft	11.2 gal/min/ft	7.0 gal/min/ft
3000 psf	12.9 gal/min/ft	7.9 gal/min/ft	4.9 gal/min/ft
3600 psf	8.6 gal/min/ft	4.7 gal/min/ft	2.8 gal/min/ft
5000 psf	3.8 gal/min/ft	2.5 gal/min/ft	1.3 gal/min/ft
8000 psf	1.7 gal/min/ft	1.0 gal/min/ft	0.5 gal/min/ft

Typical flow vs. pressure for vertical applications (ASTM D 4716) Sample Configuration: Plate/Enkadrain/Plate
Values are average of machine direction and cross machine direction test results

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Technical Data

Fabric Properties

Property	English Units	Metric Units	Test Method
Polymer	Polypropylene		
Fabric Color	Black		
Weight	4.5 oz/yd ²	152.6 g/m ²	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	0.212 mm	ASTM D 4751
Flow Rate	120.0 gal/min/ft ²	4887 l/sec/m ²	ASTM D 4491
Permittivity	1.8 sec ⁻¹	1.8 sec ⁻¹	ASTM D 4491

Values are MARV Minimum Average Roll Value

Property	English Units	Metric Units	Test Method
Polymer	PA6 & PET		
Fabric Color	Grey		
Weight	3.54 oz/yd ²	120.0 g/m ²	ASTM D 5261
Grab Strength MD/CD	125.0 lbs	556.0 N	ASTM D 4632
Grab Elongation	40%	40%	ASTM D 4632
Trapezoidal Tear	40.0 lbs	177.9 N	ASTM D 4533
Puncture Strength	35.0 lbs	155.0 N	ASTM D 4833
AOS (maximum average)		0.357 mm	ASTM D 4751
Flow Rate	185.0 gal/min/ft ²	125.6 l/sec/m ²	ASTM D 4491
Permittivity	2.5 sec ⁻¹	2.5 sec ⁻¹	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	English Units	Metric Units
Product ID	3811-101-0000	
Core Width	39.0 in	99.1 cm
Length	100.0 ft	30.5 m
Area	36.0 yd ²	30.1 m ²
Area	324.0 ft ²	30.1 m ²
Roll Diameter	27.0 in	68.6 cm
Gross Roll Weight	64.2 lbs	29.1 kg