

SUSTAINABLE WATERPROOFING
LowFlow™
PROTECTION AND DRAINAGE SYSTEM

DESCRIPTION

POLYGUARD LowFlow™ PROTECTION AND DRAINAGE SYSTEM is a high-strength, multi layer fabric composite, in a 4' x 200' roll. Its purpose is to protect underlying waterproofing membranes and provide a low cost drainage mat which is suitable for most clay soil conditions.

ADVANTAGES OF LowFlow™-

The lowest cost protection and drainage system available. You can generally count on a 50% or greater cost reduction compared to "waffle board" systems.

- The first sustainable protection and drainage system, made from 100% post industrial recycled synthetic fibers.

LEED CREDITS

This product qualifies as follows:

- SS Prerequisite 1 - Erosion and Sedimentation Control
- SS Credit 6.1 - Stormwater Management (used to properly drain water from structure and manage flow)
- Lowflow is 100% recycled content and will contribute to an MR-4 recycled content credit
- Can be considered for ID 1 - Innovation in design

USES

With its thick, two component fabric mat structure, **LOWFLOW™** can wick away water from foundation walls. With a 100x design safety factor applied to ASTM D4716 flow test results, **LOWFLOW's** drainage rate equates to an ability to removal of approximately 50 gallons of water per hour from each 100 foot length of foundation.

Obviously, **LOWFLOW's™** drainage rate is limited compared to conventional "waffle board" drainage mats, such as Mirafi's 6200, and Polyguard's Flow 15P. These drainage mats, with their flow rate of 15 gal/min/ft, are theoretically capable of draining over 90,000 gallons of water from a 100 foot length of foundation in an hour.

The good news is that a large number of construction sites have low transmissivity clay soils, which allow little water to travel through. As can be seen in the soil type wall drainage requirements table (*on front*), **LOWFLOW's™** modest drainage rate is well in excess of requirements for most clay construction sites even if a design safety factor of 100 is used.

It should also be noted that the use of **LOWFLOW™** is preferable on any project to the use of no drainage at all. If project budget constraints force the elimination of higher cost conventional drainage mat from project specifications, use of **LOWFLOW™** is recommended. Higher grade waterproofing membranes, such as **POLYGUARD'S 650 WATERPROOFING MEMBRANE**, are designed to withstand a temporary standing head of groundwater. The membrane can serve the purpose of holding back the groundwater during the period that the **LOWFLOW™** drainage mat is catching up with the drainage. Additionally, hydrostatic head pressure should be reduced, as well as the period that the foundation is exposed to a head of groundwater.

Polyguard

This Information is based on our best knowledge, but POLYGUARD cannot guarantee the results to be obtained.

POLYGUARD PRODUCTS, INC • ENNIS, TEXAS 75120-0755

PH: 214-515-5000 • 800-541-4994 • FAX: 972-875-9425

Web Site: www.polyguardproducts.com



DRAINAGE MAT SPECIFICATION - BY SOIL TYPE

BASED ON REQUIRED WALL DRAINAGE (GALLONS / HOUR / 100 FEET OF FOUNDATION LENGTH)

Using ASTM D4716 Transmissivity and Design Safety factor of 100x

Foundation Depth (ft)	FOR THESE SOIL TYPES AND FOUNDATION DEPTHS, USE LOWFLOW™ PROTECTION AND DRAINAGE MAT					Fine Sand	Well Graded Sand	UNIFORM MEDIUM SAND	UNIFORM COARSE SAND
	Clay	Silty Clay	Sandy Clay	Silt	Silty Sand				
5	.03	.3	1.8	18	30	120	3000		
10	.18	1.8	12	120	180	600			
15	.42	4.2	18	180	420	1800			
20	.6	6.0	30	300	600	2400			
30	1.2	12.0	60	480	1200	4200			
40	1.2	12.0	60	600	1200	5400			
50	1.8	18.0	120	1200	1800	7800			
60	2.4	24.0	120	1200	2400				

FOR THESE SOIL TYPES AND FOUNDATION DEPTHS, CONSULT A SOIL ENGINEER

FOR THESE SOIL TYPES AND FOUNDATION DEPTHS, USE **FLOW 15-P DRAINAGE MAT**

APPLICATION

Mechanical fasteners should not be used if they penetrate the underlying waterproofing membrane. They may be used if applied above the top of the waterproofing membrane.

Adhesive fastening is another alternative for fastening the **LOWFLOW™** system. Using a roller, apply **POLYGUARD 650 LT LIQUID ADHESIVE** to the back of the **POLYGUARD MEMBRANE**. Two roller "stripes" along each 4' section of membrane should normally be sufficient. The "rough" or "stiff" surface should be on the outside, and the "smooth" or "soft" surface on the inside. After application of **LIQUID ADHESIVE**, the **POLYGUARD LowFlow™ PROTECTION AND DRAINAGE SYSTEM** should be rolled over the adhesive. If the material is applied in lifts, the upper lift should be shingled over the lower lift by 2"-3". Backfilling should be done as soon as possible after application.

PROPERTIES

PROPERTY	ASTM TEST #	TYPICAL VALUE
Grab Strength	D 4632	200 lbs.
Tear Strength	D 4533	70 lbs.
Puncture Resistance	D 4833	80 lbs.
Fabric Weight	D 3776	> 9.5 oz/yd ²
Transmissivity - Flow at 3600 psf pressure, hydraulic gradient of 1.0	D 4716	0.84 gal/minute/ft Note on testing: Due to wide fluctuations (up to 10x) in ASTM D4716 test results for this type of product, Polyguard recommends against using ASTM D4716 transmissivity as a basis for design. The recommendations shown in the <i>DRAINAGE MAT SPECIFICATION - BY SOIL TYPE</i> matrix are based on a safety factor of 100x.
Color	n.a.	Color of the two materials in this composite will vary due to its recycled nature. Color will generally be grey, white, or black.

ISO 9000

The **LOWFLOW™** system is not covered by Polyguard's ISO 9001 Quality System.