

SECTION 33 46 00

SUBDRAINAGE

This guide specification has been prepared by Polyguard Products Inc., in printed and electronic media, as an aid to specifiers in preparing written construction documents for drainage systems. Polyguard® Lowflow™ Protection and Drainage System is a high-strength, multi-layer fabric composite, in a 4' x 200' roll. The system provides a low cost drainage mat which is suitable for most clay soil conditions.

Edit entire master document to suit project requirements. Modify or add items as necessary. Delete items which are not applicable. Words and sentences may include a choice to be made regarding inclusion or exclusion of a particular item or statement. This section may include performance-, proprietary-, and/or descriptive-type specifications. Edit to avoid conflicting requirements. Editor notes to guide the specifier are included between lines of asterisks to assist in choices to be made. Remove these editor notes before final printing of specification.

This guide specification is written around the Construction Specifications Institute (CSI) Section Format standards.

For specification assistance on specific product applications, please contact our offices or any of our local product representatives throughout the country.

Polyguard Products Inc. reserves the right to modify these guide specifications at any time. Updates for this guide specification will be posted on the manufacturer's web site and/or in printed media as they occur. Manufacturer makes no expressed or implied warranties regarding content, errors, or omissions in the information presented.

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Surface preparation.
- B. Installation of drainage systems.
- C. Accessory Products

1.02 RELATED SECTIONS

Specifier Notes: Edit the list of related sections as required for the project. List other sections dealing with work directly related to this section.

- A. Section 04 05 23 - Masonry Accessories
- B. Section 07 05 00 - Common Work Results for Thermal and Moisture Protection
- C. Section 07 10 00 - Dampproofing and Waterproofing

1.03 REFERENCES

- A. ASTM D 3776 (96) - Standard Test Methods for Mass Per Unit Area (Weight) of Fabric
- B. ASTM D 4533 (11) - Standard Test Method for Trapezoid Tearing Strength of Geotextiles
- C. ASTM D 4632 (08) - Standard Test Method for Grab Breaking Load and Elongation of Geotextiles
- D. ASTM D 4716 (08) - Standard Test Method for Determining the (In plane) Flow Rate per Unit Width and Hydraulic Transmissivity of a Geosynthetic Using a Constant Head
- E. ASTM D 4833 (07) - Standard Test Method for Index Puncture Resistance of Geomembranes and Related Products

1.04 SUBMITTALS

- A. Product Data: Submit manufacturer's product data, installation instructions, use limitations and recommendations. If necessary, include certification of data indicating VOC (Volatile Organic Compound) content of all components of waterproofing system.

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Protection and Drainage System must be manufactured by a company with a minimum of ten (10) years of experience in the production and sales of Drainage system.
- B. Applicator Qualifications: A firm having at least three (3) years of experience in applying these types of specified materials.
- C. Materials: For each type of material required to complete the work of this section, provide primary materials which are the products of a single manufacturer.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
- B. Store materials in a clean, dry area in accordance with manufacturer's instructions.
- C. Store drainage board rolls on pallets.
- D. Do not store at temperatures above 90°F (32°C) for extended periods.
- E. Completely cover when stored outside.
- F. Protect materials during handling and application to prevent damage or contamination.

1.07 PROJECT CONDITIONS

- A. Work should be performed only when existing and forecasted weather conditions are within the limits established.
- B. Proceed with installation only when substrate construction and preparation work is complete. Ensure that subsoil is approved by architect or geotechnical firm.
- C. Maintain work area in a neat and workmanlike condition.

1.08 WARRANTY

- A. Product will be replaced at no charge if proved to be defective within twelve (12) months of purchase, provided it has been applied in accordance with manufacturer written directions for uses recommended as suitable for this product. Proof of purchase must be provided. A five (5) year material or system warranty may be available upon request. Contact Polyguard Products, Inc. for further details.

PART 2 PRODUCTS

2.01 MANUFACTURER

- A. Polyguard Products Inc. P.O. Box 755 Ennis, TX 75120-0755; Phone: (214) 515-5000
Fax: (972) 875-9425 Email: info@polyguard.com

2.02 SYSTEM MATERIALS

Specifier Notes: Drainage mat various types are available based on type of application, soil pressures and flow specifications. Select performance requirements from the chart below. Consult with manufacturer for assistance.

- A. Polyguard® Lowflow™ Protection and Drainage System is a high-strength, multi-layer fabric composite in a 4' x 200' roll. It is a low cost drainage mat which is suitable for most clay soil conditions.

PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	TYPICAL VALUE
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.
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/min/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 D 4716 transmissivity as a basis for design. The recommendations shown in the DRAINAGE MAT SPECIFICATION - BY SOIL TYPE matrix are based on a safety factor of 100x.

2.03 SYSTEM ACCESSORIES

- A. Surface Primer Roller Grade Adhesive:
 - 1. Polyguard® 650 LT Liquid Adhesive: A rubber-based, tacky adhesive which is specifically formulated to provide excellent adhesion.

PART 3 EXECUTION

3.01 SURFACE PREPARATION

- A. Protect adjacent surfaces not designated to receive drainage system.
- B. Clean surfaces to receive waterproofing in accordance with manufacturer's instructions.

3.03 APPLICATION

- A. Installing:
 - 1. Do not use Mechanical fasteners if they penetrate the underlying waterproofing membrane. They may be used if applied above the top of the waterproofing membrane.
 - 2. Adhesive fastening is an alternative for fastening the Polyguard® 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.
 - 3. After application of Liquid Adhesive, 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".
 - 4. Backfilling should be done as soon as possible after application.

END OF SECTION