

SECTION 33 46 00

SUBDRAINAGE

(PROTECTION AND DRAINAGE SYSTEM)

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*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® Polyflow® 18 Protection and Drainage System is a conventional "dimple board" drainage system with a built-in protection layer for horizontal applications.*

*Edit entire master 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. Remove these 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 above 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.*

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PART 1 GENERAL

1.01 SECTION INCLUDES

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

1.02 RELATED SECTIONS

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

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- 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 1621 - Standard Test Method for Compressive Properties Of Rigid Cellular Plastics
- B. ASTM D 1777 - Standard Test Method for Thickness of Textile Materials
- C. ASTM D 4491 - Standard Test Methods for Water Permeability of Geotextiles by Permittivity
- D. ASTM D 4632 - Standard Test Method for Grab Breaking Load and Elongation of Geotextiles
- E. ASTM D 4716 - Standard Test Method for Determining the (In plane) Flow Rate per Unit Width and Hydraulic Transmissivity of a Geosynthetic Using a Constant Head
- F. ASTM D 4751 - Standard Test Method for Determining Apparent Opening Size of a Geotextile.
- G. ASTM D 6241 - Standard Test Method for Static Puncture Strength of Geotextiles and Geotextile-Related Products Using a 50-mm Probe

#### 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.
- B. Sustainable Design Submittals:
  - 1. Submit invoices and documentation from manufacturer of the amounts of materials and content for products specified.

#### 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 membrane.
- 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](mailto:info@polyguard.com)

2.02 SYSTEM MATERIALS

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*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.*  
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- A. Polyguard® Polyflow® 18 Drainage and Protection System is a conventional two-part, prefabricated, geocomposite "dimple board" drainage system with a polystyrene core covered on one side with woven mono-filament filter fabric for horizontal applications.

PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	TYPICAL VALUE
<b><u>DRAIN PROPERTIES</u></b>		
FLOW CAPACITY	D 4716	23 g/min/ft
ROLL LENGTH	-	50 ft.
ROLL WIDTH	-	4 ft.
ROLL WEIGHT	-	50 lbs.
<b><u>CORE PROPERTIES</u></b>		
MATERIAL	-	Polypropylene
THICKNESS	D 1777	0.40 inch
COMPRESSIVE STRENGTH	D 1621 Modified	21,000 lbs/ft <sup>2</sup>
POLYMERIC FILM LAYER	-	No
<b><u>FABRIC PROPERTIES</u></b>		
MATERIAL	-	Polypropylene
GRAB TENSILE STRENGTH	D 4632	370 x 250 lbs.
CBR PUNCTURE STRENGTH	D 6241	850 lbs.
EOS (AOS)	D 4751	40 US Sieve
FLOW RATE, GPM/FT	D 4491	60 g/min/ft

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.
  2. Polyguard® California Sealant: A rubber-based sealant which is specifically formulated to provide excellent adhesion. The VOC (Volatile Organic Compound) content meets the South Coast Air Quality Management District regulations established under the February 1, 1991 version of Rule 1168 © (2) Adhesion and Sealant Applications. California Sealant is classified as an Architectural Sealant Primer Porous, with VOC of 527 g/L. Current SCAQMD regulations for this type sealant primer are 775 g/L.
  3. Quick Grip Adhesive: A low-rise spray foam adhesive.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Examine surfaces to receive drainage board. Notify General Contractor if surfaces are not acceptable. Do not begin surface preparation or installation until unacceptable conditions have been corrected.

### 3.02 SURFACE PREPARATION

- A. Protect adjacent surfaces not designated to receive drainage system.
- B. Clean and prepare surfaces to receive drainage board in accordance with manufacturer's instructions.
- C. Do not apply drainage board to surfaces unacceptable to manufacturer.

### 3.03 APPLICATION

- A. Clean horizontal surface of loose debris and unroll Polyflow® 18 with fabric side up.
- B. For horizontal deck installation, Polyflow® 18 may be loosely laid directly over the waterproofing membrane. Edges of the core with the flange should be at higher side of the deck or plaza, away from any drains.
- C. Attach Polyflow® 18 to horizontal substrate surfaces, to be drained, with adhesive compatible with the waterproofing membrane substrate, or use temporary ballast to hold drain in place during the placement of the deck surface.
- D. For overlaps, place adjacent panels so the core flange overlaps and shingles in the direction of flow to the drain collection system, scuppers, or daylight.
- E. Secure the fabric overlap at necessary intervals with glue or tape to prevent soil or concrete intrusion.
- F. Butt adjacent panels together and shingle the woven fabric, one fabric over another.
- G. For an underslab installation condition, Polyflow® 18 fabric side should be down or towards the soil.

END OF SECTION