

SECTION 07 14 16

COLD FLUID-APPLIED WATERPROOFING (SYSTEM)

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 cold fluid-applied waterproofing membrane systems. Polyguard® Commercial Stretch is a patented, cold-applied, elastomeric, thermoplastic rubber coating and mastic membrane, waterproofing concrete sealer; designed for use in positive-side hydrostatic pressure applications. It dries to a tough, flexible film that stops water passage through a substrate and maintains protection over substrate shrinkage cracks that develop up to 1/16-inch.

Edit entire master document to suit project requirements. Modify or add items as necessary. Delete items which are not applicable. Words and sentences may contain choices 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 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 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.

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Surface preparation.
- B. Application of cold fluid-applied waterproofing membrane system.
- 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 03 30 00 - Cast-in-Place Concrete.
- B. Section 03 15 00 - Concrete Accessories.
- C. Section 04 05 00 - Common Work Results for Masonry.
- D. Section 07 13 26 - Self-Adhering Sheet Waterproofing.
- E. Section 07 21 00 - Thermal Insulation.
- F. Section 07 60 00 - Flashing and Sheet Metal.
- G. Section 07 92 00 - Joint Sealants.
- H. Section 33 46 00 - Subdrainage.

1.03 REFERENCES

- A. ASTM C 836 – Low-Temperature Flexibility and Crack Bridging.
- B. ASTM C 1306 (08) - Standard Test Method for Hydrostatic Pressure Resistance of a Liquid Applied Waterproofing Membrane.
- C. ASTM D 412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers-Tension.

- D. ASTM D 903-98 - Standard Test Method for Peel or Stripping Strength of Adhesive Bonds.
- E. ASTM D 2240 - Standard Test Method for Rubber Property—Durometer Hardness
- F. ASTM D 2939 - Standard Test Methods for Emulsified Bitumens Used as Protective Coatings.
- G. ASTM D 4541 - Standard Test Method for Pull-off Strength of Coatings Using Portable Adhesion Testers
- H. ASTM D 5385-93 (06) – Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes.
- I. ASTM E 96– Water Vapor Transmission of Materials.
- J. ICC ES Report AC 29 - Cold, Liquid-applied, Below-grade, Exterior Dampproofing and Waterproofing Materials.

1.04 SUBMITTALS

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

1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Membrane Waterproofing System must be manufactured by a company with a minimum of ten (10) years of experience in the production and sales of waterproofing membrane materials.
- B. Applicator Qualifications: A firm having at least three (3) years of experience in applying these types of specified materials and specifically accepted in writing by the membrane system manufacturer.
- 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.
- D. Pre-Application Conference: A pre-application conference shall be held to establish procedures and to review conditions, installation procedures and coordination with other related work. Meeting agenda shall include review of special details and flashing.
- E. Manufacturer's Representative: Arrange to have trained representative of the manufacturer on site periodically to review installation procedures.

1.06 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels in tack, clearly identifying product name and manufacturer. Follow all Federal, State and local governing regulations.
- B. Store product drums/pails on pallets.
- C. Keep containers away from sparks, flames, exce.
- D. Protect containers/keep away from water, sparks, flames, excessive heat, and poor ventilation.
- E. Completely cover when stored outside. Protect from rain.
- F. Protect materials during handling and application to prevent damage or contamination.
- G. Store/keep product out of direct sunlight and in ambient temperatures between 10° F (23° C) and 100° F (38° C). For best application results, store in ambient temperatures above 50° F (11° C). Do not store at temperatures above 90o F (32o C) for extended periods.

1.07 PROJECT LIMITATIONS, CONDITIONS AND PRECAUTIONS

- A. This product is not intended to be shipped or used in the States of California, Connecticut, Delaware, Maryland, or Rhode Island. The use of these products must be according to Federal, State and local governing regulations. To be used in exterior applications only. Cannot be applied to any polystyrene or foam-based products. Once the solvent has flashed out of the coating then polystyrene or foam-based products can be installed onto the cured membrane. Not to be used as a liner in potable water conditions.
- B. Avoid use of products which contain tars, solvents, pitches, polysulfide polymers, or PVC materials that may come into contact with dampproofing membrane system.
- C. Install in a well-ventilated open area.
- D. Take safety precautions and wear appropriate safety gear for the application of solvent-based coatings (i.e. gloves, eye protection, respirator, ventilation, etc.) according to Federal, State and local governing regulations.
- E. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor, or dust concentrations below any lower explosive limits.
- F. Use explosion-proof ventilation equipment and non-sparking tools. All trucks, barrels and spray equipment shall be properly grounded and bonded. A working fire extinguisher, type ABC, shall be available onsite in both the mixing and work areas.
- G. Prior to use and mixing, review the Safety Data Sheet for proper protective equipment and additional health, environmental and safety precautions.
- H. Keep flammable products away from spark or flame. Post "No Smoking" signs.
- I. DO NOT SMOKE while mixing or applying product. Ensure there are no open flames and/or spark generating sources on project while mixing or applying the product.
- J. Maintain work area in a neat and workmanlike condition. Remove empty cartons and rubbish from the site daily.
- K. Work should be performed only when existing and forecasted weather conditions are within the limits established by the membrane manufacturer. Membrane should be applied in temperatures between -20°F to 120°F.
- L. Application at temperatures between -20°F and 32°F shall continue only after the surfaces are free of moisture or ice.
- M. Application of heat by torch or other heat sources shall heat-dry the surfaces to a depth of 1/8-inch to 3/16-inch.

1.08 WARRANTY

- A. Manufacturer warrants only that this product is free of defects, since many factors which affect the results obtained from this product are beyond our control; such as weather, workmanship, equipment utilized and prior condition of the substrate. We will replace, at no charge, proven defective product within twelve (12) months of purchase, provided it has been applied in accordance with our written directions for uses we 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

2.02 MATERIALS

- A. Polyguard® Commercial Stretch (Per formula of VOC level required; [525], [200], [100] waterproofing: single-component; elastomeric; thermoplastic rubber; liquid; cold-applied via spray, roller, or brush to concrete masonry (CMU) or poured concrete walls.

PHYSICAL PROPERTIES:

PROPERTY	TEST METHOD	TYPICAL VALUE
COLOR		Gray
SERVICE TEMPERATURE RANGE		-25°F to 185°F
PERMEANCE TO WATER VAPOR TRANSMISSION	ASTM E 96	0.058 Perms
MEMBRANE HYDROSTATIC PRESSURE RESISTANCE	ASTM D 5385	231 ft.
PEEL ADHESION	ASTM D 903 Modified	7.05 lb/in.
TENSILE STRENGTH	ASTM D 412 Modified Die C	378 PSI
ELONGATION	ASTM D 412 Modified Die C	515%
HARDNESS, SHORE A	ASTM D 2240	60
ADHESION	ASTM D 4541	135+ PSI Average
HYDROSTATIC PRESSURE OVER CRACKS, POURED CEMENT AND POURED MASONRY	ASTM C 1306	11 PSI
LOW-TEMPERATURE FLEXIBILITY AND CRACK BRIDGING	ASTM C 836 Section 6.7	Pass
REMAINS IN PLACE DURING APPLICATION, POURED CEMENT AND MASONRY	ASTM C 836 Section 6.9	Pass
ADHESION STRENGTH TO POURED CONCRETE	ASTM C 836 Section 6.10	7.551 lbf/in.
EXTENSIBILITY AFTER HEAT AGING	ASTM C 836 Section 6.12	No Cracking or tearing of membrane
RESISTANCE TO WATER	ASTM D 2939 Section 15	No Blistering or Re-emulsification
COLD, LIQUID-APPLIED, BELOW-GRADE, EXTERIOR DAMPPROOFING AND WATERPROOFING MATERIALS	ICC-ES AC 29	Pass
CATEGORY 1 40 C.F.R. §59.401 "WATERPROOFING SEALERS AND TREATMENTS"		Available in 525; 200; or 100 g/l VOC

2.03 SYSTEM ACCESSORIES

- A. Detail Sealant: A single-component, STPE, 100% solid moisture-cured, elastomeric sealant. It is an environmentally-friendly, non-isocyanate product that replaces silicone and urethane sealants. It is also a low VOC/HAPS free, cold-applied, self-adhesive, elastomeric sealant.
- B. Quick Grip Spray Adhesive: A Building Envelope, industrial-grade aerosolized adhesive in a portable spray system. It contains no chlorinated solvents and offers an excellent alternative to methylene chloride-based products.
- C. Drainage Composite:
1. Polyguard® Polyflow® 10 Drainage Mat: Two-part, prefabricated, geocomposite drain consisting of a formed polymeric core covered on one side with polymeric filter fabric. The fabric allows water to pass into the drain core while restricting the movement of soil particles which might clog the core. The core allows water to flow to designated drainage exits.
 2. Polyguard® Polyflow® 10P Drainage Mat: Three-part, prefabricated geocomposite drain consisting of a formed polymeric core covered on one side with polymeric filter fabric with a built-in Polymeric film protection layer for use as required by the manufacturer of some waterproofing materials in order to be a compatible protection layer.
 3. Polyguard® Polyflow® 15 Drainage Mat: Two-part, prefabricated, geocomposite drain consisting of a formed polymeric core covered on one side with polymeric filter fabric. The fabric allows water to pass into the drain core while restricting the movement of soil particles which might clog the core. The core allows water to flow to designated drainage exits.
 4. Polyguard® Polyflow® 15P Drainage Mat: Three-part, prefabricated geocomposite drain consisting of a formed polymeric core covered on one side with polymeric filter fabric with a built-in Polymeric film protection layer for use as required by the manufacturer of some waterproofing materials in order to be a compatible protection layer.

5. Polyguard® Totalflow™: Totalflow is a combination of our Polyguard sheet drain products with our unique Totalflow™ product. In the Totalflow™ system, the sheet drain performs its normal function of water collection, while the Totalflow™ section provides both water collection and a high-profile section allowing for high-capacity water flow to designated drainage exits.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Surfaces to be treated must be sound, dry, clean and free of dirt, excess mortar, or other contaminants.
- B. Concrete and concrete masonry units (CMU) to be constructed without integral moisture repellent.
- C. Masonry wall must be unparge.
- D. Masonry and new concrete shall have been cured a minimum of 24 hours, starting time measurement after bleed water has drained from the wall (longer dry time will be needed for lower than 50°F/10°C ambient temperatures).
- E. Design Professional to verify substrate and conditions are acceptable to commence work within this section.

3.02 SURFACE PREPARATION

- A. Surface must be clean and dry: free of mortar smears; free of form release agents; and free of frost/ice.
- B. Poured concrete ties inside and outside must be removed and filled flush with Polyguard® Detail Sealant PW™ or non-shrinking Portland cement grout, installed per manufacturer's instructions.
- C. Poured concrete wall voids and honeycombs must be filled with non-shrinking Portland cement grout, installed per manufacturer's instructions, brought flush with the face of the wall, made smooth, and allowed to cure.
- D. Strike mortar joints full and flush to the face of the CMU.

3.03 APPLICATION

- A. Minor voids are to be filled and sealed with Polyguard® Detail Sealant PW™. Application of Detail Sealant PW can be executed either before or after the application of Commercial Stretch. Allow Detail Sealant PW a minimum 1 hour to skin over before covering with the Commercial Stretch, adding additional time for lower ambient and surface temperatures. Cure time is less than an hour at 75°F (24°C) and 50% RH.
- B. Fill control joints prior to coating with Polyguard® Detail Sealant PW™, made flush with substrate. When filled prior to coating, apply specified coat of Polyguard® Commercial Stretch over joint filler, providing a continuous membrane across the joint.
- C. Apply evenly to substrate in one or more coats using airless spray equipment, brush, or roller to achieve a continuous film at the desired coverage rate of 27 square feet per gallon (60 wet mils).
- D. Commercial Stretch dries to an average thickness of 30 mils. Coverage rates will vary inversely related to substrate texture and porosity.
- E. Use an airless sprayer with 3700 to 4000 PSI stall pressure and using a 0.037-inch reversible tip.
- F. Allow application to dry for a minimum twenty-four (24) hours and inspect for continuous coverage. If necessary, apply additional material as needed to provide a continuous coating then allow a minimum twenty-four (24) hours to dry before continuing work on the surface.

- G. Drying in direct sunlight and temperatures above 65°F (18°C) can cause blistering of the coating. Where said exposure can't be avoided, apply in multiple coats of 20 to 30 wet mils allowing each application to dry a minimum 24 hours before applying the next coating.
- H. Apply Commercial Stretch to alignment of the top edge with grade. When protection from grade to the top of foundation is required, apply PRO 1000 first over said area and with its' lower edge a minimum of 4-inches below grade. Allow PRO 1000 hours to dry, and then cover the lower edge to grade with Commercial Stretch and allow to dry before continuing work.
- I. After application, it is not affected by immediate or subsequent exposure to rain.
- J. Commercial Stretch will be adversely affected by prolonged or constant ultraviolet radiation (UV) exposure longer than 30 days. For periods of (UV) exposure greater than 30 days, cover with PRO 1000 prior to the end of the 30-day term or remove and recoat uncovered/exposed Commercial Stretch after the 30-day term.

Protection and Drainage Course:

- A. Apply protection board and/or drainage composite and perimeter drainage composite in accordance with manufacturer's written directions.

END OF SECTION