

## SECTION 07 27 26

### VAPOR IMPERMEABLE FLUID-APPLIED AIR BARRIER MEMBRANE

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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 vapor impermeable, fluid-applied air barrier membranes. Polyguard® Airlok Flex® is a patented, single-component, cold-applied, non-breathable, elastomeric waterproofing concrete masonry sealer; designed to prevent air and moisture penetration while protecting concrete, concrete masonry and gypsum sheathing surfaces. Polyguard® Airlok Flex® is solvent-based with a VOC content to meet local requirements: 525, 400, 200, or 100 g/l.*

*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 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 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. Application of liquid applied vapor permeable air barrier.
- C. Materials for:
  - 1. All penetrations through the wall assembly.
  - 2. Connections to foundation walls.
  - 3. Walls, windows, curtain walls, storefronts, louvers or doors.
  - 4. Expansion and control joints.
  - 5. Masonry ties.
  - 6. Wall and roof connections and penetrations.

##### 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 20 00 - Unit Masonry.
- B. Section 07 21 00 - Thermal Insulation.
- C. Section 07 50 00 - Membrane Roofing.
- D. Section 07 60 00 - Flashing and Sheet Metal.
- E. Section 07 70 00 - Roof and Wall Specialties and Accessories.
- F. Section 07 80 00 - Fire and Smoke Protection.
- G. Section 07 92 00 - Joint Sealants.
- H. Section 08 10 00 - Doors and Frames.

- I. Section 08 50 00 - Windows.
- J. Section 09 20 00 - Plaster and Gypsum Board.

#### 1.03 REFERENCES

- A. ASTM D 4541 - Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes.
- B.
- C. ASTM D 5385 (06) - Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes.
- D. ASTM E 84 (94) - Standard Test Method for Surface Burning Features of Building Materials.
- E. ASTM E 96 (Method A) - Standard Test Methods for Water Vapor Transmission of Materials.
- F. ASTM E 2178 (01) - Standard Test Method for Air Permeance of Building Materials.
- G. ASTM E 2357 (05) - Standard Test Method for Determining Air Leakage of Air Barrier Assemblies.
- H. NFPA 285 – Standard Test Method of determining the flammability characteristics of exterior, non-load bearing wall assemblies/panels.

#### 1.04 SUBMITTALS

- A. Comply with Section 01 33 00 - Submittal Procedures.
- B. Submit manufacturer's product data and application instructions.
- C. Sustainable Design Submittals:
  - 1. Submit invoices and documentation from manufacturer of the amounts of materials and content for products specified.
  - 2. Submit invoices and documentation showing manufacturing locations and origins of materials for products manufactured and sourced within 500 miles of project site.
- D. LEED Submittal: Documentation of materials, recycled content and location of manufacturer.
  - 1. LEED MR Credit 2 – Construction Waste Management: Provide documentation of reusable materials by weight and volume diverted back to manufacturing process or to appropriate sites.
  - 2. LEED, MR Credit 5 – Regional Materials: Provide documentation for cost of materials or products that have been extracted, harvested, recovered, and also manufactured within 500 miles of project site.
    - a. If only a portion of the materials or products is extracted, harvested, or recovered and manufactured locally, then only provide percentage by weight for credit value.
  - 3. LEED EA Credit 1 - Optimize Energy Performance: Provide documentation verification for materials increasing levels of energy performance above the baseline in the prerequisite standard to reduce environmental and economic impacts associated with excessive energy use.

#### 1.05 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Sheet Membrane must be manufactured by a company with a minimum of ten (10) years of experience in the production and sales of membrane waterproofing 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 MOCK-UPS

- A. Prior to installation of air barrier, apply air barrier as mock-up example to verify details under shop drawing submittals and to demonstrate tie-ins with adjoining construction, and other termination conditions, as well as qualities of materials and execution.
- B. Construct typical exterior wall panel, 6 feet long by 6 feet wide, incorporating back-up wall, cladding, window and doorframe and sill, insulation, flashing; illustrating materials interface and seals.

#### 1.07 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 at temperatures at or above 40°F (4°C), free from contact with cold or frozen surfaces.
- D. Protect materials during handling and application to prevent damage or contamination.

#### 1.08 PROJECT CONDITIONS

- A. Proceed with installation only when substrate construction and preparation work is complete. If necessary, ensure that subsoil is approved by architect or geotechnical firm.
- B. Warn personnel against breathing of vapors and contact with skin and eyes; wear appropriate protective clothing and respiratory equipment.
- C. Keep flammable products away from spark or flame. Post "No Smoking" signs. Do not allow use of spark-producing equipment during application and until all vapors have dissipated.
- D. Maintain work area in a neat and workmanlike condition. Remove empty cartons and rubbish from the site daily.

#### 1.09 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 Email: [info@polyguardproducts.com](mailto:info@polyguardproducts.com)

### 2.02 MATERIALS

- A. Polyguard® Airlok Flex® [*option: with or without ProBan® mold inhibitor*] VOC level required; [525], [400], [200], [100] air/vapor barrier: single-component; elastomeric; thermoplastic rubber; liquid; spray, rolled, or brushed; cold-applied to concrete masonry (CMU) or gypsum substrate.
- Performance-based Specification: Polyguard® Airlok Flex® is a patented, single-component, cold-applied, non-breathable, elastomeric, waterproofing concrete masonry sealer having the following characteristics:

#### PHYSICAL PROPERTIES

PHYSICAL PROPERTIES TABLE		
PROPERTY	TEST METHOD	TYPICAL VALUE
COLOR		Gray
AIR LEAKAGE & DURABILITY	ASTM E 2357	0.0008 cfm/ft <sup>2</sup>
AIR PERMEANCE – GYPSUM SHEATHING	ASTM E 2178-01	0.0017 cfm/ft <sup>2</sup>
AIR PERMEANCE –BLOCK	ASTM E 2178-01	0.0006 cfm/ft <sup>2</sup>
PERMEANCE TO WATER VAPOR	ASTM E 96, Method A	0.058 perm
ANTIFUNGAL ACTIVITY MILDEW AND ROT	AATCC 30 METHOD	No visible growth on any film
SURFACE BURNING CHARACTERISTICS OF BUILDING MATERIALS	ASTM E 84-94; NFPA 255; ANSI 2.5; UL 723 Omega 1995	10 -Flame spread Index 35 – smoke development
EVALUATION OF FIRE PROPOGATION CHARACTERISTICS	NFPA 285	Pass
CATEGORY 1 40 C.F.R.§59.401 “WATERPROOF SEALER TREATMENTS”		Available in 525, 400, 200, 100 G/L VOC

### 2.03 ACCESSORIES

- A. Thru Wall Flashing: Polyguard® 400 Flashing is modified asphalt bonded to a polyethylene sheet used for wall flashing, through-wall flashing (TWF), joint flashing, and non-vapor permeable air barrier. The asphalt is protected with a release paper that is slit 3-inches in from an edge establishing two sections of release paper that can be removed independently.
- Thickness: 40 mils
  - Puncture Resistance of Film: (ASTM D 781) Kg/CM 110
  - Puncture Resistance of Composite Membrane: (ASTM E 154) LBS 40 Min.
  - Tensile Strength Composite Membrane: (ASTM D 412 Modified Die C) PSI 750 Min.
  - Tensile Strength of Film: (ASTM D 882) PSI 5000 Min.
  - Elongation-Ultimate Failure of Rubberized Asphalt: (ASTM D 412 Modified Die C) 400% Min.
  - Water Vapor Transmission (Permeance): (ASTM E 96 Method B) (Grains/Sq. Ft./Hr. in HG) 0.035 Max.
  - Air Permeance of Building Materials: (ASTM E 2178) 0.007L/ (s-m<sup>2</sup>) @75 Pa [0.0014cfm/ft<sup>2</sup>@1.56 psf]
  - Air Permeance of an Assembly: (ASTM E 2357) 0.0008cfm/ft<sup>2</sup>@ 1.57 psf
  - Water Absorption: (ASTM D 570) 0.014%
  - Nail Sealability: (ASTM D 1970) Pass

- B. Detail Sealant: Polyguard® Detail Sealant PW™ is a low VOC/HAPS free, cold-applied, self-adhesive, elastomeric sealants for filling minor cast concrete cracks, concrete masonry cracks, gaps at head joints, penetrations, and gypsum sheathing joints.
  - 1. Application: Polyguard® Detail Sealant PW™ is dispensed from a 20-oz sausage, or a 3-gallon pail for broad knife detail work.
    - a. Compatible with Polyguard Air Barrier System
    - b. Air permeability system: (ASTM E 2178) 0.0007 CFM/ft²
    - c. Elongation: (ASTM D 412) 275%
    - d. Low Temperature Pliability: -75° F
    - e. Ultraviolet radiation (UV) Rating: (ASTM G 26) 2000 hours no change
- C. Primer:
  - 1. Polyguard® Airlok Flex® serves as primer for the Polyguard® 400 Flashing. No other primer is necessary.

## PART 3 EXECUTION

### 3.01 EXAMINATION

- A. All surfaces to be treated must be sound, dry, clean; and free of dirt, excess mortar, or other contaminants. Masonry substrate to have tooled mortar joints.
- B. Cutouts and breakouts for support columns and beams are to be filled and made flush with the substrate by others prior to commencing work.
- C. Masonry and new concrete shall have been cured a minimum of three (3) days and must be dry at time of application.
- D. Design Professional to verify substrate and conditions are acceptable to commence work within this section. Examine surfaces to receive membrane. Notify Architect if surfaces are not acceptable. Do not begin surface preparation or application until unacceptable conditions have been corrected.

### 3.02 SURFACE PREPARATION

- A. Surface must be clean and dry: free of mortar or gypsum smears, ice, frost, or excess moisture.
- B. Poured concrete ties inside and out must be knocked-off and filled flush.
- C. Masonry wall must be unparged.
- D. Gypsum sheathing voids are to be filled and made flush with substrate.
- E. Open joints are to be filled with foam or Polyguard® Detail Sealant PW™. Tight joints can be coated without additional preparation.

### 3.03 APPLICATION OF AIR BARRIER SYSTEM

- A. Install all materials following manufacturer's guide specifications.
- B. Apply Polyguard® Airlok Flex® evenly to substrate using airless spray equipment, brush, or roller; checking immediately for proper application thickness: 70 square feet per gallon on gypsum sheathing (23 wet mils) and at 40 square feet per gallon applied in two 20 wet mil applications on normal CMU.
- C. Apply extra material at anchor ties and penetrations.

- D. Allow application to dry for twelve (12) hours and inspect for continuous coverage. If necessary, apply additional material as needed to provide a continuous coating then allow drying for twelve (12) hours.
- E. Polyguard® 400 Flashing membrane must be applied after the fluid-applied application of Polyguard® Airluk Flex® to substrate. Fill control and transition joints with Polyguard® Detail Sealant PW™. Apply Polyguard® 400 Flashing strips to window and door openings as specified. Overlap end and side laps two (2) inches. Roll all flashing to ensure seal. Seal top edge of flashing strips with Polyguard® Detail Sealant PW™. Trowel to feathered edge as needed.
- G. Minor voids are to be filled and sealed with Polyguard® Detail Sealant PW™.
- H. Alternate: Transition and control joints can be filled prior to coating with Polyguard® Detail Sealant PW™, made flush with substrate, then apply a specified coat of Polyguard® Airluk Flex® as a continuous membrane across the joint.
- I. Measure application thickness with wet mil gauge. Check fresh application immediately.

### 3.04 PROTECTION

- 1. For twenty-four (24) hours after installation, protect completed membrane system against water filling block cores. Protect finished air barrier system from adjacent work.

END OF SECTION