SECTION 07 27 26

VAPOR PERMEABLE FLUID-APPLIED AIR BARRIER MEMBRANE

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This guide specification has been prepared by Polyguard Products Inc., in electronic and printed media, as an aid to specifiers in preparing written construction documents for vapor permeable, fluid-applied air barrier membranes. Polyguard® Airlok Flex® WG (Weather Guard) is a fluid-applied, acrylic-based, vapor permeable membrane that forms a tough, continuous, bonded elastomeric barrier.

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 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 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. 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 412 – Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers-Tension.

B. ASTM D 1970 - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection – Section 7.9 Nail Sealability

C. ASTM D 4541 - Standard Test Method for Pull-off Strength of Coatings Using Portable Adhesion Testers.

D. ASTM E 96 – Standard Test Method for Water Vapor Transmission of Materials.

E. ASTM E 2178 (01) – Standard Test Method for Air Permeance of Building Materials.

F. ASTM E 2357 (11) – Standard Test Method for Determining Air Leakage of Air Barrier Assemblies.

G. AATCC 127-08 – Standard test method measures for resistance of a fabric to the penetration of water under hydrostatic pressure.

H. ICC ES-AC 212 - Acceptance Criteria for Water-Resistive Coatings used as Water-Resistive Barriers on Exterior Sheathing

I. 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, or 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: Fluid-applied membrane must be manufactured by a company with a minimum of ten (10) years of experience in the production and sales of 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 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 door frame 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 and on a stable surface with the lid securely closed in accordance with manufacturer's instructions and local governing regulations.

C. Store at temperatures at or above 40°F (5°C), free from contact with cold or frozen surfaces. For best application results, store in ambient temperatures above 50°F (11°C).

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.

B. Warn personnel against breathing of vapors and contact with skin and eyes; also wear appropriate protective clothing and respiratory equipment.

C. 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@polyguard.com

2.02 DISTRIBUTOR

A. Bowman Construction Supply 10801 E. 54th Avenue Denver, CO 80239 Phone: (303)696-8960

2.03 MATERIALS

A. Polyguard® Airlok Flex® WG [*option: with or without* Proban® mold inhibitor] is a fluid-applied, acrylic-based, vapor permeable membrane.

1. Performance-based Specification: Air barrier membrane shall be acrylic based, that cures to form a tough, continuous, bonded elastomeric membrane having the following characteristics:

PHYSICAL PROPERTIES

PROPERTY	TEST METHOD	TYPICAL VALUE
COLOR		Gray
AIR PERMEANCE	ASTM E 2178-01	0.0018 cfm/ft²
AIR LEAKAGE & DURABILITY	ASTM E 2357-11	0.00001 cfm/ft²
WATER VAPOR PERMEANCE	ASTM E 96 Method B	21perms
CRACK BRIDGING	ICC AC 212	Pass
ULTRAVIOLET (UV) EXPOSURE LIMIT	By Manufacturer	Up to 2 years
PULL ADHESION - CONCRETE	ASTM D 4541	174 PSI
PULL ADHESION – GYPSUM SHEATHING	ASTM D 4541	123 PSI
TENSILE STRENGTH	ASTM D 412 Modified	168 PSI
ELONGATION	ASTM D 412 Modified	528%
NAIL SEALABILITY	ASTM D 1970	Pass
WATER RESISTANCE	AATCC 127-08 Modified	Pass
EVALUATION OF FIRE PROPOGATION CHARACTERISTICS	NFPA 285	Pass
VOLATILE ORGANIC COMPOUNDS (VOC)		79.1 g/l

2.04 ACCESSORIES

A. Flashing: Polyguard® UV365™ Flashing is a 40-mil, composite membrane, consisting of a foil/polyscrim, laminated to a layer of rubberized-asphalt and is used for wall flashing, through-wall flashing (TWF), and joint flashing, and non-vapor permeable sheet air barrier.

B. Flashing: Polyguard® UV365™ Ultra Flashing is a 40-mil, laminated, modified-asphalt, self-adhesive flashing membrane bonded to a cross-laminated polyethylene sheet with a top protective layer of aluminum and is used for wall flashing, through-wall flashing (TWF), and joint flashing, and non-vapor permeable sheet air barrier.

C. Flashing: Polyguard® 400 Flashing is a 40-mil, laminated, modified-asphalt, self-adhesive flashing membrane bonded to a cross-laminated polyethylene sheet and is used for wall flashing, through-wall flashing (TWF), joint flashing, and non-vapor permeable sheet air barrier.

D. Detail Sealant: Polyguard® Detail Sealant PW™ is 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.

E. Primer:

1. Polyguard® Airlok Flex® WG serves as primer for the Polyguard® UV365™ Flashing, UV365™ Ultra Flashing, or 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 shall 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. Knock off form ties on both sides of a concrete wall and fill flush with Polyguard® Detail Sealant PW™ or non-shrinking Portland cement grout, installed per manufacturer's instructions. Allow Detail Sealant PW a minimum of 1 hour to skin over before covering, adding additional time for lower ambient and surface temperatures. Cure time is less than an hour at 75°F (24°C) and 50% RH.

C. Leave CMU wall unparged.

D. Fill minor voids with a 20-mil coating of Polyguard® Detail Sealant PW™. Allow Detail Sealant PW™ a minimum of 1 hour to skin over before covering, adding additional time for lower ambient and surface temperatures. Cure time is less than an hour at 75°F (24°C) and 50% RH.

E. Fill voids in exterior gypsum sheathing to flush with the substrate with Polyguard® Detail Sealant PW™. Allow Detail Sealant PW™ a minimum of 1 hour to skin over before covering, adding additional time for lower ambient and surface temperatures. Cure time is less than an hour at 75°F (24°C) and 50% RH.

F. Open joints are to be filled with foam or a tooled 20-mil coating of Polyguard® Detail Sealant PW™. Allow Detail Sealant PW™ a minimum of 1 hour to skin over before covering, adding additional time for lower ambient and surface temperatures. Cure time is less than an hour at 75°F (24°C) and 50% RH. Tight joints can be coated without additional preparation.

3.03 APPLICATION OF AIR BARRIER SYSTEM

A. Install materials following manufacturer's guide specifications.

B. Apply Polyguard® UV365™ Flashing, UV365™ Ultra Flashing, or 400 Flashing membrane after the fluid-applied application of Polyguard® Airlok Flex® WG to substrate. For ambient and substrate surface temperatures between 25°F (-4°C) and 40°F (5°C), refer to Polyguard's Technical Bulletin on Cold Weather Applications for the flashing installation.

C. Apply Polyguard® Airlok Flex® WG evenly to substrate using brush, roller, or airless spray equipment; checking immediately for application thickness (16 to 20 mils wet).

D. Apply Polyguard® Airlok Flex® WG over rough openings.

E. Apply extra material at anchor ties and penetrations.

F. Allow application to dry for twenty-four (24) hours, maintaining a minimum temperature of 40°F (5ºC). Inspect for continuous coverage. If necessary, apply additional material as needed to provide a continuous coating.

G. Fill control and transition joints with Polyguard® Detail Sealant PW™. Apply Polyguard® UV365™ Flashing, UV365™ Ultra Flashing, or 400 Flashing strips to window and door openings. Overlap end and side laps 2 inches. Roll all flashing to ensure seal. Seal top edge of flashing strips with a coating of Polyguard® Detail Sealant PW™. Trowel to feathered edge. For ambient and substrate surface temperatures between 25°F (-4°C) and 40°F (5°C), refer to Polyguard's Technical Bulletin on Cold Weather Applications for the flashing installation.

H. Alternate: Transition and control joints can be filled prior to coating with Polyguard® Detail Sealant PW™, made flush with substrate, allow a minimum of 1 hour to skin over before covering, adding additional time for lower ambient and surface temperatures. Cure time is less than an hour at 75°F (24°C) and 50% RH. Then apply a full coat of Polyguard® Airlok Flex® WG as a continuous membrane across the joint.

I. Measure application thickness with wet mil gauge. Check fresh application immediately.

3.04 PROTECTION

A. 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