PART 1 GENERAL

1.01 SECTION INCLUDES

A. Surface preparation.

B. Application of self-adhering sheet 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

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 20 00 – Unit Masonry.
B. Section 07 21 00 – Thermal Insulation.
C. Section 07 60 00 – Flashing and Sheet Metal.
D. Section 07 92 00 – Joint Sealants.
E. Section 08 10 00 – Doors and Frames.
F. Section 08 50 00 – Windows.
G. Section 09 20 00 – Plaster and Gypsum Board.
1.03 REFERENCES


D. ASTM E 154 – Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover.

E. ASTM E 283 (04) – Standard Test Method for Determining Rate of Air Leakage Through Exterior Windows, Curtain Walls, and Doors Under Specified Pressure Differences Across the Specimen

F. ASTM E 330 (02) – Standard Test for Structural Performance of Exterior Window, Curtain Walls, Skylights, and Doors by Uniform Static Air Pressure Difference, Procedure A.


1.04 SUBMITTALS

A. Comply with Section 0133 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: 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 sample 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 frame, 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

2.02 MATERIALS

A. Polyguard® 400 Air and Moisture Barrier is a 40 mil self-adhering, self-healing membrane consisting of a rubberized asphalt waterproofing element, bonded to a strong cross-laminated polyethylene film top surface with the following characteristics:

1. Membrane Width: 48-inches.

PHYSICAL PROPERTIES

<table>
<thead>
<tr>
<th>PROPERTY</th>
<th>TEST METHOD</th>
<th>TYPICAL VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL THICKNESS</td>
<td></td>
<td>40 Mils.</td>
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<tr>
<td>AIR PERMEANCE</td>
<td>ASTM E 2178-03</td>
<td>0.0005 CFM/SF</td>
</tr>
<tr>
<td>AIR LEAKAGE</td>
<td>ASTM E 283-04</td>
<td>0.002 CFM/SF</td>
</tr>
<tr>
<td>STRUCTURAL PERFORMANCE</td>
<td>ASTM E 330-02</td>
<td>0.033 Mils.</td>
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<tr>
<td>PUNCTURE RESISTANCE - FILM</td>
<td>ASTM D 781</td>
<td>110 (kg/cm)</td>
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<tr>
<td>PUNCTURE RESISTANCE OF COMPOSITE</td>
<td>ASTM E 154</td>
<td>40 lbs. (min.)</td>
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<tr>
<td>MEMBRANE</td>
<td></td>
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<tr>
<td>TENSILE STRENGTH OF COMPOSITE</td>
<td>ASTM D 412 Modified Die C</td>
<td>750 PSI (min.)</td>
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<td>MEMBRANE</td>
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<tr>
<td>ELONGATION OF RUBBERIZED ASPHALT</td>
<td>ASTM D 412 Modified Die C</td>
<td>&gt;400% (min.)</td>
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<td>PERMEANCE TO WATER VAPOR TRANSMISSION</td>
<td>ASTM E 96 Method B</td>
<td>0.035 Grains/Sq.Ft./Hr. in HG (max.)</td>
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<td>PERMEANCE TO WATER VAPOR TRANSMISSION - PERMEANCE</td>
<td>ASTM E 96 Method B</td>
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2.03 ACCESSORIES

A. Surface Primer Roller-grade Adhesive:

1. Polyguard® 650 LT Liquid Adhesive: A rubber-based adhesive insolvent solution which is specifically formulated to provide excellent adhesion with the Polyguard Waterproofing Membranes to prime all structural concrete, masonry, insulation, or wood surfaces. It is designed to be used on applications down to 25°F (-4°C).

2. Polyguard® California Sealant: A rubber-based sealant in solvent solution which is specifically formulated to provide excellent adhesion with the Polyguard Waterproofing Membrane. The VOC (Volatile Organic Compound) content meets the SouthCoast 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 521 g/L. Current SCAQMD regulations for this type sealant primer are 775 g/L.

3. Polyguard® Shur-Tac Liquid Adhesive: Roller-grade, polymer emulsion-based adhesive. It is used to prime all structural concrete, masonry, insulation, or wood surfaces. Designed to be used on applications down to 25°F (-4°C).
B. Detail Sealant:

1. Polyguard® Detail Sealant PW™: Single-component, elastomeric sealant. It is an environmentally friendly, non-isocyanate product that replaces silicone and urethane sealants. Polyguard® Detail Sealant PW™ is also a low VOC/HAPS-free, high-performance, solvent-free, flexible sealant that is used on substrates including: Rigid PVC, bare aluminum, stainless steel, galvanized steel, anodized aluminum, tile, wood, concrete, FRP, polystyrene, molded polyurethane, polyester, and ABS.

B. Edge Termination:

1. Polyguard® Detail Sealant PW™ is a single-component, elastomeric sealant. It is an environmentally friendly, non-isocyanate product that replaces silicone and urethane sealants.

C. End Dams and Corners

1. The Polyguard® Preformed Inside Corner Flashing and End Dams are a 40 mil combination of rubberized asphalt bonded to across laminated polyethylene film. The adhesive surface is covered with a release liner.

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 seven (7) 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. Eliminate sharp protrusions that can puncture sheet membrane.

3.03 APPLICATION

A. Priming:

1. Apply primer to a cleaned, dust free surface. Apply by roller or spray. Apply Polyguard® 650 LT Liquid Adhesive or Polyguard® California Sealant at a rate of 250-300 sq. ft. per gallon, Shur-Tac Water-based Liquid Adhesive at the rate of 350-400 sq. ft. per gallon. Allow to dry per manufacturer’s directions. Do not thin liquid adhesive. Liquid Adhesive will become tacky. Membrane can be applied when liquid adhesive becomes tacky.

B. Membrane Installation:

1. Install all materials following manufacturer’s guide specifications.
2. Pre-cut Polyguard® 400 Air and Moisture Barrier material into easy to handle pieces.

Peel silicone coated release sheet off, start applying membrane with pressure. Use a hand roller or blunt end object to assure that the 400 Air and Moisture Barrier is adhered to corners and angles.

3. Vertical edge termination should be sealed on the day of 400 Air and Moisture Barrier installation with Polyguard® Detail Sealant PW™.

4. Install Air and Moisture Barrier horizontally to primed concrete block between projecting masonry reinforcing, beginning at the base of the wall. Each layer should be installed so that the top edge of the membrane runs continuously along the underside of the line of masonry reinforcing.

5. All membrane side overlaps of membrane are to be a minimum 2-1/2", end laps to be a minimum 6", and should shed or run parallel to direction of water flow. It is necessary to cut the membrane at the tie wires protruding from the wall to enable membrane to be laid in place.

6. Overlaps may need to be primed in temperatures below 40°F (4°C). Membrane may be reapplied at temperatures down to 25°F (-4°C).

7. Polyguard® Detail Sealant PW™ is used to seal any cuts or edges in the membrane due to tie wires, pipes and other protrusions.

3.04 PROTECTION

1. Polyguard® membranes should be covered within thirty (30) days to prevent prolonged exposure to sunlight.

END OF SECTION