SECTION 07 13 00

SHEET WATERPROOFING

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\*\* NOTE TO SPECIFIER \*\* Polyguard Products, Inc.; Building Envelope Systems.
This section is based on the products of Polyguard Products, Inc., which is located at:
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Web: <https://www.polyguardproducts.com>
 [ [Click Here](https://www.arcat.com/arcatcos/cos34/arc34870.html) ] for additional information.
Polyguard Products specializes in products that protect surfaces and structures from moisture, water, and other undesired substances. Polyguard is currently operating under three "core" divisions with a number of growing divisions under the Polyguard umbrella.
Polyguard's Architectural Division offers the Integrated Building Envelope System, with air barriers, masonry through wall and window flashings, below grade structural waterproofing systems, and composite drainage panels, all connected using engineered transition detailing assemblies which assure envelope integrity.
Polyguard's Pipeline Division was the first coating manufacturer to highlight the cathodic shielding problem and the first to develop a coating to address the shielding problem. We have introduced a 2-part epoxy coating with 30% - 50% longer pot life than the competition.
Our Mechanical Division offers weather and vapor barrier systems to keep pipe and duct insulation dry, as well as a unique RG-2400 coating to stop corrosion under insulation (CUI).
Polyguard's Specialty Products Division is comprised of products for Highway, Residential, Flooring and Private Label applications.
A new innovation from Polyguard is the TERM Barrier Systems. Backed by 18 years of university research and ICC Evaluation Report #3632, you can optimize building waterproofing by adding non-chemical termite and insect barriers.
In May of 2016, Polyguard introduced a new business unit called Poly Wall Building Solutions - Moisture and Air Stop with Us.
Polyguard's Residential Division manufactures a market-leading line of waterproofing and air barrier membranes designed to enhance the integrity of your structure. Our products are all made in the USA and have been tested to withstand the most rigorous requirements in the construction industry. With 60-plus years of manufacturing excellence and a culture only found in an employee-owned company.
Think of Polyguard as an innovator and manufacturer of barriers - not just barriers against moisture and corrosion, but against contaminants like radioactive radon gas and methane. No sick buildings here.

1. GENERAL
	1. SECTION INCLUDES

\*\* NOTE TO SPECIFIER \*\* Delete items below not required for project.

* + 1. Sheet waterproofing membrane. (Blindside System).
			1. Surface preparation
			2. Installation of blindside vertical sheet membrane system and accessories.
			3. Accessory products
	1. RELATED SECTIONS

\*\* NOTE TO SPECIFIER \*\* Delete any sections below not relevant to this project; add others as required.

* + 1. Section 03 10 00 - Concrete Forming.
		2. Section 03 15 00 - Concrete Accessories.
		3. Section 03 20 00 - Concrete Reinforcing.
		4. Section 03 30 00 - Cast-in-Place Concrete.
		5. Section 31 20 00 - Earth Moving.
		6. Section 31 62 00 - Driven Piles.
		7. Section 31 64 00 - Caissons.
	1. REFERENCES

\*\* NOTE TO SPECIFIER \*\* Delete references from the list below that are not actually required by the text of the edited section.

* + 1. ASTM International (ASTM):
			1. ASTM C836 - Standard Specification for High Solids Content, Cold Liquid Applied Elastomeric Waterproofing Membrane for Use with Separate Wearing Course.
			2. ASTM D412 - Standard Test Methods for Vulcanized Rubber and Thermoplastic Elastomers-Tension.
			3. ASTM D570 - Standard Test Method for Water Absorption of Plastics.
			4. ASTM D882 - Standard Test Method for Tensile Properties of Thin Plastic Sheeting.
			5. ASTM D903 - Standard Test Method for Peel or Stripping Strength of Adhesive Bonds.
			6. ASTM D1000 - Standard Test Methods for Pressure-Sensitive, Adhesive-Coated Tapes used for Electrical and Electronic Applications.
			7. ASTM D1876 - Standard Test Method for Peel Resistance of Adhesives (T Peel Test).
			8. ASTM D1970 - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Roofing Underlayment for Ice Dam Protection.
			9. ASTM D4632 - Standard Test Method for Grab Breaking Load and Elongation of Geotextiles.
			10. ASTM D4716 - Test Method for Determining the (In plane) Flow Rate per Unit Width and Hydraulic Transmissivity of a Geosynthetic Using a Constant Head.
			11. ASTM D5385 - Standard Test Method for Hydrostatic Pressure Resistance of Waterproofing Membranes.
			12. ASTM D6574 - Test Method for Determining the (In Plane) Hydraulic Transmissivity of a Geosynthetic by Radial Flow.
			13. ASTM E96 (Method B) - Standard Test Methods for Water Vapor Transmission of Materials.
			14. ASTM E154 - Standard Test Methods for Water Vapor Retarders Used in Contact with Earth Under Concrete Slabs, on Walls, or as Ground Cover.
		2. General Services Administration, Public Building Service (GSA-PBS):
			1. GSA-PBS-07115 Guide Specification for Elastomeric Waterproofing.
		3. Radon Reduction Technology Laboratory: Resistance to Permeance by Radioactive Radon Gas; Resistance to Diffusion by Radioactive Radon Gas.
	1. SUBMITTALS
		1. Submit under provisions of Section 01 30 00 - Administrative Requirements.
		2. Product Data:
			1. Manufacturer's data sheets on each product to be used.
			2. Use limitactions an recommendations
			3. Preparation instructions and recommendations.
			4. Storage and handling requirements and recommendations.
			5. Typical installation methods.
			6. Certification of data indicating VOC (Volatile Organic Compound) content of all components of waterproofing system.

\*\* NOTE TO SPECIFIER \*\* Delete if not applicable to product type.

* + 1. Verification Samples: Two representative units of each type, size, pattern, and color.
			1. Sheet membrane.
			2. Fabric Tape and Accessories.
			3. Prefabricated Drainage Composite.
		2. Shop Drawings: Include details of materials, construction, and finish. Include relationship with adjacent construction.

\*\* NOTE TO SPECIFIER \*\* The sustainable and LEED paragraphs apply to the Blindside product only. Delete if not required.

* + 1. Sustainable Design Submittals:
			1. Invoices and documentation from manufacturer of the amounts of materials and content for products specified.
			2. Invoices and documentation showing manufacturing locations and origins of materials for products manufactured and sourced within 500 miles of project site.
		2. LEED Submittal: Documentation of materials, recycled content, and location of manufacturer.
			1. Indoor Environmental Quality (IEQ) Credit 5 - Indoor Chemical and Pollutant Source Control: Design to minimize and control the entry of pollutants into buildings and later cross-contamination of regularly occupied areas.
			2. Innovation in Design (ID) Credit 1 - The opportunity to achieve exceptional performance above the requirements set by the LEED Green Building Rating System and/or innovative performance in Green Building categories not specifically addressed by the LEED Green Building Rating System.
			3. Materials and Resources (MR) Credit 2 - Construction Waste Management: Provide documentation of reusable materials by weight and volume diverted back to manufacturing process or to appropriate sites.
			4. Materials and Resources (MR) Credit 5 - Regional Materials: Provide documentation for cost of materials or products that have been extracted, harvested, or recovered and manufactured within 500 miles of project site.
				1. 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.
			5. Sustainable Site (SS) Credit 3 - Brownfield Development: Provide documentation of materials that contribute to the redevelopment of a contaminated land site that has been defined as a Brownfield by a local, state, or federal government agency.
	1. QUALITY ASSURANCE
		1. Manufacturer Qualifications: Sheet Membrane Waterproofing Barrier System must be manufactured by a company with a minimum of ten years of experience in the production and sales of membrane waterproofing materials.
			1. Manufacturer's Representative: Arrange to have a trained representative of the manufacturer on site periodically to review installation procedures.
		2. Applicator Qualifications: A firm having at least three years of experience in applying these types of specified materials and specifically accepted in writing by the membrane system manufacturer.
		3. 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.
	2. PRE-INSTALLATION CONFERENCE
		1. Pre-Application Conference: Establish procedures and review conditions, installation procedures and coordination with other related work. The meeting agenda is to include review of special details and flashing.
	3. DELIVERY, STORAGE, AND HANDLING
		1. Deliver materials to site in manufacturer's original, unopened containers and packaging, with labels clearly identifying product name and manufacturer.
		2. Store materials in a clean, dry area in accordance with manufacturer's instructions.
		3. Store adhesives at temperatures of 40 degrees F (5 degrees C) and above to facilitate handling.
		4. Store membrane cartons on pallets.
		5. Do not store at temperatures above 90 degrees F (32 degrees C) for extended periods.
		6. Keep away from sparks and flames.
		7. Completely cover when stored outside. Protect from rain.
		8. Protect materials during handling and application to prevent damage or contamination.
		9. Avoid use of products which contain tars, solvents, pitches, polysulfide polymers, or PVC materials that may come into contact with waterproofing membrane system.
	4. PROJECT CONDITIONS
		1. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.
		2. Sheet Waterproofing Membrane:
			1. Perform work when existing and forecasted weather conditions are within the limits established by the membrane manufacturer. Install Blindside Membrane when temperature is 25 degrees F (-4 degrees C) and rising.
			2. Ensure subsoil is approved by the Architect or geotechnical firm.
			3. Warn personnel against breathing vapors and contact with skin and eyes; wear appropriate protective clothing and respiratory equipment.
			4. Keep flammable products away from spark or flame. Post "No Smoking" signs. Do not allow use of spark-producing equipment during application and until vapors have dissipated.
			5. Maintain work area in a neat and workmanlike condition. Remove empty cartons and rubbish from the site daily.
	5. WARRANTY
		1. Sheet Waterproofing Membrane:
			1. Manufacturer warrants that its products are free of defects, since many factors which affect the results obtained from this product are beyond the Manufacturer's control; such as weather, workmanship, equipment utilized and prior condition of the substrate. The Manufacturer will replace, at no charge, proven defective products within twelve (12) months of purchase, provided it has been applied in accordance with our written directions for uses we recommended as suitable for the 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.
1. PRODUCTS
	1. MANUFACTURERS
		1. Acceptable Manufacturer: Polyguard Products, Inc., which is located at: P. O. Box 755; Ennis, TX 75120; Tel: 214-515-5000; Fax: 972-875-9425; Email: [request info (polyguard@polyguard.com)](https://admin.arcat.com/users.pl?action=UserEmail&company=Polyguard+Products,+Inc.&coid=34870&rep=&fax=972-875-9425&message=RE:%20Spec%20Question%20(07130pgd):%20%20&mf=); Web: <https://www.polyguardproducts.com>

\*\* NOTE TO SPECIFIER \*\* Delete one of the following two paragraphs; coordinate with requirements of Division 1 section on product options and substitutions.

* + 1. Substitutions: Not permitted.
		2. Requests for substitutions will be considered in accordance with the provisions of Section 01 60 00 - Product Requirements.
	1. HIGH DENSITY SHEET BLIND SIDE WATERPROOFING MEMBRANE
		1. Basis of Design: Polyguard Blindside Waterproofing Membrane, as manufactured by Polyguard. A strong sheet membrane with a thick, cross-laminated, high-density polyethylene (HDPE) backing, laminated to thick layer of proprietary waterproofing adhesive compound integrated into a nonwoven geotextile fabric. Total membrane thickness is factory controlled at 73 mils.

\*\* NOTE TO SPECIFIER \*\* Delete film color option not required.

* + - 1. Film Color: Black.
			2. Film Color: White.
			3. Membrane Thickness per ASTM D1000: 73 mils (1.85 mm).
				1. Backing: Thick, cross-laminated, high-density polyethylene (HDPE)
				2. Adhesive: Thick layer of proprietary waterproofing adhesive compound integrated into a nonwoven geotextile fabric.
			4. Tensile Strength per ASTM D4632: 80 lbs (36.29 kg).
			5. Tensile Strength, Film per ASTM D412: 4,250 psi (29303 kPa).
			6. Hydraulic Transmissivity of a Geosynthetic using a contrast Head per ASTM D4716: No measurable flow.
			7. (In Plane) Hydraulic Transmissivity of a Geosynthetic by Radial Flow per ASTM D6574: No water flow.
			8. Resistance to Fungi in Soil per GSA-PBS 07115 for 16 weeks: No effect.
			9. Resistance to Permeance by Methane Gas per ASTM 1434 Tested Using 99.99 percent Purity: 7.2 x 10-7 cu ft / (sq ft x hr x psi).
			10. Resistance to Radioactive Radon Gas: Radon Reduction. Technology Laboratory percent reduction in radon gas diffusion: 97.10 percent.
			11. Lap Peel Adhesion per ASTM D1876: 9.02 lbs per inch (0.161 kg per mm).
			12. Puncture Resistance, Membrane per ASTM E154: 217 lbs (98.43 kg).
			13. Resistance to Hydrostatic Head per ASTM D5385: 231 ft (70409 mm).
			14. Peel Adhesion to Concrete per ASTM D903: 14.9 lbs per inch (0.266 kg per mm).
			15. Elongation, Ultimate Failure of Rubberized Asphalt per ASTM D412: Greater than 460 percent.
			16. Water Absorption per ASTM D570: 0.1 percent.
			17. Crack Cycling per ASTM C836 Tested at -15 degrees F (-26 degrees C): No effect.
			18. Low Temperature Flexibility per ASTM D1970: 180 degree bend over 1 inch (25 mm) mandrel at -20 degrees F (-29 degrees C): No effect.
			19. Breaking Strength of 1 inch (25 mm) width Sample Polyethylene Geomembrane Layer per ASTM D882: 6500 psi (44816 kPa).
			20. Permeance to Water Vapor Transmission per ASTM E86 Method B: 0.01 perms maximum.
		1. System Accessories:

\*\* NOTE TO SPECIFIER \*\* Delete accessories items not required.

* + - 1. Surface Primer Roller-Grade Adhesives:
				1. Polyguard 650 LT Liquid Adhesive: A rubber-based, tacky adhesive formulated to provide excellent adhesion.
				2. Polyguard California Sealant: A rubber-based sealant formulated to provide excellent adhesion.

Volatile Organic Compound Content: Meets South Coast Air Quality Management District regulations established under the February 1, 1991, version of Rule 1168 (2) Adhesion and Sealant Applications.

Classified as an Architectural Sealant Primer Porous; VOC of 527 g/L. SCAQMD regulations for this type of sealant primer are 775 g/L.

* + - 1. Fabric Tapes: Polyguard Fabric Tape: A rubberized asphalt waterproofing membrane laminated to polypropylene fabric backing.
				1. Wound onto a disposable silicone treated release sheet to prevent membrane from sticking to itself while in the roll.
				2. For use around pipe penetrations with an annular space of pipe through opening exceeding 1/2 inch (13 mm), end laps, and patching damaged areas.
			2. Liquid Membranes: Polyguard LM-95 Liquid Membrane: A two-component, asphalt-modified, urethane.
			3. Detail Sealants: Polyguard Detail Sealant PW: A Single-component, STPE, 100 percent solid moisture-cured, elastomeric sealant. Environmentally friendly, non-isocyanate. Replaces silicone and urethane sealants.
				1. Low VOC / HAPS-free, cold-applied, self-adhesive, elastomeric sealant.
			4. Detail Adhesive Tape: Polyguard 606 Tape: High-strength, double-sided tape comprised of rubberized asphalt. Supplied in rolls and utilizes Kraft paper and plastic film release sheets which are removed prior to application.
			5. Tie Back Cover: Polyguard Poly Cover: Pre-formed dome shape tie back cover made with heavy-duty, high impact ABS plastic. To cover protruding tie back bolts less than 6 inches in height in lagging and retention walls.
			6. Corner Boots:
				1. Polyguard US Inside Corner Boot: 60-mil combination of rubberized asphalt bonded to polyethylene. The adhesive surface is covered with a release liner which will be removed prior to application on an inside corner to reinforce and seal corners of the Blindside Membrane.
				2. Polyguard US Outside Corner Boot: 60-mil combination of rubberized asphalt bonded to polyethylene. The adhesive surface is covered with a release liner which will be removed prior to application on an outside corner to reinforce and seal corners of the Blindside Membrane.
				3. Polyguard US Pit Top Corner Boot: 60-mil combination of rubberized asphalt bonded to polyethylene. The adhesive surface is covered with a release liner which will be removed prior to application on all corners to reinforce and seal corners of the Blindside Membrane.
			7. Drainage Composite Mats:
				1. Polyguard Polyflow 15 Vertical 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 the water to flow to designated drainage exits.
				2. Polyguard Polyflow 15P Vertical 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 to be a compatible protection layer.
				3. 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.
1. EXECUTION
	1. EXAMINATION
		1. Examine surfaces to receive sheet membrane. Notify General Contractor if surfaces are not acceptable.
		2. Do not begin surface preparation or application until unacceptable conditions have been corrected.
		3. Surface Considerations:
			1. Wood Lagging with Steel Piles:
				1. Make sure lagging boards are installed flush and inline within 1/2 inch (13 mm).
				2. Repair damaged/missing lagging with concrete grout, treated wood, or both.
				3. Fill or cover gaps between lagging boards exceeding 2 inches (51 mm) using concrete grout or plywood.
				4. If lagging boards are placed interior to the steel pile, any gaps between the boards' ends which exceed 2 inches (51 mm) should be covered with plywood, then secured or grouted behind for stability.
				5. Where the lagging wall will be excavated to expose the I-Beam for removal, a cement board must be placed over the I-Beam extending 1 foot (305 mm) on both sides of the I-Beam prior to installation of the drainboard and Blindside Membrane.
			2. Steel Sheet Piling:
				1. If the membrane is to be in continuous contact with the profile of the sheet piling, sharp protrusions must be first addressed or removed.
				2. If waterproofing will span the sheet pilings, place 3/4 inch (19 mm) plywood across the void and mechanically anchor into place every 12 inches (305 mm) on center. Fill void behind plywood with sand.
			3. Caisson:
				1. Surface of augured piers should be relatively smooth to install directly against piers. However, the groove between each pier has to be filled with concrete grout and sharp protrusions addressed or removed.
			4. Shotcrete with Concrete and Chemically Stabilized Earth:
				1. Remove sharp protrusions and fill voids with concrete grout. The concrete surface profile should be between CSP-3 and CSP-8.
			5. Slurry Wall:
				1. Clean off mud and dirt.
				2. Remove sharp protrusions and fill voids with concrete grout.
	2. PREPARATION
		1. Complete the retention system per project specifications.
		2. Remove objects that could penetrate the membrane, such as nails and concrete fins. Also look for any gaps larger than 2 inches (51 mm) between timber lagging and any change in plane which would result in bridging.
		3. Never place the membrane in standing water.
		4. Provide a dry surface prior to application.
	3. INSTALLATION
		1. Install in accordance with manufacturer's instructions, approved submittals, and in proper relationship with adjacent construction.
		2. Drainage Board Installation:
			1. Drainage board should be applied vertically. Apply drainage board with fabric to lagging, caisson, shotcrete, slurry seal or steel piling walls. Bring drainage board over the top of the surface to be waterproofed and securely tack the drainage board to the top. On lagging walls cut holes in the drainboard where the lag bolts are extending out of the wood lagging into the drainage board.
			2. Butt drainboard together at side and end seams.
		3. Membrane Installation - Vertical Surfaces: Typical.
			1. Apply waterproofing membrane with the high-density backing to the drainage board.
			2. Install Blindside Membrane when temperatures are 25 degrees F (-4 degrees C) and rising.
			3. Application up to 20 ft (6.096 m) should be done by applying pins with washers every 12 inches (310 mm) across the top lagging through the membrane and drainage board, allowing the membrane to hang down the wall.
			4. For applications over 20 ft (6.096 m), contact the manufacturer for recommendations.
			5. Provide vertical wall terminations to protect the sheet membrane for critical future tie-in to other products, or for protection from trade damage. Review Polyguard's published details for critical detailing procedures at all top terminations.
			6. Side laps are furnished with edge trim of 4 ft (1219 mm). Apply powder-actuated fasteners every 16 to 24 inches (406 to 610 mm) and 1 inch (25 mm) in from the outside edge to secure membrane to wall. Prior to side lap application, remove any debris and dust on the polyethylene backing, clean the backing with 30 percent Isopropyl Alcohol, and then apply to the edge trim. Finish the seal by rolling with a laminate-type roller to obtain full adhesion.
			7. Prime end laps, and on adjoining sheets, with a minimum 6 inch (152 mm) heavy coat of 650 LT Liquid Adhesive or California Sealant at a coverage rate of 50 to 75 sq ft (4.64 to 6.97 sq m) per gallon. Allow this adhesive to dry (until tacky) before membrane application. Install a reverse shingle lap with the Blindside Membrane on the vertical wall; at a maximum 4 inch (103 mm) and a minimum 3 inch (76 mm) overlap. Center and place a 12 inch (305 mm) wide piece of Fabric Tape over the primed seam area. Apply even pressure with a roller to obtain full adhesion.
			8. If the annular gap between the rough opening and the pipe, bolt, or other penetration is 1/2 inch (13 mm) diameter or less, apply liquid adhesive to the fabric side of the surrounding field course of Blindside Membrane. Then apply a minimum 3/4 inch (19 mm) cant (fillet) of LM-95 Liquid Membrane, or Detail Sealant PW, around the pipe penetration extending a minimum of 3 inches (76 mm) onto both the prepared fabric side of the Blindside Membrane field course and the penetrating item. Allow the LM-95 Liquid Membrane or Detail Sealant PW to cure for 2 hours.
			9. If the annular gap between the rough opening and the pipe, bolt, or penetration exceeds 1/2 inch (13 mm) diameter, apply a patch of Blindside Membrane tight around the penetrating item with a minimum distance of 6 inches (152 mm) onto the surrounding field course of Blindside Membrane. Then seal with LM-95 Liquid Membrane or Detail Sealant PW as a minimum 3/4 inch (19 mm) cant (fillet) extending onto the Blindside Membrane skirt and the penetrating item a minimum distance of 3 inches (76 mm). Then apply a heavy coat; approximately 50 to 75 sq ft (4.64 to 6.97 sq m) per gallon of Polyguard 650 LT Liquid Adhesive or Polyguard California Sealant onto the fabric side of the Blindside Membrane patch extending 6 inches (152 mm) onto the field coating of Blindside Membrane. Next apply a patch of Polyguard Fabric Tape 56 around the termination edges of the Blindside Membrane patch. Press or roll the patch firmly to obtain full adhesion to the field coating of Blindside Membrane. Apply another coat of Polyguard 650 LT Liquid Adhesive or Polyguard California Sealant to the Polyguard Fabric Tape patch edges and apply liquid membrane at Fabric Tape edge terminations.
			10. Visually inspect membrane prior to pouring concrete for any punctures/damage.
			11. Repair damaged Blindside Membrane areas by applying Polyguard 650 LT Liquid Adhesive or Polyguard California Sealant at a rate of 50 to 75 sq ft (4.64 to 6.97 sq m) per gallon to the fabric side of the Blindside Membrane and apply LM-95 Liquid Membrane or Detail Sealant PW a minimum of 3 inches (76 mm) in each direction. Next, apply Polyguard 650 LT Liquid Adhesive or Polyguard California Sealant at a rate of 50 to 75 sq ft (4.64 to 6.97 sq m) per gallon over the Liquid Membrane and the Blindside Membrane field course to a minimum 6 inches (152 mm) in all directions from the damaged area. Apply a Polyguard Fabric Tape patch a minimum 6 inches (152 mm) larger than damaged area in all directions.

\*\* NOTE TO SPECIFIER \*\* The termination bar is optional. Delete if not required.

* + 1. Termination Bar: Secure at top of wall fastening every 7 inches (178 mm) on center.
		2. Membrane Installation - Horizontal Surfaces: Horizontal application is to be in accordance with manufacturer's instructions.
			1. Install Blindside Membrane when temperatures are 25 degrees F (-4 degrees C) and rising.
			2. Unroll waterproofing membrane with longest dimension parallel to direction of pour.
			3. Place double-thick, high-strength, cross-laminated polyethylene backing to the soil and fabric to the concrete.
			4. Apply the (required) preformed inside and outside corner boots prior to the application of the Blindside Membrane according to manufacturer's details and specifications.
			5. Seal the Blindside Membrane to foundation walls or footers.
			6. Overlap side seams using the 4 inch (102 mm) edge trim seal. Clean polyethylene backing of waterproofing barrier membrane prior to application on the 4 inch (102 mm) edge seal with 30 percent Isopropyl Alcohol.
			7. End laps should be overlapped a minimum of 3 inches (76 mm) maximum of 4 inches (102 mm) and addressed by applying a coat of liquid adhesive approximately 50 to 75 sq ft (4.64 to 6.97 sq m) per gallon to fabric side of waterproofing barrier membrane and placing adjacent sheet on top. Roll to assure full adhesion.
			8. After application of end lap use liquid adhesive to prime seam and apply a 12 inch (305 mm) piece of Fabric Tape centered over seam to seal extend out 6 inches (152 mm) past side laps - roll with laminate roller.
			9. The pipe surface should be cleaned and roughened with sandpaper or a wire brush to ensure adequate adhesion.
			10. If the annular space of pipe through an opening is 1/2 inch (13 mm) or less, apply 650 LT Liquid Adhesive or California Sealant to the fabric side of Blindside Membrane at a rate of 50 to 75 sq ft (4.64 to 6.97 sq m) per gallon. Apply a cant/fillet with a min. 3/4 inch (19 mm) face of LM-95 or Detail Sealant PW extending onto the fabric side of the Blindside Membrane and onto the pipe a minimum of 6 inch (152 mm).
				1. If pipes or penetrations are in tight clusters and a more flowable detailing liquid is required LM-85 SSL should be used, refer to US 16 Detail.
			11. If the annular space of pipe through an opening exceeds 1/2 inch (13 mm), a patch of Blindside Membrane is required to close the gap. The size of the patch should extend a minimum 6 inch (152 mm) in all directions from the patch area onto surrounding membrane. Seal the edges of the patch to existing membrane with Fabric Tape installed over Blindside Membrane with 650 LT Liquid Adhesive or California Sealant at a rate of 50 to 75 sq ft (4.64 to 6.97 sq m) per gallon. While the 650 LT Liquid Adhesive or California Sealant is still tacky, seal the pipe with the LM-95 or Detail Sealant PW. Apply a cant/ fillet with a min. 3/4 inch (19 mm) face of LM-95 or Detail Sealant PW extending onto the fabric side of the Blindside Membrane and onto the pipe a minimum of 3 inch (76 mm). Allow LM-95 or Detail Sealant PW a minimum of 2 hours to cure.
				1. If pipes or penetrations are in tight clusters and a more flowable detailing liquid is required LM-85 SSL should be used, refer to US 16 Detail.
			12. Pipes which are wired together and touching, cannot properly be waterproofed. Ensure all pipes have proper spacing. Recommended spacing for pipe penetrations is 2 inches (51 mm). The minimum allowed is 1 inch (25 mm).
			13. Steel reinforcements may be applied directly over the waterproofing barrier membrane. It is important that reinforcement (rebar) chairs used are compatible with the system. Compatible (rebar) chairs will distribute the load of the steel reinforcement sufficiently to reduce the risk of the chair puncturing the waterproofing membrane when fully loaded with the weight of the reinforcement steel and other common auxiliary loads. Blocks, pavers or dobies made of concrete or brick are clearly the best choice. Individual chairs are acceptable if they have a flat base or bolsters with rails. Contact Polyguard Technical Service for approval and written permission for other types of rebar chairs.
			14. Precaution should be taken to protect the waterproofing barrier membrane during placement of reinforcing or concrete. Visually inspect waterproofing barrier membrane prior to pouring of concrete for any punctures or damage to membrane which needs to be repaired. Patch any damaged areas by applying the liquid adhesive at a rate of 50 to 75 sq ft (4.64 to 6.97 sq m) per gallon to fabric side of waterproofing barrier membrane and liquid membrane provided by manufacturer, then apply a patch of Fabric Tape.
			15. Prior to slab pour all standing water must be removed from the membrane.

END OF SECTION