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## Surface Conditions

Check that all drains are properly installed, slightly depressed below the top of the roof deck and operative, all pipe and sleeve penetrations in place and properly secured, material storage and access areas determined and agreed to. All honeycomb, form tie holes or cones, air holes, bug holes and other defects must be parged/filled prior to membrane application and protrusions and high spots scraped down. Any questions about concrete surface acceptability can be determined by evaluating the concrete surface using ASTM D-5295 and American Concrete Institute (ACI) ACI 117R-90, re-approved 2002, Section 4.5.6, Section 4.5.7, Detail FF 191.4 or FF 52.9 Guides. Fresh concrete that supports foot traffic is acceptable. Standing water on the concrete surface at the time of installation is not acceptable and needs to be removed. Water curing of concrete with impermeable covers is recommended when long-term curing is employed. All metal surfaces shall be cleaned of oils, paints, silicones and rust. Power wire brushing, shot blast, sand blasting, ice blasting and similar treatments can be used as required.

Formboard release agents like No. 20 weight motor oil or diesel fuel are commonly used on concrete wall forms. Do not use or go over any release agent containing motor oil, fuel oil, animal fats or stearates. Surface applied wax based, and acrylic curing agents are not acceptable. Suspect areas must be shot blast, sand blast, ice blast or similarly treated prior to application of waterproofing to provide an acceptable surface. Frost-free surfaces are required.

## Installation, Detail Work

**CORNERS:** Exterior and interior corners are installed with 20 mils of BP PA applied to the substrate then embed a 10-inch-wide BP Membrane, 4 inches on one side and 6 inches on the other side. The second installed apply 20 mils of BP PA onto the first layer of BP Membrane embed the 10-inch-wide BP Membrane 6-inch over the 4-inch side and 4 inch over the 6-inch side, squeegeed firmly into place without any voids or air pockets. At parapet walls, membrane assembly should extend full height and to the outside edge of the parapet unless there is a thru-wall flashing or reglet. Do not cover up any weep holes or thru-wall flashings.

**DRAINS:** Clean drain sumps of any process oils, rust or other contaminants with solvent and powered wire brush if required. Make sure drain is set below or at the drainage plane so there are no dams preventing free flow of water. Install a 39-inch square sheet of BP Membrane into 20 mils of BP PA before running the ply sheets over the field of the deck. Install all waterproofing sheets over the drain and carefully cut out a small circular opening with slits carefully cut back to partially conform to the drain bowl shape. Install clamping ring and cut back interior slit sheets to within 1 to 2 inches from the inside of the clamping ring. Do not allow any laps in clamping ring area. All drains require clamping rings.

**PENETRATIONS:** Cut a star pattern in the membrane slightly smaller than the outside diameter of the penetration. Coat the pipe/sleeve and surrounding base with 20 mils of BP PA. The first layer of BP Membrane should be installed a minimum of 8" above water level onto the pipe penetration and 8" beyond the base of the pipe penetration. Apply 20 mils of BP PA onto the first layer of the BP Membrane extending onto the pipe and substrate. Embed the second layer of BP Membrane. Any exposed BP Membrane will need to be covered with 20 mils of BP PA with embedded with Ram 306-ED UV. Install stainless steel draw-bands at the top of BP Membrane system and then cap with KeeneSeal 100.

If detail of projections required Polymethyl Methacrylate, please refer to Barrett RamFlash PMMA Primer and Membrane technical data sheets and installation instructions.

**CONTROL JOINTS:** Control joints are not required for the Black Pearl system, however if installed they will need to be detailed. Apply 20 mils of BP PA a minimum of 6" to each side of the control joint, install a 12" wide strip of BP Membrane into BP PA. Install the full system over the control joint detail.

**EXPANSION JOINTS:** Expansion joints up to 2 ½" inches install backer rod in joint to leave a ½" depth, followed by KeeneSeal 100, flush with the top of the deck. Let sealant fully cure, apply 20 mils of BP PA 12" on both sides. Embed BP Membrane into BP PA flush to both sides. Install full system over the expansion joint detail.

**WIDE EXPANSION JOINTS:** Wide Expansion joints are installed by many different manufacturers such as Watson-Bowman-Acme, Emseal, Construction Specialties, Migutan and others. These assemblies require job-specific detail. Contact your local Barrett representative to assist you.

**CHANGE OF PLANS:** Install 20 mils of the BP•PA into the horizontal to vertical junction a minimum of 7” onto vertical and horizontal than install the BP Membrane a minimum of 6” onto the horizontal to vertical junction. Repeat the previous step with 20 mils of BP PA. Then install the complete system over the detailed area to a height that is 8” above water level and terminate appropriately.

If flashing requires Polymethyl Methacrylate, please refer to Barrett RamFlash PMMA Primer and Membrane technical data sheets and installation instructions.

## Membrane Application

### Horizontal

Apply BP PA with straight edge squeegee at 20 mils onto the substrate with a rate of 25 sq feet per gallon. Adhesive must extend 1” beyond the BP Membrane. Allow it to dry to a tacky condition at 75F 50% Humidity requires approximately 20 minutes. Temperature and humidity will change the time requirements before installing the BP Membrane. Apply only as much adhesive as can be covered with sheet before the self-priming adhesive loses tack. Install BP Membrane into adhesive. Rub the sheet into the BP PA with a stiff broom, squeegee or hand roller. Lap all edge seams a minimum of 3 inches. Stagger all end laps a minimum of 6 inches.

Install the second lift of BP System by installing BP PA at 20 mils at a rate of 25 sq feet per gallon onto the first lift of BP Membrane. Allow to dry to tack state. Smoothly embed the second ply, offsetting the side laps of the first ply by half a sheet’s width.

Install specified Ram protection course by applying 20 mils of BP PA at rate 80 sq feet per gallon onto the final lift of the BP System. Embed approved Ram Protection Course into the BP PA as required.

Note: All “Fishmouths” or wrinkles need to be cut out and detailed.

When all specified plies are installed it is time to run the flood test (ASTM D-5957), or EVM survey (ASTM D-7877). If any leakage or voids are detected, repair the suspect area and retest until there is no leakage of any kind.

### Vertical

Footer Detail: Install 20 mils of the BP PA into the horizontal to vertical junction a minimum of 7” onto vertical and as far a possible onto the horizontal leaving room for termination bar. then install the BP Membrane a minimum of 6” onto the horizontal to vertical junction. Repeat the previous step with 20 mils of BP PA. Then install the complete system over the detailed area. All other detailing follows the installation guidelines for horizontal applications.

The Black Pearl Membrane is to be applied in vertical strips and terminated at grade. Apply BP PA at 20 mils giving you a rat of 25 rate of square feet per gallon. Allow to dry to a tacky state. Pre-cut BP Sheets to workable lengths, usually about 5 to 7 feet. Allow BP PA to dry to a tacky state before embedding the sheet smoothly and fully adhering it to the vertical substrate. Overlap seams a minimum of 3” onto BP PA primed BP Membrane.

Termination at grade is require with an alloy aluminum termination bar fastened every 8” on center. An approved Barrett protection course of drainage layer is required.

## Other Tools

Purchase locally

Available to purchase from Barrett Company

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2 Sawhorses and a Sheet of ¾ inch Plywood

6 inch and 10 inch Black Pearl® Squeegees

18 inch Wood Backed, Smooth Edge Black Pearl® Squeegee – NO TEETH

Handles for the above

4 inch and 9 inch Paint Rollers w/extension handles

3 inch or 4 inch Chip Brushes

Utility Knife – Hook and Straight Blades

Ruler, Hammer, Brooms, etc.

“Keil” type construction crayon

Handheld Leaf Blower (Gas or Electric, Stihl recommended)

Nitrile or similar work Gloves (Recommended)

Empty 5 Gallon Water Pail (for tools overnight)

1 Gallon Can of Naphtha (To Clean Tools)

All currently required or recommended OSHA Safety Equipment

LIMITED WARRANTY: Keene warrants its Products to be free of defects in materials, but makes no warranty as to appearance or color. Since methods of application and on-site conditions are beyond our control and can affect performance, Keene makes no other warranty, expressed or implied, including warranties of MERCHANTABILITY and FITNESS FOR A PARTICULAR PURPOSE, with respect to Keene Products. Keene to replace or to refund the purchase price of the quantity of Keene Product proven to be defective, and Keene shall not be liable for any loss or damage.