

SELF ADHERED SHEET MEMBRANE WATERPROOFING

COLPHENE 3000

This specification serves as a guideline and must be modified, as necessary, by the Designer of Record to suit the needs of the individual project. This specification is prepared in accordance with CSI format to be included under Division 7 – Thermal and Moisture Protection. Any improvements and changes to the content of this specification can be made only with the written authorization of the Designer of Record. [delete this paragraph]

PART 1 – GENERAL

1.1 RELATED DOCUMENTS:

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and General Requirements, apply to the work specified in this section.

1.2 RELATED WORK

- A. Division 2 – Site Work
- B. Division 3 – Concrete
- C. Division 4 – Masonry
- D. Division 5 – Structural Steel
- E. Division 6 – Rough Carpentry
- F. Division 7 – Sealants & Flashings
- G. Division 15 – Mechanical

1.3 REFERENCES

- A. American Society for Testing and Materials (ASTM)
 - 1. D 5147 Standard Test Methods for Tensile Strength
 - 2. D 5147 Standard Test Methods for Ultimate Elongation
 - 3. D 5147 Standard Test Methods for Elongation of Rubberized Asphalt
 - 4. D 5147 Standard Test Methods for Flexibility at Cold Temperature
 - 5. D 5602 Standard Test Methods for Static Puncture
 - 6. D 5601 Standard Test Methods for Tear Resistance
 - 7. D 1876 Standard Test Methods for Lap Adhesion
 - 8. D 5147 Standard Test Methods for Water Absorption
 - 9. D 903 Standard Test Methods for Peel Resistance
 - 10. E 96(B) Standard Test Methods for Water Vapor Permeance
 - 11. C 836 Standard Test Methods for Crack Cycling at -32 C
 - 12. D 5385 Standard Test Methods for Resistance to Hydrostatic Head
- B. International Organization for Standardization (ISO) 9001:2000 Quality Standard

SOPREMA Guide Specification
Self-Adhered Sheet Membrane Waterproofing

1.4 SYSTEM DESCRIPTION

- A. Furnish and install a completed vertical and/or horizontal waterproofing assembly including a self-adhered sheet waterproofing membrane with a drainage / protection course. To ensure total system compatibility all products shall be purchased from a single-source manufacturer.

1.5 SUBMITTALS

- A. Submit three (3) copies of the most current technical data sheets. These documents must describe the physical properties of the specified materials and explanations about product installation, including installation techniques, restrictions, limitations and any other manufacturer recommendations.
- B. Certification that all products are in compliance with specified ASTM criteria.
- C. Certification that all components of the waterproofing assembly are being supplied and warranted by a single manufacturer.
- D. Provide a specimen warranty from the manufacturer that includes all components of the waterproofing installation.

1.6 QUALITY ASSURANCE

- A. **Refer to Section 1.5 SUBMITTALS.** Include items A, B, C & D.
- B. The installer must demonstrate his or her qualification to perform the work of this section by providing written evidence from the manufacturer providing the single-source warranty that the installer is an applicator in good standing and is authorized to install the specified waterproofing system on the project.
 - 1. Documentation of the installer's qualifications must be written on the manufacturer's letterhead, include the name and address of the installer and the full name and physical address of the waterproofing installation in the body of the letter, and must be signed by an authorized representative of the membrane manufacturer.
- C. **Refer to Section 1.4 DESCRIPTION.** All components of the waterproofing assembly must be supplied by the membrane manufacturer offering the single-source warranty.
- D. The manufacturer offering the single-source warranty must have full-time technical support staff to provide the installer with technical assistance in the installation of the products included in the warranty.
- E. Pre-Construction Conference. All parties responsible for work of this section are required to attend a pre-conference meeting to review the details of the project as they pertain to the integrity of the waterproofing assembly.
 - 1. All parties responsible for the work of this section are required to attend, including the architect, owner, installer and manufacturer offering the single-source warranty.
 - 2. All parties are to review the installation procedures of this section and the coordination required with related work.

1.7 MANUFACTURER'S REPRESENTATIVE

- A. The waterproofing materials manufacturer may delegate a representative to visit the work site at commencement of work.
- B. At all times, the contractor shall permit and facilitate access to the site by the manufacturer's representative cited above.

1.8 DELIVERY, STORAGE & HANDLING

- A. Deliver materials in original unopened containers of packaging clearly labeled with manufacturer's name, brand name, instruction for use and all identifying numbers.
- B. Store all materials in protected and well-ventilated areas. Only materials to be used the same day shall be removed from this location. Special care may be required at temperatures below 40°F (see product data sheets). Keep all materials away from open flame or welding sparks.
- C. Pails of materials shall be carefully stored and adequately protected in accordance with the manufacturer's recommendations.

1.9 PROJECT CONDITIONS

- A. Perform work only when existing and forecasted weather conditions are within the limits established by the manufacturer of the materials and products used.
- B. The General Contractor must provide for adequate protection of the installed membrane preventing damage that might arise from work performed by the other trades.
- C. Apply drainage / protection board / insulation as soon as possible after membrane installation.
- D. Do not allow waste products, including but not limited to petroleum, grease, oil, solvents, vegetable or mineral oil, animal fat, to come in contact with the waterproofing membrane. Contaminated membrane must be cut out and replaced in accordance with the Approved Details.
- E. Concrete Deck/Wall Surface Condition; refer to Section 1.02 Related Sections.
- F. Concrete Deck/Wall Preparation; refer to Section 3.01 Surface Preparation.

1.10 WARRANTY

- A. Sheet Membrane Waterproofing: Upon completion of work, the contractor shall supply the owner with a single-source warranty issued by the manufacturer of the waterproofing assembly.
- B. The product manufacturer shall issue a written and signed document in the name of the owner, certifying the product will meet all the physical characteristics published by the manufacturer, for a period of [5] [10] years, starting from the date of completion of installation of membranes. No letter amending the manufacturer's standard warranty will be accepted and the warranty certificate must reflect these requirements.

**** CONTACT SOPREMA FOR WARRANTY TERMS AND CONDITIONS****

PART 2 – PRODUCTS

2.1 GENERAL

- A. Waterproofing membrane components and accessories shall be obtained as a single-source from the membrane manufacturer to ensure total system compatibility and integrity.

Acceptable Manufacturer: Soprema Inc.
310 Quadral Dr.
Wadsworth, OH 44281
Phone: 800-356-3521
Fax: 330-334-4289
Web Site: www.soprema.us

2.2 MATERIALS

- A. SHEET MEMBRANE WATERPROOFING: Colphene 3000 Summer Grade / Winter Grade manufactured by Soprema; a self-adhered, cold applied waterproofing membrane composed of SBS modified bitumen and a polyethylene woven complex top sheet. The membrane has a total thickness of 60 mils. Provide rubberized asphalt membrane covered with a release sheet which is removed during installation.

Specified product: **COLPHENE 3000 by SOPREMA, INC.**

Properties	Standards	COLPHENE 3000
Thickness (mm)	–	60 mils (1.5)
Tensile strength, MD/XD (kN/m)	ASTM D5147	11.3 / 15.4 (64 / 88 lb/in)
Ultimate elongation, MD/XD (%)	ASTM D5147	40 / 25
Elongation of rubberized asphalt (%)	ASTM D5147	> 1000
Flexibility at cold temperature (°C)	ASTM D5147	-35 (-31 °F)
Static puncture (N)	ASTM D5602	400 (90 lb)
Tear resistance, MD/XD (N)	ASTM D5601	375 / 400 (84 / 90 lb)
Lap adhesion (N/m)	ASTM D1876	2000 (11.4 lb/in)
Water absorption (%)	ASTM D5147	0.1 max
Peel resistance (N/m)	ASTM D903	3500 (20 lb/in)
Water Vapor Permeance (ng/Pa·s·m ²)	ASTM E96 (Procedure B)	0.49 (0.0086 perm)
Crack cycling at -32 C, 100 Cycles	ASTM C836	Unaffected
Resistance to hydrostatic head	ASTM D5385	70 m min. (231 ft.)

- B. SURFACE PRIMER: Shall be a solvent based primer used specifically for self-adhered membranes. Primer is composed of a blend of natural resins and solvent/synthetic rubber; may be spray or roller applied.

Specified product: **ELASTOCOL 600c by SOPREMA, INC.**

SURFACE PRIMER: Asphalt primer conforming to ASTM D 41, low VOC, California compliant.

Specified product: **ELASTOCOL STICK WB PRIMER by SOPREMA, INC.**

SOPREMA Guide Specification
Self-Adhered Sheet Membrane Waterproofing

- C. **PREFABRICATED DRAINAGE BOARD:** Shall be a composite drainage board consisting of a post –industrial recycled polypropylene core of fused, entangled filaments covered with a geocomposite filter fabric on its upper surface to allow water to pass into the drainage core while restricting the movement of soil particles and suitable for use in select vertical and horizontal applications.

Select one of the following: (edit for project requirements)

Specified product: **SOPRADRAIN ECO VENT by SOPREMA, INC.****

Prefabricated composite drainage board consisting of a post-industrial recycled polypropylene core of fused, entangled filaments covered with a geocomposite filter fabric bonded to both sides.

Specified product: **SOPRADRAIN ECO 2 by SOPREMA, INC.****

***NOTE: Sopradrain ECO VENT & ECO 2 exceed 40% post-industrial content and can help contribute up to 2 (two) LEED points when used in conjunction with other recycled content products.*

Properties	Standards	Values
Core:		
Thickness	ASTM D-1777	ECO VENT, ECO 2 – 0.45 in.
Compressive Strength	ASTM D-1621	ECO VENT, ECO 2 - >30,000
Flow@ 3000 psf & 1.0 Gradient	ASTM D-4716	ECO VENT – 16 gpm/ft ECO 2 – 12.9 gpm/ft
Fabric:		
Flow Rate	ASTM D-4491	ECO VENT, ECO 2 – 120
Grab Tensile Strength	ASTM D-4632	ECO VENT, ECO 2 – 120 lbs
Apparent Opening Size (AOS)	ASTM D-4751	ECO VENT, ECO 2 – 70 sieve

ALTERNATE Prefabricated Drainage Boards, **per SPECIFIER**, and as approved by **SOPREMA, INC.**

- D. **PROTECTION BOARD:**

- Asphaltic Hardboard: Sopraboard manufactured by Soprema; shall be a pre-molded, semi-rigid asphaltic protection board composed of bitumen, mineral core and reinforcement. Provide 3 mm (0.125 in.) thick hardboard on horizontal surfaces not receiving steel reinforced slab. Where steel reinforcing bars are to be used, apply two layers of 3 mm (0.125 in.) thick hardboard or one layer of 6 mm (0.25 in.) thick hardboard.

SOPREMA Guide Specification
Self-Adhered Sheet Membrane Waterproofing

Specified product: **SOPRABOARD by SOPREMA, INC.**

2. **ALTERNATE** as approved by **SOPREMA, INC.**

E. **Insulation** (*If required, edit for project requirements*)

1. Rigid, extruded polystyrene insulation board for waterproofing assemblies meeting ASTM C-578 Type VI or Type VII criteria.
 - a) Insulation must be 40 psi or 60 psi compressive strength when tested in accordance with ASTM D-1621 criteria.
 - b) Water Absorption must be maximum 0.1% by volume when tested in accordance with ASTM C-272 criteria.
 - c) The foam blowing agent used in the manufacture of the insulation must provide at least 90% reduction in ozone potential as compared with standard CFC blowing agents. It shall be certified by the foam manufacturer to be CFC free.
 - d) The insulation must offer min R-5.0 per inch at 75° F mean temperature when tested in accordance with ASTM C-518 and be warranted by the manufacturer to retain at least 80% of its published R-value for the warranty period.

Specified product: **DOW Extruded Polystyrene Insulation Board offered by SOPREMA, INC.**

*Product types: STYROFOAM[®] Brand Plaza Deck; and High Load 100.
Consult SOPREMA, INC. for required product type.*

E. **ACCESSORY PRODUCTS:**

1. Liquid membrane; two component, elastomeric, solvent free, cold applied fillet, adhesive, reinforcement.

Specified product: **COLPHENE LIQUID MEMBRANE by SOPREMA, INC.**

2. Multipurpose, elastomeric bitumen based mastic meeting ASTM D 4586, Type I, Class II.

Specified product: **SBS ELASTIC CEMENT by SOPREMA, INC.**

3. Synthetic rubbers, plasticized with bitumen and solvents to form an edge sealant compound, and meeting ASTM D 4586, Type I, Class II.

Specified product: **SBS MASTIC by SOPREMA, INC.**

4. Multipurpose, one part urethane sealant, edge sealant and caulking compound.

Specified product: **SOPRAMASTIC**

SOPREMA Guide Specification

Self-Adhered Sheet Membrane Waterproofing

5. Termination Bar: Extruded aluminum, 1” wide by .098” thick with sealant edge and fastener holes at maximum 12” centers.

Specified product: **As approved by SOPREMA, INC.**

6. Elastomeric, one step (two part) VOC compliant, solvent free quick setting foamable adhesive.

Specified product: **HIGH VELOCITY INSULATION ADHESIVE III by SOPREMA, INC.**

PART 3 – EXECUTION

3.1 SURFACE INSPECTION

- A. The installer shall examine the substrates and other conditions under which this work is to be performed. Should any circumstances detrimental to the proper completion of the work, or deficiencies be determined, the Architect, Owner or General Contractor shall be given written notice of the unsatisfactory condition. Do not proceed with the installation of the specified waterproofing assembly until all surface deficiencies and unsatisfactory conditions have been corrected.
- B. All concrete surfaces must be finished with a wood float or wood trowel; very smooth surfaces (e.g. surfaces finished with a steel trowel) must be scarified, profiled or etched prior to installation of the waterproofing membrane to ensure proper bonding.
- C. Verify that concrete has cured and aged for minimum time period recommended by membrane manufacturer.
- D. Verify that substrate is visibly dry and free of moisture. Test for capillary moisture by plastic sheet method according to ASTM D-4263.
- E. Determinations of bond strength and moisture content are the responsibility of the contractor and shall be performed periodically by the contractor throughout the course of work.
- F. Do not install materials in conditions of inclement weather.

3.2 SURFACE PREPARTION

- A. Refer to manufacturer’s literature for requirements for preparation of substrates. Surfaces shall be structurally sound and free of voids, spalled areas, loose aggregate and sharp protrusions. Remove contaminates such as grease, oil and wax from exposed surfaces. Remove dust, dirt, loose stone and debris. Use repair materials and methods which are acceptable to manufacturer of sheet membrane waterproofing. Meet requirements detailed in ASTM D 5295 “Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems”.
- B. Cast-In-Place Concrete Substrates:

SOPREMA Guide Specification

Self-Adhered Sheet Membrane Waterproofing

1. Do not proceed with installation until concrete has properly cured and dried (minimum 7 days for normal structural concrete poured on a vented deck and minimum 14 days for lightweight structural concrete). Horizontal slabs should be sloped for positive drainage.
 2. Fill form tie rod holes with concrete and finish flush with surrounding surface.
 3. Repair substrate irregularities and imperfections, grouting and sealing joints and transitions as required to finish flush with surrounding surface areas.
 4. All concrete shall be smooth and free of voids. All areas shall be free of honeycombs, sharp protrusions, fins, laitance, and will be free of damaged, spalled areas.
 5. Grind irregular construction joints to suitable flush surface. Dissimilar materials must receive a reinforcing membrane.
 6. Form Release Agents: Petroleum based products, distillates are not to be used.
Contact SOPREMA
- C. Masonry Substrates: Apply waterproofing over concrete block and brick with smooth trowel-cut mortar joints or parge coat.
- D. Wood Substrates: Apply waterproofing membrane over securely fastened, sound surface. All joints and fasteners shall be flush to create a smooth surface.
- E. Related Materials: Treat joints and install flashing as recommended by waterproofing membrane manufacturer.

3.3 MEMBRANE INSTALLATION

- A. GENERAL : Refer to membrane manufacturer's literature for recommendations on installation, including but not limited to the following:
1. Apply primer by spray or roller at a rate recommended by the membrane manufacturer. Recoat areas not waterproofed if contaminated by dust. Allow to dry per membrane manufacturer's recommendations.
 2. All joints are to have been properly grouted, sealed and to have received the appropriate water stop as required. All such materials are to be fully cured and functioning as the primary joint seal, prepared to receive the waterproofing membrane. These joints, control joints, and any crack over 1/16" wide will be void free and stripped in with a 9" wide strip of Colphene 3000 membrane.
 3. Tee joints that occur during installation of the membrane will be coated 6" in all directions with a bed of troweled Colphene Liquid Membrane, and as necessary to assure all lap edges in the tee-joint will remain sealed. An additional layer of Colphene 3000 membrane may be required to be embedded in the Colphene Liquid Membrane and extend past the joint 6" in all directions.
 4. After cleaning, removal of all loose materials and proper surface preparation, all cuts, tears, abrasions, poor seam adhesion, and slit blemishes, fishmouths, wrinkles, and all other imperfections will be repaired with Colphene 3000 membrane extending 6" in all directions from the point of repair. The edges of this patch will receive a trowel

SOPREMA Guide Specification

Self-Adhered Sheet Membrane Waterproofing

application of Colphene Liquid Membrane, Sopramastic SM-1, SBS Mastic, SBS Elastic Cement, or Alsan Flashing.

B. HORIZONTAL INSTALLATION:

1. All drains are to be seated flush with the deck, immobilized and grouted as required to eliminate voids. At all drain locations, one reinforcing ply of Colphene 3000 membrane is to be centered over the drain, extending a minimum of 12" past the drain bowl in all directions, onto the substrate. Apply a continuous bead of Colphene Liquid Membrane at the perimeter edges of this ply. Cut out the drain opening to allow the reinforcing ply to extend past the clamping ring. Center a ply of field membrane creating a dual ply at drain locations, also cutting the field ply to extend past the clamping ring. Apply Colphene Liquid Membrane into the drain bowl sealing the edges of both plies of Colphene 3000, and extended back 4" onto the horizontal surface where the clamping ring will seat. After cure of the Colphene Liquid Membrane, set and seat the clamping ring engaging both plies as the ring is secured.
2. All angle changes (vertical wall to horizontal deck substrate; and inside corners, wall to wall) will receive a bead of Colphene Liquid Membrane applied to extend 3" onto the vertical wall and 3" onto the horizontal deck. Install a 12" width of Colphene 3000 as a reinforcement membrane centered 6" up the wall and 6" onto the deck (wall to wall is to be centered 6" onto one wall and 6" onto the opposing wall). Apply pressure to insure membrane is fully adhered and sealed tightly. Outside corners will receive a 12" width of Colphene 3000 as a reinforcement, wrapping the corner 6" in each direction (Colphene Liquid Membrane is not required). Corners must be tightly seated and sealed from the finished side with Colphene Liquid Membrane as required. As the field membrane is installed, ensure all reinforcement membrane is covered, providing a full two ply finished assembly. All perimeter wall terminations are required, and must meet local building code requirements and Soprema Approved Details.
3. Install the Colphene 3000 membrane in shingle fashion, starting at the low point so the laps will properly shed water. Side-laps shall be 3", end-laps shall be 6" and staggered a minimum 12" from adjacent seams. Roll in place using a 75 lb. (min.) weighted roller. Ensure that all laps are firmly and smoothly adhered without voids, wrinkles, or fishmouths.
4. All penetrations are to be firmly anchored from the underside, immobilized and grouted flush to eliminate voids. Install Colphene 3000 to within 1/2" of the penetration. Apply a continuous bead of Colphene Liquid Membrane at the base of the penetration extended onto the horizontal deck 3" and up the penetration to the height of the finish elevation. Option: Alsan Flashing is accepted and approved for all penetration flashing and detailing. Install Colphene 3000 to within 1/2" of the penetration and apply Alsan H-80 Primer if needed. Apply Alsan Flashing base coat extended onto the deck 4" and up the penetration to the height of the finish elevation, Embed 6" wide reinforcing strip of Alsan Fleece, extended 3" onto the deck and 3" vertically up the penetration. Apply Alsan Flashing top coat extended 4" onto the horizontal deck and vertically to the height of the finished elevation.
5. Refer to Soprema Standard Details for additional flashing options.

C. VERTICAL INSTALLATION:

SOPREMA Guide Specification Self-Adhered Sheet Membrane Waterproofing

1. Footer and all angle changes, (vertical wall to horizontal deck substrate; and inside corners, wall to wall) will receive a bead of Colphene Liquid Membrane applied to extend 3" onto the vertical wall and 3" onto the horizontal deck. Install a 12" width of Colphene 3000 as a reinforcement membrane centered 6" up the wall and 6" onto the footer/deck (wall to wall is to be centered 6" onto one wall and 6" onto the opposing wall). Apply pressure to insure membrane is fully adhered and sealed tightly. Outside corners will receive a 12" width of Colphene 3000 as a reinforcement, wrapping the corner 6" in each direction (Colphene Liquid Membrane is not required). Corners must be tightly seated and sealed from the finished side with Colphene Liquid Membrane as required. As the field membrane is installed, ensure all reinforcement membrane is covered, providing a full two ply finished assembly. All perimeter wall terminations are required and must meet local building code requirements and Soprema Approved Details.
2. Install Colphene 3000 membrane with 3" minimum side laps, 6" minimum end laps, in maximum 8' lengths. Roll in place using firm pressure with a hand roller. Ensure that all laps are firmly and smoothly adhered and that there are no voids or fishmouths. Trowel a bead of Colphene Liquid Membrane, Sopramastic SM-1, SBS Mastic, or SBS Elastic Cement to all horizontal and all vertical terminations at the end of each day, and to laps that occur within 12" of a corner.
3. All penetrations are to be firmly anchored from the interior, immobilized and grouted flush to eliminate voids. Install Colphene 3000 to within 1/2" of the penetration. Apply a continuous bead of Colphene Liquid Membrane at the base of the penetration extended onto the vertical wall 3" and onto the penetration 12" minimum. Option: Alsan Flashing is accepted and approved for all penetration flashing and detailing. Install Colphene 3000 to within 1/2" of the penetration and apply Alsan H-80 Primer if needed. Apply Alsan Flashing base coat extended onto the wall 4" and a minimum of 12" onto the penetration. Embed 6" wide reinforcing strip of Alsan Fleece, extended 3" onto the wall and 3" out onto the penetration. Apply Alsan Flashing top coat extended 4" onto the wall and onto the penetration 12" minimum.
4. Terminations: Membrane shall be terminated in accordance with Soprema Approved Details. Colphene 3000 membrane will be terminated at or above grade by firmly seating and sealing top edge of the sheet, and applying a bead of Sopramastic SM-1 at the top edge of the sheet. The extruded aluminum termination bar will be fastened with appropriate, approved fasteners on not less than 12" centers. The termination bar must provide constant, adequate, even pressure to hold the membrane in place. Add additional fasteners as conditions (and assembly) require. Sopramastic SM-1 will be applied in the sealant ledge of the termination bar.

3.4 WATER TEST

- A. Flood Testing: Flood test each deck area for leaks, according to recommendations in ASTM D-5957, *Standard Guide for Flood Testing Horizontal Waterproofing Installations*, after completing and protecting waterproofing but before overlaying construction is placed. Install temporary containment assemblies, plug or dam drains, and flood with potable water.
 1. Flood to an average depth of 2-1/2 inches with a minimum depth of 1 inch and not exceeding a depth of 4 inches. Maintain 2 inches of clearance from top of flashing membrane. It is recommended to flood each deck area for 48 hours.

- B. **VERIFY that the depth of water shall not exceed the load capacity of the deck.**
- C. After flood testing, repair any leaks or damaged membrane, repeat flood testing and make further repairs until waterproofing installation is fully watertight. The Owner may engage an independent testing agency to observe flood testing procedures and results.
- D. In lieu of flood testing, Electronic Breach Detection is an acceptable alternative. Contact **SOPREMA, INC.**

3.5 DRAINAGE / PROTECTION BOARD INSTALLATION

A. HORIZONTAL INSTALLATION:

Install the specified drainage layer directly on the waterproofing membrane with the filter fabric up, according to membrane manufacturer's written instructions. Use methods that do not penetrate the waterproofing assembly. Abut the drainage panels and overlap the shiplap filter fabric over the adjacent board. Carefully cut the drainage panels to fit the surface, ensuring that the waterproofing membrane is not damaged. Protect installed drainage panels during subsequent construction.

B. VERTICAL INSTALLATION:

Place and secure prefabricated drainage panels with the filter fabric facing away from vertical wall substrate. Use methods that do not penetrate waterproofing. Lap edges and ends of geotextile to maintain continuity. Protect installed drainage panels during subsequent construction. Install drainage panels or approved protection board in accordance with membrane manufacturer's written instructions.

(If required) Apply adhesive with spots 75mm (3 in) in diameter, every 900mm (36 in). Bottom panel should be supported. On the top row of protection board, apply a continuous bead of adhesive 25mm (1 in) wide to the top leading edge of the panels to be adhered. This bead will protect the adhesive spots during initial cure by limiting the flow of moisture behind the board in case of rain.

Note: Backfilling should commence immediately after installation of protection boards.

3.6 JOB COMPLETION

- A. Protect waterproofing from damage and wear during remainder of construction period.
- B. Clean spillage and soiling from adjacent construction using cleaning agents and procedures recommended by membrane manufacturer of affected construction.

-END OF SECTION-