

# Colphene 3000 Training and Application Guide

## Colphene 3000 Waterproofing Membrane.

### **1. Prepare substrate**

- Substrate must be structurally sound.
- Substrate must be visibly dry and free of moisture (As a minimum, test for capillary moisture by plastic sheet method according to ASTM D-4263: further intensive testing may be required ).
- Surface must be free of voids, spalled areas, loose aggregate and sharp protrusions.
- Remove all contaminates (such as grease, oil and wax) from all exposed surfaces.
- Remove dust, dirt, loose stone and debris.
- Use repair materials and methods which are acceptable to Soprema's sheet membrane waterproofing.
- Meet requirements detailed in ASTM D 5295 "Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems".

#### A. Cast In Place Concrete Substrates

- Verify Concrete has cured and aged for minimum time period.
- Horizontal slabs should be sloped for positive drainage.
- Fill form tie rod holes with concrete and finish flush with surrounding surface.
- Repair substrate irregularities and imperfections.
- Ensure all concrete is smooth and free of voids.
- Grind irregular construction joints to suitable flush surface. Dissimilar materials must receive a reinforcing membrane.
- Petroleum based products/ distillates are **not** to be used.

#### B. Masonry Substrates

- Ensure concrete block or brick has smooth trowel-cut mortar joints or parge coat.

#### C. Wood Substrates

- Ensure surface is sound and securely fastened.
- All joints and fasteners shall be flush to create a smooth surface.

#### D. General

- 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.

## 2. Apply Surface Treatment

Acceptable Primers: Elastocol 600C and Elastocol Stick WB (asphalt primer conforming to ASTM D41, low VOC, California compliant)

- Apply primer by spray or roller at the recommended rate of coverage (see PDS for recommended coverage rates).
- Allow primer to dry per manufactures recommendations (drying time can vary from 30 minutes to 2 hours).
- Only apply primer to recommended, suitably prepared substrate, not the membrane.



## 3. Pre-treat All Details

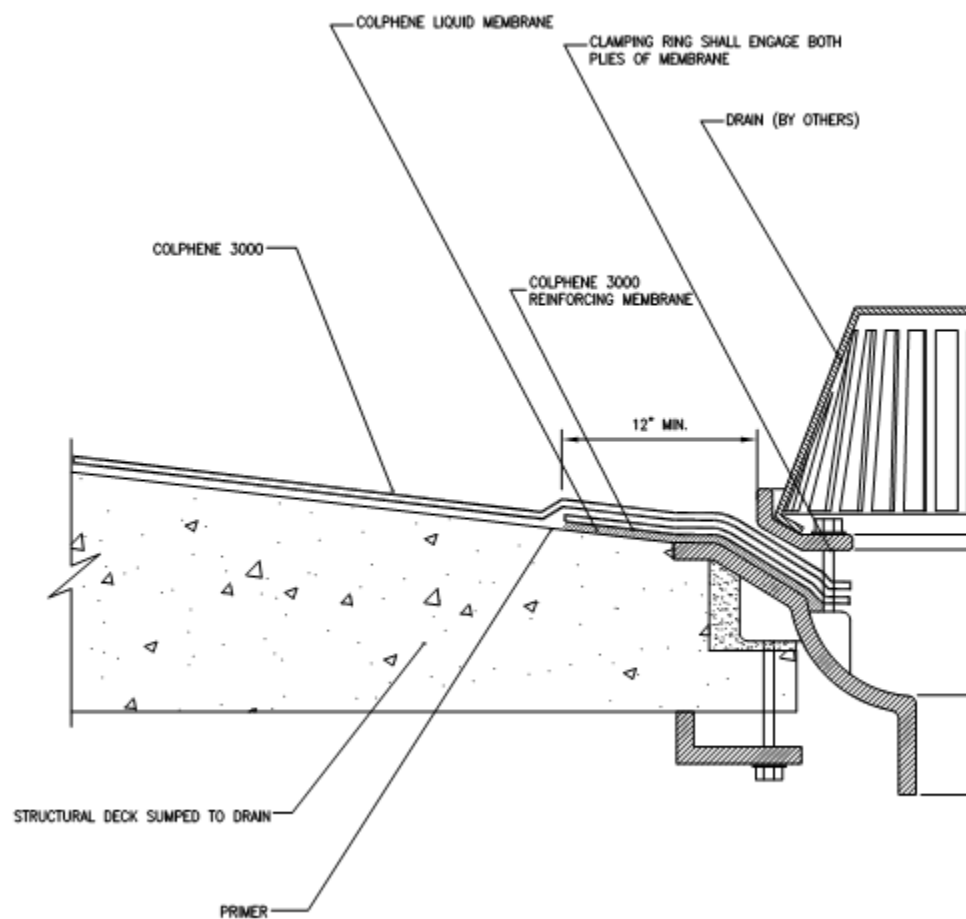
### A. Control Joints, Construction joints, Cracks and expansion Joints

- Properly grout, seal and apply the appropriate water stop (as required).
- Ensure all materials are cured and functioning as the primary joint seal.
- Joint, control joints and any crack over 1/16" will be void free and striped in with a strip of 9" Colphene 3000 centered, extended 4.5" each side of the joint/crack.

### B. Drains

- Immobilize and grout drains to eliminate voids. All drains must be sumped and set lower than the surrounding deck area.
- Pre-cut a target patch of Colphene 3000 reinforcement ply over drain extending a minimum of 12" past drain in all directions. Conditions may require the Colphene 3000 target patch be set in a full bed of Colphene Liquid Membrane.

- Apply a continuous bead of Colphene Liquid Membrane at the perimeter edges of the Colphene 3000 reinforcement ply.
- Cut out drain opening (allow the reinforcing ply to extend past the clamping ring).
- Center a ply of field membrane over the drain on top of the reinforcing ply.
- Cut out drain opening (allow the reinforcing 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, including inside the drain bowl past the clamping ring.
- Just prior to full cure of the Colphene Liquid Membrane, set and seat the clamping ring engaging both plies as the ring is secured.



## C. Corners and Angle Changes

### ***C.1 Angle Changes***

- 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 ensure a fully adhered membrane and tight seal.

### **C.2 Corners**

- Outside corners will receive a 12" width of Colphene 3000 as reinforcement, wrapping the corner 6" in each direction (Colphene Liquid Membrane not Required).
- Corners must be tightly seated and sealed (from the finished side) with Colphene Liquid membrane as required.
- Apply the field membrane fully covering the corner reinforcement membrane (two ply finished assembly).

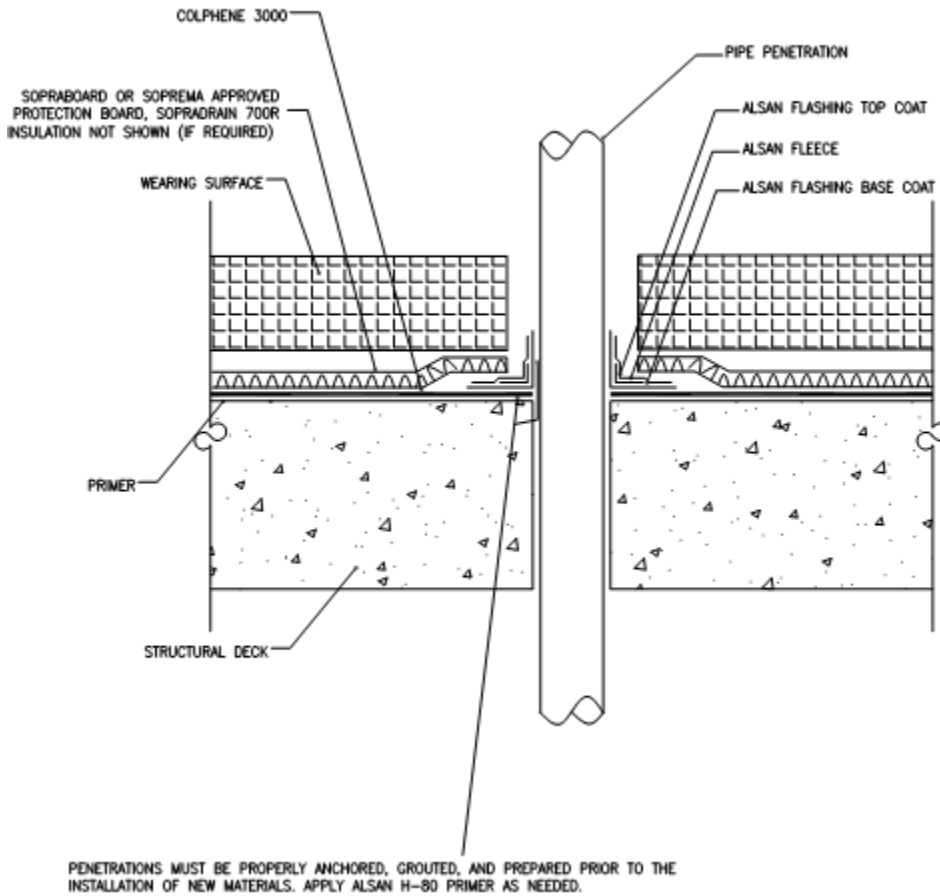
## **4. Horizontal Application**

- Install Colphene 3000 in a shingle fashion (starting at the low point so the laps will properly shed water).
- Side laps shall be 3".
- End laps shall be 6".
- Stagger end laps a minimum of 12" from adjacent seams.
- Roll in place using a 75 lb. (min.) weighted roller.
- Ensure that all laps are firmly and smoothly adhered.
- Ensure no wrinkles, voids, fishmouths are present.
- All penetrations must be firmly anchored from the underside, immobilized and grouted flush to eliminate voids.
- 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.
- Install Colphene 3000 to within 1/2" of the penetration.
- Membrane tee joints will be coated 6" in all directions with a bed of troweled Colphene Liquid Membrane.
- An additional (optional) layer of Colphene 3000 shall be embedded in the Colphene Liquid Membrane extending past the joint 6" in all directions.

**Note:** *Alsan Flashing and Alsan RS Flashing is accepted and approved for all penetration flashing and detailing.*

- *Install Colphene 3000 to within 1/2" of the penetration and apply Alsan Trafic HP510 zero 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. Vertical Application

- Install Colphene 3000 with minimum 3" side laps and 6" end laps.
- Install Colphene 3000 in maximum 8' lengths (longer lengths may be used with prior approval from Soprema).



- Roll in place using firm pressure with a hand roller.
- Ensure all laps are firmly and smoothly adhered.
- Ensure no wrinkles, voids, fishmouths are present.
- 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.
- All penetrations must be firmly anchored from the underside, immobilized and grouted flush to eliminate voids.
- Apply a continuous bead of Colphene Liquid Membrane at the base of the penetration extended onto the vertical wall 3" and up the penetration a 12" minimum.
- Install Colphene 3000 to within ½" of the penetration.
- Colphene 3000 membrane will be terminated at or above grade by firmly seating and sealing the top edge of the sheet.
- Apply a bead of Sopramastic SM-1 at the top edge of the sheet.



- Install extruded aluminum termination bar using Soprema approved fasteners on not less than 12" centers.
- Add additional fasteners as conditions (and assembly) require to achieve uniform compression of the membrane to the substrate.

- Sopramastic SM-1 will be applied in the sealant ledge of the termination bar.
- Membrane tee joints will be coated 6" in all directions with a bed of troweled Colphene Liquid Membrane.
- An additional (optional) layer of Colphene 3000 shall be embedded in the Colphene Liquid Membrane extending past the joint 6" in all directions.

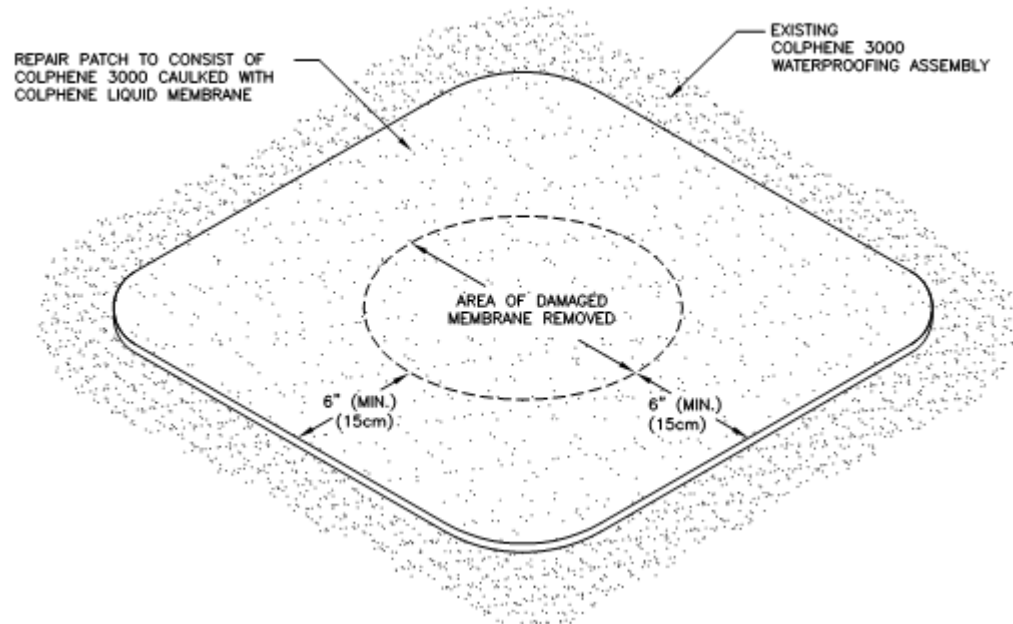
**Note:** *Alsan Flashing and Alsan RS Flashing is accepted and approved for all penetration flashing and detailing.*

- *Install Colphene 3000 to within ½" of the penetration and apply Alsan Traffic HP510 zero 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 minimum 12".*

## 6. Work Inspection

### A. Visual Work Inspection

- Review entire membrane installation.
- If a damaged area is found repair the damaged area by applying a repair patch of Colphene 3000 6" in all directions of the damaged area.



- Apply a bead of Colphene Liquid Membrane, Sopramastic SM-1, SBS Mastic, or SBS Elastic Cement on the perimeter edges of the repair patch.

#### B. Using Water Test (for horizontal applications)

- Flood test each deck area leaks (ASTM D5957 *Standard Guide for Flood Testing Horizontal Waterproofing Installations*) before overlaying construction is placed.
- VERIFY that the depth of water shall not exceed the load capacity of the deck.
- 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.
- Recommended flood time for each deck area is 48 hours.
- After flood testing, repair any leaks or damaged membrane.
- After repairs are made repeat flood test until the waterproofing installation is fully watertight.
- The Owner may engage an independent testing agency to observe flood testing procedures and results.

**Note:** *In lieu of flood testing, Electronic Breach Detection is an acceptable alternative. Please contact Soprema for details.*

### 6. Drain Board/Protection Board Installation

**Current Specified Drainboards:** Sopradrain ECO-Vent, Sopradrain ECO 2

**Specified Protection Board:** Sopraboard or Soprema approved alternate

#### A. Horizontal Installation

- Install the specified drainage layer directly on the waterproofing membrane with the filter fabric up.
- Installation methods should be harmless to the waterproofing assembly.
- Abut the drainage panels and overlap the shiplap filter fabric over the adjacent board.
- Cut the drainage panels to fit the surface (use caution not to damage the waterproofing assembly).

#### B. Vertical Installation

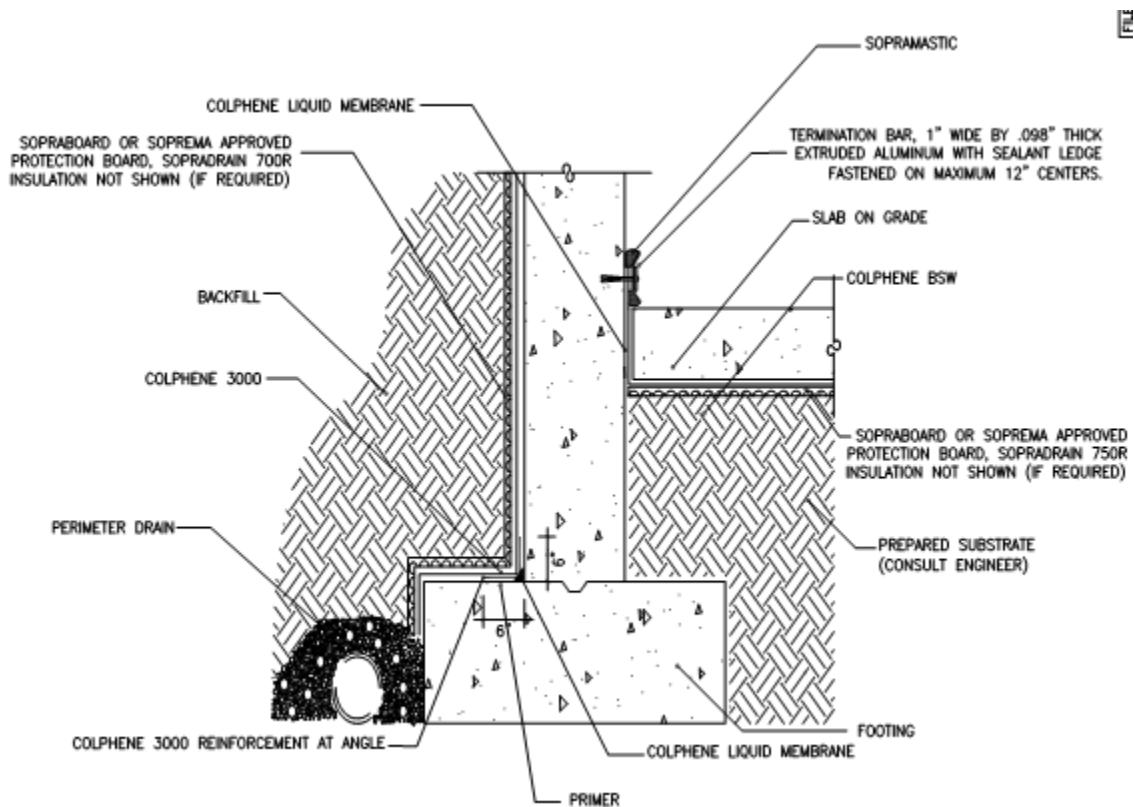
- Place and secure prefabricated drainage panels with the filter fabric facing away from vertical wall.

- Installation methods should be harmless to the waterproofing assembly.
- Lap edges and ends of geo-textile to maintain continuity.
- If required apply adhesive to adhere drainage layer ( a 3" spot every 36").
- On the top row of protection board apply a continuous bead of adhesive (1" wide) to the top leading edge of the panels to be adhered. (Protect the adhesive spots during initial cure by limiting the flow of moisture behind the board in case of rain).
- Backfill should commence immediately after installation of protection boards.

## Colphene 3000 Training and Application Guide (Cont.)

### Colphene 3000 Waterproofing Membrane.

#### 7. Foundation Wall With Drainage System



#### A. Surface Preparation

- Substrate must be structurally sound.
- Substrate must be visibly dry and free of moisture (As a minimum, test for capillary moisture by plastic sheet method according to ASTM D-4263: further intensive testing may be required).
- Surface must be free of all voids, spalled areas, loose aggregate and sharp protrusions.
- Remove all contaminants (such as grease, oil and wax) from all exposed surfaces.
- Remove dust, dirt, loose stone and debris.
- Use repair materials and methods which are acceptable to Soprema's sheet membrane waterproofing.
- Meet requirements detailed in ASTM D 5295 "Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems".
- Verify Concrete has cured and aged for minimum time period.
- Horizontal slabs should be sloped for positive drainage.
- Fill form tie rod holes with concrete and finish flush with surrounding surface.
- Repair substrate irregularities and imperfections.
- Ensure all concrete is smooth and free of voids.
- Grind irregular construction joints to suitable flush surface. Dissimilar materials must receive a reinforcing membrane.
- Petroleum based products/distillates are **not** to be used.

#### B. Surface Treatment

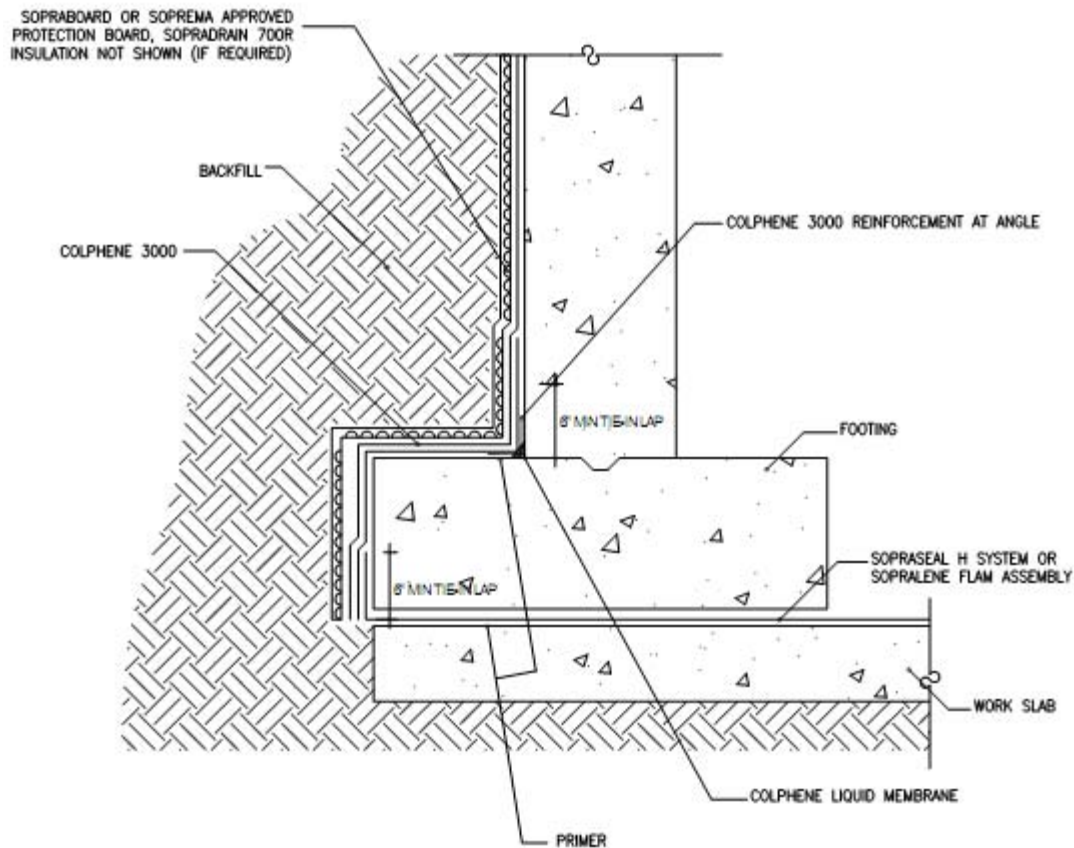
- Apply Elastocol 600c primer by spray or roller at the recommended coverage rate (see PDS for recommended coverage rate).
- Allow to dry per manufactures recommendations (drying time can vary from 30 minutes to 2 hours).
- Only apply primer to recommended, suitably prepared substrate, not the membrane.

#### C. Detailing

- The transition between the footing and the foundation wall (corner/angle change) 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).
- Install Colphene 3000 field with minimum 3" side laps and 6" end laps.
- Install Colphene 3000 field in maximum 8' lengths (longer lengths may be used with prior approval from Soprema).
- Roll in place using firm pressure with a hand roller.
- Ensure all laps are firmly and smoothly adhered.
- Ensure no wrinkles, voids, fishmouths are present.
- Colphene 3000 membrane will be terminated at or above grade by firmly seating and sealing the top edge of the sheet.
- Apply a bead of Sopramastic SM-1 at the top edge of the sheet.
- Place and secure prefabricated drainage panels with the filter fabric facing away from vertical wall.
- Installation methods should be harmless to the waterproofing assembly.
- Lap edges and ends of geo-textile to maintain continuity.
- If required apply adhesive to adhere drainage layer ( a 3" spot every 36").
- On the top row of protection board apply a continuous bead of adhesive ( 1" wide) to the top leading edge of the panels to be adhered. (Protect the adhesive spots during initial cure by limiting the flow of moisture behind the board in case of rain).
- Backfill should commence immediately after installation of protection boards.

## **8. Foundation Wall And Footing Below Grade**



#### A. Surface Preparation

- Substrate must be structurally sound.
- Substrate must be visibly dry and free of moisture (Test for capillary moisture by plastic sheet method according to ASTM D-4263).
- Surface must be free of voids, spalled areas, loose aggregate and sharp protrusions.
- Remove contaminants 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 Soprema's sheet membrane waterproofing.
- Meet requirements detailed in ASTM D 5295 "Preparation of Concrete Surfaces for Adhered (Bonded) Membrane Waterproofing Systems".
- Verify Concrete has cured and aged for minimum time period.
- Horizontal slabs should be sloped for positive drainage.
- Fill form tie rod holes with concrete and finish flush with surrounding surface.
- Repair substrate irregularities and imperfections.
- Ensure all concrete is smooth and free of voids.

- Grind irregular construction joints to suitable flush surface. Dissimilar materials must receive a reinforcing membrane.
- Petroleum based products, distillates are **not** to be used.

## B. Surface Treatment

- Apply Elastocol 600c primer by spray or roller at the recommended coverage .
- Allow to dry per manufactures recommendations (drying time can be anywhere from 30 minutes to 2 hours).
- Only apply primer to recommended substrate, not the membrane.

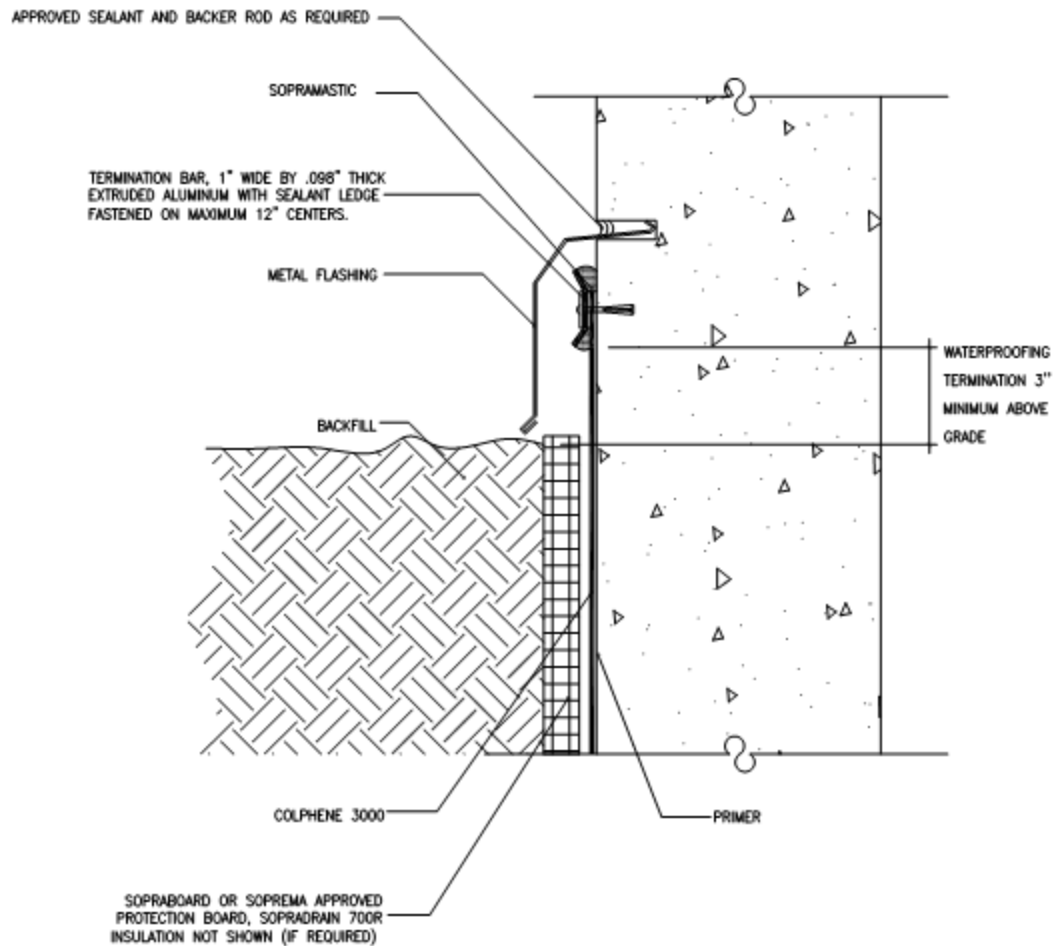
## C. Detailing

- The transition between the footing and the foundation wall (corner/angle change) 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).
- Install a second layer of Colphene 3000 extending a minimum of 6" past the Colphene 3000 corner reinforcement on the vertical wall and tying in a minimum of 6" to the existing Colphene H system or Sopralene Flam assembly.
- Install Colphene 3000 field with minimum 3" side laps and 6" end laps.
- Install Colphene 3000 field in maximum 8' lengths.
- Roll in place using firm pressure with a hand roller.
- Ensure all laps are firmly and smoothly adhered.
- Ensure no wrinkles, voids, fishmouths are present.
- Colphene 3000 membrane will be terminated at or above grade by firmly seating and sealing the top edge of the sheet.
- Apply a bead of Sopramastic SM-1 at the top edge of the sheet.
- Place and secure prefabricated drainage panels with the filter fabric facing away from vertical wall.
- Installation methods should be harmless to the waterproofing assembly.
- Lap edges and ends of geo-textile to maintain continuity.
- If required apply adhesive to adhere drainage layer ( a 3" spot every 36").
- On the top row of protection board, in addition to the adhesive used to secure it to the membrane, apply a continuous bead of adhesive (1" wide) to the top leading edge of

the panels to be adhered. (Protect the adhesive spots during initial cure by limiting the flow of moisture behind the board in case of rain).

- Backfill should commence immediately after installation of protection boards.

## 9. Waterproofing Membrane Termination At Grade



### Detailing

- Colphene 3000 membrane will be terminated at or above grade by firmly seating and sealing the top edge of the sheet.
- Apply a bead of Sopramastic SM-1 at the top edge of the sheet.
- Install extruded aluminum termination bar using Soprema approved fasteners on not less than 12" centers.
- Add additional fasteners as conditions (and assembly) require to achieve uniform compression of the membrane to the substrate.
- Sopramastic SM-1 will be applied in the sealant ledge of the termination bar.