



# GENERAL SPECIFICATIONS

THIS SECTION CONTAINS LAURENCO WATERPROOFING SYSTEMS & PRODUCTS SPECIFICATIONS WHICH INCLUDE: THE SCOPE OF WORK, APPLICATIONS & FIELD INSTRUCTIONS.

THIS INFORMATION IS ONLY FOR USE WITH LAURENCO WATERPROOFING SYSTEMS & PRODUCTS. FBC CHEMICAL CORP. ITS SUCCESSORS AND AGENTS CAN NOT BE HELD LIABLE IF THE INFORMATION CONTAINED HEREIN IS USED WITH ANOTHER PRODUCT(S) OR SYSTEM WITHOUT WRITTEN CONSENT FROM **FBC CHEMICAL CORPORATION**.

# LAURENCO WATERPROOFING SYSTEMS

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### For Waterproofing Applications and Specifications

**FBC Chemical Corp.**, presents the following specifications and details to the Architect, Engineer, Specification Writer, Owner and Contractor as a guide for the recommended application of Laurenco Products and Systems. **The following specifications and “SUGGESTED DETAILS” have been used successfully for over 60 years.**

#### **LAURENCO MATERIALS DO NOT NEED OR REQUIRE:**

1. 7, 14 or 28 day concrete cure times (Laurenco only needs concrete that can sustain foot plus a surface dry condition only).
2. Fillets, cants, curbs, rounded or chamfered corners, nailers or other like items.

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Technical and design assistance are available at no charge.

Call 800-321-3337

Fax No. 800-543-3338

**LAURENCO SPECIFICATIONS, DETAILS AND MATERIALS HAVE BEEN PROVEN  
IN USE FOR OVER 60 YEARS**

# LAURENCO WATERPROOFING SCOPE

The type of barrier system, whether a two part consisting of membrane and adhesive or a one part liquid, necessary to solve various water exposure problems is offered in the following information as a generally applicable guide. All projects requiring a warranty must be pre-approved by Laurencos Technical Department prior to the commencement of work. Laurencos provides Project Registration Forms to be completed and submitted for this purpose.

Geological conditions and building usage dictate the type of specification, the required details and approval of the ancillary materials used to meet the project's waterproofing requirements.

## 1. NON-INSULATED HORIZONTAL WORK: (Specification N-1)

MUD MATS (concrete: 3 inches plus or minus 1/2 inch, non-reinforced) on or below grade:

### A. Intermittent Waterhead not to exceed 15 feet:

(A single source warranty is available for the Laurencos Waterproofing System)

1. One, Two or Three Layer Laurencos Waterproofing System fully bonded with Laurencos Adhesive. Laurencos SPC (Standard Protection Course) fully bonded to the Laurencos Waterproofing System with Laurencos Adhesive.

### B. Standing Waterhead to 50 ft.:

(A single source warranty is available for the Laurencos Waterproofing System)

1. Two or Three Layer Laurencos Waterproofing System fully bonded with Laurencos Adhesive. Laurencos SPC (Standard Protection Course) fully bonded to the Laurencos Waterproofing System with Laurencos Adhesive.
2. Three Layer Laurencos Waterproofing System fully bonded with Laurencos Adhesive.

## NOTE:

- **Do not top coat the Laurencos Sheet where it is used as a protective course unless required by Laurencos's Technical Department.**
- **All use of the Laurencos Sheet as a protective course shall be approved by Laurencos's Technical Department in writing.**

### C. Standing waterheads 50 to 150 feet:

(A single source warranty is available for the Laurencos Waterproofing System)

1. Two or Three Layer Laurencos Waterproofing System fully bonded with Laurencos Adhesive. Laurencos SPC (Standard Protection Course) or PPC (Premium Protection Course) fully bonded to the Laurencos Waterproofing System with Laurencos Adhesive. Determination of the number of layers required and the type of protection course will be by the Laurencos Technical Department during project review.
2. *ALTERNATE:* Four plies of the Laurencos Waterproofing System fully bonded with Laurencos Adhesive. Do not top coat the final layer of waterproofing sheet.

- 2. STRUCTURAL AND/OR ROOF SLABS:** (plazas, dock areas, tunnels, basements)  
(Specifications N-1, I-1 & I-2)
- A. Intermittent Waterhead to 100 feet:  
(A single source warranty is available for the Laureco Waterproofing System)
1. Two or Three Layer Laureco Waterproofing System fully bonded with Laureco Adhesive. Laureco SPC (Standard Protection Course) fully bonded to the Laureco Waterproofing System with Laureco Adhesive.
  2. An insulation board may be installed over the protection sheet by setting in a full bed of Laureco Adhesive. Consult Laureco Technical Department for specific requirements pertaining to specific insulation types.
- B. Waterheads of 100 feet or more:  
(A single source Warranty is available for the Laureco Waterproofing System)
1. Two or Three Layer Laureco Waterproofing System fully bonded with Laureco Adhesive. Laureco SPC (Standard Protection Course) or PPC (Premium Protection Course) fully bonded to the Laureco Waterproofing System with Laureco Adhesive. Determination of the number of layers required and the type of protection course will be by the Laureco Technical Department during project review.
- C. Interior Floors: (Packing Houses, Kitchens, Hospital Utility Rooms etc.)  
(A single source warranty is available for the Laureco Waterproofing System)
1. Three Layer Laureco Waterproofing System fully bonded with Laureco Adhesive. Laureco SPC (Standard Protection Course) fully bonded to the Laureco Waterproofing System with Laureco Adhesive.
  2. Recommended Insulation: Extruded polystyrene insulation board 60 psi minimum.
- D. Waste Water Treatment Plants:
1. Two or Three Layer Laureco Waterproofing System fully bonded with Laureco Adhesive. Laureco PPC (Premium Protection Course) fully bonded to the Laureco Waterproofing System with Laureco Adhesive. Determination of the number of layers required will be by the Laureco Technical Department during project review.
- E. Black Top:  
(A single source warranty is available for the Laureco Waterproofing System)
1. Contact Laureco Technical Department for specific requirements for black top applications.

**3. VERTICAL INSTALLATIONS:** (Wall and high Parapet Work,) The geological conditions including any contamination of soils and water to be encountered, as well as the ultimate use of the building design, shall be the determining factors as to number of plies of sheet and quantities of adhesive for the appropriate total thickness of the specified waterproofing barrier system for all below grade installations.

A. Intermittent water heads and water heads not to exceed 15ft.:

(A single source warranty is available for the Laurenco Waterproofing System)

1. Liquid Waterproofing membrane: see page 51 of this Specification Section for suggested applications and materials. (Use for benign water and soil conditions. Laurenco offers a materials warranty only for this specification.)
2. One, Two or Three Layer Laurenco Waterproofing System fully bonded with Laurenco Adhesive. The minimum recommended protection Board is one pound density expanded polystyrene, 1 in. x 2 ft. x 4 ft. panels. Specification V-1 V-2, V-3.

B. Water heads to 50 to 150 feet:

(A single source warranty is available for the Laurenco Waterproofing System)

1. Two or Three Layer Laurenco Waterproofing System fully bonded with Laurenco Adhesive. Minimum recommended protection is one pound density expanded polystyrene, 1 in. x 2 ft. x 4 ft. panels.
2. Lagging: Two or Three Layer Laurenco Waterproofing System fully bonded with Laurenco Adhesive. Laurenco SPC (Standard Protection Course), or other Laurenco Approved material is attached to the lagging prior to the application of the waterproofing membrane.

C. Waterheads of 150 feet or more:

(A single source warranty is available for the Laurenco Waterproofing System)

1. Two or Three Layer Laurenco Waterproofing System fully bonded with Laurenco Adhesive. Determination of the number of layers required and the type of protection course will be by the Laurenco Technical Department during project review.

**4. SHEET PILING: (LAGGING)**

Contact Laurenco Technical Department for specifications and detailing requirements when sheet pile is utilized for the lagging.

OUR TECHNICAL DEPARTMENT IS AVAILABLE FOR MORE INFORMATION.

**Call our toll free telephone number:**

**(800) 321-3337 or**

**Our toll free fax number:**

**(800) 543-3338.**

# **GENERAL APPLICATION AND FIELD INSTRUCTIONS**

The following is a guide to assist with proper installation of the Laurengo Waterproofing System. The goal of the installation is to obtain a watertight, waterproof structure. These guide lines are presented as additional information and instructions for our customers.

We strongly recommend that this information is available to all parties involved in the design, installation and inspection of the Laurengo Waterproofing System.

## **1. Terminology:**

- A. "Tack" adhesive is to produce fine hair-like stringers.
- B. "Wet" refers to fresh or reasonably freshly applied coats of adhesive.
- C. Quantities of adhesive should not to exceed those stated. If specified coverage appears thin, call the Laurengo Technical Department before proceeding.
- D. Concrete surfaces for application should equal that of a wood screed, broom or sidewalk finish. Rougher finishes are acceptable but will require more adhesive to ensure full bonding of the reinforcement layers.
- E. Avoid steel trowel or mirror finishes wherever possible.
- F. Concrete shall be surface dry and capable of supporting foot traffic. The concrete is technically "green."
- G. Grouting materials need only be surface dry before waterproofing. The entrapped moisture will create a tighter bond of the corrective grout to the existing concrete.
- H. Use of cure agents shall be approved in writing by the Laurengo Technical Department.
- I. Form board release agents containing animal fats (tallow) must not be used. Form Release agents shall be approved in writing by the Laurengo Technical Department.

**To conclude:** Laurengo Prefabricated Sheet and Adhesive Systems are, two (2) part systems which are inter-reactive through the use of uncured synthetic rubbers and V.O.C. compliant aliphatic solvent. The Laurengo Sheet contains the curing materials. The Laurengo Adhesive is the catalyst to fuse both the prefabricated Sheet and the Adhesive into one homogenous, glass reinforced waterproof system.

## **2. MATERIALS STORAGE (Job Site or Warehouse):**

- A. The shipping cartons are to be stored horizontally, flat, never on end.

- B. The shipping cartons are to be stored no more than five rows high on wood pallets or on a platform high enough to elevate the cartons off the ground.
- C. The shipping cartons should be kept in a cool, shaded area. Inside storage (building or trailer) is preferred.
- D. Rolls of Laurenco Sheet are to be removed from their shipping cartons only when ready to use. Remnants (shorts) of rolls should be returned to their cartons so that they can be used later.
- E. Temporary outside storage:
  - i. Rolls:
    - 1. Cover only with a light colored canvas tarpaulin.
    - 2. Never use polyethylene film or any other non-breathable cover material.
    - 3. Panels of insulation can be used as cover when weighted or tied down.
    - 4. Trailer Storage For Rolls:
      - a. Summer Grade: Use well ventilated or air conditioned trailer with the temperature range of 68o F to 85o F (200 to 300 C).
      - b. Winter Grade: Use trailer heated no higher than 68o F (200 C).
  - ii. Adhesive: (Pails & Drums)
    - 1. Store containers on pallets off the ground away from construction activities.
    - 2. Store away from any potential fire hazard.
    - 3. If containers have been dented or stored longer outside for more than 3 months examine the pails to assure a tight seal. Properly dispose of material with damage which has adversely effected the interior contents.
    - 4. *Primer only*: To mix without opening containers, up-end containers 24 hours before use. After opening thoroughly mix primer.
    - 5. Do not change the viscosity, etc. of any Laurenco Product without prior written approval from the Laurenco Technical Department. Change to any Laurenco product without prior written authorization from the Laurenco Technical Department will immediately void all warranties expressed or implied.

### 3. LAURENCO ADHESIVE:

- A. Laurenco Adhesive is used to adhere Laurenco Sheet and protection course. Do not exceed specified quantities. Use a thin, even coat. Excessive quantities, will not adversely affect the long term quality of the waterproofing system however, excessive quantities may cause slippage of sheets, slow tack time, blistering and slow production.

- B. The Adhesive is a semi-viscous liquid composed of three synthetic rubbers (chloroprene, butyl and NBR) to modify the asphalt base which contains a V.O.C. compliant aliphatic solvent. The Laureco Adhesive is asbestos free and meets, or exceeds, ASTM D4479.
- C. The Adhesive must not be thinned. Unauthorized changes in the viscosity and chemical composition of the Adhesive will void all warranties either expressed or implied.
- D. Approximate shipping weight of Laureco Adhesive is 9 lbs. (4.08 kg) per gallon. Trowel Grade is 10 lbs. (4.54 kg) per gallon.
- E. Container Size:
  - 1. Adhesive: 4.9 gallon (18.5L) pails and/or, 55 gallon (208L) drums.
  - 2. Trowel grade adhesive: 4.9 gallon (18.5L) pail only.

#### **4. LAURENCO SHEET:**

- A. Laureco Sheet is packaged:
  - 1. 36" x 73' 3" (0.914 m by 22.3 m) rolls; 220 sq. ft. (20.46 sq. meters).
  - 2. One roll per carton, approximately 68 lbs. (31.0 kg); 20 cartons per pallet.
  - 3. Each roll is wound on heavy paper cores, lightly talc dusted on one side, with siliconized polyethylene release sheet.
- B. Laureco Sheet is a Prefabricated (Pre-Filmed) Membrane consisting of:
  - 1. Woven glass fabric (20 x 10 weave count) reinforcement. See ASTM D 1668.
  - 2. Filmed to 50 mils. thick plus or minus 5% with (synthetic rubber) and butyl modified asphalt using virgin fillers with slow curing agents. This is an uncured material that gradually cures through age, heat and solvent release when combined with Laureco Adhesive, Rubberized Flashing Coating or Neoluminum.
  - 3. Laureco Sheet coverage for "Cap Sheet" Installation:
    - a. All laps, side and end, are to be 4 inches (10.16 CM) plus or minus one (1) inch (2.54 CM).
    - b. Stagger all side laps.
    - c. Horizontal Laps: estimate an additional 10% horizontal areas.
    - d. Vertical Laps: estimate an additional 10% for the first two lifts; an appropriate 10 ft. (3.05m), wall height. Wall heights to 25 ft. (8.0 m) estimate an additional 15% for additional height.



- e. Flashing widths for interior and exterior corners are recommended 9 inches (22.86 cm) wide and cut from the length of the Laurengo Sheet. A 36 inch (0.91 m) yields four widths, 9 inch (22.86 cm) wide flashing strip. Contractor is to verify flashing widths with the designer of record as dimensions may vary.  
Laurengo provides pre-cut flashing sheets in rolls 6, 9, 12, & 18 inch widths by 73.3 feet long.

4. Unrolling the Laurengo Sheet:

- a. Each roll of Laurengo Sheet comes with a siliconized polyethylene parting film which is to be removed before installation.
- b. After removing roll from the shipping carton, align roll where it is to be placed.
  - 1. For horizontal applications the orientation of the roll (top/bottom) makes no difference however we recommend applying the sheet with the release film side down. A slight amount of Talc has been dusted on the surface (top) of the sheet to allow limited foot traffic during installation.
  - 2. For vertical installations apply release film side of the sheet to the substrate.
- c. Cut required flashing sheets from roll or prepare flashing sheets from pre-cut rolls in the specified with designated by the designer of record. Laurengo recommends 9 inch widths as the default.
- d. Do not pre-cut more Sheet material than can be used in four (4) hours.
- e. Always store the Laurengo sheet in rolls in their cartons and cut widths and lengths flat with polyethylene film as a barrier between pre-cut lengths.

**NOTE: The Laurengo Sheet contains raw, uncured synthetic rubbers and is very sticky; especially when the talc dusting is disturbed or the sheets are laid in direct sunlight for extended periods of time.**

5. **PROTECTION SHEETS/BOARDS:** (LAURENGO PROPRIETARY SPC AND PPC PROTECTION COURSE, EXPANDED POLYSTYRENE BEAD BOARD AND CERTAIN INSULATION SUCH AS EXTRUDED POLYSTYRENE)

- A. Store all protection sheets/boards off ground on pallets and covered with breathable canvas tarpaulins. Allow for a circulation of air beneath the canvas.
- B. All protection sheets/boards are to be fully adhered in Laurengo Adhesive or mastic. No protection board is to be loose-laid unless specifically specified and authorized in writing by Laurengo's Technical Department.
- C. Horizontal Work - Protection Sheet:

1. Use 96 mil Laurengo SPC Protection Course (Standard Protection) or 120 mil Laurengo PPC Protection Course as specified. For information on acceptable alternates contact the Laurengo Technical Department.
2. Install the Laurengo Protection Course by positioning on the substrate and unrolling into a full bed of Laurengo Adhesive. Side laps are to be a minimum 3 inches (+/- 1") and end laps a minimum 6 inches (+/- 1").
3. Use rounded or plastic footed, ribbon rebar chairs or blocks with Laurengo Protection Sheets.
4. An additional layer Laurengo Sheet may be used instead of a Laurengo Protection Course with prior approval, in writing, from the Laurengo Technical Department.

#### D. Vertical Work - Protection Board

1. Recommended product: Expanded polystyrene bead board one inch thick, 2' x 4' panels, one (1) lb. density minimum.
  - a. Provides an excellent indicator of potentially damaged areas.
  - b. Provides a cushion against backfill operations.
  - c. Transmits water and moisture through the board thereby acting as an inexpensive drainage field that is difficult to displace during backfill operations.
2. Extruded Insulations may be applied in lieu of expanded polystyrene. Use Laurengo recommended insulations only.
3. Drainage panels may be used a protection with prior approval, in writing, from the Laurengo Technical Department.

#### E. Protection Board Application

1. Horizontal use only for Laurengo SPC and PPC protection courses.
  - a. Laurengo protection course shall be embedded in a full bed of Laurengo Adhesive. Apply Adhesive at the approximate rate of 2 to 2.5 gallons per 100 sq. Allowing the Adhesive to tack will minimize blistering.
  - b. Slope Install protection course perpendicular to the slope, shingle-lap fashion. Depending on the amount of slope temporary bracing may be required to prevent slippage, or protection course may need to be installed parallel to the slope. Contact the Laurengo Technical Department for specific requirements with regard to slope applications.
2. Vertical: Recommended product expanded polystyrene bead board; 1" x 2' x 4' (2.54 cm by 0.61 m by 1.22 m) 1lb density. This size is quicker, and more economical to install. Extruded polystyrene may be used if desired or specified.

Drainage mat may be utilized with prior written authorization from the Laurenco Technical Department

- a. Polystyrene bead board shall be offset in a full embedment of Laurenco Adhesives at the rate of approximately 2 gallons (7.57 liters) per 100 sq. ft. (9.3 sq. m) minimum.
- b. Slide polystyrene panels into position while adhesive is still wet. This type of application will disturb and coat the dry face of the board permitting it to adhere quickly.
- c. Install the boards in a brick pattern using tight butt joints, staggered, with no vertical joint on vertical joint.
- d. Score outside face of board for wall conformance using a utility knife. Use a cross-hatched pattern for vertical and horizontal scoring.
- e. For expansive soils, i.e. Dolomite, etc., use 2" (5.08 cm) to 4" (10.16 cm) board thicknesses with a one lb. (0.454 kg) to two lb. (0.90 kg) density.

**6. TOOLS FOR INSTALLING THE WATERPROOFING MATERIALS:**

(Basic required tools for all work are a utility knife, scissors, squeegees, rollers and brooms)

A. Horizontal Work Tools and Equipment:

1. Flat bladed squeegee 12 inches (30.48 cm) or 18 inches (45.7 cm) wide with a Neoprene rubber blade. Serrated squeegees are not recommended.
2. 4" (10.16 cm) wide paint roller with 1/4" (0.64 cm) or mohair type nap and a long handle is preferred for application of Adhesive at lap areas.
3. Chip brush may be used for top coating terminations and tie-offs. Shorten bristles by 1/2 its' length to stiffen.

B. Vertical (Wall) Work Tools and equipment:

1. 8 inch(20.32 cm) wide paint roller with a 1/4 inch (0.65 cm)nap and a solvent resistant core (for use in 5 gallon [18.93 liter] pail) to transfer the Laurenco Adhesive from pail to vertical (wall) surfaces.
2. 10 inch (25.4 cm) to 14 inch (35.56 cm) wide flat bladed squeegees to smoothly coat vertical and horizontal surfaces.
3. 2 inch by 4 inch by 8 inch wood block as an embedding tool for 900 transitions.
4. 6" squeegee is preferred, or a stiff bristle paint brush, for laps and corners and otherwise inaccessible places for rollers, trowels and floats.

C. Flashing Tools:

1. A smooth edge metal float

2. 6" wide Neoprene rubber blade window washer squeegee.
3. Trowel (a rectangular mason type) or smooth edged float for laps, corners and terminations.
4. Recommended worktable consisting of a 4 ft. wide by 8 ft. long, 3/4 inch thick exterior grade plywood set on saw horses for maneuverability.
  - a. Set this cutting table as close as possible to work area for ease of handling cut lengths of wall Sheets and flashing widths and lengths.
  - b. Store cut widths and lengths flat on top of cutting table with polystyrene bead board cover or place under table flat or rolled up on the shipping cores. Always keep the polyethylene film in place.

## **7. LABOR:**

(A normal crew size is four (4) men for both Horizontal and Vertical Work and is utilized as follows)

### **A. Horizontal Work:**

1. One man squeegeeing the Laureco Adhesive out about five minutes minimum ahead (depending on temperatures, etc.) to allow Adhesive to tack.
2. Two men following placing the Laureco Sheet side lap to side lap.
  - a. "Picture Frame" Sheet and Adhesive applications between the horizontal slab terminations of the already completed, flashing installation and the subsequent field Laureco Sheet installation providing a clean walk/service way.
  - b. Laureco Sheet and Adhesive in any direction provided an area for walking is kept clean until the last roll has been placed.
  - c. Flood testing can be done prior to the application of Laureco Protection Course or after placement of the protection course when side and end laps have been adhesively sealed and cured for 24 hours.
3. One man (a "Gofer") to:
  - a. Supply the pails of Laureco Adhesive and rolls of Laureco Sheet.
  - b. Seal all laps and terminations.

### **B. Vertical (Wall) Work:**

1. One man to squeegee the Laureco Adhesive on the vertical (walls) areas.
2. One man to cut Laureco Sheet in lengths of 5, 5-1/2, or 6 ft. (1.52, 1.68, or 1.83 m) whichever field length seems easiest and best for the installers to hang for vertical (wall) work. He also cuts the flashing widths from the lengths of the Laureco Sheet and pre-folds as necessary.
3. One man to hang the Laureco Sheet, smoothing into place with a squeegee, or broom embedding like wall paper; working down from the center of the Sheet.

4. One man to coat laps, corners, projections, etc. and supply pails of Laurencos Adhesive or heat seal all top terminations using:
  - a. A hot air gun and heated metal float with smooth edges to soften and "iron in" the Laurencos Waterproofing Sheets.

## 8. SURFACE FINISH REQUIREMENTS:

### A. Metal:

1. Scrape off all loose existing materials to obtain a tightly bonded surface as a substrate.
2. Remove all shipping and storage protection oils. Any silicone protection shall be sand blasted.
3. Surface dry any wet or moist surfaces. Broom or Squeegee off all water/moisture possible. Other drying equipment can be a leaf blower or a hot air gun.

### B. Concrete and Concrete Block:

1. Concrete surface shall have all "bug" holes, larger and thicker than a U.S. Nickel, grouted.
  - a. Grouting can sometime be accomplished utilizing Laurencos Rubberized Flashing Coating or Laurencos AWS. Contact Laurencos Technical Department for specific application procedure and recommendations.
2. "Honeycombs" shall be grouted smooth: a sidewalk type finish is preferred.
  - a. Grouting can sometime be accomplished utilizing Laurencos Rubberized Flashing Coating or Laurencos AWS. Contact Laurencos Technical Department for specific application procedures and recommendations.
3. All surfaces shall be surface dry, clean and free of dirt, debris and contaminants such as but not limited to; concrete cure agents, silicones, and form-board release agents other than petroleum distillates.
4. Remove all fins, latices and effects of form board "kick outs" by scraping or sandblasting. Concrete irregularities may also be removed by bush-hammer. Avoid grinding the concrete.
5. Depressions such as foot prints shall be grouted smooth.
6. All interior and exterior angles shall be grouted smooth to repair voids. Remove excess concrete. Flashings are to be pre-folded to set into, or onto, each corner angle.

7. All concrete surfaces should be a wood screed finish ("sidewalk" finish is preferred). If possible, do not "mirror" finish concrete which eliminates the pores in the concrete surfaces. Some surface porosity is good for the adhesive to penetrate.
8. Concrete Block: Flush-finish all mortar joints smooth with face of the block.
9. Do not use chamfered or rounded corners.
10. Do not use cants, curbs or fillets.
11. Do not use nailers.

**9. AREA CLEAN-UP: (Call the Laurencio Technical Department)**

- A. Remove smears of adhesive by first freezing with a CO2 extinguisher and carefully peel smear.
- B. Remove residual stain by carefully wire brushing or by lightly sand blasting.
- C. Never try to solvate the smear or stain, unless directed to by the Laurencio Technical Department.

**10. APPLICATOR'S CLEAN-UP:**

- A. Use a natural orange type cleaner manufactured without sand or a grit.

**11. APPROXIMATE PRODUCTION PER MAN PER DAY:**

- A. Vertical (Wall) Work:
  - a. 300 sq. ft. (27.9 sq. m) per man/day for two ply specification, including installation of protection sheet.
  - b. 800 sq. ft. (74.3 sq. m) per man/day usual minimum for two layer waterproofing system only. (No protection course).
- B. Horizontal-1000 sq. ft. (92.9 sq. m) per man/day for two ply specifications including Laurencio Protection course installation.
- C. Two ply flashing: minimum average is 150 sq. ft. (14.0 sq. m) per man/day; Production of 200 to 300 sq. ft. per man/day is not uncommon.

**NOTE:**

- **The foregoing production figures are conservative averages based on 60 years' experience with all types of projects.**
- **Large wide open expanses allow much greater production/coverage per man day than noted above. Generally 1.5 to 2 times the coverage**

**END OF GENERAL APPLICATION AND FIELD INSTRUCTIONS.**

# **SPECIFICATION N-1 (NON-INSULATED DECK)**

1. **SCOPE:** Reference Pages 3-7, Specification Section
2. **MATERIALS TO BE USED:**
  - A. Laurenco Sheet
  - B. Laurenco Adhesive
  - C. Additional materials that may be required:
    1. Laurenco SPC Protection Course, 96 mil thick by 39-3/8" x 49' 1".
    2. Laurenco Primer (ASTM D-41) to be used only to stabilize excessively granular and powdery surfaces.
    3. 6, 9, 12, or 18 inch wide pre-cut Laurenco Flashing Sheets.
    4. Laurenco Butyl Sealant Tape or equal.
    5. Laurenco Rubberized Flashing Coating or Laurenco HP365
3. **PREPARATION FOR WORK TO BE PERFORMED:**
  - A. Surfaces to be waterproofed shall be at least surface dry, clean and free of dirt, and debris, with no objectionable projections or depressions. (Wood float finish is preferred, as a minimum).
  - B. Cants, fillets, curbs, chamfered or rounded corners are not required. All corners should be clean, neat and smooth.
  - C. Do not use nailers.
  - D. All objectionable projections (1/8 inch [0.32 cm] or more) shall be scraped or lightly bush-hammered. Depressions and voids shall be grouted to an acceptable finish.
  - E. Ventilation should be provided for all confined areas.
4. **GENERAL CONDITIONS AND INFORMATION:**
  - A. Any quantities of materials referred to, hereinafter, shall be understood to mean per 100 sq. ft. (9.3 sq. m). Adhesive amounts listed are approximate quantities and will vary with climatic conditions as well as substrate types and surface profiles.
  - B. All laps shall be 4 inches (10.16 cm) plus or minus 1 inch (2.54 cm).
  - C. Laurenco Adhesive should be applied with a smooth-edge squeegee with a narrow 5/8 inch (1.59 cm) deep blade, 12 to 18 inches (30.48 by 45.72 cm) wide unless otherwise indicated for special applications.

- D. Laurenco Sheet shall be applied in "Cap Sheet" fashion using staggered placement of laps for multiple plies.

## 5. APPLICATION:

- A. Flashings: When possible install all flashing details prior to installation of the field waterproofing.
1. All flashings shall be a minimum two plies of the Laurenco Waterproofing System unless otherwise noted on the drawings.
  2. Pre-cut and pre-fold all flashings for height of design with minimum 4 inch (10.16 cm), first ply, and 5 to 6 inch (12.7 to 15.2 cm) second ply lap minimum on horizontal unless otherwise noted on the drawings.

### NOTE:

- **Standard footer flashing width is 9 inch (22.86 cm) wide, folded 4 inches (10.16 cm) and 5 inches 12.7 cm). Laurenco provides pre-cut flashing sheets in 73.3' rolls in of 6", 9", 12" and 18" widths.**
3. Install footer flashings as 5 inches (12.7 cm) on wall and 4 inches 10.16 cm) on footer; reverse for second ply.
  4. Each flashing ply of Laurenco Waterproofing Sheet shall be uniformly embedded in Laurenco Adhesive at the rate of approximately 1-1/2 gallons (5.86 liters) per 100 sq. ft. (9.3 sq. m) for the first ply and 1 gallon (3.79 liters) per 100 sq. ft. (9.3 sq. m) for the second ply. See details in Below Grade section.
  5. Perform all flood testing required before top coating final plies of flashing and field sheet.
  6. Top coat evenly at the rate of approximately 2.0 gallons (7.57 liters) per 100 sq. ft. (9.3 sq. m) of adhesive all flashings and horizontal field work before installing the specified Laurenco protection Course, joint fillers and insulations.
- B. Drain flashings: (See Drain Details 1-D thru 5-D, "Suggested Details")
1. One ply of Laurenco Sheet 36" x 36" firmly embedded in Laurenco Adhesive applied at the rate of approximately 1-1/2 gallons per 100 sq. ft.
  2. Install the rest of the specified Laurenco Waterproofing System over this drain flashing (DO NOT TOP COAT).
  3. Immediately locate drain bolts and cross cut Laurenco Sheet(s). Use clamping ring as a template to trim the Laurenco Waterproofing System Flush to interior circumference of the clamping ring.
  4. Top coat the System with Laurenco Adhesive before installing clamping ring.
  5. Firmly tighten all clamping ring bolts to properly seal the drain to the Laurenco Waterproofing System.



6. Do not install any protection course under clamping rings. Protection course is to be cut and fitted around the outside edge of the clamping ring.

C. Horizontal or Field Application:

1. Uniformly coat the substrate with Laurencio Adhesive at the rate of approximately 1-1/2 gallons (5.7 liters) per 100 sq. ft. (9.3 sq. m).
2. Allow the Adhesive to "tack". (Installation of sheets into "wet" adhesive will have no adverse effect on the system however slippage of the sheets may occur.
3. Smoothly embed the Laurencio Sheet "Cap Sheet" fashion sealing all laps. Continue all sheets 2 to 3 inches (5.08 to 7.62 cm) up vertical areas previously flashed with the Laurencio Waterproofing System. Care must be taken when placing sheets into angle changes and transitions to assure total adhesion to the substrate, no bridging, is achieved.

**NOTE:**

- **If this is a multiple ply specification proceed to 4-M. next and omit 4-S.**

- 4-S. Single ply application; uniformly top coat the Laurencio Sheet at the rate of 2 gallons (7.6 liters) and firmly embed Laurencio SPC or PPC protection course with 3 inch minimum side and 6 inch minimum end laps, sealed with Laurencio Adhesive.
- 4-M. Coat 1st ply of Laurencio Sheet at the rate of approximately 1 gallon (3.79 liters) per 100 sq. ft. (9.3 sq. m) Allow to "tack".
  5. Smoothly embed second ply of Laurencio Sheet; staggering the laps from the first ply.
  6. For 3 plies, stagger 2nd and 3rd plies of the Laurencio Sheets so there are no overlaps of side or end laps.
  7. Coat second ply with Laurencio Adhesive at the rate of approximately 1 gallon (3.79 liters) per 100 sq. ft. (9.3 sq. m).
  8. Firmly embed 3rd ply of Laurencio Sheet.
  9. Uniformly seal all laps at the rate of approximately 3/4 gallons (2.84 liters) per 100 sq. ft. (9.3 sq. m).
  10. It is recommended to Perform all flood testing before applying the Laurencio Protection Course or specified protection layer.
  11. Uniformly top coat the final plies of horizontal (field) Laurencio Sheet and Flashing with Laurencio Adhesive at the rate of approximately 1.75 – 2.0 gallons (6.62 to 7.6 liters) per 100 sq. ft. (9.3 sq. m).
  12. Firmly embed Laurencio SPC or PPC protection course with 3 inch side and 6 inch end laps sealed with Laurencio Adhesive.

**End of N-1 Specification**

# **SPECIFICATION V-1**

## **(WALL WORK- VERTICAL APPLICATIONS ONLY)**

### **1. MATERIALS TO BE USED:**

- A. Laurenco Sheet
- B. Laurenco Adhesive
- C. Laurenco Protection Course or 1 inch, 1 lb. density minimum, expanded polystyrene (2 ft. x 4 ft. Panels)
- D. Drainage Panel: Laurenco Proprietary drainage panels or Accepted alternate.
- E. Termination Bar: One (1) inch(2.54 cm)wide, 16 gauge and no less than 20 gauge, stainless steel and pre-drilled on 6 inch (20.32 cm)minimum to 12 inch (30.48 cm) maximum, on center
- F. Laurenco Butyl Sealant Tape:
  - 1. Termination Bar: 3/8 inch by 1 inch.
  - 2. Projections and Dowels:3 1/8 inch by 4 inch
  - 3. Other sizes available as special order.

### **2. PREPARATION FOR WORK TO BE PERFORMED:**

As soon as form boards are stripped from the walls, and necessary repairs have been completed, the Laurenco Waterproofing System may be installed.

- A. Surfaces to be waterproofed shall be surface dry, clean, and free of dirt, and debris (tie wires, nails, etc.)
- B. All projections more than 1/16 inch (0.1587 cm) shall be scraped or lightly ground smooth and all depressions deeper than 1/16 inch (0.1587 cm) shall be grouted to present a smooth surface.
- C. Grout all tie wire holes.
- D. All corners are to be square and smooth. Rounded or chamfered corners, cants, curbs, fillets or nailers are not required.
- E. Ventilation is to be provided for all confined areas; i.e. pits, etc.

### **3. GENERAL CONDITIONS AND INFORMATION:**

See “General Application and Field Instructions” as to specifics for the following:

- A. Any quantities of materials referred to hereinafter shall be understood to mean per 100 sq.
- B. All laps shall be 4 inches (10.16 cm) plus or minus 1 inch (2.54 cm).

- C. Laurengo Adhesive shall be applied by means of a squeegee or roller, unless other indicated for special application.
- D. Laurengo Sheet shall be applied "Cap Sheet" fashion using staggered placement of laps for multiple plies. . Sheets are to be hung vertically from top to bottom (wallpaper pattern). Do not install horizontally unless directed by a Laurengo Field Technician.
- E. Top and bottom terminations may be heat sealed using an electric hot air gun and a heated smooth edged Metal float or mason's trowel.
- F. One (1) inch (2.54 cm) by 2 ft. (0.61 m) by 4 ft. (1.22 m), one (1) pound (0.454 kilogram) density, and extruded polystyrene shall be used as back fill protection course. This board shall be embedded into "wet" Laurengo Adhesive. Use a brick pattern with a tight butt joint. Extruded polystyrene may be substituted in lieu of the expanded polystyrene if desired or specified. Installation requirements are as listed above.

#### 4. MATERIAL APPLICATION:

- A. Flashings: When possible Install all flashing and flashing detailing prior to field waterproofing installation.
  1. All flashings shall be a minimum two (2) plies of Laurengo Sheet.
  2. Pre-cut all vertical interior and exterior corner using 9 inch (22.86 cm) wide widths cut from the length of the Laurengo Sheet, or from pre-cut rolls, and pre-fold to 4 inches (10.16 cm) and 5 inches (12.7 cm) for a staggered placement. Flashing dimensions may vary based on project conditions and designer intent.
  3. First uniformly coat concrete surfaces with Laurengo Adhesive at the rate of approximately 1-1/2 gallons (5.7 liters) per 100 sq. ft. (9.3 sq. Meters).
  4. Firmly embed first ply of Laurengo Sheet flashing 5 inches (12.7 cm) up the vertical and 4 inches (10.16 cm) onto horizontal. Interior and exterior vertical corners are to be the same staggered pattern.
  5. Smoothly coat the first ply of flashing sheet with Laurengo Adhesive at the rate of 3/4 to 1 gallon(2.84 to 5.7 liters) per 100 sq. ft. (9.3 sq. Meters).
  6. Firmly embed second ply of pre-cut Laurengo Sheet flashing, pre-folded 9 inch (22.86 cm) flashing strip in the manner with a reverse pattern from item no.
- B. Pipe and Duct Flashings:
  1. All penetrations through vertical and horizontal walls must be installed prior to the installation of the Laurengo Waterproofing System.
  2. *Families of Pipes* shall be separated a minimum 6 inches (15.24 cm) between pipe positions for proper flashing.

- a. Use Laurenco Butyl Sealant Tape 1/8 inch thick by 4 inch wide by the appropriate length to accommodate the outside circumference of the penetration plus a one inch minimum lap.
  - b. Thinly coat both pipe and wall Laurenco Sheet flashing with adhesive to immediately adhere the Laurenco Butyl Sealant Tape.
  - c. Tie-in with a 4 and 6 inch (10.16 and 15.24 cm) over lap of the field Laurenco Waterproofing System onto the 2 ply pipe wall flashing Laurenco Sheets.
- C. Pipe and Duct Stubs: Should protrude out from the walls a minimum of 8 inches (20.32 cm).
1. First flashing sheet cut as a pre-cut collar using 9 inch(22.86 cm) wide Laurenco Sheet pre-folded to 6 and 3 inches(15.24 and 7.62 cm). All lengths must allow for a minimum 2 inch (5.08 cm) collar sheet overlap around the pipe.
  2. Cut 3 inch (7.62 cm) flange to allow tabs to sit flush on wall.
  3. Firmly embed collar in a thin coat of Laurenco Adhesive uniformly applied to both the pipes and the walls. Seal collar overlap.
  4. Second ply of 9 inch wide flashing sheet (22.86 cm) folded to 5 and 4 inches (12.7 and 10.16 cm). All lengths must allow for a 2 inch (5.08 cm) minimum overlap of the collar around the pipe.
  5. Cut tabs in the 4 inch (10.16 cm) width of pre-folded collar in same pattern as first ply.
  6. Firmly embed 2nd ply of collar in a thin coat of Laurenco Adhesive uniformly applied to the first ply of flashing.
  7. Top coat all tabs of the collar to the walls with Laurenco Rubberized Flashing Coating.
- D. Pipes using a Thermo-Link seal:
1. Pipe sleeve: The outside edge of the pipe sleeve shall be flush with the wall.
  2. The Thermo-Link shall be slightly recessed into the pipe sleeve.
  3. Cover Thermo-Link edge with butyl sealant or Laurenco Rubberized Flashing Coating to provide the initial seal.
  4. Proceed to C. of the foregoing Pipes and Duct Stubs.
  5. Pipe Insulation: See Laurenco's Technical Department.

- E. Expansion and Isolation Joints: Install all expansion and isolation joints before installing the vertical or field Laurencio Waterproofing System.
- F. Vertical Application:
1. Uniformly coat the substrate surface with Laurencio Adhesive at the rate of approximately 1-1/2 gallons (5.677 Liters) per 100 sq. ft. (9.3 sq. Meters) and allow to "tack".
  2. Use 5 ft. to 7 ft. (1.524 m to 2.134 m) pre-cut lengths of Laurencio Sheet coated across the top edge of the sheet with a 4 inch (10.16 cm) band of Laurencio Adhesive. Allow band to "tack" before smoothly embedding in already applied Adhesive.
  3. Extend each sheet side lap over preceding sheet 4 inch (10.16 cm) plus or minus 1 inch (2.54 cm). Laurencio Sheet shall extend a minimum of 4 inches (10.16 cm) onto top surface of footer or at the dimension indicated on the contract drawings.
  4. All Laurencio Sheets shall extend approximately 2 inches (5.08 cm) beyond the bottom termination of the footer flashings.
  5. For one ply Laurencio Waterproofing System applications:
    - a. Top coat with Laurencio Adhesive applied at the approximate rate of 1-1/2 to 2 gallons (5.67 to 7.57 liters) per 100 sq. ft. (9.3 sq. meters).
    - b. Firmly embed one inch expanded polystyrene 1 inch (2.54 cm) by 2 ft. by 4 ft., (0.61 m by 1.22 m) in a brick pattern with staggered vertical joints.
    - c. Slide (wipe) board into place to upset the dry surfaces of the board.
  6. Two and Three ply Laurencio Waterproofing System applications:
    - a. Check each ply of Laurencio Sheet for slippage prior to placement of subsequent plies. When slippage is detected it is strongly recommended to wait until the previous ply is firmly set up. Installation can be accomplished prior to full set-up of previously installed plies however, care in needed to assure sheets remain in place and do not slide. Temporary termination may be necessary to hold sheets in place. Contact the Laurencio Technical Department for specific requirements with regard to temporary termination.
    - b. Apply a uniform coat of Laurencio Adhesive at the approximate rate of one gallon (3.785 liters) per 100 sq. ft. (9.3 sq. m) over the first ply, allow to tack.
    - c. Embed second ply of Laurencio Sheet in the same manner as the first ply staggering the laps.

- d. If third ply of Laurengo Sheet is used, repeat steps 6.a. through 6.c. assuring that all laps are staggered.
7. Seal all laps with Laurengo Adhesive.
8. Final top terminations are to be heat sealed and protected with a 6 to 9 inch (16.24 to 22.86 cm) wide coating of Laurengo Rubberized Flashing Coating at the approximate rate of 2 gallons (7.57 liters) per 100 sq. ft. (9.3 sq. meters).
9. Install stainless steel or acceptable alternate metal termination bars:
  - a. Termination bar shall be Pre-drilled on 6 inch centers.
  - b. Adhere 1/8 inch by 2 inch (0.635 cm by 2.54 cm) butyl sealant to the sheet side of the bar.
  - c. Top coat bar with a smooth, even coat of Laurengo Rubberized Flashing Coating as protection.
10. Top coat the final ply of Laurengo Sheet with Laurengo Adhesive at the approximate rate of 2 gallons (7.57 liters) per 100 sq. ft. (9.3 sq. meters).
11. Embed polystyrene bead board into wet Laurengo Adhesive, in a "brick" pattern with staggered joints.

**NOTE:**

- **All protection board used must be clean, dry, free of dirt, and dust.**

12. Repeat the preceding steps until the Laurengo Waterproofing System is complete to the necessary height.
13. Backfill: It is recommended that backfill be used in lieu of scaffolding to accomplish installations above 8 ft. (2.44 m). This presents greater ease of access for the workmen and protection against job site damage to waterproofing system.

**CAVEATS:**

1. Call Laurengo's Technical Department to obtain approval for any substitutions of materials, special details, etc. Phone: (800) 321-3337.

**END OF V-1 SPECIFICATION**

# **SPECIFICATION FOR INSULATED DECKS, USING HIGH DENSITY EXTRUDED POLYSTYRENE**

1. **SCOPE:** Insulated Plaza and Vehicular Traffic Decks. Also see N-1 Specification as the base installation before the installation of the abovementioned insulation. Insulated plaza and vehicular traffic decks should always be 2 plies of the Laurengo Sheet installed with approximately 5 gallons (18.93 liters) of Laurengo Adhesive. This specification includes protected/inverted roof membrane assemblies (PRMA or IRMA).
  1. Drainage fields should be kept at the deck level and immediately on top of the Laurengo Waterproofing System.
  2. Where gravel and, only if approved, pre-fabricated drainage materials are used, it is extremely important to protect the vertical flashings from gravel migration and the sharp edges of drainage materials by installing Laurengo PPC Protection Course cut to height of flashings less one inch to accommodate backer rod and sealant.
  3. Insulation installation should begin at the peripheries and work inward keeping tight joints.
  4. Final dimensional adjustments should be in the center of the insulated deck.
  
2. **MATERIALS TO BE USED:**
  - A. Laurengo Sheet (Use the Season Grade appropriate to time of installation).
  - B. Laurengo Adhesive (Use Season Grade Appropriate to time of installation).
  - C. High Density Extruded Polystyrene Insulation Boards 60psi minimum.
  - D. Laurengo SPC or PPC protection course.
  - E. Alternates and/or additional materials that may be required:
    1. Laurengo Primer (ASTM D-41)--must be approved for use by Laurengo's Technical Department.
    2. Laurengo Butyl Sealant Tapes.
  
3. **PREPARATION FOR WORK TO BE PERFORMED:**
  - A. Surfaces to be waterproofed shall be at least surface dry, clean and free of dirt and debris with no objectionable projections or depressions (wood float or broom finish is preferred.)
  - B. The use of cants, fillets, curbs, chamfered or rounded corners are not required.

- C. All corners must be clean and neat angles.
- D. Do not use nailers.
- E. All objectionable projections, more than 1/16 inch (0.16 cm), shall be scraped or lightly ground with depressions and voids grouted to an even finish.
- F. Ventilation should be provided for all confined areas.

**4. GENERAL CONDITIONS AND INFORMATION:**

- A. Any quantities of materials referred to hereinafter shall be understood to mean 100 sq. ft. (9.3 sq. m)
- B. All laps of Laurengo Waterproofing Sheet shall be 4 inches (10.16 cm) +/- 1 inch (2.54 cm). Laps of Laurengo SPC and PPC protection course shall be 3 inch side and 6 inch end laps +/- 1 inch
- C. Laurengo Adhesive shall be applied with flat squeegee or roller.
- D. Laurengo Sheet shall be applied "Cap Sheet" fashion using staggered placement of laps for multiple plies.

**5. FLASHING INSTALLATIONS:** Install all flashing details first before proceeding to the main field application. Flashings shall be a minimum two (2) plies of Laurengo Sheet adhered and coated with Laurengo Adhesive in the following manner:

- A. FLASHINGS: Install all flashing details first before installing the general or field waterproofing specification.
  1. All flashings shall be a minimum two (2) plies of Laurengo Sheet.
  2. Pre-cut all vertical interior and exterior corner using 9 inch(22.86 cm) wide widths cut from the length of the Laurengo Sheet or as supplied in pre-cut rolls and pre-fold to 4 inches (10.16 cm) and 5 inches (12.7 cm) for a staggered placement.
  3. First coat concrete surfaces with Laurengo Adhesive at approximately 1-1/2 gallons (5.677 liters) per 100 sq. ft. (9.3 sq. Meters).
  4. Firmly embed first ply of Laurengo Sheet flashing 5 inches (12.7 cm) up the vertical and 4 inches (10.16 cm) onto horizontal. Interior and exterior vertical corners are to be the same staggered pattern.
  5. Smoothly coat the first ply of flashing sheet with Laurengo Adhesive at approximately 1 gallon(3.79 liters) per 100 sq. ft. (9.3 sq. Meters).
  6. Firmly embed second ply of pre-cut Laurengo Sheet flashing, pre-folded 9 inch (22.86 cm) flashing strip in the manner with a reverse pattern from item no.4.



7. Check all flashing sheets to assure all folds of the pre-folded flashing sheets are tightly embedded into the corners. Do not bridge.

**B. DRAIN FLASHINGS:**

1. Standard Drain:

- a. Use one ply of Laureco Sheet pre-cut to 36" x 36" (91.4 cm by 91.4 cm) dimension. Use the clamping ring as a template to pre-cut and remove the sheet from the interior circumference of the ring.
- b. Embed this Sheet into Laureco Adhesive at approximately 1-1/2 gallons (5.67 liters) per 100 sq. ft. (9.3 sq. m).
- c. Install the subsequent filed sheets of the Laureco Waterproofing System over the drain flashing. Be sure to mark the drains. Use the clamping ring as a template to remove the Laureco Waterproofing System from the interior circumference of the clamping ring.
- d. Coat clamping ring area with Laureco Adhesive or Laureco Rubberized Flashing Coating, firmly embed and bolt down the clamping ring for a tight seal.
- e. After flood testing is completed, install Laureco Protection Course pre-cut to the exterior circumference of the clamping ring. Never install the protection course or insulation under the clamping ring.

**C. PROJECTIONS (i.e. window washer bolts, pipes, etc.):**

1. Metal Pitch Pockets: (require maintenance warranties are limited in these areas)

- a. Pitch pockets are to be flashed to the height of the pitch pockets and with sufficient horizontal width to extend beyond the flange 4 inches (10.16 cm) onto deck for the first ply.
- b. Adhere first ply of Laureco Sheet flashing in Laureco Adhesive applied at approximately 1 gallon (3.79 liters) per 100 sq. ft. (9.3 sq. m).
- c. Coat first ply of Laureco Sheet flashing with Laureco Adhesive applied at approximately 1 gallon (3.79 liters) per 100 sq. ft. (9.3 sq. m).
- d. Firmly embed the second ply of Laureco Sheet flashing to height of pitch pocket and onto deck an additional 6 inches (15.24 cm).
- e. Uniformly top coat and seal all edges with Laureco Rubberized Flashing Coating at approximately 1-1/2 to 2 gallons (5.68 to 7.57 liters) per 100 sq. ft. (9.3 sq. m).

**6. HORIZONTAL (FIELD) WATERPROOFING INSTALLATION:**

- A. Apply LaurencO Adhesive to the substrate at approximately 1-1/2 gallons (5.67liters) per 100 sq. ft. (9.3 sq. m).
- B. Allow the adhesive to "tack".
- C. Embed LaurencO Sheet cap sheet fashion, coating all laps evenly with LaurencO Adhesive. Continue all horizontal field sheets at least 3 inches (7.62 cm) up the vertical, unless otherwise indicated. Care must be taken at angles to assure total contact with the substrate (no bridging).
- D. Coat first ply of LaurencO Sheet with LaurencO Adhesive at approximately 1 gallon (3.79 liters) per 100 sq. ft. (9.3 sq. m). Allow adhesive to "tack".
- E. Embed second ply of LaurencO Sheet while staggering laps from the first sheet.
- F. Seal all laps with LaurencO Adhesive.
- G. Evenly coat the final ply of LaurencO Sheet at approximately 2 gallons (7.57 liters) per 100 sq. ft. (9.3 sq. m).
- H. Roll LaurencO SPC or PPC Protection Sheet into LaurencO Adhesive.
- I. Strip or spot adhere insulation using the LaurencO Adhesive. Note: In areas of severe winds, fully bond insulation board with Adhesive applied at approximately 2 gallons (7.57 liters) per 100 sq. ft. (9.3 sq. m).
- J. Install the insulation with tight butt joints starting at the peripheries maintaining tight joints.
- K. Install Geotech blanket over the insulation.

**END OF LAURENCO INSULATED PLAZA AND ROOF DECKS**

# **LAURENCO SPECIFICATION V-2 for VERTICAL WATERPROOFING ON LAGGING, ETC.**

1. **SCOPE:** Waterproofing for sheet piling and plywood Earth Retainage or approved equal. Wherever possible, all sheet piling and retainage shall be braced and tied together from the earth (positive) side to minimize interference with the application and adherence of the waterproofing material.
  - A. Three plies of Laurenco Sheet using the third ply as a protection course. Water heads to 150 ft. (30.48 m).
  - B. Four plies of Laurenco Sheet using the fourth ply as a protection course. Waterheads over 150 ft. (30.48 m).

**NOTE:**

- **Contact Laurenco Technical Department for specific requirements with regard to top coating the final sheet with Laurenco Adhesive.**

2. **MATERIALS TO BE USED:**

- A. Laurenco Sheet.
- B. Laurenco Adhesive.
- C. Laurenco Butyl Sealant Tape (where specified for penetrations and joints) or approved equal.
- D. Laurenco Rubberized Flashing Coating.
- E. Laurenco SPC Protection Course

3. **SURFACE PREPARATION:**

- A. Surfaces to be waterproofed shall be surface dry; clean and free of dirt, excess oils, with no animal fats, silicates or silicones present; and shall have no sharp projections or depressions.
- B. All projections shall be cut-off and depression filled or treated with Laurenco Butyl Sealant Tape or Laurenco Rubberized Flashing Coating to present a reasonably flat surface.
- C. Ventilation shall be provided for all confined areas.

4. **GENERAL CONDITIONS AND INFORMATION:**

- A. All quantities of materials in this specification shall be understood to mean per 100 sq. ft. (9.3 sq. m.)

- B. All laps shall be four inches plus or minus one inch.
- C. Laurenco Sheet shall be hung like wallpaper (vertically only).

**5. APPLICATION OF WATERPROOFING MATERIALS:**

- A. Flashing: When possible, install all flashings prior to application of main field waterproofing.
  - 1. All retaining anchors, etc. which cannot be removed shall have the Laurenco Sheet cut to accommodate them. The “cut and cover “method is as follows:
    - a. Use multiple plies of Butyl Sealant Tape in a thickness and width of 1/4” x 4” x length and height necessary to cover height of projections/anchors. All layers of butyl tape are to be embedded in Laurenco Adhesive.
    - b. Cover with two plies of the Laurenco Sheet; first ply extending onto the main field of waterproofing two inches all sides, second ply extending beyond first ply two inches on all sides.
    - c. Interior corners:
      - i. Coat corner and both sides in 6 inch widths and to height of lift.
      - ii. Embed 2 layers of 3/8”x1” Laurenco Butyl Sealant Tape to height of lift pressing tightly into corner.
      - iii. Pre-cut two 9”(22.9 cm)widths of Laurenco Sheet to height of lift and pre-fold these flashing strips to the 4 inch and 5 inch (10.16 cm and 12.7 cm) dimensions before installing.
      - iv. Install first ply 4 inches and 5 inches (10.16 cm and 12.7 cm). Reverse (stagger) the second ply.
      - v. Embed first flashing ply of Laurenco Sheet in Laurenco Adhesive at approximately 1-3/4 gallons per 100 sq. ft. (6.6 liters per 9.3 sq. m).
      - vi. Coat the first ply of Laurenco Sheet flashing with Laurenco Adhesive at approximately 1 gallon per 100 sq. ft. (3.78 liters per 9.3 sq. m).
      - vii. Place the second ply of Laurenco Sheet flashing.
      - viii. Seal all laps and thinly coat all edges with Laurenco Adhesive.
    - d. Exterior Corners:

- i. Coat corner and both sides with Laurengo Adhesive. If corner joint is open, press in 2 layers of 3/8"x1" Laurengo Butyl Sealant Tape to height of lift.
- ii. Pre-cut two 9 inch (22.9 cm) wide strips of Laurengo Sheet with length to cover height of lift and pre-fold to 4 inches and 5 inches (10.16 cm and 12.7 cm).
- iii. Install first ply alternating 4 inches (10.16 cm) and five inches (10.16 cm and 12.9 cm). Second ply is to be installed reverse (staggered) of the first side.
- iv. Embed first flashing ply of Laurengo Sheet flashing in approximately 2 gallons of Laurengo Adhesive per 100 sq. ft. (7.57 liters per 9.3 sq. m).
- v. Coat first flashing ply of Laurengo Sheet with Laurengo Adhesive at approximately 1 gallon per 100 sq. ft. (3.78 liters per 9.3 sq. m).
- vi. Embed the second ply of Laurengo Sheet flashing reverse (staggered) to first ply.
- vii. Seal all laps and thinly coat all edges with Laurengo Adhesive.
- viii. Apply main field Laurengo Waterproofing System.

B. Main (Field) Waterproofing Installation:

1. Coat substrate surface with Laurengo Adhesive at approximately 1 to 1-1/2 gallons per 100 sq. ft. maximum (3.8 liters to 5.7 liters per sq. m). Allow to tack.
2. Hang pre-cut lengths of Laurengo Sheet 5 to 6-1/2 feet (1.5 to 2.0 m) high per lift. Top termination of Laurengo Sheet shall be strip coated with Laurengo Adhesive (strip approximately 4 inches (10.16 cm) wide and full width of sheet). Embed firmly by squeegee or wood block. Maintain side and end laps of 4 inches (10.16 cm) plus or minus 1 inch (2.54 cm).
3. Seal all laps with Laurengo Adhesive. Heat seal top and bottom terminations using an electric hot air gun and heated trowel or metal screed.
4. Continue installing first ply to length of area available for first lift.
5. Before hanging next plies of sheet, always check previously installed ply for slippage. When possible allow 4 to 12 hours to allow for initial cure. When subsequent layers of Laurengo Waterproofing Sheet have to be applied immediately contact Laurengo Technical Department for specific installation instructions/techniques.

6. Coat first ply (and all subsequent plies) with an interply coat of Laurence Adhesive at approximately 1 gallon per 100 sq. ft. (3.78 liters per 9.3 sq. m). Allow to tack.
7. Hang each ply 2 inches (5.08 cm), minimum, below the previous ply's top termination and to extend 2 inches (5.08 cm) beyond bottom termination of the previous ply or beyond the previous ply's termination onto the horizontal.
8. Embed all Laurence Sheets firmly.
9. Seal all laps with Laurence Adhesive.
10. Repeat for additional plies specified by repeating items 6 through 9.
11. Heat seal all final top terminations of Laurence Sheets after total height of design is complete.
12. Coat the final top termination with a 9 inch (22.8 cm) wide band of Laurence Rubberized Flashing Coating e at approximately 3 gallons per 100 sq. ft. (11.34 liters per 9.3 sq. m). Spread the coating beyond the top of the Laurence Sheet termination to seal thoroughly.
13. DO NOT TOP COAT FINAL PLY OF LAURENCO SHEET. This final ply is the protection course for this specification.

**NOTE:**

- **An Adhesive top coat, applied at approximately 1 gallon per 100 sq. ft., may be necessary if this waterproofing installation has been, or is to be, left exposed for more than a week to 10 days. This application of Adhesive shall occur within 48 hours of concrete placement.**
- **Laurence requires inspection of the waterproofing system prior to placement of rebar. And again immediately after placement of rebar, prior to placement of concrete.**

**END OF V-2 SPECIFICATION**