GENERAL INFORMATION

THIS SECTION CONTAINS LAURENCO PRODUCT DESCRIPTIONS WHICH INCLUDE: PRODUCT COMPOSITION, USES, APPLICATION TOOLS, TEST METHODS & RESULTS, MATERIAL SAFETY DATA SHEETS, AND SAMPLE WARRANTY/GUARANTEE.

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

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Laurenco Systems General Information
Table of Contents

LAURENCO, INC. presents the following definitions, requirements, and product data to the Architect, Engineer, Specification Writer, Owner and Contractor as a guide for the recommended application of Laurenco Products and Systems. **The following Systems and Products have been used successfully for over 40 years.**

LAURENCO'S MATERIALS DO NOT NEED OR REQUIRE:

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

Items 1 and 2 are additional job progress and hidden concrete design cost factors to the Owner, Architect, Engineer and General Contractor. There are none of these in the Laurenco Systems.

Technical and design assistance are available.
Call 800-321-3337 (Plant) or 800-320-3337 (Sales)
Fax No. 800-543-3338

LAURENCO'S SPECIFICATIONS, DETAILS AND MATERIALS HAVE BEEN PROVEN IN USE FOR OVER 48 YEARS

Rev. 03/27/03

Laurenco Systems General Information: Definitions and Requirements

The following information is offered to define **QUANTITIES, USAGE, TYPE OF TOOLS, ETC.** for the Laurenco Systems Specifications and shall be read before application of any Laurenco's Products. For further information and Field Instructions please read pages 1-5 in the General Specification Section of this notebook.

1 **ALL QUANTITIES OF WATERPROOFING SHEET** specified and/or recommended for various design criteria shall be understood to mean "per 100 square feet"-sometimes written as "1 square" (9.2903 square meters). For recommended design criteria, please see pages S-1 and S-2, Scope of Waterproofing Barrier Systems available in the **GENERAL SPECIFICATION SECTION.** Laurenco Waterproofing Sheet shall only be applied in Laurenco Adhesive. This is two (2) part system with the adhesive as the catalyst.

2 **ALL QUANTITIES OF LIQUID MATERIALS** specified and/or recommended for various design criteria shall be expressed in "gallons per 100 square feet" as per "1 square" (9.2903 square meters). Do not exceed.

3 **ALL CORNERS AND COLD JOINTS** shall be reinforced after grouting and/or smoothing both exterior and interior angles as follows:

- 3.1 Interior angles both vertical and horizontal shall be reinforced with two (2) plies of waterproofing sheet applied (1st ply) 5" and 4" (2nd ply) 4" and 5" are recommended.
- 3.2 Cold joints for all single ply and liquid applications shall be reinforced as follows:
  - 3.2.1 Single ply with one ply of 9" wide waterproofing sheet or 20x10 woven glass fabric.
  - 3.2.2 Liquid system with 2 plies of woven glass fabric (ASTM D1668 Type 1) Vertical and interior corners shall also be reinforced with 2 plies of glass fabric.

4 **ALL MEMBRANES RECOMMENDED** for use shall state the number of plies specified and shall be applied, unless otherwise stated for specific design necessities, "Cap Sheet" fashion (one ply at a time using 4 inch lap dimensions which shall be plus or minus one (1) inch).

5 **SURFACE PREPARATION**:

- 5.1 All surfaces shall be surface dry, clean and free of dirt and debris.
- 5.2 Concrete and concrete block shall:
  - 5.2.1 Be scraped free of latencies, fins, "dobbles", etc. Grinding is not recommended for general surface preparation as it drives the cement dust into the pores of the concrete surfaces. Grinding is to be used for exterior corners having knife-like and saw toothed edges.
  - 5.2.2 Be grouted for all honeycombs, tie holes, miscellaneous holes larger than the size of a"USA nickel" (5 cent coin).

5.2.3 Be finished to a good wood screen, sidewalk or broom finish.

5.2.4 Have all mortar joints finished flush with the block or main surface of the walls.

5.2.5 Have all cold joints scraped and grouted to a smooth finish to both sides of the cold joint. All cold joint edges which are not in the same plane shall be removed and grouted to a smooth transitional surface so as not to present any voids that shall force the waterproofing system to "bridge" (not continuously adhered to all surfaces to be waterproofed). Laurenco System's Technical Director or Authorized Technical Representative shall decide on questionable areas.

5.2.6 Be brushed-hammered to remove excess amounts of concrete, cement to a reasonable facsimile of a broom finish.

5.3 Metal surfaces shall be:

5.3.1 Cleaned of oils, silicones by use of solvents, detergent or sand blasting.

5.3.2 Cleaned of existing paints, coatings by scraping, solvent wash or sandblasting. Usually total removal is not necessary. Laurenco's Technical Director or Authorized Technical Representative shall determine the extent of removal of these materials.

5.4 Form Board Releases Agents shall be:

5.4.1 Comprised of light petroleum oils such as a No. 2 Diesel; Fuel and a S.A.E. No. 20 Motor Oil. DO NOT USE ANIMAL FATS OR THEIR DERIVATIVES. Laurenco Products uses a clean, aliphatic V. M. & P. Rule 66 Naphtha which does not solvate or "cut" animal fats easily. Therefore the presence of a residual fat substance interferes with the adhesion of the Laurenco System or Products.

5.4.2 Comprised of a material guaranteed not to leave residual on the surface of the concrete that will interface.

5.5 Concrete Cure Agents shall be water only. A 28 day "cure "is not required. The Laurenco System or Product shall be applied as soon as possible after the form boards have been removed. Wall preparations shall proceed immediately before the waterproofing. Concrete Shall Be Surface Dry Only for application of the Laurenco System. Application of the Laurenco System shall begin as soon as the concrete has "set".

6 LAPS FOR HORIZONTAL APPLICATIONS Of SHEET MEMBRANE SHALL BE:

6.1 Four inches plus or minus one inch for side laps.

6.2 Four inches plus or minus one inch for end laps.

6.3 Firmly and continuously sealed with Laurenco Adhesive.

6.4 Estimated at an additional 10% of area to be waterproofed.

7 LAPS FOR VERTICAL APPLICATIONS Of SHEET MEMBRANE SHALL BE:

7.1 Four inches plus or minus one inch for side laps.

7.2 Four inches plus or minus one inch minimum for end laps.

7.3 Firmly and continuously sealed with Laurenco Adhesive.

7.4 Estimated at an additional 12 % of area to be waterproofed to 15 ft. height. For higher wall applications, the additional materials for lap are estimated at 15% of the area to be waterproofed.

8 **APPLICATION TOOLS SHALL BE**:

8.1 Wood headed, neoprene rubber edged squeegee 18 to 24 inches wide.

8.2 Roofer's brush.

8.3 Barn push broom (no. 1-3 for horizontal applications).

8.4 Mohair nap roller with solvent resistant core.

8.5 Window washer squeegees with 2 ft. handle, 6".12".18" and /or 24" wide.

8.6 White wash brush with bristles shortened 1/3 of the length to stiffen brush. (no. 4-6 for vertical or wall applications).

8.7 Hot air gun.

Note: store squeegees, brushes, roller frames at the end of each day in a pail of water to keep pliable.

9 **PROTECTION BOARD SHALL BE:**

9.1 For horizontal applications:

9.1.1 Asphalt/felt, 1/8 inch thick, 4 ft. X 8 ft. panels for most installations.

9.1.2 Asphalt/felt, 1/4 inch thick, 4 ft. X 8 ft. panels for plaza areas.

9.1.3 Asphalt/felt, approx. 1/16 inch, 4 ft. X 8 ft. panels for black top installations, i.e. W.R. Meadows Company, Elgin, Illinois, No. PC. 1.

9.2 For vertical or wall installations:

9.2.1 Polystyrene bead board,1 inch thickness required for insulation factor using 2 ft X 4 ft panels with a one pound density for normal installations, or

9.2.2 Styrofoam insulation to the thickness required for insulation factor using 2 ft. X 4 ft panels of Dow Chemicals Plaza Deck Board or U.S. Gypsum No. 4000, and laid tight butt joint brick fashion.

9.2.3 For horizontal applications, lay end to end side to side without staggering joints on all normal specifications, or

9.2.3.1 Overlapped ("Dutch" lap) where additional protection is necessary, sealing all laps (1/8 inch protection board only to be used for overlap application). Use 3 inch laps after removing poly.

9.2.3.2 Sloped application of asphalt/felt protection board shall be laid the length parallel to the slope with the vertical joints of the panel lengths staggered so that there is no vertical joint on vertical joint (similar to laying bricks to prevent the boards from shifting during construction traffic.).

9.3 All asphalt/felt protection board shall be firmly embedded in Laurenco Adhesive applied at the rate of two and one-half max. Gallons per 100 sq.ft.

9.4 For vertical or wall applications, apply polystyrene bead board brick fashion with no vertical joint on vertical joint. (Insulation board shall be applied in this manner.) Score outside face of these boards for maximum conformance to the waterproofed surfaces.

9.4.1 All applications of insulation and bead board shall be in wet adhesive applied at the rate of two gallons per 100 sq.ft.

9.4.2 DO NOT NAIL ANY PROTECTION BOARD.

9.4.3 Shoring or propping of vertical applied boards is never necessary with the recommended protection boards or insulation when they are properly embedded into the wet Laurenco Adhesive. Immediate backfill is not necessary.

10 **PRIMING:** First is necessary for the following only (Laurenco Adhesive is self-priming for most applications. The exceptions are listed).

10.1 CONCRETE BLOCK. Priming is used to stabilize the surface of the block.

10.2 Over concrete areas which have received various concrete resin type "cure agents". This is to solvate them to permit the Laurenco Adhesive to penetrate.

10.3 CONCRETE OR METAL AREAS that have excessive oils present or an excess of powder or dust on the surface to be waterproofed. These contaminants can and do interface between the surface to be waterproofed and the waterproofing. Many times the Laurenco Adhesive has little or no problem penetrating these materials, but where the adhesive rolls up refusing to adhere, then a primer meeting ASTM D41 is necessary and shall be applied at the rate of one gallon per 100 sq..ft. max.

11 **APPLICATION TEMPERATURES:** Laurenco, Inc. manufactures its waterproofing materials for high temperatures in the summer, medium of 40°F for Spring/Fall and Winter grades to 0°F. Lower temperatures are not recommended for application unless a protection wind screen/cover is furnished for the crews-especially for vertical or wall work. The wind chill is usually too severe for good installation work.

12 **STORAGE REQUIREMENTS**: see page 8 of this section.

13 **TECHNICAL INFORMATION**: see page 5 & 7 of this section.

14 **COMPARISON CHART**: see last page of this section for the "pull out".

LAURENCO ADHESIVES TECHNICAL DATA

1 **PRODUCTS:**
- 1.1 Adhesive (all temperature grades).
- 1.2 Rubberized Flashing Coating (Trowel Grade only).
- 1.3 W60LA (all temperature grades).
- 1.4 Rubberized Roof Coating (all temperature grades).
- 1.5 Cavity Wall Vapor Retarder-C.V.R. (all temperature grades).

2 **SCOPE**: Laurenco Adhesives are specially formulated to adhere to the following:
- 2.1 All sheet rubber materials of 45 mils. or more.
- 2.2 Polyvinyl chloride (PVC) sheet materials.
- 2.3 Insulations:
  - 2.3.1 Polystyrene Bead Board.
  - 2.3.2 Styrofoam Board.
  - 2.3.3 Urethane Board. (polyisocyanurate)
  - 2.3.4 Foamglas.
  - 2.3.5 All Laurenco Waterproofing and Roofing Systems.
  - 2.3.6 Woven Glass Fabric, Cotton, Jute and all Roofing Felts.

3 **COMPOSITION OF ADHESIVES**: Laurenco Adhesives for all of its applications are comprised of the following:
- 3.1 Specially formulated asphalt.
- 3.2 An aliphatic naphtha solvent using only V. M.&P. Rule 66. which has a minimum 400 parts per million parts of air toxicity rating (comparison: Benzene= 10, Toluene and xylene=100 and all toxic to skin).
- 3.3 Compatible synthetic rubbers for plasticity and adherence.
- 3.4 Appropriate fillers including carbon blacks for Ultra-Violet Ray resistance.
- 3.5 Meets and exceeds ASTM D-4479-93, Type One.

4 **TEST RESULTS**: Standard Laurenco Adhesive applied at the rate of two gallons per square (100 sq.ft.) yields the following test results.
- 4.1 ASTM D-529-82, Weathering Daily Cycle B. No cracking or crazing. No slump. Turns a slight gray color.
- 4.2 Hardness: Attains a Shore Hardness of 60 max.
- 4.3 Ductility; ASTM D-113-79;at 1 cm per minute (39.2°F=4°C) 125% elongation min.
- 4.4 Wind up-lift pull=150 lbs. using test apparatus.
- 4.5 Water permeability; ASTM E-96-80; 0.005 perms/hr/sq.ft.
- 4.6 Excellent adherence to concrete, metals, glass, insulations, wood, coal tar pitch and Felts, rubber sheeting, etc. Exceptions: silicones, certain acrylics and animal fats(tallow).
- 4.7 Dry Film Thickness: 9 mils per gallon per 100 sq.ft. min.

5 **PACKAGING**: Laurenco Adhesives are normally furnished in the following:

5.1 55 gallon size drums-weight approx. 475lbs. per drum.

5.2 5 gallon size pails-weight approx. 43 lbs. per pail.

5.3 May be furnished in other sized containers at an additional cost per gallon.

5.4 Adhesive shipped as noted: Combustible Liquid N.O.S. (Contains Naphtha, Solvent), NA 1993, PG 111 Item 144760 Guide #27

5.5 Availability: Laurenco Adhesives are available in Summer and Winter service grades:

5.5.1 Squeegee/roller: for use with wood head rubber squeegees, window washer type squeegees and roller applicators using a mohair nap sleeve with a solvent resistant core.

5.5.2 Brush: for use with roofers brush, white wash brush(shorten bristles by 1/3 the length) or smooth edge metal float.

5.5.3 Trowel: for use by gloved hand or trowel.

LAURENCO SYSTEMS
MEMBRANE WATERPROOFING

1 **TECHNICAL INFORMATION** (Composition of Materials):

1.1 Laurenco Sheet:

1.1.1 Specially formulated Asphalt modified with Chloroprene Rubber (Neoprene*) plus appropriate fillers, curing agents and plasticizer.

1.1.2 Thickness of Laurenco Sheet is 50 mils. plus or minus 5%.

1.1.3 Tensile strength of Laurenco Sheet = 75 lbf/in. Min. (ASTM D 146-90, section 13) and (ASTM E 154-99, section 9). Two Ply Laurenco System > 180 lbf/in..

1.1.4 Puncture resistance of Laurenco Sheet = 215 lbs. (ASTM E 154-99, section 10). Two Ply Laurenco System > 450 lbs..

1.1.5 Ductility of Modified Asphalt for use on Laurenco Sheet: (ASTM D-113-69) at 39.2°F. using 1cm. per min. pull-10% to 12.5% plus, at 75°F. using 5 cm. per min. pull = 100% to 125% plus.

1.1.6 Softening point of modified asphalt used on Laurenco Sheet: (ASTM D 36-70 using distilled water) = 160° degree F. min.

1.1.7 Penetration of Modified Asphalt used on Laurenco Sheet: (ASTM D 5-73) = 30 max. at 77 degree F. using 3 oz. seamless metal container.

1.1.8 Ductility of Sheet:1.360 degree bend on 1" O.D. bar at 39.2° degree F. at 5cm. per min. flex. minimum.

1.2 Laurenco Adhesive:

1.2.1 Specially formulated Asphalt modified with compatible rubbers using long fibers and clean aliphatic solvent. (V. M.&P. Rule 66 Naphtha).

1.2.2 Compatible rubbers are combinations of Neoprene, Butyl and/or N.B.R.

1.2.3 Solid Content 55% min.

1.2.4 Holding power 150 lbs. plus per sq.ft. at 90 degree pull on gypsum deck.

1.2.5 Meets or exceeds ASTM D-4479, Type 1 and Federal Specification SS-A-694D.

1.2.6 Using ASTM Test Method D-1004-70, Tensile Strength and Adhesive shall be 1070 p.s.i. average; using Tear Die C,77lbs. per inch average of sheets and adhesive.

1.3 Laurenco System (Sheet & Adhesive):

1.3.1 Water Permeability-Inverted cup @ 75° degrees F. 25 day duration (ASTM. E 96-95 Procedure BW) using Laurenco Sheet and Laurenco Adhesive in System form 0.005grams/hr./sq.ft.

1.3.2 Weather test on Laurenco Sheet and Laurenco Adhesive in System form (ASTM Test Method D 529-73,Daily Cycle B) 25 days. Hardness range of 60 plus or minus 5 pt. variation of a range of 0-99 Shore A hardness and no further changes after 10 cycles-Materials stable with no cracking or crazing. Cycles continued for 25 days.

1.3.3 Pull Test: Using 1" thick concrete slab and Laurenco system (2 plies Sheet and Adhesive) pull at rate of 2 inches per minimum. Results = 26.39 lbs. plus p.s.i. or 3800 lbs plus per minimum. (slabs all broke under pull test-1" thick were used

to accommodate machine) See No. 7, Tensile Strength.

1.3.4 Waterhead Test: Results incomplete as 210 foot limit of machine was reached at end of 28 days with no leakage. (Pictures available showing test set up which incorporated a construction joint).

1.3.5 Mullens Burst Test: (Membrane Sheets and Adhesive) shall attain 160 p.s.i. minimum.

2 PACKAGING:

2.1 Laurenco Sheet:

2.1.1 220 sq.ft. per roll on cores using disposable release sheet and some powdered release agents. Shipped in heavy boxes weighing @ 70 pounds.

2.1.2 Width of roll: 36 inches plus or minus one inch.

2.1.3 Net weight of roll: 65 lbs minimum.

2.1.4 Length of roll: 73.3 ft, plus or minus 1%.

2.2 Laurenco Adhesive:

2.2.1 Available in 5 gallon pails and 55 gallon drums.

2.2.2 Minimum shipping weight of pails 42 lbs; drums 475 lbs.

3 STORAGE INFORMATION:

3.1 Boxes containing the Laurenco Waterproofing Sheet must be stored flat at all times, approximately 5 boxes high, on pallets or other means to keep off the ground.

3.2 If indoor or trailer storage is not available, tarp in with canvas tarpaulins only. DO NOT USE POLYETHYLENE OR OTHER NON-BREATHING FILMS TO COVER THE BOXES.

3.3 Remove rolls of Laurenco Waterproofing Sheet from boxes when ready to use.

3.4 Store in cool places only. If trailer storage is used, it should be well ventilated for summer storage and only a maximum of 60°F heat for winter storage is recommended(for ease of roll out).

3.5 Shelf life for usual spring, fall and winter is a recommended 3 months. For summer storage shelf life is a recommended limit to 3 to 4 weeks including in transit time. This shelf life applies to on job site storage facilities available. It is usually 4 to 6 months under controlled warehousing conditions.

Material Safety Data Sheet

QUICK IDENTIFIER: **SHEET MEMBRANE**

IN PLANT COMMON NAME:
MODIFIED ASPHALT WOVEN GLASS MEMBRANE

MANUFACTURER:
LAURENCO, INC.
P.O. BOX 471
GARRETTSVILLE, OHIO 44231

Emergency Telephone No.: (800) 321-3337
Technical Information No.: (330) 898-7037

PREPARED BY: Jonathan M. Lawrence

DATE PREPARED: JANUARY, 2003

SECTION I- IDENTITY

TRADE NAME: LAURENCO SHEET (ALL GRADES) CAS# NONE (MIXTURE)
CHEMICAL NAME: MODIFIED ASPHALT LAMINATED FIBROUS GLASS
CHEMICAL FAMILY: ASPHALT FABRIC
FORMULA: MODIFIED RUBBERIZED ASPHALT LAMINATED WOVEN GLASS MESH

SECTION II-HAZARDOUS INGREDIENTS

PRINCIPAL HAZARDOUS COMPONENTS & COMMON NAMES		**%**	**OSHA PEL**	**THRESHOLD LIMIT VALUE**
ASPHALT BASE	CAS# 8052-42-4	<72	5MG/M^3 CEILING OF	5MG/M^3 10MG/M
FIBROUS GLASS (VIABLE TEXTILE FIBERS)	CAS# NONE	<19	NOT LISTED	NOT LISTED
NEOPRENE	CAS# NONE	>3	5MG/M^3	5MG/M^3
CARBON BLACK	CAS#1333-86-4	>1	AS DUST	2MG/M^3
BUTYL RUBBER	CAS#142-77-8	>2	NOT LISTED	NOT LISTED
PLASTICIZER	CAS# NONE	>1	NOT LISTED	NOT LISTED

SECTION III- PHYSICAL CHEMICAL CHARACTERISTICS (FIRE AND EXPLOSION DATA)

BOILING POINT: N/A;

SPECIFIC GRAVITY (H_2O=1): <1;

VAPOR PRESSURE (MM Hg): NF;

PERCENT VOLATILE BY VOLUME (%): N/A;

VAPOR DENSITY (AIR=1): NF;

EVAPORATION RATE: NF;

SOLUBILITY IN WATER: INSOLUBLE;

SHEET MEMBRANE (2)

REACTIVITY IN WATER: NONE;

APPEARANCE & ODOR: DARK COLOR, MESH FABRIC, ASPHALT/PETROLEUM ODOR;

N.E.P.A.: N/A SETA;

FLAMMABLE LIMITS IN AIR % BY VOLUME LOWER N/A ; UPPER N/A; EXTINGUISHER MEDIA: DRY CHEMICAL, FOAM; AUTO IGNITION TEMPERATURE N/A.

SPECIAL FIRE FIGHTING PROCEDURES: USE SELF-CONTAINED BREATHING EQUIPMENT AND PROTECTIVE CLOTHING TO PROTECT FROM ACIDIC HYDROGEN CHLORIDE FUMES.

UNUSUAL FIRE & EXPLOSION HAZARDS: IN A SUSTAINED FIRE, COMBUSTIBLE

DECOMPOSITION PRODUCTS MAY BE RELEASED. THESE PRODUCTS INCLUDE CARBON DIOXIDE, CARBON MONOXIDE AND LOW MOLECULAR WEIGHT HYDROCARBONS. THE SOLID POLYMER CAN BE COMBUSTED ONLY WITH DIFFICULTY.

SECTION IV- PHYSICAL HAZARDS

STABILITY: UNSTABLE CONDITIONS TO AVOID; SUSTAINED OPEN FLAME.

INCOMPATIBILITY (MATERIALS TO AVOID): OXIDIZERS.

HAZARDOUS DECOMPOSITION PRODUCTS: BURNING ASPHALT MAY EMIT TOXIC OXIDES OF CARBON, NITROGEN AND SULFUR.

HAZARDOUS POLYMERIZATION: N/A

SECTION V- HEALTH HAZARDS

THRESHOLD LIMIT VALUE: MIXTURE;

PRIMARY ROUTE(S) OF ENTRY TO BODY: SKIN, EYE.

SIGNS AND SYMPTOMS OF EXPOSURE:
1. ACUTE OVEREXPOSURE; ITCHING DRY SKIN.
2. CHRONIC OVEREXPOSURE; IRRITATION OF SKIN.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: REPEATED-CONTINUOUS EXPOSURE CAN AGGRAVATE SKIN IRRITATION.

CHEMICAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN: NATIONAL TOXICOLOGY; NO I.A.R.C. MONOGRAPHS; NO OSHA; NO OSHA PERMISSIBLE

EXPOSURE LIMIT: MIXTURE,

ACGIII THRESHOLD LIMIT VALUE: MIXTURE

OTHER EXPOSURE LIMIT USED: SEE LOWEST INGREDIENT LEVEL.

EMERGENCY AND FIRST AID PROCEDURES: EXPOSURE TO/CONTACT WITH LARGE AMOUNTS MAY REQUIRE MEDICAL TREATMENT.

INHALATION: GET TO FRESH AIR.

EYES: FLUSH EYES FOR 15 MINUTES WITH CLEAN WATER. GET MEDICAL TREATMENT.

SHEET MEMBRANE (3)

SKIN: WASH WITH SOAP AND WATER OR WATER-LESS HAND CLEANER. IF IRRITATION PERSISTS, GET MEDICAL ATTENTION.

INGESTION: NOT LIKELY TO OCCUR THROUGH NORMAL USE.

SECTION VI- SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE): NONE

VENTILATION:
1. OUTSIDE LOCAL EXHAUST: NONE;
2. MECHANICAL (GENERAL): NONE;
3. INSIDE SPECIAL: NONE

PROTECTIVE GLOVES: FOR WORKERS WITH SENSITIVE SKIN OR CONTACT DERMATITIS.

EYE PROTECTION: NONE NEED BUT SUGGESTED STRONGLY FOR GOOD SAFETY PRACTICE.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: LONG SLEEVE SHIRT; LONG PANTS.

SECTION VII- SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES

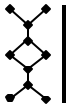
PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: STORE IN DRY, COOL AREA.

OTHER PRECAUTIONS: WEAR GLOVES AND GOGGLES. KEEP CLOTHES CLEAN TO PREVENT IRRITATION. DO NOT HEAT MATERIAL FOR APPLICATION.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: N/A.

WASTE DISPOSAL METHODS: CONSULT LOCAL, STATE AND FEDERAL REGULATION FOR PERMITTED LANDFILL DISPOSAL OR INCINERATION.

Material Safety Data Sheet



QUICK IDENTIFIER: ASPHALT ADHESIVE, BUTYL RUBBER
IN PLANT COMMON NAME: ADHESIVE
(SUMMER & WINTER GRADE)

MANUFACTURER:
LAURENCO, INC.
P.O. BOX 471
GARRETTSVILLE, OH 44231

EMERGENCY TELEPHONE NO: (800) 321-3337
TECHNICAL INFORMATION: (330) 898-7037

PREPARED BY: Jonathan M. Lawrence

DATE PREPARED: JANUARY, 2003

SECTION I - IDENTITY

TRADE NAME:	LAURENCO ADHESIVE	CAS# NONE (MIXTURE)
CHEMICAL NAME:	BUTYL RUBBER ASPHALT COATING.	
CHEMICAL FAMILY:	ASPHALT COATING.	
FORMULA:	SOLVENT BASED ASPHALT ROOF COATING/ ADHESIVE WITH BUTYL RUBBER.	

SECTION II - HAZARDOUS INGREDIENTS

PRINCIPAL HAZARDOUS COMPONENTS AND COMMON NAMES		**%**	**OSHA PEL**	**THRESHOLD LIMIT VALUE**
ASPHALT BASE	CAS# 8052-42-4	>60	5MG/M^3 CEILING OF	5MG/M^3 10MG/M^3
MINERAL SPIRITS	CAS# 8032-32-4	>5	100 PPM MAX. 1/4HR.	350MG/M^3 1800MG/M^3
V. M.&P RULE #66 NAPHTHA	CAS# 8032-32-4	>6	400 PPM MAX. 1/4HR.	1400MG/M^3 7200MG/M^3
BUTYL RUBBER	CAS# 9010-85-9	<18	N/A	N/A
NBR	CAS# 9003-18-3	>10	N/A	N/A
TALC	CAS# 14807-96-6	>1	AS DUST	2MG/M^3
CARBON BLACK	CAS# 13333-86-4	>1	AS DUST	2MG/M^3
NEOPRENE	CAS# NONE	>2	5MG/M^3	5MG/M^3

INFORMATION FOR MIXTURES IS BASED IN CONSTITUENT MSDS WHICH ARE AVAILABLE UPON REQUEST.

SECTION III - PHYSICAL & CHEMICAL CHARACTERISTICS (FIRE EXPLOSION DATA)

BOILING POINT:	313F
SPECIFIC GRAVITY (H2O=1):	<1
VAPOR PRESSURE (MM HG):	NF
PERCENT VOLATILE BU VOLUME (%):	<40
VAPOR DENSITY (AIR=1):	NF

ADHESIVE (2)

EVAPORATION RATE: NF

SOLUBILITY IN WATER: INSOLUBLE

REACTIVITY IN WATER: NONE

APPEARANCE & COLOR: DARK COLOR, HEAVY VISCOUS LIQUID, PETROLEUM ODOR

N.E.P.A.: HEALTH=1, FLAMMABILITY=2, REACTIVITY=0, PERSONAL PROTECTION=NF

FLASHPOINT: 141F SETA

FLAMMABLE LIMITS IN AIR % BY VOLUME: LOWER 0.9%, UPPER 6.0%

EXTINGUISHER MEDIA: DRY CHEMICAL FOAM

AUTO IGNITION TEMPERATURES: >400F

SPECIAL FIRE FIGHTING PROCEDURE: DRY CHEMICAL, FOAM, WATER FOG

UNUSUAL FIRE & EXPLOSION HAZARDS: PETROLEUM BASED COMPOUNDS CAN FLOAT ON WATER

SECTION IV - PHYSICAL HAZARDS

STABILITY: UNSTABLE

CONDITIONS TO AVOID: KEEP FROM HEAT, SPARKS, OPEN FLAME

INCOMPATIBILITY (MATERIALS TO AVOID): ACID, CAUSTICS, OXIDIZERS

HAZARDOUS DECOMPOSITION PRODUCTS: NITROGEN OXIDES, CARBON OXIDES

HAZARDOUS POLYMERIZATION: N/A

SECTION V - HEALTH HAZARDS

THRESHOLD LIMIT VALUE: MIXTURE

PRIMARY ROUTE OF ENTRY TO BODY: INHALATION, SKIN, INGESTION, EYE

SIGNS OF SYMPTOMS OF EXPOSURE:

1. ACUTE OVEREXPOSURE; ITCHING, DRY SKIN, NAUSEA, DIZZINESS.
2 CHRONIC OVEREXPOSURE DIFFICULTY BREATHING, IRRITATION OF SKIN.

MEDICAL CONDITIONS LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN: REPEATED CONTINUOUS EXPOSURE CAN AGGRAVATE EMPHYSEMA, CAUSE CHEMICAL PNEUMONIA, LIVER AND/OR KIDNEY DAMAGE.

CHEMICAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN: NATIONAL TOXICOLOGY; NO I.A.R.C. MONOGRAPHS; NO OSHA; NO OSHA PERMISSIBLE

EXPOSURE LIMIT: MIXTURE

ACGIII THRESHOLD LIMIT VALUE: MIXTURE

OTHER EXPOSURE LIMIT USED: SEE LOWEST INGREDIENT LEVEL

EMERGENCY AND FIRST AID PROCEDURES: EXPOSURE TO/CONTACT WITH LARGE AMOUNTS MAY REQUIRE IMMEDIATE EMERGENCY TREATMENT

ADHESIVE (3)

INHALATION: GET TO FRESH AIR; ADMINISTER OXYGEN OR ARTIFICIAL RESPIRATION IF BREATHING HAS STOPPED OR BECOME DIFFICULT

EYES: FLUSH EYES FOR 15 MINUTES WITH CLEAN WATER. GET MEDICAL TREATMENT

SKIN: WASH WITH SOAP AND WATER OR WATER LESS HAND CLEANER. IF IRRITATION PERSISTS, GET MEDICAL ATTENTION

INGESTION: DO NOT INDUCE VOMITING!!! GET MEDICAL ATTENTION QUICKLY!

SECTION VI - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE): ORGANIC VAPOR CARTRIDGE IF IN CONFINED OR ENCLOSED AREA.

VENTILATION: OUTSIDE; LOCAL EXHAUST: IF INSIDE: AVOID VAPORS

MECHANICAL (GENERAL): IF INSIDE SPECIAL: AVOID VAPORS

PROTECTIVE GLOVES: IMPERIOUS TO SOLVENTS

EYE PROTECTION: CHEMICAL GOGGLES FOR VAPORS

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: LONG SLEEVED SHIRT; LONG PANTS

SECTION VII - SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: USE IN WELL VENTILATED AREA. STORE IN DRY, COOL PLACE

OTHER PRECAUTIONS: WEAR GLOVES AND GOGGLES. KEEP CLOTHES TO PREVENT IRRITATION. DO NOT HEAT MATERIAL FOR APPLICATION.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: USE NON SPARKING TOOLS. USE OIL ABSORBENT OR SAND-SHOVEL UP AND PLACE IN CLOSED CONTAINERS.

WASTE DISPOSAL METHODS: RCA REGULATED MATERIAL. CONSULT LOCAL, STATE AND FEDERAL REGULATION PERMITTED LANDFILL DISPOSAL OR INCINERATION.

LAURENCO RUBBERIZED FLASHING COATING

1 **PRODUCT NAME: LAURENCO RUBBERIZED FLASHING COATING**
(Trowel Grade only)

2 **MANUFACTURER**

Laurenco Incorporated
P. O. Box 471
Garrettsville, Ohio 44231
Toll Free: 800-321-3337 (Office and Plant); Sales Office: 800-320-3337
Toll Free: 800-543-3338 (FAX)

3 **PRODUCT DESCRIPTION**

3.1 RUBBERIZED FLASHING COATING is a mastic which has been formulated as a long-lived, protective top coating for all flashing installations. This mastic type coating consists of a specified aliphatic asphalt base which is modified with synthetic rubbers (butyl and chloroprene) These materials are combined with gilsonite (a hard mined asphalt), lampblack and other appropriate stabilizers to provide a "gel" factor, ultra-violet ray resistance and a high melt point to eliminate the usual"cold flow" apparent in mastic grade materials. This mastic is solvated with a V. M. & P. Naphtha (an aliphatic solvent) with less than one (1) percent aromatic solvent addition.

3.2 RUBBERIZED FLASHING COATING will adhere and protective coat the following materials and products for the following reasons:

3.2.1 It is compatible with other asphaltic materials including modifiers.

3.2.2 It is compatible with coal tar roofing and waterproofing materials because most of the oils have been supplanted using synthetic rubbers to provide the stable plasticizer (flexing agent) necessary.

3.2.3 It will adhere polyvinyl chloride (PVC) including preformed flashing designs; all synthetic rubbers; glass, polyester and organic materials consisting of felts and fabrics.

3.2.4 It may be used as a seal over synthetic rubbers, epoxies, PVC's, acrylics, urethanes plus coal tar pitch and asphalt materials.

3.2.5 It will adhere insulation materials; i.e. glass fiber, foam glass, extruded and expanded polystyrene and polyisocyanurate.

3.2.6 It will to brick and concrete masonry units (see Item No. 3.3. following), ceramic and metals after any protective oils (other than pure petroleum derived), silicones and silicates are removed.

3.3 RUBBERIZED FLASHING COATING will not adhere to the following:

3.3.1 latex concretes (dusty and/or dirty surfaces),

3.3.2 most cure agents,

3.3.3 concrete masonry units which have a granular (unstable) surface, unless a coating of Laurenco Rubberized Primer is first applied at the rate of 3/4 gallon per 100 square feet to stabilize and/or penetrate these surfaces. A maximum rate of one (1) gallon per 100 square feet can be used for difficult surfaces. Allow this primer to dry (usually 1 to 2 hours; the maximum is 8 hours depending on temperature and humidity). **DO NOT EXCEED THESE QUANTITIES**.

4 APPLICATION METHOD

4.1 Application tools: These tools may be:

4.1.1 a wood or smooth edged metal float,

4.1.2 a triangular metal trowel,

4.1.3 the workman's hand encased in a solvent resistant rubber glove, and/or

4.1.4 a 6 inch or 8 inch metal framed squeegee with a neoprene (solvent resistant) blade.

4.2 Installation:

4.2.1 Fabrics: Apply the Rubberized Flashing Coating at the rate of 2-1/2 gallons per 100 sq. ft. per ply. Top coat at the rate of 3 gallons per 100 sq. ft.

4.2.2 Felts: Apply to the Rubberized Flashing Coating at the rate of 1-1/2 gallons per 100 sq. ft. per ply of felt. Top coat at the rate of 2-1/2 gallons per 100 sq. ft.

4.2.3 Sheets and films: Apply at the rate of 1-1/4 gallons per 100 sq. ft., the first ply. Each additional ply shall be adhered in 3/4 gallon per 100 sq. ft. Top coat at the rate of 2 gallons per 100 sq. ft.

5 TECHNICAL DATA

5.1 Color: Black

5.2 Permeability: 0.005 grams/sq. ft.(0.0077 grains/sq/ft.) maximum.
Test Method: ASTM E 96-80 (Water Method, Inverted Cup).

5.3 Weather-O-Meter: Shore Hardness A=65 max. No cracking with a maximum 2% slump. Color will weather to a soft charcoal gray. For all normal environments: average hardness is 58 to 63 over a 10 year span.
Test Method: ASTM D 529-82 (Daily Cycle B).

5.4 Adhesion Test:201 lbs. per sq. in. average.
Test Method: ASTM C836-84

5.5 Ductility after Weather-0-Meter Testing: 56 percent at 39.2 degrees F.
Test Method: ASTM D 113-85.

5.6 Solubility Parameter:7.4 max.

Note: Supplied in 5 gallon size pails only.
Additional information concerning specification and application usage may be obtained from Laurenco's Technical Director by calling 1-800-321-3337.

6 **CAVEATS** (Warnings) and MISCELLANEOUS ADDITIONAL INFORMATION:

6.1 **Accidental spills or marks during application** may be removed using a CO_2 foam fire extinguisher. Treat offending area with the foam to freeze (harden); then immediately

remove the coating by peeling it from the surface beneath. Do not use any solvents to remove this offending material because the solvated material will penetrate the surface you are trying to clean causing a stain that is almost impossible to remove.

Note: Many times residual or light stains will be quickly removed by lightly sand blasting or blasting using a cellulose fiber, i.e. corn husks is a cellulose fiber that will absorb the oils and solvents causing these stains.

6.2 **Clean-up for the Installers:** Use a lanolin/solvent hand cleaner containing no grit (abrasives) to remove the product from skin. Follow by washing with soap and water. If someone first cleans with a solvent (any solvent), rinse thoroughly all affected areas with cold tea to neutralize the solvent's activity; then follow with soap and water. Finish by using VASELINE PETROLEUM JELLY as a protective cover for all affected areas. This will also provide a mild sun screen and protection from wind-burn.

NOTE: We use a solvent that is considered "benign." However, it is always wise to be careful to avoid solvent burns and other possible allergic reactions.

6.3 **Cleaning and Storing Used Application Tools:**

6.3.1 Scrape or wipe with the polyethylene release sheet the flashing coating material from squeegees, roller frames and brushes. Place these items in a bucket of water to prevent air hardening.

6.3.2 Clean utility knives, trowels and floats with charcoal lighter fluid. This solvent is somewhat slower than an aromatic such as xylene or toluene, but it poses a much lesser solvent problem for the installers plus it is usually readily supplied at stores in proper storage containers.

7 **MATERIAL WARRANTY**: a material warranty only is offered by Laurenco Inc. to certify that our **RUBBERIZED FLASHING COATING** is as we have stated herein as to use and application, unless it forms a part of an entire Laurenco Waterproofing and/or Roofing System; then a full system guaranty is offered.

Material Safety Data Sheet

QUICK IDENTIFIER: ASPHALT ADHESIVE, BUTYL RUBBER

IN PLANT COMMON NAME: RUBBERIZED FLASHING COATING (TROWEL GRADE)

MANUFACTURER:
LAURENCO, INC.
P.O. BOX 471
GARRETTSVILLE, OH 44231

EMERGENCY TELEPHONE NO: (800) 321-3337
TECHNICAL INFORMATION: (330) 898-7037

PREPARED BY: Jonathan M. Lawrence

DATE PREPARED: JANUARY, 2003

SECTION I - IDENTITY

TRADE NAME:	LAURENCO RUBBERIZED FLASHING COATING (TG)	CAS# NONE (MIXTURE)
CHEMICAL NAME:	BUTYL RUBBER ASPHALT COATING.	
CHEMICAL FAMILY:	ASPHALT COATING.	
FORMULA:	SOLVENT BASED ASPHALT ROOF COATING/ ADHESIVE WITH BUTYL RUBBER.	

SECTION II - HAZARDOUS INGREDIENTS

PRINCIPAL HAZARDOUS COMPONENTS AND COMMON NAMES		**%**	**OSHA PEL**	**THRESHOLD LIMIT VALUE**
ASPHALT BASE	CAS# 8052-42-4	>60	5MG/M^3 CEILING OF	5MG/M^3 10MG/M^3
MINERAL SPIRITS	CAS# 8032-32-4	>5	100 PPM MAX. 1/4HR.	350MG/M^3 1800MG/M^3
V. M.&P RULE #66 NAPHTHA	CAS# 8032-32-4	>6	400 PPM MAX. 1/4HR.	1400MG/M^3 7200MG/M^3
BUTYL RUBBER	CAS# 9010-85-9	<18	N/A	N/A
NBR	CAS# 9003-18-3	>10	N/A	N/A
TALC	CAS# 14807-96-6	>1	AS DUST	2MG/M^3
CARBON BLACK	CAS# 13333-86-4	>1	AS DUST	2MG/M^3
NEOPRENE	CAS# NONE	>2	5MG/M^3	5MG/M^3

INFORMATION FOR MIXTURES IS BASED IN CONSTITUENT MSDS WHICH ARE AVAILABLE UPON REQUEST.

SECTION III - PHYSICAL & CHEMICAL CHARACTERISTICS (FIRE EXPLOSION DATA)

BOILING POINT:	313F
SPECIFIC GRAVITY (H2O=1):	<1
VAPOR PRESSURE (MM HG):	NF
PERCENT VOLATILE BU VOLUME (%):	<40
VAPOR DENSITY (AIR=1):	NF

RFC TG (2)

EVAPORATION RATE: NF

SOLUBILITY IN WATER: INSOLUBLE

REACTIVITY IN WATER: NONE

APPEARANCE & COLOR: DARK COLOR, HEAVY VISCOUS LIQUID, PETROLEUM ODOR

N.E.P.A.: HEALTH=1, FLAMMABILITY=2, REACTIVITY=0, PERSONAL PROTECTION=NF

FLASHPOINT: 141F SETA

FLAMMABLE LIMITS IN AIR % BY VOLUME: LOWER 0.9%, UPPER 6.0%

EXTINGUISHER MEDIA: DRY CHEMICAL FOAM

AUTO IGNITION TEMPERATURES: >400F

SPECIAL FIRE FIGHTING PROCEDURE: DRY CHEMICAL, FOAM, WATER FOG

UNUSUAL FIRE & EXPLOSION HAZARDS: PETROLEUM BASED COMPOUNDS CAN FLOAT ON WATER

SECTION IV - PHYSICAL HAZARDS

STABILITY: UNSTABLE

CONDITIONS TO AVOID: KEEP FROM HEAT, SPARKS, OPEN FLAME

INCOMPATIBILITY (MATERIALS TO AVOID): ACID, CAUSTICS, OXIDIZERS

HAZARDOUS DECOMPOSITION PRODUCTS: NITROGEN OXIDES, CARBON OXIDES

HAZARDOUS POLYMERIZATION: N/A

SECTION V - HEALTH HAZARDS

THRESHOLD LIMIT VALUE: MIXTURE

PRIMARY ROUTE OF ENTRY TO BODY: INHALATION, SKIN, INGESTION, EYE

SIGNS OF SYMPTOMS OF EXPOSURE:

1. ACUTE OVEREXPOSURE; ITCHING, DRY SKIN, NAUSEA, DIZZINESS.
2. CHRONIC OVEREXPOSURE DIFFICULTY BREATHING, IRRITATION OF SKIN.

MEDICAL CONDITIONS LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN: REPEATED CONTINUOUS EXPOSURE CAN AGGRAVATE EMPHYSEMA, CAUSE CHEMICAL PNEUMONIA, LIVER AND/OR KIDNEY DAMAGE.

CHEMICAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN: NATIONAL TOXICOLOGY; NO I.A.R.C. MONOGRAPHS; NO OSHA; NO OSHA PERMISSIBLE

EXPOSURE LIMIT: MIXTURE

ACGIII THRESHOLD LIMIT VALUE: MIXTURE

OTHER EXPOSURE LIMIT USED: SEE LOWEST INGREDIENT LEVEL

EMERGENCY AND FIRST AID PROCEDURES: EXPOSURE TO/CONTACT WITH LARGE AMOUNTS MAY REQUIRE IMMEDIATE EMERGENCY TREATMENT

RFG TG (3)

INHALATION: GET TO FRESH AIR; ADMINISTER OXYGEN OR ARTIFICIAL RESPIRATION IF BREATHING HAS STOPPED OR BECOME DIFFICULT

EYES: FLUSH EYES FOR 15 MINUTES WITH CLEAN WATER. GET MEDICAL TREATMENT

SKIN: WASH WITH SOAP AND WATER OR WATER LESS HAND CLEANER. IF IRRITATION PERSISTS, GET MEDICAL ATTENTION

INGESTION: DO NOT INDUCE VOMITING!!! GET MEDICAL ATTENTION QUICKLY!

SECTION VI - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE): ORGANIC VAPOR CARTRIDGE IF IN CONFINED OR ENCLOSED AREA.

VENTILATION: OUTSIDE; LOCAL EXHAUST: IF INSIDE: AVOID VAPORS

MECHANICAL (GENERAL): IF INSIDE SPECIAL: AVOID VAPORS

PROTECTIVE GLOVES: IMPERIOUS TO SOLVENTS

EYE PROTECTION: CHEMICAL GOGGLES FOR VAPORS

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: LONG SLEEVED SHIRT; LONG PANTS

SECTION VII - SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: USE IN WELL VENTILATED AREA. STORE IN DRY, COOL PLACE

OTHER PRECAUTIONS: WEAR GLOVES AND GOGGLES. KEEP CLOTHES TO PREVENT IRRITATION. DO NOT HEAT MATERIAL FOR APPLICATION.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: USE NON SPARKING TOOLS. USE OIL ABSORBENT OR SAND-SHOVEL UP AND PLACE IN CLOSED CONTAINERS.

WASTE DISPOSAL METHODS: RCA REGULATED MATERIAL. CONSULT LOCAL, STATE AND FEDERAL REGULATION PERMITTED LANDFILL DISPOSAL OR INCINERATION.

LAURENCO
CAVITY WALL VAPOR RETARDER
C.V.R.

1 **PRODUCT NAME:** LAURENCO C.V.R. (Cavity Wall Vapor Retarder).

1.1 C.V.R. is a single application combining a parging coat and an air/vapor retarder.

1.2 C.V.R. is the protective answer for buildings requiring an air barrier with excellent vapor retarder capabilities.

2 **MANUFACTURER:**

Laurenco Incorporated
PO Box 471
Garrettsville, OH 44231
Toll Free: 800 321-3337, 800 320-3337
Toll Free Fax: 800 543-3338

3 **PRODUCT DESCRIPTION:**

3.1 C.V.R. has been formulated as a cavity wall moisture retarder/barrier consisting of a specified aliphatic asphalt base modified with synthetic rubbers (butyl and chloroprene with carbon fillers to produce a "gel" structure and supply ultra-violet ray (UV.) resistance. No reclaimed materials are used.

3.2 The C.V.R.'s adhesive qualities permit the firm adherence of Styrofoam insulation.

3.3 A seal around the tie wires for bricks, etc.

3.4 C.V.R. has been designed to supplant the normally used parging coat (a thin coat of mortar) to smooth the exposed exterior surfaces of the concrete masonry units (concrete block). C.V.R. is applied in single (1) coat using a 1/8 inch to 1/4 inch deep. saw tooth edged metal float.

3.5 C.V.R. eliminates the mortar parging coat plus the waiting time for the parging coat to set-up and dry before installing the vapor retarder/adhesive to adhere the insulation.

3.6 C.V.R. will adhere without priming to most concrete masonry units and most concretes.

3.7 C.V.R. is formulated in a winter grade for cold weather ease of application below temperatures which preclude the installation of a mortar parging coat.

3.8 **EXCEPTIONS**: (All surfaces which require a primer to stabilize and "wet" the substrate surfaces.)

3.8.1 Latex concrete.

3.8.2 Most concrete cure agents and some form board release agents.

3.8.3 Concrete block which has an excessive granular surface.

3.8.4 These exceptions will require a coating of Laurenco Primer that must be applied at a rate of 3/4 gallon per 100 sq. ft. to stabilize by penetrating these surfaces. Do not exceed. Allow the primer application to thoroughly dry (usually 1 to 4 hours; maximum 8 hours depending on temperature and humidity. **A thin coat sets-up and dries quickly**.

4 **SURFACE PREPARATION:** The following precautions are to obtain good adhesion without using an excessive amount of C.V.R.

4.1 All surfaces shall be clean and dry. Use hand to test or light blue paper similar to that found at service stations to wipe the surfaces to be coated.

4.2 Do not use concrete cure agents. Apply C.V.R. as soon as possible after form boards are removed. Patching (grouting) needs only to be surface dry before application.

4.3 Form board release agents must be comprised of petroleum distillates only.

4.4 Concrete and concrete block shall follow the below listed criteria:

4.4.1 Scraped free of latencies, fins, etc. Do not grind! Grinding is not recommended for general surface preparation as it drives the generated cement dust into the pores of the concrete surfaces.

4.4.2 Grout all honeycombs, tie wire holes, cracks larger than 1/8 inch and surfacing voids larger and deeper than the size of a U.S. Quarter (25 cent piece).

4.4.3 Surfaces finished to a good wood screed (sidewalk or broom finish).

4.4.4 All C.M.U. (block) mortar joints should be finished smooth with the face of the block units.

5 **APPLICATION METHOD:** (See detail No's. 7-A and 8-A in "Suggested Details" Section)

5.1 Application temperatures: C.V.R. is formulated for Summer and Winter use and is so noted on the pails.

5.1.1 Do not apply below 32 degrees F. unless the wall is directly exposed to the sun and the wind is minimal (wind chill).

5.1.2 Walls may be surface dried using a electric heat gun, a propane torch equipped with a weed burner on a *blue flame only*. Keep point of blue flame at least six inches (6") away from surfaces to be dried so as not to weaken these same concrete surfaces. Eight to ten inches (8" to 10") is recommended.

5.2 Use a saw-toothed metal float. Depth of saw teeth should be no more than 1/8 inch.

5.3 Use a straight-edged palette board to move the C.V.R. material to the wall. Same as a parging cement (mortar) application.

5.4 Apply C.V.R. at the rate of 2 ½ gallons per **50 sq.ft.** (5 gallons per 100 sq.ft. or one square) to obtain a film thickness of 3/16 or **160 mils minimum** to **190 mils maximum**. **Do not exceed.**

5.5 Wipe around tie wires with a gloved hand. This will obtain a positive seal.

5.6 Swipe/Embed specified insulation into wet to "tacky" C.V.R. material.

6 **TECHNICAL DATA:**

6.1 Color: Black

6.2 Permeability: Initial: 0.05 grams/h/sq.ft. Max (0.77 grains/h/sq.ft.)
Cured: 0.005 grams/h/sq.ft. Max(0.077 grains/h/sq.ft.);
Test Method: ASTM E 96-92 (Water Method).

6.3 Weather-O-Meter: Shore Hardness A=60 Max. No cracking, crazing or slump.
Av. S.H..(A)=54; Test Method: ASTM D 529-82 (Daily Cycle B).

6.4 Adhesion Test: 150 lbs. p.s.i. Min.; Test Method: ASTM C 836-84.

6.5 Ductility after Weather-O-Meter: 125% @ 39.2^0 F;
Test Method: ASTM D 113-85.

6.6 Solubility Parameter: 7.6 Max. Allows use with polystyrene bead board, Styrofoam, etc.

Additional information concerning specification, application and end usages may be obtained from LAURENCO'S Technical Department. Call Laurenco at Telephone No. (800) 321-3337 or Fax your questions to (800) 543-3338.

7 **CAUTIONS:**

7.1 Accidental spills or drips during application may be removed by releasing a CO_2 foam extinguisher to freeze and peel off offending material. **Do not use solvents to remove. Solvent will thin the C.V.R. allowing an even deeper penetration.**

7.2 Further staining may be removed by lightly sand-blasting. Cellulose organic fibers, i.e. ground corn husks are recommended.

7.3 Use a lanolin/solvent type hand cleaner to remove product from skin. Do not use a cleaner with sand or pumice. Rinse cleaner from skin using cold tea. Follow by washing with soap and water. (Cold tea will usually eliminate [neutralize] any possible solvent [burn] activity obtained from the material and the skin cleaners.)

8 **MATERIAL WARRANTY:** A material warranty only is offered by Laurenco to certify that our C.V.R. is as we have stated as to the composition, application and end use.

Material Safety Data Sheet

QUICK IDENTIFIER: ASPHALT ADHESIVE, BUTYL RUBBER
IN PLANT COMMON NAME: C.V.R. PARGE (SUMMER & WINTER GRADE)

MANUFACTURER:
LAURENCO, INC.
P.O. BOX 471
GARRETTSVILLE, OH 44231

EMERGENCY TELEPHONE NO: (800) 321-3337
TECHNICAL INFORMATION: (330) 898-7037

PREPARED BY: Jonathan M. Lawrence

DATE PREPARED: JANUARY, 2003

SECTION I - IDENTITY

TRADE NAME: LAURENCO CAVITY WALL VAPOR RETARDER CAS# NONE (MIXTURE)
CHEMICAL NAME: BUTYL RUBBER ASPHALT COATING.
CHEMICAL FAMILY: ASPHALT COATING.
FORMULA: SOLVENT BASED ASPHALT ROOF COATING/ ADHESIVE WITH BUTYL RUBBER.

SECTION II - HAZARDOUS INGREDIENTS

PRINCIPAL HAZARDOUS COMPONENTS AND COMMON NAMES		**%**	**OSHA PEL**	**THRESHOLD LIMIT VALUE**
ASPHALT BASE	CAS# 8052-42-4	>60	5MG/M^3 CEILING OF	5MG/M^3 10MG/M^3
MINERAL SPIRITS	CAS# 8032-32-4	>5	100 PPM MAX. 1/4HR.	350MG/M^3 1800MG/M^3
V. M.&P RULE #66 NAPHTHA	CAS# 8032-32-4	>6	400 PPM MAX. 1/4HR.	1400MG/M^3 7200MG/M^3
BUTYL RUBBER	CAS# 9010-85-9	<18	N/A	N/A
NBR	CAS# 9003-18-3	>10	N/A	N/A
TALC	CAS# 14807-96-6	>1	AS DUST	2MG/M^3
CARBON BLACK	CAS# 13333-86-4	>1	AS DUST	2MG/M^3
NEOPRENE	CAS# NONE	>2	5MG/M^3	5MG/M^3

INFORMATION FOR MIXTURES IS BASED IN CONSTITUENT MSDS WHICH ARE AVAILABLE UPON REQUEST.

SECTION III - PHYSICAL & CHEMICAL CHARACTERISTICS (FIRE EXPLOSION DATA)

BOILING POINT: 313F

SPECIFIC GRAVITY (H2O=1): <1

VAPOR PRESSURE (MM HG): NF

PERCENT VOLATILE BU VOLUME (%): <40

VAPOR DENSITY (AIR=1): NF

CVR PARGE (2)

EVAPORATION RATE: NF

SOLUBILITY IN WATER: INSOLUBLE

REACTIVITY IN WATER: NONE

APPEARANCE & COLOR: DARK COLOR, HEAVY VISCOUS LIQUID, PETROLEUM ODOR

N.E.P.A.: HEALTH=1, FLAMMABILITY=2, REACTIVITY=0, PERSONAL PROTECTION=NF

FLASHPOINT: 141F SETA

FLAMMABLE LIMITS IN AIR % BY VOLUME: LOWER 0.9%, UPPER 6.0%

EXTINGUISHER MEDIA: DRY CHEMICAL FOAM

AUTO IGNITION TEMPERATURES: >400F

SPECIAL FIRE FIGHTING PROCEDURE: DRY CHEMICAL, FOAM, WATER FOG

UNUSUAL FIRE & EXPLOSION HAZARDS: PETROLEUM BASED COMPOUNDS CAN FLOAT ON WATER

SECTION IV - PHYSICAL HAZARDS

STABILITY: UNSTABLE

CONDITIONS TO AVOID: KEEP FROM HEAT, SPARKS, OPEN FLAME

INCOMPATIBILITY (MATERIALS TO AVOID): ACID, CAUSTICS, OXIDIZERS

HAZARDOUS DECOMPOSITION PRODUCTS: NITROGEN OXIDES, CARBON OXIDES

HAZARDOUS POLYMERIZATION: N/A

SECTION V - HEALTH HAZARDS

THRESHOLD LIMIT VALUE: MIXTURE

PRIMARY ROUTE OF ENTRY TO BODY: INHALATION, SKIN, INGESTION, EYE

SIGNS OF SYMPTOMS OF EXPOSURE:

1. ACUTE OVEREXPOSURE; ITCHING, DRY SKIN, NAUSEA, DIZZINESS.
2. CHRONIC OVEREXPOSURE DIFFICULTY BREATHING, IRRITATION OF SKIN.

MEDICAL CONDITIONS LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN: REPEATED CONTINUOUS EXPOSURE CAN AGGRAVATE EMPHYSEMA, CAUSE CHEMICAL PNEUMONIA, LIVER AND/OR KIDNEY DAMAGE.

CHEMICAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN: NATIONAL TOXICOLOGY; NO I.A.R.C. MONOGRAPHS; NO OSHA; NO OSHA PERMISSIBLE

EXPOSURE LIMIT: MIXTURE

ACGIII THRESHOLD LIMIT VALUE: MIXTURE

OTHER EXPOSURE LIMIT USED: SEE LOWEST INGREDIENT LEVEL

EMERGENCY AND FIRST AID PROCEDURES: EXPOSURE TO/CONTACT WITH LARGE AMOUNTS MAY REQUIRE IMMEDIATE EMERGENCY TREATMENT

CVR PARGE (3)

INHALATION: GET TO FRESH AIR; ADMINISTER OXYGEN OR ARTIFICIAL RESPIRATION IF BREATHING HAS STOPPED OR BECOME DIFFICULT

EYES: FLUSH EYES FOR 15 MINUTES WITH CLEAN WATER. GET MEDICAL TREATMENT

SKIN: WASH WITH SOAP AND WATER OR WATER LESS HAND CLEANER. IF IRRITATION PERSISTS, GET MEDICAL ATTENTION

INGESTION: DO NOT INDUCE VOMITING!!! GET MEDICAL ATTENTION QUICKLY!

SECTION VI - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE): ORGANIC VAPOR CARTRIDGE IF IN CONFINED OR ENCLOSED AREA.

VENTILATION: OUTSIDE; LOCAL EXHAUST: IF INSIDE: AVOID VAPORS

MECHANICAL (GENERAL): IF INSIDE SPECIAL: AVOID VAPORS

PROTECTIVE GLOVES: IMPERIOUS TO SOLVENTS

EYE PROTECTION: CHEMICAL GOGGLES FOR VAPORS

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: LONG SLEEVED SHIRT; LONG PANTS

SECTION VII - SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: USE IN WELL VENTILATED AREA. STORE IN DRY, COOL PLACE

OTHER PRECAUTIONS: WEAR GLOVES AND GOGGLES. KEEP CLOTHES TO PREVENT IRRITATION. DO NOT HEAT MATERIAL FOR APPLICATION.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: USE NON SPARKING TOOLS. USE OIL ABSORBENT OR SAND-SHOVEL UP AND PLACE IN CLOSED CONTAINERS.

WASTE DISPOSAL METHODS: RCA REGULATED MATERIAL. CONSULT LOCAL, STATE AND FEDERAL REGULATION PERMITTED LANDFILL DISPOSAL OR INCINERATION.

LAURENCO W60LA

1 **PRODUCT NAME:** LAURENCO W60LA (Waterproofing 60mils Liquid Applied).

2 **MANUFACTURER:**
Laurenco Incorporated
P,O. Box 471
Garrettsville, OH 44231
Toll Free 800 321-3337 or 800 320-3337
Toll Free Fax 800 543-3338

3 **PRODUCT DESCRIPTION:**

3.1 W60LA is formulated as a moisture retarder/barrier consisting of a specified aliphatic asphalt base modified with synthetic rubbers (butyl and chloroprene with carbon fillers to produce a "gel" structure and supply ultra-violet ray (UVR) resistance. No reclaimed materials are used.

3.2 The W60LA's adhesive qualities permit the firm adhesion of Styrofoam insulation.

3.3 A seal around the tie wires for bricks, etc.

3.4 W60LA is designed to supplant the normally used parging coat (a thin coat of mortar) to smooth the exposed exterior surfaces of the concrete masonry units (concrete block). W60LA is applied in two (2) coats using a brush and/or roller. Apply second coat only after first coat is dry.

3.5 W60LA eliminates the mortar parging coat plus the waiting time for the parging coat to set-up and dry before installing the vapor retarder/adhesive to adhere the insulation.

3.6 W60LA will adhere without priming to most concrete masonry units and most concretes.

3.7 W60LA is formulated in a winter grade for cold weather ease of application below temperatures which preclude the installation of a mortar parging coat.

3.8 **EXCEPTIONS**: (All surfaces which require a primer to stabilize and "wet" the substrate surfaces.)

3.8.1 Latex concrete.

3.8.2 Most concrete cure agents and some form board release agents.

3.8.3 Concrete block which has an excessive granular surface.

3.8.4 These exceptions will require a coating of Laurenco Primer that must be applied at a rate of 3/4 gallon per 100 sq. ft. to stabilize by penetrating these surfaces. Do not exceed. Allow the primer application to thoroughly dry (usually 1 to 4 hours; maximum 8 hours depending on temperature and humidity. A thin coat sets-up and dries quickly.

4 **APPLICATION METHOD:**

4.1 Use a brush and/or roller (medium to heavy nap).

4.2 Spray application is laborious because atomization of the product is difficult due to the

amounts of rubber used in manufacturing. If you use a sprayer, open tip so it applies in a thick stream and spread with a brush and/or roller.

4.3 Apply W60LA at the rate of 30 mils per **100 sq.ft.** per application (3 gallons per 100 sq.ft. or one square) to obtain a film thickness of 1/16 or **60 mils minimum (2 coats).**

4.4 Wipe around tie wires with a gloved hand. This will obtain a positive seal.

4.5 Embed specified insulation into wet to "tacky" second coat of W60LA material.

5 **TECHNICAL DATA:**

5.1 Color: Black

5.2 Permeability: Initial: 0.05 grams/h/sq.ft. Max (0.77 grains/h/sq.ft.)
Cured: 0.005 grams/h/sq.ft. Max(0.077 grains/h/sq.ft.);
Test Method: ASTM E 96-92 (Water Method).

5.3 Weather-O-Meter: Shore Hardness A=60 Max. No cracking, crazing or slump.
Av. S.H..(A)=54; Test Method: ASTM D 529-82 (Daily Cycle B).

5.4 Adhesion Test: 150 lbs. p.s.i. Min.; Test Method: ASTM C 836-84.

5.5 Ductility after Weather-O-Meter: 125% @ 39.2^0 F; Test Method: ASTM D 113-85.

5.6 Solubility Parameter:7.6 Max. Allows use with polystyrene bead board, Styrofoam, etc.

Additional information concerning specification, application and end usages may be obtained from LAURENCO'S Technical Department. Call Laurenco at Telephone No. (800) 321-3337 or Fax your questions to (800) 543-3338.

6 **CAUTIONS:**

6.1 Accidental spills or drips during application may be removed by releasing a CO_2 foam extinguisher to freeze and peel off offending material. **Do not use solvents to remove. Solvent will thin the W60LA allowing an even deeper penetration.**

6.2 Further staining may be removed by lightly sand-blasting. Cellulose organic fibers, i.e. ground corn husks are recommended.

6.3 Use a lanolin/solvent type hand cleaner to remove product from skin. Do not use a cleaner with sand or pumice. Rinse cleaner from skin using cold tea. Follow by washing with soap and water. (Cold tea will usually eliminate [neutralize] any possible solvent [burn] activity obtained from the material and the skin cleaners.)

7 **MATERIAL WARRANTY:** A material warranty only is offered by Laurenco to certify that our W60LA is as we have stated as to the composition, application and end use.

Material Safety Data Sheet

QUICK IDENTIFIER: ASPHALT ADHESIVE, BUTYL RUBBER
IN PLANT COMMON NAME: W60LA
(SUMMER & WINTER GRADE)

MANUFACTURER:
LAURENCO, INC.
P.O. BOX 471
GARRETTSVILLE, OH 44231

EMERGENCY TELEPHONE NO: (800) 321-3337
TECHNICAL INFORMATION: (330) 898-7037

PREPARED BY: Jonathan M. Lawrence

DATE PREPARED: JANUARY, 2003

SECTION I - IDENTITY

TRADE NAME:	LAURENCO W60LA (Liquid Applied Membrane)	CAS# NONE (MIXTURE)
CHEMICAL NAME:	BUTYL RUBBER ASPHALT COATING.	
CHEMICAL FAMILY:	ASPHALT COATING.	
FORMULA:	SOLVENT BASED ASPHALT ROOF COATING/ ADHESIVE WITH BUTYL RUBBER.	

SECTION II - HAZARDOUS INGREDIENTS

PRINCIPAL HAZARDOUS COMPONENTS AND COMMON NAMES		**%**	**OSHA PEL**	**THRESHOLD LIMIT VALUE**
ASPHALT BASE	CAS# 8052-42-4	>60	5MG/M^3 CEILING OF	5MG/M^3 10MG/M^3
MINERAL SPIRITS	CAS# 8032-32-4	>5	100 PPM MAX. 1/4HR.	350MG/M^3 1800MG/M^3
V. M.&P RULE #66 NAPHTHA	CAS# 8032-32-4	>6	400 PPM MAX. 1/4HR.	1400MG/M^3 7200MG/M^3
BUTYL RUBBER	CAS# 9010-85-9	<18	N/A	N/A
NBR	CAS# 9003-18-3	>10	N/A	N/A
TALC	CAS# 14807-96-6	>1	AS DUST	2MG/M^3
CARBON BLACK	CAS# 13333-86-4	>1	AS DUST	2MG/M^3
NEOPRENE	CAS# NONE	>2	5MG/M^3	5MG/M^3

INFORMATION FOR MIXTURES IS BASED IN CONSTITUENT MSDS WHICH ARE AVAILABLE UPON REQUEST.

SECTION III - PHYSICAL & CHEMICAL CHARACTERISTICS (FIRE EXPLOSION DATA)

BOILING POINT:	313F
SPECIFIC GRAVITY (H2O=1):	<1
VAPOR PRESSURE (MM HG):	NF
PERCENT VOLATILE BU VOLUME (%):	<40
VAPOR DENSITY (AIR=1):	NF

W60LA (2)

EVAPORATION RATE: NF

SOLUBILITY IN WATER: INSOLUBLE

REACTIVITY IN WATER: NONE

APPEARANCE & COLOR: DARK COLOR, HEAVY VISCOUS LIQUID, PETROLEUM ODOR

N.E.P.A.: HEALTH=1, FLAMMABILITY=2, REACTIVITY=0, PERSONAL PROTECTION=NF

FLASHPOINT: 141F SETA

FLAMMABLE LIMITS IN AIR % BY VOLUME: LOWER 0.9%, UPPER 6.0%

EXTINGUISHER MEDIA: DRY CHEMICAL FOAM

AUTO IGNITION TEMPERATURES: >400F

SPECIAL FIRE FIGHTING PROCEDURE: DRY CHEMICAL, FOAM, WATER FOG

UNUSUAL FIRE & EXPLOSION HAZARDS: PETROLEUM BASED COMPOUNDS CAN FLOAT ON WATER

SECTION IV - PHYSICAL HAZARDS

STABILITY: UNSTABLE

CONDITIONS TO AVOID: KEEP FROM HEAT, SPARKS, OPEN FLAME

INCOMPATIBILITY (MATERIALS TO AVOID): ACID, CAUSTICS, OXIDIZERS

HAZARDOUS DECOMPOSITION PRODUCTS: NITROGEN OXIDES, CARBON OXIDES

HAZARDOUS POLYMERIZATION: N/A

SECTION V - HEALTH HAZARDS

THRESHOLD LIMIT VALUE: MIXTURE

PRIMARY ROUTE OF ENTRY TO BODY: INHALATION, SKIN, INGESTION, EYE

SIGNS OF SYMPTOMS OF EXPOSURE:

1. ACUTE OVEREXPOSURE; ITCHING, DRY SKIN, NAUSEA, DIZZINESS.
2. CHRONIC OVEREXPOSURE DIFFICULTY BREATHING, IRRITATION OF SKIN.

MEDICAL CONDITIONS LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN: REPEATED CONTINUOUS EXPOSURE CAN AGGRAVATE EMPHYSEMA, CAUSE CHEMICAL PNEUMONIA, LIVER AND/OR KIDNEY DAMAGE.

CHEMICAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN: NATIONAL TOXICOLOGY; NO I.A.R.C. MONOGRAPHS; NO OSHA; NO OSHA PERMISSIBLE

EXPOSURE LIMIT: MIXTURE

ACGIII THRESHOLD LIMIT VALUE: MIXTURE

OTHER EXPOSURE LIMIT USED: SEE LOWEST INGREDIENT LEVEL

EMERGENCY AND FIRST AID PROCEDURES: EXPOSURE TO/CONTACT WITH LARGE AMOUNTS MAY REQUIRE IMMEDIATE EMERGENCY TREATMENT

W60LA (3)

INHALATION: GET TO FRESH AIR; ADMINISTER OXYGEN OR ARTIFICIAL RESPIRATION IF BREATHING HAS STOPPED OR BECOME DIFFICULT

EYES: FLUSH EYES FOR 15 MINUTES WITH CLEAN WATER. GET MEDICAL TREATMENT

SKIN: WASH WITH SOAP AND WATER OR WATER LESS HAND CLEANER. IF IRRITATION PERSISTS, GET MEDICAL ATTENTION

INGESTION: DO NOT INDUCE VOMITING!!! GET MEDICAL ATTENTION QUICKLY!

SECTION VI - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE): ORGANIC VAPOR CARTRIDGE IF IN CONFINED OR ENCLOSED AREA.

VENTILATION: OUTSIDE; LOCAL EXHAUST: IF INSIDE: AVOID VAPORS

MECHANICAL (GENERAL): IF INSIDE SPECIAL: AVOID VAPORS

PROTECTIVE GLOVES: IMPERIOUS TO SOLVENTS

EYE PROTECTION: CHEMICAL GOGGLES FOR VAPORS

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: LONG SLEEVED SHIRT; LONG PANTS

SECTION VII - SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: USE IN WELL VENTILATED AREA. STORE IN DRY, COOL PLACE

OTHER PRECAUTIONS: WEAR GLOVES AND GOGGLES. KEEP CLOTHES TO PREVENT IRRITATION. DO NOT HEAT MATERIAL FOR APPLICATION.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: USE NON SPARKING TOOLS. USE OIL ABSORBENT OR SAND-SHOVEL UP AND PLACE IN CLOSED CONTAINERS.

WASTE DISPOSAL METHODS: RCA REGULATED MATERIAL. CONSULT LOCAL, STATE AND FEDERAL REGULATION PERMITTED LANDFILL DISPOSAL OR INCINERATION.

ST-30 BUTYL SEALANT TAPE

1 **PRODUCT NAME**: Laurenco Butyl Sealant Tape

2 **SUPPLIER:**
Laurenco Incorporated
P.O. Box 471
Garrettsville, OH 44231
Toll Free 800 321-3337 or 800 320-3337
Toll Free Fax 800 543-3338

3 **PRODUCT DESCRIPTION:** ST-30 is a butyl rubber based sealant designed to be permanently flexible, tacky, and resistant to moisture and to deterioration by exposure to dilute chemical solutions. ST-30 meets all requirements of ASTM C990-91 and all requirements of Federal Specification SS-S-210 with the exception of flash point and fire point.

4 **TECHNICAL DATA:** The following values represent typical test results and are not to be confused with manufacturing specifications.

4.1	Color:	Black
4.2	Specific Gravity:	1.25-1.35
4.3	Hydrocarbon Content:	58%
4.4	Ash Content:	42% AAASHTO T111
4.5	Volatile Content:	1.0% ASTM D6
4.6	Ductility @ 77^0 F:	6.0 cm ASTM D113
4.7	Rebound/Recovery:	ASTM C972 @77^0 F = 10% @32^0 = F45%
4.8	Compression Index:	ASTM C 972 @$77^{0\,F}$ = 60 lb-ft per cubic inch @32^0 F = 88 lb-ft per cubic inch
4.9	Low Temperature Flexibility:	No cracking or adhesion loss at -10^0F ASTM C765
4.10	Elevated Temperature Flow:	No sag or shape change after 14 days @ 158^0 F ASTM C766
4.11	Adhesion after impact:	No loss of adhesion ASTM C990
4.12	Cone Penetration @ 77^0 F:	55-80 ASTM D217
4.13	Chemical Resistance:	No visible change after 30 days immersion in 5% solutions SS-S-2101 Sec. 3.6 of HCI, H_2 SO^4, NaOH, KOH, H_2S
4.14	Application Temperature Range:	0^0 F to 120^0 F
4.15	Service Temperature:	-40^0 F to 250^0

Additional information concerning specification & application usage may be obtained by LAURENCO'S Technical Department (Telephone: (800) 321-3337).

Material Safety Data Sheet

QUICK IDENTIFIER: BUTYL RUBBER TAPE
IN PLANT COMMON NAME: ST-30

MANUFACTURER:
LAURENCO, INC.
P.O. BOX 471
GARRETTSVILLE, OH 44231

EMERGENCY TELEPHONE NO: (800) 321-3337
TECHNICAL INFORMATION: (330) 898-7037

PREPARED BY: Jonathan M. Lawrence

DATE PREPARED: JANUARY, 2003

SECTION I - IDENTITY

TRADE NAME:	LAURENCO ST-30 (Liquid Applied Membrane)	CAS# NONE (MIXTURE)
CHEMICAL NAME:	BUTYL RUBBER TAPE.	
CHEMICAL FAMILY:	BUTYL RUBBER.	
FORMULA:	EXTRUDED BUTYL RUBBER BLEND.	

SECTION II - HAZARDOUS INGREDIENTS

PRINCIPAL HAZARDOUS COMPONENTS AND COMMON NAMES		%	OSHA PEL	THRESHOLD LIMIT VALUE
BUTYL RUBBER	CAS# 9010-85-9	79 - 94	N/A	N/A
QUARTZ (SiO_2)	CAS# 14808-60-7	<1	AS DUST	0.1 MG/M^3
CARBON BLACK	CAS# 13333-86-4	5 - 20	AS DUST	3.5MG/M^3

INFORMATION FOR MIXTURES IS BASED IN CONSTITUENT MSDS WHICH ARE AVAILABLE UPON REQUEST.

SECTION III - PHYSICAL & CHEMICAL CHARACTERISTICS (FIRE EXPLOSION DATA)

BOILING POINT:	N.A.
SPECIFIC GRAVITY (H2O=1):	1.30
VAPOR PRESSURE (MM HG):	N.A.
PERCENT VOLATILE BU VOLUME (%):	N.A.
VAPOR DENSITY (AIR=1):	N.A.
EVAPORATION RATE:	N.A.
SOLUBILITY IN WATER:	NONE
REACTIVITY IN WATER:	NONE
APPEARANCE & COLOR:	DARK COLOR, SOLID
N.E.P.A.:	HEALTH=0, FLAMMABILITY=0, REACTIVITY=0, PERSONAL PROTECTION=A
FLASHPOINT:	325F SETA
FLAMMABLE LIMITS IN AIR % BY VOLUME:	LOWER N.A.%, UPPER N.A.%

ST-30 (2)

EXTINGUISHER MEDIA: DRY CHEMICAL FOAM

AUTO IGNITION TEMPERATURES: >400F

SPECIAL FIRE FIGHTING PROCEDURE: DRY CHEMICAL, FOAM, WATER FOG

UNUSUAL FIRE & EXPLOSION HAZARDS: NONE KNOWN. TREAT AS A CLASS "B" FIRE.

SECTION IV - PHYSICAL HAZARDS

STABILITY: STABLE

CONDITIONS TO AVOID: OPEN FLAME

INCOMPATIBILITY (MATERIALS TO AVOID): ACID, CAUSTICS, OXIDIZERS

HAZARDOUS DECOMPOSITION PRODUCTS: NITROGEN OXIDES, CARBON OXIDES

HAZARDOUS POLYMERIZATION: N/A

SECTION V - HEALTH HAZARDS

THRESHOLD LIMIT VALUE: MIXTURE

PRIMARY ROUTE OF ENTRY TO BODY: SKIN

SIGNS OF SYMPTOMS OF EXPOSURE: IRRITATION OF SKIN.

MEDICAL CONDITIONS: NOT KNOWN.

CHEMICAL LISTED AS CARCINOGEN: N.A., MIXTURE

EXPOSURE LIMIT: NOT KNOWN

ACGIII THRESHOLD LIMIT VALUE: MIXTURE

OTHER EXPOSURE LIMIT USED: SEE LOWEST INGREDIENT LEVEL

EMERGENCY AND FIRST AID PROCEDURES: EXPOSURE TO SKIN IF RASH OCCURS MAY REQUIRE FLUSHING WITH LARGE AMOUNTS OF WATER IMMEDIATE EMERGENCY TREATMENT. CONTACT WITH EYES TREAT AS FOREIGN OBJECT.

INHALATION: N.A.

EYES: FLUSH EYES FOR 15 MINUTES WITH CLEAN WATER. GET MEDICAL TREATMENT

SKIN: WASH WITH SOAP AND WATER OR WATER LESS HAND CLEANER. IF IRRITATION PERSISTS, GET MEDICAL ATTENTION

INGESTION: DO NOT INDUCE VOMITING!!! GET MEDICAL ATTENTION QUICKLY!

SECTION VI - SPECIAL PROTECTION INFORMATION

RESPIRATORY PROTECTION (SPECIFY TYPE): N.A.

VENTILATION: OUTSIDE; NOT NEEDED: IF INSIDE: NOT NEEDED

MECHANICAL (GENERAL): IF INSIDE SPECIAL: NOT NEEDED

ST-30 (3)

PROTECTIVE GLOVES: NOT NEEDED

EYE PROTECTION: SAFETY GLASSES WITH SIDE SHIELDS IF NEEDED.

OTHER PROTECTIVE CLOTHING OR EQUIPMENT: NOT NEEDED

SECTION VII - SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: USE IN WELL VENTILATED AREA. STORE IN DRY, COOL PLACE

OTHER PRECAUTIONS: DO NOT HEAT MATERIAL FOR APPLICATION.

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: SOLID, WILL NOT SPILL.

WASTE DISPOSAL METHODS: RCA REGULATED MATERIAL. CONSULT LOCAL, STATE AND FEDERAL REGULATION PERMITTED LANDFILL DISPOSAL OR INCINERATION.

SPEC DATA

This Spec Data sheet conforms to editorial style prescribed by the Constitution Specifications Institute. The manufacturer is responsible for technical accuracy

1. PRODUCT NAME
Laurenco Systems & Products

2. MANUFACTURER

Laurenco Incorporated
PO Box 471
Garrettsville Ohio 44231
Toll Free: (800) 321-3337
Fax: (800) 543-3338

3. PRODUCT DESCRIPTION

Basic Use: Laurenco Waterproofing Systems are used for precast, poured in place concrete walls and floors, masonry walls, metal tanks, sheet piling and wood forms which are left in place, plus certain lagging patterns. Typical application are: foundation walls, floors, plaza decks, planters, fountains, waterfalls, bank vaults, machinery rooms, spandrels, sills, tunnels (pedestrian, vehicular, baggage, mechanical, etc.); floors of kitchens, bathrooms, laboratories; meat packing plants; breweries; cold storage rooms; earth-sod structure; computer, electrical control buildings for power plants (below grade), below grade coal handling (tunnels, transfer houses and dumpsters), nuclear and magnetic therapy facilities for hospitals (including roofs of these areas); water and sewage plants.

Composition and Materials: Laurenco Waterproofing Membranes are comprised of woven glass fabrics filmed with specially formulated asphalts modified with chloroprene rubber, slow cure agents, and ultra violet ray inhibitors. Sheet (1 ply woven glass fabric) is 50 mils (2 mm) thick +/- 10% per gallon; Laurenco Liquid Membrane Type W60LA is 15 mils (0.6 mm) thick average per gallon. Sheet membrane is 36 inches wide by 73.3 feet long (220 sq.ft.) per roll furnished with a release sheet and talc in boxes.

Laurenco Adhesives, Liquid Membranes and Rubberized Coatings are comprised of special asphalts modified with butyl and acrylonitrile butadiene (NBR) rubbers, appropriate fillers and ultra-violet ray inhibitors. All are self-priming. All are solvated with V. M.& P Rule 66 Naphtha (pure aliphatic) and are compatible with Styrofoam, polystyrene bead board, PVC polyisocyanurates, etc. These permit total adhesion between waterproofing, insulation and protection board for totally adhered Laurenco Systems. Adhesives, primer, coatings and Type W60LA Liquid Membrane are furnished in metal 5 gallon size pails and 55 gallon size open top drums with 2 bungs.

- Laurenco Prefabricated Waterproofing Sheet and Adhesive is supplied for application at the following temperatures:

  1. Summer Grade-60^0 F to 120^0 F
  2. Winter Grade-0^0 F to 75^0 F

Laurenco Liquid Waterproofing Membrane Type W60LA is supplied in the same application temperature. For wall work only.

- Laurenco Primer is an asphalt solvated with V. M. & P. Rule 66 Naphtha (pure aliphatic) and is supplied to stabilize surfaces that are granular, exceptionally dusty, or with heavy contaminates such as cure agents and certain form of board release agents. Supplied in 5 gallon size pails and 55 gallon size drums.

Limitations:

1. Specified primarily insulations must be placed over Laurenco Waterproofing Sheets. Insulation installed with insulation clips with taped joints and/or strip adhered 43 lb. felts in thicknesses of 3/4 to 1 inch may be used to "board out" metal decks before applying the Laurenco Sheets and primarily insulations.

2. Laurenco materials are compatible with coal tar products, PVC, and most sheet rubbers, most urethanes (polyisocyanurates) and most acrylics.

3. All concrete planking and concrete "T" beams must be double stripped with Laurenco Waterproofing Sheets and Adhesive. The sheets should be cut and applied in widths of 6,9, and 12 inches, whichever is applicable. Grout/parge or wire reinforced concrete is recommended if black top is to be applied over the Laurenco Waterproofing Systems.

4. Some types of interior tank waterproofing must use concrete liners or a metal sheet ballasted floor. For below grade installations, all tanks should either be waterproofed on the soil, or positive side, or, when applied to the interior, or

negative side, the tank must be lined with concrete, reinforced masonry or metal.

5. All applications over, or in conjunction with materials not specifically noted in Laurenco Incorporated's literature must first be approved by Laurenco's Technical Director.

6. Water cure of concrete should be used. Reason cure agents interface, and man times require removal and/or priming before installation of waterproofing.

7. Laurenco materials should be applied immediately after removal of form boards, or, as soon as concrete will sustain foot traffic. Surface dry only.

4. TECHNICAL DATA

Refer to Table 1 for physical properties.

Applicable Standards: Laurenco Materials and Systems meet or exceed the following standards:

* ASTM D 6769-02 (membrane)
- ASTM D 1668-80 (fabric)
- ASTM D 4479, Type 1 and Federal Specifications SS-A-694 D
- ASTM D 449-83
- ASTM D 41-78
- General Services Administration PBS 07110
- Corps of Engineers CEGS 07110-3-82
- Department of the Navy NAV-FAC TS 07110
- Federal Construction Guide Specification FCGS-07110
- A.C.I. 515.1R-79, Chapter 4
- and others- Consult Laurenco's Technical Director

5. INSTALLATION

Storage:

- All shipping boxes containing sheet membrane Rolls must be stored flat, 5 boxes high on pallets or equal off the ground.
- Cover with canvas only. Do not use non-breathing films such as polyethylene.
- Trailer or indoor storage is recommended, well ventilated and away from flames and heaters.
- Shelf life of Sheet Membrane Rolls is 6 months under controlled warehouse conditions. Longer if boxes are rotated.
- Shelf life of Adhesives, Primer and Coatings, in air tight containers, is 2 to 10 years. Up end containers 24 hours before use to ensure total mixture before application of materials stored longer than six months.

Temperature: The Laurenco Waterproofing Systems are formulated for application temperatures to be encountered during the seasons of Summer, Spring/Fall, and Winter, as well as severe or deep Winter. The adhesives, liquid waterproofing, coatings, primers and sheets are manufactured to provide useable viscosities and necessary flex.

Surface Preparation:

- Remove or grout projections higher than 1/16 inch. i.e., fins.
- Grout all tie-wire holes.
- Grout all honeycombs and voids larger than a U.S. 25 cent coin and deeper than 1/4 inch.
- Remove all latencies, spatters, dirt, etc., by scraping surfaces to be waterproofed. Do not grind.
- Scrape off knife-like edges of exterior corners and grout to a continuous smooth surface all exterior and interior corners.
- Good wood float finish is preferred; good wood screed is acceptable.
- Remove all dirt and debris.
- Use A.C.I. 515, 1R-79, Chapter 3, and A.C.I. 301-72 (revised 1975), Chapters 9, 10, 11 (11,8,2 Finished Surfaces) as reference information guide.
- water cure only if surface cannot be waterproofed immediately.
- Propane weed burners or hot air torches may be carefully used to surface dry.
- Surface dry only.

Priming: Do not specify Laurenco Primer for normal surface; use primer only to stabilize concrete block surfaces and to solvate certain residuals from some board release and cure agents. All Laurenco adhesives, liquid waterproofing and coatings etc., are self-priming.

Flashings: Flashing should be installed, wherever possible, before application of waterproofing system. This requirement is possible because the sheets and adhesive fuse together during the curing time and/or head from the hydration of the concrete.

Corner Details: (Vertical) Exterior corners should have two plies of sheet membrane 9 inches wide staggered 4-5 then 5-4 alternately, over the corner and adhered firmly in adhesive.

Interior corners must have two plies of sheet membrane 9 inches wide staggered 4-5 then 5-4 alternately, adhered firmly in adhesive. Liquid membrane applications must use two plies, 9 or 12 inches wide of 20 x 10 woven glass fabric (A.S.T.M. D 1668, Type 1) troweled into place with liquid membrane Type W60LA using the same staggered pattern. Do not use fiber, wood, or concrete (cement) cants or rounded or chamfered corners. Sheet and adhesive materials adapt to angle treatment to accommodate the installation of protection boards and insulation. Water stops are not required.

Corner Details: (Horizontal) interior corners at the junction of walls and footers must be covered with two 9 inch strips cut from the length of the waterproofing sheet and installed in a staggered pattern; first ply should be folded 4 inches and 5 inches, to extend 5 onto the footer and 4 inches up the wall; second ply should be folded 5 inches and 4 inches to extend 5 inches onto the footer and 4 inches up the wall. This same pattern should be used for interior corners in the interior of planters, tanks, etc. Water stops are not required. At interior corners of plaza to parapet walls, or thru-wall flashings with cap stones, etc., with brick, stone, marble, granite or stucco fascia, the pattern for hanging sheets should be from the outside corner of the parapet wall down parapet wall to extend 4 inches onto the horizontal slab; second ply shall be in the same pattern to extend 6 inches onto the horizontal slab. Thru-wall flashing from plaza or terrace/porch over sills should use two 18 inch wide cuts from the length of the waterproofing sheet and installed with the second ply directly over the first ply, all firmly adhered in adhesive. Top coat with adhesive only those areas exposed after window framing is installed as an additional weathering coat. Interior/exterior/ interior corners from plaza or the like, over sills up building walls, cut 18 inch widths or widths for the height of the design, and install first ply less 3 or 4 inches onto deck; second ply installed 2 inches from top termination with 6 inches onto deck. Strip off top termination with woven glass fabric (6 or 9 inch wide) 20 x 10 (A.S.T.M. D 1668 Type 1), troweling the adhesive through the fabric and re-coating until the weave barely shows. Use this same pattern for tying off into reglets.

Drain Details: All drains must receive one extra ply of waterproofing sheet cut 36 inches by 36 inches firmly adhered in adhesive. All waterproofing sheets for the horizontal application must be installed over the drain with a "star" pattern cut to conform partially into the drain bowl. Anchor drain clamping ring over the installed 3 plies of waterproofing sheet and adhesive. Cut out excess waterproofing materials without disturbing the seal.

Joints: Laurenco prints various methods for cold, control and expansion joints in its Laurenco Waterproofing Notebook. See "Suggested Details" section in Volume I.

Pipes, Ducts, Window Washer Davits, etc.: These items may be treated using pitch pockets installed over applied waterproofing system and stripped in with the waterproofing sheet. Fill pitch pocket with Laurenco Rubberized Flashing Adhesive. A pitch pocket is particularly applicable to I-Beams and families of pipes installed on horizontal slabs. Geometric shapes, such as round pipes, square and rectangle ducts shall receive 2 plies of sheet cut to collar pipe and pig-ear onto horizontalis. Second ply should extend 6 to 8 inches up pipe or duct (collar) with staggered pig-ears 6 inches onto horizontalis. Coat round pipe with adhesive and tightly spirally wind 4, 6, or 9 inch wide woven glass fabric over collar portions with 3 to 4 inches onto pipe. Apply adhesive over entire pipe collar and glass fabric, 6 or 9 inch wide, installed 2/4 of width onto duct, etc. work. Trowel through the fabric with adhesive until weave barely shows. Coat all exposed collar installation with adhesive at the rate of 1-1/2 to 2 gallons per 100 sq.ft. Laurenco's Technical Director has further details available; also see "Suggested Details" in Laurenco Notebook Volume I.

Horizontal Installation Methods: Apply all horizontal single or multiple plies of waterproofing sheets in a cap sheet pattern with 4 inch wide seal and end laps, plus or minus 1 inch. Install multiple plies with no lap over lap of previous ply using a side lap to side lap pattern, sealing all laps firmly. Embed sheets in tack to almost dry adhesive. Adhesive top coat should be used to embed specified insulation or asphalt/felt protection board. Seal all laps of overlapped pattern of asphalt/felt

protection board when installed over single ply waterproofing system. Use a butt joint pattern to install asphalt/felt protection board for all multiple ply waterproofing systems. Omit top coat of adhesive on waterproofing sheet used as a protection course. (Specifications N-1, I-1 and I-2)

Vertical Installation Methods: Hang all waterproofing sheets in a wallpaper pattern using 5 to 5-1/2 foot lifts with 4 inch side and end laps. Sheets must be imbedded into thin, even coats of adhesive, allowing immediate sheet placement. Each lift length of sheet must cover installed flashing and preceding sheet terminations plus 2 inches each for multiple tie-offs on footer. Seal all laps and terminations firmly with adhesive. Final ply of waterproofing sheet must receive a top coat of adhesive for immediate placement of polystyrene bead board of specified insulations, i.e., Styrofoam, polyisocyanurates urethanes) foam-glas, etc., without the use of nails. For areas requiring sheets to be hung on sheet piling, left-in-place plywood sheet forms and certain lagging, refer to Specification V-2, Laurenco Waterproofing notebook.

Protection Methods: Laurenco Waterproofing Sheet Systems should be protected either by an additional ply waterproofing sheet (protection against concrete pours), polystyrene bead board (1 lb density, 1 inch x 2 feet x 4 feet panels embedded in wet adhesive) on vertical work, and, 1/8 or 1/4 inch asphalt/felt protection board on horizontal work. Fire protection for crawl space areas, exterior of tunnels, etc., can be obtained by broadcasting dry cement into and adhesive top coat applied to waterproofing sheet protection course. Use of waterproofing sheet as a protection course is required for the Laurenco V-2 Specification. This ply is also used to adhere to underside of the concrete wear surfaces and concrete protection courses by means of the heat generated during the hydration of concrete; particularly applicable in seismic areas. Laurenco Waterproofing Systems do not deteriorate from exposure to weather. See Table 1. Immediate backfill or coverage of flashing, etc., is not required. Coverage of wall installations with the polystyrene bead board is recommended for job site protection during hot weather. Horizontal applications may be used for foot and some vehicular traffic before the installation of the top coat of adhesive and protection board. Good housekeeping is necessary to keep damaging debris off membrane only. Flood testing and inspection are necessary before the application of adhesive top coat and asphalt/felt protection board (A.C.I. 515 1R-79, Chapter 4.42). Severe scuffs and tears must be repaired with 1 or 2 plies of waterproofing sheet patches to extend 4 inches, all sides, past damaged areas and embedded in adhesive firmly. Second ply of patch repair must extend 6 inches, all sides past damaged areas.

Placement of Rebars, Chairs and Wire Mesh: All wire mesh must be flattened before placement over all Laurenco Waterproofing Systems. Standard chairs for installation of rebar over asphalt/felt protection may be used. Chairs with rolled feet or feet with plastic tops must be used especially when the waterproofing sheet only is installed as a protection course.

Backfill Materials: All backfill materials should be clean, free of debris and rubble. Sand and gravel backfills are recommended.

Water heads: Laurenco Sheet Waterproofing Systems have been installed for over 32 years in water heads of intermittent to 280+ feet with no problems. Soil contamination plus type of water, together with expected, water heads to be encountered, dictate the number of plies (up to 3 plies) and whether the specification shall be liquid or sheet membrane system, or a combination.

Black Top Installation Methods: Apply waterproofing sheets (2 plies) in same direction of black top installation. Black Top Specification Adhesive must be applied in thin, even coats. Do not seal laps of sheet: Black Top installation will heat weld all laps. Into top coat of Black Top Adhesive, embed 1/16 or 1/8 inch (no thicker) asphalt/felt protection board in the same direction of application of black top. Roll waterproofing after protection board is installed to remove any blisters and excess adhesive. To move all polyethylene film before installation of black top. Do not prime. Heat from black top will fuse the system together.

Safety Precautions: the waterproofing sheet is not flammable due to use of chloroprene rubber; however, upon exposure to flame, may emit small amounts of free chlorine. Adhesives, coatings,

and liquid waterproofing membranes are combustible (COC). Never install drum and pail heaters without first removing the bungs on the drums and pail lids. Provide ventilation for all enclosed areas. Toxicity parameters for all liquid materials is 500 parts per million parts of air, which is a good minimum for cutback materials. However, individuals vary as to susceptibility to solvent fumes. Good ventilation is a requirement. Where good ventilation is not available, i.e., tanks with manholes only, provide breathing equipment. All containers are so labeled. Welding and cutting may be performed over sheet membrane only (no top coat of adhesive or protection board); set-up of materials is 2 or 3 days after installation. Inspect sheet for burns before installation top coat of adhesive and protection board. Use of shields is always best.

6. AVAILABILITY AND COST

Availability: Laurenco maintains a stock of its materials for various temperatures.

Cost: Laurenco Waterproofing Systems are competitively priced. Pricing, Approved Contractors and Distributors information can be obtained using Laurenco's 800 number line to its offices in Leavittsburg, Ohio.

7. WARRANTY

Laurenco waterproofing Systems are warranted to be as stated in its literature. Joint guarantees from Laurenco, Inc. and its Approved Contractors are also available.

8. MAINTENANCE

Laurenco Waterproofing Systems installed according to Laurenco Incorporated's details and specifications never require maintenance. Some ancillary, non-proprietary materials such as caulks for sealing exposed joints may require periodic replacement. These items are noted in Laurenco's recommendations of non-proprietary materials.

9. TECHNICAL SERVICES

Technical support for specifications and details necessary is offered free of charge to Architects and Engineers. This technical support is backed by over 50 years of research, materials and field experience plus over 48 years of specifying and detailing the Laurenco Waterproofing Systems for use on all types of power plants, dams and bridges, water and sewage treatment plants, earth-sod housing, etc.

10. FILING SYSTEMS

SPEC-DATA II

Sweet's Central Files for Laurenco Waterproofing Notebook.

Contact Laurenco for the Laurenco Waterproofing Notebook (Copyright 1986). Laurenco is a trademark of Laurenco, Inc. PO Box 3211 Garrettsville, Ohio 44231. All information provided in Laurenco literature is based on best knowledge available. Laurenco, Inc. has no intent to infringe on any patent or copyright through its recommendations. All persons or entities interested in Laurenco Waterproofing Systems are asked to call Laurenco, Inc.'s Technical Department regarding their requirements. All prices and specification issued by Laurenco, Inc., including details presented, are subject to change without notice. All sales of Laurenco's Terms of Sale. Laurenco provides written materials warranties and systems guarantees. Copies of applicable warranties and guarantees will be provided upon request.

TABLE 1

LAURENCO SYSTEMS PHYSICAL PROPERTIES

PROPERTIES	VALUE	TEST METHOD
Color:	Black	
Thickness of Systems for Quantities per 100 sq.ft.:		
Single Ply Sheet + 4 gals.	100 mils. Min. (4.0 mm)	
Two Ply Sheet + 5 gals.	160 mils. Min. (6.4 mm)	
Three Ply Sheet + 6 gals.	225 mils. Min. (8.8 mm)	
Ductility of Sheet Asphalt:		ASTM D113-85
Elongation: 1 cm/min. 39.2°F	12.5% Min.	
5 cm/min. 75°F	100% Min.	
Softening Point of Modified Sheet Asphalt:	92°F Max.	ASTM D5-83
Flex Type - Sheet Systems:	No Fracture	ASTM D1388-64(75)
Water Permeability - Sheet Systems:	0.005 grams/h/sq.ft. *0.0077 grains/h/sq.ft.	Max. ASTM E96-80 * Water Method
Tensile Strength of Sheet Only:	180 p.s.i.	ASTM D1668-95
Weather-O-Meter:	Shore Hardness A 60 Max. No Cracking or Crazing No Slump.	ASTM D529-82 Daily Cycle B
Mullens Burst Test:		
Two Ply System	430 p.s.i.	ASTM D 1004-81
Jet Fuel Test:		
System - 2 Ply	11% loss Max.	
10 aged samples - 90 days	5.2% Av.	
Waterhead Test: Drawings & Procedures Available		Engineering Firm Tested to limits of pumping equipment.
28 days/construction joint	90 psig Min. or 207 ft. Min.	
Resistance to Blood, Tallow, Urine Caustics and Alcohol:	Shore Hardness A 50 Max., 32 Min. Each item renewed every 5 days.	Watch Glass Test for each Item: test duration 30 days

LIQUID MEMBRANE - Type W60LA

PROPERTIES	VALUE	TEST METHOD
Color:	Black	
Permeability:	0.005 grams/h/sq.ft. Max. *0.007 grains/h/sq.ft.	ASTM E 96-80 * Water Method
Weather-O-Meter:	Shore Hardness A=60 Max. No cracking, crazing or slump. Av. S.H. (A) = 54	ASTM D 529-82 Daily Cycle B
Adhesion Test:	150 lbs. p.s.i. Min.	ASTM C 836-84
Ductility after Weather-O-Meter:	125% @ 39.2°F	ASTM D 113-85
Solubility Parameter:	7.6 Max.	For use with polystyrene Bead Board, Styrofoam, etc.

Table 2

WATERHEADS FOR LAURENCO SYSTEMS

Intermittent to 30 feet:	
Neutral 7 to 6 acid or 8 alkaline	Laurenco System W60LA (Liquid Applied Membrane)
Intermittent to 50 feet:	
Neutral 7 to 4 acid or 10 alkaline	Laurenco System Single (1) Ply (Sheet & Adhesive)
Neutral 7 to 1 acid or 13 alkaline	Laurenco System Two (2) Ply (Sheet & Adhesive)
50 feet to 150 feet:	
4 acid to 10 alkaline	Laurenco System Two (2) Ply (Sheet & Adhesive)
1 acid to 13 alkaline	Laurenco System Three (3) Ply (Sheet & Adhesive)
150 feet and over:	Laurenco System Three (3) Ply (Sheet & Adhesive)

WEIGHTS OF ASPHALT/FELT PROTECTION BOARD

SPECIFICATIONS USING 2 PLIES OF WATERPROOFING SHEET WITH 3 COATS OF ADHESIVE @ (5 GALLONS) PER 100 SQ. FT.

LAURENCO MATERIALS: Weight per sq. ft.= 1.03 lbs.

W.R. MEADOWS: Weights of standard Asphalt/Felt Protection board combined with Laurenco Waterproofing Materials:

PC-1 (62 mils)	0.41 lbs/sq. f.t.	Total weight per sq. ft.=	1.44 lbs.
PC-2, 1/8 inch (125 mils)	0.65 lbs./sq.ft.	Total weight per sq. ft.=	1.68 lbs.
PC-3, 1/4 inch (250 mils)	2.63 lbs./sq.ft.	Total weight per sq. ft.=	2.63 lbs.

WEIGHTS AND THICKNESSES OF LAURENCO MATERIALS PER SQ. FT. AND 100 SQ. FT. (ONE SQUARE) SPECIFICATION N-1 (Non-Insulated Horizontal Slabs), 2 PLY WITH 1/8 INCH ASPHALT/FELT PROTECTION BOARD and ALTERNATIVES INCLUDING INSULATIONS

****

The **N-1** Specification is Laurenco's Standard **N**on-**I**nsulated Specification and consists of 2 plies of Laurenco 101 Sheet and 5 gallons of adhesive per 100 sq. ft. together with W. R. Meadows' Asphalt/Felt Protection Board, 1/8 inch thick. These weights for this standard N-1 Specification are as follows:

W/P 101 Sheet, 2 plies 58 lbs. per 100 sq. ft.
Laurenco Adhesive, dry film 38 lbs. per 100 sq. ft.
Total weight of Laurenco Materials Only 96 lbs. per 100 sq. ft. or 0.96 lbs./sq. ft.
PLUS:
W. R. Meadows, PC 2 65.1 lbs. per 100 sq. ft
(1/8 inch asphalt/felt protection board)
Total weight per 100 sq. ft. (one square) 161.10 lbs. or 1.611 lbs/sq. ft.

Thickness of two (2) plies of sheet and three (3) adherence coats of adhesive is 150 mils average.
PLUS:
Thickness of 1/8 inch asphalt/felt protection board in mils is 125. Often we use W. R. Meadows' PC 1 which is 62 mils (approx 1/16 inch) thick to obtain a lesser total thickness.

Total thickness of system with 1/8 inch protection board totals 275 mils or slightly over 1/4 inch (250 mils) thick. Or when using PC 1, the total thickness is 212 mils and the weight per 100 sq. ft., in this instance, would be approximately 32.5 lbs. per 100 sq. ft. added to 96 lbs. for a total weight of 128.5 lbs. per 100 sq. ft. (one square).

ALTERNATE TO PROTECTION BOARD as a protective cover:
A third ply of waterproofing sheet is sometimes specified instead of the usual asphalt/felt protection board. This protective cover consisting of an additional ply of waterproofing sheet would yield a total system thickness of 200 mils and a total system weight of 125 lbs. per 100 sq. ft. The rebar chairs for this installation would consist of platform or ribbon types.

NOTE: If the **Specification** is to include **insulation** add the weight of the insulation per 100 sq. ft. plus the additional weight of the adhesive to adhere applied at the rate of 1-1/4 to 1-1/2 gallons per 100 sq. ft. (min./max.). This additional adhesive weight to adhere the insulation would add 9.5 lbs. to 11.5 lbs. (min./max.) to the insulation weight per 100 sq. ft. (one square).

MANUFACTURER

Laurenco Systems
Laurenco Incorporated
P.O. Box 471
Garrettsville, Ohio 44231
Phone: 800-321-3337
Fax: 800-543-3338

SPEC-DATA® PROGRAM
MANU SPEC®

This Manu-Spec presents the manufacturer's suggested proprietary specification in conformance with the CSI 3-Part Section Format. The manufacturer is solely responsible for content and references.

SECTION 07115

SYNTHETIC RUBBER MODIFIED ASPHALT SHEET APPLIED WATERPROOFING MEMBRANE

PART 1 GENERAL

Locations of waterproofing to be performed and number of plies of sheet and application rate of adhesive for type of soil and water to be encountered dictate the waterproofing system to be used. Refer to CSI Spec Data Unit 07100, or consult with Laurenco System's Technical Department for additional assistance.

1.01 SECTION INCLUDES

A. Sheet membrane waterproofing.
B. Flashings
C. Insulation installation.
D. Protection board.

1.02 RELATED SECTIONS

A. Section 02220-Excavation, Backfilling & Compacting: Backfill against installed waterproofing.
B. Section 03300-Cast-in-Place Concrete: Curing and finishing of concrete substrate surfaces.
C. Section 03480-Precast Concrete Specialities: Precast concrete pavers.

If insulation is to be furnished as a part of this specification Section, delete the following paragraph.

D. Section 07200-Insulation: Furnishing of insulation to be installed over waterproofing.

1.03 REFERENCES

A. ACI 301-89 Specifications for Structural Concrete Buildings.
B. ASTM D 6769-02 Standard Guide for Application of fully Adhered, Cold Applied, Prefabricated Reinforced Modified Bituminous Membrane Waterproofing Systems[1]
C. ACI 515.1R-79-A Guide to the Use of Waterproofing, Dampproofing, and Protective Barrier, and Decorative Systems for Concrete.
D. ASTM D41-94 Specification for Asphalt Primer Used in Roofing and Waterproofing.
E. ASTM D1668-95 Specification for Glass Fabrics (Woven and Treated) for Roofing and Waterproofing.
F. ASTM D4479-93 Specification for Asphalt Roof Coatings.

1.04 SUBMITTALS

A. Submit product data and samples in accordance with Section [01300] [01340].
B. Manufacturer's Literature: Materials description and installation instructions for systems to be installed.
C. Samples: [One] [_____] 6 inch X 6 inch sample of sheet membrane and ½ pint of adhesive.

1.05 QUALITY ASSURANCE

A. Applicator: An approved contractor of Laurenco Systems.

[OR]

A. Applicator: Minimum of 5 years experience in the application of waterproofing systems acceptable to Laurenco Incorporated.
B. Submit list of at least 5 completed projects of a similar nature.

1.06 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Deliver in accordance with Section [01600] [01610].
B. Deliver in manufacturer's original containers with labels identifying material name, brand, and date of manufacture. Store materials in strict accordance with manufacturer's printed instructions to prevent damage from water, mud, debris and construction traffic. Damage materials will not be used.

1.07 WARRANTY

A. Provide a [10] [____] year(s) warranty in accordance with Section [01700] [01730].
B. Warranty: Include coverage of waterproofing failure to resist penetration of water except where such failures are the result of structural failures of substrate.

1.08 ENVIRONMENTAL REQUIREMENTS

A. Install waterproofing sheet type according to the following ambient temperatures:
   1. Summer Grade-60^0F to 125^0F.
   2. Winter Grade-0^0F to 60^0F.
B. Install number of plies and quantity of adhesive applicable to waterheads and soil conditions to be encountered.

Refer to Laurenco technical material for applicable systems based on waterheads and soil conditions to be encountered.

PART 2 PRODUCTS

2.01 MANUFACTURER

A. LAURENCO SYSTEMS as manufactured by Laurenco Incorporated, P.O. Box 471, Garrettsville, Ohio; Phone: 800 321-3337, Fax: (800) 543-3338.

2.02 MATERIALS

A. Sheet Membrane: 50 mils thick +/- 10%, chloroprene modified asphalt filmed onto a woven glass fabric, ASTM D 1668-95.
B. Adhesive: Self-priming, semi-viscous liquid composed of synthetic rubbers to modify the asphalt in cut back form, ASTM D4479-93, Type 1.

Include the following paragraph for applications over concrete block or contaminated areas of concrete.

C. Primer: Asphalt modified with an aliphatic solvent, ASTM D41-94.

D. Protection Board (for horizontal work): Asphalt/felt board, [1/8] [1/4] inch thick; as manufactured by [Sealtight Premolded Membrane, W.R.Meadows, Inc., Skokie, Il] [Elastibord, The Celotex Corporation, Tampa, FL] [_____].

E. Protection Board (for vertical work): Polystyrene bead board, 1 inch thick, 2'-0" X 4'-0" panels, 1 lb density; as manufactured by [E.F.P. Corporation, Elkhart, IN] [Century Foam Corporation, Columbus, OH] [_____].

If required to be furnished as a part of this specification Section, the following listed insulations are compatible with Laurenco Systems. Other insulations may be used when approved in writing by Laurenco Systems Technical Notebook, Volume 1, for details.

F. Insulation: [Styrofoam "PD" Board, Dow Chemical Corporation, Midland, MI] [U.S.G. "4000" Board, U.S. Gypsum Company] [Foamglas, Pittsburgh-Corning Company] [_____].

PART 3 EXECUTION

3.01 PREPARATION

A. Prepare concrete substrate surfaces in accordance with ACI 515.1R-79 and ACI 301-72 (Revised 1975).

[OR]

A. Prepare concrete substrate surfaces as described below:
   1. Remove or grout projections higher than 1/16 inch, i.e., fins.
   2. Grout tie-wire holes, honeycombs, and voids larger than 3/4 inch in diameter and deeper than 1/4 inch.
   3. Remove latencies, spatters, dirt, etc., by scraping surfaces to be waterproofed. Do not grind.
   4. Scrape off knife-like edges of exterior corners and grout to a continuous smooth surface all interior and exterior corners.
   5. Remove dirt and debris.
   6. Provide ventilation for confined areas.

B. Do not proceed until all piping, conduit, vents, ducts and other projections through the substrate have been installed.

3.02 APPLICATION ON HORIZONTAL SURFACES

Refer to Laurenco Systems Notebook, Volume 1, Specification N-1 (I-2 for High-Density Styrofoam or Urethane Type Insulations) for further information.

A. Do not apply in wet weather, or when the temperature is below 0^0F. [Consult manufacturer for special procedures at lower temperature.]

B. Uniformly coat concrete surface with adhesive at 1 ½ gallons per 100 square feet and allow adhesive to "tack" to almost dry.

C. Embed waterproofing sheet in "cap sheet" fashion without wrinkles. Seal laps using ½ gallon adhesive per 100 square feet. Continue sheets 3 inches minimum up the vertical surfaces, [unless otherwise indicated]. Place special attention to angles so that total contract with substrate is maintained (no bridging).

Include the following two paragraphs for a 2 ply system.

D. Coat first ply of waterproofing sheet with adhesive at 3/4 gallon per 100 square feet and allow

to "tack" to almost dry.

E. Embed second ply of waterproofing sheet as specified for first ply, staggering and/or centering laps over first sheet. Seal laps uniformly with ½ gallon adhesive per 100 square feet.

For a 3 ply application, repeat paragraph D and E.

F. Flashings shall be 2 plies of waterproofing sheet cut for the height of the design with a minimum 4 inch (first ply) and 6 inch (second ply0 lap on horizontals. Embed plies uniformly in adhesive at 2 gallons per 100 square feet first ply, and 1 gallon per 100 square feet second ply. Use pre-cut widths to extend first ply to height less 4 inches, and second ply to height less 2 inches. Strip off top with 1 or 2 plies of 9 inch wide woven glass fabric coated with adhesive until the weave barely shows.

Refer to Detail No. 4, "Suggested Details" in manufacturer's technical manual for strip-off applications.

G. Evenly coat horizontal work and flashings with adhesive at 2 gallons per 100 square feet. Strip off termination at flashings using glass fabric coated with adhesive at 2 to 3 gallons per 100 square feet until weave does not show.

H. Apply an additional ply of waterproofing sheet 36 inch X 36 inch at drain flashings firmly embedded in adhesive and coated with adhesive before setting clamping ring in place to tighten. Apply before protection board is put into place.

Include the following if insulation is used.

I. Adhere insulation to final ply of waterproofing sheet in adhesive applied at 2 gallons per 100 square feet [adhere each additional ply of insulation using the same amount of adhesive.] Protect insulation with protection board firmly embedded in adhesive applied at 2 ½ to 3 ½ gallons per 100 square feet.

J. Insulation inside planter areas is not recommended. Set planter walls on top ply of waterproofing sheet and flash both interior and exterior walls of planters to horizontal waterproofing. Embed 1/4 inch protection board firmly in adhesive applied at 2 gallons per 100 square feet as a protection course for interior waterproofing of planter areas.

K. Cut protection board to size where necessary and tightly butt joints for both horizontal and flashing work. Embed in uniform adhesive coat over [waterproofing sheet at 2 gallons per 100 square feet] [insulation at 2 ½ to 3 ½ gallons per 100 square feet depending on the thickness of the insulation].

If a drainage field and/or setting bed for concrete pavers is required, include the following.

L. Install maximum 1 ½ to 2 inch thick pea-sized washed gravel bed uniformly over protection board as a [drainage field] [setting bed for concrete pavers].

3.03 APPLICATION FOR VERTICAL SURFACES

Refer to Laurenco Systems Notebook, Volume 1, Specification V-1 for further information.

A. Do not apply in wet weather, or when the temperature is below 0^0F. [Consult manufacturer for special procedures at lower temperatures.]

B. Flash intersections of horizontal and vertical surfaces with 2 plies of pre-cut waterproofing sheet and 2 applications of adhesive in the following manner:

1. Install footer flashings before hanging waterproofing sheets.

2. Apply adhesive 9 inches up vertical surfaces and 5 inches onto horizontal surfaces at 1 ½ gallon per 100 square feet.
3. Embed 12 inch wide strip of pre-cut waterproofing sheet 8 inches up vertical and 4 inches onto horizontal.
4. Apply adhesive over first ply at 3/4 gallon per 100 square feet 7 inches up vertical surface and 7 inches onto horizontal surface.
5. Embed second 12 inch wide strip of pre-cut waterproofing sheet 6 inches up vertical surface and 6 inches onto horizontal surface.
6. Seal laps and terminations with adhesive.

C. Flash vertical interior corners with 2 plies of pre-cut waterproofing strips before hanging waterproofing sheets as follows:
1. Use [9] [12] inch width cut to height of each lift.
2. Install [6 and 3] [8 and 4] inches, followed by [3 and 6] [4 and 8] inches as a reverse overlap.
3. Embed in the same adhesive rates as specified in Paragraph B.

D. Uniformly coat substrate with adhesive at 1 gallon to 1 ½ gallons per 100 square feet (minimum) and allow to "tack" to almost dry.

E. Use 5 to 5 ½ feet pre-cut lengths of waterproofing sheet coated across top with a 6 inch band of adhesive. Embed sheet in applied adhesive without wrinkles. Extend each sheet onto preceding sheet to maintain a 4 inch side lap (plus or minus 1 inch).

F. Extend sheets beyond termination of flashings and preceding sheet plies minimum 2 inches for a multiple of seals [as shown on Drawings].

G. Seal side laps with adhesive at ½ gallon per 100 square feet.

H. By hand pressure test, check surface of each sheet ply for set-up. If sheet moves, wait before application of next ply.

For single Ply application, proceed to Paragraph J.

I. Embed second ply of waterproofing sheet in a uniform coat of adhesive applied at 3/4 gallon per 100 square feet after first ply has set up. Hang in the same manner as the first sheet, staggering laps so that no lap occurs over a preceding lap. Seal laps at ½ gallon per 100 square feet [Repeat for three ply installation.]

J. Install protection board by uniformly coating [last ply of] waterproofing sheet with adhesive at 1 ½ to a maximum of 2 gallons per 100 square feet. Embed board into wet adhesive using a "brick" pattern with butt joints so that there is no vertical joint on vertical joint.

K. Repeat the preceding steps until waterproofing is completed to the height necessary. Use backfill in lieu of scaffolding to accomplish installations above 6 or 7 feet for greater ease of access and protection of installed work.

L. Brush or trowel coat top edges of vertical sheet for each lift with adhesive to firmly embed all top terminations with [6] [9] inch wide woven glass fabric (20 X 10 weave) coated with adhesive at 2 to 3 gallons per 100 square feet until weave barely shows.

3.04 FIELD QUALITY CONTROL

A. Installation of waterproofing system shall be inspected by the manufacturer's authorized representative to ensure conformance with manufacturer's installation requirements and this specification.

LAURENCO SYSTEMS

MATERIAL WARRANTY FOR
LAURENCO _____

WARRANTY #00000

Laurenco Incorporated, hereby Warrants for ( ) year(s) from the date of completion that said Materials will be in substantial conformity with the with the description on our invoice, number _____, dated _____ as listed below and applicable written specifications, if any furnished or accepted comprising a part of said invoice.

Material Warranty is subject to the following conditions, limitations, and terms set forth herein.

Laurenco shall not be responsible under this Warranty or otherwise for the application or installation of the Materials or supervision thereof, unless otherwise agreed upon in writing and designed by an authorized Laurenco's Technical Department.

Laurenco shall have no responsibility under this Warranty or otherwise for damages caused by natural disaster, structural failures, poor and/or loose substrate, application, changes in the original principal usage, erection or installation of any additional equipment, unless approved in writing beforehand by Laurenco's Technical Department.

Laurenco shall not be responsible for damages caused by discarding debris onto the Materials, vandalism, or any other defects whether or not related to the Materials that are above and beyond the control of Laurenco.

No other transportation charges or reworking charges, removal application or installation charges, inspection charges, packing charges or other charges will be assumed by Laurenco.

Without limiting the generality of the foregoing, Laurenco shall in no event, have any liability for incidental, consequential, or other damages of any nature whatsoever including without limitation loss of profits or damage to contents of the building or structure.

No employee, agent or representative of Laurenco or any person other than the Laurenco's Technical Department including Technical Agent has the authority to alter, change or modify the provisions of this Warranty.

The Owner shall provide Laurenco with written notice of any defect or leak in the waterproofing system and of any claim under this Warranty within thirty (30) days of the discovery of the defect or leak. Notice must be given by certified or registered mail to Laurenco Incorporated.

Laurenco makes no other warranties that the Materials are merchantable or fit for any particular purpose other than described in the applicable written specification listed below, and there are no warranties expressed or implied, which extend beyond the face hereof.

The Warranty is not transferable unless written approval is given by Laurenco's Technical Department.

Building Name:
Building Location:
Building Owner:
Contractor:
Specification:
AUTHORIZED BY:
TITLE:

LAURENCO INCORPORATION
P.O. BOX 471
GARRETTSVILLE, OHIO 44231

LAURENCO SYSTEMS
GUARANTEE # 000000

Building:
Address: *City:* *State:*
Owner:
Address: *City:* *State:*
Area of Application:
Date of Application:
Registered Laurenco Systems Contractor:

LAURENCO INCORPORATED will cause to be repaired any leak(s) in the Laurenco System identified above for a period of years from the date of completion, should such leak(s) occur as a result of any of the following causes:

1.) *Splits or breaks in Laurenco neoprene asphalt membrane flashing, otherwise known as Laurenco Sheet not resulting from settlement or structural failure of the building.*
2.) *Deterioration of any sheet Laurenco flashing as a result of ordinary wear and tear of the elements.*
3.) *Deterioration of the Laurenco System as a result of ordinary wear and tear of the elements.*
4.) *Improper workmanship on the part of the above named registered Laurenco Systems contractor.*
5.) *Splits or breaks in the Laurenco System not resulting from settlement or structural failure of the building.*

LAURENCO INCORPORATED will not be responsible for leaks or damage to the Laurenco Systems caused by any one or combination of:

1.) *Natural disasters including but not limited to lightning, hail, hurricanes, windstorms, earthquakes, tornadoes, or vandalism.*
2.) *Failure of any component not specified or supplied by Laurenco Incorporated the waterproofing membrane or flashing.*
3.) *Application of, or repairs to waterproofing membrane or flashing not in accordance with the notice of award & order form furnished to Laurenco Incorporated and/or made without approval of Laurenco Incorporated after original completion of the system.*
4.) *Exposure to chemical(s) and/or substance(s) that have been predetermined by Laurenco Incorporated to be harmful to the Laurenco Systems or its components.*

There is specifically excluded from this guarantee, any responsibility or liability by Laurenco Incorporated for:

1.) *Damage to the building itself and/or to the contents thereof.*
2.) *Any consequential damages.*
3.) *Other exclusions:*

In the event any leak should occur within the guarantee period, the owner shall notify Laurenco Incorporated and confirm notification in writing within thirty (30) days. Laurenco will inspect the building, and if the leak is within the coverage noted before in this document, cause such leak to be repaired.

Should any repair work proceed by any contractor other than the original Registered Laurenco Systems Contractor unless designated by Laurenco Incorporated and/or with materials not recommended or provided by Laurenco Incorporated, this guarantee shall cease immediately.

This guarantee is exclusive of all other, stated, implied and for a particular purpose and is given and accepted in lieu of all other liability or warranties, expressed or implied, in fact or in law. No representative of Laurenco Incorporated or any other person has the authority whatsoever to assume for Laurenco Incorporated any other liability or responsibility in connection with the waterproofing described above.

This guarantee shall not become effective until all bills for installation, supplies and services in connection with the waterproofing system covered by this guarantee have been paid in full. Either direct or indirect acceptance of and/or payment constitutes approval of and agreement with all terms and conditions of this guarantee by the owner. This guarantee shall be deemed a contract and shall be deemed to be entered into under and pursuant to the laws of the State of Ohio and shall be governed as to all matters and questions whatsoever, whether of validity, construction, interpretation, enforcement or otherwise, by and in accordance with such laws.

LAURENCO INCORPORATED
By:
Title:
Date:
Sub Contractor(s):
By:
Title:
Date:

LAURENCO INCORPORATED
P.O. BOX 471
GARRETTSVILLE, OHIO 44231