1480 Englewood Ave.
Akron, Ohio 44305

www.elastikote.com
330-669-2552
800-992-1053

Section 07540

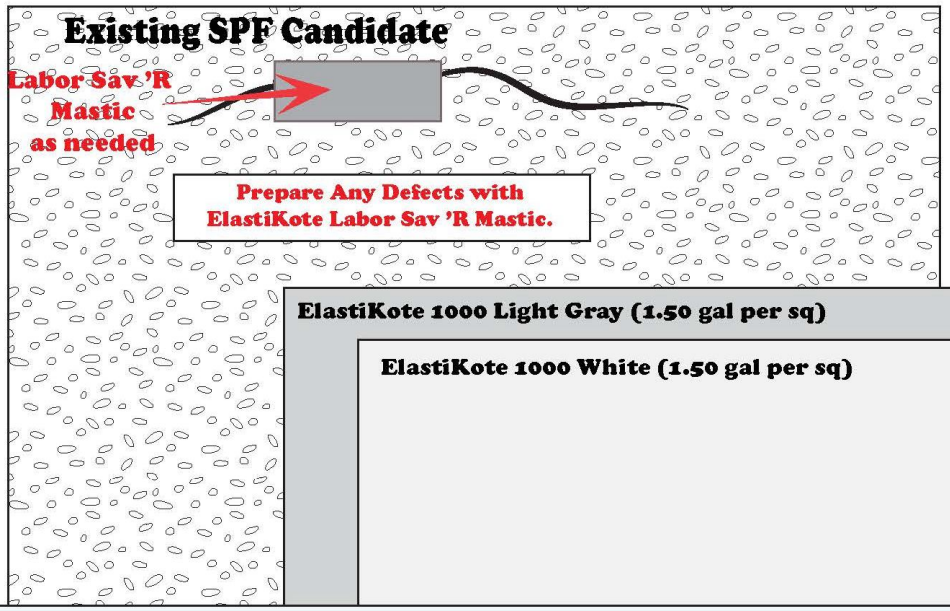
SPRAY POLYURETHANE FOAM (SPF) ROOF SPECIFICATION

ElastiKote® Series 1000 Fluid Applied Membrane

Labor and Material_10 yr Warranty

ELASTIKOTE® RESTORATION PROTOCOL: SPF

ElastiKote 1000 — 10 Year Warranty



Application

Complete Preparation Steps (below)

Apply 1st coat of ElastiKote 1000 (Light Gray) at 1.5 gal per sq

Apply final wear coat of ElastiKote 1000 (White) at 1.5 gal per sq

TOTAL COMPLETED MILS_ 21 Dry Mills

Preparation

INSTALLATION MUST BE COMPLETED **WITHIN** 48 HOURS AFTER SPF INSTALLATION TO ENSURE PROPER PROTECTION.

Clean areas thorougly with ElastiKote Substrate Cleaner and allow to soak for 30 minutes.

Rise thoroughly with water and allow to dry.

Verify moisture level is 5% or lower with moisture meter before coating. Do not continue until moisture level is below 5%.

Repair ANY Surface Defects with ElastiKote Labor Sav 'R Mastic.

All penetrations, etc. must be inspected, prepared & sealed. For penetrations that are more than 3/16" wide or less, it is acceptable to properly seal such physical details using ElastiKote Labor Sav 'R Mastic applied at a minimum thickness of 3/16" and a minimum width of 4" wide.

Environmentally Responsible

LIQUID MEMBRANE SYSTEM

New spray polyurethane (SPF) roof protection utilizing a high performance fluid-applied SEBS liquid elastomeric non-reinforced membrane system.

PART 1 - GENERAL

1.01 SUMMARY

A. This specification is for a high performance two (2) coat non-reinforced fluid applied membrane system applied over approved new SPF substrates. The *Elastikote®* 1000 for SPF system is a single component cold-applied liquid SEBS resin. The system is generally not reinforced except for certain critical areas which shall have polyester reinforcement scrim added and/or an *ElastiKote® 1000* Mastic grade.

1.02 RELATED WORK SPECIFIED ELSEWHERE

A. Section 04200 Masonry

B. Section 06114 Wood Blocking and Curbing

C. Section 07600 Sheet Metal

D. Section 15430 Plumbing Specialties1.03

DEFINITIONS

A. Roofing Terminology: Refer to the following publications for terms related to roofing work not otherwise defined in this section.

1. ASTM D 1079: Definitions of terms related to roofing, waterproofing, and bituminous materials
2. NRCA Roofing and Waterproofing Manual
3. Roof Consultants Institute Glossary of Terms
4. Factory Mutual Research Corporation
5. Underwriters Laboratories

1.04 SUBMITTALS

A. Provide four (4) cured samples of the membrane showing the completed thickness and colored finish layer AS APPLICABLE.

B. Provide samples of the owner's or owner representative's approved color.

C. Submit four (4) copies of the manufacturer's current published installation instructions, product data sheets and Material Safety Data Sheets.

D. Certifications:

1. Manufacturer's written certification that installer is approved and licensed to install specified roofing system.
2. Manufacturer's affidavits that materials used in Project contain no asbestos.
3. Installer shall submit resume and project experience list for proposed system for Project Manager and job site superintendent.
4. Installer shall submit list of all subcontractors with evidence of subcontractor's insurance coverage in compliance with contract requirements.
5. Submit certification that the materials to be used meet these specifications and are acceptable for use with the field membrane system and for the surfaces that they are to be applied.
6. Manufacturer's written certification of approval / acceptance of these specifications and details.
7. Warranty: Submit letter from manufacturer signed by agent authorized to do so, stating acceptance of warranty as specified and detailed.
8. Underwriters Laboratory product certification
9. Manufacturer's ISO 9001:2008 certification (letter of ISO compliance is not acceptable)

E. Shop Drawings:

1. Provide manufacturer's details for the application of the ELASTIKOTE LLC products meeting the requirements of the warranty.

2. Furnish shop drawings for all proposed details different from manufacturers' standard details. Details shall be approved in writing by roofing manufacturer.
3. Furnish detailed project sequencing, staging, material loading, manpower plans, and project construction schedule for approval.

F. Warranty:

1. Submit four (4) copies of the Manufacturer's standard 10-Year labor and material warranty covering materials installed by contractor.
2. Submit four (4) copies of Contractor's Guarantee covering all work for defects in workmanship and labor for a period of 2 years.
3. Maintenance Procedures: Four (4) copies of manufactures' printed instructions for Owner's use regarding care and maintenance of roof.

1.05 INSPECTIONS

A. The Owner's and Manufacturers' representative shall at all times have access to the job site and work area. The contractor shall provide proper and safe facilities for such access and inspection.

Specification Note: Contractor is required to maintain best roofing practices applicable to roof perimeter safety delineation and warnings apparatus stanchion placement. Contractor is also required to actively enforce and maintain perimeter protection and fall prevention protection as per OSHA requirements at all times.

1. Manufacturer Inspections:

a. Material manufacturer (manufacturer) shall reserve the right to have an inspection performed by a representative of the manufacturer at any time and at sole discretion of the manufacturer. Such inspections may consist of pre-construction determination of acceptability of substrate for commencement of installation activities, through and including conclusion of installation work, to ensure that said project is properly installed in accordance with the manufacturer's specifications, installation protocol, and illustrated details.

b. At the conclusion of the project, and prior to the issuance of a warranty, a final inspection shall be conducted by a representative of the material manufacturer to provide assurance that said project is installed in accordance with the manufacturer's specifications and illustrated details and the project is eligible for the issuance of warranty protection to the owner.

B. Any failure by the Owner's or Manufacturers' Representative to detect, pinpoint, or object to any defect or noncompliance of these specifications of work in progress or completed work shall not relieve the contractor, or reduce, or in any way limit, his responsibility of full performance of work required of him under these specifications.

1.06 QUALIFICATIONS

A. Applicator must be approved by the membrane manufacturer.

B. Liquid system must qualify for the manufacturer's warranty.

1.07 DELIVERY STORAGE AND HANDLING

A. Deliver all materials and store in their original unopened containers.

B. Store containers on pallets in a covered or shaded protected area.

C. Store all material in a manner, which meets all federal, state and local requirements.

D. Store in areas where the maximum temperature does not exceed 90° F and at a minimum of 40° F.

E. Ensure drums are properly covered with a moisture proof covering. Under certain conditions condensation or rain could infiltrate and contaminate the drum contents through the “bung” and ring areas without such proper protection being in place.

F. KEEP OUT OF THE REACH OF CHILDREN.
KEEP AWAY FROM HEAT, FLAME OR ANY OTHER SOURCE OF IGNITION.

1.08 QUALITY ASSURANCE

A. Submit certification that the materials to be used meet these specifications and are acceptable for use with the field membrane system and for the surfaces on which they are to be applied.

B. Installation:

1. Unless otherwise indicated, the materials to be used in this specification are those specified and denote the type, quality, performance, etc. required. All proposals shall be based upon the use of the specified material.
2. Install materials in accordance with the manufacturer's current published application procedures and the general recommendations of the National Roofing Contractor’s Association.
3. It will be the contractor's responsibility to obtain and/or verify any necessary dimensions by visiting the job site, and the contractor shall be responsible for the correctness of same. Any drawings supplied are for reference only.
4. Contractor shall plan and conduct the operations of the work so that each section started on one day is complete, details installed and thoroughly protected and in watertight condition before the close of work for that day.
5. Materials will be securely fastened in place in a watertight, neat and workmanlike manner. All workmen shall be thoroughly experienced in the particular class of work upon which employed.
6. Work shall be performed in accordance with these specifications and shall meet the approval in the field of the Architect, consultant, or designated owner’s representative.
7. All waste materials, rubbish, etc., shall be removed from the Owner's premises as accumulated. Rubbish shall be carefully handled to reduce the spread of dust, and shall be deposited at an approved disposal site.

1.09 WARRANTY

A. Upon completion of work, provide a Manufacturer’s standard 10-Year labor and material warranty covering manufacturer’s installed materials. Warranty is to cover materials and applicable labor to replace such, in the event of proven defect or failure of manufacturer's materials during the published time limitations of the warranty. Manufacturer’s standard 10-Year labor and material warranty shall be enforceable for the full liquid system specified, including all flashings.

B. The contractor is responsible to provide diligent vigilance and to take reasonable and prudent preventive action to avoid damages occurring to the building resulting from penetration of water during construction.

C. The contractor shall guarantee all work against defects in labor and workmanship for a period of two (2) years from the date of final acceptance.

1.10 INSTALLATION CONFERENCE

A. Refer to Section 01110 - Notification of Architect Requirements

1.11 SITE PROTECTION

A. Protect all exposed surfaces and finished walls with a tarp or suitable covering to prevent damage to such areas. The contractor shall assume full responsibility for any damage to finished areas.

1.12 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in manufacturer's original unopened packaging with all tags and labels intact and legible. Container labels shall indicate appropriate warnings, storage conditions, lot numbers, and usage instructions. Handle and store materials and equipment in such a manner as to avoid damage. The proper storage of materials is the sole responsibility of the contractor. Materials damaged in shipping or storage shall not be used. Wet or damaged roofing materials shall be discarded, removed from job site, and replaced with new materials prior to application.

PART 2 - PRODUCTS

2.01 GENERAL

A. Supply ELASTIKOTE LLC's standard 10-Year labor and material warranty covering installed materials in accordance with all ELASTIKOTE LLC application requirements and details.

B. ELASTIKOTE LLC
1480 Englewood Avenue
Akron, OH 44305
800-992-1053

2.02 FLUID APPLIED MEMBRANE

A. *ElastiKote® 1000*

1. Ready to use single component high performance SEBS resin.

B. For specific product test results refer to the *Technical Information* section of these Product Data Sheets.

- ElastiKote® 1000
- ElastiKote *1000* Labor Sav'R® Mastic
- ElastiKote® *1000* SEBS Mastic
- ElastiKote® *1000* Sprayable Mastic

C. Packaging

1. 5-gallon pails or 55 gallon drums (50 gallons net by weight)

D. Storage

1. Two (2) years in original unopened container.

2.03 PRIMER

A. Not – Applicable

2.04 REINFORCEMENT

A. Spun-laced high performance polyester reinforcement scrim used at change of plane junctures, penetrations, curbs, projections, repairs, and seams using wet on wet resin / scrim / resin methodology. For seams, cracks, and penetrations that are a ***maximum*** of 3/16" wide or less, it is acceptable to properly seal such physical details using ElastiKote SEBS mastic product ***Labor Sav 'R*** applied at a minimum thickness of 3/16" and a minimum width of 4" wide.

2.05 TOOLS AND EQUIPMENT

A. To maintain efficiency, sufficient pail and drum heat bands will be required to keep two or three pails or two drums heating and/or stirring ahead of installation crew. One heat band per 5–gal pail and two per 50–gal drum are required.

B. For ElastiKote 1000, use a smooth-medium (1/4" – 3/8" nap) roller if rolling. Spray application is the preferred method for all sprayable materials, or a soft brush may be used. For SEBS or Labor Sav'R Mastic, depending on the area to be covered 1–2 & 4–6-inch soft brushes or smooth-medium (1/4" – 3/8" nap) roller may be used. A 2"– 4" square edged trowel may be used for seams. Brushing SEBS or Labor Sav'R mastic is recommended for vertical seams, flashings, and non-typical configurations. A caulking tube assembly may also be used.

SPECIFICATION NOTE: Prior to application, ***ALWAYS THOROUGHLY STIR PRODUCT* from bottom to top utilizing a paddle type mixer to ensure proper incorporation of product "solids" which will settle to the bottom of the product container during storage and shipping.**
During stirring procedure, make sure the paddle "sweeps" completely to the bottom.
Do NOT use any type of high speed mixing apparatus that can potentially create air bubbles within the product.
Do Mix a 50–gallon drum for 20 minutes and a 5–gallon pail for 5 minutes
Do NOT over mix product or air bubbles may cause pinholes

C. When spray applying *ElastiKote® 1000 for SPF* resin, pumps like the Graco 733, Graco 833,Graco King 45:1, Bulldog 30:1, HydraMax or similar will need to be utilized. Product should be sprayed at 2500 – 3000 PSI. Graco recommended XHD tips such as 625 – 635 or 725 – 735 ***and always spray without utilizing a diffuser or atomizer bar*** to best ensure proper application millage and performance efficiency. Hold spray wand during application no higher than 12 inches from target substrate with 50% overlap and allow product to "FLOW" AND "SELF-LEVEL". Always spray at a straight "up and down" or 90° angle to enhance performance. Caution should be exercised especially with overspray.

D. ElastiKote® products must be properly heated for most all installation methodologies.

Material Heating Guide

***ElastiKote 1000 application temperature (top)**												
****Target substrate temperature (bottom)**												
*120	110	100			95			90			85	80
**40	50	60	70	80	90	100	110	120	130	140	150	160

ElastiKote 1000 is to be heated from 90° to 110º F
Recommended tip sizes when performing spray type methodology:
627 – 631 or 727 – 731 (All sizes typical)
Always utilize XHD TIPS with NO diffuser or atomizer bar

- **ElastiKote 1000 SEBS Mastic or Labor Sav' R Mastic products are to be heated from 80° to 100º F (these materials installed with trowel, roller or brush)**

- **ElastiKote 1000 Sprayable Mastic is to be heated from 100° to 120º F**
  Recommended sizes when performing spray type methodology:
  441 or 541 (All sizes typical)
  Always utilize XHD TIPS with NO diffuser or atomizer bar

Heating of the product to proper temperature range is required during application in both cold weather and warm weather. Never over heat the product during extreme temperature conditions. The heating procedure allows for proper preparation of the product in anticipation of the application process, and to maximize uniform performance coverage. Heating is accomplished with heat bands or a heat exchanger (for spray methodology) to maintain proper product viscosity and to maximize the efficiency of the installation process. The heating procedure also enables the installer to *synchronize* the product temperature range with the target substrate temperature. The determination of the exact application

temperature per product will vary depending upon several key factors or conditions. The most critical factors that impact the *product application temperature* are: the existing ambient temperature, the target substrate temperature, spray tip size, application spray equipment type, delivery distance, hose size, and building height.

Always *synchronize* the heating process of the material to be installed with the target metal deck temperature. Never over heat the product during extreme temperature conditions. For proper performance of applied product, when the target metal deck temperature is equal (very hot during the summer) or in excess of the product application temperature, always adjust the product temperature *before* application. If the applied product becomes to hot from the combination of preparation heating and the extreme heat of the target substrate, the product will run or "sag" resulting in low and unacceptable millage thickness. Conversely, if the product is not heated enough and is applied at to low of a temperature, the spray pattern will result in the phenomena known as webbing or "fingering" and the product will not self level. The proper product temperature range is especially critical when applying the product identified as ElastiKote 1000 Sprayable Mastic.

E. During application in cold weather, always ensure substrate to be totally dry with no ice, frost, snow, or moisture present.

F. Never apply ElastiKote® 1000 when ambient temperature is below 40° F.

G. Cleaning: Clean tools with mineral spirits.

PART 3 - APPLICATION

A. Only newly installed SPF projects are eligible to be protected with ElastiKote fluid applied membrane. Newly installed polyurethane foam must be coated within the first 48 hours after installation. This will ensure maximum protection from potential exposure to ultra-violet deterioration for the new surface. The first (1st) applied protective coat when installing ElastiKote SEBS fluid applied liquid membrane on to spray polyurethane foam should *always* be *ElastiKote 1000 Light Gray*, to maximum adhesion properties.

ELASTIKOTE LLC requires a moisture scan be conducted by an independent source when coating over any polyurethane foam roof that has **NOT** been installed within 48 hours prior to commencing coating application. ELASTIKOTE LLC *requires a scan for all* warranty SPF projects. If a moisture scan reveals *any* moisture within the target substrate or any portion of the assembly there of, the target substrate is ineligible to receive ElastiKote fluid applied protection and the project shall be rejected.

Consult Manufacturer regarding all moisture issues.

B. Mechanically remove all loose particulate, dirt, biomass, etc. by vacuum or mechanical broom. Cleaning with water during the preparation process must be avoided as moisture can be introduced into the existing polyurethane foam substrate.

C. If any existing surface contaminants cannot be removed, perform an adhesion test prior to the application of *ElastiKote® 1000 for SPF* resin to insure compatibility and proper bonding to substrate.

D. All rust and contaminants need to be removed from metal to be flashed. Clean all metal to bright. Mechanical abrasion (SSPC SP-3 or SSPC SP-10) may be necessary to remove contaminants. Perform

an adhesion test in the event potential vulnerability exists in pre-existing substrate conditions. For application to Kynar or metals with similar finishes contact the ELASTIKOTE LLC Technical Department.

E. For PVC piping use sandpaper or similar to “rough up” the surface before flashing.

3.01 SURFACE PREPARATION

A. Surfaces must be structurally sound, dry and clean, free from moisture, dirt, grease, biomass, oil, paint or any other loose particulate, debris or potential contaminant.

3.02 PRIMING

A. Not Applicable

3.03 REPAIRS

A. Before application of the *ElastiKote® 1000 for SPF* fluid applied membrane, perform all repairs using *ElastiKote® 1000* for SPF Mastic and spun-laced high performance polyester reinforcement scrim. For seams, cracks, transitions, and penetrations that are a *maximum* of 3/16" wide or less, it is acceptable to properly seal such physical details using ElastiKote SEBS mastic product *Labor Sav 'R* applied at a minimum thickness of 3/16" and a minimum width of 4" wide.

For general surface repair, extreme membrane separation or severely damaged repair areas, utilize *ElastiKote® 1000 for SPF* Mastic and spun-laced high performance polyester reinforcement scrim. Ensure that area to be repaired is clean, dry and free of debris. Properly clean area and apply an even base coat of *ElastiKote® 1000 for SPF* Mastic. Securely and smoothly place spun-laced high performance polyester reinforcement scrim in wet liquid and immediately apply a top coat of *ElastiKote® 1000* Mastic wet-on-wet to ensure complete saturation and encapsulation of the scrim.
Remove all voids, wrinkles, fish-mouths, trapped air, etc.
Base and top spun-laced high performance polyester reinforcement scrim coats must extend a minimum of 2” past the perimeter of the repaired area.

If the repair is to a crack, split or similar, a minimum 4” wide reinforcement scrim must be used.

1. Base Repair Coat: Minimum application rate of 2.0 gal/sq (25 wet mils–verify with *Wet Film Gauge*) depending on surface texture.

2. Top Scrim Coat: Minimum application rate of 2.0 gal/sq (25 wet mils–verify with *Wet Film Gauge*) depending on surface texture.

For all *MASTIC* application methods, MASTIC product must be heated. Heat ElastiKote 1000 SEBS & Labor Sav ’R Mastics to 80° F - 100° F with heat bands or heat exchanger. Heat ElastiKote 1000 Sprayable Mastic to 100° F – 120° F with heat bands or heat exchanger to ensure proper viscosity for maximum performance of applied product.

Material Heating Guide

*ElastiKote 1000 SEBS Mastic application temperature (top)												
**Target substrate temperature (bottom)												
*120			95			90			85			80
**40	50	60	70	80	90	100	110	120	130	140	150	160

Material Heating Guide

ElastiKote 1000 Sprayable Mastic													
*Application temperature (top)													
**Target substrate temperature (bottom)													
*130			115			110			105				80
**40	50	60	70	80	90	100	110	120	130	140	150	160	170

3.04 FLASHING APPLICATION

A. For all flashings, penetrations, repairs, drains, metal edges, transitions, etc. apply an even base scrim coat of *ElastiKote® 1000* Mastic with a brush or roller. Embed reinforcement scrim in this layer and immediately apply a top scrim coat of *ElastiKote® 1000* Mastic wet-on-wet. Cut reinforcement scrim 4" wider than the split, seam or transition in each direction. Ensure that polyester reinforcement is fully saturated and encapsulated and does not have voids, fish mouths, trapped air, or wrinkles.

1. Base Repair Coat: Minimum application rate of 2.0 gal/sq (25 wet mils–verify with *Wet Film Gauge*) depending on surface texture.

2. Top Scrim Coat: Minimum application rate of 2.0 gal/sq (25 wet mils–verify with *Wet Film Gauge*) depending on surface texture.

3.05 FIELD APPLICATION

A. **TWO COATS - EACH APPLIED AT MINIMUM 1.5 GALLONS PER SQUARE RECOMMENDED COVERAGE RATE WITH THE REQUIREMENT THAT SECOND (2ND) COAT BE INSTALLED PERPENDICULAR TO THE FIRST (1ST) TO ENSURE OPTIMUM PERFORMANCE.**

Apply the initial "1st Coat" of ElastiKote *1000* Light Gray SEBS resin with a sprayer and/or a roller over the entire roof surface. Allow the ElastiKote *1000* Light Gray "1st Coat" to cure a minimum of 2 - 4 hours to minimize membrane "tackiness". Then apply the 2nd and final "wear" Coat following application procedure. After completion of the final application, which is to serve as the "wear" coat, wait 24 hours before trafficking.

1. 1st Coat: Minimum application rate of 1.50 gallons per square (ElastiKote *1000* Light Gray).

2. 2nd and Final (wear) Coat: Minimum application rate of 1.50 gal per sq. (ElastiKote *1000* White).

   It is recommended to utilize a "bright white" color for the final Coat (wear) application to maximize reflectivity and energy conservation.

B. **Cured Final Membrane Thickness: A minimum of 21 dry mils.**

3.06 COATING INSTALLATION - GENERAL

A. Membrane Application: Install roofing in accordance with roofing system manufacturer's current published instructions and the following requirements.

B Aesthetic Considerations: The overall aesthetically pleasing appearance of the finished roof is a standard requirement for this Project. Make necessary preparations, utilize recommended application techniques, apply the specified materials and exercise care in ensuring that the finished application is acceptable to the Owner.

C. General Installation:

1. Contractor shall prevent overspray and be responsible for parking lot areas and/or adjoining areas not part of this contract.
2. Contractor shall be responsible for sealing, as required, all openings that may allow coating migration or dripping, i.e. pitch dams, envelopes, and filler strips.
3. Correct all errors in application the same work day they occur, including bare spots, improper application, physical damage and all work not meeting specifications.
4. Protect adjacent areas and materials from damage by coating operations with tarpaulin or other durable materials.
5. Apply materials in straight, smooth lines without smears, overlaps, or splatter on adjoining materials. Complete roofing operations promptly.

3.07 CLEANING

A. Remove all used containers and wrappings from the site.

B. Dispose in approved location and manner.

C. Remove markings from any finished area.

D. Repair any finished areas damaged by this application.

E. All waste materials, rubbish, etc., shall be removed from the Owner's premises as accumulated. Rubbish shall be carefully handled to reduce the spread of dust, and shall be deposited at an approved disposal site. At completion, all work areas shall be left broom clean and all contractor's equipment and materials removed from the site.

3.08 COMPLETION

A. Upon completion of new installation (including all associated work), institute appropriate procedures for surveillance and protection of finished work during remainder of construction period. Protect all areas where Coating has been installed.

B. Notify the Owner and the Manufacturer when finished. Coordinate final inspection by Manufacturer. Complete all repairs or requests promptly. Comply with all paperwork and payment requirements necessary to acquire the specified warranty.

END OF SECTION