

**Installation Guide Specification  
0610 ECI – EPDM ROOFS  
Environmental Coatings, Inc.  
FOR PRESERVING EPDM ROOFS**

**1. GENERAL**

**1.01 SUMMARY**

A. Provide labor, materials, equipment and supervision necessary to install (spray-apply, brush or roller) ECI's, Roof coating encasement systems as outlined in this specification to preserve and extend the service life of EPDM single-ply roofing and provide energy saving and life-cycle cost benefits.

B. ECI's application instructions for each product used are considered part of these specifications and should be followed at all times.

**1.02 SUBMITTALS**

A. Submit product data sheets and literature verifying physical properties of materials.

B. Submit material safety data sheets.

**1.03 QUALITY ASSURANCE**

A. Supplier Qualifications: ECI's fluid applied restoration system for preserving EPDM Roofs, as supplied by ECI, is approved for use on the project.

The product manufacturer shall have been in business for a minimum of fifteen (15) years.

B. Applicator Qualifications: The applicator shall be approved by ECI to apply the system. ECI's written verification of applicator approval is required.

**1.04 PRODUCT DELIVERY, STORAGE AND HANDLING**

A. Containers and packaging: Deliver materials in original sealed containers, clearly marked with: ECI's logo; full product name; and lot number(s).

B. Storage: Store materials between 40°F and 100°F with careful handling to prevent damage to products. If conditions exceed these ranges, special consideration in storage must be taken. Do not store at high temperatures or in direct sunlight.

C. Protection: Protect all materials from freezing and other damage during transit, handling, storage, and installation.

D. Verify dates of manufacture and confirm that material is within one year shelf life.

**1.05 PROJECT CONDITIONS**

A. These minimum recommendations for material usage are for ideal conditions. The number of gallons per 100 square feet may need to increase due to uneven application, rough surface texture, wind conditions while spraying and other variables.

B. Wet insulation must be thoroughly evaluated and then addressed with removal or other measures. Consult a ECI technical consultant regarding the need for moisture surveys and other assessments.

- C. Structural cracks should be referred to the appropriate ECI technical consultant.
- D. Installation guide specifications assume that the deck, if plywood, has no dry rot, and is in sound condition, or has been repaired.
- E. Do not apply materials unless the surface to receive acrylic roofing system is clean, dry and prepared as specified.
- F. Install all material in strict accordance with all published safety or applicable regulations of the manufacturer and local, state, and/or federal agencies that have jurisdiction.
- G. The entire system shall be fully adhered to the surface on which it is applied. Voids left under the system by creating bridges are not acceptable.
- H. Do not proceed with application of coating or sealing materials when temperature is less than 50°F. No coating system shall be applied if weather will not permit it to dry prior to exposure to precipitation or freezing temperatures.
- I. Heavy puddles of coating on the roof are not acceptable.
- J. Instructions for use of all roofing materials and application equipment should be read and followed at all times.
- K. As a general principle, to prevent the ponding of water, install additional Drains and tapered insulation as necessary.

#### **1.06 DETAIL WORK**

A. This specification does not extensively outline procedures for preparation and finishing of drains, vents, ducts, flashing, parapet walls, insulation sheet metal work, etc. The contractor should outline this work before work commences, and it shall be performed observing good trade practices.

## **II. PRODUCTS**

### **2.01 ENVIRONMENTAL COATINGS, INC. ROOF ENCASUREMENT SYSTEM**

- A. The roofing system is a 100% acrylic, spray, brush or roller applied ECI Roof Encasement System manufactured by ECI.
- B. Physical properties of cured roofing system.
  1. The roofing system shall have good resistance to ponding water.
  2. The roofing system shall contain no plasticizers.
  3. The roofing system shall contain no migrating fire retardants.
  4. The roofing system shall have a Class A fire rating on a noncombustible deck when tested according to the procedures outlined in ASTM-108.
  5. The roofing system shall also meet the following physical property requirements:

PROPERTY	ASTM Method	RESULTS
Tensile strength, psi (Max @ 73° F)	D6083	Minimum 200
% Elongation @ Break (73° F)	D6083	Minimum 100
Wet Adhesion to Specified Substrate	D6083	Minimum 2.0 pli
Permeance, perms	D6083	Maximum 15
Volume Solids %		>50
Weight Solids %	D6083	>55

## 2.02 RELATED MATERIALS

ECl shall approve:

A. Flashing, adhesives, thinners, elastomeric caulking, compounds, primers, and similar materials. All materials used shall be applied in accordance with ECl's recommendations.

## 2.03 EQUIPMENT

ECl's materials are prescreened at the factory and can be applied with nylon bristle brushes, roller, or airless equipment. Roller nap size will depend on the substrate being encased; ½ inch nap to 1¼ inch is recommended. Airless piston- type spray equipment may also be used for application. Equipment selection will depend on the size and nature of the encasement project.

For airless spray equipment recommendations have the percent solids by volume for the particular product available and call:

A. **Graco** – Tech. Support line is (800) 690-2894.

B. **Titan Tool Inc.** – Tech. Support line is (800) 526-5362.

## III. EXECUTION

### 3.01 MANUFACTURER'S INSTRUCTIONS

A. Compliance: Comply with ECl's product data, including product technical bulletins and product guide specification instructions.

### 3.02 EXAMINATION

A. Inspect surfaces that will receive the ECl Roof Encasement System to make sure they are clean, smooth, sound, properly prepared, and free of moisture, dirt, debris, or other contamination.

B. Verify that all roof penetrations, mechanical equipment, cants, edge metal, and other on-roof items are in place and secure.

C. Verify that all critical areas around the immediate vicinity of the spray area are suitably protected.

D. Verify all roof drains are clean and in working order.

E. Verify that all air conditioning and air intake vents are suitably protected or closed.

### 3.03 PREPARATION

A. The surface must be clean, sound, dry and free of any materials that

would inhibit proper adhesion of the coating or sealant. Achievement of this condition may require the use of industrial cleaner, scraping, power broom, vacuum or other means, and shall always be performed observing responsible trade practices.

B. Pressure wash the membrane free of any significant accumulation of dirt and debris prior to applying the base coat. Where unsealed membrane or seam defects are discovered, avoid introducing water beneath the membrane by using lower pressure and/or manual rinse techniques.

C. All loose seams of existing roof system shall be sealed in accordance with the EPDM manufacturer's recommendations. Then seal all EPDM single ply seams with ECI Seam Tape.

D. Seal all HVAC duct work joints as needed with FiberTech F-50 Penetrating Stabilizer Primer and ECI Fabric or ECI Seam Tape. Coat entire duct assembly with two 1 ½ gallon coats of FiberTech F-50 per 100 square feet.

E. Surface must be entirely clean before proceeding with application of the F-50 base coat.

F. Thoroughly clean areas immediately surrounding loose seams or membrane punctures and defects, then seal such areas in accordance following the EPDM manufacturer recommendations.

G. When specified by the coating manufacturer, reinforce seams using either ECI Seam Tape or FiberTech F-50 and ECI Fabric. Fabric shall be totally saturated with approximately 3 gallons per 100 square feet of coating.

H. Reinforce around skylights, equipment platforms and other roof penetrations using ECI Fabric and FiberTech F-50. Extend the reinforcement fabric several inches up onto the skylight, etc. edge and then down onto the surrounding roof field. Immediately embed ECI Fabric into the wet coating, with a second coat of FiberTech being immediately applied on top of the fabric at the rate of 1 gallon per 100 square feet. Avoid air pockets and so-called "fish-mouths" in the fabric reinforcement.

I. Reseal around mechanical equipment, coping seams and other critical junctures using ECI-151 Acrylic Urethane Caulk and, where possible, ECI Fabric.

J. Remove seam fasteners that are backing out and install new interlocking mechanical fasteners with seam plates.

K. In all valley areas, waterways, drain areas or other areas where potential water accumulation is a concern, apply FiberTech F-50 at the rate of 2 gallons per 100 square feet, approximately 46 inches wide. Immediately embed 40 inch wide ECI Fabric into the wet coating, with a second coat of FiberTech F-50 being immediately applied on top of the fabric at the rate of 1 gallon per 100 square feet. Both the first and second coats shall extend a minimum of 2 inches beyond the edges of the polyester reinforcing fabric. In any large valley area multiple widths of fabric should be used, overlapping them a minimum of 3 inches so that the coating and fabric extend at least six inches up above the potential waterline.

L. Allow coating to dry thoroughly (normally 8 to 24 hours depending on

weather conditions), before proceeding to application of the remainder of the roofing system as described in section 3.04 of this guide specification. M. Seal all HVAC duct work joints as needed with FiberTech F-50 and ECI Fabric or ECI Seam Tape. Coat entire duct assembly with two 1 ½ gallon coats of FiberTech F-50.

### **3.04 APPLICATION**

A. Following the surface cleaning, defect repair and custom reinforcing detailed in Section 3.03; the entire roof shall receive the FiberTech F-51 Sealer Coat encasement top coat consisting of a minimum of 30 dry mils or approximately 3 gallons per 100 square feet.

B. The first coat shall be spray or roller applied at the rate of 1 1/2 gallons per 100 square feet. Allow to thoroughly dry for normally 8 to 12 hours depending on weather conditions.

C. After thorough drying of the first coat, the second coat shall be applied using a crosshatch technique, at the rate of 1 1/2 gallons per 100 square feet. Allow to thoroughly dry before exposing to foot traffic.

D. All coating edges shall be cut in evenly in a uniform manner so as to provide an aesthetically pleasing appearance.

### **3.05 CLEANING**

A. Use soapy water while coatings are still wet and wipe clean. Surfaces not intended to receive the ECI Roof Encasement system shall be protected during the application process.

## **IV. MATERIALS**

**The following materials listed in these recommendations are available from:**

**Environmental Coatings, Inc.  
36 Eagle Rock Way  
Montclair, NJ 07042-2017 USA  
Tel 973-509-9456 ♦ Fax 973-509-9460  
Website: [www.eciproducts.com](http://www.eciproducts.com)**

- 1) ECI Industrial Cleaner**
- 2) ECI-151 Acrylic Urethane Caulk**
- 3) ECI Fabric**
- 4) ECI Seam Tape**
- 5) FiberTech F-50 Penetrating Stabilizer Primer**
- 6) FiberTech F-51 Sealer Coat**

These suggestions and data are based on information we believe to be reliable. They are offered in good faith, but without guarantee, as conditions and methods of use are beyond our control. The prospective user should determine the suitability of our materials and installation recommendations before adopting them for commercial use.