Encasement of Lead Based Paint

1.1 SUMMARY

A. Provide labor, materials, equipment and supervision necessary to install (spray-apply, brush or roller apply) to safely stabilize and protect LBP through the installation of the Specialty Elastomeric Encasement System directly over LBP as outlined in this spec.

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

1.2 PRODUCT DELIVERY, STORAGE AND HANDLING

A. Containers and packaging: Deliver materials in original sealed containers, clearly marked with manufacturers logo, brand name, and type of material.

B. Storage: Store materials between 40°F and 100°F with careful handling to prevent damage to products. Do not store for long periods in direct sunlight, at excessive temperatures or at temperatures below freezing.

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

1.3 PROJECT CONDITIONS

A. Environmental Requirements/Conditions
1. These minimum recommendations for material coverage are for ideal conditions. The number of gallons to coat 100 square feet may need to be increased due to unevenness of surface condition, rough surface texture, heat and wind conditions while spraying or applying, and other variables.

2. Do not apply materials unless surface to receive encasement system is dry.

3. Install all material in strict accordance with all published safety or applicable regulations of the manufacturer and/or local, state, and/or federal agencies, which have jurisdiction.

4. 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.

5. Do not proceed with application of coating or sealing materials when surface temperature is less than 50°F. No coatings shall be applied if weather will not permit it to dry prior to exposure to precipitation or freezing.

6. Instructions for use of all encasement materials and application equipment should be read and followed at all times. The use of a Test Patch is required in the State of Massachusetts and Connecticut and is recommended herein.

2.1 ENCASEMENT SYSTEM

A. The system shall be manufactured by ECI Products, 36 Eagle Rock Way, Montclair, NJ 07042 Contact: Joe Cusenza 917-693-5116 or 973-509-9456.

The Encasement Systems is a specialty elastomeric acrylic polymer water based product system.
1. Coatings shall be nontoxic, safe and easy to use, contain no hazardous ingredients by OSHA definition, be nonflammable, cleanup with water and finished surface shall have a tested Class "A" (1) fire rating.
2. Coating materials shall be long lasting, remain highly flexible, chalk resistant, resist cracking, peeling, mold and mildew that cause future indoor air quality concerns.
3. Coatings shall have independent ASTM laboratory test data on adhesion, permeability, and aged flexibility, with elastic properties of over 200% to allow for building movement without cracking.
4. Coating materials shall have low V.O.C. (less than 60 gms/ltr) content.
5. Coating materials shall be safe to use and comply with all building codes.

B. Coating materials shall comply with the following standards:
1. ASTM E-1795-97, the National Standard for Encapsulation materials.
2. ASTM E-84-99, Surface Burning Characteristics, Class I, Flame Spread = 10, Smoke Developed = 15, (this is equal to NFPA 255, ANSI/UL # 723, UBC 8.1).
3. ASTM E-162-98, Passed Surface Flammability with a Radiant Energy Source, (FS x Q = IS), FS = 1.29, Q = 1.77, IS = 2.31.
4. ASTM D-3359, Passed Pull-off Adhesion (exceeds standards).
5. ASTM D-4214, Passed Chalking (encasement surface does not chalk).
6. ASTM D-4060, Passed Dry Abrasion Resistance (exceeds test standards).
7. ASTM D-522, Passed Flexibility (remains flexible over time, does not become brittle).
8. ASTM D-2794, Passed Impact Resistance (160+ in.lbs. – exceeds standard).
9. ASTM D-3273, D-3274, Passed Mildew Resistance.
10. ASTM D-3359, Passed Paintability.
11. ASTM D-2488, Passed Scrub Resistance (exceeds 1200+ cycles test limit).
12. ASTM D-2370, Passed Tensile Properties (245 psi).
13. ASTM D-3960, Zero VOC's (below 25 ppm. accurate detection limit for specified test).
14. ASTM D-1653, (0.6 perms), water vapor can pass through the multi-layered protective membrane formed through the encasement process, "lets the building breathe".
15. ASTM D-1308, Chemical & Water Resistance (exceeded the standards on all tests).
16. ASTM G-53, Weathering/Aging (1,000 hours) – Provides weatherization properties
17. ASTM B-117 Salt Fog Chamber (no blistering or rusting after 1,500 hours of exposure)
18. ASTM D-4585 Humidity Chamber (no blistering or rusting - 1,400 hours of exposure)
19. ASTM D-4541 Pull-off Adhesion/Cohesion of encasement system exceeds 300 psi

2.2 EQUIPMENT RECOMMENDATIONS

The Encasement materials are prescreened at the factory and can be applied with brushes, short nap or disposable rollers, or airless spray equipment. Airless piston-type spray equipment (with filters removed) that have a pump-rated capacity of ¾ -1.0 GPM (minimum) are suitable for application include:

A. Graco - information line is (800) 328-0211. Graco 1095 or 1595 airless spray systems.
B. Equipment Accessories:
♦ Hose: 3/8 inch (9.53 mm) inside diameter (minimum), 1/2 inch (min.) on long runs.
♦ Guns: Graco Silver or Golden Hydra-mastic guns.
♦ Tips: For (ECI) FiberTech F-50 penetrating primer use .517 to .521 Reverse A Clean Tip, .519 is often used. For (ECI) FiberTech F-51 Sealer Coat or use .519 to .523 Reverse A Clean Tip, .521 is often used.

3.1 MANUFACTURER'S INSTRUCTIONS

A. Comply with manufacturer's product data sheets, MSDS's and product instruction guidelines.

3.2 APPLICATION

A. First application stabilizes and seals the surfaces. The application of a "Patch-Test" is required in the State of Massachusetts and always recommended to properly demonstrate the quality and value of the encasement methods. If product overspray should occur on any surface not intended to be coated, wipe immediately to avoid staining or permanent adhering.

B. For Metal Surfaces that have rust:
1. Use a non-corrosive, biodegradable, water soluble (Chlor*Rid) Pressure-Water Soluble-Salt Remover to prepare surfaces using wet removal techniques to remove all loose and flaking paint from the metal surfaces. Treat all surface areas at 1000 to 1500 PSI, and with particular attention to rusted areas. Use Chlor*Rid test kit and continue treatment until reading of 5 to 9 PPM remaining soluble-salts is measured in rusted areas. Use of a nylon brush to agitate Chlor*Rid/water solution over rusted areas helps prevent bleed-through. Allow to dry and coat with F-50MS Multi-Surface Primer as soon as possible.
2. Apply one coat of FiberTech F-50MS (primer with Corrosion Inhibitors) directly over all metal surfaces, applying two coats over corroded or rusted areas. Apply at a coverage rate of 100 to 130 square foot per gallon, per coat (10 to 14 wet mils). This will dry to 5 to 7 dry mils of primer per coat. Allow to dry thoroughly before applying second coat or over-coating with FiberTech F-51 Sealer Coat.
3. Apply topcoat material over dried primed surfaces. Apply at a coverage rate of 90 to 120 square feet per gallon per coat (10 to 16 wet mils) to produce 7 to 10 dry mils per coat of topcoat.
4. If there's no visible rust and the paint is intact, you can use the chosen primer and topcoat materials directly following Chlor*Rid treatment.

C. For Highly Weathered Wood and Damaged, Loose and Flaking Paint:
1. Use a non-corrosive, biodegradable, water soluble ECI-Industrial Cleaner (or approved equal) to prepare surfaces. Use wet removal technique to remove all excessive loose and flaking paint from the surfaces, break all bubbles, rinse clean and allow to dry. Option: Dust-free technique for removal of excessive loose damaged paint, apply a thin coat of the chosen primer (as described in step 2 below) then selectively scrape off only the excessively loose paint. Then complete application of chosen primer as in step 2 below.
2. Apply two coats of the (primer) material directly over all surfaces including over damaged, loose and flaking paint or bare spots. On first coat, spray, brush, roller or cloth apply a thin coat (3 to 6 wet mils) of primer material over all surfaces. Use a wet mil gauge to determine proper wet coating thickness to yield the desired dry mil thickness. Next use a short nap (3/8-1/2") roller to agitate the surface in both directions. When primer turns clear from milky-white color (30 to 60 minutes later) apply the balance of the primer and work onto the loose and flaking areas so that a flat surface is formed. Apply at a coverage rate of 90 to 130 square foot per gallon. Allow primer coat to dry thoroughly before over-coating. The primer will dry to a clear tacky finish.
3. Where caulking is required to produce a smooth surface and/or to seal around windows, doors and seams, use compatible Architectural Sealant (Urethane-Acrylic in tubes) or 100% Acrylic Sealant (in tubes) available from the same manufacturer. Patch damaged areas and surfaces, featheredges as needed. Allow to dry before applying topcoat. Use manufacturers ECI-151 Acrylic Urethane for compatibility with system.
4. Next apply one or two coats of topcoat materials over all the dry primed surfaces. Apply at a coverage rate of 90 to 120 square foot per gallon per coat (10 to 16 wet mils). This will produce 7 to 10 dry mils per coat. Allow to dry 2 to 6 hours before over-coating and dry overnight before removing tape. The topcoat materials dry to form a matte, low gloss finish. The coating system

can be made in any color of the client's choice.
5. To prevent damage to the coatings when removing all plastic and masking tape, use a utility knife to cut masking at painted edges.
6. Prompt cleanup of equipment is recommended. Cleanup is with soap and water.

D. Coverage rate per gallon on Primers varies depending upon porosity, texture, condition of the surface, and the mil thickness specified. Damaged, rough and highly textured surfaces require more material than flat, smooth or non-porous surfaces. Coverage rates for Primers applied over a smooth, flat surface at 100 sq. ft per gallon (16 wet mils) = 7 to 8 dry mils thickness.

Wood surfaces (in-tact paint) - 110 to 120 SF per gallon (10 wet mils = 5 dry mils).
Over flat Transite surfaces - 100 to 200 SF per gallon (8-16 wet mils = 4-8 dry mils).
Porous or textured surfaces - 80 to 110 SF per gallon (16-20 wet mils = 7-9 dry mils).
Rough, cementicious surfaces - 50 to 110 SF per gallon (14-30 wet mils = 7-14 dry mils)
Over textured stucco - 100 to 120 SF per gallon (8-16 wet mils = 4-8 dry mils).
Over aging wood siding - 80 to 150 SF per gallon (10-20 wet mils = 8-10 dry mils).
Over shingle siding - 80 to 120 SF per gallon (16-20 wet mils = 8-10 dry mils).
Over window frames - 90 to 120 SF per gallon (14-18 wet mils = 7-9 dry mils).
Over window sills & top surface on porch rails - 80 to 120 SF per gallon (12-20 wet mils = 6-10 dry mils), DO NOT APPLY MATERIALS OVER FRICTION SURFACES.

E. Architectural Sealant will be used to weather-seal all corners of the building, repair areas on all surfaces, where old paint will create an uneven finish – such as on the top board of the porch wall, and as needed to produce a smooth and stabilized surface. Get manufacturers recommendation.

F. When spray applying Finish Coats, use a wet mil gauge to determine proper wet coating thickness to yield the desired dry mil thickness. Apply the Finish Coats in two passes with the second pass perpendicular (at 90°) to the first pass. The use of gentle back rolling the of the topcoat material can be used on rough surfaces and can help to fill visible voids while conserving the use of materials. A finished Encasement System shall be seamless and form a uniform, flexible coating that seals and completely encloses the painted surface.

3.3 FIELD QUALITY REQUIREMENTS

A. Manufacturer's Field Services: Inspection by an ECI Authorized Technical Representative shall be made to verify the proper installation of the system. Any areas that do not meet the minimum standards for application as specified herein shall be corrected at the contractor's expense. Manufacturer's inspection or verification shall not constitute acceptance of responsibility for any improper application of material.
Disclaimer: Manufacturer's employees and/or Authorized Sales Representatives are not responsible for any liabilities resulting from the application or use of these materials.

3.4 CLEANING

A. Use soapy water. Immediately wipe surfaces not to be coated to prevent drying. Surfaces not intended to receive the Encasement System shall be protected during application. Should this protection not be effectively provided, then the respective surfaces shall be restored to their proper conditions by cleaning, repairing or replacing. All debris from completion of work shall be completely removed from the project site.