



GLOBAL Encasement, Inc.

Installation Guide Specification Applications Over Asbestos Containing Materials (ACM) 09800 GEI – ACM

I. GENERAL

1.01 SUMMARY

- A. Provide labor, materials, equipment and supervision necessary to install spray, brush or roller-applied specialty acrylic **AsbestoSafe®** system as outlined in this specification to safely encase Asbestos Containing Materials.
- B. GLOBAL Encasement, Inc.'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 laboratory reports and literature verifying compliance with fire ratings, physical properties or approvals earned by specified materials.
- B. Submit material safety data sheets on all materials.

1.03 QUALITY ASSURANCE

- A. Supplier Qualifications: GLOBAL Encasement, Inc. products, as supplied by GLOBAL Encasement, Inc., shall be approved for use on the project.
- B. The product manufacturer shall have been in business for a minimum of twenty (21) years.
- C. Applicator Qualifications: GLOBAL Encasement, Inc. can approve the application contractor. GLOBAL Encasement, Inc.'s written verification of applicator approval shall be required.

1.04 PRODUCT DELIVERY, STORAGE AND HANDLING

- A. Containers and packaging: Deliver materials in original sealed containers, clearly marked with GLOBAL Encasement, Inc.'s logo, brand name, product lot numbers and type of material.
- B. Storage: Store materials between 40°F and 90°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 during transit, handling, storage, and installation.
- D. Verify dates of manufacture and confirm that material is within 1 year shelf life.

1.05 PROJECT CONDITIONS

- A. Environmental Requirements Conditions
 - 1. These minimum recommendations for material coverages are for ideal conditions. The number of gallons to coat 100 square feet may need to be increased due to uneven application, 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 and surface compatibility testing has been successfully completed.
 - 3. Install all material in strict accordance with all published safety or applicable regulations of local, state, and/or federal agencies that have jurisdiction.

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4. The entire system shall be fully adhered to the surface on which it is applied.
5. Do not proceed with application of coating or sealing materials when surface temperature is less than 50°F. No coating system shall be applied if precipitation or freezing temperatures are expected within 72 hours.
6. Instructions for use of all GLOBAL Encasement materials and application equipment should be read and followed at all times.

II. PRODUCTS

2.01 GLOBAL Encasement, Inc. Systems

- A. The **AsbestoSafe®** system is an acrylic, spray, brush or roller-applied GLOBAL Encasement, Inc. system manufactured by GLOBAL Encasement, Inc. (GEI).
 1. All **AsbestoSafe®** materials shall be warranted to be heavy-bodied (66.0% solids content), from GLOBAL Encasement, Inc. and shall be long lasting, highly-pure (zero VOC) materials that remain flexible, chalk resistant and resist cracking, peeling, algae and fungus that can cause future indoor air quality concerns.
 2. To allow for building movement without cracking or disturbing fibrous materials, coating systems shall have passed testing to ASTM standards for adhesion, permeability, aged flexibility and with aged elasticity for the encasement system of over 250%.
 3. Coatings shall be Class A Fire Rated, water-based, non-toxic, safe and easy to use, contain no hazardous ingredients by OSHA definition, comply with all known building codes and be non-flammable.
 4. Coating materials shall have zero VOC (Volatile Organic Compound) content.
 5. Coating materials shall not release health threatening toxic smoke and fumes in a fire and shall comply with all known building codes.
- B. Coating Material shall have passed the following testing standards:
 1. ASTM E-119 fire tests - demonstrating that applying a multi-layer GLOBAL Encasement, Inc. system over fireproofing does not adversely affect the fire proof rating of the fireproofing (3 hour test).
 2. This material has passed ASTM-E-108 standard test method for fire tests of roof coverings (comparable to U.B.C. St'd 32-7) and meets the requirements for Class A.

An investigation of the external fire resistance characteristics of our water based acrylic topcoat (**AsbestoSafe®**) applied over a rated and un-rated built up roof deck was conducted.

Based on the results, the roof covering and coating system meets the Class "A" Burning Brand and Class "A" Intermittent Flame over a Class "A" rated roof system and meets Class "B" Burning Brand and Intermittent Flame acceptance criteria over un-rated roof systems.

The combination of these two evaluations on both rated and un-rated BUR and 3-tab composition roofing systems has established the coating system will not change the existing roof system rating, Class A, B or C.
 3. This material has also passed European Standards Testing EN 13823 Reaction to fire tests for building products and EN ISO 11925-2 Reaction of fire tests-Ignitability of building products subjected to direct impingement of flame.
 4. UPIIT Combustion Toxicity Test proving nothing toxic is released in a fire.
 5. ASTM E-84 and E-162 fire tests for "Class A" – Surface Flammability and Burning Characteristics (Flame Spread = 0, Smoke Developed = 5). This is equal to NFPA 255, UL No. 723, ANSI 2.5 and U.B.C. 42-1.
 6. Underwriters Laboratories® 790 Class "A" Ratings TGFU #R15397

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7. "Pull-off Adhesion" test E-736 at 9,950 lbs. per square foot (69.1 lbs. per square inch).
8. ASTM D-1653 and E-96 "Water Vapor Permeability" (showing the rate that water vapor can pass through the system).
9. Impact Resistance, "Tensile Strength" exceeds 150 psi; "Elongation" exceeds 250%.
10. System is Mildew Resistant, Impact Resistant, Scrub Resistant, Non-Yellowing, Non-Caulking, highly Blister Resistant, Rust Resistant, highly Chemical Resistant and remains flexible after 1000 hour ASTM Accelerated Weather testing.
11. Water-Based materials (zero VOC) Volatile Organic Content of **PrepLESS Primer™** = 0 g/L and **AsbestoSafe®** = 4 g/L.
12. Encasement systems shall comply with standards established by WR Grace for use over fireproofing materials.
13. Materials comply with applicable standards for installation on interior and/or exterior surfaces of a building.
14. Fully comply with the U.B.C. codes for installing encasement systems in elevator shafts and large air plenums or ducts.
15. Encasement systems provide additional waterproofing protection.
16. Materials are suitable for use over Transite siding.

2.02 RELATED MATERIALS

Elastomeric architectural sealants, caulking compounds, primers, and similar materials shall be approved by GLOBAL Encasement, Inc. All materials used shall be applied in accordance with GLOBAL Encasement, Inc.'s recommendations.

2.03 EQUIPMENT RECOMMENDATIONS

GLOBAL Encasement, Inc. materials are prescreened at the factory and can be applied with nylon bristle brushes, roller, or airless spray 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.

Recommended airless piston-type spray equipment should have at a minimum 3000-psi, 3:1 ratio and a ¾-gallon capacity.

A. **Graco** - information line is (800) 690-2894.

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

C. **Equipment Accessories:** Hose: 3/8 inch (9.53 mm) inside diameter (minimum), 1/2 inch (minimum) on long runs.

Guns: Graco Silver or Golden Hydra-mastic guns.

Spray Tips: **AsbestoSafe®**

Use self-cleaning reversible spray tip size 0.019 to 0.035 (.021 is most often used.)

Note: For alternative equipment recommendations consult the spray equipment manufacturer directly.

III. EXECUTION

3.01 MANUFACTURER'S INSTRUCTIONS

Compliance: Comply with GLOBAL Encasement, Inc.'s product data, including product technical bulletins and product guide specification instructions.

3.02 PREPARATION

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- A. Protect floors, windows, mechanical items or any areas not to be coated to protect from over-spray or dripping.
- B. All surfaces to be encased should be free of moisture.
- C. Questionable areas should be tested for surface compatibility.
- D. If product spray should occur on any surface not to be coated, wipe immediately to avoid staining or permanent adhering.
- E. Fireproofing with visible water damaged areas shall be treated in one of the methods outlined in section 3.03, Application.

3.03 APPLICATION

The following are general application guidelines. For site-specific recommendations, please contact our office at: (800) 266-3982

Under no circumstances are GLOBAL Encasement, Inc.'s products to be diluted with water, solvents or paint additives. Diluting GLOBAL Encasement, Inc. materials voids all warranties with the following exceptions:

MPE™ Multi-Purpose Encapsulant:

This product has been fully tested up to a dilution rate of 10:1.

PremeClean™ Industrial Cleaner Concentrate:

This product has been tested up to a dilution rate of 50:1.

- A. To start the encasement application process, lock down any loose debris and fibers on the surfaces being encased by spraying a mist coat of **PrepLESS Primer™** (3 to 12 wet mils = 1.5 to 6 dry mils thick). While spraying mist, coat over and seal all surfaces. This mist step will lock in-place the component being encased.

If there is an excessive amount of loose dirt and debris to be encased, allow this lock-down coat to dry for 30 to 60 minutes, then continue with the balance of the application of **PrepLESS Primer™** as described below.

- B. Apply **PrepLESS Primer™** until wet coating thickness is great enough to yield 6 to 12 dry mils or 12 to 24 wet mils thickness uniform membrane. The **PrepLESS Primer™** material seals, penetrates and stabilizes the insulation, preventing the movement of friable asbestos fibers and dirt. Apply the balance of the **PrepLESS Primer™** material in two passes with the second pass perpendicular (at 90°) to the first pass.

Use wet mil gauge to monitor application thickness on a flat surface.

- C. Allow **PrepLESS Primer™** to dry to touch in 2 to 4 hours before applying any topcoat materials. When applied, the liquid **PrepLESS Primer™** material can penetrate and be absorbed into the substrate being encased. The **PrepLESS Primer™** then shrinks as it dries, stabilizing the ACM.

Note: PrepLESS Primer™ goes on milky white and dries clear, forming a flexible membrane that remains tacky when dry.

- D. **PrepLESS Primer™** coverage rate per gallon varies depending upon porosity, texture, condition of the surface, configuration of the surfaces being encased, tip size and spray pressure and the final mil thickness specified. Rough, highly textured insulation surfaces often have a developed area that is 1½ to 3 times the flat-surface area. Approximate coverage rates for **PrepLESS Primer™** on various building surfaces are listed below:

1. Applied over a smooth, flat surface at 100 SF per gallon (16 wet mils) = 7-8 dry mils thickness.
2. Flat transite surfaces - 90 to 110 SF per gallon (14-16 wet mils = 7-8 dry mils)

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3. Porous, textured surfaces - 70 to 100 SF per gallon (16-20 wet mils = 7-8 dry mils)
 4. Rough, cementitious surfaces - 40 to 70 SF per gallon (20-30 wet mils = 7-8 dry mils)
 5. Rough, soft ACM surfaces - 30 to 50 SF per gallon (25-35 wet mils = 7-8 dry mils)
 6. Oversprayed ACM – 90 to 110 SF per gallon (14-16 wet mils = 7-8 dry mils)
 7. Impact or wear areas, thicker applications up to 40 dry mils can be applied to seal, stabilize and protect the surface.
- E. If there is evidence of water damage to the fireproofing or if delamination or repairs are needed, the use of mechanical fasteners and/or **GEI Fabric** reinforcement is recommended. This can be done following the installation of **PrepLESS Primer™**.

If using **GEI Seam Tape**, apply a long piece before installing fastener through the insulation. The size and type of fasteners that are applied through insulation (Hilti type or equal) is determined by the substrate material and thickness of insulation (consult with your GLOBAL Encasement, Inc. Representative for recommendations).

If **GEI Fabric** is used, apply it after the **PrepLESS Primer™** coat dries. Cut the **GEI Fabric** to size, dip into **PrepLESS Primer™** material then apply over surfaces that need reinforcement, overlap edges by 2-3". Allow to dry 2 to 3 hours before applying **AsbestoSafe® TopCoat**.

- F. Next spray apply **AsbestoSafe®** until wet coating thickness is great enough to yield the desired dry mil thickness. Apply topcoat in two passes; with the second pass perpendicular (at 90°) to the first pass. Allow **AsbestoSafe®** to dry before applying additional materials. (The environment in a containment area can extend dry times.) Because the **PrepLESS Primer™** has already stabilized the surface, the use of brushing or back rolling after spraying **AsbestoSafe®** can help to fill visible voids and holidays while conserving the use of materials.

A finished encasement system shall be seamless and form a continuous, flexible jacket around the Asbestos Containing Materials (no voids or holidays in finished coating surface).

- G. **AsbestoSafe®** coverage rate per gallon varies depending upon porosity, texture, condition of the surface and the mil thickness. Rough, highly textured insulation surfaces require more material than flat or smooth non-porous surfaces.

Calculated coverage rates for **AsbestoSafe®** on a flat, smooth non-porous surface at 100 SF per gallon applied @ 16 wet mils = 9 to 10 dry mils per coat. Approximate coverage rates for **AsbestoSafe®** on various ACM surfaces are listed below:

1. Over flat Transite surfaces – 90-100 SF per gallon (14-16 wet mils = 9-10 dry mils)
2. Porous or textured surfaces – 70-90 SF per gallon (17-21 wet mils = 9-10 dry mils)
3. Rough, cementitious surface – 30-70 SF per gallon (21-30 wet mils = 9-10 dry mils)
4. Rough, soft ACM surfaces – 30-50 SF per gallon (25-35 wet mils = 9-10 dry mils)
5. Oversprayed ACM – 90-110 SF per gallon (14-16 wet mils = 9-10 dry mils)
6. Over stucco – 50-70 SF per gallon (20-25 wet mils = 13-15 dry mils)
7. Some surfaces require two applications of **AsbestoSafe®** at 9-10 dry mils (16 wet) per coat.
8. Total protection of 16-20 dry mil thickness of topcoat is required for 20-Year Limited Warranty.

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- H. Protect from overspray during the installation process. Once **PrepLESS Primer™** is applied, the asbestos fibers are locked in place and clean air sampling can be done. Follow all applicable state and/or federal OSHA Guidelines.

To prevent damage to the coatings when removing all plastic and masking tape use a utility knife to first cut at coating edges.

The circulation of air helps water-based materials to dry more rapidly.

3.04 FIELD QUALITY REQUIREMENTS

- A. Manufacturer's Field Services: Inspection by a GLOBAL Encasement, Inc. Authorized Sales Representative can 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. On a case-by-case basis, payment of expenses incurred by the GLOBAL Encasement, Inc. Representative may be the responsibility of the building owner and/or contractor.
- B. GLOBAL Encasement, Inc.'s inspection or verification shall not constitute acceptance of responsibility for any improper application of material.
- C. **Disclaimer:** GLOBAL Encasement, Inc.'s employees and/or Authorized Sales Representatives are not responsible for any liabilities resulting from the application or use of these materials.

3.05 CLEANING

Use soapy water while coatings are still wet and wipe clean. Surfaces not intended to receive GLOBAL Encasement, Inc. system shall be protected during the application process. Should this protection not be effective, or not be provided, 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.

IV. MATERIALS

The following materials listed in these recommendations are available from:

GLOBAL Encasement, Inc.
701 E. Santa Clara St.
Ventura, CA 93001-5972 USA
(800) 266-3982 / Fax (800) 520-3291
Website: www.encasement.com

1. **AsbestoSafe® TopCoat**
2. **PrepLESS Primer™**
3. **MPE™ Multi-Purpose Encapsulant**
4. **GEI Seam Tape**
5. **GEI Fabric**

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.

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