

SECTION 09900
PAINT & COATINGS

ENERG H.R. HEAT REFLECTIVE & THERMAL INSULATING COATING SYSTEM

PART 1 GENERAL

1.1 SCOPE

- A. Provide all labor, materials and equipment necessary to apply the EnerG H.R. products over exterior concrete, stucco, masonry, wood, non-ferrous metal and exterior insulation and finish systems (EIFS).

1.2 RELATED SECTIONS

- A. Section 04200 Unit Masonry
- B. Section 03300 Concrete
- C. Section 07900 Sealants
- D. Section 07240 Exterior Insulation and Finish Systems

1.3 DESCRIPTION

- A. The EnerG H.R. products include acrylic and elastomeric coatings and primer for use over exterior concrete, masonry, stucco, wood, galvanized steel, OEM primed non-ferrous metal and exterior insulation and finish systems (EIFS).

1.4 SUBMITTALS

- A. Product Data: Manufacturer's data sheets including;
 - 1. Installation Guide
 - 2. Product Data Sheet
 - 3. MSDS
- B. Selection Samples: For each finish product specified, two complete sets of color chips representing manufacturers full range of available colors.
- C. Verification Samples: Provide verification samples of each product specified on a minimum size of 6" square showing actual products, colors, and texture.
- D. Installer Qualifications: Submit list of successfully completed projects with references of same or similar scope of work.

1.5 QUALITY ASSURANCE

- A. Qualifications: Successful experience with other projects of the scope and scale of the work described in this section. The applicator shall be knowledgeable in the application of exterior acrylic and elastomeric architectural coatings.
- B. Mock-up: Provide a mock-up demonstrating actual surface preparation methods to be used, then produce actual finishes to confirm acceptable appearance and workmanship.

- C. Area to be determined by architect.
- D. Approvals of each completed phase must be accepted prior to proceeding.
- E. Refinish, if applicable to receive final approvals.

1.6 DELIVERY, STORAGE & HANDLING

- A. Delivery: Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact.
- B. Storage & Protection: Store materials protected from exposure to harmful environmental conditions and at a minimum temperature of 40 degrees F and at a maximum temperature of 90 degrees F. Do not freeze!
- C. Handling: All containers must be tightly closed when not in use to prevent accidental contamination by foreign elements.

1.7 PROJECT/SITE CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, ventilation) according to the manufacturer's instructions. Do not install an exterior project when rain is imminent within the first 24 hours.
- B. The ambient air and wall temperatures shall be a minimum (45°F) and best if applied below (100°F).
- C. Adjacent areas/materials shall be protected from damage, drops and spills during the application of the EnerG H.R. materials.
- D. The EnerG H.R. materials shall be protected by permanent or temporary means from weather and other damage, prior to, during, and immediately after application. Care must be taken to prevent condensation and/or heat buildup when using tarp or plastic to prevent damage to the EnerG H.R. materials.
- E. Application of the EnerG H.R. materials shall be coordinated with other construction trades. Sufficient labor and equipment shall be employed to ensure a continuous operation, free of cold joints, texture variations, scaffold lines, etc.

1.8 LIMITED MATERIALS WARRANTY

- A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions.
- B. Manufacturer's Warranty: Submit for Owners acceptance, manufacturer's standard limited warranty against manufacturer defects executed by an authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under contract documents. Manufacturer shall offer a written limited materials warranty upon receipt of all required documentation and full payment of any outstanding invoices. The duration of warranty is calculated as one (1) year per dry mil (1/1000th inch) in combined final coatings thickness of the applied system when installed by an approved applicator.

1.9 EXTRA MATERIALS

- A. At project closeout, provide to the owner or owners representative, two gallons (7.75L) of each finish coating material in sealed containers, clearly marked with color and finish identification.

B. Custom Colors: Provide a list of color formula and location for each finish specified.

1.10 DESIGN RESPONSIBILITY

A. It is the responsibility of the specifier to determine if a product is suitable for its intended use. The specifier selected by the purchaser shall be responsible for all decisions pertaining to design, detail, structural capability, attachment details, shop drawings, etc. The manufacturer has prepared guidelines in the form of specifications and product sheets to facilitate the design process only. The manufacturer is not liable for any errors or omissions in design, detail, structural capability, attachment details, shop drawings, etc. or for any changes which specifiers or their appointed representatives may make to the manufacturers' published comments.

1.11 MAINTENANCE

A. All EnerG H.R. products are designed to require minimal maintenance. However, as with all building products, depending on location, some cleaning may be required. Contact manufacturers' technical or customer service for cleaning and recoating information if required.

PART 2 PRODUCTS

2.1 MANUFACTURER

Acceptable Manufacturers:

Eco Safety, Inc. d/b/a Eco Safety Products
2921 W Culver Street, #4B, Phoenix, AZ. 85009
Telephone: 602.305.9397 Fax: 602.305.6431
Email: info@buildwithesp.com Website: www.buildwithesp.com

2.2 PRODUCT SUBSTITUTIONS

Substitutions: No substitutions permitted.

2.3 LEED CONSIDERATIONS

Products to conform to one or more of the following categories which may assist with USGBC LEED submittals:

- A. MR Credit 1.1 Building Reuse-Walls, Floors, Roof
- B. MR Credit 5 Regional Materials
- C. IEQ Credit 4.1 Low Emitting Materials-Sealants
- D. IEQ Credit 4.2 Low Emitting Materials-Paints & Coatings
- E. ID Credit 1 Innovation in Design
- F. SS Credit 7.1 Heat Island Effect Non-roof
- G. EA Credit 1 Optimize Energy Performance

2.4 COMPONENTS

- A. EnerG H.R. Acrylic PrimeCoat: A micro-textured, non-pigmented, 100% acrylic emulsion based exterior thermal insulative primer.
- B. EnerG H.R. Elastomeric PrimeCoat: A micro-textured, non-pigmented, 100% elastomeric binder based exterior thermal insulative primer.
- C. EnerG H.R. Acrylic Architectural: An infrared reflective, pigmented, 100% acrylic emulsion based exterior coating.
- D. EnerG H.R. Elastomeric Architectural: An infrared reflective, pigmented, 100% elastomeric binder based exterior coating.

2.5 MATERIALS

- A. Water: Shall be clean and potable.

2.6 EQUIPMENT

- A. Mixing shall be done with a clean drill mixer powered by a 1/2" drill at 400-500 RPM.
- B. Standard tools associated with the paint and coating trades.

PART 3 EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

- A. Comply with the instructions and recommendations of the coatings manufacturer.

3.2 EXAMINATION

- A. Site Verification of Conditions: Verify that substrate conditions are suitable for installation of the exterior coating system.
- B. Do not proceed with installation until unsuitable conditions are corrected.
- C. Coordination of Work: Review other Sections in which primers, patching compounds, or other are provided to ensure compatibility of the total system for various substrates. On request, furnish information on characteristics of finish materials to ensure use of compatible materials.
 - 1. Notify Architect about anticipated problems when using the materials specified over substrates primed or treated by others.
 - 2. If a potential incompatibility of materials applied by others exists, obtain the following from the Applicator before proceeding:
 - a. Confirmation of product's suitability for expected service conditions.
 - b. Confirmation of product's ability to be top coated with materials specified.

3.3 SURFACE PREPARATION

- A. Coated Substrates: Remove loose or deteriorated materials, including, but not limited to, dust, dirt, chalk, and peeling materials. Patch and repair as necessary.
 - 1. Powerwash exterior surfaces and thoroughly clean all surfaces to achieve optimum porosity and bonding capability of the paint system.
 - 2. If applying over a glossy surfaces, degloss or sand to provide optimum bonding.
 - 3. Thoroughly degrease and clean to remove all foreign debris, dirt, dust, residue, oils,

- etc., and then allow to dry completely.
- B. Non-Coated Substrates: Thoroughly clean surfaces to remove all dirt, dust, form release agents or other foreign matter which may interfere with the bond of the finish coating.
1. Loose, delaminated or spalled areas shall be repaired with an appropriate cementitious patching compound and allowed to cure a minimum of 48 hours.
 2. New stucco or concrete shall cure for a minimum of 48 hours, though 7 days curing is preferred prior to application of the EnerG H.R. products.
- C. New Construction:
1. Stucco
 - a. Stucco shall have cured a minimum of 48 hours, though 7 days curing is preferred prior to application of coatings.
 - b. Clean stucco walls to ensure removal of dirt, dust, efflorescence or any other foreign matter which may interfere with application or bond of a surface coating.
 - c. Prime entire stucco surface with EnerG H.R. PrimeCoat.
 2. Masonry
 - a. Remove all fins, mortar droppings, etc. and ensure that mortar joints are sound and free of cracks or voids.
 - b. Surface should be clean, dry and free of dust, dirt, or foreign matter which may interfere with application or bond of a surface coating.
 - c. Face of block shall be filled with a block filler or cementitious parge coat and allowed to dry. Allow 48 hours curing of any cementitious surface skimming material prior to application.
 - d. Prime entire surface area with EnerG H.R. PrimeCoat.
 3. Concrete; Precast, Tilt-up, Poured-in-Place
 - a. Concrete shall be allowed to cure a minimum of 28 days prior to application of surface coatings.
 - b. Surfaces shall be free of dirt, dust, form release agents, efflorescence, curing compounds, etc.
 - c. Very smooth precast or poured-in-place concrete surfaces shall be cleaned by an appropriate and approved industry method to ensure a proper bond of surface coatings. Eco-friendly cleaning and etching compounds such as Eco-Etch Pro provides a deep clean and opens the pores for optimum penetration of coatings.
 - d. Prime entire surface area with EnerG H.R. PrimeCoat.
 4. Wood
 - a. Surface should be clean, dry and free of dust, dirt, tannins, or other foreign matter which may interfere with application or bond of a surface coating.
 - b. Prime entire surface area with EnerG H.R. PrimeCoat.
 5. Galvanized Steel or OEM Primed Aluminum and Other Non-Ferrous Metals
 - a. Surface shall be clean, dry and free of dust, dirt, or other foreign matter which may interfere with the application or bond of a surface coating.
 - b. Prime entire surface area with EnerG H.R. PrimeCoat.
- D. Cracks Shall be Treated as Follows:
1. Static cracks up to 1/32" can be bridged by EnerG H.R. PrimeCoat without special treatment.
 2. Repair of static cracks up to 1/8" in width:
 - a. Remove all loose material and clean the crack.
 - b. Apply an approved brush/knife grade patching compound directly over the crack and feather out a minimum of 4" on each side.

- c. Apply EnerG H.R. PrimeCoat to the entire surface.
3. Repair of static cracks 1/8" to 1/4" in width:
 - a. Chip or grind out crack to a minimum of 1/4" wide by 1/4" deep groove.
 - b. Clean and remove all loose materials.
 - c. Fill groove with an approved high build, non-shrinking patching compound.
 - d. Bridge crack with an approved brush/knife grade patching compound directly over the crack and feather out a minimum of 4" on each side.
 - e. Apply EnerG H.R. PrimeCoat to the entire surface.
4. Repair of static cracks over 1/4" in width:
 - a. Clean and remove all loose materials from crack.
 - b. Repair crack with non-shrinking cementitious patching mortar or cement plaster mix and allow to cure a minimum of 7 days.
 - c. Top dress with an approved brush/knife grade patching compound directly over the crack and feather out a minimum of 4" on each side.
 - d. Apply EnerG H.R. PrimeCoat to the entire surface.
5. Repair of dynamic cracks 1/16" to 1/2" in width:
 - a. Chip or grind out the crack so that the width is equal to the depth, but not less than 1/4".
 - b. Clean and remove all loose material from crack.
 - c. Fill the crack with a high grade urethane sealant. Tool into joint and allow to cure a minimum 24 hours.
 - d. Apply an approved brush/knife grade patching compound directly over the crack and feather out a minimum of 4" on each side.
 - e. Apply EnerG H.R. PrimeCoat to the entire surface.

3.4 INSTALLATION

- A. General: Apply paint according to manufacturer's written instructions. Use applicators and techniques best suited for substrate and type of material being applied. The substrate and substrate preparation shall be inspected by the contractor to ensure it is in compliance with this specification. Periodically along each wall section, measure wet film thickness to insure the correct thickness is being applied.
- B. Mixing:
 1. Mix EnerG H.R. products thoroughly to a uniform homogeneous consistency using a drill mixer powered by a 1/2" drill 400-500 RPM or equivalent. If required, add no more than 16 oz of potable water per 5 gallon pail to assist in attaining desirable consistency without reducing the necessary amount of solids in the coating system.
 2. Do not mix any type of additives into the EnerG H.R. products under any circumstances.
 3. The products must always be protected against airborne contamination such as dust, dirt, and weather during application and until fully dried on the substrate.
- C. EnerG H.R. PrimeCoat Application Procedures: Apply coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.
 1. Brush Application: Recommended only for cutting in and trim work.
 - a. Nylon bristle brush is recommended.
 - b. For best performance, a minimum of 3 dry film thickness (4.7 mils wet film

- thickness) shall be applied.
2. Roller Application: A minimum 10" wide roller cover, lambswool or equivalent with 3/4" to 1" nap is recommended.
 - a. Completely saturate the roller cover and keep the roller loaded with coating to avoid foaming. Do not dry roll or over-roll as this may cause excessive entrapment of air within the coating.
 - b. For best performance, a minimum of 3 dry film thickness (4.7 mils wet film thickness) shall be applied. Only one coat is required if applied at the correct thickness.
 3. Spray Application: A minimum .019 tip orifice and no more than .023 are recommended. Application by airless spray equipment and gun allows application of coating at total required application rate with a minimum of stipple or thickness variations. Back rolling may be necessary as customary depending on the texture or porosity of the substrate, quality of the spray tip, or other variable conditions.
 - a. Equipment should have the capacity to pump a minimum of two gallons of coating per minute. Material hose should be a minimum 1/2" I.D. for spraying coating more than a 50' length. Minimum bursting of 360 kg (800 lbs) is recommended.
 - b. With high solids paint it is more critical to avoid excessive material build-up. Hold spray gun away from the wall when pulling the trigger, then bringing the gun across the area to be coated. Maintain a wet edge and avoid starting and stopping in the middle of the wall. Place scaffolding and equipment to facilitate quick application without numerous interruptions.
 - c. A 10% loss from over spray should be anticipated.
 - d. All sprayed applications must be free of pinholes to insure water resistant performance.
 - e. For best performance, a minimum 3 mils dry film thickness (4.7 mils wet film thickness) shall be applied.
- D. EnerG H.R. Acrylic Architectural Application Procedures: Apply coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.
1. Brush Application: Recommended only for cutting in and trim work.
 - a. Nylon bristle brush is recommended.
 - b. For best performance, a minimum of 3 dry film thickness (4.7 mils wet film thickness) shall be applied.
 2. Roller Application: A minimum 10" wide roller cover, lambswool or equivalent with 3/4" to 1" nap is recommended.
 - a. Completely saturate the roller cover and keep the roller loaded with coating to avoid foaming. Do not dry roll or over-roll as this may cause excessive entrapment of air within the coating.
 - b. For best performance, a minimum of 3 dry film thickness (4.7 mils wet film thickness) shall be applied. Only one coat is required if applied at the correct thickness.
 3. Spray Application: A minimum .019 tip orifice and no more than .023 are recommended. Application by airless spray equipment and gun allows application of coating at total required application rate with a minimum of stipple or thickness variations. Back rolling may be necessary as customary depending on the texture or porosity of the substrate, quality of the spray tip, or other variable conditions.

- a. Equipment should have the capacity to pump a minimum of two gallons of coating per minute. Material hose should be a minimum 1/2" I.D. for spraying coating more than a 50' length. Minimum bursting of 360 kg (800 lbs) is recommended.
 - b. With high solids paint it is more critical to avoid excessive material build-up. Hold spray gun away from the wall when pulling the trigger, then bringing the gun across the area to be coated. Maintain a wet edge and avoid starting and stopping in the middle of the wall. Place scaffolding and equipment to facilitate quick application without numerous interruptions.
 - c. A 10% loss from over spray should be anticipated.
 - d. All sprayed applications must be free of pinholes to insure water resistant performance.
 - e. For best performance, a minimum 3 mils dry film thickness (4.7 mils wet film thickness) shall be applied.
- E. EnerG H.R. Elastomeric Architectural Application Procedures: Apply coatings by brush, roller, spray, or other applicators according to manufacturer's written instructions.
1. Brush Application: Recommended only for cutting in and trim work.
 - a. Nylon bristle brush is recommended.
 - b. For best performance, a minimum of 3 dry film thickness (4.7 mils wet film thickness) shall be applied.
 2. Roller Application: A minimum 10" wide roller cover, lambswool or equivalent with 3/4" to 1" nap is recommended.
 - a. Completely saturate the roller cover and keep the roller loaded with coating to avoid foaming. Do not dry roll or over-roll as this may cause excessive entrapment of air within the coating.
 - b. For best performance, a minimum of 3 dry film thickness (4.7 mils wet film thickness) shall be applied. Only one coat is required if applied at the correct thickness.
 3. Spray Application: A minimum .019 tip orifice and no more than .023 are recommended. Application by airless spray equipment and gun allows application of coating at total required application rate with a minimum of stipple or thickness variations. Back rolling may be necessary as customary depending on the texture or porosity of the substrate, quality of the spray tip, or other variable conditions.
 - a. Equipment should have the capacity to pump a minimum of two gallons of coating per minute. Material hose should be a minimum 1/2" I.D. for spraying coating more than a 50' length. Minimum bursting of 360 kg (800 lbs) is recommended.
 - b. With high solids paint it is more critical to avoid excessive material build-up. Hold spray gun away from the wall when pulling the trigger, then bringing the gun across the area to be coated. Maintain a wet edge and avoid starting and stopping in the middle of the wall. Place scaffolding and equipment to facilitate quick application without numerous interruptions.
 - c. A 10% loss from over spray should be anticipated.
 - d. All sprayed applications must be free of pinholes to insure water resistant performance.
 - e. For best performance, a minimum 3 mils dry film thickness (4.7 mils wet film thickness) shall be applied.

3.5 FIELD QUALITY CONTROL

- A. The manufacturer recommends the use of authorized installers who are part of the extended warranty program which requires detailed documentation of the installed EnerG H.R. system. The designer, general contractor, or their appointed representatives should make periodic on-site inspections to insure that the EnerG H.R. materials are being installed in strict accordance with the specifications. The applicator shall be responsible for the proper application of the EnerG H.R. materials. The manufacturer assumes no liability or responsibility for the applicators workmanship.
- B. Authorized and trained installers certify in writing that the quality of work performed is in accordance with the manufacturers' specifications and instructions.

3.6 PROTECTION

- A. Protect the installed surface from damage resulting from subsequent construction activity on the site.
- B. Provide "Wet Paint" signs to protect newly painted finishes. After completing painting operations, remove temporary protective wrappings provided by others to protect their work.

3.7 CLEAN UP

- A. Materials left over by the applicator at the job site are the responsibility of the applicator and shall be removed by the applicator for proper disposal according to the regulations of that State.
- B. The applicator shall clean adjacent materials and surfaces around the general work area of all foreign materials resulting from their work.
- C. All tools, equipment and personnel that contact any of the EnerG H.R. products may easily be cleaned with soap and water. (warm if available).

3.8 STORAGE AND REPAIR

- A. To store partially used containers, seal well (airtight) and place in cool, dry place. The contents of the paint should be useable for at least 12 months.
- B. The evaporation of the water within the product will cause the product to cure. If some water content has evaporated, reconstitution with clean water may restore product viability if the curing process within the container is not too advanced.

Information contained in this specification conforms to standard detail and product recommendations for the installation of the EnerG H.R. products as of the date of publication of this document and is presented in good faith. The manufacturer assume no liability, expressed or implied, as to the architecture, engineering or workmanship of any project. To insure that you are using the latest, most complete information, contact the manufacturer.

END OF SECTION