

I.R.I.S. (Infra-Red Insulation System)

ThermaPrime & ThermaShield IRR

Document# IRIS001



I.R.I.S. Technologies, LLC. MANUFACTURER'S SPECIFICATIONS SECTION 09800

THERMAPRIME AND THERMASHIELD IRR COATINGS AND RESTORATION PRODUCTS

PART I - GENERAL

1.01 Scope

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

1.02 Related Sections

- A. Unit Masonry 04200
B. Concrete 03300
C. Sealants 07900
D. Exterior Insulation and Finish System 07240
E. Wood
F. Non-ferrous metals (OEM primed)
G. Galvanized steel

1.03 Description

- A. The I.R.I.S. products include elastomeric and acrylic 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).

1.04 Submittals

- A. Samples
1. The applicator shall submit two (2) 0.20 m x 0.20 m (8.0 in x 8.0 in) samples of the specified color to the architect and/or owner for approval. **NOTE: I.R.I.S. colors may appear slightly different than any submitted reference color in different lighting conditions.**
- B. Manufacturer's Information
1. Submit manufacturer's product information and specifications.

1.05 Quality Assurance

- A. Qualifications
1. System Manufacturer: Shall be I.R.I.S. Technologies, LLC. All materials shall be obtained from I.R.I.S. Technologies, LLC. or its authorized distributors.
 - a. Materials shall be manufactured at a facility that maintains a documented quality control system.
 2. The applicator shall be knowledgeable in the application of exterior acrylic and elastomeric architectural coatings.
- B. Substrates
1. Application of I.R.I.S. products shall be applied only to the following substrates when prepared in accordance with this specification.
 - a. Sound unglazed brick, unit masonry or concrete.
 - b. Sound stucco.
 - c. Sound exterior insulation and finish systems (EIFS).
 - d. Sound wood.
 - e. Prepared galvanized steel or OEM primed aluminum and other non ferrous metals.
 2. The applicator shall verify that the proposed substrate is acceptable prior to application of I.R.I.S. products.

1.06 Delivery, Storage and Handling

- A. All I.R.I.S. materials shall be delivered to the job site in the original, unopened packages with labels intact. Upon arrival, materials shall be inspected for physical damage, freezing or overheating. Questionable materials shall not be used.
- B. All I.R.I.S. materials shall be stored in a cool, dry location, out of direct sunlight and protected from weather and other damage.
- C. Minimum storage temperature shall be 7°C (45°F) for I.R.I.S. ThermaPrime and ThermaShield IRR.

1.07 Job Conditions

- A. Existing conditions: The applicator shall have access to electric power, clean water and a clean work area at the location where the I.R.I.S. materials are to be applied.
- B. Environmental Conditions:
 - 1. The ambient air and wall temperatures shall be minimum 7°C (45°F) for ThermaPrime and ThermaShield IRR. The temperature shall remain so for at least 24 hours there after, or longer if necessary for the materials to be sufficiently dried.
- C. Protection
 - 1. Adjacent areas/materials shall be protected from damage, drops and spills during the application of I.R.I.S. materials.
 - 2. The I.R.I.S. 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 I.R.I.S. materials.
- D. Sequencing and Scheduling:
 - 1. Application of the I.R.I.S. materials shall be coordinated with other construction trades.
 - 2. Sufficient labor and equipment shall be employed to ensure a continuous operation, free of cold joints, texture variations, scaffold lines, etc.

1.08 Limited Materials Warranty

- A. I.R.I.S. Technologies, LLC. shall offer a written Limited Materials Warranty upon receipt of an executed field inspection by an approved I.R.I.S. agent and completed project form, for the duration of one (1) year per dry mil (1/1000th inch) in combined final coatings thickness of the applied systems.

1.09 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. I.R.I.S. Technologies, LLC. has prepared guidelines in the form of specifications and product sheets to facilitate the design process only. I.R.I.S. Technologies, LLC. 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 I.R.I.S. Technologies' published comments.

1.10 Maintenance

- A. All I.R.I.S. products are designed to require minimal maintenance. However, as with all building products, depending on location, some cleaning may be required. Contact I.R.I.S. technical or customer service for Cleaning & Recoating information if required.

PART II - PRODUCTS**2.01 General**

- A. All I.R.I.S. products shall be supplied by and obtained from I.R.I.S. Technologies, LLC. or its authorized distributors. Substitutions or addition of other materials will void the warranty.

2.02 Components

- A. I.R.I.S. Coatings:
 - 1. ThermaPrime: A micro-textured, non-pigmented, 100% acrylic emulsion based exterior primer.
 - 2. ThermaShield IRR Acrylic: A micro-textured, pigmented, 100% acrylic emulsion based exterior coating.
 - 3. ThermaShield IRR Elastomeric: A micro-textured, pigmented, 100% elastomeric binder based exterior coating.

2.03 Materials

- A. Water: Shall be clean and potable.

2.04 Equipment

- A. Mixing shall be done with a clean Goldblatt Jiffler Mixer #15311H7 or equivalent powered by a ½ in drill at 400-500 RPM.
- B. Tools associated with the coating and painting trades.

PART III - EXECUTION**3.01 Inspection**

- A. Examination of Substrate.
 - 1. Ensure that the substrate is of a type and condition listed in Section 1.05.B.
- B. Ensure that minimum application temperatures are met per Section 1.07.B.

3.02 Substrate Preparation for I.R.I.S. Products

- A. Coated Substrates
1. Shall be cleaned to remove all chalk, dirt, dust, loose coatings and other foreign materials.
 2. Loose, delaminated or spalled areas shall be repaired with an appropriate patching compound compatible with the substrate material.
 3. Prime entire surface with ThermaPrime.
- B. Non-coated Surfaces
1. Surfaces shall be cleaned and free of dirt, dust, form release agents or other foreign matter which may interfere with the bond of a finish coating.
 2. Loose, delaminated or spalled areas shall be repaired with an appropriate cementitious patching compound and allowed to cure a minimum of 48 hours.
 3. New stucco or concrete shall cure for a minimum of 48 hours, though 7 days curing is preferred prior to application of the I.R.I.S. products.
 4. Prime entire surface with ThermaPrime.
 5. Terminations and juncture of dissimilar materials:
 - a. Caulk as necessary using compatible sealant.
 - b. Sealant shall be compatible with I.R.I.S. products. Refer to I.R.I.S. Technical service or approved distributor for approved sealants.
 - c. I.R.I.S. materials shall be fully dried prior to sealant installation.
- 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 bond of a surface coating.
 - c. Prime entire stucco surface with ThermaPrime.
 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 other 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. As an alternate, I.R.I.S. Technologies, LLC. recommends UltraKote Products Inc. SkimKote be used to skim block. Allow 48 hours curing of any cementitious surface skimming material prior to application.
 - d. Prime entire surface with ThermaPrime.
 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.
 - d. Apply ThermaPrime to the entire concrete surface and allow to dry.
 4. Wood.
 - a. Surface should be clean, dry and free of dust, dirt, or other foreign matter which may interfere with application or bond of a surface coating.
 - b. Apply ThermaPrime to the entire concrete surface and allow to dry.
 5. Galvanized steel or OEM primed aluminum and other non ferrous metals.
 - a. Surface should be clean, dry and free of dust, dirt, or other foreign matter which may interfere with application or bond of a surface coating.
 - b. Apply ThermaPrime to the entire concrete surface and allow to dry.
- D. Cracks shall be treated as follows:
1. Static cracks up to .8 mm (1/32 in) can be bridged by ThermaPrime without special treatment.
 2. Static cracks up to 3 mm (1/8 in) in width.
 - a. Remove all loose material and clean the crack.
 - b. Apply an approved brush/knife grade patching compound, (according to mfg's directions) directly over the crack and feather out a minimum of 102 mm (4 in) on each side.
 - c. Coat entire surface with ThermaPrime.
 3. Static cracks 3 mm to 6.4 mm (1/8 in to 1/4 in) wide.
 - a. Chip or grind out crack to a minimum 6.4 mm (1/4 in) wide by 6.4 mm (1/4 in) deep groove.
 - b. Clean and remove all loose materials.
 - c. Fill groove with an approved high build, non-shrinking patching compound. (According to mfg's directions.)

- d. Bridge crack with an approved brush/knife grade patching compound, (according to mfg's directions) directly over the crack and feather out a minimum of 102 mm (4 in) on each side.
- e. Coat entire surface with ThermaPrime.
4. Static cracks over 6.4 mm (1/4 in) wide.
 - a. Clean and remove all loose and unsound material 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, (according to mfg's directions) directly over the crack and feather out a minimum of 102 mm (4 in) on each side.
 - d. Coat entire surface with ThermaPrime.
5. Dynamic cracks 1.6 mm to 13 mm (1/16 in to 1/2 in) wide.
 - a. Chip or grind out the crack so that the width is equal to the depth, but not less than 6.4 mm (1/4 in).
 - 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 minimum 24 hours.
 - d. Apply an approved brush/knife grade patching compound, (according to mfg's directions) directly over the crack and feather out a minimum of 102 mm (4 in) on each side.
 - e. Coat entire surface with ThermaPrime.

3.03 I.R.I.S. Products Application

- A. The substrate and substrate preparation shall be inspected by the contractor to ensure it is in compliance with this specification.
- B. Mixing
 1. Mix I.R.I.S. products thoroughly to a uniform homogeneous consistency using a Goldblatt Jiffler Mixer No. 15311H7 powered by a 1/2 in drill 400-500 RPM or equivalent. Mix until uniform consistency is achieved. If required the addition of no more than 16 oz of potable water per 5 gallon pail, may be added to assist attaining such consistency.
- C. General
 1. The I.R.I.S. products can be brush, roller or spray applied in accordance with specific product instructions.
 2. No additives shall be added under any circumstances.
 3. The coatings shall be applied to the entire wall surface in a continuous application to a natural break.
 4. Coatings shall be protected from airborne contamination such as dust, soot, etc. and from weather and other damage until fully dried.
- D. ThermaPrime Application:
 1. Brush application recommended only for cutting in and trim, not for entire wall elevation.
 - a. Nylon bristle brush is recommended.
 - b. For best performance, a minimum 2.5 mils dry film thickness (4.1 mils wet film thickness), shall be applied.
 2. Roller Application
 - a. Minimum 250 mm (10 in) wide roller cover with 32 mm – 38 mm (1 1/4 in - 1 1/2 in) nap is recommended.
 - b. Completely saturate the rollcover and keep the roller loaded with coating to avoid foaming. Do not dry-roll or over-roll as this will cause excessive entrapment of air within the coating.
 - c. For best performance, a minimum 2.5 mils dry film thickness (4.1 mils wet film thickness), shall be applied. Only one coat is required if applied at the correct thickness.
 3. Spray Application
 - a. Application by airless spray equipment and gun allows application of coating at total required application rate with a minimum of stipple or thickness variations.
 - b. Equipment should have the capacity to pump minimum of two gallons of coating per minute.
 - c. Material hose should be minimum 13 mm (1/2 in) I.D. for spraying coating more than a 15 m (50 ft) length. Minimum bursting of 360 kg (800 lbs) is recommended.
 - d. Tip orifice sizes of .019-.023 will be required depending on equipment used.
 - e. Cross apply coating holding spray gun perpendicular to, and approximately 1 m (3 ft) from the surface. Avoid excessive material build-up by holding spray gun away from the wall when pulling the trigger, then bringing gun across area to be coated. Maintain a wet edge, and avoid starting and stopping in the middle of the wall. Do not attempt to overreach spray pattern as this may result in appearance of irregular spray pattern. Place scaffolding and equipment to facilitate quick application without numerous interruptions.
 - f. A 10% loss from overspray should be anticipated.
 - g. Backrolling over sprayed areas is recommended to control pinholing on spray applications over porous surfaces.
 - h. All sprayed applications must be free of pinholes to insure water resistant performance.

- i. For best performance, a minimum 2.5 mils dry film thickness (4.1 mils wet film thickness), shall be applied.
 - j. Coating thickness should be physically measured intermittently while wet, throughout the application, to insure the correct thickness is being applied and to ensure customer satisfaction upon completion.
- E. ThermaShield IRR Acrylic Application:
1. Brush application recommended only for cutting in and trim, not for entire wall elevation.
 - a. Nylon bristle brush is recommended.
 - b. For best performance, a minimum 2.5 mils dry film thickness (4.2 mils wet film thickness), shall be applied.
 2. Roller Application
 - a. Minimum 250 mm (10 in) wide roller cover with 32 mm – 38 mm (1 ¼ in -1 ½ in) nap is recommended.
 - b. Completely saturate the rollcover and keep the roller loaded with coating to avoid foaming. Do not dry-roll or over-roll as this will cause excessive entrapment of air within the coating.
 - c. For best performance, a minimum 2.5 mils dry film thickness (4.2 mils wet film thickness), shall be applied. Only one coat is required if applied at the correct thickness.
 3. Spray Application
 - a. Application by airless spray equipment and gun allows application of coating at total required application rate with a minimum of stipple or thickness variations.
 - b. Equipment should have the capacity to pump minimum of two gallons of coating per minute.
 - c. Material hose should be minimum 13 mm (1/2 in) I.D. for spraying coating more than a 15 m (50 ft) length. Minimum bursting of 360 kg (800 lbs) is recommended.
 - d. Tip orifice sizes of .019-.023 will be required depending on equipment used.
 - e. Cross apply coating holding spray gun perpendicular to, and approximately 1 m (3 ft) from the surface. Avoid excessive material build-up by holding spray gun away from the wall when pulling the trigger, then bringing gun across area to be coated. Maintain a wet edge, and avoid starting and stopping in the middle of the wall. Do not attempt to overreach spray pattern as this may result in appearance of irregular spray pattern. Place scaffolding and equipment to facilitate quick application without numerous interruptions.
 - f. A 10% loss from overspray should be anticipated.
 - g. Backrolling over sprayed areas is recommended to control pinholing on spray applications over porous surfaces.
 - h. All sprayed applications must be free of pinholes to insure water resistant performance.
 - i. For best performance, a minimum 2.5 mils dry film thickness (4.2 mils wet film thickness), shall be applied.
 - j. Coating thickness should be physically measured intermittently while wet, throughout the application, to insure the correct thickness is being applied and to ensure customer satisfaction upon completion.
- F. ThermaShield IRR Elastomeric Application:
1. Brush application recommended only for cutting in and trim, not for entire wall elevation.
 - a. Nylon bristle brush is recommended.
 - b. For best performance, a minimum 2.5 mils dry film thickness (4.2 mils wet film thickness), shall be applied.
 2. Roller Application
 - a. Minimum 250 mm (10 in) wide roller cover with 32 mm – 38 mm (1 ¼ in -1 ½ in) nap is recommended.
 - b. Completely saturate the rollcover and keep the roller loaded with coating to avoid foaming. Do not dry-roll or over-roll as this will cause excessive entrapment of air within the coating.
 - c. For best performance, a minimum 2.5 mils dry film thickness (4.2 mils wet film thickness), shall be applied. Only one coat is required if applied at the correct thickness.
 3. Spray Application
 - a. Application by airless spray equipment and gun allows application of coating at total required application rate with a minimum of stipple or thickness variations.
 - b. Equipment should have the capacity to pump minimum of two gallons of coating per minute.
 - c. Material hose should be minimum 13 mm (1/2 in) I.D. for spraying coating more than a 15 m (50 ft) length. Minimum bursting of 360 kg (800 lbs) is recommended.
 - d. Tip orifice sizes of .019-.023 will be required depending on equipment used.
 - e. Cross apply coating holding spray gun perpendicular to, and approximately 1 m (3 ft) from the surface. Avoid excessive material build-up by holding spray gun away from the wall when pulling the trigger, then bringing gun across area to be coated. Maintain a wet edge, and avoid starting and stopping in the middle of the wall. Do not attempt to overreach spray pattern as this may result in appearance of irregular spray pattern. Place scaffolding and equipment to facilitate quick application without numerous interruptions.

- f. A 10% loss from overspray should be anticipated.
- g. Backrolling over sprayed areas is recommended to control pinholing on spray applications over porous surfaces.
- h. All sprayed applications must be free of pinholes to insure water resistant performance.
- i. For best performance, a minimum 2.5 mils dry film thickness (4.2 mils wet film thickness), shall be applied.
- j. Coating thickness should be physically measured intermittently while wet, throughout the application, to insure the correct thickness is being applied and to ensure customer satisfaction upon completion.

3.04 Field Quality Control

- A. I.R.I.S. shall maintain customer satisfaction and ensure responsible application of I.R.I.S. products by its approved applicators by performing random on-site inspections. I.R.I.S. Technologies, LLC. and/or its distributors will provide field service support if reasonably requested by the applicator. The designer, general contractor, or their appointed representative should make periodic on-site inspections to ensure that the I.R.I.S. materials are being installed in strict accordance with I.R.I.S. specifications. The applicator shall be responsible for the proper application of the I.R.I.S. materials. I.R.I.S. Technologies, LLC. assumes no liability or responsibility for the applicator's workmanship. **NOTE: I.R.I.S. colors may appear slightly different than any submitted reference color in different lighting conditions.**
- B. If requested, the applicator shall certify in writing the quality of work performed relative to the substrate system, details, installation procedures and workmanship is in accordance with project specifications and manufacturer's instructions.
- C. If requested, the sealant applicator shall certify in writing that the sealant application is in accordance with the sealant manufacturer's and I.R.I.S. Technologies, LLC. recommendations.

3.05 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 and the general work area, of all foreign materials resulting from their work and presence.
- C. All tools, equipment and personnel that contact any of the I.R.I.S. products may be easily cleaned with soap and water (warm if available), the use of solvent based cleaners is not required, nor is it recommended.

Information contained in this specification conforms to standard detail and product recommendations for the installation of I.R.I.S. Technologies, LLC. products as of the date of publication of this document and is presented in good faith. I.R.I.S. Technologies, LLC. assumes 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 I.R.I.S. Technologies, LLC.