

SECTION 07 56 00
FLUID APPLIED ROOFING RESTORATION

BURBANK UNIFIED SCHOOL DISTRICT
SUMMER 2025 ROOFING PROJECTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Metal Surface Roof Restoration
- B. Accessories
- C. Edge Treatment and Roof Penetration Flashings

1.2 SCOPE OF WORK

- A. Provide all labor, equipment, and miscellaneous materials to install District purchased and furnished roofing materials over the properly prepared substrate.

- B. DISTRICT SUPPLIED MATERIAL

Note that this project includes the installation of owner-supplied material; the District has acquired roofing material through the CMAS (California Multiple Award Schedules) program.

- C. All products listed in 2.1, D will be furnished by the District. All products not listed in 2.1, D are to be furnished by the Contractor. All products listed in 2.1, D will be manufactured by The Garland Company and purchased by Burbank Unified School District. Any material or accessories required for the installation of the roof system in excess of the district provided material must be supplied by the Contractor. It is up to the Contractor to determine the precise amount of material required for the completion of this project; and to provide excess material, as required.

- D. Fluid-Applied Restoration Scope of Work (Buildings highlighted in pink)

1. Powerwash the existing roof system with simple green. Remove any dirt and debris. Ensure no moisture on the roof prior to applying any coating material.
2. Inspect all fasteners and replace all loose.
3. Caulk all fasteners with Tuff Stuff True White.
4. Rusted Areas: Wire brush all rusted metal areas. Where too severe, rusted area to be cut and removed. Install new 22 gauge, galvanized sheet, overlapping over the existing panel 4". Set in butyl tape and pop rivet every 2" o.c.
5. Replace all bent or damaged panels to match existing.
6. Apply Unibond ST 4" tape to all seams.
7. Apply silicone, Title 24 white coating – Cool Sil -- at 2.5 gal per sq. to the roof field and flashings.
8. Sheet Metal:
 - a. Replace all existing gutters. Install 22 gauge, kynar gutters – fabricated from RMER SS Flat Stock. All gutters to be 5"x5"x5" box gutters.
9. District to paint underside of metal.

1.3 REFERENCES

- A. ASTM C 78 - Standard Test Method for Flexural Strength of Concrete.
- B. ASTM C 92 - Standard Test Methods for Sieve Analysis and Water Content of Refractory Materials.

- C. ASTM C 109 - Standard Test Method for Compressive Strength of Hydraulic Cement Mortars.
- D. ASTM C 920 - Standard Specification for Elastomeric Joint Sealants.
- E. ASTM D 93 - Standard Test Methods for Flash Point by Pensky-Martens Closed Cup Tester.
- F. ASTM D 562 - Standard Test Method for Consistency of Paints Measuring Krebs Unit (KU) Viscosity Using a Stormer-Type Viscometer.
- G. ASTM D 624 - Standard Test Method for Tear Strength of Conventional Vulcanized Rubber and Thermoplastic Elastomers
- H. ASTM D 1002 - Standard Test Method for Apparent Shear Strength of Single-Lap-Joint Adhesively Bonded Metal Specimens by Tension Loading (Metal-to-Metal).
- I. ASTM D 2196 - Standard Test Methods for Rheological Properties of Non-Newtonian Materials by Rotational (Brookfield type) Viscometer.
- J. ASTM D 2369 - Standard Test Method for Volatile Content of Coatings.
- K. ASTM D 4212 - Standard Test Method for Viscosity by Dip-Type Viscosity Cups.
- L. ASTM D 4402 - Standard Test Method for Viscosity Determination of Asphalt at Elevated Temperatures Using a Rotational Viscometer.
- M. SMACNA Architectural Sheet Metal Manual.
- N. National Roofing Contractors Association (NRCA) - Roofing and Waterproofing Manual.

1.4 SYSTEM DESCRIPTION

- A. Metal Surface Roof Restoration: Renovation work includes:
 1. Surface preparation: Remove loose flaking rust, dust, dirt, debris, secure all gaped panels and replace all loose fasteners with next size larger.
 2. Metal Flashings: Repair/Replace metal flashings, pitch pockets, etc.
 3. Base coat: Apply base coat and fabric on seams and around penetrations/let cure/Apply base coat over the entire roof surface/let cure.
 4. Topcoat: Apply coating over entire roof surface.

1.5 SUBMITTALS

- A. Submit under provisions of Section 01 30 00 - Administrative Requirements.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 1. Preparation instructions and recommendations.
 2. Storage and handling requirements and recommendations.
 3. Installation methods.
- C. Shop Drawings: Submit shop drawings including installation details of fluid applied roofing and flashing prior to job start.
- D. LEED Submittals: Provide documentation of how the requirements of Credit will be met:
 1. List of proposed materials with recycled content. Indicate post-consumer recycled content and pre-consumer recycled content for each product having recycled content.
 2. Product data and certification letter indicating percentages by weight of post-consumer and pre-consumer recycled content for products having recycled content.
 3. Product reflectivity and emissivity criteria to qualify for one point under the LEED

credit category, Credit 7.2, Landscape & Exterior Design to Reduce Heat Island - Roof.

- E. Verification Samples: For each product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, and color.
- F. Manufacturer's Certificates: Certify products meet or exceed specified requirements.
- G. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for periodic inspection and maintenance of all completed roofing work. Provide product warranty executed by the manufacturer. Assist Owner in preparation and submittal of roof installation acceptance certification as may be necessary in connection with fire and extended coverage insurance on roofing and associated work.

1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with manufacturer's current Application and Installation Guidelines and the NRCA Roofing and Waterproofing Manual.
- B. Manufacturer Qualifications: Manufacturer: Company specializing in manufacturing products specified in this section with documented ISO 9001 certification and minimum twelve years and experience.
- C. Installer Qualifications: Company specializing in performing Work of this section with minimum five years documented experience and a certified Pre-Approved Garland Contractor. Installer must submit a Certified Pre-approval letter from Garland with bid form.
- D. Installer's Field Supervision: Maintain a full-time Supervisor/Foreman on job site during all phases of roofing work while roofing work is in progress.
- E. Product Certification: Provide manufacturer's certification that materials are manufactured in the United States and conform to requirements specified herein, are chemically and physically compatible with each other, and are suitable for inclusion within the total roof system specified herein.
- F. Source Limitations: Obtain all components of roof system from a single manufacturer. Secondary products that are required shall be recommended and approved in writing by the roofing system Manufacturer. Upon request of the Architect or Owner, submit Manufacturer's written approval of secondary components in list form, signed by an authorized agent of the Manufacturer.

1.7 PRE-INSTALLATION CONFERENCE

- A. Convene a pre-roofing conference approximately two weeks before scheduled commencement of roofing system installation and associated work.
- B. Require attendance of installers of deck or substrate construction to receive roofing, installers of rooftop units and other work in and around roofing which must precede or follow roofing work including mechanical work, Architect, Owner, roofing system manufacturer's representative.
- C. Objectives include:
 - 1. Review foreseeable methods and procedures related to roofing work, including set up and mobilization areas for stored material and work area.
 - 2. Tour representative areas of roofing substrates, inspect and discuss condition of substrate, roof drains, curbs, penetrations and other preparatory work.
 - 3. Review structural loading limitations of deck and inspect deck for loss of flatness and for required attachment.

4. Review roofing system requirements, Drawings, Specifications and other Contract Documents.
5. Review and finalize schedule related to roofing work and verify availability of materials, installer's personnel, equipment and facilities needed to make progress and avoid delays.
6. Review required inspection, testing, certifying procedures.
7. Review weather and forecasted weather conditions and procedures for coping with unfavorable conditions, including possibility of temporary roofing.
8. Record conference including decisions and agreements reached. Furnish a copy of records to each party attending.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in manufacturer's unopened packaging with labels intact until ready for installation.
- B. Store all roofing materials in a dry place, on pallets or raised platforms, out of direct exposure to the elements until time of application. Store materials at least 4 inches above ground level and covered with "breathable" tarpaulins.
- C. Stored in accordance with the instructions of the manufacturer prior to their application or installation. Store roll goods on end on a clean flat surface. No wet or damaged materials will be used in the application.
- D. Storage temperatures should be between 60 degrees F to 80 degrees F (15.6 degrees to 26.7 degrees C). Indoor ventilated storage is recommended. Ensure jobsite storage is in a shaded and ventilated area. Do not store in direct sunlight. Keep materials away from open flame or welding sparks.
- E. Avoid stockpiling of materials on roofs without first obtaining acceptance from the Architect/Engineer.

1.9 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.
- B. Weather Condition Limitations: Product application must not be done when rain or other conditions such as fog or heavy dew are possible within a 24 hour period. Roof surface must be at least 6 Fahrenheit degrees or 3 Celsius degrees above the dew point and rising.
- C. Proceed with roofing work only when existing and forecasted weather conditions will permit unit of work to be installed in accordance with manufacturer's recommendations and warranty requirements.
- D. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed during same day.
- E. When applying materials with spray equipment, take precautions to prevent over spray from damaging or defacing surrounding walls, building surfaces, vehicles or other property. Care should be taken to do the following:
 1. Close air intakes into the building.
 2. Have a dry chemical fire extinguisher available at the jobsite.
 3. Post and enforce "No Smoking" signs.
- F. Avoid inhaling spray mist; take precautions to ensure adequate ventilation.

- G. Protect completed roof sections from foot traffic for a period of at least 48 hours at 75 degrees F (24 degrees C) and 50 percent relative humidity or until fully cured.
- H. Take precautions to ensure that materials do not freeze.
- I. Minimum temperature for application of White-Knight Plus/ White-Stallion Plus, White-Knight Plus WC, LiquiTec and Cool-Sil coatings is 50 degrees F (10 degrees C) and rising.

1.10 WARRANTY

- A. Warranty Period: 10 years.
 - 1. Upon completion of the work, provide the Manufacturer's written and signed limited labor and materials Warranty, warranting that, if a leak develops in the roof during the term of this warranty, due either to defective material or defective workmanship by the installing contractor, the manufacturer shall provide the Owner, at the Manufacturer's expense, with the labor and material necessary to return the defective area to a watertight condition.
 - a. Metal Surface Roof Restoration: 10 years
- B. Warranty Period: Installer is to guarantee all work against defects in materials and workmanship for a period indicated following final acceptance of the Work.
 - 1. Warranty Period:
 - a. 5 years from date of acceptance.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Garland Company, Inc. (The); 3800 E. 91st St., Cleveland, OH 44105. Web Site: www.garlandco.com.
 Tony DeMartinis
 (818) 900-3000
 tdemartinis@garlandco.com
- B. Roofing Contractor to be responsible for all Garland materials in excess of District purchased and furnished amount. District to provide material quantities matching the specified amount below. Any additional Garland material required to complete the project is the responsibility of the roofing contractor. Roofing Contractor responsible for purchasing additional materials required, including all freight and tax charges.
- C. Roofing contractor to be at delivery of District purchased roof materials. The District has no responsibility to provide any equipment for handling and / or loading the materials to the Contractor's trucks. Upon signature of delivery, the roofing contractor assumes full responsibility for all District purchased roof materials. Any materials lost or stolen are the responsibility of the roofing contractor to replace. Roofing Contractor responsible for freight and tax on the replaced materials.
- D. Listed in the tables below are quantities of district provided material. Any material or accessories required for the installation of the roof system in excess of the district provided material must be supplied by the Contractor. It is up to the Contractor to determine the precise amount of material required for the completion of this project; and to provide excess material, as required. Maximum quantity of the OFCI materials to be provided for all roofing which will be provided to the Contractor is as follows:

Thomas Jefferson Elementary School

Material	Amount	Unit Size
Cool-Sil HB	9	5 Gal

2.2 METAL SURFACE ROOF RESTORATION

- A. Cool Sil HB:
 - 1. Coating: Cool Sil HB:
 - 2. Flashing: Cool Sil HB
 - 3. Reinforcement: Partial reinforcement on metal panel seams only.
 - a. Grip Polyester Soft:

2.3 ACCESSORIES:

- A. Nails and Fasteners: Non-ferrous metal or galvanized steel, except that hard copper nails shall be used with copper; aluminum or stainless steel nails shall be used with aluminum; and stainless steel nails shall be used with stainless steel, Fasteners shall be self-clinching type of penetrating type as recommended by the deck manufacturer. Fasten nails and fasteners flush-driven through flat metal discs not less than 1 inch (25 mm) diameter. Omit metal discs when one-piece composite nails or fasteners with heads not less than 1 inch (25 mm) diameter are used.
- B. Silicone Sealer - Cool-Sil FG: One part, 100% silicone, moisture-cure sealer for sealing roof penetrations, drains, existing membrane seams and other flashing details.
 - 1. Tensile Strength, ASTM D 412: 130 psi
 - 2. Elongation, ASTM D 412: 275%
 - 3. Hardness, Shore A, ASTM C 920: 35
 - 4. Adhesion-in-Peel, ASTM C 92: 30 pli

2.4 EDGE TREATMENT AND ROOF PENETRATION FLASHINGS

- A. Drain Flashing should be 4lb (1.8kg) sheet lead formed and rolled.
- B. Plumbing stacks should be 4lb (1.8kg) sheet lead formed and rolled.
- C. Fabricated Flashing: Fabricated flashings and trim are specified in Section 07 62 00 - Sheet Metal Flashing and Trim.
 - 1. Fabricated flashings and trim shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the CDA Copper Development Association "Copper in Architecture - Handbook" as applicable.
- D. Manufactured Roof Specialties: Manufactured copings, fascia, gravel stops, control joints, expansion joints, joint covers and related flashings and trim are specified in Section 07 71 23 - Manufactured Gutters and Downspouts.
 - 1. Manufactured roof specialties shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the NRCA "Roofing and Waterproofing Manual" as applicable.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.

- B. Verify that work penetrating the roof deck, or which may otherwise affect the roofing, has been properly completed.
- C. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 ROOF PREPARATION AND REPAIR

- A. General: All necessary field and flashing repairs must be done according to good construction practices, including the removal of all wet insulation and defective materials as identified through a moisture detection survey such as an infrared scan and replacement with like-materials.
 - 1. Remove damaged roof flashings from curbs and parapet walls down to the surface of the roof. Remove damaged existing flashings at roof drains and roof penetrations.
 - 2. Existing roof surfaces shall be primed as necessary and allowed to dry prior to installing the roofing system.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. Repair all defects such as deteriorated roof decks, saturated materials, loose or brittle membrane or membrane flashings, etc. Verify that existing conditions meet the following requirements:
 - 1. Existing membrane is either fully adhered or that the membranes mechanical fasteners are secured and functional.
 - 2. Application of roofing materials over a brittle, damaged or poor condition roof membrane is not permitted.
- D. Remove all loose dirt and foreign debris from the roof surface. Do not damage roof membrane in cleaning process.
- E. Clean and seal all parapet walls, gutters and coping caps, and repair any damaged metal where necessary. Seal watertight all fasteners, pipes, drains, vents, joints and penetrations where water could enter the building envelope.
- F. Confirm local water run-off ordinances and restrictions prior to cleaning roof. Clean the entire roof surface by removing all dirt, algae, mold, moss, paint, oil, talc, rust or other foreign substance. Use a bio-degradable cleaner like Simple Green Oxy Solve when necessary and warm water. Scrub heavily soiled areas with a brush. Power wash roof thoroughly with an industrial surface cleaner equipped with one piece balanced spray rotating jets for streak free close contact cleaning. Rinse with fresh water to completely remove all residuals. Allow roof to dry thoroughly before continuing.
- G. Repair existing roof membrane as necessary to provide a sound substrate for the liquid membrane. All surface defects must be repaired/renovated and be made watertight. Any repairs must be with be only with materials compatible with the fluid-applied roofing restoration system.
- H. Power washing of metal roof surfaces to remove all loose rust or scale is mandatory before application. Use a high volume air broom or compressed air to remove residual dust rust perforations, etc. Deteriorated metal roof decks must be repaired or replaced prior to the application of the coating system.

3.3 INSTALLATION

- A. General Installation Requirements:
 - 1. Install in accordance with manufacturer's current Application and Installation

Guidelines and the NRCA Roofing and Waterproofing Manual.

2. Adequate coating thickness is essential to performance. If the applicator is unfamiliar in gauging application rates, we suggest that a controllable area be measured and the specified material be applied. In all cases, all minimum specified material must be applied and proper minimum dry film thicknesses must be achieved. Care must be taken to ensure that all areas completed including all flashings, roof penetrations, etc. are coated sufficiently to ensure a watertight seal.
3. Cooperate with manufacturer, inspection and test agencies engaged or required to perform services in connection with installing the roof system.
4. Insurance/Code Compliance: Where required by code, install and test the roofing system to comply with governing regulation and specified insurance requirements.
5. Protect work from spillage of roofing materials and prevent materials from entering or clogging drains and conductors. Replace or restore adjacent work damaged by installation of the roofing system.
6. All primers must be top coated within 24 hours after application, preferably immediately after drying. Clean and re-prime if more time passes after priming.
7. Coordinate counter flashing, cap flashings, expansion joints and similar work with work specified in other Sections under Related Work.
8. Coordinate roof accessories and miscellaneous sheet metal accessory items, including piping vents and other devices with work specified in other Sections under Related Work.

B. Metal Surface Roof Restoration: Renovation work includes:

1. Surface Preparation: Remove loose flaking rust, dust, dirt, debris, secure all gaped panels and replace all loose fasteners with next size larger.
 - a. Remove rust by the most rigorous method suitable for the particular project and as approved by Garland.
 - b. Tighten all fasteners and verify that neoprene washers are in place.
 - c. Replace missing fasteners using oversize fasteners as necessary.
 - d. Seal all fastener heads by applying a heavy dab of compatible sealant to the tops and around of all fastener heads.
 - e. Repair gaps, holes and joints in the metal roof with appropriate patching materials.
 - f. Completely remove existing seam coatings, mastics and sealants.
 - g. Ensure skylights, scuppers, gutters, penetrations and structures are firmly secured, watertight and in good working condition.
 - h. Where necessary, install water deflecting crickets behind rooftop mechanical units.
 - i. All roof areas must promote positive drainage.
 - j. Previously coated roofs with well-adhered polyurethane or polyurea coating surfacing must be solvent-wiped with acetone after cleaning to reactivate surface for overcoating.
2. Flashing: Repair/Replace metal flashings, pitch pockets, etc.
3. Coating: Ensure the fluid-applied coverage rates are obtained throughout the entire roof surface.
 - a. Material: Apply base coat in a uniform manner at 1.5 gallons per 100 SF over the entire roof surface. Allow to cure thoroughly, but no more than 72 hours. Apply a top coating over base coat at 1.0 gallons per 100 SF.
 - b. Use special attention to coating flashings and other critical areas to build adequate membrane thickness.
 - c. Use multiple coats on verticals or steep slopes to prevent sagging and to obtain the required total coverage rate.
 - d. Apply to Garland's minimum membrane thickness over the entire roof surface.

3.4 REPAIR OF EDGE TREATMENT AND ROOF PENETRATION FLASHING

- A. General
 - 1. Repair flashing in accordance with the requirements/recommendations of the Membrane manufacturer and as indicated on the manufacturer's standard drawings. Provide system with base flashing, edge flashing, penetration flashing, counter flashing, and all other flashings required for a complete watertight system.
 - 2. Install and repair flashings concurrently with the roofing as the job progresses.
 - 3. Terminate flashings as required by the membrane manufacturer.
- B. Manufactured Roof Specialties: Manufactured copings, fascia, gravel stops, control joints, expansion joints, joint covers and related flashings and trim are provided as specified in Section 07 71 23 - Manufactured Gutters and Downspouts.
 - 1. Manufactured roof specialties shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the National Roofing Contractor's Association "Roofing and Waterproofing Manual" as applicable.

3.5 CLEANING

- A. Clean-up and remove daily from the site all wrappings, empty containers, paper, loose particles and other debris resulting from these operations.
- B. Remove coating markings from finished surfaces.
- C. Repair or replace defaced or disfigured finishes caused by Work of this section.

3.6 PROTECTION

- A. Provide traffic ways, erect barriers, fences, guards, rails, enclosures, chutes and the like to protect personnel, roofs and structures, vehicles and utilities.
- B. Protect exposed surfaces of finished walls with tarps to prevent damage.
- C. Plywood for traffic ways required for material movement over existing roofs shall be not less than 5/8 inch (16 mm) thick.
- D. In addition to the plywood listed above, an underlayment of minimum 1/2 inch (13 mm) recover board is required on new roofing.
- E. Special permission shall be obtained from the Manufacturer before any traffic shall be permitted over new roofing.

3.7 FIELD QUALITY CONTROL

- A. Inspection: Provide manufacturer's field observations at start-up and at intervals of 3 days per working week. Provide a final inspection upon completion of the Work.
 - 1. Warranty shall be issued upon manufacturer's acceptance of the installation.
 - 2. Field observations shall be performed by a Sales Representative employed full-time by the manufacturer and whose primary job description is to assist, inspect and approve membrane installations for the manufacturer.
 - 3. Provide observation reports from the Sales Representative indicating procedures followed, weather conditions and any discrepancies found during inspection.
 - 4. Provide a final report from the Sales Representative, certifying that the roofing system has been satisfactorily installed according to the project specifications, approved details and good general roofing practice.
- B. Correct defects or irregularities discovered during field inspection.

3.8 FINAL INSPECTION

- A. At completion of roofing installation and associated work, meet with Contractor, Architect, installer, installer of associated work, roofing system manufacturer's representative and others directly concerned with performance of roofing system.
- B. Walk roof surface areas, inspect perimeter building edges as well as flashing of roof penetrations, walls, curbs and other equipment. Identify all items requiring correction or completion and furnish copy of list to each party in attendance.
- C. If core cuts verify the presence of damp or wet materials, the installer shall be required to replace the damaged areas at his own expense.
- D. Repair or replace deteriorated or defective work found at time above inspection as required to produce an installation that is free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- E. Notify Architect upon completion of corrections.
- F. Following the final inspection, provide written notice of acceptance of the installation from the roofing system manufacturer.

3.9 SCHEDULES

- A. Reinforcement:
 - 1. Grip Polyester Soft: Soft polyester reinforcing fabric.
 - a. Tensile Strength ASTM D 3766, 57.1 lbs (25.9 kg).
 - b. Tear Strength, 16.1 lbs (7.30 kg).
 - c. Elongation ASTM D 3786, 61.65%
 - d. Weight per Area, 3 oz./sq yd. (102 g/m²)
 - e. Mullen Burst, ASTM D 3786: 176 lbs. (80.2 kg)
- B. Coatings:
 - 1. Coating: Cool-Sil HB Gray Silicone Coating (Roller Grade): Single-component 100 % silicone, liquid waterproofing membrane.
 - a. Tensile Strength: ASTM D 412, 350 psi
 - b. Elongation: ASTM D 412, 174%
 - c. Flash Point: ASTM D 93, 141 degrees F min. (60.6 degrees C)
 - d. Solids Content: ASTM D 2369, Typical 95%
 - e. VOC: < 50 g/l
 - 2. Coating: Cool-Sil HB White Silicone Coating (Roller Grade): Highly reflective, multi - purpose, single-component 100% silicone, liquid waterproofing membrane.
 - a. Tensile Strength: ASTM D 412, 350 psi
 - b. Elongation: ASTM D 412, 174%
 - c. Flash Point: ASTM D 93, 141 degrees F min. (60.6 degrees C)
 - d. Solids Content: ASTM D 2369, Typical 95%
 - e. VOC: < 50 g/l
 - f. Reflectance: 0.89
 - g. Emittance: 0.90
 - h. SRI: 113

END OF SECTION