

WARRANTY SPECIFICATION



Acry-Tek 4200 / SPF System

Mod-Bit / BUR Surfaces

MASTER GUIDE SPECIFICATIONS

This MASTER GUIDE-SPEC is a brief outline of COATING & FOAM SOLUTIONS, LLC (CFS) roofing requirements and is intended for use as a submittal with a bid package. Specifiers and the Authorized Roofing Applicator must comply with the "Application" section of Technical Data Bulletins prior to design or bid. The "Products" and "Safety" sections included in the Technical Data Bulletins and MSDS contain information pertaining to the proper usage of products as well as applicable safety precautions. These sections must be thoroughly reviewed prior to the installation of this roofing system.

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PART I - GENERAL

1.01 SCOPE OF WORK

- A. Furnish all labor, materials, tools and equipment necessary for the installation of this CFS Roofing System including accessory items, subject to the general provisions of the contract.

1.02 RELATED SECTIONS

- A. See: Application for Warranty, Warranty Synopsis, Technical Data Sheets, & MSDS

1.03 DESCRIPTION OF WORK

- A. Entire roof system to be restored.
- B. Gutters to be rust-proofed and/or waterproofed (optional).
- C. Mechanical equipment, vents and ductwork to be rust-proofed and/or waterproofed (optional).
- D. Skylights may be sealed and/or waterproofed (optional).
- E. Adjoining walls and copings to be waterproofed (optional).

1.04 QUALITY ASSURANCE

- A. CFS Ten (10) Year Warranty covering material and workmanship shall be issued within thirty (30) days of final payment and successful Warranty Roof Inspection.
- B. This roofing system must be installed by an Authorized Roofing Applicator in compliance with shop drawings as approved by CFS Technical Services. There must be no deviations without the **PRIOR WRITTEN APPROVAL** of CFS Technical Services. Upon completion of the installation, an inspection will be conducted by a independent inspector to ascertain that the roofing system has been installed according to CFS published Master Guide Specifications and details applicable at the time of bid.
- C. Provide written proof of required licenses and permits, submitted prior to job start-up.
- D. Provide copy of Approved CFS Request for Warranty Application, submitted by the Contractor.

1.05 SUBMITTALS

- A. Samples (optional): Provide two 1"x 2" samples with of system to be installed.
- B. Installation Procedures: Submit additional and specific procedures unique to the project by addendum.
- C. Product Data: Submit all product data with physical properties, requirements for preparation, limitations etc.

1.06 DELIVERY AND STORAGE

- A. Deliver roofing materials and accessories in manufacturer's original protective containers with labels intact and legible. Comply with manufacturer's published instructions for storage and handling.
- B. Store materials in dry protected areas and on clean raised platforms with securely anchored weather protective covering.
- C. Store flammable products away from spark or open flame.
- D. Store roofing materials at a minimum of 50°F prior to use or as otherwise recommended by the manufacturer. Protect materials from freezing. Protect materials from prolonged exposure to temperatures exceeding 95°F.
- E. Contaminated and Damaged Materials: Remove damaged or contaminated materials from site.

1.07 SITE CONDITIONS

- A. EXAMINATION OF EXISTING CONDITIONS: Contractor shall examine substrate for conditions that might detrimentally affect the application and shall report all unsatisfactory conditions to CFS and will not proceed until these conditions have been corrected. **Commencing work implies acceptance of existing conditions as satisfactory to the outcome of this work.**
- B. Air intake vents, blowers, air conditioning units and evaporative coolers shall be disconnected or otherwise modified to prevent fumes from entering into the building or from contaminating the roof surface with condensate water.

1.08 ENVIRONMENTAL REQUIREMENTS

- A. Proceed with roofing work only when weather conditions comply with CFS recommendations and other current published data and MSDS information. Do not exceed temperature or humidity limitations recommended by CFS.
- B. Owner may occupy the premises during the entire period of the roof retrofit. Cooperate with Owner's Representative during construction operations to minimize conflict, and to facilitate continued use of the facility.
- C. Coordinate scheduling with the Owner in order to relocate or protect vehicles, building occupants and building contents from damage during construction operations.

PART 2 - PRODUCTS

2.01 ROOFING INSULATION SYSTEM

- A. Approved Manufacturer:
 - 1. **Roof-Tek®** Systems by COATING & FOAM SOLUTIONS, LLC
- B. Approved Spray Polyurethane Foam (*SPF*) **Roof-Tek®** (RT-2700 Series)
 - 1. Roof-Tek® RT-2700 Series is a two component, ZERO-ODP (Ozone Depleting Potential), polyurethane spray foam system, formulated utilizing 245fa blowing agent technology.
 - 2. Performance Values: RT-2700 Series average values:

<u>PROPERTY</u>	<u>VALUE</u>
Nominal Density	2.7 lbs. /cu. ft. min.
Compressive Strength Parallel	50 psi minimum
K-Factor Initial	0.15
R per inch Initial	6.7
Tensile Strength	83 psi minimum
Closed Cell Content	98% by volume min.
Viscosity A/B @ 77°F	250/675
Moisture Permeation Rate	1.4 perm/inch

2.02 ROOFING MEMBRANE SYSTEM

- A. Approved Manufacturer:
 - 1. **Roof-Tek®** Systems by COATING & FOAM SOLUTIONS, LLC
- B. **Approved Basecoat:** Same as Topcoat Below.
- C. **Approved Topcoat:** Aliphatic 100% Acrylic Coating: (Acry-Tek 4200)

1. Acry-Tek 4200 is a high tensile pure aliphatic water based formulation to provide a durable and elastic protective membrane over Spray Polyurethane Foam (SPF). Acry-Tek 4200 provides the maximum UV and weathering stability in both hot and cold climates.
2. Performance Values: Acry-Tek 4200

PHYSICAL PROPERTY	TYPICAL VALUE
Tensile Strength	250 ± 25 PSI after 1500 hrs
Elongation at Break	300%± 25 (min.) after 1500 hrs
Solids by Volume	60% ± 2%
Solids by Weight	70% ± 2%
Hardness	50 ± 5% Shore A
Weather Stability	Maintains Flexibility- 20°F to 180°F
Reflectivity (White)	80%
Emissivity (White)	.85
Permeability	3.0 perms at 20 mils

D. **Flashing Systems:**

1. SPF Systems are self-flashing in most situations.

2.03 ACCESSORY MATERIALS AVAILABLE

- A. **Seal-Tek 800:** Prepackaged acrylic aliphatic mastic for use as a general flashing and joint filler. Seal-Tek 800 provides excellent filling and flexibility for joints and fasteners.
- B. **HP404:** Highly concentrated, low-sudsing biodegradable cleaner to remove grease and grime.
- C. **Prime-Tek 11:** Two-component multi-purpose easy spreading water-based epoxy primer.
- D. **Prime-Tek 7500:** Single component, water based, fast drying, mildew and chemical resistant acrylic primer.

2.04 PROTECTION BOARD, CANTS & GRANULES

- A. Cants to be sprayed in place using approved polyurethane foam.
- B. 3M Granules or as approved by CFS.
- C. Fiber board or gypsum board underlayment will be ½ inch minimum thickness and will meet ASTM C-208-72 and will be of the "Sheathing, Regular Density" type, often termed ("high density roof insulation).

PART 3 - EXECUTION

3.01 SUBSTRATE PREPARATION

- A. Remove non-embedded gravel or slag surfacing materials using stiff-bristle brooms or mechanical sweeper and power vacuum as may be required. Hydro-vacuuming may be used as an alternate to the above
- B. Remove **all** asphalt, and membrane within 2 FEET of edge termination. Inspect and repair all roof edge wood nailers.
- C. Install new gravel stop or edge metal where needed and prep prior to application of SPF.
- D. Cut-out blisters, ruptures, soft spots, and other deteriorated areas and repair with approved polyurethane foam to elevation of existing roof.
- E. Remove wet roofing and insulation and repair with approved polyurethane foam to elevation of existing roof. **A roof scan may be necessary to identify all wet areas.**
- F. Comply with manufacturer's published instructions for preparation of substrates to receive approved polyurethane foam. Clean substrate of dust, debris, and other substances detrimental to roofing work.

- G. Areas of excessive amounts of cold applied materials shall be removed down to felts.
- H. The contractor is responsible for assuring that the substrate is acceptable for the application of all foam and coatings.
- I. Prime per Detail C-27-P or as approved in writing by CFS.
- J. Eliminate areas of ponding using approved polyurethane foam.

3.02 INSTALLATION OF SPRAY POLYURETHANE FOAM

- A. Install approved polyurethane foam to an average thickness of 1.125 inches (1" minimum required) terminated neatly at designated places. Turn up at all vertical surfaces a minimum of 3" or 2½ times the minimum foam thickness.
- B. Foam applications of less than ½" thickness are not acceptable.
- C. Mask areas where coating is to be terminated to prevent surface contamination with foam over spray.
- D. Foam spray application shall be limited to that which can be completed to full foam thickness in one day. All exposed foam tie-in end laps and side laps must be primed at the end of each workday.
- E. The completed foam surface shall be smooth to orange peel texture; popcorn texture is not acceptable.
- F. The completed foam surface shall be free of pinholes and/or "glass windows" caused by improper equipment calibration or climatic conditions. The roof shall not have any soft or spongy areas or areas with hard or brittle strings of improperly proportioned material
- G. Eliminate areas of ponding using approved polyurethane foam to create positive drainage.
- H. Remove protective masking at terminations.
- I. Apply protective coating to foam surface on the same day as polyurethane foam is installed.
- J. If coating application is delayed beyond that time, consult CFS for primer recommendations.

3.03 COATING SYSTEM

- A. General
 1. Do not apply coating when moisture is present on the substrate or if rain is expected before coating will properly cure.
 2. Wind barriers shall be used if wind conditions could affect the quality of the material being applied.
 3. Coating must cover all surfaces completely. An extra pass of coating material may be required at all edges and penetrations.
 4. Base coat(s) and primer(s) shall be allowed to cure before proceeding with subsequent applications.
 5. All coating and primers shall be coated within recommended time period. If application is delayed beyond that time, consult CFS for primer recommendations.
 6. No traffic shall be permitted on the coated roof surface for a minimum of 3 days. Damage to the surface by other trades shall not be the responsibility of the roofing contractor.
- B. **Minimum Application Thickness:**
 1. Application rates must be checked periodically to assure proper coating thickness. This may be done with a wet film gauge or by checking coverage of a known quantity. (i.e. 5 gallons covers 333 sq.ft. (4'x83') or. 7 ½ gallons covered 500 sq.ft. (Both examples = 1 ½ gallons per square.)

2. Each contractor should estimate coating requirements based on actual experience and needs to figure losses due to applicator experience, surface texture, wind, waste, and other factors increasing estimated gallons required.
3. The total dry mil thickness of all coatings, as well as the total dry mil thickness of the topcoat(s) shall meet the minimums required by CFS.

C. Installation of Protective Base Coating(s)

1. Apply base coat(s) to a minimum thickness of 16 TDM (Total Dry Mils). Double coat flashing and edge termination. Refer to "Application" section of Technical Data Bulletins for application instructions.

D. Installation of Protective Top Coating(s)

1. Apply top coat(s) perpendicular to the base coat to a minimum thickness of 16 TDM (Total Dry Mils). The final color shall be from CFS standard color chart. The top coat(s) shall completely cover the base or intermediate coat(s) including expansion joint covers, parapets and flashing. Refer to "Application" section of Technical Data Bulletins for application instructions.

3.04 INSTALLATION OF WALKWAYS AND GRANULES.

- A. In high-traffic areas and around mechanical equipment, walkways should be installed to protect the coating system from damage.
- B. When required, broadcast granules into wet topcoat to fully cover at a minimum rate of 35-40 lbs per 100 sq. ft.

3.05. JOB COMPLETION

- A. Inspect completed roofing system and correct all defects to meet the specification and/or warranty requirements.
 1. **Transparent or thin areas:** If areas appear to be undercoated, recoating may be needed to ensure final thickness to meet the CFS specifications.
 2. **Delamination:** Verify that all coated areas appear to be fully adhered to the substrate. A visual inspection looking for typical signs of poor adhesion such as flaking, blistering etc. should be made. Re-priming and/or recoating will be required if such areas are apparent.

3. **Pin Holing:** Certain job or site conditions may result in pin holing or out gassing during curing or pin holes in the substrate. Again, a visual inspection looking for typical signs of out gassing such as excessive pockmarks, pinholes etc. should be done.

4. **Lifting:** This wrinkled appearance is caused when freezing of water-based coatings, off ratio or poorly mixed plural component coating, or solvent entrapment in solvent based coatings. The coating surface may exhibit extreme wrinkles, small blisters and may have loss of adhesion. These areas will not "self heal" and must be removed, power washed and new coating must be applied.

5. **Texture Finish:** Heavy patterns, blistering, "skinning," etc. may appear in the final finish. These may be indicators that too thick a coat or a build-up has occurred or other application problems. Check with CFS for remedial advice.

6. **Wash-off:** (when the acrylic coating is not allowed to cure thoroughly) Wash-off (chalk-like in appearance) may occur if rain or moisture comes in contact with water-based coatings during or prior to curing. If wash-off occurs, the affected area must be power washed to remove coating residue prior to reapplying the acrylic coating.

7. **Snow Flaking, Feathering, and Spider Webbing:** This is an **appearance** that the finished coating may exhibit when water-based coating is applied and the surface reaches freezing temperatures before the coating is fully cured. This normally occurs within a 24-hour period from the time of application. Generally these areas will "self heal" when exposed to heat and sunlight. In event that they would not self heal, the affected surface must be power washed, and new coating must be reapplied.

- B. An independent inspector will inspect the completed roofing system and notify the Contractor of any defects in the application.
- C. Clean up all debris, excess materials, and equipment and remove from site.
- D. Restrict construction traffic and equipment movement on the completed roofing system to only essential personnel. Provide appropriate protection against traffic and construction activities on completed roofs. Damage to the roof by other trades shall not be the responsibility of the CFS Roofing Applicator.

**End of Section
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WARRANTY SPECIFICATION / NOTICE OF AWARD INFORMATION

Type of Warranty:

- A. CFS Ten (10) Year Warranty covering material and workmanship shall be issued within thirty (30) days of final payment and successful independent warranty roof inspection.

Building Owner:

Substrate selected:Mod-Bit / BUR Surfaces
Spray foam selected:2.7# Density Foam **1.125 inches thick Minimum**
Basecoat selected:Coating Acry-Tek 4200 **16 TDM (Total Dry Mil) Minimum.**
Topcoat selected:Coating Acry-Tek 4200 **16 TDM (Total Dry Mil) Minimum.**

Specification Written on: March 12, 2010

COATING & FOAM SOLUTIONS, LLC

By: _____
Printed Name: _____
Title: _____
Date Approved: _____

COATING & FOAM SOLUTIONS, LLC
1860 Executive Dr. Suite D
Oconomowoc, WI 53066
(888) 284-7488

Warranty Project # _____

Applicator

By: _____
Printed Name: _____
Title: _____
Date Signed: _____
Company: _____
Address: _____
City, State: _____
Telephone: _____