



**CENTRAL COATING
C O M P A N Y**

**SPRAYED POLYURETHANE
FOAM ROOFING SYSTEMS**

GENERAL INSTALLATION GUIDELINES

**SPF (SPRAYED POLYURETHANE FOAM)
AND ELASTOMERIC COATING ROOFING SYSTEM**



**GENERAL
INSTALLATION
GUIDE**

CONTENTS:

Installation Specification Section 075452

Guidelines for Other Trades7

Protection of SPF Roofing System8

Reducing Overspray Occurrence

Scheduling 10

Safety 11

Adding New Equipment 12

Details as noted in Proposal

SECTION 07545 COATED FOAM ROOFING

PART 1 GENERAL

1.1 RELATED DOCUMENTS:

Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

A. This Section includes the following:

1. Furnish and install all SPF roofing as shown and specified.

1.3 QUALITY ASSURANCE:

- A. Install all roofing to conform to Underwriters Laboratories, Inc. requirements for Class A Roof Coverings, using UL listed or labeled materials. System shall have UL Class A rating.
- B. The manufacturer's specifications for the systems used shall become the minimum standards for the work.
- C. Applicator Qualifications: Applicators (Central Coating Co., Inc (800) 551-0009) with a minimum of 10 years experience in the application of polyurethane foam and coating systems.

1.4 SUBMITTALS:

- A. Submit list of all materials to be incorporated in the roofing system. Submit installation instructions and customized details to suit all conditions.
- B. Furnish Sample Warranty
- C. Provide copies of manufacturers published data.
- D. Roofing systems shall be equal to _____ coating on sprayed-in-place polyurethane foam roof insulation.

1.5 DELIVERY, HANDLING & STORAGE

- A. Store all materials according to manufacturer's requirements.



GENERAL INSTALLATION GUIDE

PART 2 PRODUCTS

2.1 MATERIALS:

- A. Use only materials manufactured, or specifically approved for use in a polyurethane foam roofing system. Use only materials clearly labeled and identified.
- B. System: Polyurethane Foam with _____ Coating
 1. Primer: As recommended by polyurethane foam manufacturer.
 2. Polyurethane foam: _____
 - a. Density, overall: 2.5 lb/cu. ft. min.
 - b. Compressive strength, minimum parallel to rise: 40 psi
 - c. Closed cell content, minimum: 90 percent
 - d. Thermal conductivity (K factor), maximum:
 - 1) New: 0.14 Btu/hr/sq. ft./degrees F/inc
 - 2) Aged: 0.17 Btu/hr/sq. ft./degrees F/inch
 3. Coating: _____
 4. Sealant: _____
 5. Roofing Granules: _____

PART 3 EXECUTION

1. INSTALLATION - GENERAL:

- A. Inspect all roofing subsurface, adjacent construction, and all other conditions affecting roofing installation. Do not proceed with installation until all such defects and unacceptable conditions have been corrected. Installation of materials shall constitute acceptance of all conditions.
- B. Apply materials to dry, clean, surfaces.
- C. Do not install roofing until morning dew has evaporated.
- D. Do not apply polyurethane foam unless surface temperatures are above 50 degrees F and below 150 degrees F.
- E. When wind velocities exceed 15 miles per hour, provide a windscreen to prevent rough surfaces and overspray.
- F. Coordinate installation of all materials furnished and installed by other trades, such as blocking, curbs, sheet metal flashing, and roof drains.

2. DECK AND SURFACE PREPARATION: The system must be installed on a clean and dry substrate.

- A. Preparation shall include all requirements specified by spray foam manufacturer to ensure adequate adhesion of foam to deck and smooth finished surface.
- B. Preparation shall include but not be limited to:
 - 1. Cleaning, drying, and priming deck to ensure adhesion of foam.
 - 2. Mechanical installation of _____ over metal deck to provide suitable substrate for foam application.
 - 3. Vacuuming off existing gravel.
 - 4. Cutting and adhering or nailing down any existing blisters.
 - 5. Nailing off both sides of any existing splits.
 - 6. Power brooming and/or washing.

.3 PRIMING:

- A. Metal surfaces shall be primed as follows:
 - 1. Galvanized steel: vinyl wash coat primer
 - 2. Aluminum: vinyl wash coat primer
- B. Wood surfaces shall be primed per foam manufacturer's recommendation.
- C. Masonry surfaces shall be wire brushed followed by removal of all dust prior to priming.
- D. Termination points requiring flashing shall be properly detailed and/or installed.
- E. Run adhesion test on urethane foam board stock to determine requirement for primer.
- F. Mineral cap sheets may or may not require priming depending on how clean they are and their existing condition.

.4 FOAM APPLICATION:

Note: SPF may be installed in multiple passes to achieve any thickness desired to eliminate ponds, build up slope, or provide insulation.

- A. Spray polyurethane to a minimum thickness of 1" over entire roof surface except where variations are required to ensure proper drainage or completing a feathered edge.
- B. Extend foam up walls and up around penetrations through roof to



GENERAL INSTALLATION GUIDE

form cants. Terminate foam at least 4 inches above the finished roof system surface.

- C. Apply foam so that finished surface is smooth and free of voids, pinholes, bumps, and crevices. Maximum allowable roughness defined as "coarse orange peel." "Tree bark" or "popcorn" surfaces are not acceptable.
- D. Apply foam to obtain positive drainage and avoid ponding water.
- E. Apply foam only to areas that can be base coated on the same day.
- F. The entire foam thickness necessary for an area must be applied on the same day, if entire thickness cannot be installed, the surface must be primed prior to application of more foam.

.5 COATING APPLICATION:

A. Initial coat:

- 1. Foam surfaces to receive coating shall be clean, dry, and sound.
- 2. Apply as soon as possible but not more than 72 hours after application of the polyurethane foam.
- 3. If not applied on the same day as polyurethane foam application remove and repair signs of oxidation, dusting, or other damage to polyurethane foam surface.
- 4. Minimum initial coat: ___ mils
- 5. Extend coating on cants, penetrations and similar items adjoining or abutting polyurethane foam at least 2 inches above termination point of polyurethane foam.
- 6. Allow coating to cure 1 to 6 hours as recommended by manufacturer's application instructions for prevailing temperatures and humidity conditions.

B. Subsequent coats:

- 1. Apply within 72 hours after initial coat has cured to provide a total minimum dry-film thickness of ___ mils.
- 2. Apply at right angle to direction of initial coat application.
- 3. Recoat areas not coated to minimum mil thickness after cure.
- 4. Caulk joints and openings in metal flashing and counter flashing with _____caulk.
- 5. Inspect finished surface. Recoat pinholes, thin areas, or other defects.
- 6. Broadcast roofing granules in the wet finish coat at the rate of _____pounds per 100 square feet.

.6 FIELD QUALITY CONTROL:

- A. Bond and density of foam: Foam to achieve adhesive bond to entire deck.
- B. Dry-film thickness of coating: Test minimum of 3 areas for each 10,000 sq. ft.
- C. Patch sample holes with polyurethane foam, sand top, and recoat to same level as adjacent surfaces.

.7 PROTECTION AND CLEAN-UP:

- A. Protect all installed roofing from damage throughout construction. Repair or replace all damaged materials.
- B. Immediately upon completion of this work, remove from site all debris, scrap material and empty drums.
- C. Leave finished work in neat, clean condition with no evidence of spills or overspray on adjacent surfaces or property.

END OF SECTION 07545



CENTRAL COATING C O M P A N Y

SPRAYED POLYURETHANE
FOAM ROOFING SYSTEMS

GENERAL INSTALLATION GUIDE

GUIDELINES FOR OTHER TRADES WORKING ON AN SPF ROOF DURING OR AFTER INSTALLATION

Other trades can walk and work on the completed Spray Polyurethane Foam (SPF) roofing system without causing damage if the following procedures are followed.

1. General Protection: Use 1/2" plywood sheeting to protect the roof in temporary staging or work areas and the walkways between those areas and to the roof access point. Any roof areas that are used for storage or staging of equipment or materials must be protected with plywood.
2. Fire Protection: Protect the roof from flying sparks or splatter from welding and/or cutting.
3. Wood blocks used to support lightweight lines running across a roof may be secured to the SPF roof using a compatible caulking material. No asphalt mastic patching material should be used on the SPF roof. Do not nail or screw blocks down through the roof system.
4. Use drop cloths to keep debris off the roof and so it can be easily picked up and removed from the roof area. Small objects, such as nails or bolts, can damage the roof system when stepped on. Steel pieces, including shavings will rust and discolor the roof system.
5. Smoking is not allowed on the roof, around materials or near equipment.
6. In the event of damage to the SPF roof:
 - a. If Central Coating Company's crew is still on site please notify the Superintendent.
 - b. If Central Coating Company is no longer on site, mark the damaged area with a 1" DOT of spray paint, do not circle the area with paint. Contact CCC Service Department.
7. Central Coating Company's crews take pride in installing SPF roofs that provide long-term performance and are esthetically pleasing. Please help us by giving the roof system the same consideration that you would expect for your own work.

Protection of SPF Roofing System (Please distribute)

The need for proper protection must be emphasized as the roof nears completion. Care at this stage can prevent damage and repairs later and can also impact the long-term performance of the system.

The best protection during construction on the roof is ½" plywood sheeting. The plywood will spread the load from any carts or equipment on the roof and will also protect the coating surface from mechanical damage. Please note:

- Rolling a cart across the unprotected SPF roof can cause severe damage.
- The roof must be protected during welding at or above the roof level.
- Please continue the no-smoking policy on the roof.
- There should be no screws, nails, metal shavings, slag, or other debris on the roof.

Surface damage will not cause leaks but must be repaired to protect the polyurethane foam.

We greatly appreciate your cooperation in taking care while working on the SPF roof so that it can provide years of leak free service!



GENERAL INSTALLATION GUIDE

REDUCING OVERSPRAY

In order to minimize the possibility of overspray, the General Contractor, Owner, and/ or Tenants will be notified of the spraying schedule. If possible, parking areas which may be affected will be closed and alternate parking areas will be arranged. Signs will be posted in areas, which may be subject to over-spray.

The following letter will be made available for distribution:

Central Coating Company will be installing a sprayed-in-place foam roofing system at your facility during the period of _____ to _____. This system is composed of polyurethane foam that is formed by combining an "A" side (di-isocyanate) and a "B" side (polyol). This foam is the same material used to insulate your refrigerator, your Coleman cooler, to make foam rubber seat cushions, furniture, and even bed pillows. This product is all around us. Fully reacted polyurethane foam is not considered a hazardous material under OSHA's Hazard Communication Standard (29 CFR 1910.1200). The other part of the system is water based acrylic rubber coating which protects the foam from weathering, particularly the breakdown caused by ultraviolet radiation to which the urethane foam is extremely susceptible.

None of these products is on California's Proposition 65 list of Chemicals. They do not cause cancer or birth defects, even in extreme concentrations.

Although we take precautions to avoid it, it is possible for small particles to drift in the wind and land on parked cars in the immediate vicinity of the spraying operation. If the overspray has not dried before this happens, it may develop some adhesion to glass and paint. Since the particles are extremely small, soft, and sensitive to ultraviolet radiation, they will weather off. Normal washing can facilitate this process. Do not try to remove the particles with rubbing compound or by buffing. Do not wax or seal the surface, as this will protect the foam from the weathering process. If allowed to weather off the foam will disappear completely with no residual effects whatsoever. It is different from paint overspray in this regard. This process will take several weeks depending upon factors such as the amount of sunshine your car receives, overspray particle size, and to some extent, how often the car is washed.

If you detect foam overspray on your windshield (your windshield wipers will sound different as they cross the droplets of foam or with the sun at a certain angle it will seem like there are tiny diamonds on the glass), please let us know right away. Our crews carry a detailing product, which miraculously wipes away the overspray. They will clean your vehicle's windows in just a few minutes. If you choose to clean the glass yourself, you can do so by rubbing lightly with fine steel wool such as an S.O.S. pad, while using Windex to keep the areas wet and lubricated. **WARNING:** Do not use this process on the painted finish of the vehicle or on the side mirrors as they are coated with a plastic film.

If you wish to talk to someone at Central Coating Company regarding this matter, please call our Madera office (559) 673-0074.

SCHEDULING

Central Coating Company appreciates the need for coordination and cooperation with other trades. To ensure that the SPF system is installed in the proper sequence, adequate notification and scheduling are essential.

Once a fully executed contract has been received for a project it will be placed on Central Coating Company's schedule based upon the order in which the contract has been received. Special consideration will be given to new construction or retrofit projects involving the sequencing of other trades. Every effort will be made to meet all scheduling requirements, in order to achieve this the following notifications are recommended:

Please provide all scheduling information and updates as soon as they are available.

7-10 days prior to start of roof installation, CCC's job supervisor will visit the site for a final coordination meeting with the owner and/or general contractor's representative. Firm mobilization and material shipping dates will be determined and coordinated with CCC management.

All project bids are based on the work being done without scheduling delays, interruptions or remobilization requirements, unless clearly outlined in the job proposal. Compensation for delays or interruptions in work caused by others will reflect mobilization and/or equipment standby costs.



**CENTRAL COATING
C O M P A N Y**

SPRAYED POLYURETHANE
FOAM ROOFING SYSTEMS

**GENERAL
INSTALLATION
GUIDE**

SAFETY:

Central Coating complies with all OSHA regulations, local and regional building codes, air quality regulations, and fire codes.

Each job is assessed for safety requirements on an individual basis.

ADDING NEW EQUIPMENT TO AN SPF/ACRYLIC COATED ROOF SYSTEM

The following is a guideline for the installation of new curbs and penetrations in the foam roof system, and for the protection of the roof during these modifications. Please notify Central Coating Company two weeks in advance of work so that crews can be scheduled.

- 1. Any new cuts or openings should be the minimum possible size to allow installation of new sleepers, curbs, or jacks.**
- 2. Foam must be neatly cut using a sawsall or similar tool. (1/2" larger than item being installed)**
- 3. Bag and dispose of all cut out material.**
- 4. Install new curbs, sleepers, or jacks with a minimum vertical height of six inches above the surface of the existing foam roof.**
- 5. All curbs and jacks must be firmly anchored to the roof deck or structure and meet any other code requirements.**
- 6. Sleepers and blocks which will support less than five pounds per square inch and are not required by code to be anchored, may be set on yellow spaghetti pads or caulked to the SPF roof with an approved single component urethane caulk, such as Vulkem. All other blocks or sleepers must be firmly anchored.**
- 7. Minor penetrations can be temporarily sealed in with an approved single component urethane caulk.**
- 8. Do not use silicone caulk or black jack on the foam roof. These materials must be removed prior to installing new foam for permanent repairs.**
- 9. Do not cut openings in the roof during inclement weather or when there is a threat of rain. Spray foam cannot be installed in wet conditions.**
- 10. A plywood staging area/working platform should be established to avoid point loading of the roof or damage to the coating system. These precautions should also be taken if heavy items must be moved across the roof on carts. Please refer to Guidelines for Other Trades. (Attached)**



**CENTRAL COATING
C O M P A N Y**

SPRAYED POLYURETHANE
FOAM ROOFING SYSTEMS

**GENERAL
INSTALLATION
GUIDE**

DETAIL DRAWINGS:

Proposals and detail drawings are tailored to the requirements of each project. Enclosed are the details pertaining to the proposal to which this document is attached.