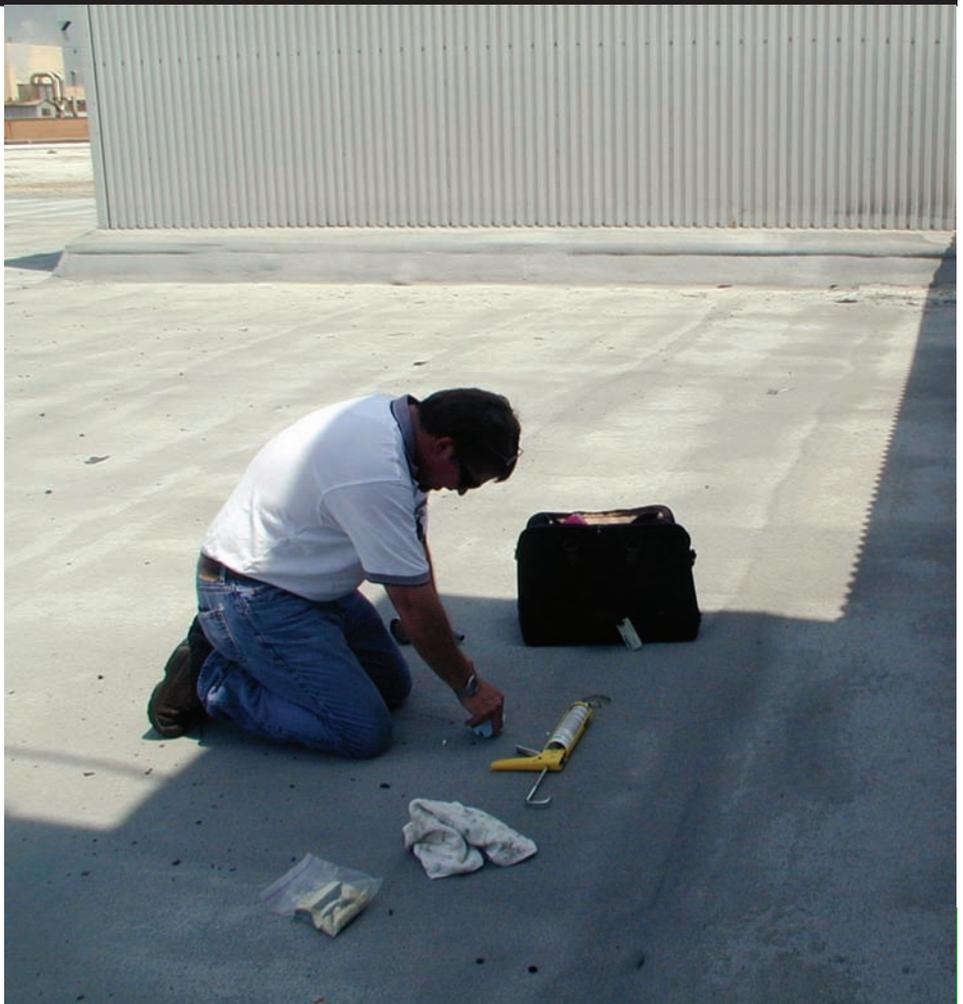


SPRAY
POLYURETHANE
FOAM ROOF
SYSTEMS

MAINTENANCE MANUAL

AY-127

This manual provides the building owner and maintenance personnel with a guideline for the maintenance and repair of spray polyurethane foam (SPF) roof systems.



SPRAY POLYURETHANE FOAM ALLIANCE
SPFA

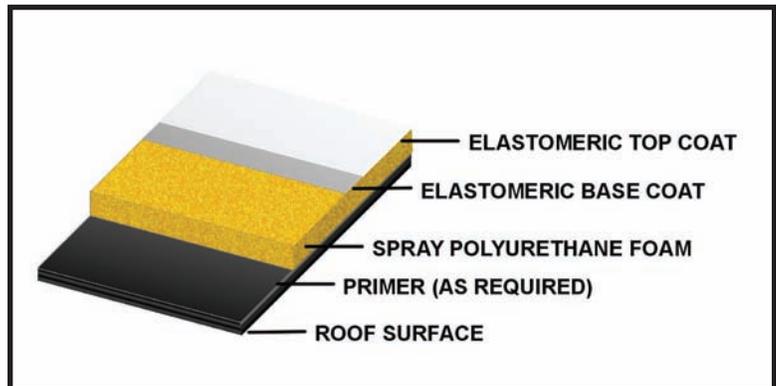
Promoting The Knowledge And Education Of SPF Professionals

WHAT IS SPRAY POLYURETHANE FOAM (SPF) ROOFING?

This seamless spray-applied system lends itself well to all types of roofing situations with the added advantage of being adaptable to buildings of unusual shape or configuration. This roof system is easily maintained because minor damage is readily identifiable and repaired by in-house personnel.

A properly maintained polyurethane foam roof system will provide excellent weatherproofing, protecting your building and its contents against nature's extremes. An SPF roof system can also be applied in varying thicknesses to promote drainage and meet insulation requirements.

In reroof situations, SPF roofing systems may eliminate the need to tear off existing roofing. Due to the closed cell structure of the SPF system, water does not normally penetrate the system to cause a leak, even in areas where there may be minor damage.



PERIODIC ROOF INSPECTIONS

It's important to periodically inspect any roof system for damage or defects on a regular basis. Inspect roofs at least twice a year (spring and fall) and promptly complete any needed repairs in accordance with this manual. To assist in this inspection process a **Roof Maintenance Inspection Checklist** has been included in the Appendix. Use a separate roof inspection form for each SPF roof and attach a sketch of the roof to this form.



WHAT TO LOOK FOR WHILE INSPECTING AN SPF ROOF

✓ Gutters, Scuppers & Drains

1. Check all drains, scuppers, and gutters for leaves, dirt, etc., that can block positive drainage.
2. Check the seal of the system around these areas.
3. Verify that screens and strainers are in place.



✓ Inspect Rooftop Units & Penetrations

1. Roof penetrations such as vents, hatches, stacks, skylights, and HVAC equipment should be sealed against the weather.
2. Condensation from HVAC units should be piped to drains. Insure that stacks have rain caps, seams in units are sealed with caulk, skylights are properly sealed, and there has been no damage to the surrounding roof system.

✓ Inspect Flashings, Roof Edges, Expansion and Control Joints and Other Roof Systems Terminations

1. Look for cracks or splits in the system at roof terminations such as edge flashings and expansion joints.
2. Ensure that coping joints and metal flashings are sealed.
3. Check masonry walls for moisture penetration and/or deterioration.



✓ The Field or Surface Area of the Roof System

1. Check for mechanical or physical damage caused by tools or heavy objects, hail, vandalism, excessive foot traffic, etc.
2. Inspect for blisters or areas of inner layer separation in the roof system.



✓ Defects in the Roof Surface

Check for pinholes, erosion of the coatings or polyurethane foam, cracks, and moisture penetration into the polyurethane foam insulation. A small “slit” sample may be taken to determine if there is any moisture present. A non-destructive moisture detection device may also be used.

Know Your Roof System...

The roof system file should include a technical data sheet, the original specifications, a copy of the warranty, how to contact the manufacturer and contractors, previous roof inspection reports, a record of conducted repairs, and this manual. The data should be readily available for all roof maintenance personnel.

WARRANTY OR GUARANTEE?

Find out if your roof system has a warranty or guarantee from the contractor or manufacturer. If it does, make sure your roof maintenance procedures conform with the manufacturer's recommendations. If there are any questions about these requirements, contact the issuer of the warranty for clarification.

Generally, acts of God, abuse, or vandalism are not covered by a roof system warranty. These items may be covered under your building insurance policy. Check with your insurance carrier for clarification or to file a claim if there is damage to the roof due to weather, earthquakes, fire or vandalism.

If you think that there has been damage or leakage covered by the warranty, notify the issuer of the warranty and send notice in writing of the defect or leak. This procedure is usually outlined in the warranty.

Note any conditions that could void the warranty and contact the issuer if there are any questions.

PREVENTIVE MAINTENANCE



Remove debris from the roof system: Leaves and organic matter should be routinely removed from drains, scuppers, gutters, and the field of the roof.



The roof should not be used for storage of HVAC repair parts, lumber, signs or any other unnecessary equipment.



Prevent damage to the roof system from exposure to harmful chemicals or substances. Vents should not exhaust harmful materials onto the roof surface. HVAC condensate should not be drained onto the roof.



Minimize foot traffic to that necessary for the maintenance of the system or equipment. Walkways may be installed to help protect areas normally used by personnel. Check with manufacturers or contractors before installing.

REPAIR OF SMALL PUNCTURES & HOLES

Repair small damaged areas using a compatible caulking material according to the following steps:



1. Thoroughly clean the roof surface around the damaged area of all dirt, dust or other contaminants with a rag and clean water. Allow to dry completely.
2. Using a knife, carefully cut out (at a 45° angle) any loose, wet or damaged coating membrane or polyurethane foam material and leave a clean beveled depression in the system.
3. Apply compatible caulking material into the hole so that the caulk overfills and is feathered and smoothed out around the edge.
4. If the system manufacturer recommends top coating these areas with a compatible coating, the caulking should be completely cured prior to over coating. (A primer may also be required.)

REPAIR OF CRACKS OR SPLITS



1. Thoroughly clean the surrounding area with clean water. Allow to dry.
2. With a knife, carefully trim any dirty or wet materials back. The result will be a V-shaped groove that extends beyond where the original crack ended.
3. If the crack is at an edge between a metal flashing and the SPF roof system, it should be trimmed back from the metal in a 1/2', wide V-shape. The metal must be clean.
4. Apply a compatible caulking material so that the V-groove is overfilled and the edges are feathered.

REPAIR OF SMALL BLISTERS

Blisters in polyurethane foam roofing systems should not be broken or cut open until the repair has begun. Only blisters in coating or polyurethane foam that are no larger than 4" in diameter and less than 1" deep should be repaired without contracting with an applicator. Larger blisters should always be repaired by a professional applicator.



1. Thoroughly clean the surrounding area with a rag and clean water. Allow to dry.
2. Cut out the blister until all loose material is removed and a tight edge is achieved. Bevel the cut at a 45° angle sloping inward.
3. Fill the void with a compatible caulking material. Make certain the caulk extends slightly above the roof level and beyond the void 2" - 3". Feather the edge of the caulk.
4. A compatible coating or covering may be used over the caulk after it has cured. (A primer may also be required.)

MATERIALS & TOOLS REQUIRED TO REPAIR SPF ROOF SYSTEMS

Materials Needed:

Caulking - compatible with the coating membrane (see manufacturer's recommendations.)

Protective Coating - The manufacturer can supply small quantities of the top coating used in your system or a compatible coating that can be used in repairs.

Tools Needed:

Utility Knife

Rags

Trowel

Caulking Gun

Pails or Cans

Mixer

Brushes or Rollers



TRAINING YOUR PERSONNEL

If possible, arrange with the roof system installer to conduct a training program for your roof maintenance personnel. This training session should cover instructions on how to properly maintain the system and what preventive maintenance services should be performed. Always observe safety precautions when maintaining or inspecting the roof system.

WHEN TO CALL YOUR CONTRACTOR

-  If large blisters or leaks are noted, the contractor of record should be contacted.
-  The problems noted may be covered under a warranty agreement. The company issuing the warranty should be notified.
-  At some point, the system may require some rejuvenation or renewal. Contact an experienced contractor for review and specifications.
-  The contractor can set up a Maintenance Program with periodic inspections.

If there are any questions concerning the system, contact an experienced applicator, the system manufacturer or the SPFA.

SEMI-ANNUAL MAINTENANCE INSPECTION CHECKLIST

BUILDING: _____

ROOF SECTION: _____

FOAM ROOFING SYSTEM: _____

WARRANTY TERM: _____

APPLICATOR: _____

COMPLETION DATE: _____

INSPECTED BY: _____

INSPECTION DATE: _____

	PROBLEM		OBSERVATIONS	REPAIRS	
	YES	NO		O/A*	DATE
I. ROOF CONDITION					
A. GENERAL					
Debris					
Walkways					
Substrate					
Contaminants					
Leaks					
B. DRAINAGE					
Roof Drains					
Scuppers					
Gutters					
Downspouts					
Ponding					
C. FOAM COVERINGS					
Bare Spots					
Exposed Foam					
Blisters					
Adhesion					
Cracks					
Pinholes					
Mechanical Damage					
D. FOAM					
Blisters					
Cracks					
Mechanical Damage					
Bird Damage					
Storm Damage					
Soft & Spongy					
Wet					
II. FLASHING					
Base Flashing					
Counter Flashing					
Coping					
Gravel Stop/Facia					
III. PENETRATION					
Pipes					
A/C Units					
Vents					
Skylights					
Expansion Joints					
Ducts					
Walls					

*Indicate who performs repairs ("O" for Owner or "A" for Applicator/Contractor)

Roof Sketch Symbols

Use the following symbols when preparing a roof sketch:

P>	-	Photographs	FT	-	Rough Foam Texture
O	-	Roof Drains	UC	-	Uncured Coatings
X	-	Mechanical Drainage	DT	-	Flashing or Edge Treatment Defect
FB	-	SPF Blister	FC	-	SPF Cracks
CB	-	Coating Blister	CC	-	Coating Cracks
EX	-	Excessive Ponding	E	-	Exposed Foam
P	-	Pinholes	OS	-	Overspray
S#	-	Slit Number	OF	-	Off Ratio SPF
TC	-	Thin Coating			

Comments: _____

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To order AY-127, please call SPFA.