

# RECOATING AND RENEWING SPF ROOFING SYSTEMS

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Premium Spray Products

Procedures,  
Regional  
Differences  
and type of  
coating  
systems



# REASONS TO RECOAT/RENEW

- Add a new coating layer to renew the weathering surface of the SPF system.
  - Allow for maintenance and repair
    - Hail or storm damage repairs
  - Provide for additional durability and longevity
  - Improve the surface reflectivity and aesthetics
  - Obtain new or renewed warranty protection
  - Change the color or aesthetics

# ECONOMIC ADVANTAGES

- The owner sustains the their exist SPF system
- The owner in most cases eliminate the cost of tear off and disposal.
- The cost of the renewal process is less than a new SPF systems in most cases
- A recoat of the existing SPF system should yield a new warranty and stronger system than the original system.

# HISTORY OF RENEWED SPF ROOFING

SPF roofing systems were first applied in the early to mid 1960's  
The first recoat applications began in the mid to late 1970's or about 10-15 years later.

There are some SPF roofing systems in place that are now about 35-40 years old that have been renewed 2-4 times and performing very well and under a manufacturers warranty. There are also some roofs that are 20-30 years old that have not been recoated and are still performing with no leaks.



# HISTORY OF RENEWED SPF ROOFING



24 year old  
SPF System with  
No Maintenance,  
No Complaints  
No Leaks

Perfect for Renewal

# ACCESSING THE EXISTING SPF ROOF SYSTEM

- SPF Roofs may have some damage and erosion of the coating system due to weathering, storms or mechanical damages



# ACCESSING THE EXISTING SPF ROOF SYSTEM

- Good Roofing Practices are applicable to renewing or recoating SPF roofs
  - Clean
  - Dry
  - Sound
  - Meets current code



# ACCESSING THE EXISTING SPF ROOF SYSTEM

- AY-121 Spray Polyurethane Foam Estimating Reference Guide
- AY-102 A Guide for Selection of Elastomeric Protective Coatings Over Sprayed Polyurethane Foam
- AY-107 Spray Polyurethane Foam Blisters
- AY-122 The Renewal of Spray Polyurethane Foam and Coating Roof Systems
- AY-138 Guideline for Roof Assembly Evaluation for Spray Polyurethane Foam Roof System
- AY-139 Recommendations for Repair of Spray Polyurethane Foam Roof Systems due to Hail and Wind Driven Damage
- SPFA has developed several technical standards and documents to aid in the renewal or recoating of SPF systems.
- <http://www.sprayfoam.org/technical/spfa-technical-documents>



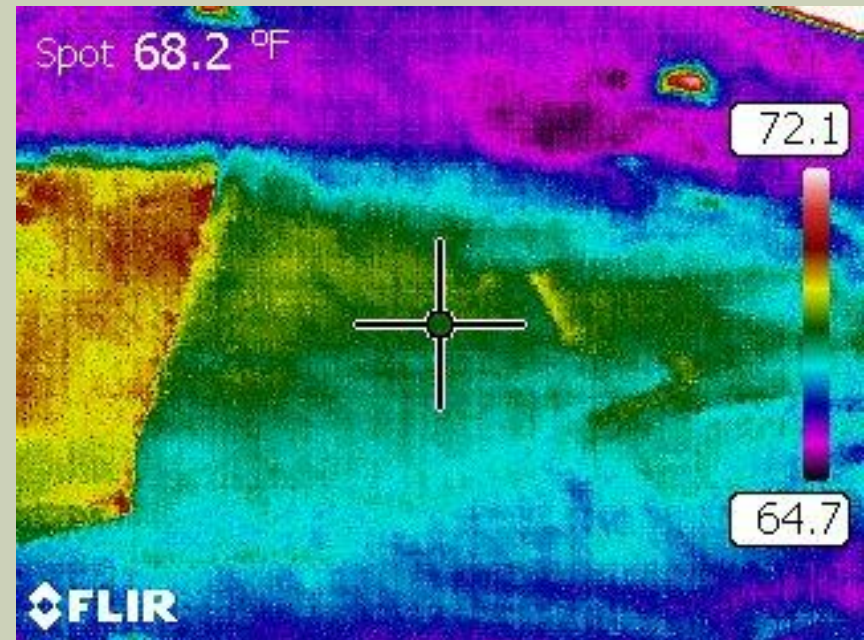
# ACCESSING THE EXISTING SPF ROOF SYSTEM

- The existing system must be **dry** –
  - On the surface
  - No leaks
  - No wet insulation, either the SPF or any insulation system under the SPF system.



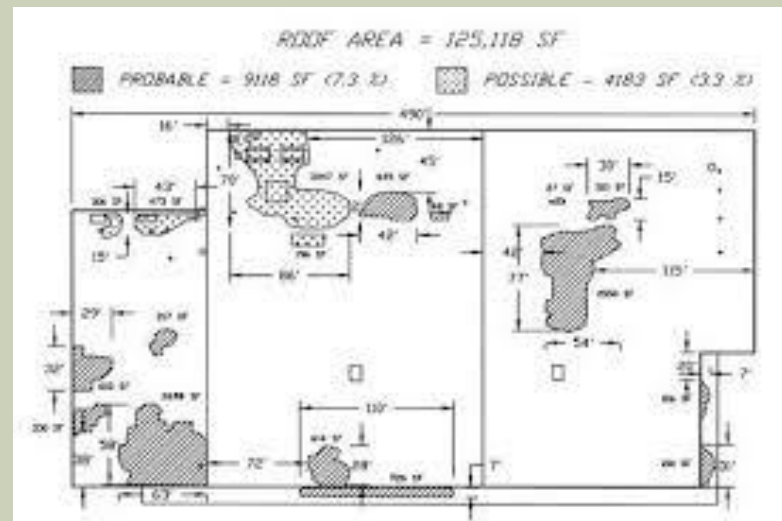
# ACCESSING THE EXISTING SPF ROOF SYSTEM

- The existing system must be **dry** –
  - Infrared or Nuclear Moisture Scans can be done by outside professionals
  - Or done with FLIR cameras by the contractor.



# ACCESSING THE EXISTING SPF ROOF SYSTEM

- The existing system must be dry –
  - Mark areas verified as wet (over 15% on Tramex or capacitance moisture meters) so that they can be total prior to your bid and torn out and replaced during the renewal process.



# ACCESSING THE EXISTING SPF ROOF SYSTEM

- The existing system must be dry –
  - Look closely for damages and pinholes that show evidence of water exuding.



# ACCESSING THE EXISTING SPF ROOF SYSTEM

- Inspect the roof for surface and coating defects
  - Eroded coatings
  - Exposed degraded SPF



# ACCESSING THE EXISTING SPF ROOF SYSTEM

- Inspect the roof for surface and coating defects
  - Mechanical Damages



# ACCESSING THE EXISTING SPF ROOF SYSTEM

- Inspect the roof for surface and coating defects
  - Ponding
  - HVAC Condensate leakage



# ACCESSING THE EXISTING SPF ROOF SYSTEM

- Inspect the roof for surface and coating defects
  - Hail or wind damage





# ACCESSING THE EXISTING SPF ROOF SYSTEM

- Inspect the roof for surface and coating defects
  - Debris
  - Units that can be removed



# ACCESSING THE EXISTING SPF ROOF SYSTEM

- Inspect the flashings, expansion joints and drains for damage or need for replacement



# WHAT TYPE OF COATING OR COVERING IS ON THE EXISTING ROOF?

- How do you Determine what Coating System is on an existing SPF Roofing System?



# WHAT TYPE OF COATING OR COVERING IS ON THE EXISTING ROOF?

## ■ Coating Types –

- Acrylic
- Silicone
- Urethane
- Polyurea
- Other

1. Does it Chalk? Not to confused with dirt.
2. Does water bead up on it?
3. Is it softer or harder – shore hardness?
4. What color is it? Base and Top coats?
5. Resistance to solvents?
6. Owner's records?
7. Slit or core sample – cross section?
8. Adhesion?
9. Tensile and elongation?
10. How does it feel?
11. Experience is also a factor.

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# A SOUND ROOF SYSTEM



- Identify any delaminations in the existing roofing system
  - Including a underlying roof system and its attachment to the deck.
  - Document areas to be repaired.

# A SOUND ROOF SYSTEM

- Investigate the reasons for the delaminations to help determine the best long term and economic means of repair.



# A SOUND ROOF SYSTEM



- Take cores to:
  - Examine how many roofs are in place
  - The adhesion to the deck
  - Interlaminar adhesion
  - Insulation value
  - Coating membrane thickness

# A CLEAN AND SUITABLE SUBSTRATE

For a somewhat worn SPF roof renewal the first step is to pressure wash the surface with clean tap water.

This should remove dirt, most contaminants and loose granules.

About 1500-2000 psi is fine.



# A CLEAN AND SUITABLE SUBSTRATE



- Soft mastics used in repairs should be removed.
- Reverted or poorly cured or peeling coatings must be removed.

# A CLEAN AND SUITABLE SUBSTRATE

Detergents can be used for challenging cases if a thorough rinse is done.

- Greases and oils by be removed by steam cleaning or scarifying the surface.



# OTHER POINTS TO EXAMINE

- Unused Units or Equipment that can be removed
- Need for additional insulation
- Chemical Resistance
- Aesthetics and the Owners color preferences
- Reflectivity, rebates
- Term and Warranty Requirements

# RECOATING/RENEWAL AND CODE

- System should be tested per ASTM E108 and weathered for 2000 hours.
- Some indicate minimum reflectivity or SRI
- 1/4" in 12 slope and positive drainage.
- Comply where applicable, to ASTM coating product standards
- Roof Coating is not considered an additional roof system.



# SCARIFYING OPTIONS

- Some systems may need to be renewed by removing the top layer of coating and SPF and reapplying SPF and a new coating system in whole or in part.



- Scarify areas or the roof when:
  - The surface is eroded or damaged by storms
  - Much of the surface of the SPF insulation is wet.
  - The coating is reverted or incompatible
  - The SPF is poorly adhered or blistered.

# SCARIFYING OPTIONS

- Scarify at least  $\frac{1}{2}$ " of the existing coating and SPF.
- Remove any wet insulation.
- Vacuum and sweep all debris.



# SCARIFYING OPTIONS



- Prime the SPF surface per manufacturer's recommendations
- Spray apply 1"+ of new SPF when primer is cured.

# SCARIFYING OPTIONS

- The first pass over the scarified SPF surface should be about  $\frac{1}{2}$ " to reduce the exotherm and seal the rough surface.



# SCARIFYING OPTIONS



# SELECTING THE COATING SYSTEM

- In recoating the new coating should be compatible with the existing or
- A primer is used to ensure good adhesion.



# SELECTING THE COATING SYSTEM



- Acrylic over Acrylic
- Silicone only over Silicone
- Acrylic/Silicone over Urethane
- Urethane over Urethane
- Coating over Polyurea
- Others

# CONSIDERATIONS WHEN SELECTING A COATING

- **The coating systems performance matches**
  - The regional climate and weathering
  - The owners aesthetic and performance requirements
  - Your application equipment and experience
  - Special project requirements



# REPAIRS PRIOR TO COATING



- **Repair of Blisters and Delaminations**
- **Ensure that all poor adhesion is addressed.**

# REPAIRS PRIOR TO COATING

- Remove the delamination to the sound substrate
- Taper the edges
- Prime if needed
- Spray new SPF to near or slightly higher level of the existing roof system



# REPAIRS PRIOR TO COATING



- Repairs should be neat and secure
- Should not apply SPF over silicone coatings
- Repairs should hinder drainage

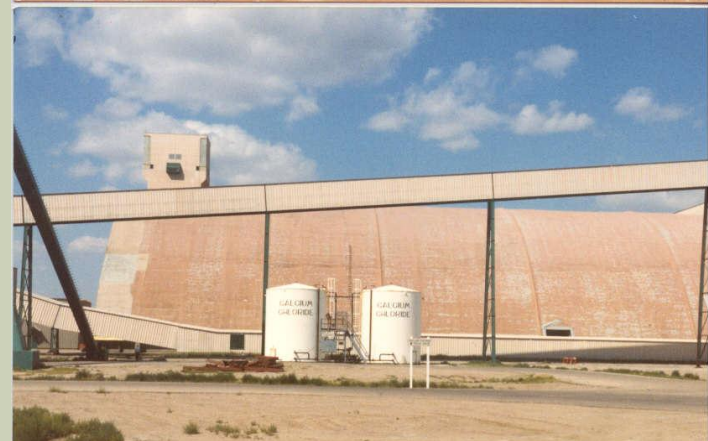
# REPAIRS PRIOR TO COATING



- Some repairs may need to be ground or shaped prior to the coating application
- Repairs must have the coating applied the same day as the SPF application

# REPAIRS PRIOR TO COATING

- Eroded coating or exposed SPF and rough or pinholed areas can be repaired with a compatible sealant



# REPAIRS PRIOR TO COATING

- Small holes, blisters and damages can be repaired with sealant
- Ensure that the sealant is cured prior to over coating.



# THE NEW COATING APPLICATION



- New coating systems can be spray, roller and or brush applied.
- Rougher surfaces will require more coating to achieve the specified thickness

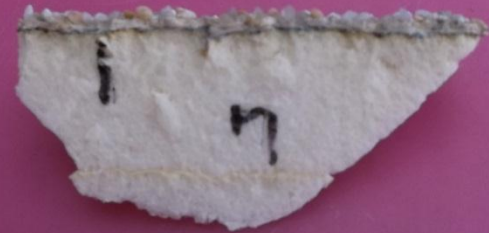
# THE NEW COATING APPLICATION

- Two coats or just one?
- Coating over granules?
- Adding granules?
- Neatness counts





# THE NEW COATING APPLICATION



# THE SUSTAINABLE SPF ROOF



# QUESTIONS

