



FLUID-APPLIED

ROOFING PREP MANUAL



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ROOF SURVEY/ANALYSIS

It is critical for the American WeatherStar Approved Contractor to properly survey any roof considered for a coating restoration system by walking the roof and carefully analyzing to determine if the roof is a good candidate. American WeatherStar will assist Approved Contractors in determining if a roof is a good candidate, but ultimately it is the Approved Contractor's responsibility. Always take photos during your roof surveys.

The age of the roof is not the most critical component to determine if the roof is suitable for a coating system—the condition is. First and foremost, the roof assembly and building must be structurally sound. If possible, survey the underside of the deck as well as the roof to determine condition.

While it is not possible to list every scenario you will come across while surveying a commercial roof, these are some highlights to look for:

Metal Roofs: Panels should be screwed into metal purlins. Light gage metal nailed into wood is very difficult to successfully waterproof. Light to heavy surface rust is suitable to coat. Priming will take care of inhibiting rust. Pin holes or cracks in the metal are not acceptable. It is often appropriate to replace a few metal panels before coating, but if these areas are excessive, a new roof is the best option.

Flat Roofs: See Moisture Survey on page 3. Many roofs surveyed by a commercial roofer will have some moisture present. The roof assembly cannot be saturated. Large blisters in the membrane, open seams, and fiberglass scrim apparent with seeping water are all areas of concern. If these areas are widespread, the roof is not a suitable candidate for a coating system.

Recoat Opportunities: Both metal and flat roofs may have been previously coated. In theory, recoats are not a problem. They may, however, be a problem if the original coating was not installed properly and water has been trapped at the seams.

Underside of the Deck: If the building is constructed with a metal deck, it is essential to ensure there is no rust on the underside of the deck. If rust is present, this may be a sign of a structural problem. Coating the roof will not solve the problem. For wood decks, look for rotten wood. This is a sign of a saturated roof assembly.



MOISTURE SURVEY

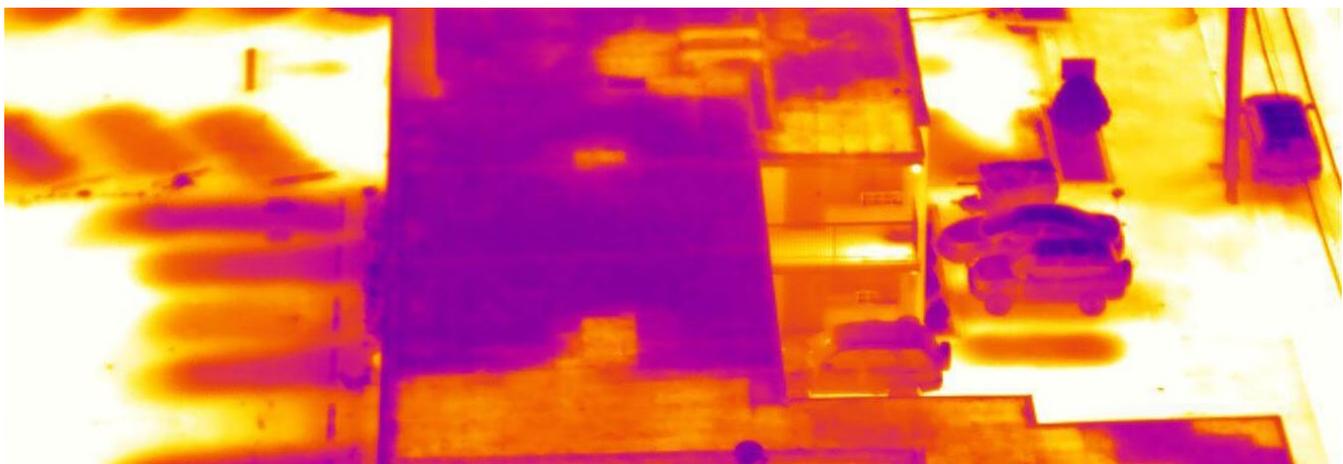
The American WeatherStar Approved Contractor should determine if a roof is ready to receive one of our fluid-applied restoration systems. Part of this process involves the moisture survey. If a roof contains areas of ponding water, a moisture survey may be necessary. Moisture surveys may also require a destructive analysis to determine the suitability of the substrate. Metal substrates will not require a moisture survey.

Moisture surveys may be conducted by either the American WeatherStar Approved Contractor or a third party independent inspector approved by American WeatherStar.

Moisture surveys may be conducted using:

- IR scans
- nuclear scans
- test/core cuts
- portable devices used to indicate moisture

After conducting the moisture survey, determine all areas of the roof that are wet and replace with new material. Make repairs as necessary.





REPAIR

If repairs are necessary, refer to the charts below for proper treatment of damaged areas:

PROBLEM AREAS	TREATMENT METHOD
Rust Areas	Replace any damaged areas of rust and corroded roof panels, especially if they are allowing water to breach the building. Areas of minimal rust or damage must be treated to prevent further degradation. Replace panels if necessary.
Fasteners	Tighten, secure, or replace any stripped, deteriorated, or missing fasteners as necessary. Add fasteners to metal roof seams where necessary to limit openings. All fasteners must be waterproofed with the appropriate American WeatherStar flashing grade material as designated in the Application Guideline.
Penetrations	Seal all roof penetrations with the appropriate American WeatherStar material. Refer to the application guidelines for appropriate product.
Seams	Repair all seams as necessary. Refer to Application Guideline for proper seam treatment.
Single-Ply, EPDM, TPO, PVC, Hypalon	Repair damaged single-ply membrane using like material before applying a fluid applied system. Replace any wet insulation. Allow at least 48 hours of drying time before applying coating.
Spray Polyurethane Foam (SPF)	Remove any areas of exposed, degraded, or wet SPF. Allow time to dry and replace with new foam. New SPF product must be approved by American WeatherStar. All SPF roofs must be moisture-surveyed using an infrared camera.
Modified Bitumen or Built-Up Roofing	Repair or replace any areas of modified bitumen or built-up roof that have blistered, buckled, become wet, or otherwise been damaged. Any areas of Modified Bitumen or BUR with significant cracks must be sealed using the proper American WeatherStar product as specified in the Application Guideline.
Concrete	Any gaps greater than 1/2" must be repaired using concrete grout. The grout must be fully cured before applying coating. Refer to Application Guideline for proper treatment.
Recoats	Any roof previously coated should be pressure-washed aggressively using 4500 psi and a rotary tip to ensure proper adhesion of the exiting coating. If the coating begins to come off with pressure washing, continue until most—if not all—coating is removed.

CLEANING

Refer to the chart below for proper cleaning procedures when preparing a roof substrate for coating:

CLEAN-UP	TREATMENT METHOD
General Surface Prep	All surfaces that will receive flashing-grade material for waterproofing must be cleaned to ensure proper adhesion. These areas must be free of any dirt, dust, debris, or any other foreign contaminants. Pressure-washing is recommended. Additional cleaning with a bristle broom may be necessary. For substrates with algae, mold, fungus, or any other type of living organism, a bleach solution is required.
Pressure Washing	Substrate should be pressure-washed with water or approved cleaning solution with a minimum working pressure of 3000 psi. Use American WeatherStar Eco-Clean 925 to ensure roof is clean. Take care that pressure-washing does not damage the substrate or cause water to leak inside the building. Roof must be given at least 24 hours to dry after pressure-washing before beginning the coating application.

ADHESION TEST PATCH INSTRUCTIONS

If suitability of the substrate to the system is questionable, American WeatherStar requires an adhesion test be performed. Contractor should contact Technical Services at (800) 309-6416 to request an adhesion test kit. Any questions regarding adhesion results can be directed toward our Technical Services department, as well. It is the responsibility of the Approved Contractor to make an accurate assessment of substrate suitability.

1. Thoroughly clean test area.
 - Power-washing is preferred.
 - Begin at the lowest point of the test area, power-wash toward the highest point of the test area (bottom to top).
 - Once at the highest point, rinse with clean water to remove all residues from the test surface (top to bottom).
2. If you are unable to power-wash the area, use a Scotch Brite pad to scrub the surface prior to the rinsing process.
3. Allow the test area to dry thoroughly.
4. Apply approximately 32 wet mils (2 gallons per 100 sq. ft.) of coating onto the clean, dry substrate.
5. In three separate areas, embed three cloth strips (1 inch wide by 6 inches long) into the wet coating.
 - Allow 2 inches of the fabric to overhang out of the wet coating.
 - When the cloth strip placement is finished, apply enough coating to the topside to wet-out the topside of the cloth.
 - Brush the coating lightly to ensure no air bubbles are entrapped.
 - Leave the 2 inches protruding end of fabric uncoated.
6. Allow the test areas to cure for 1- 2 weeks before checking adhesion.
 - Adhesion and curing time frame depends on climate conditions (temperature, humidity, etc.).
 - If an early test fails, wait the full two weeks to ensure coating has time to cure enough to give true adhesion results.
 - When checking adhesion, pull the strip straight up.
 - There must be a minimum of two pounds of “pull strength” for the coating adhesion to be considered acceptable.
 - If little to no effort is needed when peeling the strip, it is doubtful that the chosen application is adhering properly.
 - If lifting the fabric is difficult, or the fabric is separating from the new coating, odds are there is acceptable adhesion.
7. Please consult American WeatherStar technical department with all test results.

PRIMING

Metal roofs with rust require a primer to inhibit rust and ensure maximum adhesion.

It is essential that all prior steps (repair, cleaning, and adhesion test) be completed before applying primer.

American WeatherStar offers several primers. Refer to Application Guidelines for the appropriate primer for the specific substrate on which coating will be applied, as well as the proper application rates for the primer.



FLASHING DETAILS

All seams, fasteners, penetrations, and any other flashing details must be sealed with an American WeatherStar flashing grade material or mastic. Refer to Application Guideline for specific system and substrate for appropriate material.

APPLICATION

Only once all of the previously-listed sections have been addressed and appropriately handled can application of the system begin. Refer to Application Guideline for proper application process.

