

TIPS To Extend the Life of Your Single-Ply Roof

By Steve Moskowitz

You know a routine inspection and maintenance program is crucial to extending the life of the industrial machinery and other plant systems in your facility. But did you know it is just as crucial for extending the life of your facilities roofing system? Routine rooftop inspection can help to maximize your roofing system investment by identifying minor roof problems long before they turn into expensive problems that require costly repairs.

There are many things you can do to prolong the life of your roof. Following are ten key tips that will help you maintain your single-ply roofing system, and help you detect the symptoms that can cause premature roof failure. However, it is important to note that although these are excellent guidelines to follow it is equally important to consult with, and adhere to, the manufacturer's guidelines for your specific roofing system.

In addition, it is wise to keep a comprehensive "roofing" file that contains the name of the installing contractor, manufacturer of the roofing system, and any relevant telephone numbers in a central-

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ized file or facilities database. While this sounds overly basic, consider the fact that since today's roofs can last 15 years or longer, it is highly unlikely that the staff involved with the original purchase will be involved in the next go-around, unless of course you have multiple facilities. In addition, the roofing contractor may not be in business when it is time to purchase the next roof.

Ten Tips For Rooftop Inspection

1. Keep accurate, detailed records.

Keep a log of all inspection dates and results. This should be kept in a central file for future reference. You should also take photographs of the roof during the inspection. Photographs can provide a good point of reference for your next inspection and more important, for any warranty or insurance claims you might have in the future.

2. Inspect your roofs regularly.

Routine roof inspections should be conducted at least twice a year – spring and fall are ideal times for this. It is very important to perform these routine inspections since failing to do so may invalidate the warranty – especially if a condition not covered by the warranty is later determined to be the principal cause of a roofing problem or roof failure.

Spring is a good time to repair any damage to the roof incurred as a result of the harsh winter weather. Late in the fall is also a good time to schedule an inspection so you can secure the roof and make any required repairs before the onslaught of winter storms.

Roofs should also be inspected after any severe or abnormal weather conditions

such as severe winter storms, periods of icing, hurricanes (or other high wind storms), hailstorms, or any storm that can damage the roof with flying debris or wind-uplift. The sooner you can identify and repair any damage incurred during severe weather, the longer you can extend the life of your roof, and the more you can control the extent of damage to your rooftop.

If work crews (i.e. HVAC, plumbers, electricians, roofing contractors, etc.) have been working on the roof, be sure to inspect it even if their work was completed efficiently. Tools, chemicals and industrial equipment can all cause serious rooftop damage that may not be discovered until it rains. So it's always a good idea to inspect the roof after anyone has been working on it.



CAUTION: Rooftop environments can be very dangerous. Weather conditions (i.e. wind, rain, ice, and snow) can all play a major role in safety when on the roof at any given time. Before you begin your inspection, review the standard rules for rooftop safety.

3. Create a checklist.

An important step in successful rooftop maintenance is keeping an inspection checklist. Without a checklist it is easy to overlook some of the small but very important details on your roof. Also, it's a good idea to check the following:

- **Caulk** – Caulk is often the first component of the roof system to start deteriorating, and one of the most inexpensive components to replace. It should be carefully checked and replaced if it is cracking or pulling away from the surfaces.

- **Flashing** – Flashings are the source of more roof leaks than the field of the roof and are especially prone to problems because they secure the membrane systems and tie into the other building components. Inspect the flashing for punctures, open seams, deterioration, and separations from vertical surfaces. Check to see that the flashing is still fastened correctly and tightly and that there are no signs of compromise at the water stop extremity. There should not be any breaks in the roof materials or signs of moisture surrounding the flashing.

- **Pitch pockets** – Pitch pockets are very vulnerable to leaks. If not closely monitored, the sealant can crack, pull away from the sides of the protrusion, or shrink below the top of the pitch pocket.
- **Support structures** – The roof deck, as well as exterior and interior walls should be checked for deterioration,

especially above the roofing system termination points.

- **Fascia and roof edging materials** – Check these materials to make sure that they are still firmly attached to nailers and walls. Also look for any signs of movement of edging from the roof deck or wall. Coping caps and joints should not be damaged or deteriorated, and remain firmly attached.
- **Termination points** – All termination points should be properly sealed and fastened.

4. Make a preliminary assessment.

When inspecting a roofing membrane, make a preliminary assessment of the roof membrane's appearance. During this step of the inspection, pay particular attention to areas of standing water. Standing or ponding water can lead to long-term problems and may be an indication that the roof does not drain properly. According to the National Roofing

Contractors Association (NRCA), the criteria for judging proper slope for drainage is that there be no evidence of standing water on the deck 48 hours after it has stopped raining.

This preliminary assessment will help you identify any major, potential problems. It is not meant to discover minor areas in need of repair.

5. Find and fix vulnerable spots.

Always make sure that the roofing system is properly secured to the roof deck. On a mechanically attached system or a fully adhered system with mechanically attached insulation, look for signs of fastener backout or insulation collapse. In both cases, the fasteners will sit above the plane of the roof deck seated high in the stress plate. This may also create a "tenting" effect to the membrane at these locations. For fully adhered applications ensure that all areas are still solidly adhered in place.



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6. Pay close attention to areas around rooftop equipment.

Check the flashings around all rooftop penetrations to make sure they are in good shape. If you have added any rooftop equipment to the building since the roof was first installed, be sure the flashings were installed with the same materials and techniques used on the rest of the roof. You should also be sure that, for warranty purposes, a contractor licensed or authorized by the roofing system manufacturer completes any roofing work. Check around units to verify that no roof damage has been incurred since the units were last maintained by a service crew.

7. Clean gutters and drains.

Ponding water can cause serious rooftop problems. As little as four inches of water in a ten foot square area represents over a ton of dead-load weight on the rooftop. With an improper structural design, this type of situation could result in a serious disaster.

Regularly scheduled drain and gutter clean-ups will prevent water from accumulating, backing-up and overloading the roof and help avoid potential roof problems. To ensure that water flows freely off the roof, you should not only clean the gutter itself, but you should also clear out any debris, such as sticks or leaves, that block pathways to roof drains.

8. Minimize rooftop traffic.

You can prevent membrane system foot traffic damage by installing walkway pads on the most heavily traveled areas of your roof. If heavy equipment must be moved onto the roof or from one rooftop location to another, a specific “heavy duty” walkway design may be necessary to protect

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the roofing system. Roof walkway pads are relatively inexpensive (particularly when compared to the cost of repairing or replacing some of the roofing system), and range from interlocking concrete blocks to thick rubber pads. Check with your commercial contractor or the roofing system manufacturer to find the pad that will best meet your long-term needs.

9. Remember the warranty.

Any self-made repairs that occur outside the warranty terms may void the

manufacturer’s guarantee. If you require any emergency repairs, they should be performed according to the roofing system manufacturer’s recommendations. Most roofing warranties allow for simple emergency repairs, however, it is a good idea to contact the manufacturer as early as possible for information about how to proceed with making permanent repairs.

10. Notify the roofing system manufacturer.

To ensure that your roof remains in warranty, most roofing system manufacturers require advance notice of any intended alterations or changes to the roofing system. Once the alteration has been approved by the manufacturer, the roofing work should be completed by an applicator authorized and approved by the manufacturer. The roofing system warranty could be voided if you fail to follow these procedures. In emergency situations, you should check the manufacturer’s guidelines for proper procedures.

Keeping these ten tips in mind will help you protect your roofing system investment, as well as add many years to the functional life of your roof. With the aid of an effective roof maintenance program, a roof can pay for itself many times in reduced repair and replacement costs. ▲

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