

Roofing Solutions

How to Set Up a Roof Maintenance Program

Fixing the leak

It's not as simple as it looks

BY MICHAEL RUSSO, RSI ASSOCIATE PUBLISHER & EDITOR

Even roofs that enjoy regular maintenance may leak at some point in their service lives. One of the advantages of a formal roof maintenance program is that it makes it easier to predict, pinpoint and repair small roof problems before they become catastrophic.

While building maintenance personnel may have the skills to make temporary, emergency repairs, it is always better to rely on the roofing contractor to handle this work. Sending untrained personnel to patch a roof during a rainstorm can be dangerous, and their efforts may wind up voiding the manufacturer's warranty.

Also, keep in mind that the cause of a leak may not be roof-related (see "Don't blame the roofer," on page 18). Either way, the first step to take when a roof leak is suspected is to inspect the building's interior. Look for signs of moisture infiltration and staining on the walls, ceilings and roof deck, if visible. Keep in mind that depending on the type of roof system, it may also be difficult to determine the exact source of water entry. Leaks occasionally result in damage far from where the water first entered the building.

The roof system should be inspected by a qualified contractor or roof consultant before corrective work is undertaken. In the meantime, your maintenance personnel can check for clogged roof drains, scuppers, gutters or leaders. Displaced ballast or walkway pavers are another

clue that something may be amiss. Also, look for uneven, settled or depressed areas that prevent proper drainage and lead to ponding water.

If the roof is under warranty, the manufacturer should be contacted. Once a general survey is completed, a more detailed inspection of roof details should be undertaken. The areas to concentrate on include copings, cap, counter and base flashings, gravel stops, roof edging and fascia. Check the condition of pitch pockets and pipe boots at roof penetrations. On single-ply membranes, inspect the seams to ensure there are no voids or open seams. On built-up and modified bitumen membranes, watch for blisters, wrinkles, worn spots, holes and deteriorated areas.

Built-up roofing membranes

Spot repairs can often address deficient or degraded conditions at isolated locations in the field of the roof or at flashings. These problem spots are often punctured, cracked, blistered or wrinkled areas that are beginning to lose—or have already lost—their waterproof integrity. Roof cements, coatings and trowel-grade products can be quick fixes in these situations. However, one must be careful not to void an existing roof warranty. For example, if an inexperienced maintenance crew uses asphalt-based patching materials on a PVC thermoplastic membrane, further roof damage is likely to occur.

It is best to leave permanent repairs to the roofing contractor. Let the professionals cut out and replace damaged sec-



Before - Open seams and deteriorated surface on modified bitumen membrane on sloped wall



After - Reinforced open seams by using a three-course flashing repair system including a fibrated asphalt emulsion coating.



Before - Open joint in modified bitumen flashing on built-up roof system



After - Repaired open joint in flashing by using the three-course flashing repair method.



Before - Tenting of EPDM membrane at perimeter wall due to loss of attachment of membrane to base tie-in.



After - Installation of new Reinforced Perimeter Flashing Strip with butyl tape attached and EPDM flashing. New EPDM flashings are seamed to the underside of the existing EPDM field membrane.

tions of the roof, replace failed flashings and reseal open field seams.

Spot repairs can be cost-effective for temporary repairs and add a few months or years to the life of a roof, depending on its condition. But if problems are widespread or a significant amount of water has already entered the roof system, it's unlikely these techniques will stem the leak.

Modified bitumen

Major modified bitumen repairs involve priming the membrane and then patching with a modified bitumen material eight inches wider in all directions, with three-inch radius corners.

Depending on the modified bitumen roof membrane type, the patch can be hot- or cold-applied or torched down. The majority of SBS modified bitumens today are still compatible with hot

asphalt, while APPs can be patched with a hand torch or compatible cold adhesives.



Repair of split membrane by using a three course flashing repair method, consisting of a base layer of plastic cement, a layer of asphalt coated fabric and a top layer of plastic cement.

Single-ply membranes

Emergency repairs of thermoset (EPDM) and thermoplastic (TPO, PVC) are often made with duct tape, roofing tape, peel and stick seam tapes, polyethylene sheets, or butyl or polyurethane sealants, depending on the size and severity of the damage. As mentioned above, don't use liquid or pourable asphalt repair products on single-ply membranes.

Permanent repairs usually involve resealing or re-welding large areas of open seams and/or applying professionally-installed patches made of the same membrane type. This typically involves a thorough cleaning and priming of the surface to be patched.

The Repair Manual for Low-Slope Membrane Roof Systems is an excellent reference on single-ply repair techniques. To order, call the National Roofing Contractors Association (NRCA) at 800-323-9545 or visit them at www.nrca.net.

Another good technical resource is the "Manual for inspection and maintenance of built-up and modified bitumen roof systems: A guide for building owners," which is also available through NRCA. **RSI**

Visit

www.GAF.com for

educational videos,

software and

seminar programs

GAF Commercial Property Owner

Learn About Roofing
Individual Product Details
Complete System Specs.
Find a Contractor
Warranty Options
Instructional Videos

Our Promise...

"To Assure Your Best & Safest Choice In Roofing!"

FREE Video

Restore your roof and save up to 50%!

FREE Software

Helps you select the right roofing system for your specific facility!

Educational Seminars

"Managing Your Roofing Assets"