

# Roof Moisture Detection

Prevent Mold, Pinpoint Air Leaks, Wet Insulation & Energy Losses

## The Importance of Roof Maintenance

### Maximizes Roof Service Life

**'A regular maintenance program is essential to getting the maximum life from a roof'**

**'Care is crucial:** Once the roof is protecting the building and its contents, it is often forgotten, which is unfortunate. **Building owners should rethink the old "out of sight, out of mind" attitude** when it comes to that major capital investment overhead. **Semiannual inspections can catch many roofing problems before any major damage occurs.**" - *'Adding Years to the Roof'*, *Building Operating Management*, November, 2002

**'The only way to extend service life after installation'**

**'Inspecting and maintaining a roof is the only way to extend its service life** after it has been installed. The primary objective should be to **maximize the service life**, thus reducing the roof's lifecycle cost....Don't assume that just because a roof doesn't leak, it hasn't incurred damage." - *Pat Marshall, Benchmark, Inc., as quoted in 'Roof Inspections Yield Longer Service', AFE Facilities Engineering, March/April 1999*

**"Making sure a roof has the longest life possible pays back huge dividends."**

*'Fountain of Youth', Regina Raiford, Buildings, July 2002*

**'The most effective method of ensuring roof system life and reducing leaks'** "...owners



with shorter time perspectives, such as retailers and developers, **may incorrectly assume that because they plan to occupy their buildings for limited times, they do not need to perform roof systems inspections.** Such owners may not understand what inspections are designed to do - help prevent leaks...The industry-recommended schedule (for roof inspections) is twice per year and after severe weather events." - *'The Importance of Inspections', Ted Michelsen, Professional Roofing, September 2001*

**'At a minimum, inspect once in the spring and once in the fall'** "The cost of an inspection and maintenance program should be included in the life-cycle cost. **Before problems occur, preventive maintenance should be conducted** to remove visible debris from the roof, clean drains and perform minor repairs. No matter how thorough the maintenance program is however, **it is necessary to make routine, semi-annual inspections to reduce long-term repair costs.**" - *'Time Is On Their Side', by Barbara L. Vergetis Lundin, Asphalt Roofing, October, 1999*

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**'A roof is a lot like a car'** “..even a good roof will not last its design life without ongoing maintenance. By doing a little bit of due diligence, a building owner or facility executive can add five or 10 years to the life of a roofing system,” says Ron Werowinski, generalRoofing. “A roof is a lot like a car. If you don’t do some maintenance, it will not hold its value. Most building owners anticipate that their new roofing systems will last 20 to 25 years. In the real world, however, those roofs are lasting 10 to 15 years, primarily because building management often is not willing to plan routine maintenance and inspections of the rooftop into their budgets.” - *Who’s got your roof covered?*, *Building Operating Management*, January 2002



## Prevents Moisture Damage

**'Many water-related repairs can be avoided'** “Many building owners and facility executives have experienced unscheduled capital expenditures due to roofing repairs. Many of these water-infiltration-related repairs can be avoided by developing and following a scheduled maintenance program for the life of a roofing system.” - *Roofing: Repair, Recover or Replace?*, *Michael L. Bresler and Douglas R. Stieve, Roofing*, April, 2002

**'Moisture is a roof’s biggest enemy'** “Eventually, no matter what type of roof, the ravages of freeze-thaw cycles, rain, summer sun, blustery winds and all the rest of Nature’s arsenal take their toll. Leaks develop in the best of roofs over time, causing U.S. building owners to spend more than \$12 billion annually on repairing, recovering or reroofing...Moisture degrades the mechanical integrity of the insulation system, corrodes metal components such as fasteners and metal decks and adds excessive weight to the roofing system. And wet roofing also increases energy losses up to 70 percent because wet insulation loses its thermal resistance. An assessment performed by the Oak Ridge Lab shows that if low-slope roofing systems could be kept dry, more than three-fourths of a quadrillion BTUs of energy [equivalent to at least 117 million barrels of oil] could be saved annually in the United States.” - *Reroofing: How Wet Is Too Wet?*, *Rita Tatum, Building Operating Management*, February 2001

## Minimizes Repair Costs

**'It can be the difference between a minor roof repair and a costly re-roofing job'**

“Many building owners mistakenly think their responsibility is over after the roof is installed. Actually, what comes next is just as important as the installation and should be given the same attention as the warranty. Preventive maintenance for a roof can be defined as steps taken to prevent damage and extend the life of the roofing system.” - *Building Operating Management*

“....several roofing consultants suggested that budgeting 3 to 5 cents per square foot for semi-annual inspections and maintenance can postpone spending \$7.50 or more per square foot on low-slope reroofing by five or more years.” *Adding Years to the Roof*, *Building Operating Management*, November, 2002

## Protects Warranty Coverage

**“Those who neglect maintenance may actually void their warranties.”**

*‘The Right Stuff’, Nicole Sturdevant, Roofing, April, 2000*

**‘Most manufacturers require twice-yearly inspections and documentation’** “Another area to pay attention to is maintenance requirements. Most manufacturers require that the owner conduct twice-yearly inspections of the roof and document the findings. **Failure to carry out these inspections and to repair small defects promptly** can be taken quite rightly to mean that **the owner is not maintaining the roof and that the warranty is null and void.** In

reality, these maintenance requirements can be a benefit to the owner. Regular roof maintenance is not only needed to keep the warranty intact, but it is, along with proper initial design and installation, one of the three legs supporting roof longevity. **Studies have shown that a roof properly maintained will last roughly double the time of a roof that is not maintained. Maintenance is a win-win situation.”**

**‘Most warranties require notification in writing within 30 days of discovering a leak’** “Failure to meet notification requirements can also cause a warranty to be null and void...The reality is that most leaks go unreported for months until a serious problem occurs....the owner often fails to report it to the manufacturer as required in the warranty. When this happens, **the manufacturer is legally able to get out of major repairs.**

Their position is quite understandable. What could have been an inexpensive small annoyance may well become a costly tear off and replacement after six months of delay. **Leaks don’t get better on their own.”** - *‘Finding the Value of Roofing Warranties’, by Karen Warseck, Building Operating Management, February 2003*

**“Regular inspection and maintenance are important because they help prevent costly repairs and are often necessary to validate the warranty of the roofing system.”** *‘The Right Stuff’, Nicole Sturdevant, Roofing, April, 20002*



**‘Keeping a detailed roof history helps with warranty questions and challenges’** - “...it works to remind the facility executives to notify the roof system manufacturer of any alterations or changes to the roof system or occupancy of the building to keep the warranty in force.” - *‘Adding Years to the Roof’, Building Operating Management, November, 2002*

## Documents Performance

**‘A good service and maintenance program provides documentation’** “...it provides documentation of roofing deficiencies, their causes and how damage can be prevented. And it helps the building owner or facility executive determine when the roof has reached the end of its useful life.” - *‘Who’s got your roof covered?’, Building Operating Management, January 2002*

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## The Capital Costs of Poor Roof Maintenance: Potential Costs in a Typical Example:

New roof, total cost: \$750,000

Life expectancy, professionally maintained: 20-25 years

Life expectancy, poor maintenance: 10-15 years

Roof performance lost, average: **10 years**

Capital investment loss: **\$300,000 to \$375,000**



**Additional Costs:** Roof leak damage • Premature roof repairs  
Year-round energy losses • Premature roof replacement

**“The choice not to have a maintenance program may cost you  
four times the cost of the maintenance itself.”**

*Kent Mattison, President, Benchmark, Inc., Buildings, July 2002*

**“Once a roof system is installed, nothing is more critical to  
its long-term performance than establishing a program of  
regular inspections and proper maintenance.”**



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