

ROOF MOISTURE

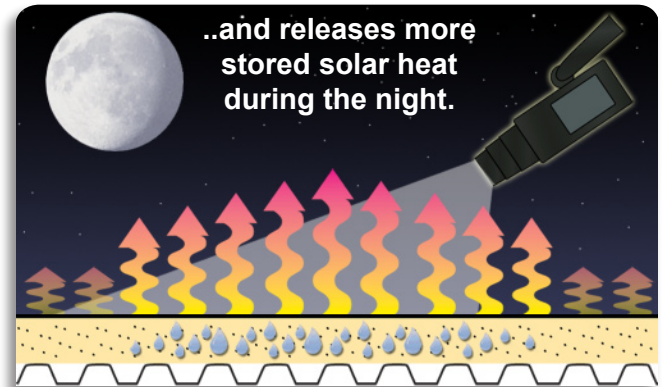
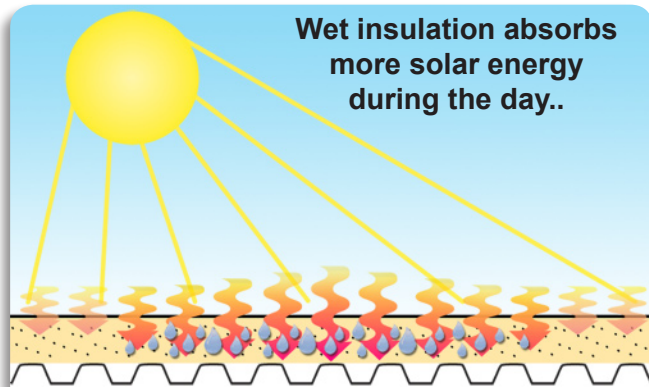
INFRARED DETECTION & ANALYSIS Revealing Internal Roof Condition

Today's building owners are saving hundreds of millions of dollars every year with infrared roof moisture testing. Our professional infrared testing services can substantially reduce your roof repair and replacement costs by:

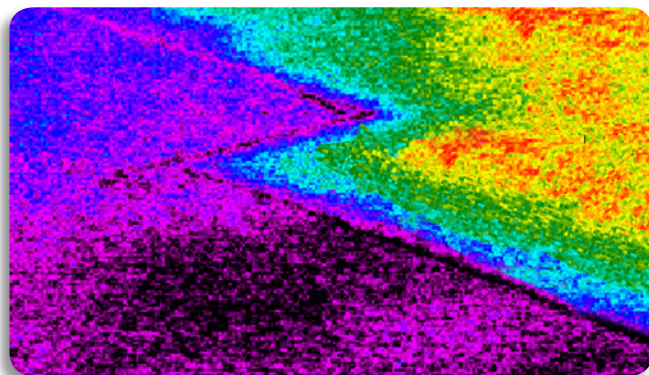
- targeting problem areas for *effective* repair
- identifying sound roof sections for conservation
- creating money-saving replacement options
- improving specifications for more competitive bidding

How it works..

During the daytime, wet insulation absorbs much more solar heat than dry insulation. During the night, wet roof materials release this "solar gain" as radiant heat, which is detectable with the infrared camera.



Our certified thermographers use state-of-the-art cameras to capture the "thermal signature" of the roof's night-time heat loss. As you can see in the photos below, the infrared image pinpoints the extent of moisture damage within the roof. Our inspection teams precisely mark out the damaged areas on the roof surface, so you can save tens, even hundreds of thousands of dollars in unnecessary repairs or replacement.



Thermographic image from infrared camera



Control image, wet sections marked for removal

Infrared thermography is a proven scientific method for evaluating roof condition. Our professional infrared surveys provide the in-depth, unbiased information that owners and facilities managers need to deal effectively with their roof systems—the most critical and expensive asset of most physical plants.



INFRARED ANALYZERS INC
Certified Thermographers

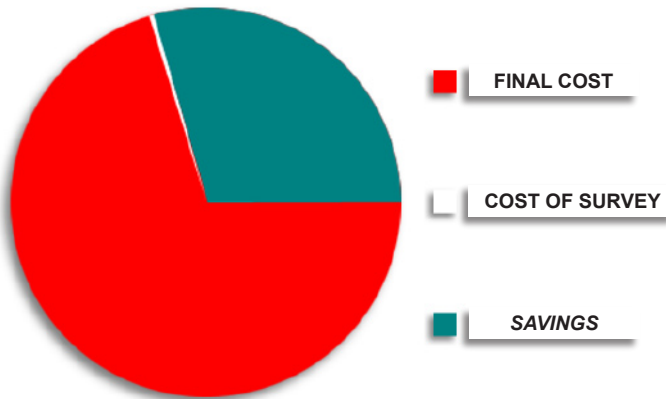
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Infrared Roof Moisture Detection

Cuts Costs and Liability by Revealing Internal Roof Condition

Example of Real Savings..

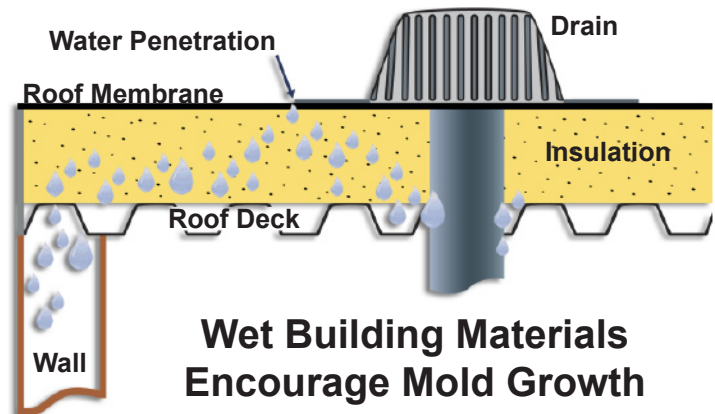


Here's an example of how information from our infrared roof surveys can be applied to your advantage: The building owner had been told the roof needed to be stripped down to the deck and new insulation and roofing installed, at a cost of \$1,061,000. However, our infrared survey determined that the vast majority of the roof was not damaged. Armed with our detailed information, the building owner chose to remove only the water-damaged areas and re-roof over the existing sound roofing, at a cost of only \$745,000. She saved \$311,000 by ordering a \$5,000 infrared analysis.

More Money Saving Benefits..

Saving big money on roof repairs, retro-fits and replacements is just one of many ways building owners use our infrared roof surveys to improve the return on their investments.

- **Save Money on Roof Repair and Maintenance:** Infrared testing finds small problems before they become bigger and more costly. By targeting the problem areas, it helps you make the most effective use of limited funds. Infrared surveys can also be a huge help in locating leaks.
- **Pinpoint Areas of Potential Mold Growth:** Wet roofing provides an excellent environment for mold, supplying the nutrients, moisture, and optimum temperatures that molds need to thrive. Water penetrating the roof can enter the structure and create hidden mold problems in other building components, including floors, ceilings and walls. Moisture damage and mold are progressive conditions, so the sooner problem areas are identified and mitigated, the greater your opportunity to reduce losses and potential liability. Our infrared surveys target the sites of moisture infiltration to help you stop mold in its tracks. They also document your efforts to deal with existing and potential mold problems. Periodic infrared scanning should be included in all mold identification and control programs.
- **Acceptance Testing & Quality Control:** For quality control purposes, many consultants, architects and owners are specifying post-construction infrared testing to confirm the quality of materials and workmanship. The objective hard-copy documentation provided by our in-depth inspection reports helps reduce litigation and encourages positive solutions to any disputes.



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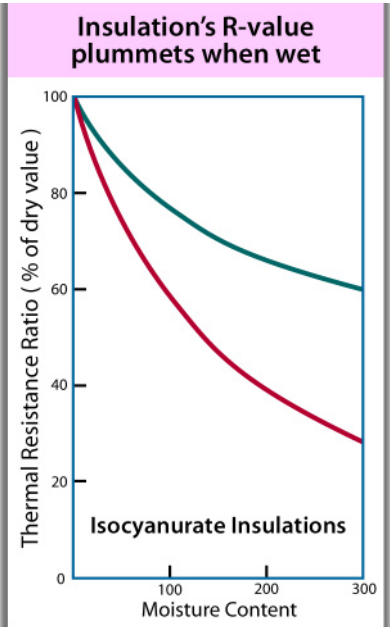
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- **Reduce energy costs:** Moisture in the roof's insulation significantly reduces its insulating properties (R-value). This means higher heating costs during the winter and higher cooling costs in the summer. As energy costs continue to climb, more building owners are using our infrared surveys to pinpoint money saving opportunities.
- **Reduce cost of asbestos removal:** If you're facing repairs on a roof made with asbestos-containing materials, our infrared survey can help you greatly reduce the cost of asbestos removal and disposal by locating and removing only the water-damaged sections of the roof.
- **Improved Budget Controls and Planning:** Our infrared roof surveys give building owners and facilities managers the information they need to make long-term plans for roof maintenance and repair. They can help prioritize multiple roof areas for accurate and economical long-term planning. Understanding your roof's current condition and its expected lifespan will help prevent nasty, and expensive, surprises down the road.
- **Due diligence:** When purchasing a property, it's essential to have an accurate evaluation of the roof, one of the most critical and expensive building components. Our unbiased infrared surveys can help document the roof's true condition and value. Due diligence surveys can alert the prospective buyer to the potential for hidden mold-related problems in the roof or other structural components. And having accurate information about water damage can protect your interests during negotiations.
- **Roof warranty protection:** Many roofing manufacturers now require infrared testing before issuing warranties on their products.

Certified Thermography: Infra-red Analyzers is committed to the highest standards of professional thermography. You can count on our expertise to deliver the accurate, reliable information you need. Found



ed in 1984, we are an independent, professional consulting firm. Infra-red Analyzers' Certified Thermographers have completed courses of study and passed examinations as specified by the American Society for Non-Destructive Testing (ASNT). In addition, we provide ongoing training and support to our staff in all applications of thermographic testing.



Ballasted and Multiple-Construction Roofs

Because ballasted and multiple-construction roofs cannot be accurately inspected with infrared thermography, we employ nuclear moisture detection technology on these roof systems to determine their moisture content.



Accurate roof measurement insures reliable survey results.

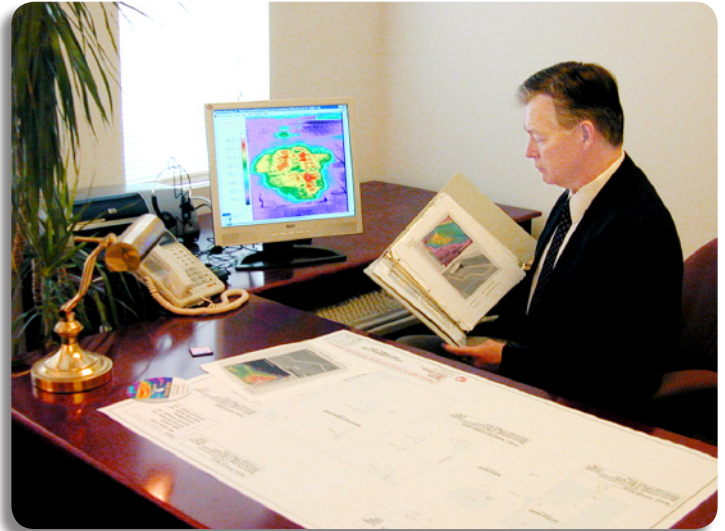
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What You Get..

Our professional testing reports lead the industry in quality, accuracy and detail. Our infrared roof inspection reporting services include:

- **Complete Roof Markout:** Included with all inspections. Our technicians mark the boundaries of moisture-damaged roof sections on the roof surface to guide subsequent repairs.
- **Infrared Roof Moisture Survey Report:** A full-color bound report that includes an in-depth written analysis of all findings from our visual and thermographic inspection, and can include color thermograms and control photographs of moisture-damaged areas.
- **AutoCAD® Roof Map:** We map our thermographic data over an AutoCAD® blueprint of the complete roof system, in both large (36" x 24") and small sizes.
- **Infrared Roof Moisture Survey Report on CD-ROM:** Everything in the standard bound inspection report on one disk, in popular Microsoft® Word format for easy retrieval, viewing and printing.



The Bottom Line..

Infrared surveys provide excellent information at low cost, and substantially improve your roofing options. Infrared Surveys typically cost only about 1% of the cost of new roofing (2 to 5 cents per square foot versus \$4.00 to \$6.00 per square foot for roof replacement). Roofing decisions often involve tens of thousands, or even hundreds of thousands of dollars. Professional infrared thermography gives you the information you need to base your roofing decisions on accurate, scientific information rather than assumptions and opinions.

Do you have questions about infrared roof moisture surveys and how they can help save you money? Please call us toll free at 800-879-1964.

Full Service Thermographers..

In addition to roof surveys, we also provide a full range of commercial thermographic inspection services:

ELECTRICAL

MECHANICAL

STEAM

BUILDING ENVELOPE

CUSTOM SERVICES



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