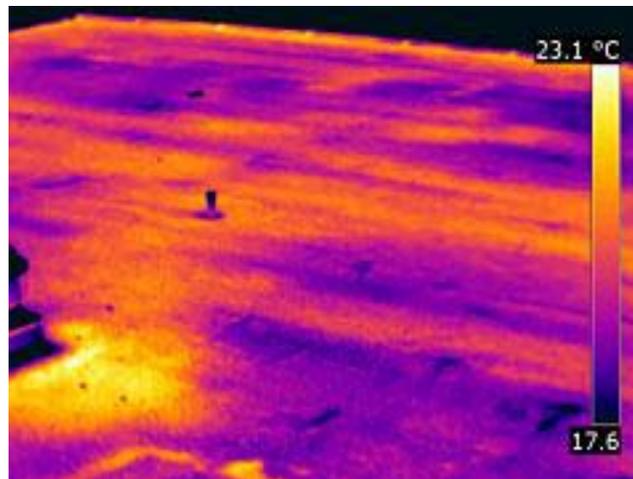


Roof Maintenance Program Using Infrared Scans

Infrared scans of a roof can be of tremendous benefit at all stages of a roof's life. Knowing if and where subsurface moisture exists is essential to proper roof maintenance and insuring the longevity of the roof. The roof structure is one of the most complex and costly parts of a building. While leaks themselves can be the owner's biggest headache, any water introduced into the roof structure quickly results in other problems that are often more destructive and costly. An infrared scan can precisely locate areas of moisture in roofing insulation.

During a bright sunny day the sun heats up the roof system. After the sunset, the entire roof begins to cool down, but not all at the same rate. The wet insulation, having stored more of the sun's energy in its greater mass, will stay warm after the dry areas have cooled down. The infrared imager identifies these wet areas as warm areas. The outline of the wet area is spray painted and the owner clearly has the problem areas identified. Wet insulation does not dry, it will only continue to spread and deteriorate the roof structure.



DID YOU KNOW?

The National Roofing Contractors Association estimates that 40% of all new roofs develop serious problems within 1 year of installation. They estimate that the source of the problems is due to:

- 50% - poor workmanship
- 20% - poor design
- 10% - material failures
- 15% - poor maintenance

The losses from premature roof failure run into billions of dollars every year. These dollars are lost and not available to support plant or expand plant operation. The primary costs associated with roof failures include the following:

- Excessive energy consumption due to reduced insulating value of wet insulation.
- Losses due to water leakage into the building, resulting in problems ranging from minor nuisances to catastrophic and life-threatening situations. Leaking roofs can cause total building outages when water invades electrical switch gear and critical production equipment.
- Damage to the roof membrane and the structural roof components caused by trapped moisture in the roof assembly.

The average life of a new roof in the US is seven years. Because some roofs last over 30 years, it is clear that a lot of money is being spent that could be put to better use.

How can this be accomplished? Maintain the roof! Begin your roof maintenance program by having Fowler Infrared Services scan your roof system.

Benefits of a Roof Maintenance Program

- Protect Warranties
- Early Detection
- Reduce Repair Costs
- Save Money
- Find the source of leaks
- Prolong Roof Life

When should you conduct an infrared roof moisture inspection?

- Upon acceptance from the contractor, many are wet from the beginning.
- Soon after a leak occurs in order to identify the extent of damage to the insulation.
- Roof inspections every 2-3 years will keep up with problems.
- If known damage has occurred to the roof, an inspection on an earlier schedule is warranted.
- Prior to the expiration of the warranty.

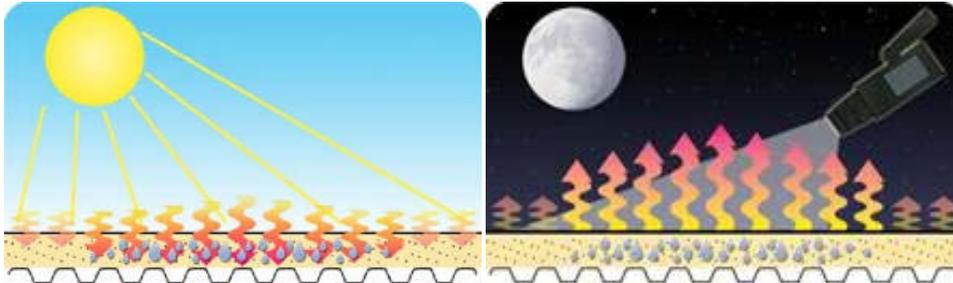
When a roof membrane has finally outlived its useful life, having a dry roof below it pays further dividends. The deck will be in much better condition.

Disposal costs will be reduced because it will probably be possible to salvage some of the dry insulation. Leaving it in place and simply adding a new membrane can easily save \$5 per square foot or more.

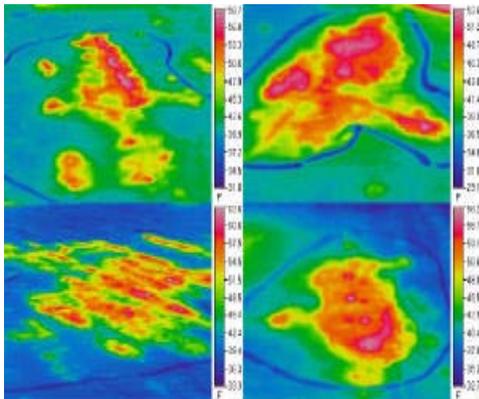
For each year you can extend the life of a million dollar roof, 100,000-200,000 square feet, past the seven year average, you are putting nearly \$150,000 in the

bank.

HOW DOES IT WORK



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