

Infrared: Truth or Consequences

By Alan Powell

If you are a baby boomer or aficionado of old TV shows, you might remember the daytime television show “Truth or Consequences.” The show’s host would ask questions, and the contestant would have to correctly answer all of the questions or face having to perform a crazy act in front of a nationwide audience. Basically, if you didn’t know the truth, you would have to face the consequences. Unfortunately, as a moisture inspection firm, we often see this game being played out in the real estate world when infrared camera technology is used to produce unverified answers and the homeowners are left to face the consequences.

Infrared cameras are used to detect heat loss, plain and simple. The only thing that they measure is temperature. They don’t measure moisture, and they certainly can’t detect damage to materials inside a

wall. Infrared has been an attractive choice for REALTORS® and home inspectors because it is non-invasive and typically gives positive, potentially false, information about the condition of the home.

Temperature differences resulting from moisture occur because water evaporation causes a loss of energy or a colder temperature. Infrared works well on wet sheetrock or siding that is soaked where evaporation is easily occurring. Infrared can also sometimes indicate when there is wet insulation in the wall; however, the noted temperature difference could also stem from an insulation void in the wall cavity, meaning it isn’t conclusive. Generally, the amount of water that is needed to cause damage to the materials in a wall cavity is far less than the amount of water that is required to cause a change in temperature detectable with infrared.

Additionally, damages caused from moisture intrusion eventually turn into dry rot, meaning the area can no longer hold water. Dry rot will not always present a different temperature than surrounding materials, and infrared can’t see it. Through our own use of infrared and follow ups, we have seen infrared indicate just 25 percent of the problems moisture intrusion causes.

Another point worth noting is that the use of an infrared camera during daytime hours generally will not yield enough temperature difference to accurately identify potential areas of issue. A wall warmed in the sun will not show any temperature difference. In the milder months when outdoor temps are relatively close to indoor temperatures, we usually see materials register at the same temperature during the day. Meaning that even attempting to assess for areas can be difficult unless conducted in the correct conditions and before the sun rise.

The moisture inspection industry has always maintained that intrusive testing is the only way to conduct a moisture intrusion test. Training schools do not include infrared in their curriculums because it does not accurately assess moisture problems. So why is infrared still used as a moisture inspection tool? The answer is

accessibility. Despite evidence that infrared should not be the tool of choice for moisture assessment, they are now widely available and still don’t require a homeowner’s permission to employ. Once the price of the technology dropped and cameras could be produced cheaply, anyone could afford to buy one and attempt to interpret the results. There are even infrared plug-ins for smart phones on the market now, and many home inspectors use their new toys to show that the home has no moisture problems.

Just as medical personnel are required to have proper certifications to operate complicated technical equipment, The International Association of Certified Thermographers ensures that technicians have the proper training and credentials. Of the 58 technicians who have specialized in building sciences in the United States, only two certified thermographers are located here in Minnesota.

So Let’s Recap: infrared cannot detect small amounts of moisture in materials that can eventually lead to damage, and it isn’t able to detect dry rot, a common result of long-term moisture intrusion. So unless the home has a recent, large intrusion, infrared isn’t likely to detect an issue. You can imagine the consequences of purchasing a home based on the results of an infrared test, and especially one conducted during normal business hours.

We quite often perform an intrusive moisture inspection on a property that has previously been tested using infrared. Whether it was when the current owners bought the home or had it tested prior to listing, the differing results are not generally well-received. The REALTOR® who recommended infrared testing and spent a lot of time working to complete the sale will probably not get the return business.

The bottom line is that scanning with infrared is not a moisture test. If you want the truth, an intrusive moisture inspection is the way to get the right answers. They may not always be the answers you want, but they won’t leave you or your client to suffer the consequences.

Alan Powell is the owner and senior inspector of Certified Moisture Testing, LLC. Alan has over 14 years of experience in moisture inspection in both residential and commercial construction. He is licensed and certified for home and building moisture analysis by three different national organizations. Having been involved in over 7,000 moisture discovery inspections, he is considered a legal expert on moisture testing and intrusion causes in moisture investigations. His mission is to educate the general public about understanding, preventing and detecting moisture intrusion in homes and other buildings. For more information, please visit www.certifiedmoisturetesting.com or call (651) 257-7310.

