

First, I do want to say that Thermography **IS NOT** the end all and be all that many would like you to believe. The thermal imager (thermal camera as it is more commonly called) is just another tool that can help the Inspector find additional issues they might not catch with a visual only inspection. Thermography can do this with greater accuracy and ease as well. However, the thermal imager **IS NOT** a substitute for a good set of senses and other actions that should be taken; regardless if thermal imaging is used or not. The imager only detects anomalies that must still be checked/verified using other means such as moisture meters for water issues, thermometers for insulation issues, along with other conditions and tools, and above all, the eyes and brain of the Home Inspector! Some anomalies will still defy explanation with secondary means and must be left to destructive inspection/testing that are not a part of a normal home inspection.

Here are some very good uses of Thermography:

1. Electrical issues, such as loose connections in electrical panels, switches and outlets and other electrical problems. The caveat with this though, is that to find these issues you must have current flowing to/through the device and wiring being checked. In other words, an electrical outlet that has loose connections with nothing plugged in and drawing current through it leaves nothing to be discovered.
2. Insulation deficiencies in walls and ceilings. The caveat here is that Thermography can not tell you what the "R-Value" is or how much of a drop it is for the insulation deficiency. In enclosed walls it can identify those missing or disrupted insulation areas that can cause significant cold/hot spots. The imager does not replace a proper attic walk that might have found the missing or disrupted insulation to begin with.
3. It can be used to detect plumbing leaks as well as leaks in the home's outer envelope where rain might be entering. Even if you do not receive a lot of rain, plumbing leaks can happen. You might not be able to visually see a slow plumbing leak but thermal imaging can catch it when properly performed.
4. It can be used to quickly find HVAC (heating/cooling) ductwork leakage, not only with exposed ducts in attics, but in the enclosed walls and ceilings as well.
5. It can be used to help quickly find air infiltration points around virtually any opening in the home, not just windows and doors.

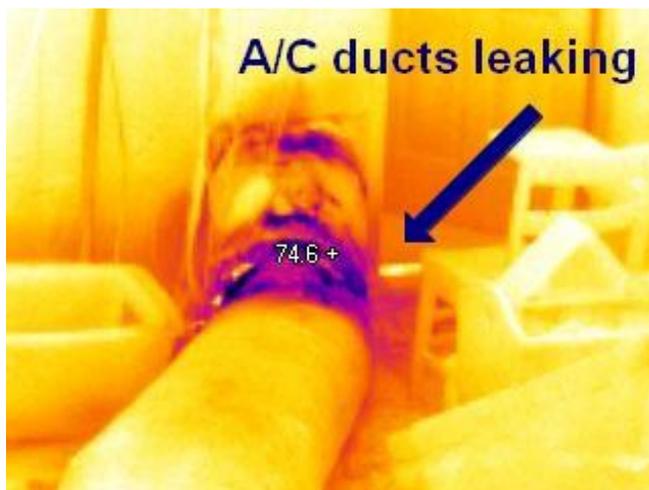
There are a lot of uses for thermal imaging, but you need to be careful and make sure the Inspector is equipped to verify what they find. This means they should be carrying additional test equipment such as a moisture meter, infrared thermometer and a ladder. The Inspector also should be ready to walk that attic area, if safe to do so, to verify what is above the ceilings. If all the Inspector plans to do is walk around, point and shoot, without trying to verify the cause, then it is a waste of your time and money!

Another thing to take into consideration, and be ready for, is that not all anomalies can be explained without more in depth scanning, and destructive inspection means. With a good knowledge of building sciences we can form an opinion of what might be occurring in those instances. But it would be just an opinion without the more in depth actions.

Lastly, and just as important, is that we can find something in every home guaranteed! We can always find some small anomaly such as a air infiltration in outside corners of the home because they are rarely completely sealed. There are many other small anomalies that we can find and explain to you. But most of these small things have so little impact on the home that they are rarely worth trying to correct. You can wind up spending lots of money for so little return on these small things. Perhaps the money would be better spent elsewhere.

Hopefully this answers some of your questions and provides a little more insight into thermal imaging and its usefulness. Good luck on your home purchase and keep asking questions, it will help to better understand what you are buying!

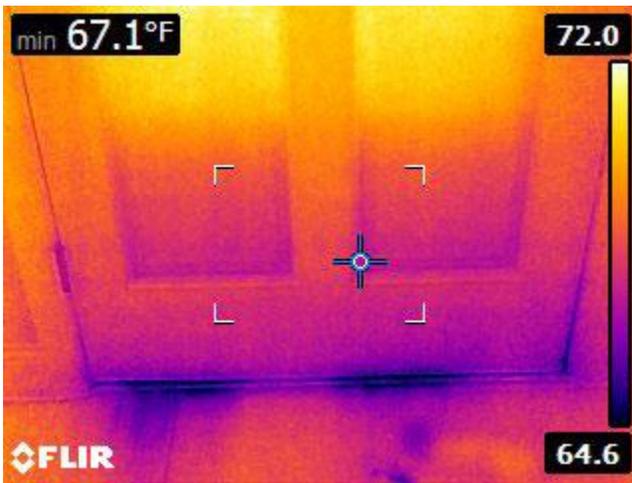
Below are wonderful examples of thermal images taken from home inspections.



A/C duct leaking. Invisible to the naked eye.



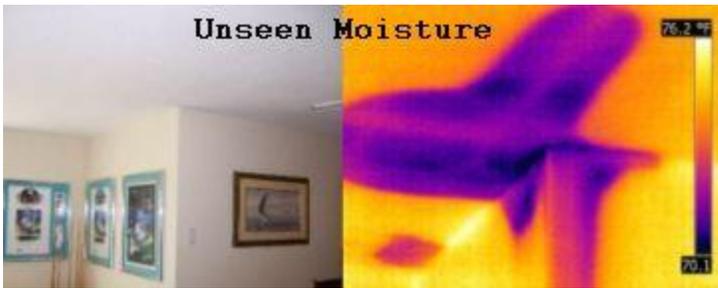
Cold air infiltrating at window casing trim and door threshold (below). *Invisible to the naked eye.*



Cold air infiltration from the exhaust duct.

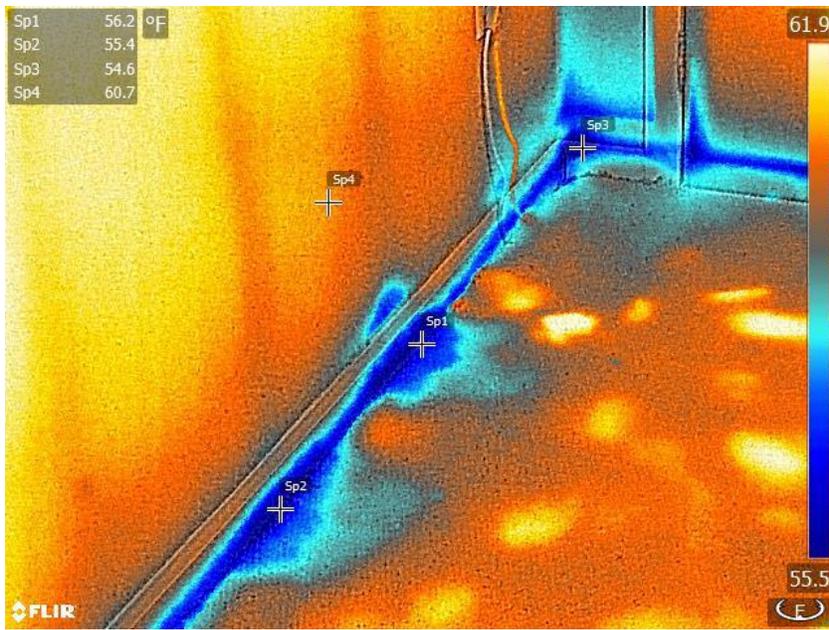


Water leak. *Invisible to the naked eye.*

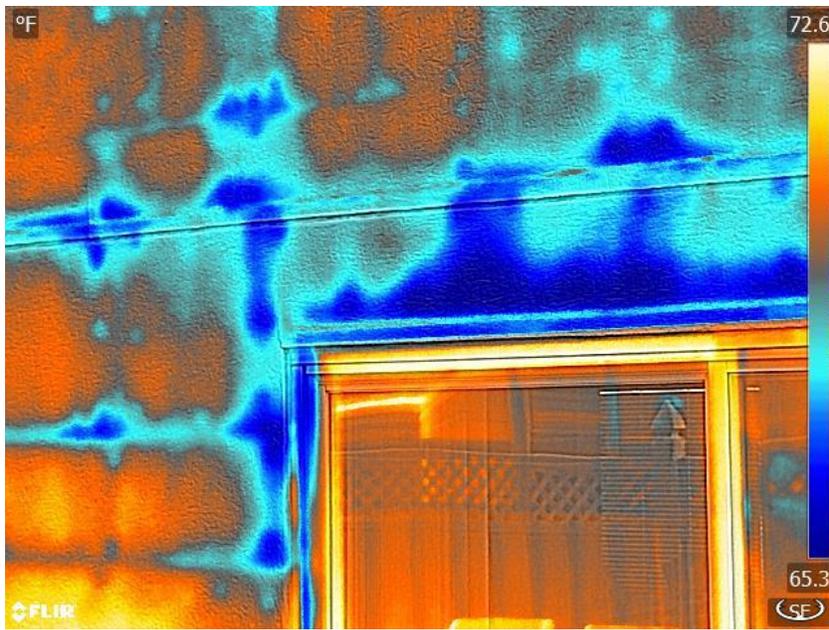


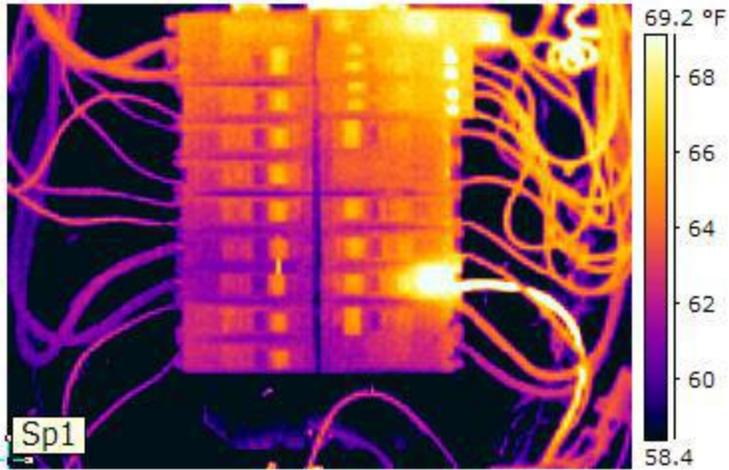
Moisture infiltration. *Invisible to the naked eye.*



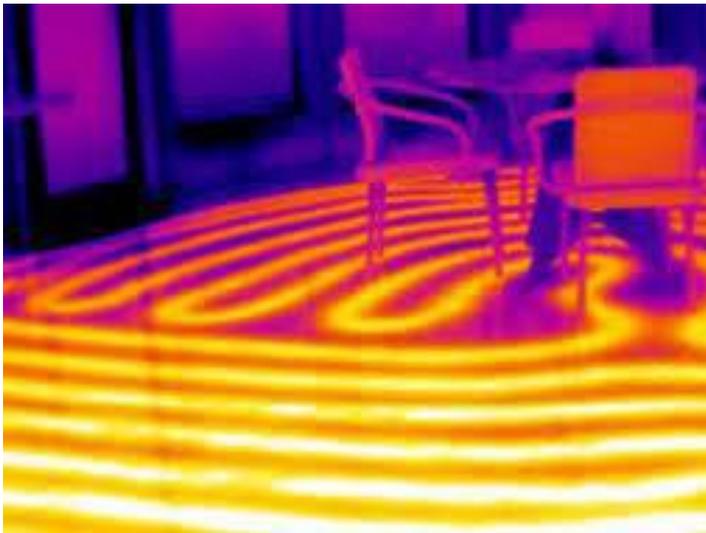


Moisture infiltration.



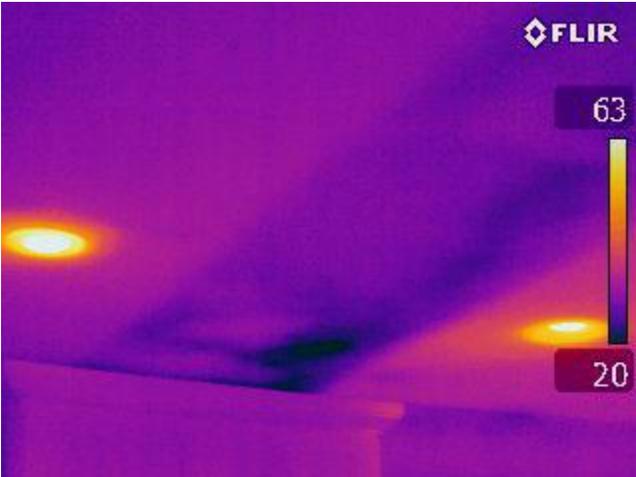
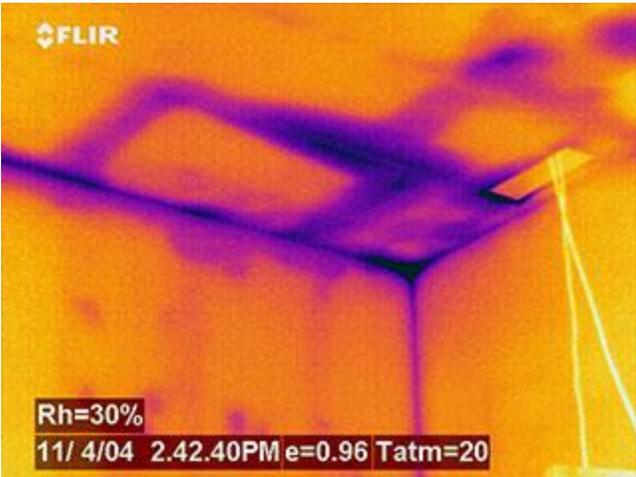


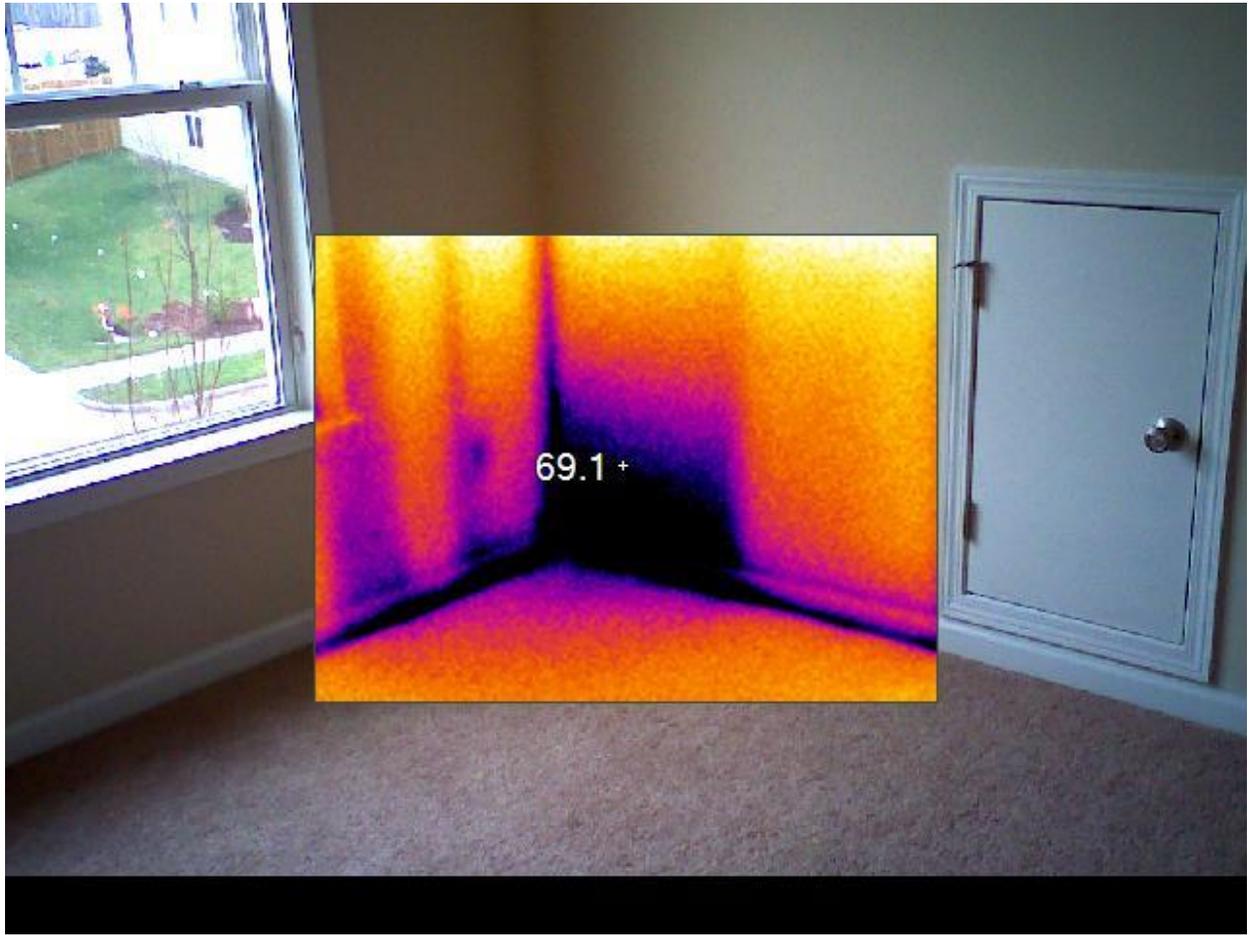
Possible overheated circuit breaker. *Invisible to the naked eye.*



Clearly see floor radiant heating elements or piping. *Invisible to the naked eye.*

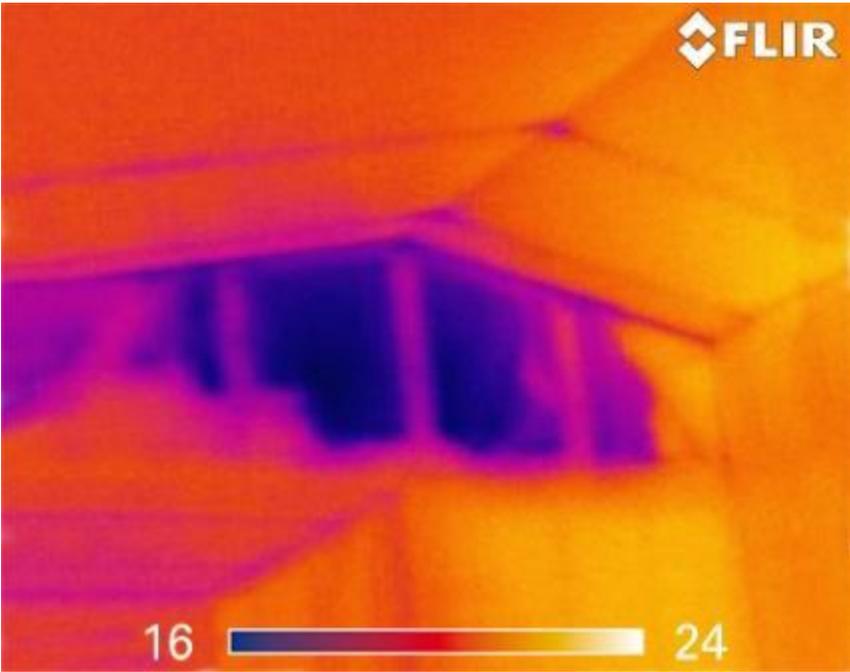
Still more evidence of moisture...





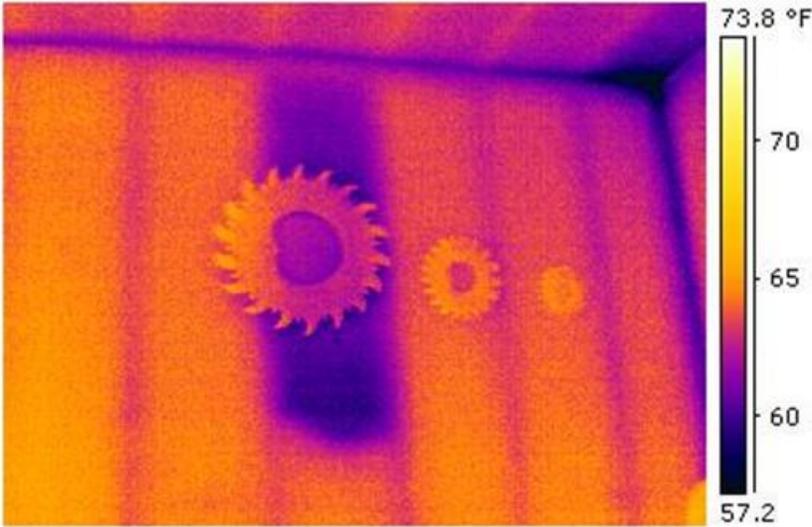


Missing insulation in cathedral wall.



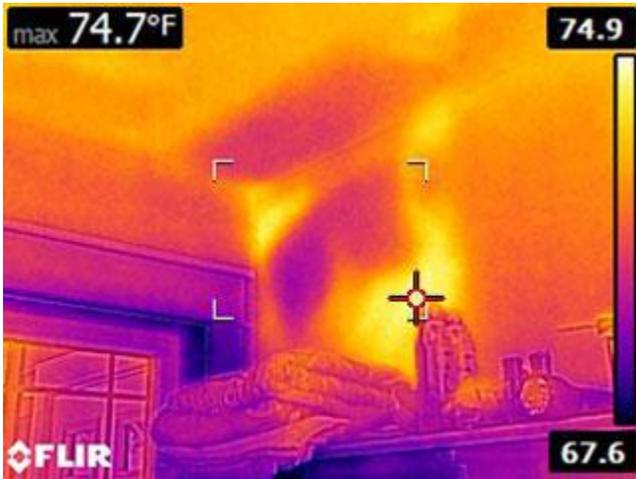


Missing insulation between wall stud.





Missing and displaced insulation. *Invisible to the naked eye.*





More missing insulation. *Invisible to the naked eye.*

