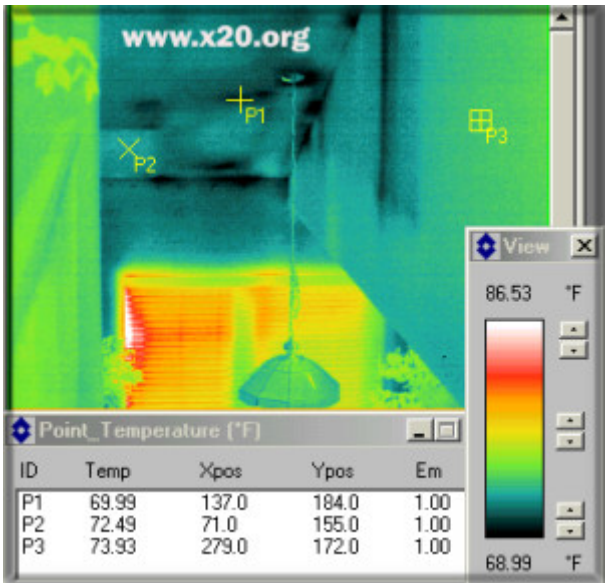
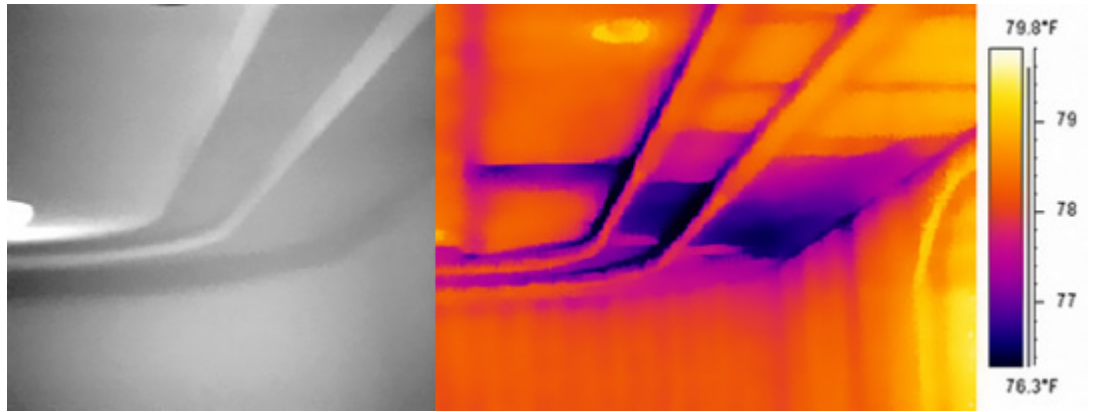

SPI Energy Audit / Mold detection cameras

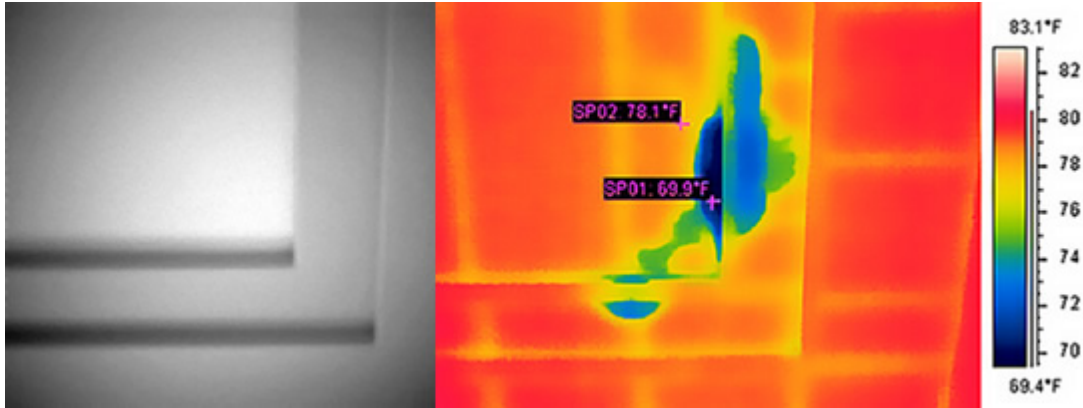
An infrared home energy audit is done in two parts. First, an inspection of the exterior shows areas where expensive heated or air conditioned air is escaping. Second, an inspection of the inside shows where warm or cold air is entering. Both steps pinpoint areas where improvements can be made. Older buildings are especially vulnerable to heat and cooling loss and it is not uncommon to see entire walls, ceilings or attics lacking sufficient insulation. Thermal (Infrared) inspection is simply the best method of identifying those areas that need improvement, increasing your home's thermal efficiency and therefore saving you money! Electrical fuse and circuit breaker boxes can be checked at the same time. Checking them for hot spots. You may be amazed by some of the problems that can be found in these areas. Any time a circuit is running abnormally hot, it is costing you extra electricity. Our Infrared Imagers can also see water damaged walls, ceilings and floors. Our thermal infrared cameras see the UN-SEEN. if you have, or think you have a problem, we want to take the guess work out of fixing it, thereby saving you money on un-needed insulation, window, door or heating/central air upgrades. SPi thermal imaging & their customers is not associated with any other companies or contractors, ensuring you of an unbiased evaluation. It is our policy at to ensure the highest quality standards possible while providing the home owner with an accurate, detailed description of all areas of their residence which may be of concern. These areas include.





This image shows a wider area of moisture infection but not as high a degree of water saturation. The small degree of temperature differential (around 3 degrees F) indicates this situation.inspection.

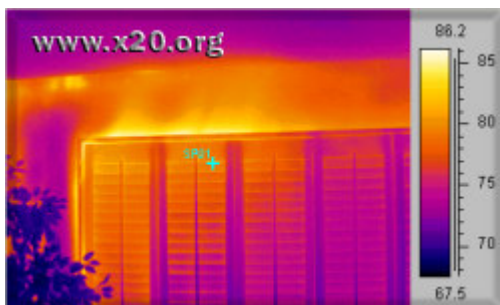


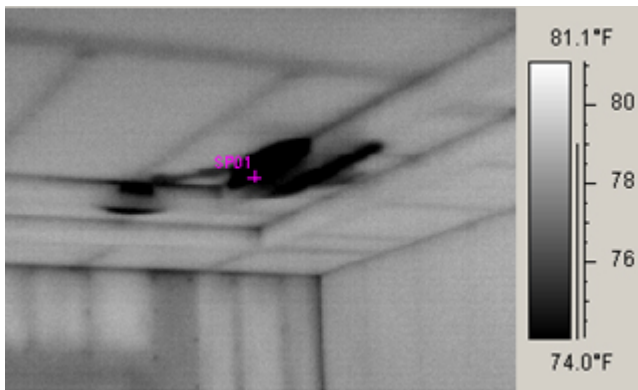
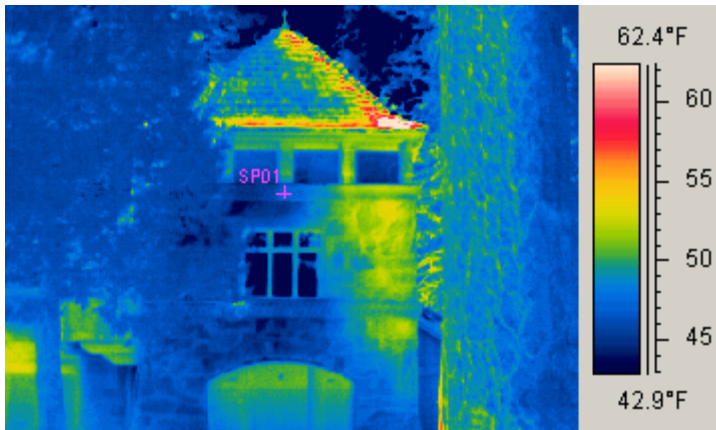


Insulation problems can plague almost any home and even new homes can suffer. Older homes, which were not built using any type of insulation standard, should be evaluated on a consistent basis to determine if there are any problems and which of the latest technologies would most benefit the thermal efficiency of the home. Many homes which have had modern insulation upgrades or were constructed using them may be susceptible to problems which may never be diagnosed without the use of a thermal imager. Some of these include: **1. improper insulation installation.** A common source of thermal efficiency problems is improper insulation installation. Often these problems are almost impossible to detect without an infrared inspection. Some of the most common problems are blown insulation which does not fill the entire cavity into which it was blown and batts of insulation which when installed were either not seated properly, were

Compressed into the cavity or do not fill the entire cavity. Batts are strips of insulation that fill the space between two studs

2. Insulation which was installed using steel staples. These staples are subject to corrosion, and it is not uncommon to see them completely rusted away. This allows the insulation to shift its position in a wall, which can result in large gaps between where the insulation has settled inside a wall and the top of the wall. These types of gaps are a substantial source of heat and cooling loss. **3. Access plates.** Electrical outlets, telephone jacks, cable jacks, light switches, door bells, etc. These areas are quite often completely lacking any insulation and can be the source of annoying and normally undetectable drafts. **4. Fire Alarms, recessed lighting, ceiling fans, etc.** These items installed into the ceiling, are often not insulated after installation and can be a major source of heat and cooling loss.





2. Heat and cooling loss through other areas of residence.

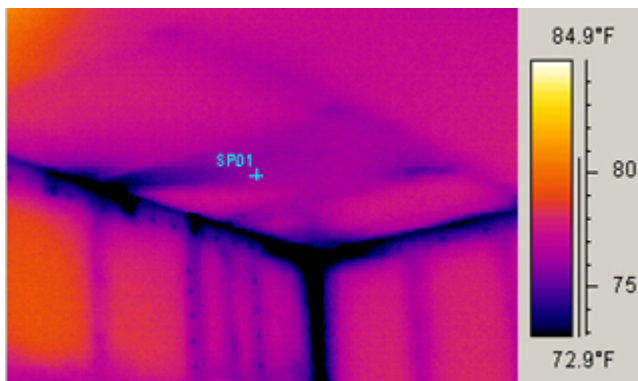
There are tons of places in your home that your money is literally flying out the window. Some of these areas are the window and door seals of your home. The older the home, the more likely it is that there are leaks in these areas. Even new homes can suffer from problems around doors and windows. As a home settles over the course of time, the windows and door frames receive stress, this stress transforms into warping which can cause the seals to leak. You may never notice leaks like these, but they maybe there. We have seen new homes of less than 30 days old, with gaps of almost a 1/8 inch in places around the windows, these gaps were allowing air to pass in and out of the home completely unrestricted and the windows were so warped they were almost impossible to open and close. If on the coldest of days, especially when a strong wind is blowing, it seems like you just cannot keep your house warm enough, or if it seems the heating or cooling system never shuts off, than you probably have numerous small leaks. These small leaks, added up, can equal leaving a window open in your home all winter and summer. Other places of heating and cooling loss are vents, ducts and chimneys. We will look closely at all of these areas during our inspection of your home. If you have central air, or forced heat it is also possible that you are losing cooling and heating efficiency through leaks you may have in the ducts which run through your walls and attic. You could be heating or cooling these areas without ever knowing it. If there are leaks in your systems ductwork we can see them in wall cavities and the attic area.

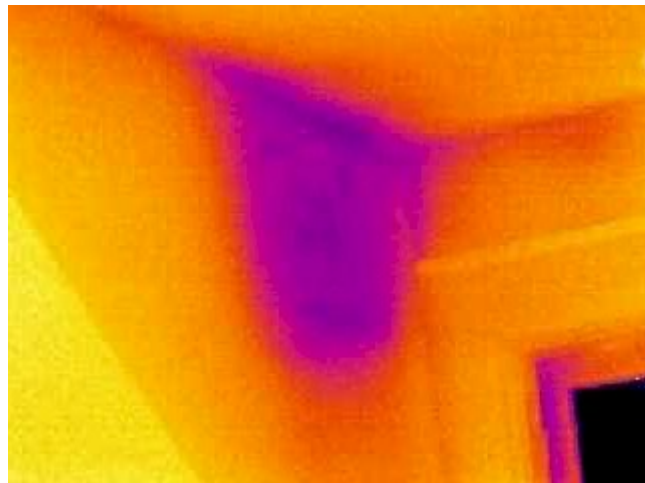
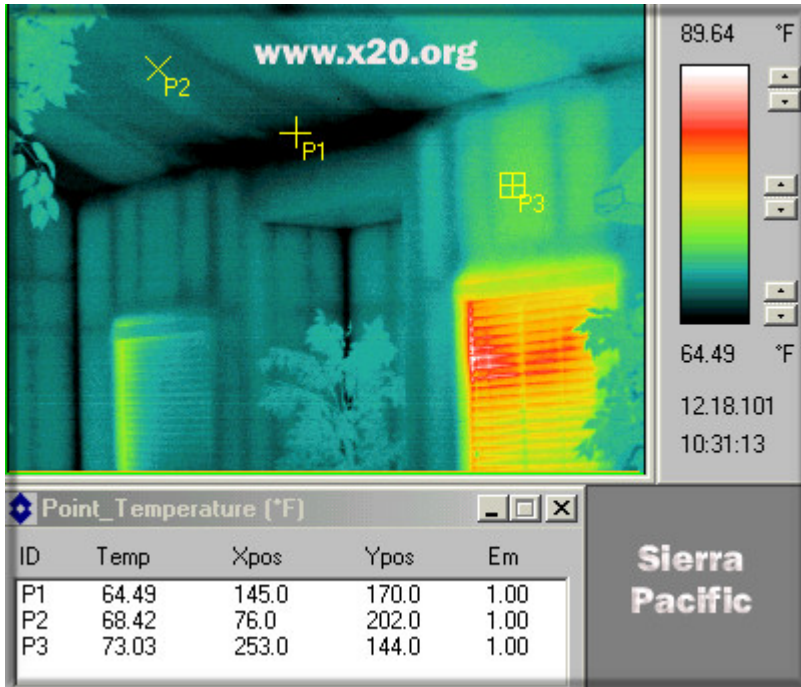
3. Damaged areas.

SPI Infrared cameras look for areas in your home that may be damaged. Water damage is one of the most common types of damage that can lead to severe problems. It is very possible that insulation in some areas of your home have at one time or another, had water damage of some type. This type of damage does not require a visible leak into the home, and it may only occur sporadically. An example of this may be, when there is a hard rain combined with a south wind of more than 10 mph. This may only happen several times a year, however the damage that can be done over time could be substantial, plus the added water weight pulling the insulation (insulation can absorb water like a sponge) down the inside of the wall, and extra moisture corroding the staples holding the insulation up often leads to large gaps between the insulation and the upper part of a wall. Wet insulation can take months to completely dry and can be a source of mold and mildew spores, which can cause respiratory problems. Wet insulation also has an insulating property of almost zero and can actually be pulling the heat out of your home like a sponge. This type of problem is easily seen with a thermal imager. Excess moisture in an attic is a common problem in many homes and can lead to premature shingle failure. Adequate attic ventilation is essential in the resolution of this problem.

With water damage and over time, mold forms. SPI infrared cameras have the capability of “seeing” mold behind structures that could never be seen with the human eye.

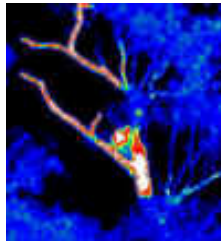
This makes an effective tool for mold detection. Scanning with SPI infrared cameras can determine and pinpoint mold areas which can become a potential health issue.





This infrared picture was taken in a hallway. The purple area is a large damp spot which was invisible to the naked eye. The source of the leak turned out to be a bathtub drain which had been leaking for a long time and had started to rot the surrounding floor.

It is also sometimes possible to detect insects and insect damage with thermal imaging. Damage caused by termites, and wood burrowing ants create changes in the density of the wood in which they are burrowing, this effects the way an infrared imaging device sees the wood compared to the normal undamaged wood in the surrounding area. This is because the damaged wood does not retain heat as well as undamaged wood. For an infrared imager to see actual insect damage, the damage must be fairly extensive. Thermal imaging can be a very effective tool for locating Honey Bee hives in homes. This type of insect actually survives the entire winter months by generating their own warmth, so detecting them inside a wall is fairly easy. If you think you have a problem, let us know.

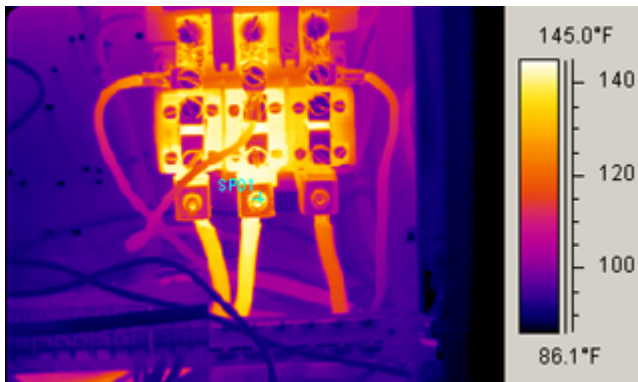


This is a tree infested with a colony of termites

Rodents and other small animals which may be nesting in your walls, can often be seen by an infrared imager, due to their body heat and also due to the damage they may have caused.

4. Electrical Problems

A scan of all electrical fuse and breaker boxes. These areas of your home are critical in the prevention of fires, which can be caused by overloaded circuits. An overload can be created by running too many appliances on the same circuit, or can be from a faulty appliance or inadequate wiring. If the fuse or breaker do not interrupt the electricity being drained through the circuit, the chances of fire are greatly increased. A thermal imager can detect, overloaded circuits, and loose connections. These problems can also be costing you extra money on your utility bill every month. Whenever you have a circuit which is running hot, the actual heating of the wire, in which the electricity is running, costs you money. This heat is wasted electricity.



1. Outdoor Inspection: Covers the entire outside of your home, for heating and cooling loss. We will also inspect any areas where utilities are entering your home, for abnormalities. The roof of your home will be inspected from the best vantage points we can locate from your location.

2. Indoor Inspection: Will include an entire sweep of the interior, for heat and cooling loss, water damage and electrical problems.

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