

Going Beyond Visual Inspection

Benefit to Insurance Industry



Leak Detection Can DO All These Things

- 💧 Increase Profits-by reducing costs of claims
- 💧 Reduce Property damage
- 💧 Increase Good Customer Service
- 💧 Accurate estimates with accurate information
 - 💧 Reports of source and origin before hit and miss searching damage is done.

American Leak Detection is:

- 💧 The recognized world leader in the detection of hidden leaks and line location for water, sewer and gas systems.

Our Mission

- 💧 Find hidden leaks in a manner that is non-invasive, efficient and environmentally sound.
- 💧 For over 30 years our R&D has produced tools for solving leak problems in residential, commercial, industrial and municipal settings.

Did You Know?

- 💧 Leaks can be costly; restoration and repair expenses can soar.
- 💧 Leaks can cause property deterioration and jeopardize real estate value.
- 💧 We provide customers:
 - 💧 Reduced water waste
 - 💧 Repair of leaks instead of replacing whole systems
 - 💧 Property damage prevention
 - 💧 Retained property value
 - 💧 Money saved!

Hidden Leaks

- 💧 Trained specialists use state-of-the-art electronic equipment to locate hidden leaks under slabs and asphalt, in basements, behind walls and roofs.
- 💧 Once detected there is less damage and less expense to repair to damage.

Where leaks can be found

- 💧 Drain tile
- 💧 Radiant heat
- 💧 Snow melt systems
- 💧 Fire suppression
- 💧 Drain lines
- 💧 Well lines
- 💧 Service lines
- 💧 Potable lines
- 💧 Sewer/septic lines
- 💧 Gas lines
- 💧 Swimming pools and spas
- 💧 Fountains
- 💧 Waterfalls & Ponds

Identifying Hidden Leaks by Technology and Experience

- 💧 Amplified listening devices
- 💧 Pipe locators
- 💧 Sewer cameras
- 💧 Hydrostatic testing
- 💧 Smoke detection
- 💧 Inert gas test for leak location
- 💧 Ultrasonic
- 💧 Leak correlation
- 💧 Infrared technology

What causes leaks

- 💧 Deterioration of pipes
 - 💧 The age of the pipes
 - 💧 Sub standard copper
 - 💧 Electrolysis
- 💧 Severe soil conditions
 - 💧 Expansive soils
 - 💧 High mineral content
- 💧 Ground movement
- 💧 Freeze and thaw cycles
- 💧 Poor construction
- 💧 Accidents



Signs and Symptoms of a Leak



Signs and Symptoms of a Leak

- Unusually high water bills
- The sound of running water
- Warm or cold spots
- Tile damage
- Cracks in walls or slabs
- Blistering wall finishes
- Wet, spongy, and/or discolored walls or floors

Signs and Symptoms of a Leak

- 💧 Standing water or uneven grass growth
- 💧 Slumping Concrete
- 💧 Sewer Odor
- 💧 Water level in pool or spa drops
- 💧 Pool or spa automatic filler constantly releases water
- 💧 Signs of repairs

This House Has The Sign Of A Leak (The Constant Sound of Water Running)



The detection will start with a point check of each system

A Small (1/16") Leak Was Found In The Laundry Room



The Saw Cut – One Square Foot

- 💧 A 1/16" hole leak in a plumbing system @ 60 psi will lose approximately 360 gallons of water in a 24-hour period.
- 💧 This comes to about 11,000 gallons a month.

Improper, Invasive Leak Detection



- 💧 If not detected in the correct manner, restoration expenses will soar.

How Do We Find Leaks?

- 💧 Gather information from customer
- 💧 Investigate, identify, and verify
- 💧 Electronically test
- 💧 Trace and profile problem lines
- 💧 Report findings
- 💧 Accurate repairs
- 💧 Re-test system

Equipment and Expertise

- The equipment and technicians investigate insurance claims non-invasively

Underground Utility Location

- ◆ It's important to know the location and route of underground utility lines before repair begins
- ◆ Our leak specialists trace and profile:
 - ◆ Gas
 - ◆ Electric
 - ◆ Cable
 - ◆ Sewer lines
 - ◆ Water lines
 - ◆ Fiber Optics

Pipeline and Cable Locating

- 💧 Transmitter and receiver
- 💧 Frequencies
- 💧 Energizes a metallic line or cable
- 💧 Identifies water lines, gas lines, and underground utilities such as electric, telephone, cable and fiber optics



Sewer Systems

- 💧 Sewer camera and video inspections
- 💧 Location and depth
- 💧 Integrity of line
- 💧 Identify any blockages, root intrusion, or collapsed lines
- 💧 Location of septic tank



Sewer Odors

- 💧 Using smoke to identify leaks in vent and drain systems
- 💧 Broken fittings
- 💧 Cracked pipes
- 💧 Bad seal around toilet areas
- 💧 Dry traps



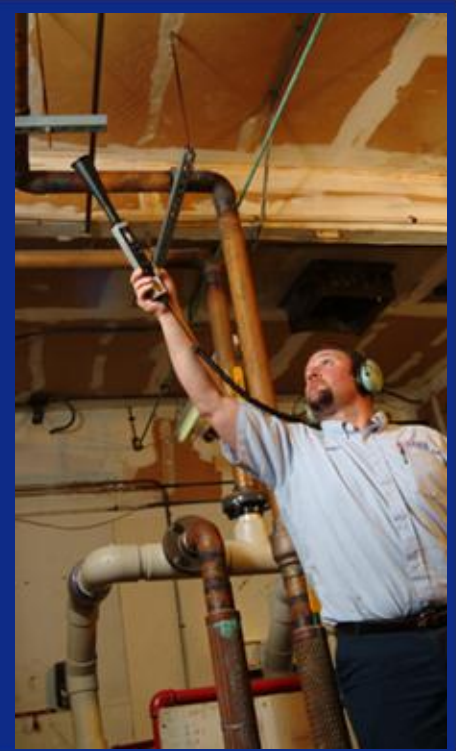
Gas and Main Lines

- 💧 Using inert test gases to locate leaks
 - 💧 Under soil
 - 💧 Beneath concrete and asphalt
 - 💧 In walls



Ultrasonic

- 💧 Air leaks
- 💧 Wall leaks
- 💧 Some slab leaks
- 💧 Snow melt systems
- 💧 Radiant heat systems
- 💧 Airborne and contact methods

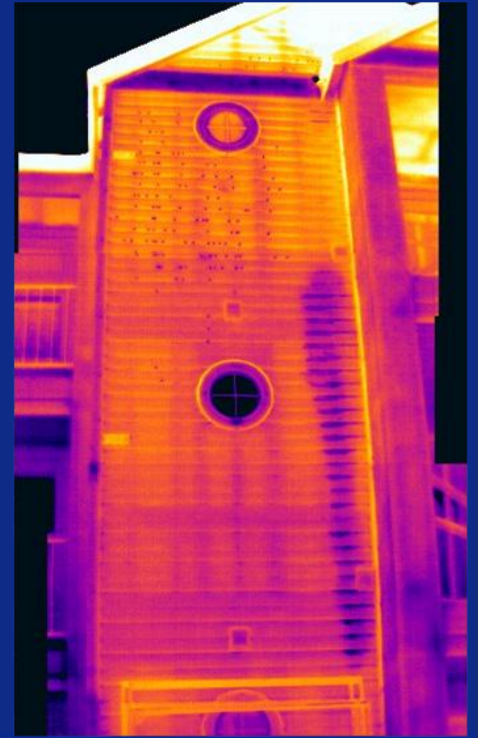


Infrared Leak Detection Camera Inspections

- 💧 Water Intrusion
- 💧 Analyze moisture problems
- 💧 Trace hard to find water sources
- 💧 Monitor remediation work
- 💧 Visual documentation
- 💧 Roof evaluation
- 💧 Construction defects
- 💧 Radiant heat systems
- 💧 Heating and cooling loss

Infrared Thermography

- 💧 Infrared radiation is not detected by the human eye
- 💧 Infrared instruments sense infrared waves (heat)



Infrared Thermography

- 💧 Objects with temperatures above absolute zero produce some form of infrared energy
- 💧 The amount of radiation is temperature related
(i.e. – IR radiation increases with temperature)

Water Intrusion

- 💧 Water intrusion is the most significant factor in premature building deterioration through:
 - 💧 Growth of Mold
 - 💧 Breeding ground for Insects
 - 💧 Reducing insulation effectiveness of bulging materials
 - 💧 Corroding Metals
 - 💧 Causing chemical breakdown of organic materials

Why Does Infrared Leak Detection Work for Building Diagnostics?

- 💧 “Heat” or “Lack of Heat” could indicate a problem
- 💧 Materials with greater thermal capacitance more readily retain heat or cold



Benefits

- 💧 Results easy to interpret
- 💧 See and analyze moisture problems immediately
- 💧 Trace hard-to-find moisture sources
- 💧 Inspect with little to no building disassembly

Benefits

- 💧 Monitor remediation process
– eliminate the guesswork
- 💧 Visual documentation (video or still)
- 💧 Basis for fair settlements
- 💧 Protects against invalid claims

Building Diagnostics Applications

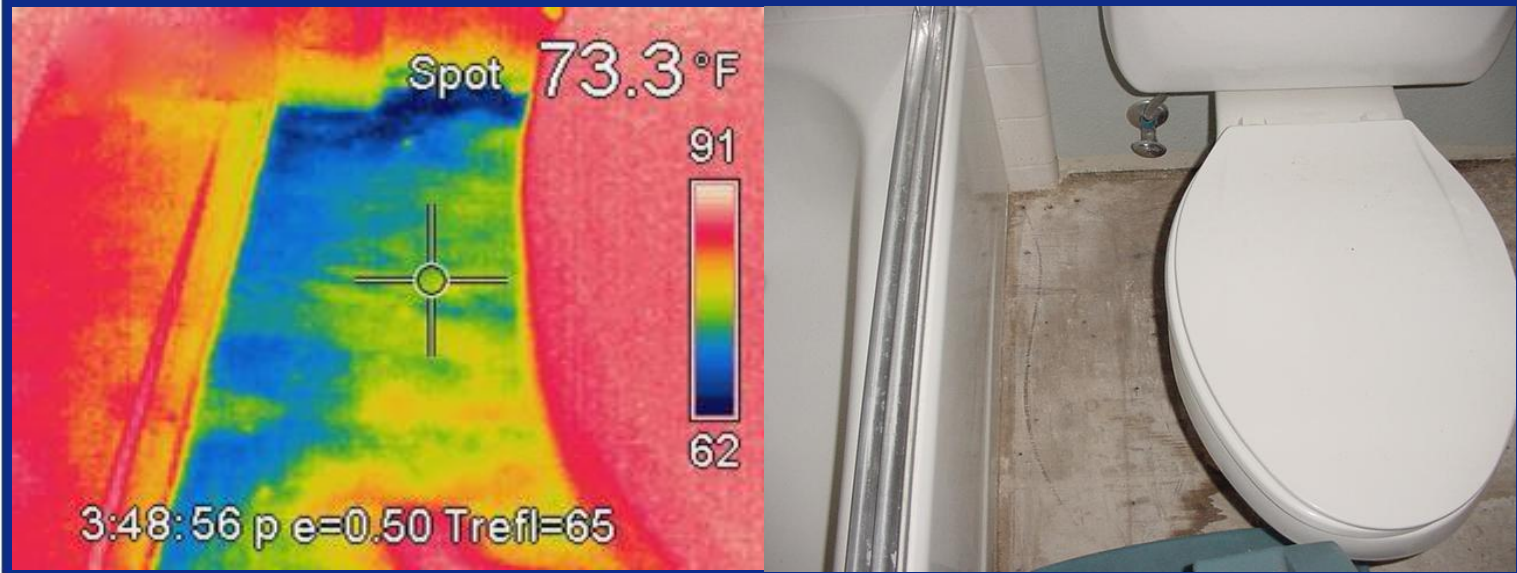
- 💧 Water Ingress Detection / Hotel Entry

- 💧 Original water source started five floors above



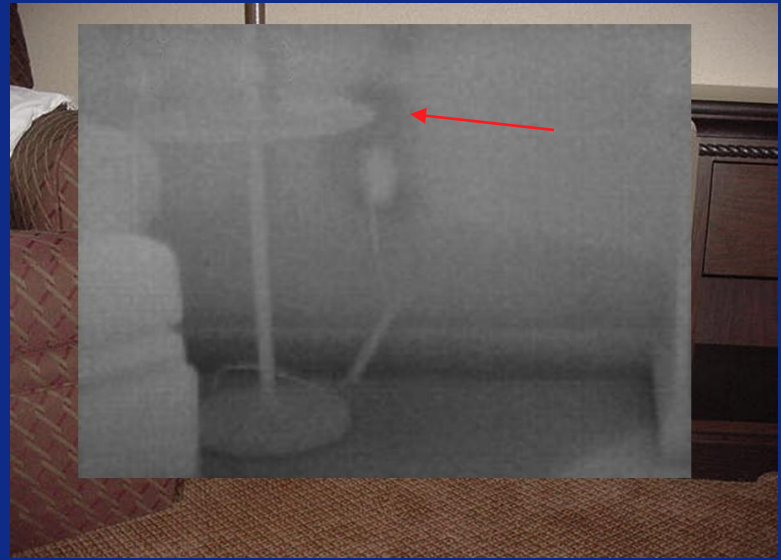
Building Diagnostics Applications

💧 Water Ingress Detection



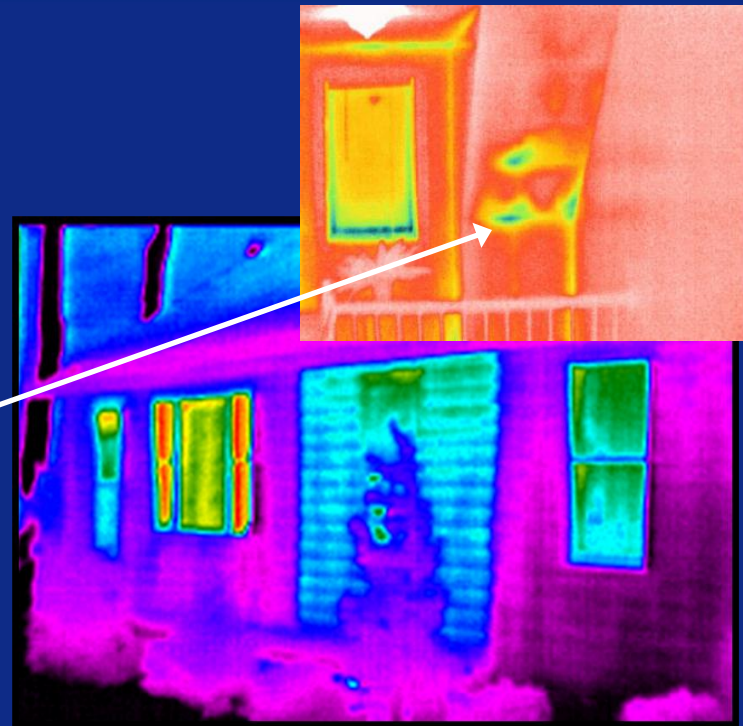
Building Diagnostics Applications

- 💧 Vinyl Wallpaper
- 💧 Present in most hotels
- 💧 Prevents evaporation – can't breathe
- 💧 Mold loves to grow underneath!



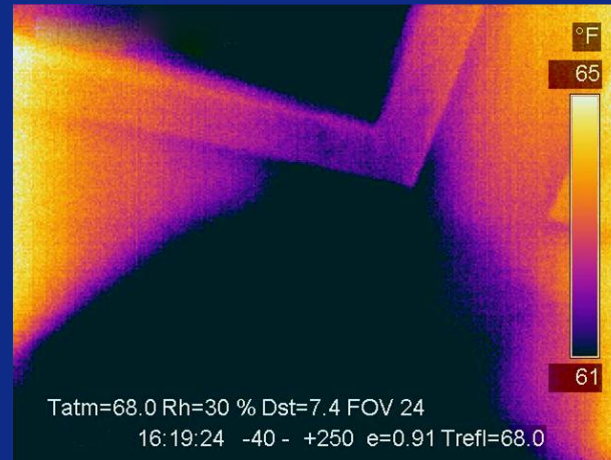
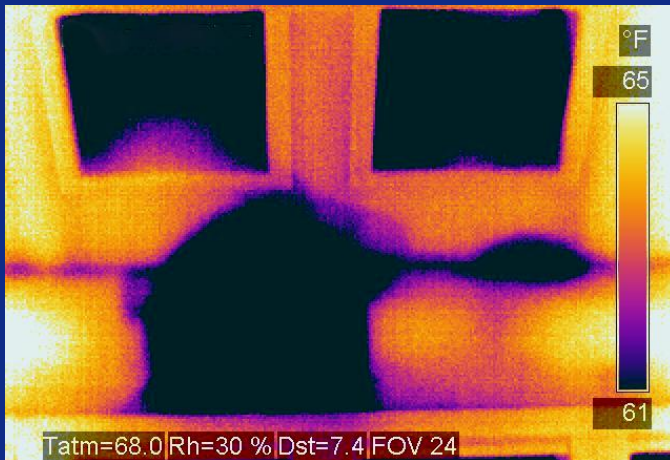
Building Diagnostics Applications

- 💧 Insulation checks
- 💧 Usually works best with a 10 degree difference from inside to outside
- 💧 Cold spots potential for condensation – staining and mold growth.



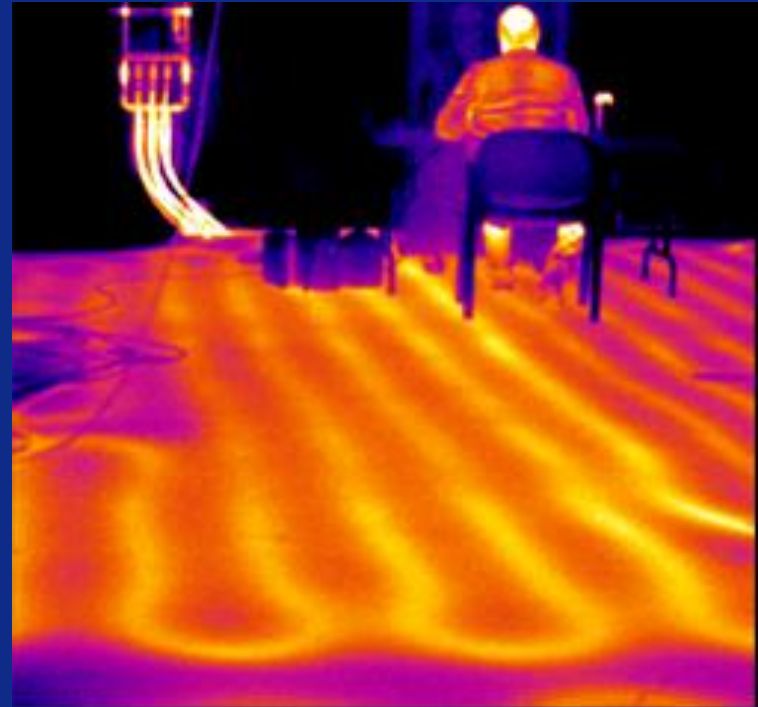
Building Diagnostics Applications

💧 Leaking Skylight



Building Diagnostics Applications

- 💧 Verify location and performance subsurface heat sources
- 💧 May also be used to locate pipes in walls



Conclusion

- 💧 The source of water leaks can be found without using destructive methods
- 💧 For any hidden leaks American Leak Detection is your best solution