

Raising to New Standards



High Quality Insulation Installation Procedures (QII)

- Compliance credit for properly installed insulation
- Low-rise residential, wood frame buildings
- Available since 2005
- Will be used for 2008 compliance
- RA 3.5 For Fiberglass and Cellulose
- JA 7 For Spray Foam

High Quality Insulation Installation Procedures (QII)

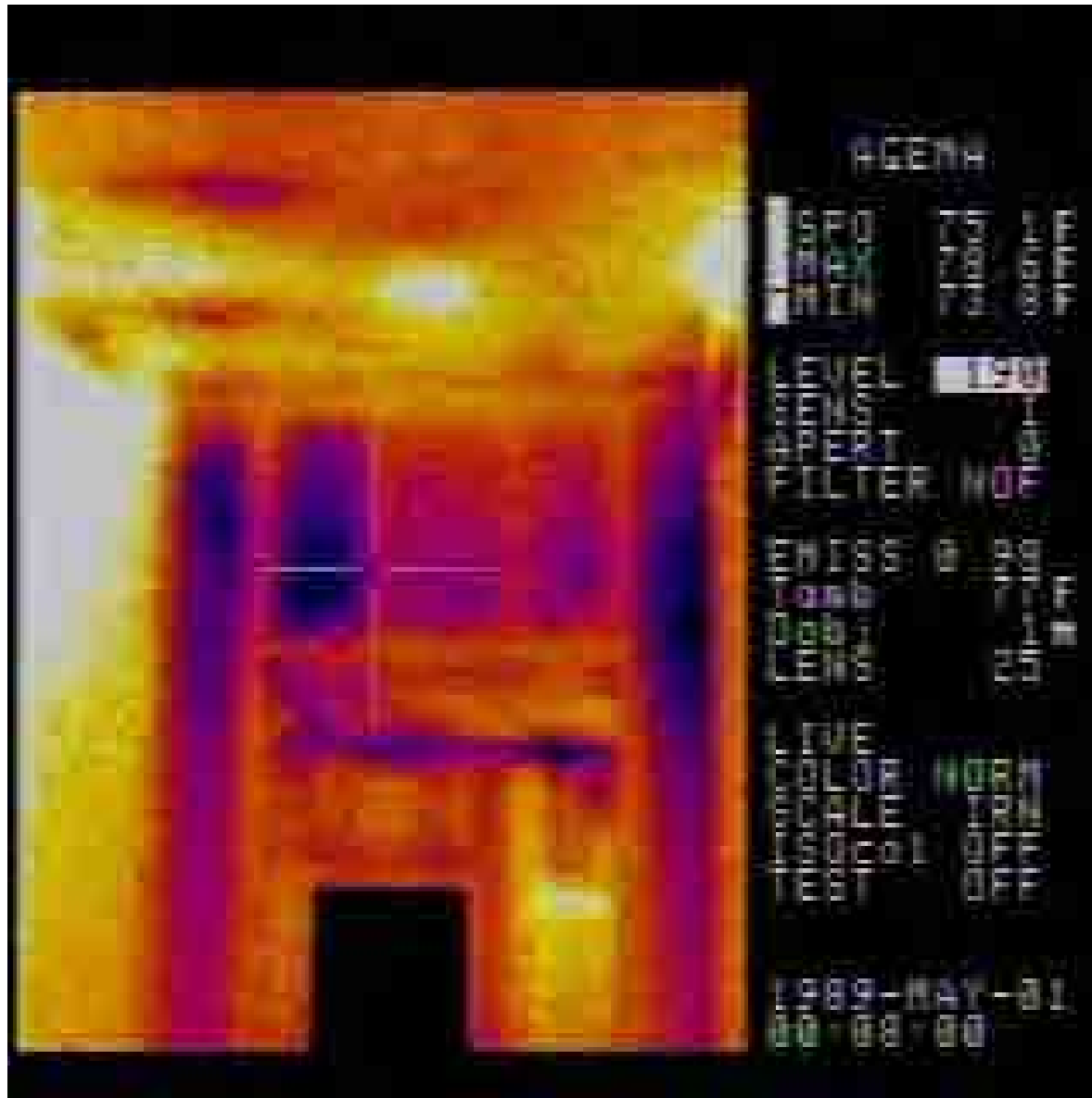
- Energy Compliance Documentation Author takes the QII Credit
- HERS Rater confirms the installation quality



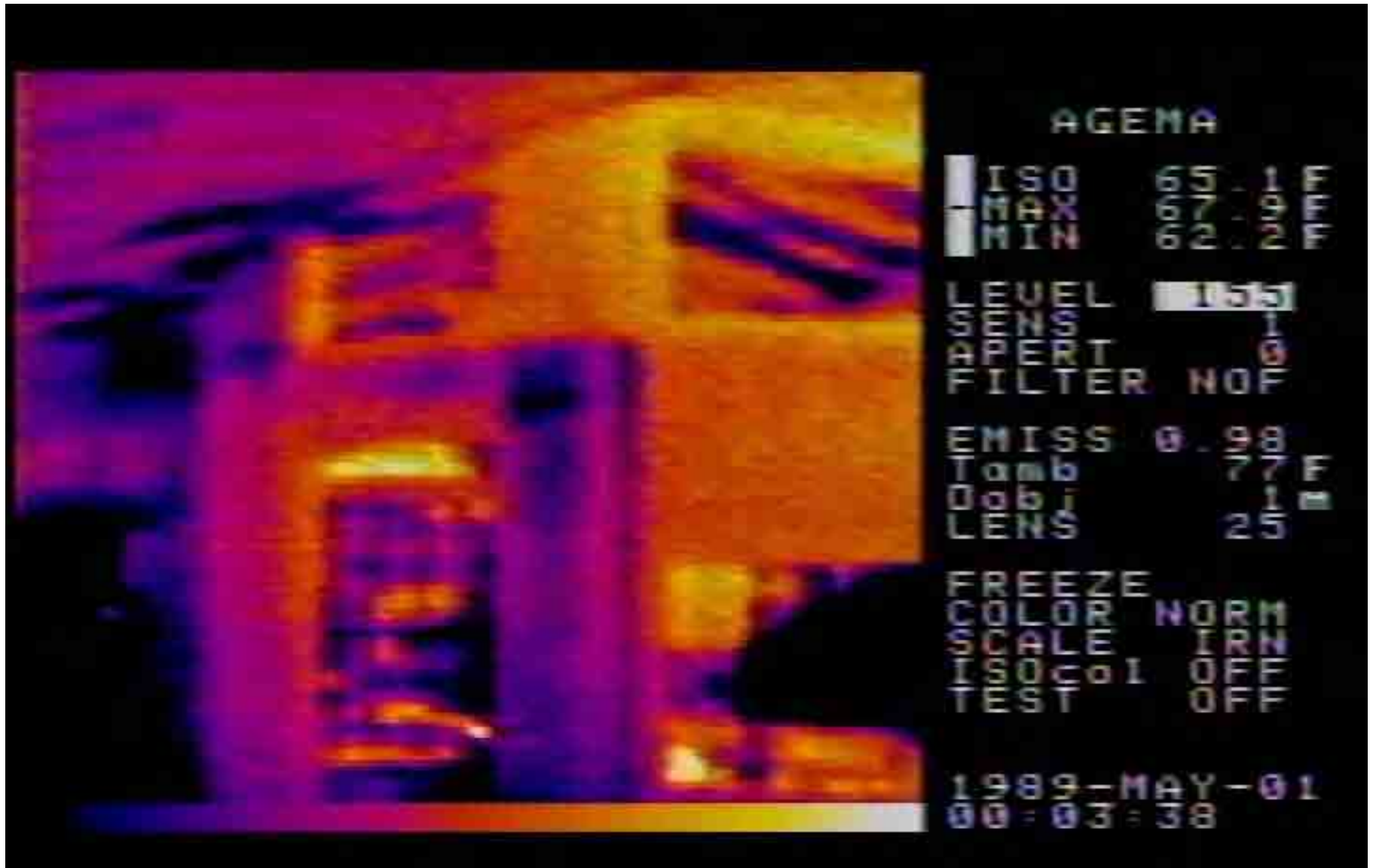
1. ***Architectural complexity*** is reducing energy performance in new homes.











Ceiling Insulation Performance Factors

- Continuous and air tight ceiling air barrier (usually the ceiling drywall)
- Insulation in contact with the air barrier
- No gaps or voids
- No compression





2. ***Ceiling insulation***

performance is dependant on a continuous air barrier.



3. ***Fire Safety and Air Infiltration*** is dependant on an air tight Fire Stop (which also provides a continuous air barrier).







Specify 7" thick walls not 8" thick walls

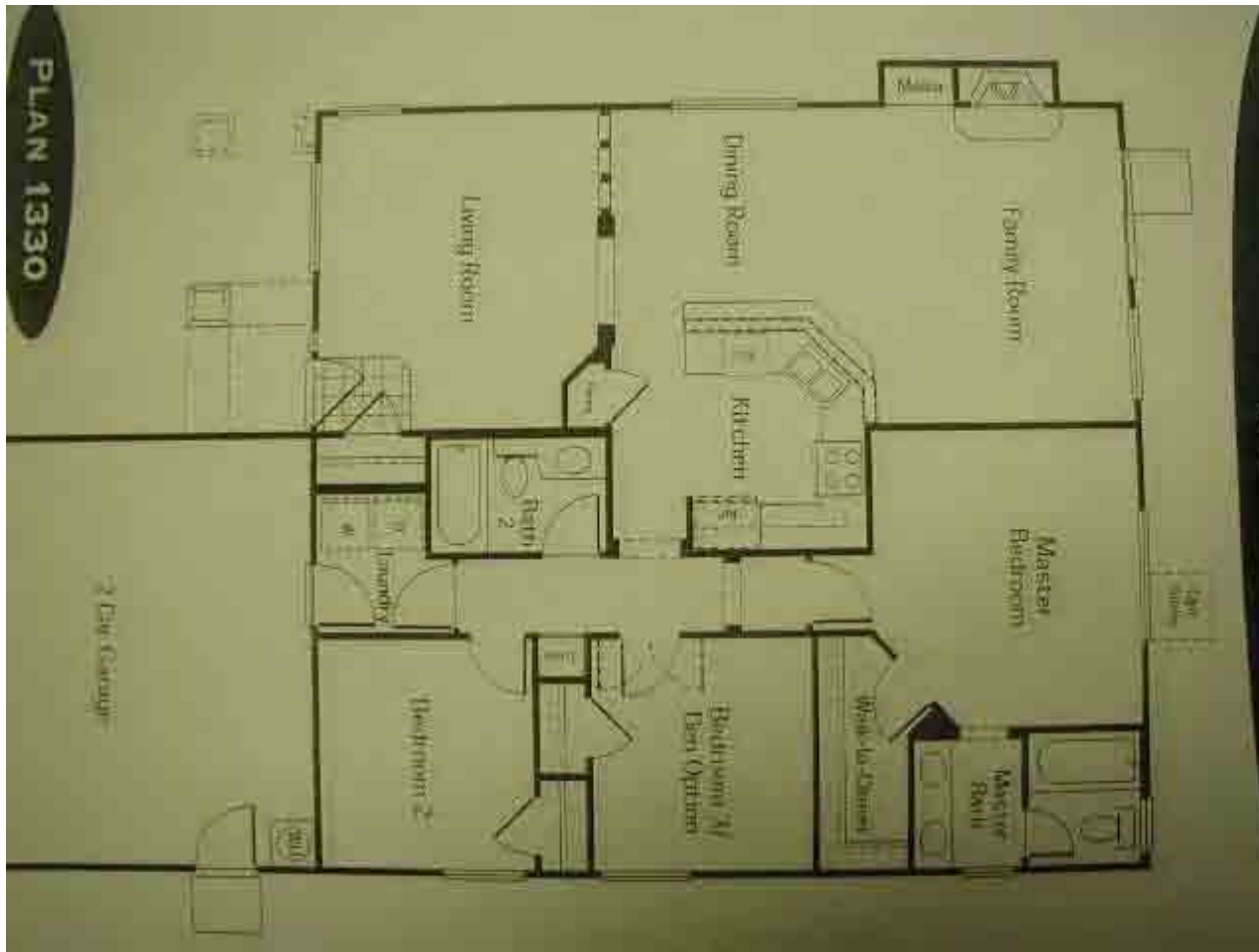






Fire Stop / Draft Stop Video of Energy Star Home

5 problem areas show on the plans

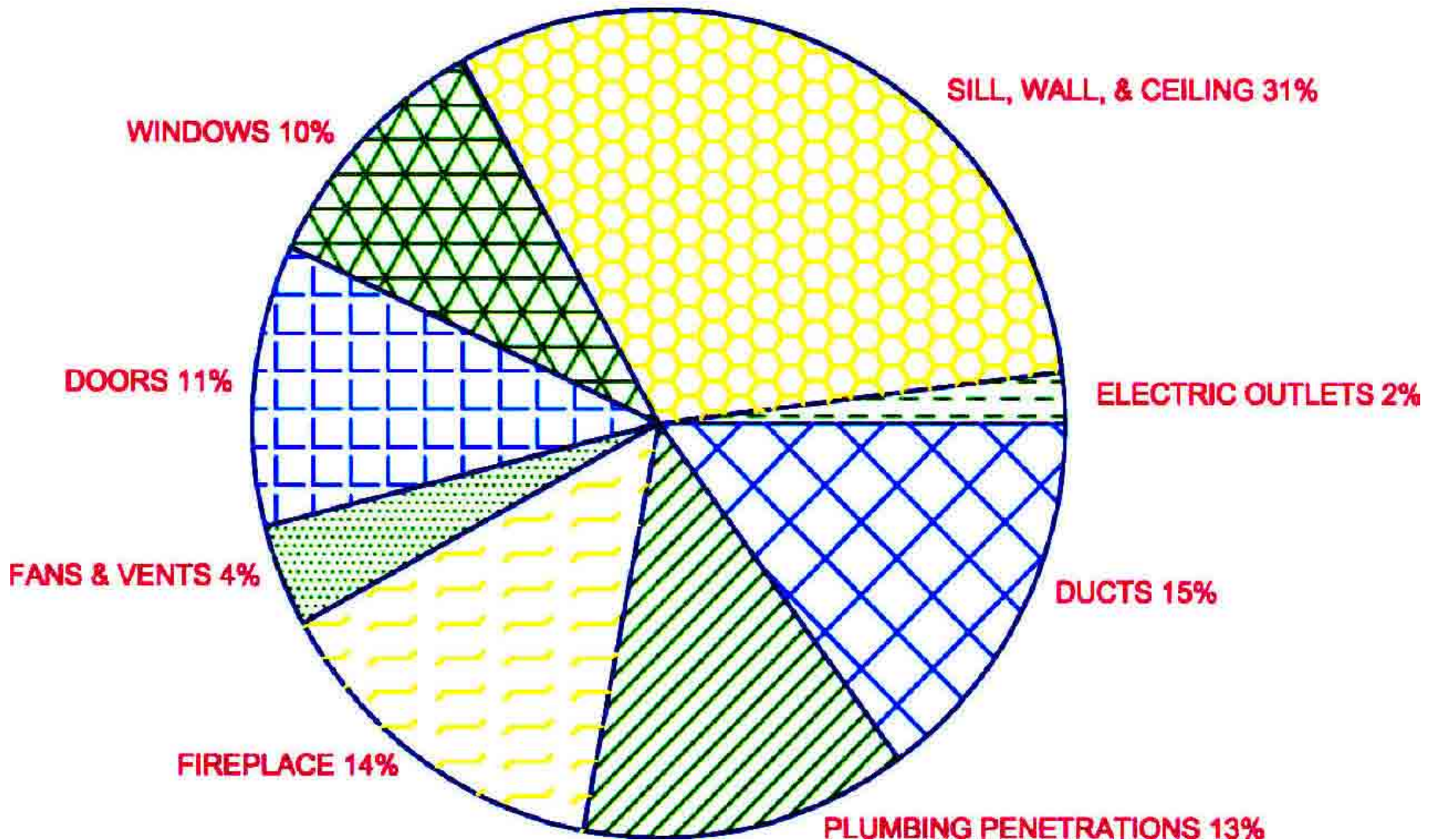


Heat Loss By Component

Air Infiltration	23%
Windows	22%
Slab Edge	20%
Walls	14%
Ducts	12%
Ceiling	9%

(Standard CEC reference house, Modesto, 2005 standards, heating season)

Air Leakage Locations

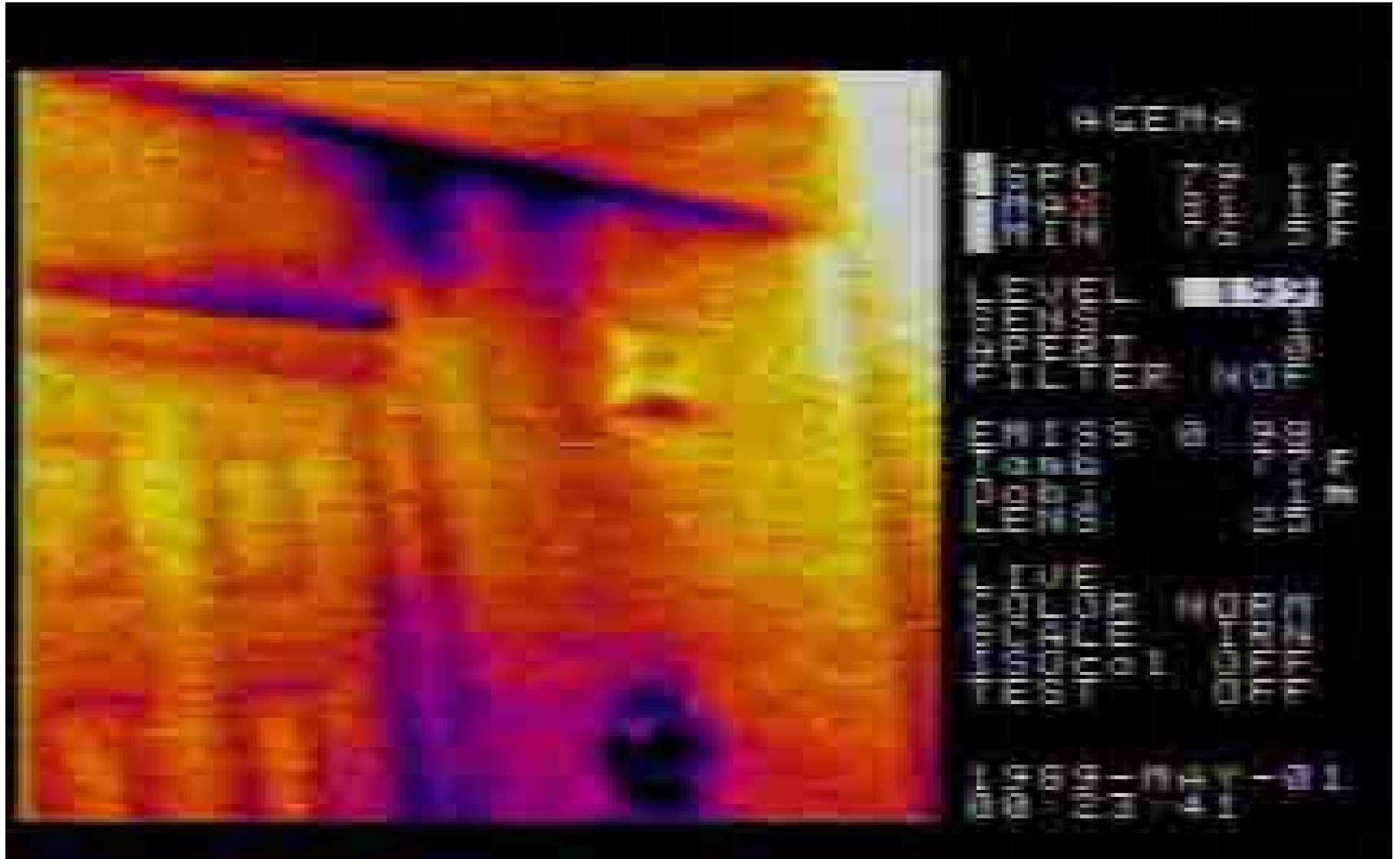


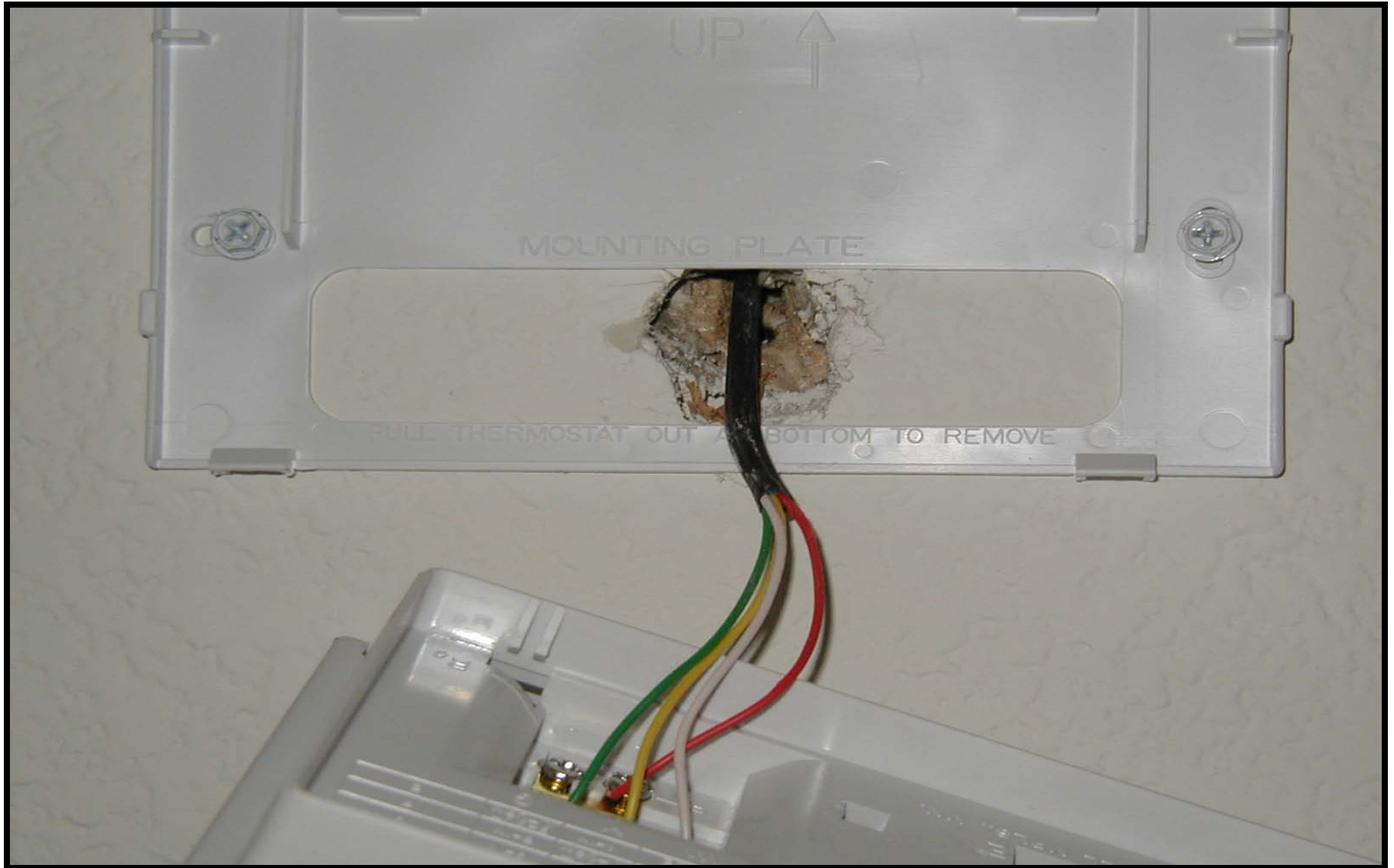


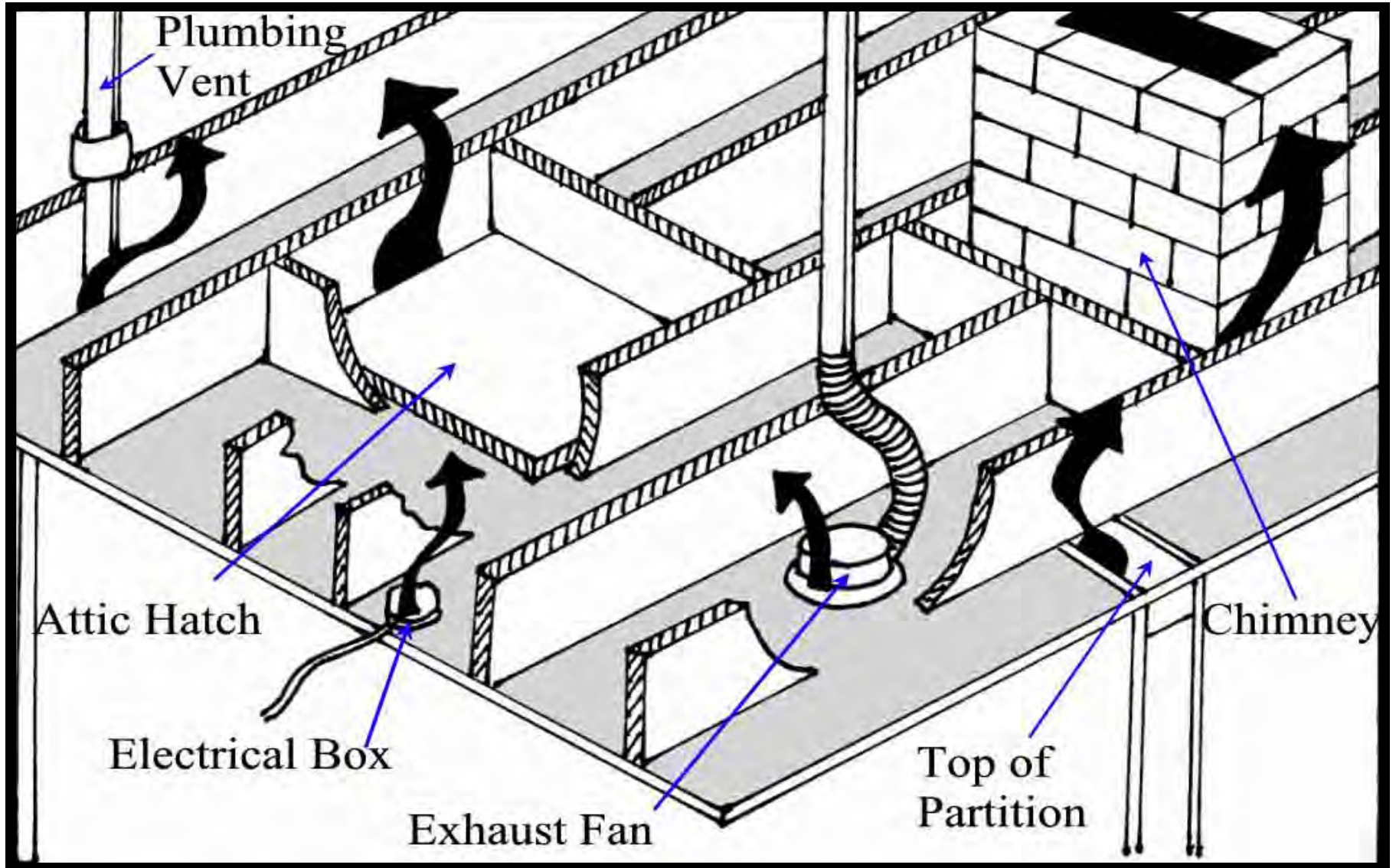












New Technology Means Tighter Buildings?

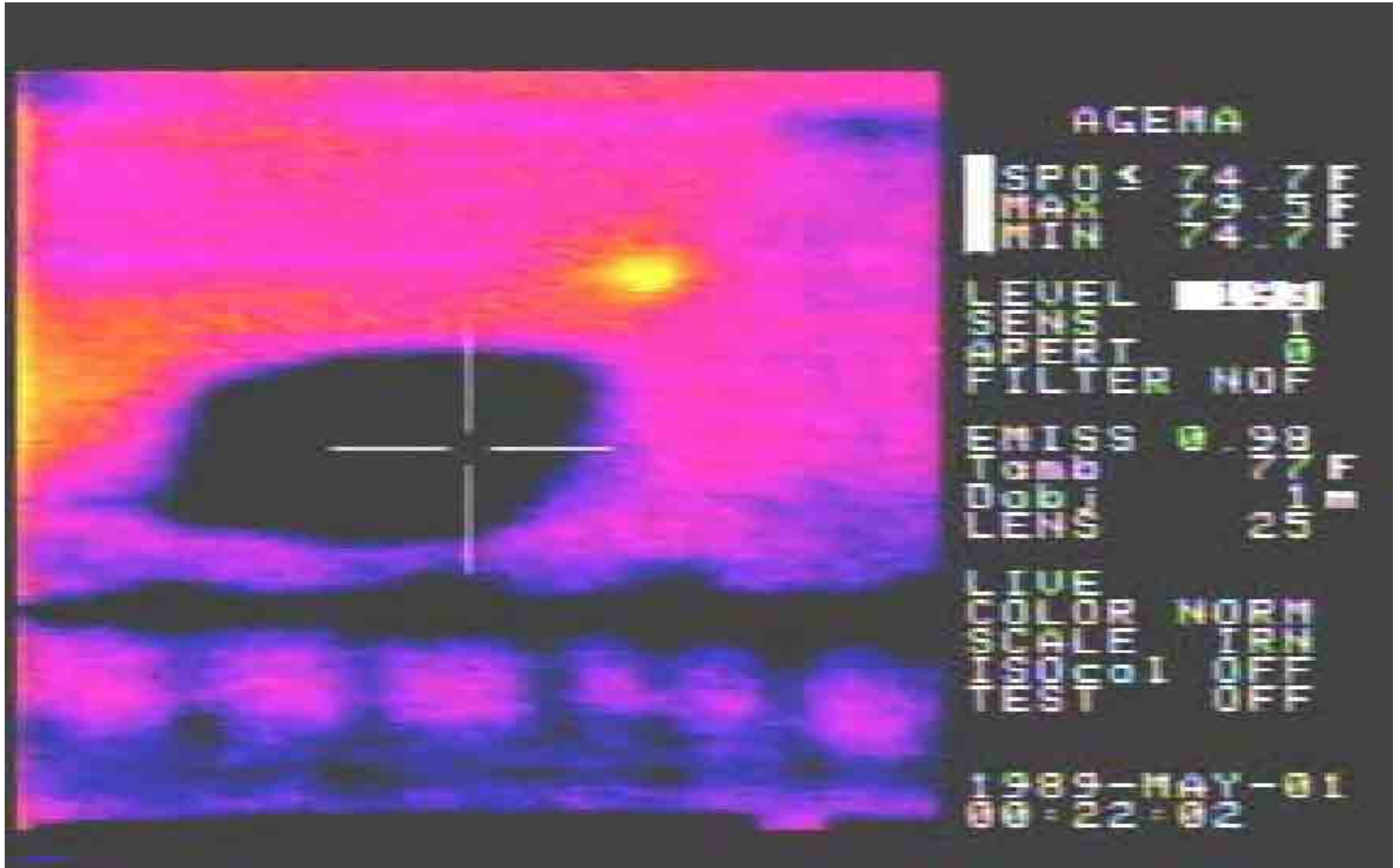




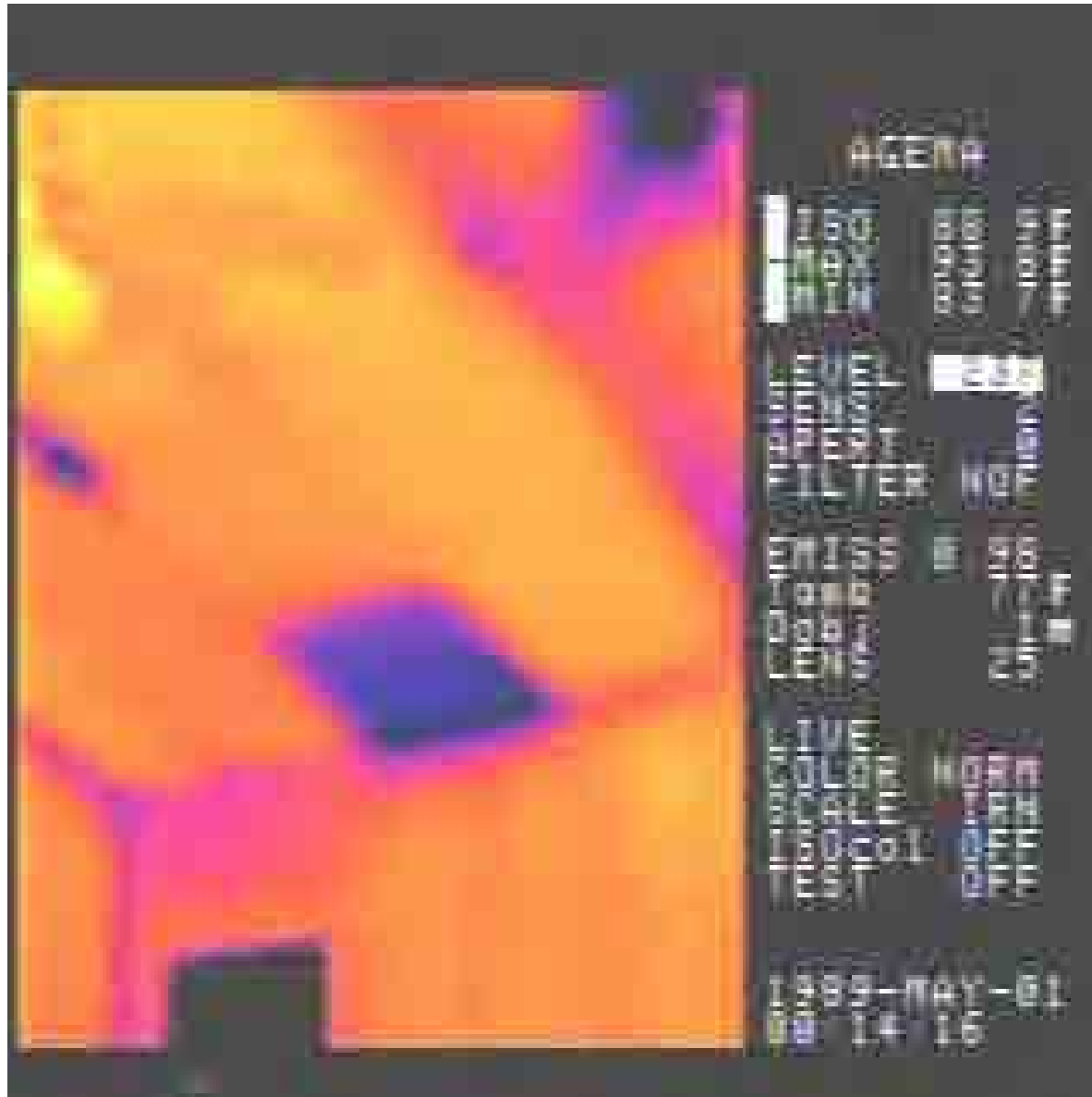


Air Leakage Accentuated By Blower Door









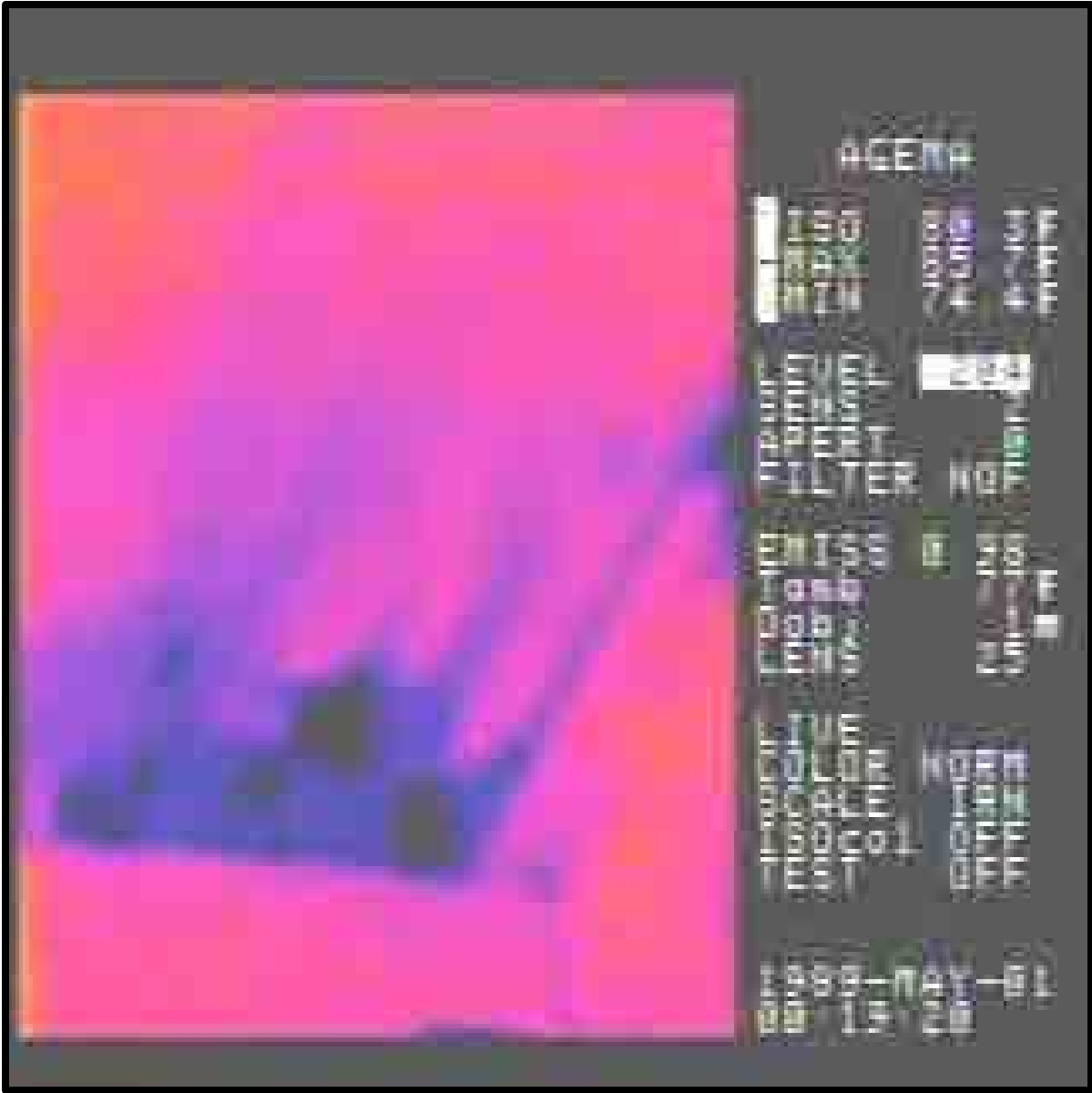












Even the Birds Can Spot a Poorly Insulated Attic





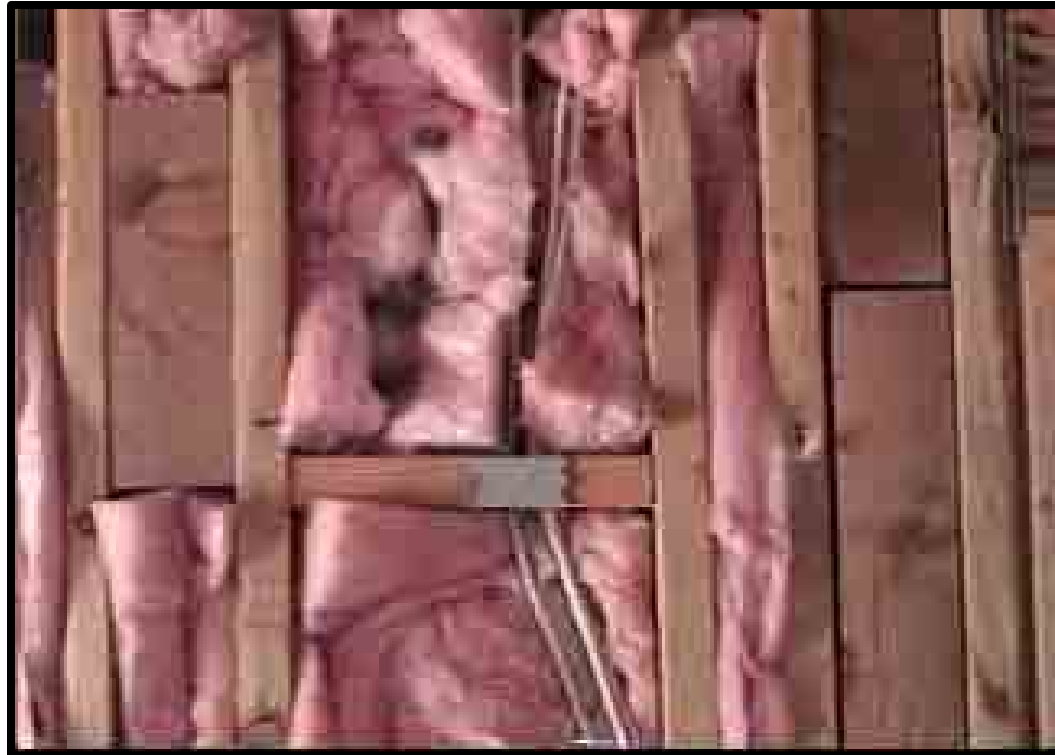




Insulation Performance Video of Energy Star Home

Wall Insulation Performance Factors

- Substantially Air Tight Wall Cavity
- Insulation in contact with the air barriers (in contact with all 6 sides of the cavity)
- No gaps or voids
- No compression



4. ***Wall Insulation***
is very hard to
install at its full,
laboratory rated,
performance
level.















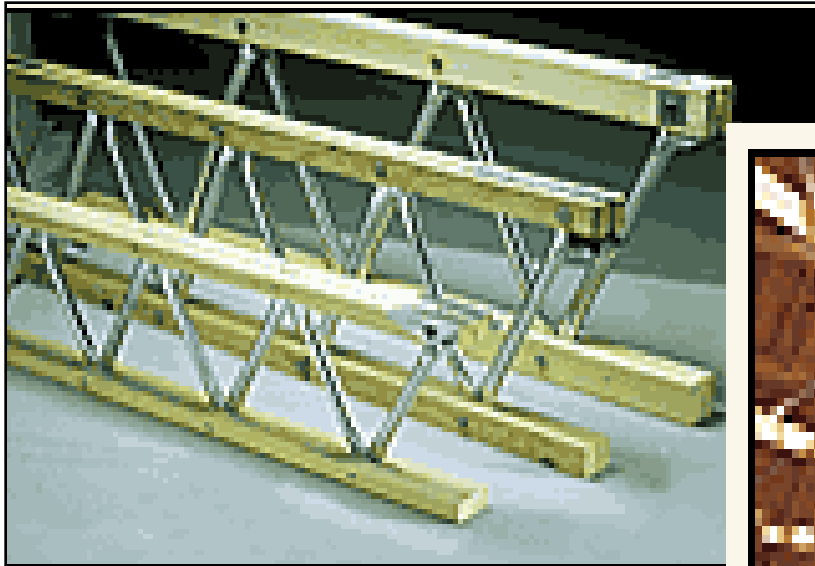


Attic Kneewall Demonstration





Open Web Trusses





5. *Specify*

products and systems that are more immune to installation defects.





R-15 is specified – but what is the performance?



R-12 is specified – what is the performance?



