

Sustainable Energy Outreach Network



How (Older) Houses Work Session II

http://seon.info/WMGC_HOHW_B-W1





Overview

- Burning questions
- Interview questions draft
- Tools of the Trade
- Couple or so my puzzles/projects
- Your puzzles/projects

Full disclosure...



Father James doubted that Pinocchio had made a full and truthful confession.



Overview

- Tools of the Trade – High Performance
- High Performance Building Materials
- Building Science Puzzles
- Resources

High Performance Building - Tools of the Trade



New Tools:

What do we need to measure?

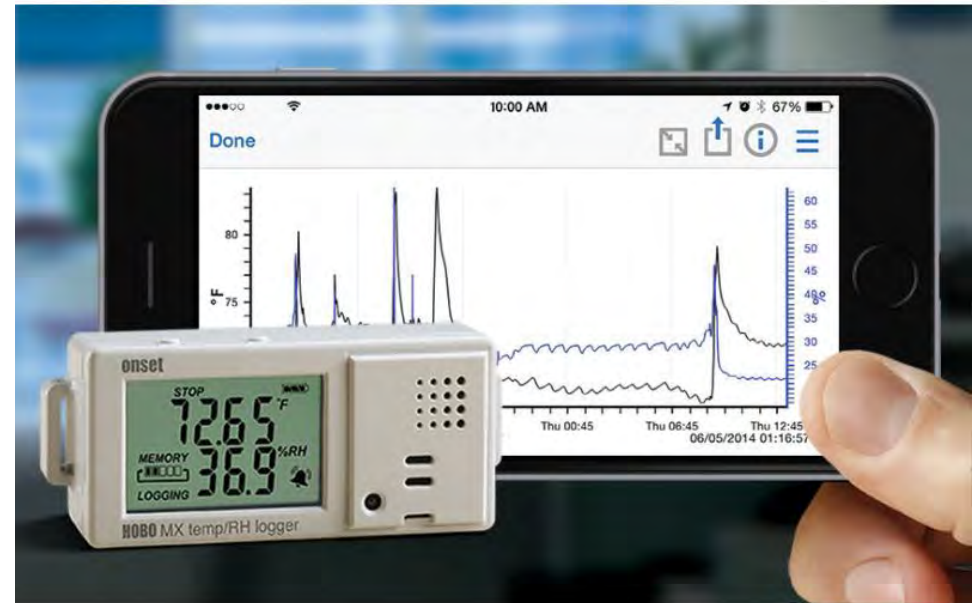
- Moisture
 - In air - hygrometer
 - In materials - pin type moisture meter
- Heat
 - Digital IR Thermometer
 - IR Cameras – 3 types
- Air
 - Digital pressure gauge
 - Blower door

Hygrometer - % RH

- Types
 - Horse hair
 - Bi-metal
 - Electronic
 - Sling
- **Pete's Rec:**
Omega 4-in-1



Data Loggers – ONSET HOBOS



Data Loggers – OmniSense



What about Dew Point?

- Dew point is one measurement; RH is actually two (temp)
- **It's liquid water that** we actually worry about; hence: dew point temperature over % relative humidity



Moisture meter - % by weight

- Types
 - Pin
 - Surface
- Materials
 - Wood
 - GWB
 - Concrete
- **Pete's Rec:**
Delmhorst



Digital Pressure Gauge - Pascals?

- Pressure created by:
 - Wind
 - Stack effect
 - Mechanical equipment
- **Pete's rec:**
The Energy Conservatory (TEC)



Blower Door

- Quantitative & qualitative info on air leakage
- Components:
 - Calibrated fan & frame
 - Digital pressure gauge (manometer)
- Pete's rec: N/A



\$2000 - \$3500 new

Infra-red cameras

- Emissivity-based
- Can show heat loss, air leakage, moisture info
- 3 types of IR tools available



Digital IR Thermometer



Pocket IR Camera



Smart phone IR attach

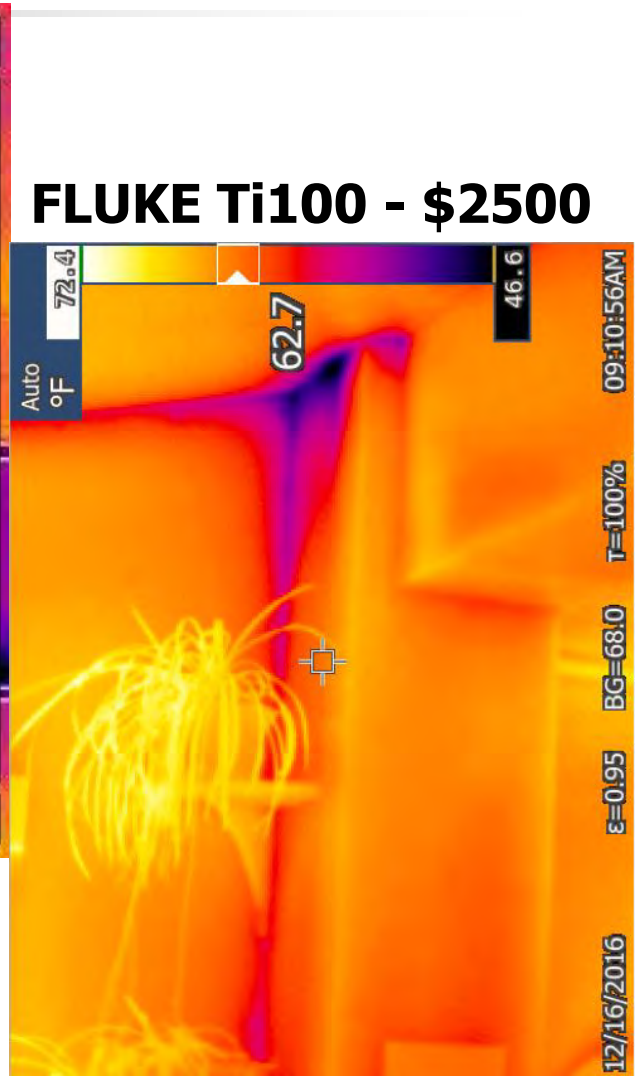
Industrial IR camera



FlirONE - \$250

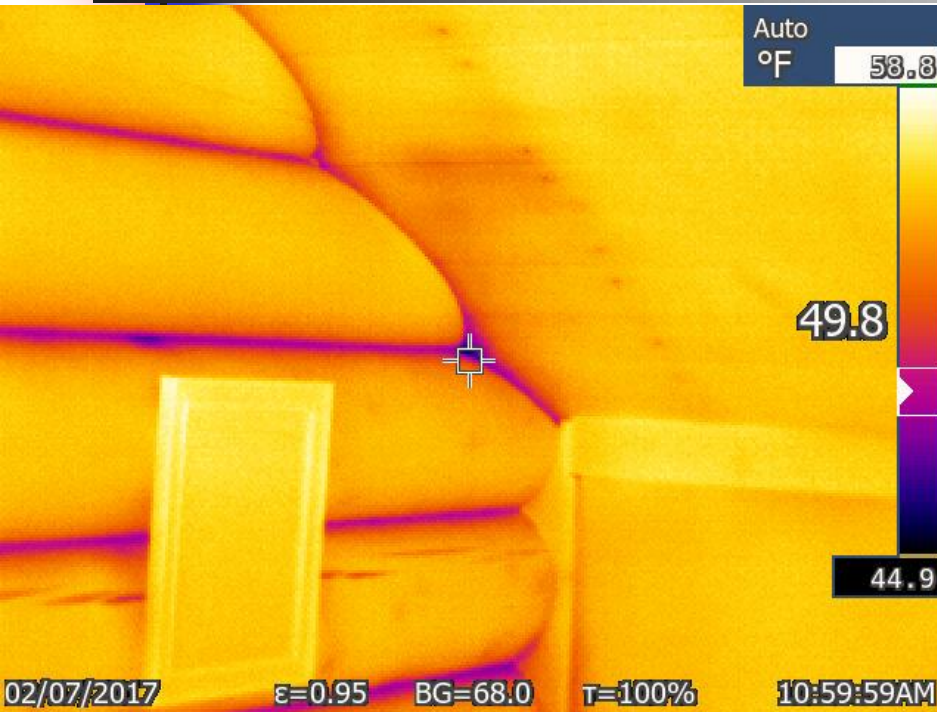


Flir C2 - \$700



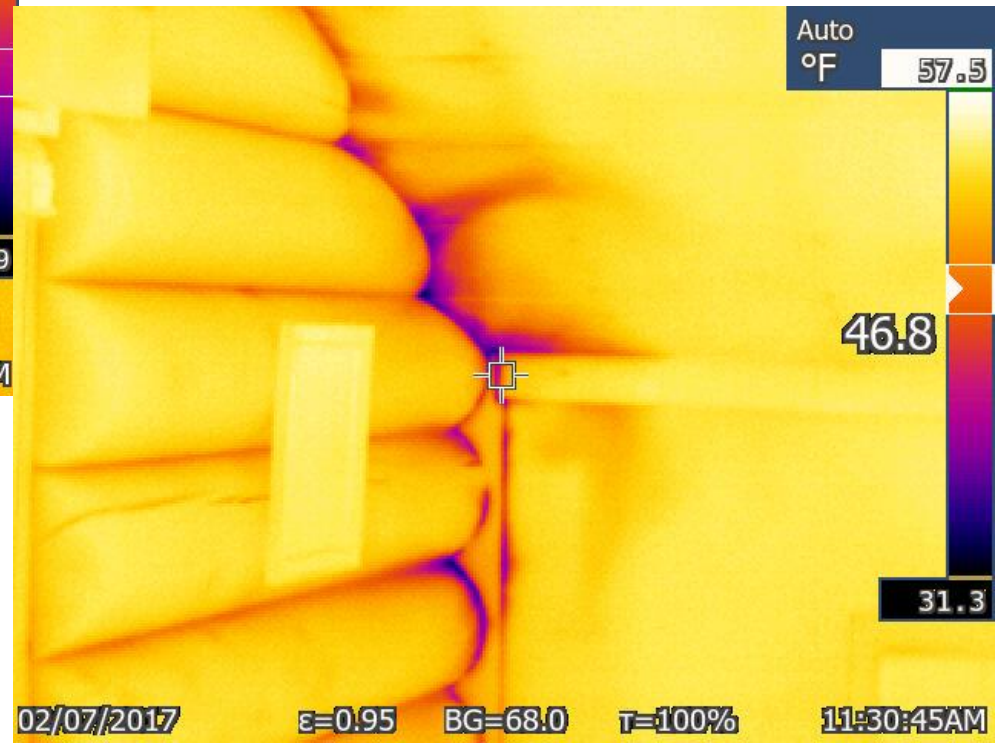
FLUKE Ti100 - \$2500

Combining IR & Blower Door



Blower door off

Blower door on (-50 Pa)



Full



“Sticky Business”

Liquid sealants & PSA tapes



PRODUCT GUIDANCE | SUSTAINABLE MATERIALS - | DESIGN STRATEGIES - | BUILDING SCIENCE - | BUILDINGS & PROJECT TYPES - | DESIGN PROCESS - | CODES & CERTIFICATIONS -

Search



Search / Search results / sticky business / Site

Enter terms sticky business

Search

Did you mean

[stick business](#)

- [Stickiness Explained! Making Building Tapes and Membranes Stay Put](#)

July 10, 2012

BLOG POST

When you use tape to seal a seam or flash a sill, you need peel-and-stick performance—not “stick-and-peel.”

- [Our Real-World Flashing Tape Tests Find a Clear Winner](#)

June 10, 2016

BLOG POST

We took the best PSA tapes from our last round of testing and worked them over on rough OSB and window flanges. One tape worked no matter what.

- [Testing Pressure-Sensitive Tapes: Rounds Two and Three](#)

April 2, 2014

BLOG POST

Tension and pressure, tears and creeps. The Wingnut Test Facility (WTF) gets dope-slapped in our latest round of experiments.

Filter by content type:

- Blog Post (14)
- Feature Article (2)
- News Analysis (1)
- Product Review (2)

Filter by author:

- Brent Ehrlich (1)
- Paula Melton (2)
- Peter Yost (12)

Basements:

Negative Side Waterproofing



Roof Venting



Foamed-in-place Insulation: Seven Tips to Getting it Right



BuildingGreen free blog

Tip #1:

Understand the 2 systems



Injection foam – Henri Fennell



Spray foam – Peter Yost

Tip #2: Get the Ratio Right



CJ Spray, Inc.

Tip #3: Spray foam: watch your lift thickness

COMMERCIAL / RESIDENTIAL INSULATION

JM CORBOND MCS

JM Corbond MCS™ is a multi-climate, closed-cell spray polyurethane foam with superior thermal, air and moisture performance.

Availability: United States

R-Values R-13 (2" Thickness), R-19 (3" Thickness),
R-38 (6" Thickness)

Thicknesses May be applied in passes of uniform thickness from a minimum of a half inch to a maximum of two inches.



Tip #4: Get the substrate right



Tip #5:

Honor wait time (hard to do...)



Tip #6:

Match product to application



Open-cell in basement



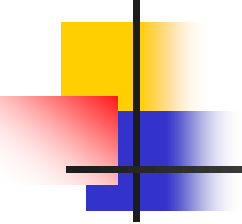
Closed-cell 1st-floor exterior

Tip #7:

Assure quality in the field



Henri Fennell



This concludes The American Institute
of Architects Continuing Education
Systems Course

AIA Akron
Jillian R. Tipton
2841 Riviera Drive, Suite 120
Fairlawn OH 44333
330-699-9788
jtipton@aiaakron.org

