

Motivating Change in Building Industry Standards to Increase Energy Efficiency

Presenter:
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Today's Agenda

What is in the Energy Code?

- Areas/Items covered
- Compliance Paths
- Energy Code Trends
- 2009 IECC vs. 2012 IECC (glimpse at 2015)

HERS Raters as Energy Code Inspectors

- Quick info on HERS Raters and Differentiation from other Energy Professionals
- Certification Limitations
- Example Reports and Information Available Now!

ENERGY STAR Certification

Marketing and Sales

Experiences from the Field

Residential Code References

2009 Code Requirements in **Blue Text**

2012 Code Requirements in **Green Text**

IBC – International Building Code

IRC – International Residential Code

IECC – International Energy Conservation Code

What is Covered in the IECC?

Insulation

R-Values and Installation

Air Sealing/Infiltration

Attic Hatches

Doors

Fireplace Doors / Flue

Recessed Lighting

Weather-Stripping

Heating/Cooling System

Sizing

Controls

Ductwork

Location

Sealing

Insulation

Mechanical Ventilation

ASHRAE Calcs

Performance Testing

Lighting

Windows and Skylights

Other:

Water Pipe Insulation

Sunrooms

Snow Melt Systems

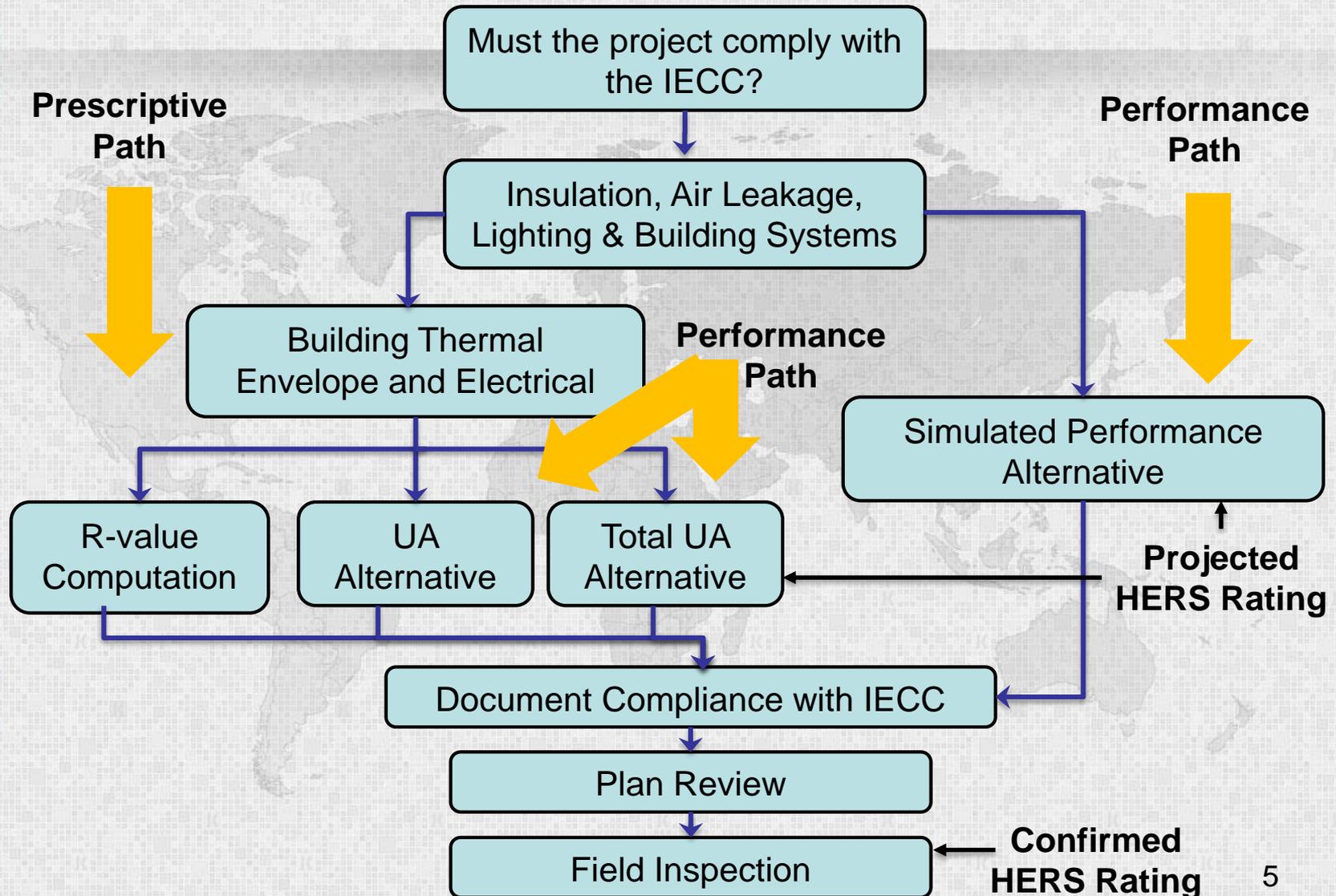
Pools

Heaters

Timers

Covers

Residential Compliance Process



Increasing Requirements

- Trend toward lower U-Factors & decreased SHGC each cycle
- Trend toward increased R-Values in walls, floors & ceilings/attics
- Trend toward adding or increasing basement/crawlspace insulation
- Trend toward air leakage reduction verified by advanced testing
- Trend toward mechanical ventilation

Increasing Requirements

- Trend toward tightening of wood burning fireplaces
- Trend toward programmable thermostats
- Trend toward tighter ducts tested by residential energy professionals
- Tightening of HVAC sizing requirements using Manual J, S & D
- Movement toward sustainable design & construction

2009 – 2012 – 2015 Codes

The code keeps raising the energy efficiency bar. Historically this increase has been 1-3% until more recently...

- '09 Code is ~15% more stringent than '06 version
- '12 Code is ~30% more stringent than '06 version
- '15 Code target is 50% > than '06 version

2009 – 2012 Codes

Summary of Changes to **IECC 2012**

- ~15% more stringent than **IECC 2009**
- **Major changes**
 - Mandatory whole-house pressure test
 - More stringent duct leakage test
 - DHW distribution system requirements
- **R & U & SHGC Value changes**
- **Key non-changes**
 - Retains prohibition on envelope-equipment trade-offs
 - Makes lighting requirements “mandatory”

Space Conditioning in Both 2009 & 2012

Any non-conditioned space that is altered to become conditioned space shall be required to be brought into full compliance with this code

Examples:

- ✓ Converting a garage to a family room
- ✓ Heating an unfinished basement

Climate-Specific & Mandatory Requirements - 2009

Climate-Specific Requirements:

- Foundations
 - Basements
 - Slabs
 - Crawlspace
- Above grade walls
- Skylights, windows, and doors
- Roofs
- Solar Heat Gain Coefficient in warm climates

Mandatory Requirements (apply everywhere):

- Duct insulation and sealing
- Infiltration control

Climate-Specific & Mandatory Requirements - 2012

Climate-Specific Requirements:

- ✓ Foundations
 - Basements
 - Slabs
 - Crawlspace
- ✓ Above grade walls
- ✓ Skylights, windows, and doors
- ✓ Roofs
- ✓ Solar Heat Gain Coefficient in warm climates

Climate-Specific & Mandatory Requirements - 2012

Mandatory Requirements (*apply everywhere*):

- ✓ Duct insulation, sealing, and testing
- ✓ Infiltration control
- HVAC controls
- Piping Insulation
- Equipment sizing
- Dampers
- Lighting

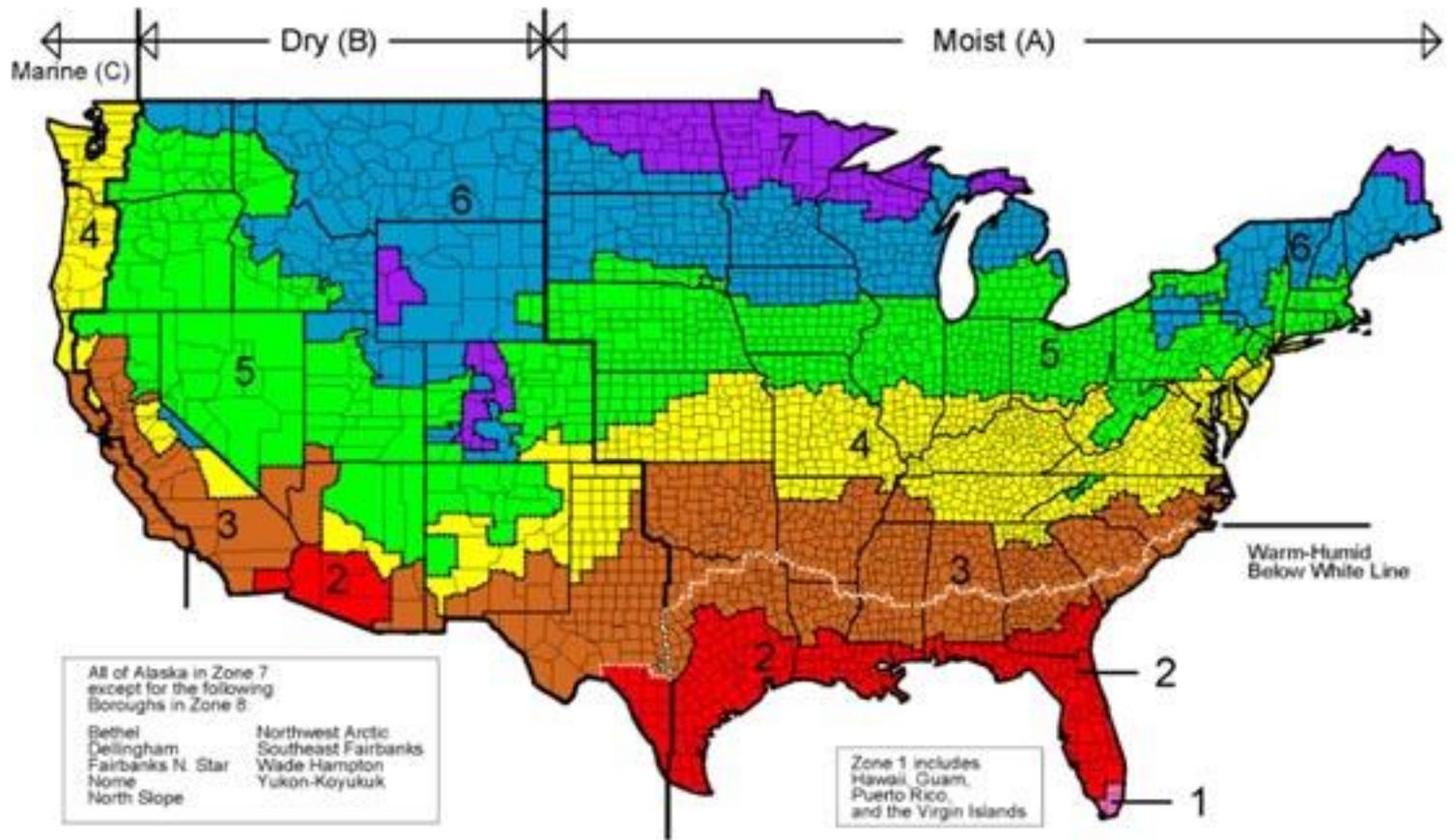
Overview of Residential Code Requirements - 2009

- Focus is on building envelope
 - Ceilings, walls, windows, floors, foundations
 - Sets insulation and fenestration levels, and solar heat gain coefficients
 - Infiltration control - caulk and seal to prevent air leaks
- Ducts – seal and insulate
- Limited space heating, air conditioning, and water heating requirements
 - Federal law sets most equipment efficiency requirements, not the I-codes
- No appliance requirements
- Lighting equipment
 - 50% of lamps to be high-efficacy lamps

Overview of Residential Code Requirements - 2012

- Focus is on building envelope
 - Ceilings, walls, windows, floors, foundations
 - Sets insulation and fenestration levels, and solar heat gain coefficients
 - Infiltration control - caulk and seal to prevent air leaks and test
- Ducts, air handlers, filter boxes – seal and insulate and test
- Limited space heating, air conditioning, and water heating requirements
 - Federal law sets most equipment efficiency requirements, not the I-codes
- No appliance requirements
- Lighting equipment
 - 75% of lamps to be high-efficacy lamps or 75% of lighting fixtures to have only high-efficacy lamps

Climate Zones Unchanged from 2006-2012



Changes in Climate Zone 4&5

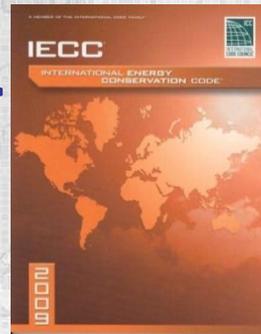
Zone	Ceiling R-Value	Wood-Frame Wall R-Value	Mass Wall R-Value	Basement & Crawl R-Value
5 and Marine 4	R38 → R49	NC (R20 or 13+5)	NC (13/17)	R10/13 → R15/19
6	NC (R49)	R19 or 13+5 → R20+5 or 13+10	R15/19 → R15/20	NC (R15/19) R10/13 → R15/19

↑
 Cavity or Cavity plus Continuous

↑
 Exterior or Interior

Continuous or Cavity

2009 >



2012 >



Fenestration

CZ5 & CZ6 U-Factor: 0.35 \Rightarrow 0.32 SHGC: NC (NR)

CZ5 & CZ6 Skylight U-Factor: 0.60 \Rightarrow 0.55

If not NFRC labeled, must use tables 302.1.3 to assign a default SHGC and U-Factor



Example: vinyl-clad wood window

TABLE 303.1.3(1)
DEFAULT GLAZED FENESTRATION U-FACTOR

FRAME TYPE	SINGLE PANE	DOUBLE PANE	SKYLIGHT	
			Single	Double
Metal	1.20	0.80	2.00	1.30
Metal with Thermal Break	1.10	0.65	1.90	1.10
Nonmetal or Metal Clad	0.95	0.55	1.75	1.05
Glazed Block	0.60			

TABLE 303.1.3(3)
DEFAULT GLAZED FENESTRATION SHGC

SINGLE GLAZED		DOUBLE GLAZED		GLAZED BLOCK
Clear	Tinted	Clear	Tinted	
0.8	0.7	0.7	0.6	0.6

If no NFRC label present:
Default U-factor: 0.55
Default SHGC: 0.70

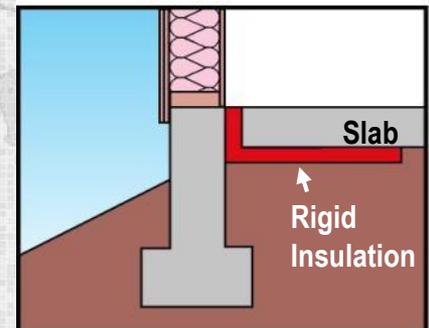
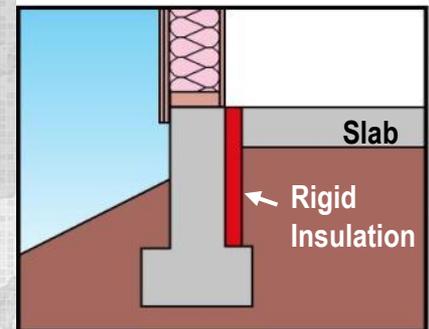
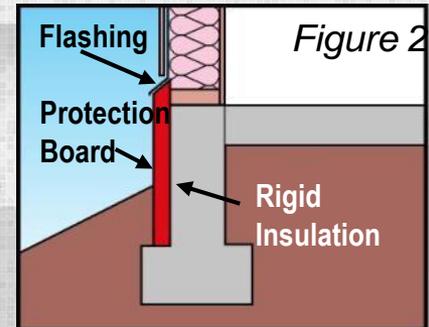
		World's Best Window Co. Millennium 2000+ Vinyl-Clad Wood Frame Double Glazing - Argon Fill - Low E Product Type: Vertical Slider	
ENERGY PERFORMANCE RATINGS			
U-Factor (U.S./I-P)		Solar Heat Gain Coefficient	
0.30		0.25	
ADDITIONAL PERFORMANCE RATINGS			
Visible Transmittance		Air Leakage (U.S./I-P)	
0.51		0.2	
<small>Manufacturer stipulates that these ratings conform to applicable NFRC procedures for determining whole product performance. NFRC ratings are determined for a fixed set of environmental conditions and a specific product line. NFRC does not recommend any product and does not warrant the quality of any product for any specific use. Consult manufacturer's literature for other product performance information. www.nfrc.org</small>			

NFRC label effectively required

Slab Edge Insulation

Applies to slabs with a floor surface < 12 inches below grade

- ✓ R-10 (typically 2 inches) insulation in Zones 4 and above
- ✓ Must extend downward from top of slab a minimum of 24" (Zones 4 and 5) or 48" (Zones 6, 7, and 8)
- ✓ Insulation can be vertical or extend horizontally under the slab or out from the building
- ✓ Insulation extending outward must be under 10 inches of soil or pavement
 - An additional R-5 is required for heated slabs
 - Insulation depth of the footing or 2 feet, whichever is less in Zones 1-3 for heated slabs



Building Cavities

- Framing cavities cannot be used as ducts or plenums



- All supplies & returns **MUST** be metal ducts



Duct Leakage

Specialized Equipment (~\$2,000) and Training, Diagnostic experience to track down issues with compliance. Leakage to Outdoors also requires blower door to be set up. **Annual equipment calibration required.**

- Ducts or air handler outside conditioned space:
 - 2009 IECC:
 - Post-construction
 - 8% leakage to outdoors OR
 - 12% total duct leakage
 - At rough-in
 - 6% total duct leakage with air handler OR
 - 4% total duct leakage without air handler
 - 2012 IECC:
 - a) 4% total duct leakage at completion
 - b) 4% total duct leakage at rough-in with air handler
 - c) 3% total duct leakage at rough-in without air handler
 - This is not difficult to achieve if you address the major sources of leakage

Air Infiltration

Specialized Equipment (~\$2,600) and Training. Annual equipment calibration. Diagnostic experience to track down issues with compliance. Pre-drywall inspection reduces uncertainty. **Third-Party testing required.**

- 2009 IECC
 - air sealing checklist 
 - checklist option is unlikely to result in tighter homes
 - blower door test ≤ 7 ACH50
 - 7 ACH50 is not a very difficult target
- 2012 IECC
 - blower door test ≤ 3 ACH50
 - ***3 ACH50 is very aggressive, but possible.***
 - NE study – about 30% savings on heating
 - transitioning from a checklist option to 3 ACH50 is likely to be ***very*** difficult.

Piping Insulation

- ✓ **R-3 required on**
 - **HVAC systems**
 - **Exception: Piping that conveys fluids between 55 and 105°F**
- **If exposed to weather,**
 - **protect from damage, including**
 - **Sunlight**
 - **Moisture**
 - **Equipment maintenance**
 - **Wind**
 - **Provide shielding from solar radiation that can cause degradation of material**
 - **Adhesive tape is not allowed**

2015 Code?

Builders complaint about 2012 is that the performance path is highly prescriptive

This is the main reason that jurisdictions have given for adopting 2009 vs. 2012

In 2015 code, the performance path is a true performance option and the HERS rating is written into the code as an accepted performance path

This gives builders true ‘trade-off’ abilities and professional assistance with modeling “what if” scenarios

The HERS Rater

HERS: Home Energy Rating System – National Standard

HERS Raters are certified after training, which includes training on-site, passing three national exams, performing a minimum of five full HERS Ratings and joining a Rating Quality Assurance (QA) Provider

HERS Raters are independent Third-Party verifiers, natural fit as energy code advocates.



The HERS Rater

However:

- Need added training – additional inspections
- Need good communication with Code Official – Jurisdictions have differing requirements and allowances
- Need for Code Officials and Builders to understand QA Role of Provider – Oversight and Control – Software Licensing
 - Provider assures program requirements are being met
 - Additional insurance requirements
 - Additional licensing requirements
 - Additional inspections, reports, Etc.



The HERS Rater

Home Energy Rating Certificate

Project #213-220
 [Redacted]
 Lawrence, KS 66044



5 Stars Plus
 Confirmed
 HERS Index: 65

Efficient Home Comparison: 35% Better

General Information

Conditioned Area	1733 sq. ft.	House Type	Single-family detached
Conditioned Volume	15597 cubic ft.	Foundation	Slab
Bedrooms	4		

Mechanical Systems Features

Heating:	Fuel-fired air distribution, Natural gas, 96.0 AFUE.
Cooling:	Air conditioner, Electric, 14.0 SEER.
Water Heating:	Conventional, Natural gas, 0.62 EF, 40.0 Gal.
Duct Leakage to Outside	80.00 CFM25.
Ventilation System	None
Programmable Thermostat	Heat-No; Cool-No

Building Shell Features

Ceiling Flat	R-42.0	Slab	R-10.0 Edge, R-0.0 Under
Sealed Attic	NA	Exposed Floor	R-30.0
Vaulted Ceiling	NA	Window Type	U-Value: 0.300, SHGC: 0.300
Above Grade Walls	R-15.0	Infiltration Rate	Htg: 1048 Clg: 1048 CFM50
Foundation Walls	NA	Method	Blower door test

Lights and Appliance Features

Percent Interior Lighting	0.00	Range/Oven Fuel	Electric
Percent Garage Lighting	0.00	Clothes Dryer Fuel	Electric
Refrigerator (kWh/yr)	438.00	Clothes Dryer EF	3.01
Dishwasher Energy Factor	0.00	Ceiling Fan (cfm/Watt)	70.40

Registry ID	080768446
Rating Number	HYLCC20140101
Certified Energy Rater	[Redacted]
Rating Date	06/28/2014
Rating Ordered For	[Redacted]

Estimated Annual Energy Cost

Use	MMBtu	Cost	Percent
Heating	40.1	\$264	22%
Cooling	4.0	\$75	6%
Hot Water	21.5	\$139	12%
Lights/Appliances	23.8	\$448	37%
Photovoltaics	-0.0	\$-0	-0%
Service Charges		\$278	23%
Total	89.4	\$1203	100%

Criteria

This home meets or exceeds the minimum criteria for the following:

IECC, MEC
 ASHRAE 90.2 – 1992
 ENERGY STAR

QA: Accurate Rater Network
 Rater: Hathmore Technologies, LLC
 11511 Applewood Drive
 Kansas City, MO 64134
 (816) 224-5550
 www.hathmore.com

Certified Energy Rater: [Redacted]

REM/Rate - Residential Energy Analysis and Rating Software v14.5

This information does not constitute any warranty of energy cost or savings. © 1985-2014 Architectural Energy Corporation, Boulder, Colorado.
 The Home Energy Rating Standard Disclosure for this home is available from the rating provider.

The HERS Rater

Registry ID 080768446
Rating Number HTLLC20140101
Certified Energy Rater [Redacted]
Rating Date 06/28/2014
Rating Ordered For [Redacted]

Estimated Annual Energy Cost

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Heating	40.1	\$264	22%
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Home Energy Rating Certificate

Lawrence, KS 66044



5 Stars Plus
Confirmed

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Efficient Home Comparison: 35% Better

General Information

Conditioned Area	1733 sq. ft.	House Type	Single-family detached
Conditioned Volume	15597 cubic ft.	Foundation	Slab.

Comparison is
against 2006 IECC

The HERS Rater

Air Leakage

Property

Lawrence, KS 66044

Organization

Hathmore Technologies, LLC
(816) 224-5550
Kenneth Riead

HERS

Confirmed
06/28/2014
Rating No:HTLLC20140101
Rater ID:4538329

Weather: Kansas City, MO

Project #213-220
a St
blg

Builder

Whole House Infiltration

	Blower Door Test	
	Heating	Cooling
Natural ACH	0.24	0.17
ACH @ 50 Pascals	4.03	4.03
CFM @ 25 Pascals	668	668
CFM @ 50 Pascals	1048	1048
Eff. Leakage Area (sq.in)	57.5	57.5
Specific Leakage Area	0.00023	0.00023
ELA/100 sf shell (sq.in)	1.23	1.23

Duct Leakage

Leakage to Outside Units	Ducts
CFM @ 25 Pascals	80
CFM25 / CFM ₅₀	0.0434
CFM25 / CFA	0.0462
CFM per Std 152	N/A
CFM per Std 152 / CFA	N/A
CFM @ 50 Pascals	126
Eff. Leakage Area (sq.in)	6.89
Thermal Efficiency	N/A
Total Duct Leakage Units	CFM25/CFA
Total Duct Leakage	0.8361

Ventilation

Mechanical	None
Sensible Recovery Eff. (%)	0.0
Total Recovery Eff. (%)	0.0
Rate (cfm)	0
Hours/Day	24.0
Fan Watts	0.0
Cooling Ventilation	Natural Ventilation

ASHRAE 62.2 - 2010 Ventilation Requirements

For this home to comply with ASHRAE Standard 62.2 - 2010 Ventilation and Acceptable Indoor Air Quality in Low-Rise Residential Buildings, a minimum of 55 cfm of mechanical ventilation must be provided continuously, 24 hours per day. Alternatively, an intermittently operating mechanical ventilation system may be used if the ventilation rate is adjusted accordingly. For example, a 110 cfm mechanical ventilation system would need to operate 12 hours per day, as long as the system operates to provide required average ventilation once each hour.

REM/Rate - Residential Energy Analysis and Rating Software v14.5

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The HERS Rater

Air Leakage

Property

[Redacted]
Lawrence, KS 66044

Organization

Hathmore Technologies, LLC
(816) 224-5550
Kenneth Riead

HERS

Confirmed
06/28/2014
Rating No:HTLLC20140101
Rater ID:4538329

Weather:Kansas City, MO

[Redacted]
Lawrence KS 66044 - A1.blg

Builder

[Redacted]

Whole House Infiltration

	Blower Door Test	
	Heating	Cooling
Natural ACH	0.24	0.17
ACH @ 50 Pascals	4.03	4.03
CFM @ 25 Pascals	668	668
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The HERS Rater

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Move decimal to the right 2 places for CFM25 / 100sf

Ventilation

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Total Recovery Eff. (%)	0.0
Rate (cfm)	0
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The HERS Rater

RESNET Home Energy Rating Standard Disclosure

For home located at: _____

City: Gardner State: KS

- The Rater or Rater's employer is receiving a fee for providing the rating on this home.
- In addition to the rating, the Rater or Rater's employer has also provided the following consulting services for this home.
 - A. Mechanical system design
 - B. Moisture control or indoor air quality consulting
 - C. Performance testing and/or commissioning other than required for the rating itself
 - D. Training for sales or construction personnel
 - E. Other (specify below)

- The Rater or Rater's employer is:
 - A. The seller of this home or their agent
 - B. The mortgagor for some portion of the financial payments on this home
 - C. An employee, contractor or consultant of the electric and/or natural gas utility serving this home

- The Rater or Rater's employer is a supplier or installer of products, which may include:

HVAC Systems
Thermal Insulation Systems
Air sealing of envelope or duct systems
Windows or window shading systems
Energy efficient appliances
Construction (builder, developer, construction contractor, etc.)
Other (specify below):

Installed in this home by:	OR	is in the business of:
<input type="checkbox"/> Rater <input type="checkbox"/> Employer		<input type="checkbox"/> Rater <input type="checkbox"/> Employer
<input type="checkbox"/> Rater <input type="checkbox"/> Employer		<input type="checkbox"/> Rater <input type="checkbox"/> Employer
<input type="checkbox"/> Rater <input type="checkbox"/> Employer		<input type="checkbox"/> Rater <input type="checkbox"/> Employer
<input type="checkbox"/> Rater <input type="checkbox"/> Employer		<input type="checkbox"/> Rater <input type="checkbox"/> Employer
<input type="checkbox"/> Rater <input type="checkbox"/> Employer		<input type="checkbox"/> Rater <input type="checkbox"/> Employer
<input type="checkbox"/> Rater <input type="checkbox"/> Employer		<input type="checkbox"/> Rater <input type="checkbox"/> Employer

I attest that the above information is true and correct to the best of my knowledge. As a Rater or Rating Provider I abide by the rating quality control provisions of the Mortgage Industry National Home Energy Rating Standard as set forth by the Residential Energy Services Network (RESNET). The national rating quality control provisions of the rating standard are contained in Chapter One 4.C.8. of the standard and are posted at http://resnet.us/standards/RESNET_Mortgage_Industry_National_HERS_Standards.pdf. The Home Energy Rating Standard Disclosure for this home is available from the rating provider.

Rater's Printed Name

Rater's Signature

Certification #

July 08, 2014
Date

RESNET Form 0300-2

All potential conflict of interest for Rater or for Rater's Company must be disclosed.

The HERS Rater

Energy Code Inspection Checklist (1)
 IECC 2009 UA Compliance (1)
 IECC 2009 Performance (1)
 IECC 2009 Certificate (1)
 IECC 2009 Label (1)
 IECC 2012 UA Compliance (1)
 IECC 2012 Performance (1)
 IECC 2012 Certificate (1)
 IECC 2012 Label (1)

Energy Code Inspection Checklist

Property Organization HERS

2009 IECC Building UA Compliance

Property Organization HERS

2009 IECC Energy Cost Compliance

HOME CERTIFIED TO MEET THE PROVISIONS OF THE
 2009 INTERNATIONAL ENERGY CONSERVATION CODE

This home built at

Levels
 Designed

2012 IECC Building UA Compliance

Property Organization HERS
 Client Management Unknown/Undetermined 11.7 Confirmed

2012 IECC Energy Cost Compliance

HOME CERTIFIED TO MEET THE PROVISIONS OF THE
 2012 INTERNATIONAL ENERGY CONSERVATION CODE

This home built at

45 [Redacted] [Redacted]

Annual Energy Cost	\$/yr	
	2012 IECC	As Designed
Heating	243	283
Cooling	123	102
Water Heating	138	138
SubTotal - Used to Determine Compliance	504	523

2009 IECC Certificate

[Redacted] Lawrence, KS 66044

Building Envelope Insulation

Ceiling	R-42.0
Above Grade Walls	R-15.0
Foundation Walls	NA
Exposed Floor	R-30.0
Slab	R-10.0 Edge, R-0.0 Under
Infiltration	Hte: 1048 Clr: 1048 CFM50
Duct	NA
Duct Leakage to Outside	80.00 CFM @ 25 Pascals

Window Data

U-Factor	SHGC
Window	0.300 0.300

Mechanical Equipment

HEAT: Fuel-fired air distribution, Natural gas, 96.0 AFUE.
COOL: Air conditioner, Electric, 14.0 SEER.
DHW: Conventional, Natural gas, 0.62 EF, 40.0 Gal.

Builder or Design Professional

Signature _____

Insulation Level	
2012 IECC	As Design
28.9	2
121.6	14
111.1	9
12.4	1
4.4	.
278.5	28

2015 IECC HERS Index

Climate Zone	2006	2009	2012	2015
Zone 1	97	79	74	52
Zone 2	96	79	73	52
Zone 3	94	78	71	51
Zone 4	92	82	76	54
Zone 5	91	82	80	55
Zone 6	92	83	79	54
Zone 7	93	85	78	53
Zone 8	96	86	79	53
U.S. Average	94	82	76	53

The HERS path also requires that a builder must meet the mandatory envelope requirements of the 2009 IECC

Get it Done with a HERS Rater!

- **Consult and advise to expedite your transition and adoption of new, more stringent, codes**
- **Assist understanding of new technologies and applications related to building performance**
- **Set expectations and provide QA of sub-contractor groups**
- **Partner to manage construction costs while improving energy performance**
- **Provide an edge in Marketing and Sales**

Get it Done with a HERS Rater!

- **Preliminary Plan Review & Recommendations**
 - Make changes while they are cost-efficient
 - Multiple “what-if” scenarios
- **Pre-Drywall Inspection**
 - IECC Required inspections on your schedule
 - Minimize Construction Delays
- **Final Testing & Verification**
 - IECC Required Testing
 - Did you get what you paid for?
 - Does installed equipment meet specs?
 - Reduced call-backs and warranty work



ENERGY STAR

- **Additional Certification = Additional Confidence**
 - **Builder Must be Certified**
 - **HVAC Must be Certified**
 - **HERS Rater Must be Certified**
- **Additional Checklists**
 - **Water Management Checklist (Builder/Rater)**
 - **Thermal Enclosure Checklist (Rater)**
 - **HVAC Quality Installation Checklist (HVAC Contractor)**
 - **HVAC Quality Installation Checklist (Rater)**



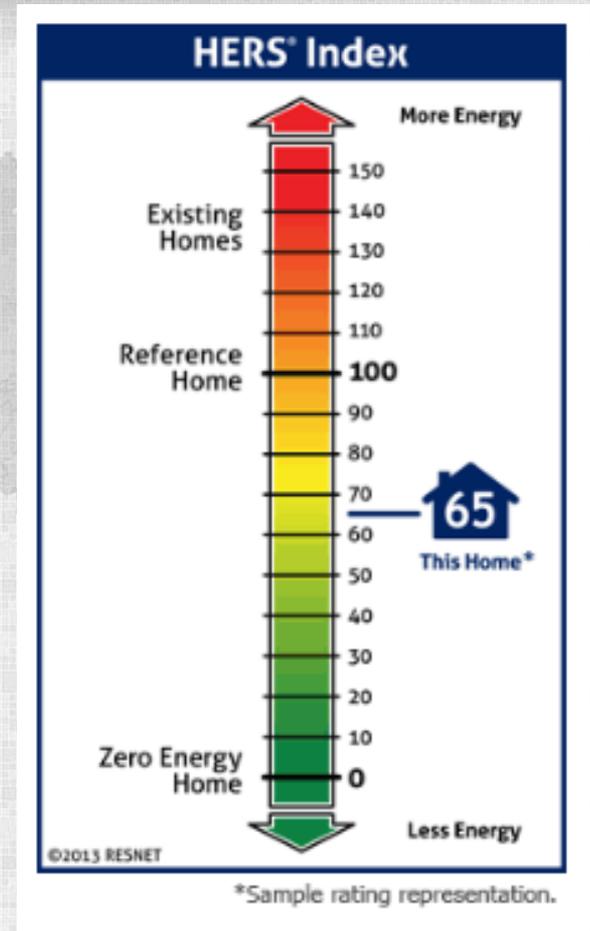
ENERGY STAR

- Plan Review and Recommendations
- Interim Inspections
- Final Testing
- Marketing Edge



Marketing & Sales

- **Confidence**
 - Deliver on energy and quality performance goals
- **Assurance**
 - For the Home Buyer
- **Manage**
 - Fewer punch list issues for new homeowners



RESNET Materials

The Lower
The Better
Know Your Score

LEARN MORE

80 ? 100



ENERGY STAR Materials



- Yard Signs
- Web Page Videos
- Tent Cards
- Brochures
- Brandable Materials



Stories from the Field

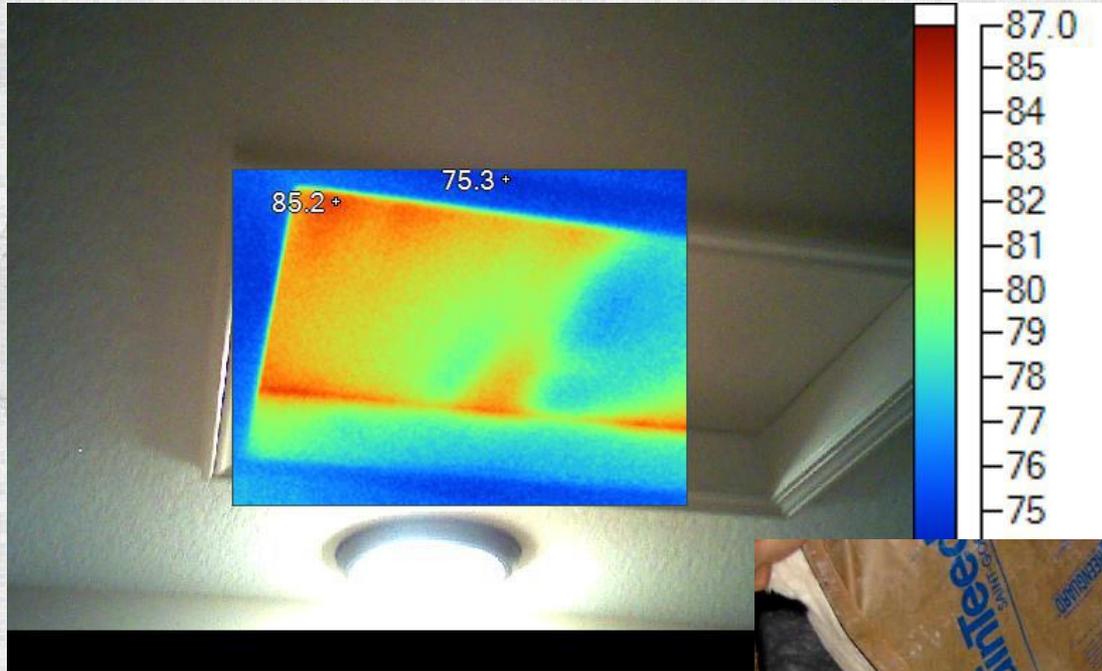


**Local code inspection
experiences from the field**

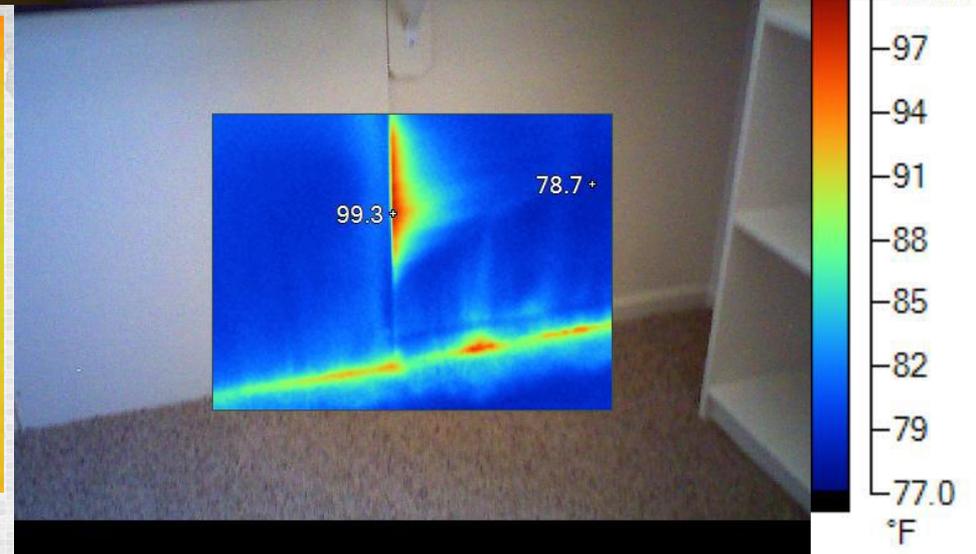
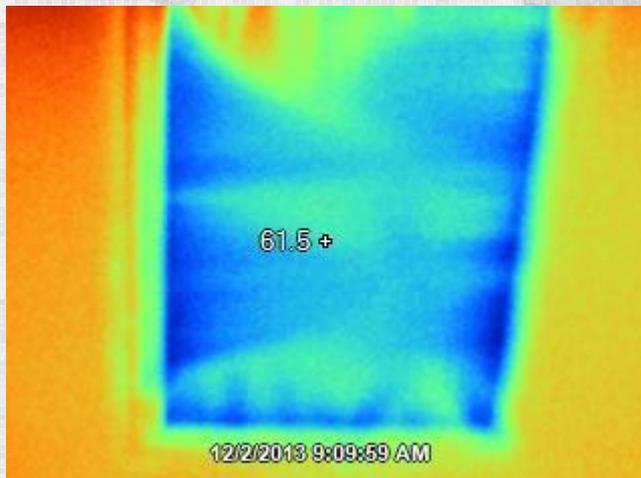
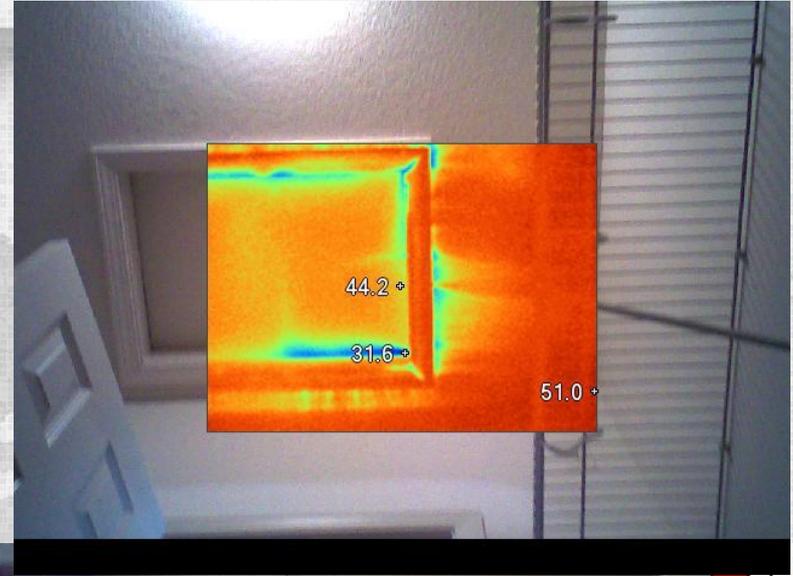
Infiltration Testing: R402.4.1.2



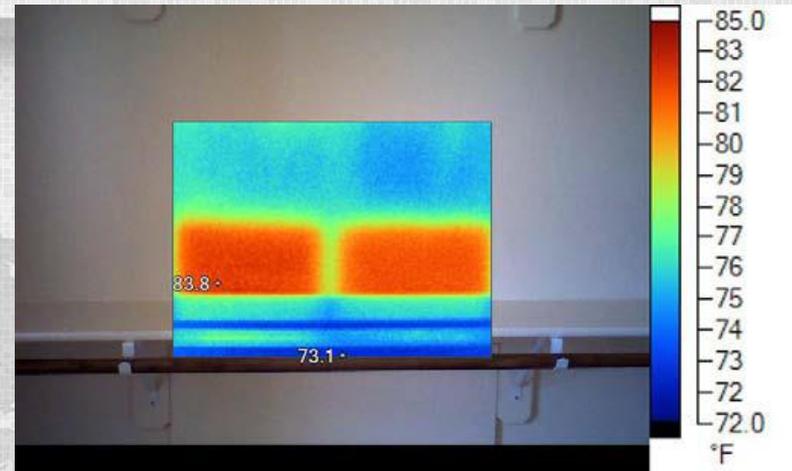
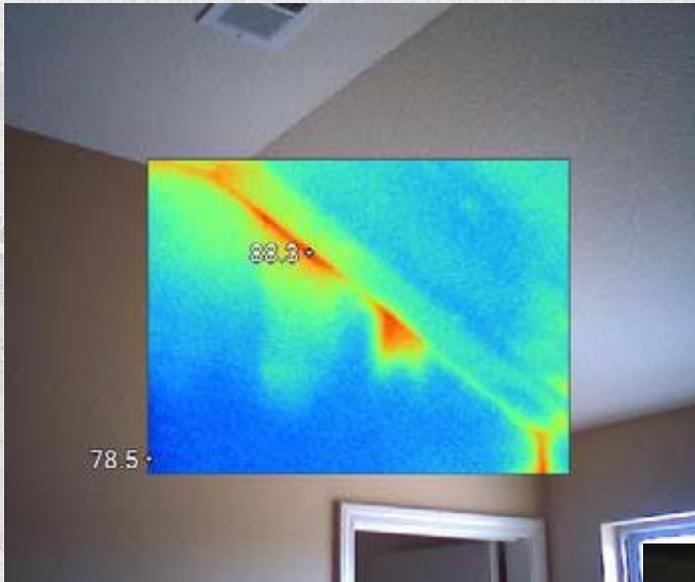
Attic Access Insulation: R402.2.4



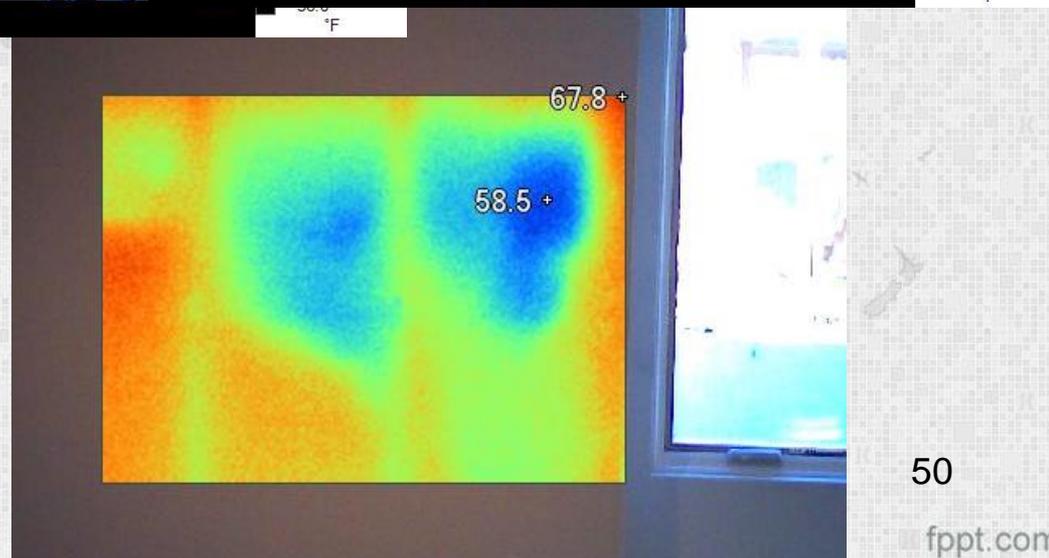
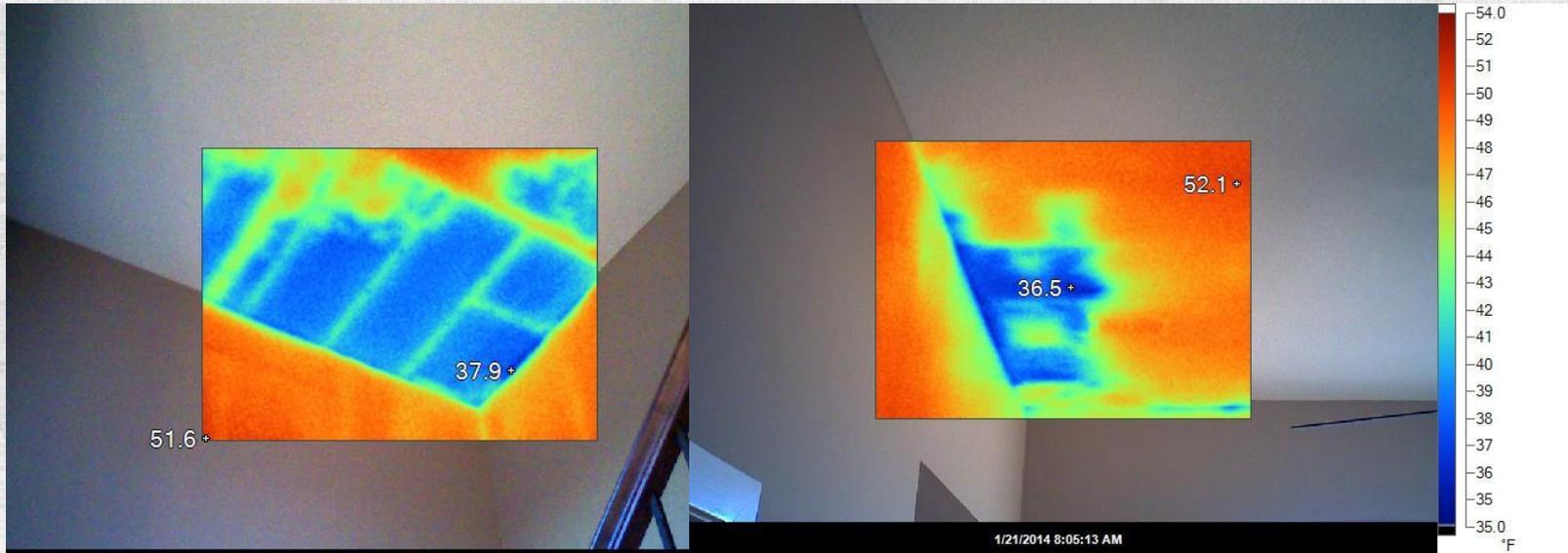
Attic Access Weatherstrip: R402.2.4



Insulation Inspection: R402.4.1.1



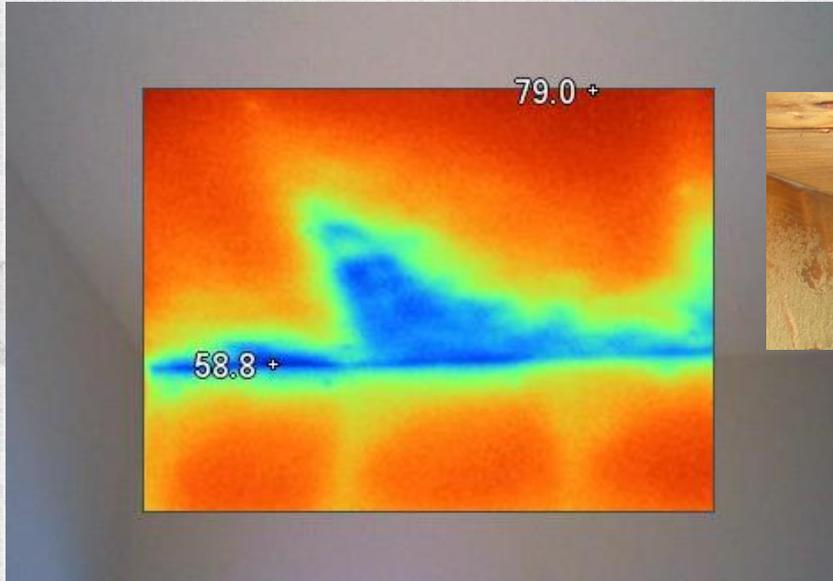
Insulation Inspection: R402.4.1.1



Insulation Inspection: R402.4.1.1



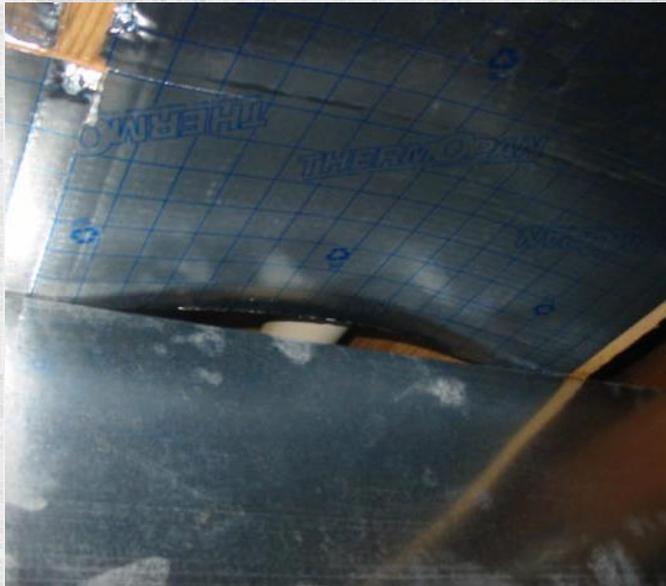
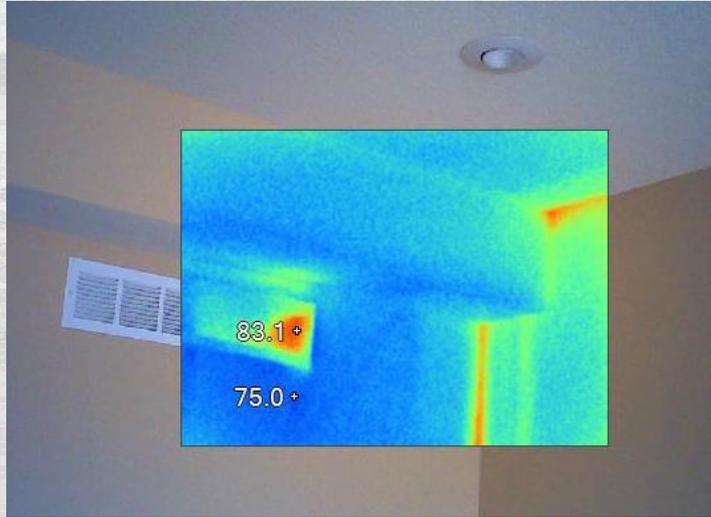
Eave Baffle: R402.2.3



Building Envelope: R402.4



Duct Sealing: R403.2.2



Duct Sealing: R403.2.2



Mechanical Exhaust: R403.5



Thank You!



**Thank you for attending
today.**

Questions?