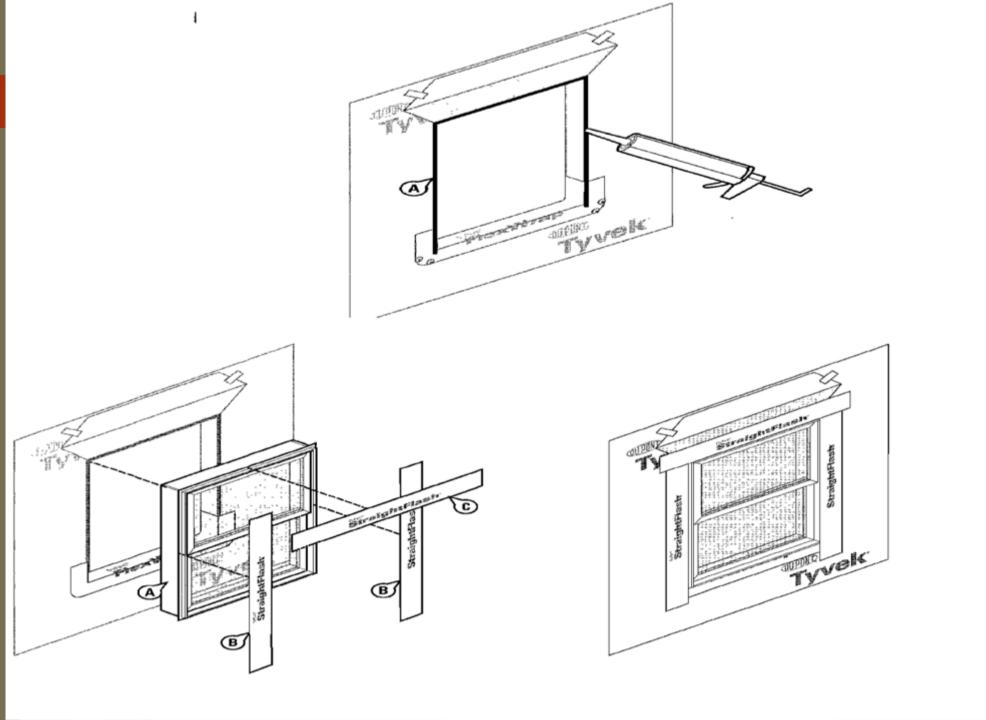






#### Proper Window Installation

- ASTM E 2112 Standard Practice for Installation of Exterior Windows, Doors, and Skylights OR Manufacturers Directions
- Sloped sub-sill or beveled siding filler
- Flexible pan and up the sides
- Overlaps and drip cap
- Caulk and seal corners
- Double check your rough openings against actual unit dimensions.



€.

-

### Check Glazing Options And Energy Star Sticker



# Air Barrier And Vapor Diffusion Retarder

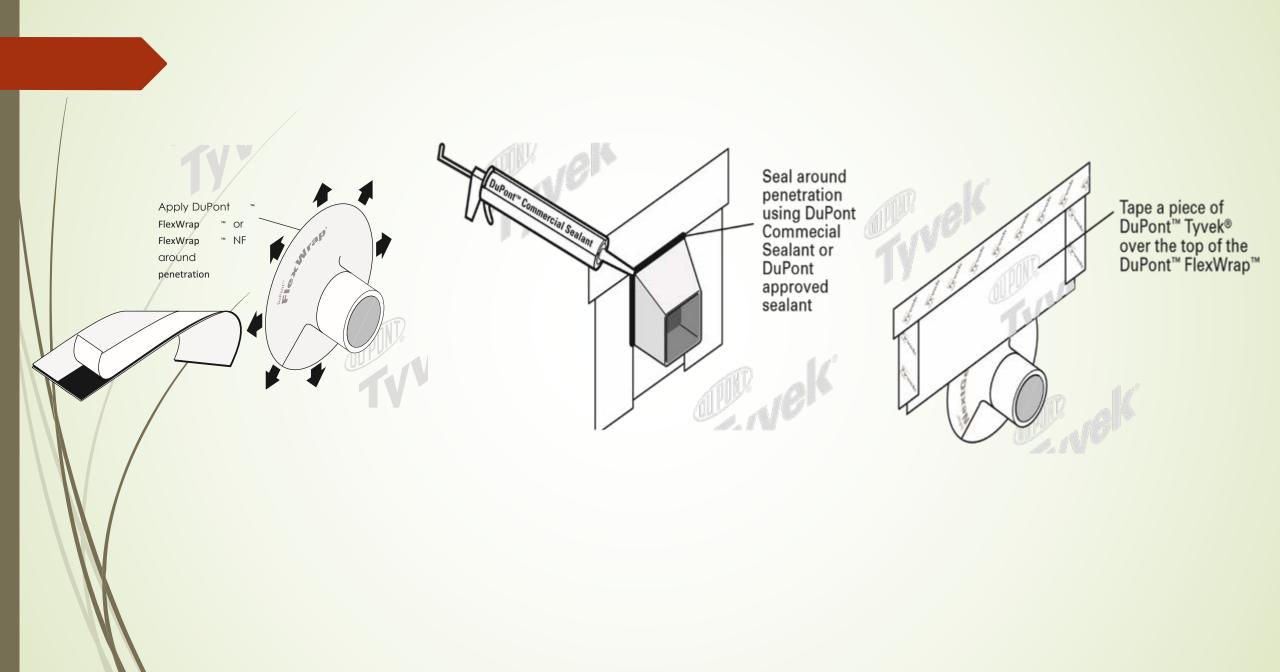
- Air Sealing Techniques
- This Is The Point Of No Return!!!!!
- Sealed Receptacles, Wires, Pipes, And Perforations
- "Flanged" Boxes
- Tapes And Sealants
- Airflow not vapor diffusion is the main source of moisture transmission

### Wall Choices

- Fiberglass batts most expensive!
- Rock wool
- Closed cell foam
- Open cell foam
- Cellulose
- Fiberglass BIB
- Smart Vapor Retarder













## Kinda, Sorta Has It....



























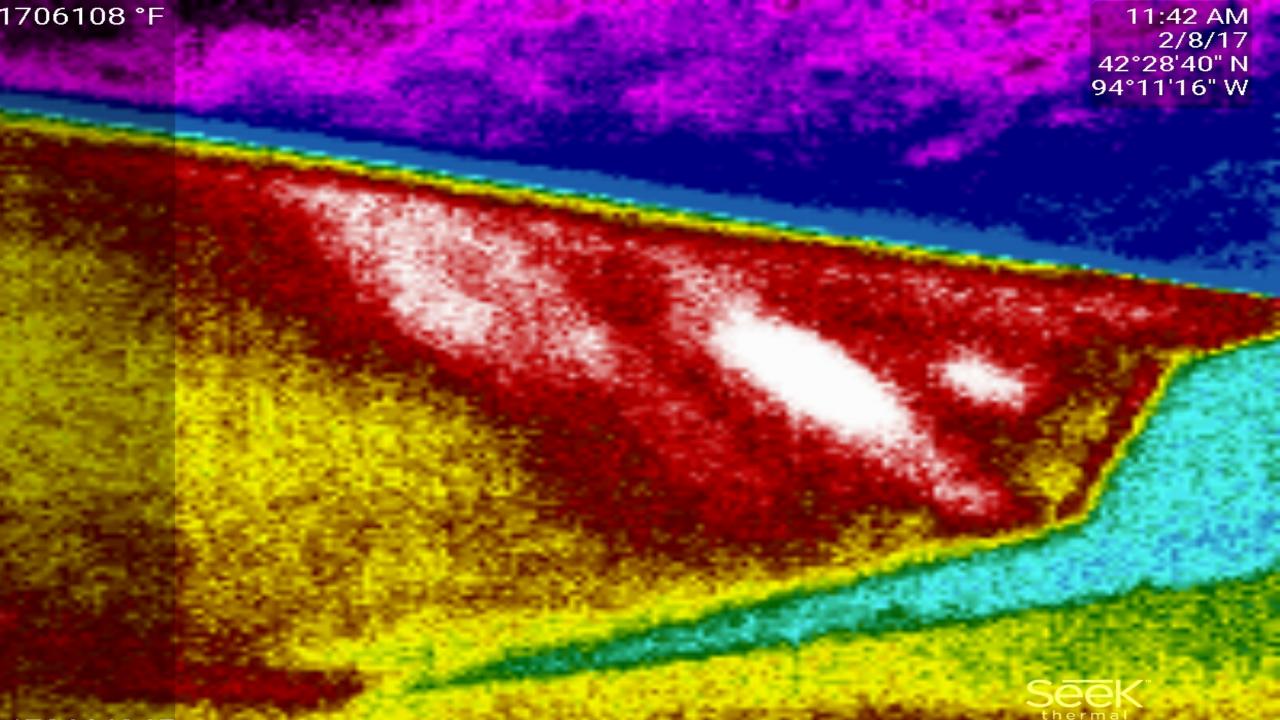


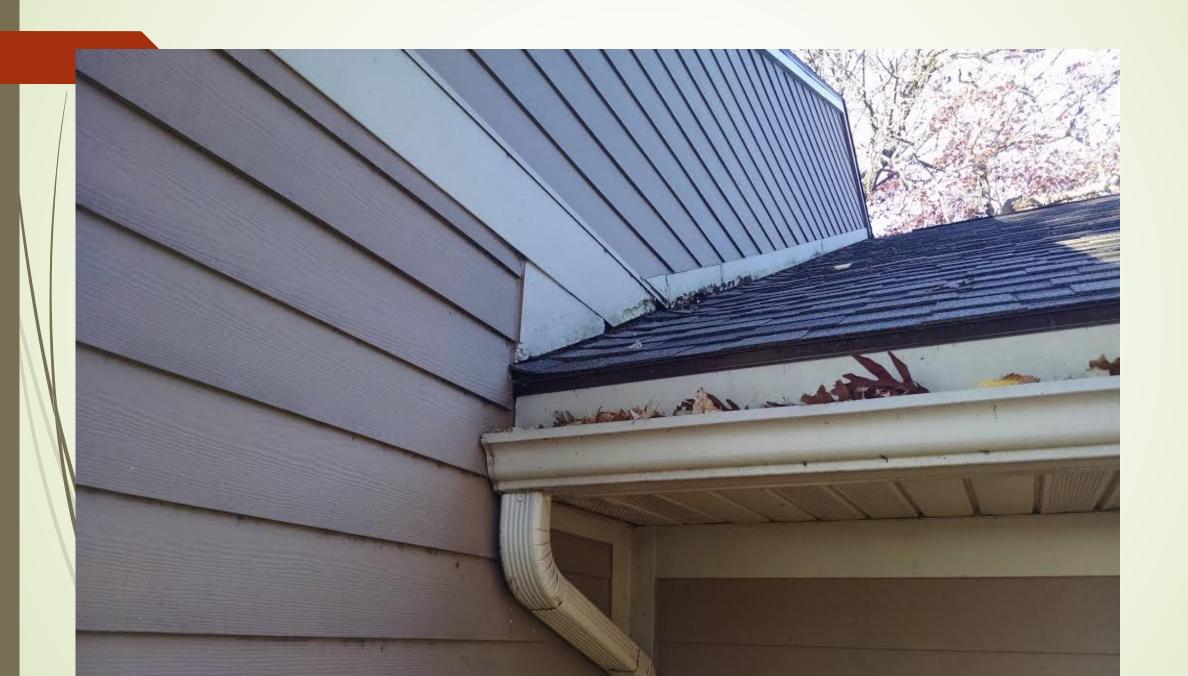




























## How Do We Get Fresh Air?

Bath fans

Range hood fans

HRV

**ERV** 

Windows

Fresh air intake

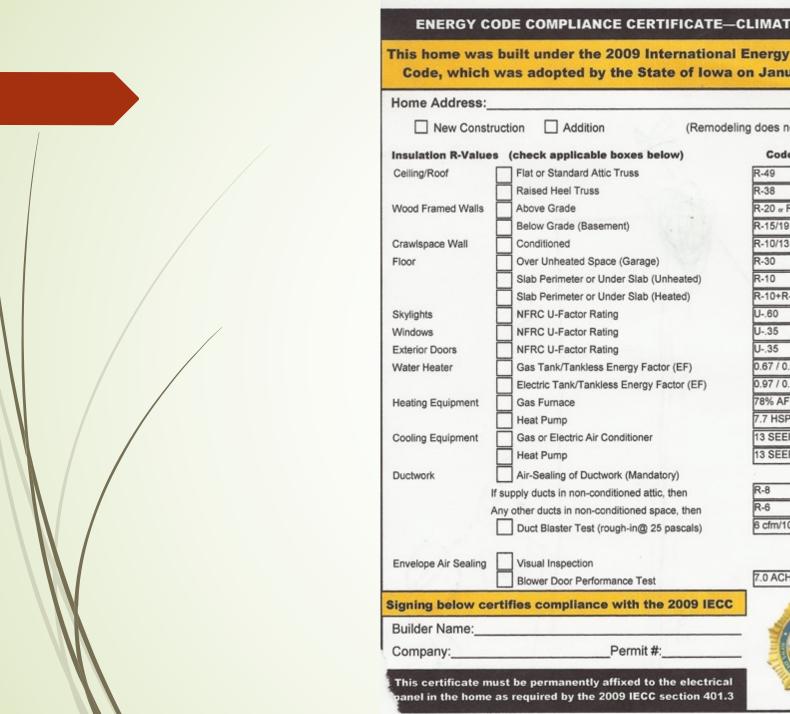
Fireplaces????











## **ENERGY CODE COMPLIANCE CERTIFICATE—CLIMATE ZONE 6**

This home was built under the 2009 International Energy Conservation Code, which was adopted by the State of Iowa on January 1, 2010

☐ New Constru	ction Addition (Remodeli	ng does not appl	y)
Insulation R-Values	(check applicable boxes below)	Code	My Home
Ceiling/Roof	Flat or Standard Attic Truss	R-49	
	Raised Heel Truss	R-38	
Wood Framed Walls	Above Grade	R-20 « R13+5	
	Below Grade (Basement)	R-15/19	
Crawispace Wall	Conditioned	R-10/13	
Floor	Over Unheated Space (Garage)	R-30	
	Slab Perimeter or Under Slab (Unheated)	R-10	
	Slab Perimeter or Under Slab (Heated)	R-10+R-5	
Skylights	NFRC U-Factor Rating	U60	
Windows	NFRC U-Factor Rating	U35	
Exterior Doors	NFRC U-Factor Rating	U35	
Water Heater	Gas Tank/Tankless Energy Factor (EF)	0.67 / 0.62	
	Electric Tank/Tankless Energy Factor (EF)	0.97 / 0.93	
Heating Equipment	Gas Furnace	78% AFUE	
	Heat Pump	7.7 HSPF	
Cooling Equipment	Gas or Electric Air Conditioner	13 SEER	
	Heat Pump	13 SEER	
Ductwork	Air-Sealing of Ductwork (Mandatory)		
	supply ducts in non-conditioned attic, then	R-8	
	ny other ducts in non-conditioned space, then	R-6	
[	Duct Blaster Test (rough-in@ 25 pascals)	6 cfm/100sf	
Envelope Air Sealing	Visual Inspection		
	Blower Door Performance Test	7.0 ACH 50	
igning below cer	tifies compliance with the 2009 IECC	A STATE OF THE PARTY OF THE PAR	mu)
Builder Name:			5
Company:	Permit #:		
	st be permanently affixed to the electrical	THE STATE OF THE S	THE STATE OF THE S

## Questions??

Bill McAnally mcanally.bill@gmail.com

## Sources

- Building Green Inc.
- Construction Instruction CI
- → Green Building Advisor
- Building Science Corporation
- University of Minnesota Cold Climate Housing
- Pinterest