

Energy Conservation Adding Value

Joint presentation with
Indiantown Non-Profit Housing
and
St. Johns Housing Partnership

2013
Florida Housing Coalition Conference

2010 Residential Energy Code: What's new?

- **Air infiltration:**
 - Blower door test to ≤ 7 ACH or checklist for inspection
 - Recessed lights shall be IC-rated and labeled to meet ASTM E 283
- **Window limits:**
 - Prescriptive compliance: Max. 20% CFA; U-factor ≤ 0.65 ; SHGC ≤ 0.30
 - Performance compliance: Max. weighted average SHGC 0.50 except if 4' overhang
- **Ducts:**
 - Prescriptive compliance: Must be inside conditioned space & tested by BERS Rater
- Equipment efficiencies & duct sealing referenced to Chapter 5.
- Programmable thermostat required for forced air systems
- Lighting: must have 50% high efficacy lamps

Compliance Methods

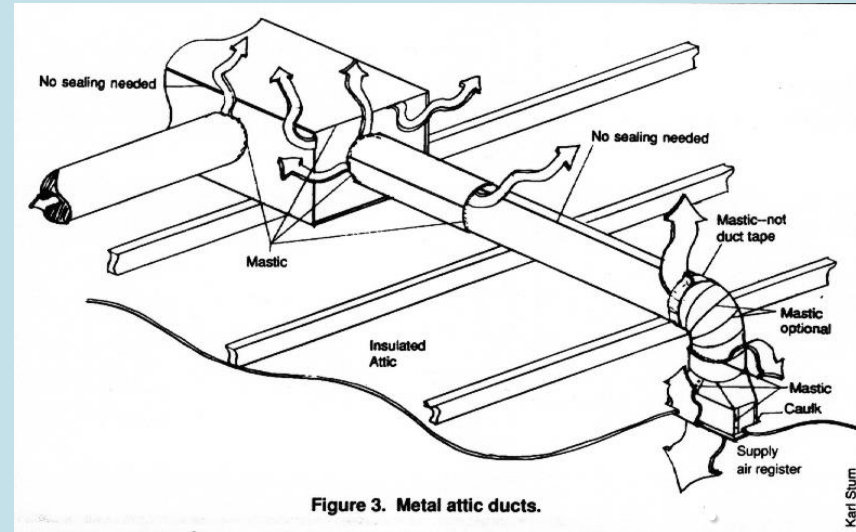
- The code still has two main compliance methods:
 - **PRESCRIPTIVE:**
 - Residential section 402 --Form 402
 - Residential will have an alternate Form 402 from a Florida-specific ResCheck
 - Commercial section 502 – Form 502
 - No EZ Com will be available
 - Form 502 is only for shell buildings, renovations, changeouts
 - **PERFORMANCE:**
 - Residential computer printout – Form 405
 - Commercial computer printout – Form 506

SEALED DUCTS

Duct leakage in a typical home is 30%! Are you comfortable pumping that much conditioned air into your attic?

Key Benefits:

- Lower utility bills
- Improved comfort
- Quieter
- Added durability



Seal ducts with Mastic



Conservation & Efficiency First, During Home Inspections

A simple blower door test can determine the total house leakage and the total duct system leakage, as a component of the inspection process.



Cost Effective Energy Conservation

- **Air seal / tighten building envelope**
- **Add cellulose attic insulation to R-38**
- **Install energy star bath exhaust vents**
- **Install compact fluorescent light bulbs**
- **Seal & insulate duct systems**
- **Replace refrigerator, when testing requires**
- **Replace heating & cooling systems**

Affordability is Relative...





A Healthy Home is a Happy Home...



A Healthy Home is:

- Energy Efficient;
- Free of environmental health hazards;
- Is structurally safe;
- Affordable to maintain;
- Thereby enhancing sustainability of the household, neighborhood; local economy, our nation as well as the planet.



It's not Rocket Science... It's Building Science...



- The first step in determining potential resources needed for energy efficient retrofits is to diagnose what retrofit measures are appropriate for the residence.
- This is accomplished by conducting a comprehensive diagnostic evaluation or energy audit on the residence.



Putting the pieces together....

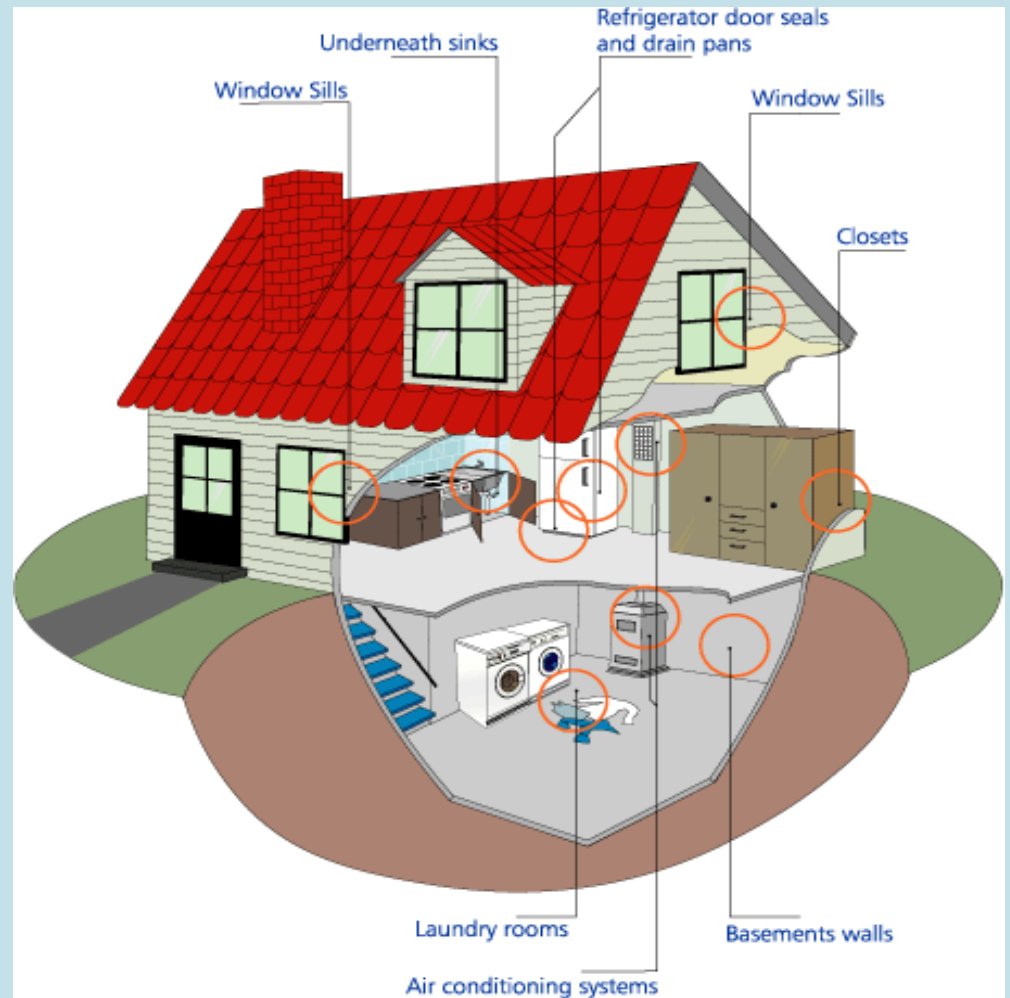
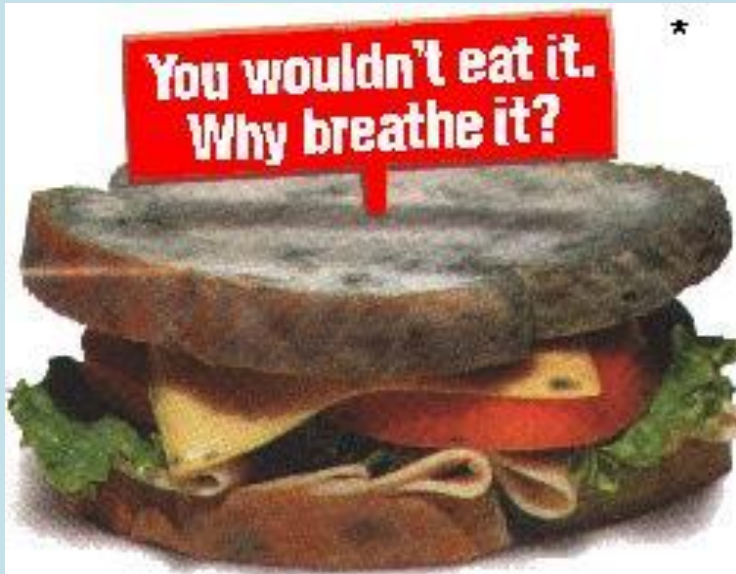
Rule #1 - Think inside the box...

- Diagnose and correct indoor air quality problems before tightening the building envelope.
- Educate the occupant.



Mold and Mildew

Mold Can Be Found In Many Different Areas of the Home



Mold Growth



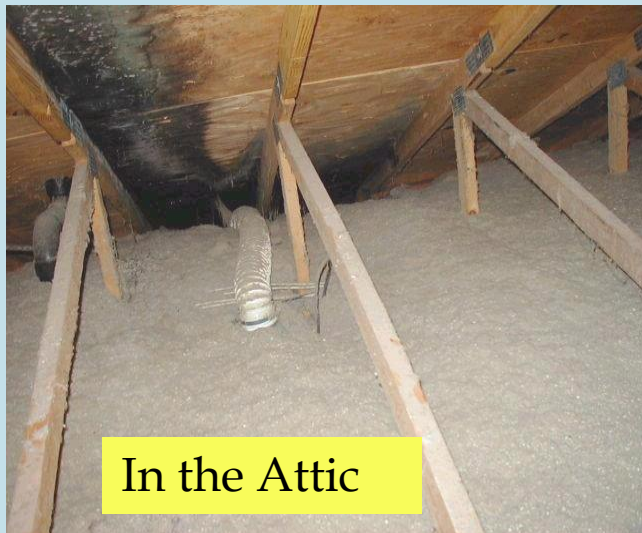
Under sinks



Around pipes



On walls



In the Attic





National Center for
Healthy Housing

Integrated approach that considers:

- People living in the home- Behaviors
- The structure- Mechanical Systems
- Potential health hazards – Housekeeping

Healthy Homes Principles

Keep It:

- Dry
- Clean
- Ventilated
- Pest-Free
- Safe
- Contaminant-Free
- Maintained

Aging In Place

- “10,000 people a day are turning 65. How will that impact the need for housing in Florida?
 - How many people live in mobile homes, with no significant equity?
 - What is the future of affordable rental properties?

Universal Design: the design of products and environments to be usable by all people, to the greatest extent possible, without the need for adaptation or specialized design.

Partnerships and Education

- **Weatherization Plus Health - adapt to new opportunities**
 - A unified approach that includes weatherization, accessibility, rehab, as well as “health” issues such as lead, mold, radon and pest control
 - This approach requires a level of cooperation yet to be achieved.
- **Building Trades, Vocational Programs, Legislators**

Education Of The Workforce

- **Training for contractors, subcontractors and installers and Vo Tech programs**
- **Technology increases performance review**
 - **Blower Door test for building envelope tightness**
 - **Thermal Imaging Camera to confirm for insulation installation**
 - **Carbon Monoxide/gas detectors**
 - **Lead checking XRF cameras**
 - **Duct Blasters and Flow Hoods**

How Do We Get There?

Partnerships

- Florida Solar Energy Center www.fsec.ucf.edu
- Florida Weatherization Network www.flwap.org
- Florida Green Building Coalition www.floridagreenbuilding.org
- Building Energy Assessment Professionals, Inc. www.beapfl.org
- Florida Energy Office (DACCS)
<http://www.freshfromflorida.com/Divisions-Offices/Energy/Office-of-Energy>

RESOURCES

EPA Funding Guide

<http://www.epa.gov/greenbuilding/tools/funding.htm#guides>

FL. Dept of Ag and Consumer Services

www.Myfloridahomeenergy.com

National Healthy Homes

<http://www.nchh.org/>

Florida Housing Coalition

NEW: Aff. Hsg. Funding Sources

Information

- Green Builder magazine
<http://www.greenbuildermag.com/>
- Home Energy magazine
<http://www.homeenergy.org/>
- RESNET- Energy Services Network
<http://www.resnet.us/>
- Building Performance Institute
<http://www.bpi.org/>
- Building Science.com
<http://www.buildingscience.com/documents/insights/bsi-007-prioritizing-green-it-s-the-energy-stupid>

Helpful Links- NAHB

- Checklist- Aging In Place

- <http://www.nahb.org/generic.aspx?genericContentID=89801>

- Funding For Home Modification

- <http://www.nahb.org/generic.aspx?sectionID=717&genericContentID=89799&print=true>

Questions for Audience

- **What type of problems have occurred?
Rehab/New Construction**
- **Who are your local partners?**
- **What resources have you found?**
- **Do you have access to any of this equipment?**
 - **Blower Door / Duct Blaster**
 - **Infra Red camera**
 - **Monoxor**

Presenter's Info...

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