

Permit Number

Checked By/Date



REScheck Software Version 3.6 Release 2

Compliance Certificate

Project Title: Model 123

Energy Code: **2003 IECC**
 Location: **Hickman, Kentucky**
 Construction Type: **Single Family**
 Window-to-Wall Ratio: **0.10**
 Heating Degree Days: **4004**

Report Date: **03/04/05**

Date of Plans: **3/7/2005**

Project Information:
 Orchard Hills Subdivision

Builder Information:
 ABC Construction
 Hickman, Kentucky

Compliance: **Passes** Maximum UA: **134** Your Home UA: **117 --> 12.7% Better Than Code (UA)**

| Assembly | Gross Area or Perimeter | Cavity R-Value | Cont. R-Value | Glazing or Door U-Factor | UA |
|--|-------------------------|----------------|---------------|--------------------------|----|
| Ceiling 1: Flat Ceiling or Scissor Truss | 400 | 30.0 | 0.0 | | 14 |
| Wall 1: Wood Frame, 16" o.c. | 640 | 13.0 | 0.0 | | 46 |
| Window 1: Vinyl Frame:Double Pane | 64 | | | 0.400 | 26 |
| Door 1: Solid | 20 | | | 0.600 | 12 |
| Floor 1: All-Wood Joist/Truss:Over Unconditioned Space | 400 | 19.0 | 0.0 | | 19 |

Statement of Compliance: The proposed building design described here is consistent with the building plans, specifications, and other calculations submitted with the permit application. The proposed building has been designed to meet the 2003 IECC requirements in REScheck Version 3.6 Release 2 (formerly MECcheck) and to comply with the mandatory requirements listed in the REScheck Inspection Checklist.

 Builder/Designer

 Company Name

 Date



REScheck Inspection Checklist

Project Title: Model 123

Date: 03/04/05

Ceilings:

- Ceiling 1: Flat Ceiling or Scissor Truss, R-30.0 cavity insulation

Comments: _____

Above-Grade Walls:

- Wall 1: Wood Frame, 16" o.c., R-13.0 cavity insulation

Comments: _____

Windows:

- Window 1: Vinyl Frame:Double Pane, U-factor: 0.400

For windows without labeled U-factors, describe features:

#Panels _____ Frame Type _____ Thermal Break? _____ Yes _____ No

Comments: _____

Doors:

- Door 1: Solid, U-factor: 0.600

Comments: _____

Floors:

- Floor 1: All-Wood Joist/Truss:Over Unconditioned Space, R-19.0 cavity insulation

Comments: _____

Air Leakage:

- Joints, penetrations, and all other such openings in the building envelope that are sources of air leakage must be sealed.
- Recessed lights must be 1) Type IC rated, or 2) installed inside an appropriate air-tight assembly with a 0.5" clearance from combustible materials. If non-IC rated, the fixture must be installed with a 3" clearance from insulation.

Skylights:

- Minimum insulation requirement for skylight shafts equal to or greater than 12 inches is R-19.

Vapor Retarder:

- Required on the warm-in-winter side of all non-vented framed ceilings, walls, and floors.

Materials Identification:

- Materials and equipment must be installed in accordance with the manufacturer's installation instructions.
- Materials and equipment must be identified so that compliance can be determined.
- Manufacturer manuals for all installed heating and cooling equipment and service water heating equipment must be provided.
- Insulation R-values and glazing U-factors must be clearly marked on the building plans or specifications.

Duct Insulation:

- Supply ducts in unconditioned attics or outside the building must be insulated to R-8.
- Return ducts in unconditioned attics or outside the building must be insulated to R-4.
- Supply ducts in unconditioned spaces must be insulated to R-8.
- Return ducts in unconditioned spaces (except basements) must be insulated to R-2.
- Where exterior walls are used as plenums, the wall must be insulated to R-8.
- Insulation is not required on return ducts in basements.

Duct Construction:

- Duct connections to flanges of air distribution system equipment must be sealed and mechanically fastened.
- All joints, seams, and connections must be securely fastened with welds, gaskets, mastics (adhesives), mastic-plus-embedded-fabric, or tapes. Tapes and mastics must be rated UL 181A or UL 181B.
Exception: Continuously welded and locking-type longitudinal joints and seams on ducts operating at less than 2 in. w.g. (500 Pa).
- The HVAC system must provide a means for balancing air and water systems.

Temperature Controls:

- Thermostats are required for each separate HVAC system. A manual or automatic means to partially restrict or shut off the heating and/or cooling input to each zone or floor shall be provided.

Service Water Heating:

- Water heaters with vertical pipe risers must have a heat trap on both the inlet and outlet unless the water heater has an integral heat trap or is part of a circulating system.
- Insulate circulating hot water pipes to the levels in Table 1.

Circulating Hot Water Systems:

- Insulate circulating hot water pipes to the levels in Table 1.

Swimming Pools:

- All heated swimming pools must have an on/off heater switch and require a cover unless over 20% of the heating energy is from non-depletable sources. Pool pumps require a time clock.

Heating and Cooling Piping Insulation:

- HVAC piping conveying fluids above 105°F or chilled fluids below 55°F must be insulated to the levels in Table 2.

Table 1: *Minimum Insulation Thickness for Circulating Hot Water Pipes*

| Heated Water Temperature (°F) | Insulation Thickness in Inches by Pipe Sizes | | | |
|-------------------------------|--|-------------|-------------------------------|---------|
| | Non-Circulating Runouts | | Circulating Mains and Runouts | |
| | Up to 1" | Up to 1.25" | 1.5" to 2.0" | Over 2" |
| 170-180 | 0.5 | 1.0 | 1.5 | 2.0 |
| 140-169 | 0.5 | 0.5 | 1.0 | 1.5 |
| 100-139 | 0.5 | 0.5 | 0.5 | 1.0 |

Table 2: *Minimum Insulation Thickness for HVAC Pipes. Hot Water Pipes*

| Piping System Types | Fluid Temp. Range(°F) | Insulation Thickness in Inches by Pipe Sizes | | | |
|--------------------------------------|-----------------------|--|-------------|---------------|------------|
| | | 2" Runouts | 1" and Less | 1.25" to 2.0" | 2.5" to 4" |
| Heating Systems | | | | | |
| Low Pressure/Temperature | 201-250 | 1.0 | 1.5 | 1.5 | 2.0 |
| Low Temperature | 106-200 | 0.5 | 1.0 | 1.0 | 1.5 |
| Steam Condensate (for feed water) | Any | 1.0 | 1.0 | 1.5 | 2.0 |
| Cooling Systems | | | | | |
| Chilled Water, Refrigerant and Brine | 40-55 | 0.5 | 0.5 | 0.75 | 1.0 |
| | Below 40 | 1.0 | 1.0 | 1.5 | 1.5 |

NOTES TO FIELD: (Building Department Use Only)
