



CHAMPAIGN COUNTY BUILDING REGULATIONS

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ENERGY EFFICIENCY CODE REQUIREMENTS:

In accordance with Section 1101.2-the owner shall include information showing compliance, both graphically on the drawings, and by identifying how they intend to comply using one of the following compliance paths. Applications for building permits must check one of the following options .

Option No.1: _____ Submit a trade-off analysis or a performance analysis in accordance with the International Energy Conservation Code. (2009 edition)

Several computer programs are available to generate a trade-off or performance analysis showing compliance with the 2009 IECC.

- REScheck (www.energycodes.gov) FREE
- Additional software options: <http://apps1.eere.energy.gov/buildings/tools> directory

Option No.2: _____ Sections 1101 through 1104/IECC Prescriptive.

Fenestration : U-0.32

Skylight: U-0.60

Ceiling: R-38

Frame Wall: R-20

Floor: R-30

Basement Wall: R-13

Slab: R-10

Option No.3: _____ Ohio Home Builders.

Fenestration: U-0.32

Skylight: U-0.60

Ceiling: R-49

Frame Wall: R-15

Floor: R-30

Basement Wall: R-13

Slab: R-10

JOB ADDRESS: _____

DATE: _____

SIGNATURE: _____

Note: If Option No. 3 is used, a blower door test is mandatory per Section 1103.2.2.

NOTES:

1. Submit documentation from the manufacturer to verify window and glass door U-factors.
 - Up to 15 sq.ft. of glazed windows shall be exempt from the U-factor; one side-hinged door assembly up to 24 sq.ft. shall be exempt from the U-factor.
2. R-30 (R-38) shall be deemed to satisfy the requirements of R-38 (R-49) wherever the full height of the uncompressed insulation extends over the wall top plate at the eaves. Reduction shall be limited to 500 sq.ft.
3. R-13 cavity insulation plus R-5 insulating sheathing is acceptable for frame wall of Option No.1. R-13 cavity insulation plus R-3 insulating sheathing is acceptable for frame wall if Option No.2.
4. Exterior mass walls (concrete, timber, logs) requires R-13; or R-17 when more than half the insulation is on the interior of the wall.
5. If the floor joist depth is insufficient for R-30, the cavity shall be completely filled with R-19 minimum.
6. Basement wall insulation can be reduced to R-10 if insulation is continuous. Option No.1 requires insulation full height of wall; Option No.2 requires insulation of four feet from the top of wall.
7. Slab perimeter insulation depth is two feet from the top of the slab. R-15 is required for heated slab.
8. As an alternative to insulating the floor over the crawlspace, the wall may be insulated with R-13 (R-10 continuous) when the crawl space is not vented to the outside.
9. Access hatches and doors to unconditioned spaces shall be insulated equivalent to surrounding surfaces.
10. Sunroom insulation: Minimum ceiling R-24, walls R-13.
11. Fireplaces shall have gasketed doors and outdoor combustion air.
12. Recessed lighting shall be sealed to limit air leakage.
13. Air leakage shall be by visual inspection or tested by "blower door". Option No.2 requires the blower door test.
 - Visual inspection shall comply with Tbl. 1102.4.2 or Tbl. 402.4.2 IECC.
14. Where the primary heating system is forced air, the thermostat shall be programmable.
15. Supply ducts in attics shall be insulated R-8; all other ducts in unconditioned areas shall be R-6. Joints of duct system shall be made airtight.
 - Duct tightness test is required if ductwork or air handler are located outside the conditioned space.
 - Mechanical system piping capable of carrying fluids above 40c or below 13c shall be insulated R-3.

The building thermal envelope shall be caulked, gasketed, weatherstripped or otherwise sealed with an air barrier:

- All joints, seams and penetrations.
- Windows, doors and skylights.
- Utility penetrations; electrical and plumbing penetrations.
- Knee walls.
- Walls and ceilings separating unconditioned spaces.
- Behind tubs and showers on exterior walls.
- Attic access, drop down openings.
- Corners, headers, sill plates.
- Rim joists junctions.

VISUAL INSPECTION CERTIFICATION-1102.4.2/402.4.2 IECC

The following items shall be checked off and signed prior to requesting the final building inspection/certificate of occupancy.

- 1) Air barrier and thermal barrier: _____
 - * Exterior thermal envelope insulation for frame walls is installed in substantial contact and continuous alignment with building envelope air barrier.
 - * Breaks or joints in the air barrier are filled or repaired.
 - * Air-permeable insulation is not used as a sealing material.
 - * Air-permeable insulation is inside of an air barrier.
- 2) Ceiling/attic: _____
 - * Air barrier in any dropped ceiling/soffit is substantially aligned with insulation and any gaps sealed.
 - * Attic access, knee wall door, or drop down stair is sealed.
- 3) Walls: _____
 - * Corners and headers are insulated.
 - * Junction of foundation and sill plate is sealed.
- 4) Windows and doors: _____
 - * Space between window/door jambs and framing is sealed.
- 5) Rim joists: _____
 - * Rim joists are insulated and include air barrier.
- 6) Floors (include above-garage and cantilevered floors) _____
 - * Insulation is installed to maintain permanent contact with underside of subfloor decking.
 - * Air barrier is installed at any exposed edge of insulation.
- 7) Crawl space walls: _____
 - * Insulation is permanently attached to walls.
 - * Exposed earth in crawl spaces is covered with Class I vapor retarder with overlapping joints taped.
- 8) Shafts, penetrations: _____
 - * Duct shafts, utility penetrations, knee walls and flue shaft openings to the exterior or unconditioned space are sealed.
- 9) Narrow cavities: _____
 - * Batts in narrow cavities are cut to fit, or narrow cavities are filled by spraying/blown insulation.
- 10) Garage separation: _____
 - * Air sealing is provided between the garage and conditioned space.
- 11) Recessed lighting: _____
 - * Recessed light fixtures are air tight, IC rated, and sealed to drywall.
- 12) Plumbing and wiring: _____
 - * Insulation is placed between outside and pipes. Batt insulation is cut to fit around wiring and plumbing, or sprayed/blown insulation extends behind piping and wiring.
- 13) Shower/tub on exterior wall: _____
 - * Showers and tubs on exterior walls shall have insulation and an air barrier separating them from the exterior wall.
- 14) Electrical/phone box on exterior walls: _____
 - * Air barrier extends behind boxes or air sealed-type boxes are installed.

- 15) HVAC register boots: _____
* HVAC register boots that penetrate building envelope are sealed to subfloor or drywall.
- 16) Fireplace: _____
* Fireplace walls include an air barrier.
- 17) Common wall: _____
* Air barrier is installed in common wall between dwelling units.
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AIR BARRIERS: ASTM 2357

- An assembly that achieves a maximum air leakage rate of 0.04 cfm/ft² @ 1.56 lb/ft² –or- 0.2l/(s*m²) @ 75 pa when tested in accordance with ASTM E2357.
 - ½" thick gypsum board – ASTM E2178+
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SIGN _____

DATE _____

ENERGY CODE CERTIFICATION

R-VALUES:

CEILING/ROOF _____

WALLS _____

FOUNDATION SLAB _____

BASEMENT WALL _____

CRAWLSPACE WALL _____ FLOOR _____

U-FACTORS OF FENESTRATION _____

EFFICIENCIES OF EQUIPMENT:

HEATING _____

COOLING _____

WATER HEATER _____

SIGN _____ DATE _____

A PERMANENT CERTIFICATE SHALL BE POSTED ON OR IN THE ELECTRICAL DISTRIBUTION PANEL. THE CERTIFICATE SHALL NOT COVER OR OBSTRUCT THE VISIBILITY OF THE CIRCUIT DIRECTORY LABEL OR SERVICE DISCONNECTS.

