

## 2009 IECC Frequently Asked Questions

This page is a work in progress. To ask a question email me at [kbaker1@mindspring.com](mailto:kbaker1@mindspring.com)

### COMMERCIAL

**Q: Does a restaurant need a vestibule on the door that serves an outside seating area?**

A: Yes. The IECC requires vestibules on doors that separate conditioned from unconditioned space when the area of conditioned space is 3000 square feet or greater. A revolving door is acceptable.

**Q: Do I need a vestibule for the man door entering a service bay area?**

A: No, both the IECC and ASHRAE exempt the need for a vestibule on vehicular and adjacent personnel doors.

**Q: In ASHRAE, 90.1, Section 5.4.3.4 there is a vestibule exception for buildings less than four stories in height. Why was this exception not included in the 2009 IECC? It does not make sense to exclude this exception if the 2009 IECC allows a building to be designed to ASRAE 90.1 instead of the 2009 IECC.**

A: The vestibule requirement, and continued differences between ASHRAE and IECC are pretty hot topics within the states I work. It is an area where I receive the most questions. And many building officials take issue with the vestibule requirement in many applications.

ASHRAE 2004 exempted buildings 4 stories and less. ASHRAE 2007 has a four story and less than 10,000 square feet exception in climate zones 3 and 4.

My understanding is that IECC doesn't follow ASHRAE on this and many other code requirements because it can create a less efficient building.

To use the ASHRAE exception the designer would need to use ASHRAE for building compliance for envelope, mechanical and lighting.

**Q: When using ASHRAE as a compliance approach is the designer limited to 40% of wall area in fenestration?**

A: No. ASHRAE has a 40% limit of vertical fenestration to gross wall area. It's similar language to the IECC but ComCheck allows an ASHRAE file to trade beyond the 40%. ComCheck will not allow an IECC compliance approach to exceed 40% WWA. For an IECC commercial building, a section 506 approach would be necessary for going beyond the 40% window to wall area.

**Q: Do I need a lighting control system like an automatic time clock for lighting in a gymnasium?**

A: No. You could use occupancy sensors. This is really a design issue.

## **RESIDENTIAL**

**Q: If I put a heater in my garage do I need to make the garage comply with code?**

A: If you put a plug in heater into your garage, no, you do not need to comply with the IECC. If you decide to condition a formerly unconditioned space then, yes, the newly conditioned space needs to meet the IECC – section 101.4.5. If the conditioning system peak design rate is less than 3.4 Btu/hr/ft<sup>2</sup> the code considers it a low energy building and thermal envelope provisions are not required.

**Q: Does a residential HVAC system need to be sized according to ASHRAE or ACCA?**

A: Chapter 4 of the IECC references Chapter Chapter 14 of the IRC for the answer. M1401.2 Sizing, says that equipment shall be sized in accordance with ACCA Manual or other approved heating and cooling calculation methodologies. Check with your building department for other approved methods.

**Q: If I have ductwork outside the conditioned space of a home I understand that the code now requires a duct blaster to determine compliance. Do I need a third party to provide the test?**

A: The code does not require a third party test but check with your building department because many are requiring a third party.

**Q: I have a question on RemRate. I'm not familiar RemRate or any modeling program. Can they model the attic insulation as continuous above the top of the bottom chord? I know you have told me in the past with ResCheck that you cannot differentiate between cavity and continuous with blown in insulation. Second, the report lists carpet (it is a slab) but does not list a value for it. Does that mean it was not used as a credit? If he is using slab mass does he need to identify the R-2 carpet and pad? His other problem is he is not carpeting the entire house or even 80%. I assume we will have to police the carpeted areas? Next the report lists all the components in the wall and the attic assembly. Does the minimum R-2 insulating sheathing requirement not apply in modeling? Does the attached compliance certificate meet the intent of 404.4.2 and 404.4.3? Last, we are curious about the path columns in regards to Framing, Cavity and Grade.**

A: In answer to your questions – yes they can model continuous insulation on top of the bottom cord of the truss which is different than how REScheck is set up. When you build an assembly in REM you call out insulation between the framing and then insulation over the top of the bottom cord.

As for the slab, a carpeted slab will actually reduce the thermal mass effects of the slab because it insulates the slab surface from the indoor air. They should be fine with this modeling assumption because the primary heat loss will be through the slab perimeter

and you don't have to worry about making sure that the floor is carpeted.

As for the wall assembly, you are required to use an ASHRAE approach to build up the wall assembly in REM so you can come up with an overall component U-factor for the wall that will include sheathing, etc. From your standpoint I would make sure that they have the R-19 cavity insulation and the R-4 continuous that is called out in the wall assembly. Good question about the R-2 but in the performance approach you can pretty much model anything that the software has the capability to model unless the code specifically says no.

What you are missing is the report that shows the budget for the Standard Reference Design House (code house) and the Proposed House. This is a report that REM/Design or Rate will print out. Also the software will print out an inspection form that is similar to the one that REScheck prints out. You should require both of these.

As for Framing, Cavity and Grade. The Framing column is all of the portions of the assembly that occur at the framing in the wall for example. If you only had insulation installed between the framing you would not have anything listed in this column for insulation but this shows continuous insulation over the framing so therefore it will show up here. The cavity will only list the parts of the wall that are associated with the cavity so insulation will show up here but not the wood framing. I don't know that the Grade means as this is a new one to me.