

## IECC 2009 with Hawaii Amendments

### FREQUENTLY ASKED QUESTIONS

May 5, 2012

#### GENERAL QUESTIONS

*Code  
Reference*

**Q.** When will IECC 2009 be formally adopted?

**A.** Amendments were approved by the State Building Code Council in February 2012. The Governor's signature is expected this year. Counties are encouraged to start adoption proceedings, with the expectation that IECC 2009 will be in effect in each county at some point during 2012.

**Q.** Are the Hawaii amendments included in the ResCheck and ComCheck compliance software?

**A.** Not currently (as of March 2012), but may be available in the future.

*405 & 506*

#### ENVELOPE QUESTIONS

*Code  
Reference*

**Q.** For re-roofing of buildings that do not have roof sheathing, does the code's insulation requirement still apply?

**A.** The IECC requires that a roof be brought into compliance with insulation requirements if the sheathing or insulation is exposed during a re-roofing project. The assumption is that there is an opportunity for a cost-effective upgrade at that point, either by filling an exposed cavity with insulation, adding foam board insulation on top of the sheathing, or by some other means such as a combination of a radiant barrier and cool roof. The question is whether this requirement applies to roofs without sheathing, such as tile or shingle roofs with battens. In some of those cases a cost-effective upgrade may be feasible, while in other cases the expense to upgrade the roof may be unreasonable. Therefore, projects without roof sheathing should be judged by the building department on a case-by-case basis.

*101.4.3*

**Q.** If I am repairing a small portion of my roof and exposing the roof sheathing of that portion, do I need to upgrade the insulation?

**A.** The code does not specify a minimum area threshold for triggering the requirement to upgrade roof insulation. However, it may not be practical to, for

*101.4.3*

example, add foam board insulation on top of the sheathing on only a small portion of an existing roof. Therefore, a reasonable interpretation of the requirement is that it applies when the whole roof is being re-roofed.

**Q.** If a skylight is installed - will the entire roof need to be brought to code?

**A.** Only the skylight itself must meet the performance requirements in the code. *101.4.3*  
The remainder of the roof does not need to be upgraded.

**Q.** Why do the envelope requirements apply to unconditioned space?

**A.** The Hawaii amendments extend the scope of the envelope requirements to include habitable unconditioned space. The amendments also add several envelope compliance options that are targeted at reducing solar heat gain. The motivation for these changes is to improve occupant comfort and to reduce the chance that occupants will install air conditioners. The comfort benefits will vary and will typically be greater on leeward and sunnier portions of the islands. *HI amendment to 101.5.2*

**Q.** Is the definition of non-habitable space in the Hawaii amendments consistent with the International Residential Code (IRC)?

**A.** Not necessarily. The intent of the Hawaii amendment is to apply the envelope requirements to all portions of residential and commercial buildings that are normally used by people. Non-habitable exempt spaces in the context of the energy code are buildings or portions of buildings such as mechanical rooms or garages that have very intermittent human occupancy. *HI amendment to 101.5.2*

**Q.** Is the manufacturer's label for window solar heat gain coefficient (SHGC) required to be kept on the product?

**A.** Not beyond inspection. *303.1.3*

**Q.** Is credit given for the shading impact of a photovoltaic system on the roof?

**A.** No. The focus is on efficiency first. However, there are some exemptions in the code for systems with solar water heating. *402.1*

**Q.** In the table of R-value requirements for roof and walls, is the R-value for the insulation or the whole assembly?

**A.** The R-value listed in the table is for the insulation alone, not counting other portions of the assembly such as gypsum board. *402.1.2 & 502.1*

**Q.** If I install my roof insulation under the roof deck rather than on the floor of the attic, do I need to also include attic ventilation openings, which might penetrate the insulation?

**A.** The energy code does not require attic ventilation in combination with insulation. However other building code requirements may apply. Check with *HI amendment 402.1.6*

your building department.

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|-----------|--|---|
| <b>Q.</b> | Can you lay decking with a radiant barrier and roofing directly on top?  |   |
| <b>A.</b> | A radiant barrier requires at least a 3/4" air gap on the shiny side. The radiant barrier can be placed on the floor of the attic or under the roof, but preferred application is with shiny side down and facing an air gap.  | <i>HI amendment<br/>402.1.6.6</i>                 |
| <b>Q.</b> | What is the difference between a radiant barrier and a cool roof?  |   |
| <b>A.</b> | A cool roof is the exterior roofing surface, with high reflectance to reduce the absorption of solar radiation and high emittance to promote radiation of heat to the sky. A cool roof helps prevent the roof surface from heating up in the sun. A radiant barrier is a layer within the roof construction with a low emittance, typically a shiny metallic foil. The radiant barrier reduces the radiant heat transfer within the roof/attic construction. | <i>HI amendment<br/>402.1.6 &amp;<br/>502.2.1</i> |
| <b>Q.</b> | Are there any concerns with baking the roof with a radiant barrier?  |   |
| <b>A.</b> | A radiant barrier might cause the roof surface temperature increase somewhat, but the increase should not be enough to cause a problem for roofing materials. And the radiant barrier compliance option for residential roofs also requires ventilation, which helps mitigate roof heating.  | <i>HI amendment<br/>402.1.6.6</i>                 |
| <b>Q.</b> | Is roof insulation still required for unconditioned open metal buildings?  |   |
| <b>A.</b> | Yes, however there is an exemption available in the amendments for qualifying cool (white) roofs on commercial buildings.  | <i>HI amendment<br/>502.2.1</i>                   |
| <b>Q.</b> | How are a location's conditions accounted for, such as adjacent buildings, trees or geographical features?   |   |
| <b>A.</b> | The code does not provide credit for shading from adjacent objects. Of course, such shading can be beneficial and should be considered in the design of the building as long as the objects are expected to exist for the life of the building.  | <i>502.3.2</i>                                    |

## LIGHTING AND ELECTRICAL QUESTIONS

### *Code Reference*

- |           |  |                          |
|-----------|--|--------------------------|
| <b>Q.</b> | Does the code specify the type of base required for residential high-efficacy lighting?  |                          |
| <b>A.</b> | The code does not prohibit standard screw-base high efficacy lighting. It is recommended, however, that high-efficacy fixtures be installed that do not allow occupants to replace the high-efficacy lamps with incandescent lamps. An appropriate example is a fixture that requires pin-based compact fluorescent lamps rather than standard screw-based compact fluorescent | <i>404.1 &amp; 505.1</i> |

lamps.

**Q.** Do zones with various adjacent day-lit fixtures have to have individual controls?

**A.** Daylight zones can be combined into one large zone to meet the daylight switching requirement. For example, in a large space with multiple skylights, all fixtures within adjacent daylight zones can be switched on the same circuit. *505.2.2.3*

**Q.** How do the submetering requirements of Section 505.7 apply to grouped sub-tenants that add up to 1,000 sf?

**A.** The submetering requirement is intended to apply where a tenant occupies at least 1,000 sf of adjacent space within a building. If a tenant occupies multiple non-adjacent spaces that are each smaller than 1,000 sf, such as several small shops in different portions of a mall, then those individual spaces do not require submetering. *HI amendment 505.7*

## SYSTEMS QUESTIONS

**Code  
Reference**

**Q.** If an air conditioner is added to a previously unconditioned space, how does the code apply?

**A.** Any addition of cooling to a previously unconditioned space triggers full code compliance for the newly conditioned portion of the building. There is no minimum capacity threshold to trigger code applicability. *101.4.5*

**Q.** Will duct leakage testing be required on buildings of all types?

**A.** Duct leakage testing is required for only residential buildings with new duct systems. *403.2.2*

**Q.** Why is commissioning required?

**A.** Commissioning as defined in the Hawaii amendment Section 503.2.9 is a process to ensure that the HVAC system is installed and operated per the design intent. Commissioning has been shown to improve efficiency and comfort performance. *HI amendment to 503.2.9*