

**2015 Hawaii Energy Code
Frequently Asked Questions
5/12/2016**

	Questions and Answers	Code Reference
General Questions IECC Residential and Commercial		
Q.	When will IECC 2015 be formally adopted?	
A.	There are two paths to 2015 IECC adoption, one for the state and the other for counties. Both received approval to proceed when the Hawaii Building Code Council approved Hawaii's amendments to 2015 IECC in June 2015. The state path is at the stage of awaiting Governor's approval, followed by public hearings. This process may be completed in 2016. The county path involves adding any county amendments, approval by the mayor and three County Council hearings. Some counties may reach the adoption stage in 2016, with others adopting in 2017.	
Q.	Are the Hawaii amendments included in the RESCheck and COMCheck compliance software?	
A.	Not currently (as of May 2016), but may be available in the future. RESCheck can be used for fully conditioned residential buildings but trade-offs accounted for in Section R407 will not be available. Also Section R403.5.5 Solar Water Heating and R404.2 Ceiling Fans must be met. COMcheck can be used to demonstrate compliance with the code but trade-offs provided in Section C402.2.3 Thermal resistance of above-grade walls will not be available. Also, compliance must be demonstrated for Section C403.2.4.2.4 Door switches, C405.2.4 Specific application controls and C405.10 Sub-metering.	Hi Amendments to R403.5.5 R404.2 C402.2.3 C403.2.4.2.4 C405.2.4 C405.10
Commercial IECC Questions		
Building Envelope Questions		
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 the insulation requirements as part of a roof replacement where the existing roof covering is removed, any substrate is repaired and a new roof covering is installed. 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	Hi Amendment to C503.3.1

	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.	
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 but only requires that insulation be added where there is no insulation installed. However, it may not be practical, for example, to 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.	Hi Amendment to C503.3.1
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. The remainder of the roof does not need to be upgraded.	C503.3.3
Q.	Is the manufacturer's label for window solar heat gain coefficient (SHGC) required to be kept on the product?	
A.	Not beyond inspection.	C303.1.3 C104.2.2
Q.	Is credit given for the shading impact of a photovoltaic system on the roof?	
A.	Portions of roofs that are shaded by solar air or water heating systems or components are exempt from Section C402.3, Roof solar reflectance and thermal emittance.	C402.3
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, sheathing or studs.	C402.1.3
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 but is required in other building codes. But when attic ventilation is installed between the insulation and the conditioned space, no credit can be taken for the insulation R-value. Roof insulation should be installed in direct contact with the air barrier and is part of the building thermal envelope.	C202 C402.5
Q.	Can you lay decking with a radiant barrier and roofing directly on top?	
A.	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.	
Q.	What is the difference between a radiant barrier and a cool roof?	
A.	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	C402.3

	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.	
Q.	Is roof insulation still required for unconditioned open metal buildings?	
A.	Insulation is required if the building is considered conditioned space and where space conditioning is either directly or indirectly provided to the space. Insulation is also required over unconditioned space that is considered habitable. A space can be defined as an area surrounded by walls, roof and floor assembly.	Hi Amendment To C402.1.1 C202
Q.	How are a location's conditions accounted for, such as adjacent buildings, trees or geographical features?	
A.	The code does provide credit for shading from adjacent objects as an exemption for cool roof requirement of Section C402.3. 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.	C402.3
Lighting and Electrical Questions		
Q.	Do zones with various adjacent day-lit fixtures have to have individual controls?	
A.	Daylight zones under skylights can be combined into one large zone to meet the daylight switching requirement. For example, in a large space with multiple adjacent skylights, all fixtures within daylight zones can be switched on the same circuit. Daylight zones from vertical glazing can be combined if they are on the same orientation.	C405.2.3.1 C405.2.3.3
Q.	How do the submetering requirements of Section C405.10 apply to grouped subtenants 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 to C405.10
HVAC Questions		
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.	C503.2
Q.	Will duct leakage testing be required on buildings of all types?	
A.	Duct leakage testing is only required for high-pressure duct systems (greater than 3 inches water gauge).	C403.2.9.1.3
Q.	Why is commissioning required?	
A.	Commissioning as defined in the Section C408 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.	C408
Residential IECC Questions		

Building Envelope Questions		
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 the insulation requirements as part of a roof replacement where the existing roof covering is removed, any substrate is repaired and a new roof covering is installed. 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.	Hi Amendment to R503.1.1
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 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.	Hi Amendment to R503.1.1
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. The remainder of the roof does not need to be upgraded.	R503.1.1
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 R401.2.1
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 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.	R402.1
Q.	Is the manufacturer's label for window solar heat gain coefficient (SHGC) required to be kept on the product?	
A.	Not beyond inspection.	R303.1.3 R104.2.2
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, sheathing or studs.	R402.1.3 R402.2
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. But when attic ventilation is installed between the insulation and the conditioned space, no credit can be taken for the insulation R-value. Roof insulation should be installed in direct contact with the air barrier and is part of the building thermal envelope. Check with your building department.	R402.4 Table R402.4.1.1
Q.	Can you lay decking with a radiant barrier and roofing directly on top?	
A..	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.	Hi Amendment Table R407
Q.	What is the difference between a radiant barrier and a cool roof?	
A.	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.	Table C402.3
Q.	Are there any concerns with baking the roof with a radiant barrier?	
A.	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.	
Q.	How are a location's conditions accounted for, such as adjacent buildings, trees or geographical features?	
A.	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.	Table C402.3
Systems Questions		
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.	R503.2
Q.	Will duct leakage testing be required on buildings of all types?	
A.	Duct leakage testing is required for residential buildings with new duct systems installed in unconditioned space.	R403.3.3
Lighting Questions		
Q.	Does the code specify the type of base required for residential high-efficacy lighting?	

A.	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 lamps.	R202 R404.1
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