

2012 BEES Mandatory Measure Inspection Responsibilities

Designation	Title	Code Language	PUR-102 Inspections	Rater/AkWarm
R402.4	Air Leakage	The building thermal envelope shall be constructed to limit air leakage in accordance with the requirements of Sections R402.4.1 through R402.4.4	Except BDT	
R402.4.1	Building Thermal Envelope	The <i>building thermal envelope</i> shall comply with Sections R402.4.1.1 and R402.4.4.1.2. The sealing methods between dissimilar materials shall allow for differential expansion and contraction	Except BDT	
R402.4.1.1	Installation	The components of the <i>building thermal envelope</i> as listed in Table R402.4.1.1 shall be installed in accordance with the manufacturer's instructions and the criteria listed in Table R402.4.1.1, as applicable to the method of construction. Where required by the <i>duly authorized representative of AHFC</i> , an <i>approved</i> third party shall inspect all components and verify compliance.	ICC Responsibility	
R402.4.1.2	Testing	The building or dwelling unit shall be tested and verified as having an air leakage rate of not exceeding 5 air changes per hour in climate Zones 1 and 2, and 4 air changes per hour in Climate Zones 3 through 8. Testing shall be conducted with a blower door at a pressure of 0.2 w.g. (50 Pascals). Where required by the <i>duly authorized representative of AHFC</i> , testing shall be conducted by an <i>approved</i> third party. A written report of the results of the test shall be signed by the party conducting the test and provided to the <i>duly authorized representative of AHFC</i> . Testing shall be performed at any time after creation of all penetrations of the <i>building thermal envelope</i> .		ACH ₅₀ Blower Door Test
R402.4.1.3	Crawl Space Vapor Retarder	Exposed earth in crawl space foundations shall be covered with a continuous vapor retarder. All joints of the vapor retarder shall overlap by 6 inches (153mm) and be sealed or taped. The edges of the vapor retarder shall extend at least 6 inches (153 mm) up the stem wall and shall be attached to the stem wall. Where all-weather wood foundations are used, a separation between the crawlspace vapor barrier over the ground and stem wall vapor barrier shall be made in order to mitigate moisture migration from soils into below grade insulated all-weather wood wall assembly. Crawl space floor insulation may be installed 100% on the warm side of the crawl space vapor retarder to avoid damage to the insulation; to meet the requirements of this section, voids and air spaces should not exist between both the ground-to-vapor retarder connection and the vapor retarder-to-insulation connection.	ICC Responsibility	
R402.4.2	Fireplaces	New wood-burning fireplaces shall have tight-fitting flue dampers and outdoor combustion air.		Rater Identification in Heating Tab
R402.4.3	Fenestration Air Leakage	Windows, skylights and sliding glass doors shall have an air infiltration rate of no more than 0.3 cfm per square foot (1.5 L/s/m ²), and swinging doors no more than 0.5 cfm per square foot (2.6/L/s/m ²), when tested according to NFRC 400 or AAMA/WDMA/CSA 101/I.S.2/A440 by an accredited, independent laboratory and <i>listed</i> and <i>labeled</i> by the manufacturer.		Rater
R402.4.4	Recessed Lighting	Recessed luminaires installed in the <i>building thermal envelope</i> shall be sealed to limit air leakage between conditioned and unconditioned spaces. All recessed luminaires shall be IC-rated and <i>labeled</i> as having an air leakage rate not more than 2.0 cfm (0.944L/s) when tested in accordance with ASTM E 283 at a 1.57 psf (75 Pa) pressure differential. All recessed luminaires shall be sealed with a gasket or caulk between the housing and the interior wall or ceiling covering.	ICC Responsibility	
R402.5	Maximum Fenestration U-factor and SHGC	The area-weighted average maximum fenestration U-factor permitted using tradeoffs from Section R402.1.4 or R405 shall be 0.48 in Climate Zones 4 and 5 and 0.40 in Climate Zones 6 through 8 for vertical fenestration, and 0.75 in climate Zones 4 through 8 for skylights. The area-weighted average maximum fenestration SHGC permitted using tradeoffs from Section R405 in Climate Zones 1 through 3 shall be 0.50.	Prescriptive only as Performance method (AkWarm) score is effected by window quality.	
Section R403	Systems			
R403.1	Controls	At least one thermostat shall be provided for each separate heating and cooling system. Exception: solid fuel burning devices that are not designed to be controlled with a thermostat.	ICC Responsibility	
R403.1.2	Heat Pump Supplementary Heat	Heat pumps having supplementary electric-resistance heat shall have controls that, except during defrost, prevent supplemental heat operation when the heat pump compressor can meet the heating load.	ICC Responsibility	
R403.2.2	Sealing	Ducts, air handlers, and filter boxes shall be sealed. Joints and seams shall comply with either the <i>International Mechanical Code</i> or <i>International Residential Code</i> , as applicable.	ICC Responsibility	

2012 BEES Mandatory Measure Inspection Responsibilities

Designation	Title	Code Language	PUR-102 Inspections	Rater/AkWarm
R403.2.3	Building Cavities	Stud wall cavities and the spaces between solid floor joists to be used as air plenums shall comply with the following conditions: 1. These cavities or spaces shall not be used as a plenum for supply air. 2. These cavities or spaces shall not be part of a required fire-resistance-rated assembly. 3. Stud wall cavities shall not convey air from more than one floor level. 4. Stud wall cavities and joist-space plenums shall be isolated from adjacent concealed spaces by tight-fitting fire-blocking in accordance with Section R602.8. [there is no section R602.8] 5. Stud wall cavities in the outside walls of building envelope assemblies shall not be utilized as air plenums.	ICC Responsibility	
R403.3	Mechanical System Piping Insulation	Mechanical system piping capable of carrying fluids above 105°F (41°C) or below 55°F (13°C) shall be insulated to a minimum of R-3. Exception: piping carrying fluids above 105°F (41°C) within the thermal envelope.	ICC Responsibility	
R403.4.1	Circulating Hot Water Systems	Circulating hot water systems shall be provided with an automatic or readily <i>accessible</i> manual switch that can turn off the hot-water circulating pump when the system is not in use.	ICC Responsibility	
R403.5	Mechanical Ventilation	The building shall be provided with ventilation that meets the requirements of the ANSI/ASHRAE Standard 62.2-2010 as amended below. Outdoor air intakes and exhausts shall have automatic or gravity dampers that close when the ventilation system is not operating or positive closure that can be operated by occupants. An exterior exhaust vent shall be located to minimize exhaust air rising into an attic vent. $Q_{fan}=0.01A_{floor+10}(N_{br}+1)$	All requirements other than Flows	Flows; Whole-House and Spot
R403.6	Equipment Sizing and Installation	Heating and cooling equipment shall be sized in accordance with ACCA Manual S based on building loads calculated in accordance with ACCA Manual J or other <i>approved</i> heating and cooling calculation methodologies. The AkWarm design heating load methodology is an approved heating calculation methodology. All heating, cooling, and ventilating equipment shall be installed in accordance with the manufacturer's installation instruction and the requirements of this code. All heating and cooling equipment shall be sized to meet less than 125% of the load calculated by the method provided in ACCA Manual J or other heating and cooling load calculation methodology whenever this is feasible given the size options for the equipment available from the manufacturer; when this is not feasible, the equipment delivering the smallest output that will satisfy the load calculation shall be chosen.		AkWarm
R403.7	Systems Serving Multiple Dwelling Units	Systems serving multiple dwelling units shall comply with Sections C403 and C404 of the IECC - Commercial Provisions in lieu of Section R403. Safety factor of up to 20%.	ICC Responsibility	AkWarm; Sizing limited to 120%
R403.8	Snow Melt System Controls	Snow-and ice-melting systems, supplied through energy service to the building, shall include automatic controls capable of shutting off the system when the pavement temperature is above 50°F, and no precipitation is falling and an automatic or manual control that will allow shutoff when the outdoor temperature is above 40°F.	ICC Responsibility	
R403.9	Pools and in Ground Permanently Installed Spas	Pools and in ground permanently installed spas shall comply with Sections R403.9.1 through R403.9.3.	ICC Responsibility	
R403.9.1	Heaters	All heaters shall be equipped with a readily accessible on-off switch that is mounted outside of the heater to allow shutting off the heater without adjusting the thermostat setting. Gas-fired heaters shall not be equipped with constant burning pilot lights.	ICC Responsibility	
R403.9.2	Time Switches	Time switches or other control method that can automatically turn off and on heaters and pumps according to a preset schedule shall be installed on all heaters and pumps. Heater, pumps and motors that have build in timers shall be deemed in compliance with this requirement. Exceptions: 1. Where public health standards require 24-hour pump operation. 2. Where pumps are required to operate solar- and waste-heat-recovery pool heating systems.	ICC Responsibility	
R403.9.3	Covers	Heated pools and in ground permanently installed spas shall be provided with a vapor-retardant cover. Exception: Pools deriving over 70 percent of the energy for heating from site-recovered energy, such as a heat pump or solar energy source computed over an operating season.	ICC Responsibility	
R403.10.1	Combustion Safety Testing	A safety inspection of all combustion appliances must be completed in accordance with the Building Performance Institute standard as required in AHFC regulations. This inspection includes all of the following tests: carbon monoxide measurement at each appliance, draft measurement and spillage evaluation for atmospherically vented appliance, and worst-case negative pressure measurement for each combustion appliance zone.		Rater
Section R404	Electrical Power and Lighting Systems			
R404.1.1	Lighting Equipment	Fuel gas lighting systems shall not have continuously burning pilot lights.	ICC Responsibility	