Residential Energy Code Changes: City of St. Louis

2009 St. Louis Code Vs. 2018 St. Louis Code

Note: This document does not contain all provisions of each code;
Only the major changes to the code are listed.

Requirements	Previous St. Louis Energy Code (2009 IECC)	New St. Louis Energy Code (2018 IECC)
Insulation/ Fenestration: Table 402.1.2		
Fenestration U-factor	.40	**0.32**
Skylight U-factor	0.60	**0.55**
Glazed fenestration SHGC	NR	**0.40**
Ceiling R-value	R-30	**R-38**
Wood frame wall R-value	R-13	**R-20 or R-13+5**
Mass wall R-value	5/10	**8/13**
Basement wall R-value	R-13	**0**
Slab R-value and depth	10, 2 ft.	**10, 2 ft.** *R-5 insulation shall be provided under the full area of a heated slab
Crawl space wall R-value	R-5	**10/13**

Requirement	Previous Code	New Code
All other Requirements		
Eave Baffle	No Requirement	Prescriptive: **For air permeable insulations in vented attics, a baffle shall be installed adjacent to soffit and eave vents.** Baffles shall maintain an opening equal or greater size than the vent. The baffle shall extend over the top of the attic insulation. The baffle shall be permitted to be any solid material. (402.2.3)
Attic Access Hatch	Access hatches (from conditioned to unconditioned spaces, like attics and crawl spaces) shall be insulated to level equivalent to insulation on surrounding surfaces (402.2.3)	Access hatches (from conditioned to unconditioned spaces, like attics and crawl spaces) **shall be weather-stripped** and insulated to level equivalent to insulation on surrounding surfaces (402.2.3)
Thermally Isolated sunroom U-factor	Maximum fenestration U-factor shall be 0.50 and maximum skylight U-factor shall be 0.75. (402.3.5)	Maximum fenestration U-factor shall be **0.45** and maximum skylight U-factor shall **be 0.70**. (402.3.5)
Building Thermal Envelope Sealing	Mandatory: List of measures that must be caulked, gasketed, weather-stripped, or other wise sealed at (402.4.1)	Mandatory: 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** (402.4)
Thermal envelope testing	Deleted in St Louis amendments (402.4.2.1)	Mandatory: Must follow Table R402.4.1.1 and ALSO **use blower door test to confirm air leakage of 3 ACH50 or less**. Where required by the code official, testing shall be conducted by approved third party. (402.4.1.2)
Fireplaces	Deleted in St Louis amendments(402.4.3)	Mandatory: New wood-burning fireplaces shall have **tight-fitting flue dampers** and outdoor combustion air. (402.4.2)

Requirement	Previous Code	New Code
Rooms containing fuel burning appliances	Not Available	Where combustion air is provided to open combustion fuel appliances, **appliances and combustion air opening shall be located in an enclosed room outside the building thermal envelope or in a sealed room that is isolated from inside the thermal envelope.** (402.4.4)
Building Cavities	Mandatory: Building frame cavities can be used as supply ducts. (403.2.3)	Mandatory: Building framing cavities **shall not be used as ducts or plenums.** (403.2.3)
Duct Insulation	Supply ducts in attics shall be insulated to a minimum of R-4. Exception: Ducts or portions thereof in conditioned space (403.2.1)	**Prescriptive: Supply and Return ducts in attics shall be insulated to a minimum of R-6 or R-8, depending on diameter. All other ducts shall be insulated to a minimum of R-6 or R-4.2.** Exception: Ducts or portions in conditioned space (403.3.1)
Duct Testing	Mandatory: Ducts must be tested using a duct blaster. Prescriptive: Ducts shall be tested to meet he following specifications Post construction: Leakage to Outdoors: 8 cfm/100 sq. ft. Total Leakage: 12 cfm/100 sq. ft. Rough-in: Total Leakage: 6 cfm/100 sq. ft. Exception: Duct tightness test not required if most ducts located entirely within building envelope. (403.2.2)	Mandatory: Ducts must be tested using a duct blaster. Prescriptive: Ducts shall be tested to meet he following specifications: **Post construction:** **Total Leakage: 4 cfm/100 sq. ft.** **Rough-in:** **Total Leakage: 4 cfm/100 sq. ft.** Exception: Duct tightness test not required if all ducts located entirely within building envelope. (403.3.4)
Ducts buried within ceiling insulation	Not Available	Optional Measure: Ducts that are tested to have a maximum leakage rate **of 1.5 cfm25/100 sq. ft. to the outside, are insulated with ≥ R-8 insulation, and have at least R-19 insulation** above and to the sides of the ducts, count as being in conditioned space. (403.3.6-7)
Protection of piping insulation	No Requirement	Mandatory: **Piping insulation exposed to weather shall be protected from damage;** Adhesive tape not permitted. (403.4.1)

Requirement	Previous Code	New Code
Hot water pipe insulation	No Requirement	Prescriptive: **Insulated to R-3, ¾ or larger pipes with exceptions** (403.5.3)
Mechanical Ventilation	No whole-house continuous ventilation requirement	Mandatory: Requirement **for mechanical ventilation that meets requirements of IRC or IMC. Required in homes with an air leakage rate of 5 ACH50 or lower.** (403.6)
Lighting Equipment	Mandatory: Minimum 50 percent high-efficacy lamps (404.1)	Mandatory: **Minimum 90 percent** high-efficacy lamps (404.1)
Energy Rating Index	Not Available	**New optional performance based compliance path** based on HERS analysis. Provides an option to comply with the code by **meeting all mandatory reqs., the 2009 IECC insulation and fenestration levels (Table R402.1.2) and an ERI (HERS) score of 62. Includes heating, cooling, lighting, and equipment and appliance efficiencies in the calculation.** If on-site renewable energy is factored into the calculation, then the home must meet the 2015 IECC insulation/fenestration levels and the additional requirements listed above. (406)
ICC 400 Log Home Standard	Not Available	**ICC 400-2012 can be used as energy code compliance for log homes in the 2018 IECC.** This standard describes an alternative method for log home compliance with the building thermal requirements in the IECC.
RESNET Standards Referenced	Not Referenced	The **ANSI/RESNET/ICC 301-2014 is now a referenced standard** in the code as the basis for the ERI calculation. Additionally, **ANSI/RESNET/ICC 380-2016 is now a referenced standard** for building envelope testing.