# St. Louis 2018 IECC Energy Code - Comprehensive Field Inspection Checklist

(Southface version 10-5-21)

**Instructions/Overview**

The purpose of this checklist is to assist in field Inspection primarily for air sealing and insulation details of the 2018 IECC St. Louis Energy Code. While not every detail is included, the list below contains the majority of critical inspected items. It is likely that certain items are not applicable to all houses.
Note: St Louis amended to R-38 ceilings and R-0 basements.

The checklist has been separated into three sections, corresponding to three different stages of construction. If an item does not comply and must be remedied, or if it cannot be confirmed at this stage of construction, that item should be verified at a later inspection or, at their discretion, by photographic documentation provided to the code official. An item that is not present shall be marked "N/A".

**Permit**

Air barrier and insulation details are located on plans (as applicable).

Yes No N/A

**Pre-insulation, pre-drywall list:** (Framing rough inspection)

☐☐☐ 1. Bottom Plate sealed to slab or subfloor – gasket or sealant on inside edge
☐☐☐ 2. Bottom Plate penetrations sealed – (electrical, plumbing knockout, etc.)
☐☐☐ 3. Top Plate penetrations sealed – (electrical, plumbing knockout, etc.)
☐☐☐ 4. Exterior wall sheathing seams are sealed OR completely sealed housewrap installed on exterior (housewrap edges all sealed and housewrap penetrations sealed/repaired)
☐☐☐ 5. Cavities within headers, corners and intersecting T-walls are fully insulated
☐☐☐ 6. Attic kneewalls have blocking installed at ceiling joist intersection
☐☐☐ 7. Rim and band areas have air sealing performed
☐☐☐ 8. Windows and doors sealed into rough opening (fiberglass chinking not permissible)
☐☐☐ 9. Window spot check: U-factor and SHGC are reasonable and expected for DP low-e wood/vinyl frame. Weighted average U-factor $\leq$ 0.32, SHGC $\leq$ 0.40 (Climate Zone 4)
☐☐☐ 10. Cantilevered Floor joists have blocking (and air sealing) installed above supporting walls
☐☐☐ 11. Rafters have sufficient depth provided for insulation in vaulted ceilings
☐☐☐ 12. Chases (e.g., to attic) are capped and sealed
(chase walls have interior air barrier at insulated wall)
☐☐☐ 13. Tubs and Showers against exterior walls have insulation and sealed air barrier on interior
☐☐☐ 14. *Plumbing* penetrations sealed: through envelope floors (e.g., tub drains, supply lines, vent stacks), walls (e.g., kneewalls, crawlspaces, wall plates) and ceilings (e.g., chases and soffits)
-Hot water piping buried in slabs is insulated to R-3
☐☐☐ 15. *Electrical* penetrations sealed: Similar to plumbing, includes main service line entry
(Best practice: locate panel box in non-insulated wall)
☐☐☐ 16. *HVAC* penetrations sealed – Fuel lines and penetrations through chases sealed
☐☐☐ 17. Platforms in attics for HVAC & appliances are elevated for sufficient depth of insulation
☐☐☐ 18. Fireplace inserts –
-Sheathing in chase is sealed (or exterior housewrap sealed) before insulation installed
-Insulation coverage is complete (walls, top and bottom) and aligns with air barrier
-Fire-rated caulk sealed at flue to cap transition (and flue includes damper)
-Outside/combustion air duct installed and sealed (and includes shut off damper)
-Fuel gas penetrations are sealed.
(Best practice: fully air-seal and insulate before setting insert)

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Yes No N/A

**Pre-Drywall, post-insulation** (Insulation installed properly)

☐☐☐ 1. Wall insulation installed in substantial contact and continuous alignment with the air barrier(s)

☐☐☐ 2. Wall insulation neatly fills cavity (no voids, no insulation compression due to wiring & plumbing)

☐☐☐ 3. Attic insulation prep properly performed
- Dams and vent baffles extend over top plate of exterior walls
- Dams installed at attic access and to adjacent uninsulated areas (porches & garages, etc.)
- Insulation installed under elevated HVAC/appliance platforms in attics

☐☐☐ 4. Attic pull-down stairs sealed into rough opening

☐☐☐ 5. Cantilevered floors insulated properly (R-19)

☐☐☐ 6. Rim/band areas insulated properly (R-20)

☐☐☐ 7. Ducts insulated to R-8 in attics, R-6 in other unconditioned space.
Visually check for sealant at seams and fittings

☐☐☐ 8. Floor insulation supported and in full contact with subfloor sheathing

☐☐☐ 9. Floor assembly end-dam barriers installed under attic knee walls
(such as for bonus room floors above garages)

☐☐☐ 10. Mechanical spaces receiving outdoor combustion air have continuous, air sealed and insulated thermal envelope (walls, floors, ceiling as applicable) to isolate from main house

☐☐☐ 11. R-3 Hot water piping insulation installed (and recirculation system pipe insulation & controls)
- Piping 3/4 inch and larger in nominal diameter
- Piping serving more than one dwelling unit
- Piping located outside the conditioned space
- Piping from the water heater to a distribution manifold
- Piping located under a floor slab & buried in piping
- Supply and return piping in recirculation systems other than demand recirculation systems

Yes No N/A

**Final inspection** (confirm prior to Certificate of Occupancy)

☐☐☐ 1. Blower door and duct leakage passing results correctly displayed on energy code certificate

☐☐☐ 2. Mechanical ventilation system installed for homes < 5 ACH50

☐☐☐ 3. Duct boots insulated and sealed to drywall and/or subfloor

☐☐☐ 4. Underfloor insulation installed in complete contact with air barrier and permanently secured in place (e.g., wire staves)

☐☐☐ 5. Crawlspace has complete (min. 6-mil poly) vapor barrier (overlapped and sealed to foundation)

☐☐☐ 6. Conditioned Crawlspace Wall has insulation installed as per code (402.2.11)

☐☐☐ 7. Basement wall insulated as per code (~~R-13 cavity or R-10 continuous for CZ 4~~; amended to R-0)

☐☐☐ 8. Attic access (pull-down stairs or hatch) meets R-38 insulation and air sealing requirements
(pull-down stairs door is sealed into rough opening)

☐☐☐ 9. Utility (e.g., gas piping) penetrations sealed at exterior

☐☐☐ 10. Plumbing penetrations in drywall are sealed

☐☐☐ 11. Attic Ceiling insulation is properly installed: coverage is consistent, proper depth throughout
- Attic contains Loose-fill Insulation Card and Rulers (1 per 300 sf)
- Dams and vent baffles extend over top plate of exterior walls at eave/soffit vents
- Dams installed at attic access and to adjacent uninsulated portions (porches & garages, etc.)
- Insulation shield around appliance vent pipes and chimneys

☐☐☐ 12. Refrigerant line-set insulation is protected from elements and air sealed at envelope junction

☐☐☐ 13. Efficient lighting for 90% of bulbs– CFL's, linear fluorescent & LED (not incandescent or halogen)