

Residential Energy Code Checklist

This Residential Energy Code Checklist, created by the Smart Energy Design Assistance Center (SEDAC), is based on the Illinois Energy Conservation Code and is intended to assist code officials, architects, engineers, and other building professionals with plan review and site inspection for the Illinois Energy Code. SEDAC is the Energy Code Training Provider for the Illinois EPA Office of Energy and is not the code official nor the authority having jurisdiction. This checklist is a resource only and is not a legal interpretation of the code requirements.

For more information about SEDAC's Energy Code Training Program, please visit sedac.org/energy-code.

Project Details

| | | |
|-------------------------|------------------|--------------------------|
| Project Address: | | Permit # |
| Applicant Name: | | Checked By |
| Email | | Date |
| Telephone | Signature | Method |
| Project Type | New Construction | Renovation Addition |

Notes:

SEDAC RESIDENTIAL ENERGY CODE CHECKLIST

Required Documents:

- 1. Energy Compliance Documentation – Choose your method. All methods must meet mandatory requirements**

Select One:

Prescriptive Method

Trade Off Method – Include REScheck reports or complete Prescriptive Path checklist below.

Performance Alternative

Energy Rating Index

- 2. Mandatory Requirements – All Projects must meet the mandatory requirements of the IECC**

| Code Sections | Designer | | Plan Review | Inspection | Notes |
|---|-------------|-----|-------------|------------|-------|
| a. Certificate (R401.3) ¹ | Will Comply | | | | |
| b. Building thermal envelope (R402.4.1). Seal thermal building envelope to reduce air leakage. | Will comply | | | | |
| c. Fireplaces (R402.4.2). New wood-burning shall have tight flue dampers, or doors, and outdoor combustion air. | Will Comply | N/A | | | |
| d. Fenestration air leakage (R402.4.3). Windows, sliding glass doors and skylights must have air infiltration rate of ≤ 0.3 cfm/sf (1.5 L/s/m ²) and swinging doors air infiltration rate of ≤ 0.5 cfm/sf (2.6 L/s/m ²). | Will Comply | N/A | | | |
| Rooms with combustion appliances (R402.4.4): <ul style="list-style-type: none"> Where open combustion is provided by air ducts, place air opening and appliances outside the building thermal envelope or in an isolated enclosed room inside the thermal envelope. Seal and insulate the room based on Table R402.1.2, let walls, floors and ceilings > basement wall R-value requirement. Fully gasket the door, water lines and ducts to the room (Section R403) If air duct passes through conditioned space, insulate at $\geq R-8$ Exceptions: <ul style="list-style-type: none"> Direct vent appliances with intake and exhaust pipes installed continuously to the outside Fireplaces and stove complying with Section R402.4.2 and Section R1006 of the International Residential Code | Will Comply | N/A | | | |
| e. Recessed Lighting in thermal envelope (R402.4.5). Must be IC-rated and labelled with air leakage rate ≤ 2.0 cfm (1.5 L/s), at pressure differential of 1.57 psf (75Pa). | Will Comply | N/A | | | |
| f. Fenestration: Maximum Fenestration U-Factor and SHGC (R402.5). Area-weighted average fenestration U-Factor | Will Comply | N/A | | | |

¹ New Construction Only

^c See IECC Code, Table R405.5.2(1), footnote (c) for storage definition

^d See IECC Code, Table R405.5.2(1), footnote (d) for proposed design with and without multiple systems

^e See IECC Code, Table R405.5.2(1), footnote (e) for proposed heating systems with federal minimum efficiency assumed

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|--|-------------|-----|-------------|------------|-------|
| g. Heated Water Circulation and temperature maintenance systems (R403.5.1). There must be a circulation pump with the system. Automatic on/off. | Will Comply | N/A | | | |
| h. Programmable thermostat (R403.1.1) for each HVAC system. Must be capable of daily schedule control. | Will Comply | N/A | | | |
| i. Heat Pump Supplementary heat (R403.1.2) with supplementary electric resistance shall have controls. | Will Comply | N/A | | | |
| j. Sealing (R403.3.2) Ducts, air handlers and filter boxes shall be sealed. Air handlers need manufacturer's air leakage designation of ≤2% of design flow rate.(ASHRAE 193). | Will Comply | N/A | | | |
| k. Duct Testing (R403.3.3). Pressure test to determine air leakage | Will Comply | N/A | | | |
| l. Mechanical system, piping insulation (R403.4). R3 minimum for > 105°F (41°C) or <55°F (13°C). Piping insulation exposed to weather damage must be protected. Protection must shield from solar radiation. Adhesive tape is banned. | Will Comply | N/A | | | |
| m. Building cavities (R403.3.5). Framing cavities must not be used as ducts or plenums. | Will Comply | N/A | | | |
| n. Mechanical Ventilation (R403.6). Shall comply with the International Residential Code or International Mechanical Code. | Will Comply | N/A | | | |
| o. Equipment Sizing and efficiency (R403.7) Heating/Cooling equipment sized per ACCA Manuals S based on building loads calculated in accordance with ACCA Manual J or approved methodology. | Will Comply | N/A | | | |
| p. Systems serving multiple dwelling units (R403.8). Must comply with commercial building sections C403 and C404 of the IECC. | Will Comply | N/A | | | |
| q. Snow melt and ice system controls (R403.9). System powered through building service needs automatic on/off controls at pavement temps >50°F (10°C) and no precipitation falling, and outdoor temps >40°F (4.8°C). | Will Comply | N/A | | | |
| r. Pool and Permanent Spa Heaters (R403.10.1). Readily accessible on-off switch. Exterior to heater panel, or external and within 3 feet (914mm) of the heater. | Will Comply | N/A | | | |
| s. Pool and Permanent Spa Time Switches (R403.10.2). Automatic on/off switch according to schedule. Exceptions - public health standard requires 24 hr pumping or solar and waste-heat recovery pumps. | Will Comply | N/A | | | |
| t. Pool and Permanent Spa Covers (R403.10.3). vapor-retardant or approved means required for outdoor heated pools and outdoor permanent spas. Exception when >75% of heating, >3months from a heat pump or renewables. | Will Comply | N/A | | | |
| u. Portable spas (R403.11). Controlled by requirements of APSP-14. | Will Comply | N/A | | | |
| v. Lighting Equipment (R404.1) Min. 90% of installed lighting fixtures = high-efficacy lamps as defined in Illinois Amendments. NO continuous pilot gas lighting. | Will Comply | N/A | | | |