

2024 Vermont Residential Building Energy Standards (RBES) Certificate (Page 1 of 2)

This certificate is for projects started on or after July 1, 2024.
Before completing this form, refer to the instructions in Chapter 9 of the Residential Energy Code Handbook (6th edition).
For additions, alterations, renovations, or repairs, fill out only the applicable portions of certificate.

Property Address (Street, City, ZIP Code) _____

Construction START Date _____

Construction FINISH Date _____

Act 250 (Y/N) _____

Act 250 Permit # _____

Units _____

Stories _____

Conditioned Sq. Ft. _____

Bedrooms _____

Foundation Type: Basement Slab On Grade Crawl Space Other

Applicable Code Base Stretch

Project Description

Single Family Renovation/Alteration* Multi-family Addition*

*Existing home project description: _____

Compliance Method

**MUST select Option 1,
Option 2, or Option 3**

Option 1: Package-Plus-Points

BASE / STRETCH (circle one)

Package # _____

Points required: _____

Points achieved: _____

(Base requires up to 10pts/ Stretch up to 15pts; See Handbook Tables 5-2 and 5-5)

Reference RBES for full requirements of each point option

Option 2: REScheck

software (cannot be used for Stretch Code)

_____ Passes

UA result _____

Max. UA _____

Option 3: HERS/ERI

_____ HERS Result (Overall)

_____ HERS without Renewables

_____ HERS software used, version #

IAF incorporated into model

Approved rater name: _____

(Maximum HERS 60 Base, 59 Stretch)

I certify to _____ (Owner) that the above information is correct and that the premises listed have been constructed in accordance with the Vermont Residential Building Standards (RBES) created under 30 V.S.A. § 51.

Date: _____

Signature: _____

Company: _____

Printed Name: _____

Phone: _____

30 V.S.A. § 51 requires this certificate label to be permanently affixed to the inside electrical service panel or heating or cooling equipment or nearby in a visible location. Copies of the certificate (and Home Energy Rating Certificate if Option 3 is used) also must be provided to 1) the Dept. of Public Service, 112 State St., Montpelier, VT 05602, and 2) the town clerk of the town where the property is located.

NOTE: Noncompliance with RBES may result in action for damages under 30 V.S.A. § 51. This label does not specify all 2024 RBES requirements.

QUESTIONS? CALL the Energy Code Assistance Center at 855-887-0673 or the VT PUBLIC SERVICE DEPARTMENT at 802-828-2811.

Town clerk recording stamp:

SPAN # _____

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Building Technical Details (Page 2 of 2)

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For use with the Package Plus Points compliance method only:

- Envelope: Slab, R-20 around perimeter and below entire slab (2 pts)
- Envelope: Walls-R-28 2x6 cavity insulation with continuous (1 pt)
- Envelope: Walls- R-35 double stud or similar (cavity and continuous) (2 pts)
- Envelope: Walls- R-40 double stud or similar (cavity and continuous) (3 pts)
- Envelope: R-48 SIP 10 1/4" XPS or similar (cavity and continuous) (4 pts)
- Envelope: Ceiling, R-60 flat / 49 sloped (1 pt)
- Envelope: Ceiling, R-80 flat / 60 sloped (2 pts)
- Envelope: Floors- exposed, R-49 (1pt)
- Envelope: Windows 0.27 (1 pt)
- Envelope: Windows 0.25 (2 pts)
- Envelope: Windows 0.21 (3 pts)
- Envelope: Windows 0.18 (4 pts)
- Envelope: Doors - exterior, 0.26 (1 pt)
- ≤ 0.11 CFM50/Sq.Ft.(~1.5 ACH50) (1 pt)
- ≤ 0.07 CFM50/Sq.Ft.(~1.0 ACH50) (2 pt)
- ≤ 0.03 CFM50/Sq.Ft.(~0.5 ACH50) (3 pt)
- Balanced ventilation with ECM fans and $\geq 80\%$ SRE and ≥ 1.2 cfm/watt (3 pts)
- Balanced ventilation with ECM fans and $\geq 70\%$ SRE, and ≥ 2.0 cfm/watt (3 pts)
- Mechanical ventilation testing (1 pt)
- ENERGY STAR basic equipment (1 pt)
- HVAC (whole building) ENERGY STAR v.6 (5 pts)
- HVAC (whole building) is GSHP and ENERGY STAR labeled (10 pts)
- HVAC (whole building) is ATWHP COP ≥ 2.5 (5 pts)
- Whole building heating/cooling is Advanced wood heating system (<http://www.rerc-vt.org>) (5 pts)
- Hydronic distribution system meets building peak heating demand with 120-degree water (1 pt)
- All electric heating thermostats provided with demand responsive controls (1 pt)
- Electric Heat Pump Water Heater UEF ≥ 2.20 (3 pts)
- Electric Heat Pump Water Heater UEF ≥ 3.30 (5 pts)
- All showerheads ≤ 1.75 gpm, all lavatory faucets ≤ 1.0 gpm, and all toilets ≤ 1.28 gpf (1 pt)
- Certified water efficient design per WERS, WaterSense, or RESNET HERSH2O (2 pts)
- Drain water heat recovery system on primary showers and tubs (1 pt)
- Controlled hot water recirculation system with user-demand via push-button for furthest fixtures (1 pt)
- All service hot water piping is insulated to at least R-4 from the hot water source to the fixture shutoff (1 pt)
- Electric storage water heater(s) provided with demand responsive controls (1 pt)
- Remote fixtures requiring hot water supplied from a localized source of hot water with no recirculating system (1 pt)
- Follow R402.7 Solar -ready zone requirements (Base Code only) (2 pts)
- Solar hot water system designed to meet at least 50% of the annual hot water load (2 pts)
- Solar PV (or other on-site renewable energy system), (1 pt per 1.5 kW, max. 4 pts)
- Whole building energy monitoring system installed, minimum 5 circuits & homeowner access to data (1 pt)
- Radon mitigation system (1 pt)
- Building energy model with projected annual energy use and costs developed, used in design and construction decisions, and provided to homeowner (1 pt)
- Minimum 6 kWh grid-connected dispatchable demand-response-enabled battery (1 pt)
- Advanced lighting controls (2 pts)
- Insulation embodied carbon emissions calculated (1 pt)
- Insulation embodied carbon emissions: calculated GWP intensity (kg CO₂e/sq. ft.) less than 0.5. (2 pts)
- Insulation embodied carbon emissions: calculated insulation GWP intensity (kg CO₂e/sq. ft.) less than 0. (3 pts)
- Multifamily: Efficient elevator equipment (1 pt)
- Multifamily: Residential kitchen equipment (2 pts)
- Multifamily: Water heating system submeters (1 pt)

Thermal Envelope

Basement R- _____ Basement / Crawl Space Walls _____ Basement Insulation Depth (ft) U- _____ Basement Windows NFRC Default
Slab R- _____ Unheated Slab (Under) R- _____ Heated Slab (Under) R- _____ Perimeter Slab Edge
Wall/Ceiling R- _____ Above-Grade Walls R- _____ Flat Ceilings _____ Area (sq ft) R- _____ Sloped Ceilings _____ Area (sq ft)
Other R- _____ Floors over Unheated Spaces R- _____ Attic Access Hatch / Door NA
Fenestration U- _____ Windows NFRC Default U- _____ Doors NFRC Default U- _____ Skylights NFRC Default

Air Sealing/Blower Door Test

_____ CFM50 Date of test _____
_____ ACH50 Air Leakage Tester Name: _____
_____ CFM50/sq ft of building shell (6 sides)

Ventilation System

Balanced, SRE _____ % CFM/watt: Flow verification: Rated, OR Measured _____ Exhaust airflow (total cfm) _____
Supply airflow (total cfm)
Other _____ Flow verification: Rated, OR Measured _____ Exhaust airflow (total cfm) _____

Combustion Safety (verify all)

- Exterior (outdoor) air supply is provided for solid fuel-burning appliances & fireplaces, OR NA (no solid fuel burning appliance or fireplace in home)
- Solid fuel burning appliances & fireplaces have gasketed doors with compression closure, OR NA (no solid fuel burning appliance or fireplace in home)

Mechanical System (must complete all)

- Spillage testing conducted on combustion equipment not directly-vented, OR NA (no equipment, or all equipment directly-vented)

Design Load Calculation Method: ACCA Manual J, OR Other Approved Method (List) _____

Calculation details: (Ref. RBES R302 for design temperature exceptions)

_____ Winter design temp, outdoor dry-bulb (VT range: -11 to 1°F) _____ Summer design temp, outdoor dry-bulb (typ. max. 84°F), OR No cooling
_____ Winter design temp, indoor (max 72°F) _____ Summer design temp, indoor (min. 75°F), OR No cooling
_____ Heating design load, Btu/hr _____ Cooling design load, Btu/hr, OR No cooling
_____ Primary heating system size, Btu/hr _____ Primary cooling system size, Btu/hr, OR No cooling
_____ HSPF or COP or AFUE (circle which) _____ SEER or COP (circle which), OR No cooling

System type (ducted, hydronic, heat pump, space heater) _____

Fuel type _____

- Programmable thermostat, OR Exempt; list reason _____

Ducts

- Ducts located within conditioned spaces, OR NA (no ducts)

Other

- Automatic or gravity dampers for ventilation system intake and exhaust
- Mandatory (Base and Stretch): Mechanical system piping, min. R-4 Single-family: One Level 2 capable EV-charging parking space
- 100% of lamps high efficacy Multi-family: One Level 2 capable EV-charging parking space
- Mandatory (Stretch Code Only): Single-family: Solar ready 25% of provided spaces not utilized by dwelling units, or 40 spaces are Level 2 capable EV-charging
- Where applicable: Circulating service hot water controlled Pools: All requirements per R403.10 are met Automatic controls for snow-melt systems