



# Efficiency Vermont Certified 3.0

## Building Specification Information Guide

Homes earning the **Efficiency Vermont Certified 3.0** specifications must meet the specification in its entirety. By completing and submitting the **Efficiency Vermont Certified 3.0** checklist found on the Incentive, the builder is affirming that the home meets the following specifications:

### Appliances

- Major appliances are ENERGY STAR labeled, meeting the ENERGY STAR specification in effect at the time the home is under construction: refrigerator, dishwasher, clothes washer.

### Insulation installation

- All insulation graded highest quality (Grade I) by the Energy Rater, and installed following manufacturer's requirements. No uninsulated areas of the building enclosure. All fiber insulation enclosed on six sides.

### Slab insulation

- Minimum R-20 under-slab insulation, covering the entirety of the under-slab area.
- Minimum R-20 slab-edge insulation, except slabs that are below grade
  - Any slab that is within 12" of grade must be insulated at the edge
  - Portions of the slab that are more than 12" below grade do not require slab-edge insulation
  - Slab-edge insulation must insulate the slab from ambient conditions. Vertical insulation that terminates under the slab does not qualify.

### Foundation wall insulation

- Minimum R-20 continuous insulation on the inside or outside of the foundation wall. Insulation must cover the entire wall from the footing to the top of the wall, and be sealed to wall so as to prevent air movement between the insulation and the foundation wall.
- OR Minimum R-23 total, with no less than R-10 continuous insulation. Insulation must cover the entire wall from the footing to the top of the wall, and be sealed to wall so as to prevent air movement between the insulation and the foundation wall.

### Floor insulation

- Minimum R-38 cavity insulation.
- OR Minimum R-35 total, with no less than R-5 continuous insulation.

### Wall and band joist insulation

- Minimum R-32 total, with no less than R-12 continuous

### Ceiling insulation

- Attic, scissor truss, crawlspace or other insulated ceiling with unconditioned space above: Minimum R-60.
- Sloped ceilings with no space deeper than 1" between insulation and roof deck: Minimum R-49.

### Windows (meet both)

- Maximum U 0.21 and Triple-pane

### Doors

- Maximum U 0.26

## Air leakage

- 1 ACH50 as measured by a RESNET-certified Energy Rater. Single-point tests may be used without accuracy adjustment to meet this requirement provided measured leakage is air density (temperature)-adjusted and baseline range is less than 5 pascals.
- For the purposes of calculating ACH50 the volume of all spaces within the pressure boundary of the house are included.
- Heated garages may be excluded from the tested leakage space and from the ACH50 calculation provided there is a complete thermal boundary between the house and the garage.
- 0.06 cfm/sf surface may be used as an alternative to 1 ACH50 standard (especially for small homes).\*

*\*For purposes of calculating CFM/SQ, include all six sides of the home inside the pressure boundary including below grade surfaces and common walls.*

## Ventilation

- Whole home ventilation – qualifying balanced heat- or energy recovery ventilation serving all bedrooms and the main living area. Controls must be capable of providing fresh air at a rate complying with any of these standards:

		Ex. 1,500 sq. ft. 2-bed	Ex. 2,000 sq. ft. 3-bed
<b>ASHRAE 62.2 2013</b>	3 cfm per 100 sf floor area plus 7.5 cfm per bedroom-plus-one	68 CFM	120 CFM
<b>BSC-01</b>	1 cfm per 100 sf floor area plus 7.5 cfm per bedroom-plus-one	38 CFM	50 CFM
<b>PHIUS</b>	0.3 ACH or 18 cfm per bedroom-plus-one	98 CFM	130 CFM
<b>RBES 2020</b>	25 cfm per bedroom-plus-one	75 CFM	100 CFM

[See a list of qualifying ventilation models HERE.](#)

- Local exhaust ventilation:
  - Bathrooms: minimum 20 cfm continuous or 50 cfm on demand
  - Kitchen: minimum 30 cfm continuous or 100 cfm on demand

## Lighting

- 100% of permanently-installed lighting must be ENERGY STAR labeled or have ENERGY STAR labeled bulbs, including:
  - Over the range
  - Exterior lighting
  - Garage lighting
- Not including: closets and unfinished spaces.

## Heating, cooling and water heating

- ENERGY STAR labeled
  - Distribution/ductwork entirely within the thermal enclosure of the building
  - Air-to-air heat pumps must be listed on NEEP's cold climate heat pump list
  - Air-to-water heat pumps must earn Efficiency Vermont's AWHP incentive
  - Electric resistance supplemental heat must have controls preventing operation at 5F or higher

## Bathroom water fixtures

- All bathroom faucets, showerheads and toilets are WaterSense labeled. WaterSense Products | US EPA

## Technical Details *(examples)*

- Slab on grade

