



Town of Wayland
BUILDING DEPARTMENT
ENERGY CONSERVATION APPLICATION FORM

STRETCH ENERGY CODE
(780 CMR Appendix AA & IECC 2015)
COMPLIANCE FOR ONE & TWO-FAMILY RESIDENTIAL CONSTRUCTION

Applicant Name: _____

Job Address: _____

Applicant Signature: _____

Date of Application: _____

Please check appropriate box:

☐ New Construction- 401.2 (1 & 2 Family Dwellings) requires a HERS index rating as verified by a RSNET certified HERS rater:

Name & Reg.# of HERS rater: _____

- a. Units 3,000 sq. ft. of conditioned space, a HERS rating of 55 or less is required.
- b. Units <3,000 sq. ft. of conditioned space, a HERS rating of 70 or less is required.
- c. All units shall comply with the Energy Star Qualified Thermal Bypass Inspection Checklist.

☐ Additions (Circle Option #1 or #2):

1. Prescriptive Options (401.3) shall conform to IECC 2015 Chapter 4 and demonstrate compliance with:

- a. The Energy Star Qualified Homes Thermal Bypass Inspection Checklist.
- b. Fenestration u-factor requirements as listed in Energy Star Program for Doors, Windows & Skylights.
- c. Ducts sealed and tested with leakages 4 cfm per 100 sq. ft. of conditioned floor area.
- d. Indicate insulation R-Values and fenestration U-Factors below:

R-Values Wall: _____ Ceiling Floor: _____ Slab: _____ Basement Wall: _____

U-Factors Windows: _____ Doors: _____ Skylights: _____

2. Performance Option (401.4):

Name & Reg. # of HERS rater: _____

- a. Units 3,000 sq. ft. of conditioned space, a HERS rating of 65 or less is required.
- b. Units <3,000 sq. ft. of conditioned space, a HERS rating of 70 or less is required.
- c. All units shall comply with the Energy Star Qualified Homes Thermal Bypass Inspection Checklist.

☐ Alterations, Renovations or Repairs (Circle Options #1 or #2):

1. Prescriptive Option (401.5) shall conform to IECC 2015 Chapter 4 and demonstrate compliance with:

- a. The Energy Star Qualified Homes Thermal Bypass Inspection Checklist.
- b. Fenestration u-factor requirements as listed in Energy Star Program for Doors, Windows & Skylights.
- c. Ducts sealed and tested with leakages 4 cfm per 100 sq. ft. of conditioned floor area.
- d. Indicate insulation R-Values and fenestration U-Factors below:

R-Values Wall: _____ Ceiling Floor: _____ Slab: _____ Basement Wall: _____

U-Factors Windows: _____ Doors: _____ Skylights: _____

2. Performance Option (401.6):

Name & Reg. # of HERS rater: _____

- a. Units 3,000 sq. ft. of conditioned space, a HERS rating of 65 or less is required.
- b. Units <3,000 sq. ft. of conditioned space, a HERS rating of 70 or less is required.
- c. All units shall comply with the Energy Star Qualified Homes Thermal Bypass Inspection Checklist.

☐ Residential Windows, Doors & Skylights- Energy Star Fenestration U-Factor Requirements (see reverse side)

#of Windows U-Factor(s) _____

#of Doors U-Factor(s) _____

#of Skylights U-Factor(s) _____

Note: Please leave manufacturing stickers on windows for inspection verification

2015 IECC MANDATORY REQUIREMENTS

401.3	Certificate- Posted on or near Elec Panel and list R&U values- equip efficiency
402.4	Air Leakage- Building Thermal Envelope sealed to limit infiltration
402.4.3	Fireplace- Shall have gasket doors and outdoor combustion air
402.5	Maximum U Value
403.1	Systems Control- One programmable thermostat for forced air system
403.2.2	Duct Sealing- All ducts shall be sealed
403.2.3	Building Cavities- Framing cavities shall not be used as supply ducts
403.3	Mechanical System Piping Insulation- Minimum insulation of R-3
403.4	Circulating Hot Water System- Minimum insulation of R-2
403.5	Mechanical Ventilation- Intake & Exhaust shall have automatic or gravity dampers
403.6	Equipment Sizing- In accordance with ACCA manuals per MI401.3 of IRC
403.7	Systems Serving Multiple Dwellings Units- Sec Sections 503 & 504 of IECC 2009
403.8	Snowmelt Systems Controls- Provide automatic or manual shutoff controls
404.1	Lighting Equipment- Min. of 50% of lighting fixtures shall be high-efficacy lamps

**TABLE 402.1.2 CLIMATE ZONES 5 ONLY
INSULATION REQUIREMENT BY COMPONENT³**

Climate Zone	Ceiling R-Value	Wood Frame-Wall R-Value	Mass Wall R-Value	Floor R-Value	Basement Wall R-Value	Slab R-Value & Dept11	Crawl Space Wall R-Value
5 (MA)	49	20 or 13+15"	13/17	30&	15/19	10.2 ft.	15/19

Footnotes (Modified for Climate Zone 5 Only):

- a. R-values are minimums. U-Factors are maximums. R-19 batts compressed into a nominal 2x6 framing cavity such that the R-Value is reduced by R-1 or more shall be marked with the compressed batt R-Value in addition to fill thickness R-Value.
- b. "10/13" means R-10 continuous insulated sheathing on the interior or exterior of the home or R-13 cavity insulation at the interior of the basement wall.
- c. R-5 shall be added to the required slab edge-R-values for heated slabs. Insulation depth shall be the depth of the footing or 2 feet, whichever is less in Zones 1 through 3 for heated slabs.
- d. Or insulation sufficient to fill the framing cavity, R-19 minimum.
- e. "13+5" means R-13 cavity insulation plus R-5 insulated sheathing. If structural covers 25 percent or less of the exterior insulating sheathing is not required where structural sheathing is used. If structural sheathing covers more than 25 percent of exterior, structural sheathing shall be supplemented with insulated sheathing of at least R-2.
- f. The second R-value applies when more than half the insulation is on the interior of the mass wall.

ENERGY STAR FENESTRATION U-FACTOR REQUIREMENTS FOR RESIDENTIAL DOORS, WINDOWS & SKYLIGHTS

Windows		Doors			Skylights	
U-Factor	SHGC	Glazing Lv1	U-Factor	SHGC	U-Factor	SHGC"
0.30	Any	Opaque	0.21	No rating	0.55	any
=0.31	0.35	/11 lite	0.27	0.30		
=0.32	0.40	>Y:z lite	<0.32	<0.30		

a. SHGC= Solar Heat Gain Coefficient