

---

**CHAPTER 4 – ADVANCED RESIDENTIAL ENERGY EFFICIENCY**

*401 Replace this entire section with:*

**401.1 Scope.** This chapter applies to residential buildings.

**401.2 New construction.** New low-rise (three stories or less) residential buildings including townhouses shall require a HERS (Home Energy Rating System) index rating as verified by a RESNET (Residential Energy Services Network) certified HERS rater.

- For units equal to or greater than 3,000 sq ft in conditioned floor space, a HERS rating of 65 or less is required.
- For units less than 3,000 sq ft, a HERS rating of 70 or less is required.
- In addition, all new construction shall demonstrate compliance with the Energy Star Qualified Homes Thermal Bypass Inspection Checklist<sup>1</sup>.

**401.3 Prescriptive option for residential additions.** Additions to an existing building, building system or portion thereof shall conform to IECC 2009 Chapter 4, and shall further demonstrate compliance with:

- The Energy Star Qualified Homes Thermal Bypass Inspection Checklist<sup>1</sup>.
- Fenestration U-factor requirements as listed in Energy Star program requirements for Residential Doors, Windows and Skylights - Version 5<sup>2</sup>
- Ducts for new HVAC systems shall be sealed and tested post-construction to demonstrate leakage to outdoors of less than or equal to 4 cfm per 100 ft<sup>2</sup> of conditioned floor area, except where the air handler and all ducts are located within *conditioned space*.

**401.4 Performance option for residential additions.** The performance approach and HERS ratings of 401.2 may be followed in lieu of the prescriptive requirements of 401.3

**401.5 Prescriptive option for alterations, renovations or repairs.** Alterations, renovations or repairs that involve accessing the building envelope shall require the affected portion of the envelope to comply with 401.3. Envelope insulation shall meet or exceed IECC 2009 requirements (Chapter 4, Section 402) for climate zone 5, or fully fill existing cavities with insulating material which meets or exceeds an R value of R 3.5/inch.

**401.6 Performance option for alternations, renovations or repairs.** In all cases of alternations, renovations or repairs the performance approach of 401.2 may be

followed in lieu of the prescriptive requirements of 401.5 with the following HERS rating requirements:

- For units equal to or greater than 2,000 sq ft in conditioned floor space, a HERS rating of 80 or less is required.
- For units less than 2,000 sq ft, a HERS rating of 85 or less is required.
- Compliance with the Energy Star Qualified Homes Thermal Bypass Inspection Checklist.

---

<sup>1</sup> [http://www.energystar.gov/ia/partners/bldrs\\_lenders\\_raters/downloads/Thermal\\_Bypass\\_Inspection\\_Checklist.pdf](http://www.energystar.gov/ia/partners/bldrs_lenders_raters/downloads/Thermal_Bypass_Inspection_Checklist.pdf)

<sup>2</sup> [http://www.energystar.gov/ia/partners/prod\\_development/archives/downloads/windows\\_doors/WindowsDoorsSkylightsProgRequirements7Apr09.pdf](http://www.energystar.gov/ia/partners/prod_development/archives/downloads/windows_doors/WindowsDoorsSkylightsProgRequirements7Apr09.pdf)