



2015 NGBS Energy Efficiency Testing Requirements – Guidance

11.19.2019

General Chapter 7 Guidance

1. Energy efficiency baseline of the 2015 NGBS is the 2015 IRC, IBC, and IECC
2. Practices typically **do not** award points if required by the 2015 IECC, regardless of local building code and/or local amendments to the building code.
3. There are four energy compliance paths:
 - a. Performance
 - b. Prescriptive
 - c. HERS Index Target Path
 - d. Alternative bronze or silver for ENERGY STAR Certified Home or MFHR
4. Items listed a Mandatory in 701.4 apply to all paths.
5. Multifamily buildings four or more stories are deemed to comply with 701.4.3.1 and 701.4.3.2 if the building complies with 2015 IECC C402.5 BUT Grade 1 insulation is still mandatory for NGBS compliance.
6. Buildings located in the Tropical Climate Zone have some specific compliance requirements/waivers.
7. This guidance is intended to supplement, not substitute for the **2015 NGBS** – that is always the definitive compliance manual or the **Verifiers Resource Guide** which is updated monthly and may have more detailed guidance.

Building Envelope Tightness Testing

Overview: Generally, building envelope testing is mandatory for the NGBS for single-family and multifamily buildings 3-stories and below, but testing is not required for multifamily buildings 4-stories and above. Sampling is allowed for multifamily buildings – see sampling section below.

701 Minimum Energy Efficiency Requirements

- 701.4.3.2: Building envelope testing is **Mandatory**. This section does not have performance criteria requirements, but the prescriptive path does for single-family and multifamily ≤ 3-stories.
- 701.4.3.2(1) allows sampling for testing: “Multifamily Building Note: Testing by dwelling units, groups of dwelling units, or the building as a whole is acceptable.” See below for additional guidance on sampling.
- 701.4.3.2(2) requires visual inspection.

702 Performance Path

- This section does not address building envelope testing, but testing is **Mandatory** per 701.4.3.2 above.
- Points available per 705.6.2.1*

703 Prescriptive Path

- 703.1.2: Building envelope testing is **Mandatory AND** must comply with 2015 IECC R402.4.1.2 (applies to single-family and multifamily \leq 3-stories and includes requirements for blower door testing criteria, e.g., 3 or 5 ACH50) **OR** C402.5 (applies to multifamily \geq 4-stories and does not require building envelope testing; where testing is used for compliance the air leakage metric is \leq 0.40 cfm/ft² when tested at 75 Pa).
- Points available per 703.2.4 or 705.6.2.1 but not both*

Chapter 11 Renovation

- 11.701.4.3.2: Same requirements as for new construction; for buildings \leq 3-stories, building envelope testing is **Mandatory**, but this section does not have performance criteria requirements.
- Test results must be used in the energy model to determine the reduction in energy consumption for compliance with Table 305.3.5.
- Sampling allowed for testing.
- 11.701.4.3.2(2) requires visual inspection to the extent possible as allowed by the proposed renovation.

Duct Leakage Testing

Overview: Generally, duct leakage testing is mandatory for the NGBS Prescriptive Path for single-family and multifamily buildings 3-stories and below, but testing is not required for the NGBS Performance Path; testing is also not required for multifamily buildings 4-stories and above. Sampling is allowed for multifamily buildings – see sampling section below.

701 Minimum Energy Efficiency Requirements

- Section 701 does not address duct leakage testing or sampling.

702 Performance Path

- This section does not address duct leakage testing.
- Points available per 705.6.2.3 for multifamily buildings \geq 4-stories and buildings in the Tropical Zone*

703 Prescriptive Path

- 703.1.3: Duct leakage testing is **Mandatory AND** must comply with IECC R403.3.2 through R403.3.5 (these IECC sections apply to single-family and multifamily \leq 3-stories and include requirements for duct testing criteria, e.g., 4 CFM25/100SFcfa, testing not required where 100% ducts + air handler are inside conditioned space; these IECC sections do not apply to multifamily \geq 4-stories).
- Points available per 703.4.4 or 705.6.2.3 but not both*

Renovation/Remodeling Testing

- Building envelope testing is not required if renovation does not affect the building envelope.
- Duct leakage testing is not required if the ducts are not replaced.

Sampling for Testing

- Allowed for units in multifamily buildings, per the RESNET sampling protocol. Units in buildings, not buildings in projects.
- Verifiers must keep detailed testing documentation for units sampled and may be audited on the test results.
- Not allowed for insulation grading AND Grade 1 mandatory.
- Not allowed for single-family homes – no exceptions.
- Not allowed where the jurisdiction does not permit sampling.
- Allowed for these sections:
 - 703.1.2 Building Envelope Leakage
 - 703.1.3 Duct Testing
 - 705.6.2 Testing
- Visual inspection of each dwelling unit is **mandatory** and may not may not be sampled. That means that the Verifier must visit each unit, even if that unit will not be specifically tested for air leakage or building envelope tightness.

*Points are available in 705.6.2.1 and 705.6.2.3 only where testing is not required by the 2015 IECC, i.e., in the Tropical Zone or for multifamily buildings ≥ 4-stories.