

Additional Forms Required

- Appendix R-1 Energy Efficiency Certificate
 - From 2018 NC Residential Code, Pg R-37
- Appendix E-3A Air Sealing: Visual Inspection Option
 - From 2018 NC Residential Code, Pg 641
- Appendix E Duct Sealing: Duct Air Leakage Test
 - From 2018 NC Residential Code, Pg 650

These are required prior to issuance of Certificate of Occupancy.

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Appendix R1

RESIDENTIAL REQUIREMENTS

(Appendix exclusive to the State of North Carolina)

Appendix R1.1 Energy Efficiency Certificate (Section R401.3)

**TABLE R401.3
ENERGY EFFICIENCY CERTIFICATE**

Builder, Permit Holder or Registered Design Professional	
Print Name: _____	
Signature: _____	
Property Address:	
Date:	
Insulation Rating - List the value covering largest area to all that apply	R-Value
Ceiling/roof:	R-
Wall:	R-
Floor:	R-
Closed Crawl Space Wall:	R-
Closed Crawl Space Floor:	R-
Slab:	R-
Basement Wall:	R-
Fenestration:	
U-Factor	
Solar Heat Gain Coefficient (SHGC)	
Building Air Leakage	
<input type="checkbox"/> Visually inspected according to R402.4.2.1 OR <input type="checkbox"/> Building Air Leakage Test Results (Sec. R402.4.2.2) ACH50 [Target: 5.0] or CFM50/SFSA [Target: 0.30]	
Name of Tester / Company:	
Date:	Phone:
Ducts:	
Insulation	R-
Total Duct Leakage Test Result (Sect. R403.3.3)	
Check One (Total duct leakage test)	
<input type="checkbox"/> (CFM25 Total/100SF) [Target: 5] <input type="checkbox"/> (CFM25 Total/100SF) [Target: 4]	
Name of Tester / Company:	
Date:	Phone:
Certificate to be displayed permanently	

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APPENDIX E-3: SAMPLE WORKSHEETS FOR RESIDENTIAL AIR AND DUCT LEAKAGE TESTING

APPENDIX E-3A: Air sealing: Visual inspection option (Section N1102.4.2.1)

Sample Worksheet

N1102.4.2 Air sealing. Building envelope air tightness shall be demonstrated by Section N1102.4.2.1 or N1102.4.2.2.

N1102.4.2.1 Visual inspection option. Building envelope tightness shall be considered acceptable when items providing insulation enclosure in Section N1102.2.14 and enclosure and

air sealing in Section N1102.2.15 and air sealing in Section N1102.4.1 are addressed and when the items listed in Table N1102.4.2, applicable to the method of construction, are certified by the builder, permit holder or *registered design professional* via the certificate in Appendix E-1

TABLE N1102.4.2
AIR BARRIER INSPECTION

COMPONENT	CRITERIA
Ceiling/attic	<p>Sealants or gaskets provide a continuous air barrier system joining the top plate of framed walls with either the ceiling drywall or the top edge of wall drywall to prevent air leakage.</p> <p>Top plate penetrations are sealed.</p> <p>For ceiling finishes that are not air barrier systems such as tongue-and-groove planks, air barrier systems, (for example, taped house wrap), shall be used above the finish.</p> <p>Note: It is acceptable that sealants or gaskets applied as part of the application of the drywall will not be observable by the code official.</p>
Walls	Sill plate is gasketed or sealed to subfloor or slab.
Windows and doors	Space between window and exterior door jambs and framing is sealed.
Floors (including above-garage and cantilevered floors)	Air barrier system is installed at any exposed edge of insulation.
Penetrations	Utility penetrations through the building thermal envelope, including those for plumbing, electrical wiring, ductwork, security and fire alarm wiring, and control wiring, shall be sealed.
Garage separation	Air sealing is provided between the garage and conditioned spaces. An air barrier system shall be installed between the ceiling system above the garage and the ceiling system of interior spaces.
Ceiling penetrations	<p>Ceiling electrical box penetrations and ceiling mechanical box penetrations shall be caulked, gasketed, or sealed at the penetration of the ceiling finish. See Appendix E-2.4.</p> <p>Exception: Ceiling electrical boxes and ceiling mechanical boxes not penetrating the building thermal envelope.</p>
Recessed lighting	<p>Recessed light fixtures are air tight, IC rated, and sealed to drywall.</p> <p>Exception - fixtures not penetrating the building envelope.</p>

Property Address:

N1102.4.2.1 Visual Inspection Option. The inspection information including tester name, date, and contact shall be included on the certificate described in Section N1101.14.

Signature

Date

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APPENDIX E

Complete one duct leakage report for each HVAC system serving the home:

Property Address: _____

HVAC System Number: _____ Describe area of home served: _____

CFM25 Total: _____. Conditioned Floor Area (CFA) served by system: _____ s.f.

CFM25 x 100 divided by CFA = _____ CFM25/100SF (e.g. 50 CFM25 x 100/2,000 CFA = 2.5 CFM25/100SF)

Fan attachment location: _____

Company Name: _____

Contact Information: _____

Signature of Tester

Date

I am a (check one):

- | | |
|---|-----------------------|
| <input type="checkbox"/> Permit Holder | Permit # _____ |
| <input type="checkbox"/> NC Licensed General Contractor | License # _____ |
| <input type="checkbox"/> NC Licensed HVAC Contractor | License # _____ |
| <input type="checkbox"/> NC Licensed Home Inspector | License # _____ |
| <input type="checkbox"/> <i>Registered Design Professional</i> | Registration # _____ |
| <input type="checkbox"/> <i>Certified BPI Envelope Professional</i> | Certification # _____ |
| <input type="checkbox"/> <i>Certified HERS Rater</i> | Certification # _____ |

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