



ENERGY STAR: The Year Ahead ENERGY STAR (Featuring Single-Family New Homes Rev. 14)

January 27, 2025



Three Key Things To Know



Update on the § 45L Federal Tax Credit.



New ENERGY STAR Program Versions released.



Simplification of ENERGY STAR Program Requirements through annual revisions.



There's nothing like a tax credit!

ENERGY STAR Certifications by Sector





Update on the § 45L Federal Tax Credit

- For homes acquired in 2025:
 - Single-family: **v3.2** is the *minimum* eligible version required in most states (except CA and HI, where regional program requirements apply).
 - Multifamily: v1.1 remains the *minimum* eligible version required until 2027 (except in CA; and OR/WA, which have additional options).
- Despite this, for single-family homes, v3.1 remains valid for ENERGY STAR certification in most states (though it does not qualify for the tax credit).
 - Exceptions where v3.2 is required for certification in 2025: CT, FL, MD, NJ, OR, VT, and WA.



New ENERGY STAR Program Versions Released

- Earlier this month, EPA released SFNH v3.3 and MFNC v1.3.
 - These new versions were developed in response to the 2024 IECC and will only be required in states that adopt this latest code or equivalent -- but are available to all partners for optional use.
- Key things to know about the new versions:
 - More stringent ERI targets (45-50 for SFNH; and 40-50 for MFNC).
 - Infiltration backstop of 3.5 ACH50, with alternative metrics for small homes and attached homes, and an allowance of 4 ACH50 for homes permitted prior to 1/1/2027.
 - Thermal envelope backstop aligned with the 2024 IECC performance paths:
 - In CZ 1-2, \leq 108% of the total TC per 2024 IECC Table 402.1.2; and
 - In CZ 3-8, \leq 115% of the total TC per 2024 IECC Table 402.1.2



New ENERGY STAR Program Versions and the § 45L Federal Tax Credit

- Based on the timelines prescribed in the tax code, EPA anticipates that SFNH v3.3 and MFNC v1.3 will become the minimum eligible versions <u>required</u> for the § 45L Tax Credit:
 - In 2028, for single-family homes; and
 - In 2029, for multifamily dwelling units.
- However, based on IRA guidance, newer versions of the program requirements can be used to satisfy the minimum requirements for the § 45L tax credit in a given year.
 - In 2025, a home certified to SFNH National Version 3.3 also meets the minimum eligible version for the § 45L tax credit this year, which is SFNH National v3.2.



Simplification of ENERGY STAR Program Requirements

- With SFNH Revision 14 and MFNC Revision 5, EPA has <u>significantly</u> streamlined the prescriptive requirements of the Thermal Enclosure Checklist.
 - With this, we've been able to eliminate **33** footnotes from the program documentation representing ~**20%** of the footnotes associated with mandatory measures (for SFNH).
- We also entirely eliminated the Water Management Checklist.
 - These measures are largely required by code and remain as best practices.
- Next up for 2025: Tackling the HVAC Checklists!





ENERGY STAR Single-Family New Homes (SFNH)



Current SFNH Program Versions



National Version 3.1



- Now required for certification in most states.
- ENERGY STAR ERI Target of ~55-65.
- In addition to ERI target, there are mandatory requirements that lock in key features related to comfort, air quality, and durability.



Regional program required

National Version 3.2



- Required for certification:
 - In CT, FL, MD, NJ, OR, VT, & WA for permits on or after 01/01/2025.
 - In IL & VA for permits on or after 01/01/2026.
- ENERGY STAR ERI Target of ~45-55.
- Same mandatory requirements as National Version 3.1, except for more stringent thermal backstop.
- *Rev. 14 adds an infiltration backstop, which is more stringent in National v3.2.



National Version 3.3



National v3.2 implementation date defined, but not yet required

Regional program required

- Will not be required for certification before 01/01/2028.
 - But is allowed to be used before then.
- ENERGY STAR ERI Target of ~45-50.
- Same mandatory requirements as National Version 3.2, except for:
 - More flexible thermal backstop.
 - A more stringent infiltration backstop.



Regional Requirements



Regional program required

- FL Version 3.1 and OR-WA v3.2 sunset for permits on or after 01/01/2025.
- CA v3.2, v3.3, v3.4, v3.5: dependent on plan approval date, permit date, and edition of state code enforced for the home being certified.
- Pacific v3.2 for permits on or after 01/01/2026. Pacific v3 prior to then.
- Caribbean v3 not anticipating any changes in the year ahead.



Sampling Sunset



Sampling sunset

- Sampling inspection protocols have been sunset single-family homes and all townhouses permitted on or after Jan. 1, 2025.
- Outside of AZ and CA, over 95% of single-family certifications in 2022 were based on individual inspections of each home.
- With the exception of townhouses, sampling inspection protocols remain authorized for building types eligible to be certified under the MFNC program.



Introducing Revision 14



What is a Revision?





Primary goals for Revision 14

a) Enhance quality assurance and quality control:

- By reducing the number of requirements that are not Rater-verified
- By adding objective performance targets
- b) Simplify program by exchanging several lower-impact mandatory measures for performance-based approaches.



Overview

- Themes:
 - Rev. 08 It's Great!
 - Rev. 09 It's Fine...
 - Rev. 14 Lean & Clean
- What we'll cover today:
 - 5 big changes (and one big thing that did not change)
 - 5 smaller changes, clarifications, and refinements



Five big changes (and one non-change)



#1 of 5. National Rater Field Checklist: Eliminated mandatory reduced thermal bridging details



Background

22

- Prior to Rev. 14, homes were required to meet several mandatory details that reduce thermal bridging, unless the home qualified for one or more exemptions.
- These encompassed the attic edge, attic platforms and hatches, above-grade walls, and slab edges.



Background

- These details improved comfort and efficiency, when incorporated.
- However, numerous exemptions were added to the program.
- Furthermore, the ANSI standard for ratings advanced to better capture these details in energy modeling.



 Converted mandatory features to a list of details that must be assessed so they can be accurately reflected in the final energy model.

Rev. 13 Rater Field Checklist

	3. Reduced Thermal Bridging						
	3.1 For insulated ceilings with attic space above (i.e., non-cathedralized), Grade I insulation extends to the inside face of the exterior wall below and is ≥ R-21 in CZ 1-5; ≥ R-30 in CZ 6-8. ^{8, 14}						
	3.2 For slabs on grade in CZ 4-8, 100% of slab edge insulated to ≥ R-5 at the depth specified by the 2009 IECC and aligned with the thermal boundary of the walls. ^{8, 15, 18}						
For example,	3.3 Insulation beneath attic platforms (e.g., HVAC platforms, walkways) ≥ R-21in CZ 1-5; ≥ R-30 in CZ 6-8.8						
mandatory	3.4 At above-grade walls separating conditioned from unconditioned space, one of the following options used (rim / band joists exempted): 17						
requirement for slab insulation is	Rev. 14 Rater Field Checklist						
now a mandatory	 Reduced Thermal Bridging – Reduced thermal bridging strategies are not mandatory. However, the following details must be accurately assessed per ANSI / RESNET / ICC 301.¹⁵ 						
assessment of	3.1 Insulated ceilings assessed at the attic edge for variance in R-value and install quality.		-				
whether insulation	3.2 Insulation assessed beneath attic platforms and walkways for variance in R-value and install quality.		-				
is present.	3.3 Attic access panels, drop-down stairs, & whole-house fans assessed for insulated covers.		-				
•	3.4 Above-grade walls separating conditioned from unconditioned space assessed for advanced framing.		-				
24	- 3.5 Slabs on grade assessed for insulation where walls separate conditioned from unconditioned space		-				



• With Rev. 14, homes are no longer <u>mandated</u> to include slab edge insulation, advanced framing, etc. However, homes without such features will have to compensate with others to achieve the ERI target and thermal backstop.

Sample National Version 3.2 Home in CZ 2

Wall Framing	ERI	UA
Standard	54	185
Advanced	53	174
Impact	1	11 (2%)



• Eliminated 13 footnotes that contained guidance and exemptions:

- 14.<u>15.</u> The minimum designated R values must be achieved regardless of the trade offs determined using an equivalent U factor or UA alternative calculation. Note that if the minimum designated values are used, then higher insulation values may be needed elsewhere to meet Item 1.2. Also, note that these requirements can be met by using any available strategy, such as a raised heet truss, alternate framing that provides adequate space, and / or high density insulation.
- 15.16. Slab edge insulation is only required for slab on grade floors with a floor surface less than 12 inches below grade. Slab insulation shall extend to the top of the slab to provide a complete thermal break. If the top edge of the insulation is installed between the exterior wall and the edge of an interior, or exterior, slab, it shall be permitted to be cut at a 45 degree angle away from the exterior wall. The following alternatives apply.
 - a. Slab assemblies with an F Factor equivalent to that of the insulation required in Item 3.2 may be used. F Factors shall be determined using Table A6.3.1.1 from ASHRAE 90.1 2022 Appendix A. See www.energystar.gov/F Factor for more details.
 - b. The thermal break is permitted to be created using > R 3 rigid insulation on top of the slab. In such cases, up to 10% of the slab surface is permitted to not be insulated (e.g., for sleepers, for sill plates). Insulation installed on top of slab shall be covered by a durable floor surface (e.g., hardwood, ille, carpet).
- 16.<u>17.</u> Where an insulated wall separates a garage, patio, porch, or other unconditioned space from the conditioned space of the house, slab insulation shall also be installed at this interface to provide a thermal break between the conditioned and unconditioned slab. Where specific details cannot meet this requirement, partners shall provide the detail to EPA to request an exemption prior to the home's certification. EPA will compile exempted details and work with industry to develop feasible details for use in future revisions to the program. A list of currently exempted details is available at <u>energystar.gov/slabedoa</u>.
- 17.18. Mass walls utilized as the thermal mass component of a passive solar design (e.g., a Trombe wall) are exempt from this Item. To be eligible for this exemption, the passive solar design shall be comprised of the following five components: an aperture or collector, an absorber, thermal mass, a distribution system, and a control system. For more information, see: energy.gov/sites/prod/files/auide to passive solar home design.pdf.

Mass walls that are not part of a passive solar design (e.g., CMU block or log home enclosure) shall either utilize the strategies outlined in Item 3.4 or the pathway in the assembly with the least thermal resistance, as determined using a method consistent with the 2013 ASHRAE Handbook of Fundamentale, shall provide \geq 50% of the applicable assembly resistance, defined as the reciprocal of the mass wall equivalent U factor in the 2009 IECC Table 402.1.3. Documentation identifying the pathway with the least thermal resistance and its resistance value shall be collected by the Rater and any Builder Verified or Rater Verified box under Item 3.4 shall be checked.

18.19. Up to 10% of the total exterior wall surface area is exempted from the reduced thermal bridging requirements to accommodate intentional designed details (e.g., architectural details such as their mat fins, wing walls, or masonry fireplaces; structural details, such as steel columns). It shall be apparent to the Rater that the exempted areas are intentional designed details or the exempted areas hall be documented in a plan provided by the builder, architect, or engineer. The Rater need not evaluate the necessity of the designed detail to certify the home.

- 19.20. If used, insulated siding shall be attached directly over a water resistive barrier and sheathing. In addition, it shall provide the required Rvalue as demonstrated through either testing in accordance with ASTMC 1363 or by attaining the required R value at its minimum thickness. Insulated sheathing rated for water protection can be used as a <u>water resistant</u> barrier if all seams are taped and sealed. If non insulated structural sheathing is used at corners, the advanced framing details listed in them 3.4.3 shall be met for those wall sections.
- 20.21. Steel framing shall meet the reduced thermal bridging requirements by complying with Item 3.4.1 of the Checklist.
- 21.22. Double wall framing is defined as any framing method that ensures a continuous layer of insulation covering the studs to at least the Rvalue required in Item 3.4.1 of the Checklet, such as offset double stud walls, aligned double stud walls with continuous insulation between the adjacent stud faces, or single stud walls with 2x2 or 2x3 cross framing. In all cases, insulation shall fill the entire wall cavity from the interior to exterior sheathing except at windows, goors and other penetrations.
- 22.23. All advanced framing details shall be met except where the builder, architect, or engineer provides a framing plan that encompasses the details in question, indicating that structural members are required at these locations and including the rationale for these members (e.g., full depth solid framing is required at wall corners or interior / exterior wall intersections for shear strength, a full depth solid header is required above a window to transfer load to jacks stude, additional jack studes are required to support transferred loads, additional cripple studes are required to support multiple stories in a multifamily building). The Rater shall retain a copy of the detail and rationale for their records, buil need not evaluate the rationale to certify the home.
- 23.24.__All exterior corners shall be constructed to allow access for the installation of ≥ R 6 insulation that extends to the exterior wall sheathing. Examples of compliance options include standard density insulation with alternative framing techniques, such as using three stude per corner, or high density insulation (e.g., spray foam) with standard framing techniques.
- 24.25. Compliance options include continuous rigid insulation sheathing, SIP headers, other prefabricated insulated headers, single member or two member headers with insulation either in between or on one side, or an equivalent assembly. R value requirement refers to manufacturer's nominal insulation value.
- 25.26. Insulation shall run behind interior / exterior wall intersections using ladder blocking, full length 2x6 or 1x6 furring behind the first partition etud, drywall clips, or other equivalent alternative.
- 26.27. In Climate Zones 6 8, a minimum stud spacing of 16 in. Q.C. is permitted to be used with 2x6 framing if ≥ R 20.0 wall cavity insulation is achieved. However, all 2x6 framing with stud spacing of 16 in. Q.C. in Climate Zones 6 8 shall have ≥ R 20.0 wall cavity insulation installed regardless of any framing plan or alternative equivalent total UA calculation.²⁹



How to make use of optional bridging details

• If you want to use the optional reduced thermal bridging details in Section 3, you must certify the home using Rev. 14 of the National Rater Field Checklist in its entirety.



#2 of 5. National Rater Field Checklist: Streamlined air sealing details and added an air leakage (blower door) backstop



Background

- Homes are required to be air-sealed to promote efficiency, comfort, & durability.
- Prior to Rev. 14, this was accomplished through ten mandatory air sealing details.
- We believe that mandatory details combined with a pre-drywall Rater inspection is the most cost-effective way to achieve a tight home.





- Refined (rather than overhauled) mandatory air sealing details.
- Added a new mandatory enclosure air leakage 'backstop' for all homes.



4.1.2 Attic access panels, drop-down stairs, & whole house fans are gasketed (i.e., not caulked) or equipped with durable ≥ R 10 covers that is are gasketed (i.e., not caulked). Fan covers either installed on house side or mechanically operated.

- a) Refined requirement regarding attic access panels, drop-down stairs, and whole house fans.
 - Moved R-10 insulation requirement to Section 3 Reduced Thermal Bridging, because it is not an air sealing measure.
 - Refined wording to better align with Multifamily New Construction program.



4.<u>1.3</u>2 Recessed lighting fixtures adjacent to unconditioned space are ICAT labeled and gasketed. Also, if in insulated ceiling without attic above, exterior surface of fixture insulated to ≥ R 10 in CZ 4 8.⁸

- b) Eliminated requirement to insulate exterior surface of recessed lighting fixtures in cathedral ceilings in cold climates.
 - It was not applicable to most certified homes.
 - It was an insulation, rather than air sealing, measure.
 - It was difficult for Raters to verify.



<u>4.1.4</u> Drywall <u>is</u> sealed to top plate <u>during installation</u>, or from the <u>attic side</u>, at all unconditioned attic / wall interfaces<u>using caulk</u>, foam, or drywall <u>Drywall adhesive</u> (but not other construction <u>adhesives</u>) is permitted to be used or equivalent material. Either apply sealant directly between drywall and top plate or to the seam between the two from the attic above.

- c) Reworded requirement to seal drywall to top plates.
 - Edited for conciseness and to emphasize that sealant can be applied between drywall and top plate during installation, or from the attic side after installation.
 - No change in intent.



4.4 Continuous top plate or blocking is at top of walls adjoining unconditioned space, and sealed.

- d) Eliminated requirement for continuous top plate or blocking at top of walls.
 - Originally added to ensure a six-sided air barrier for wall insulation, particularly where there are changes in wall height.
 - However, this requirement is now addressed in ANSI / RESNET / ICC 301, which requires a six-sided air barrier for fibrous batt and fibrous loose fill insulation to achieve Grade I or II.





<u>4.1.8</u> Above-grade sill plates adjacent to conditioned space sealed to foundation or sub-floor. Gasket also placed beneath above grade sill plate if resting atop concrete / masonry & adjacent to cond. space.

- e) Eliminated requirement to include gasket beneath above-grade sill plates.
 - This was the only air-sealing measure not practical to correct, if missed.
 - It is still possible to build a tight home without this individual measure.
 - As a best practice, partners can still include a gasket to improve air sealing and, in particular, moisture migration from the foundation.



4.1.9 In multifamily buildings-townhouses and duplexes, for fire-rated area separation walls, gap is sealed between the drywall common wall and the structural framing at all exterior boundaries the gap between the common wall (e.g., the drywall shaft wall) and the structural framing between units sealed at all exterior boundaries.

- f) Reworded requirement to seal common wall in townhouses and duplexes.
 - This item referenced multifamily buildings, but the only attached buildings still eligible to be certified through the SFNH program are townhouses and duplexes.
 - No change in intent.


Refined air sealing details

- 28. In Climate Zones 1 through 3, a continuous stucco cladding system adjacent to sill and bottom plates is permitted to be used in lieu of sealing plates to foundation or sub floor with caulk, foam, or equivalent material.⁸
- 29. In Climate Zones 1 through 3, a continuous stucco cladding system sealed to windows and doors is permitted to be used in lieu of sealing rough openings with caulk or foam.⁸
- g) <u>Removed two air-sealing exemptions</u> related to stucco cladding: one for air sealing the sill plate to foundation or sub-floor and one for air sealing rough openings around windows and doors.
 - Stucco cladding is not airtight.
 - These are relatively inexpensive air sealing details to implement.
 - Removing the exemptions and requiring these air sealing details to be completed simplified the program and should result in more consistent outcomes.



Refined air sealing details

Rev. 14 Rater Field Checklist

v		1			
4. Air Sealing					
4.1 Rater has verified each air sealing detail below. In addition, the home must meet Item 4.2. Unless otherwithe use of caulk, foam, or equivalent material.	ise noteo	d below, "s	eale	ed" indica	ites
4.1.1 Ducts, flues, shafts, plumbing, piping, wiring, exhaust fans, & other penetrations to unconditioned space sealed, with blocking / flashing as needed.		≤5 penetrations			-
4.1.2 Attic access panels, drop-down stairs, & whole house fans are gasketed (i.e., not caulked) or equipped with covers that are gasketed.		-		۵Ö	
4.1.3 Recessed lighting fixtures adjacent to unconditioned space are ICAT labeled and gasketed.		No Limit			
4.1.4 Drywall is sealed to top plate during installation, or from the attic side, at all unconditioned attic / wall interfaces. Drywall adhesive (but not other construction adhesives) is permitted to be used.		No Limit			
4.1.5 Rough opening around windows & exterior doors is sealed.		-			1
4.1.6 Walls that separate attached garages from occupiable space are sealed. In addition, an air barrier is installed and sealed at floor cavities aligned with these walls.		-		٥Ô	
4.1.7 Doors adjacent to unconditioned space (e.g., attics, garages, basements) or ambient conditions are made substantially air-tight with weatherstripping or equivalent gasket.		-			
4.1.8 Above-grade sill plates adjacent to conditioned space sealed to foundation or sub-floor.		No Limit			
4.1.9 In townhouses and duplexes, for fire-rated area separation walls, gap is sealed between the drywall common wall and the structural framing at all exterior boundaries.		No Limit			

- Eliminated one detail
- Refined five details
- Four details are unchanged
- Removed two stucco exemptions



Added a new mandatory air leakage 'backstop'

- Homes that meet mandatory air sealing measures should be reasonably tight.
- An energy rating already requires that enclosure leakage rate be measured.
- An enclosure leakage rate 'backstop' objectively ensures that all certified homes meet our intent.
- This 'backstop' is the worst rate allowable in a certified home.



Added a new mandatory air leakage 'backstop'

4.2 Rater-measured air leakage of Dwelling or Dwelling Unit meets one of the following: 18

4.2.1	For all Versions except those noted below:	≤ 4.5 ACH50					
	For National v3.2 and CA v3.4:	≤ 4.0 ACH50 (see exception in Fn. 17) ¹⁷					
	For National v3.3 and CA v3.5:	≤ 3.5 ACH50 (see exception in Fn. 17) ¹⁷					
4.2.2	2 As an alternative, for a Dwelling with ≤ 1,500 s	sq. ft. of Conditioned Floor Area, a Townhouse, or					
	an attached Dwelling Unit, air leakage is ≤ 0.30 CFM50 per sq ft. of Dwelling Unit						
	Compartmentalization Boundary area.						

- ~85% of single-family homes with confirmed rating met this target in 2023.
- ~70% of single-family homes with confirmed rating met this target in 2023.
- If permitted before 01/01/2027 and certified using CA v3.4, an air leakage limit of ≤ 4.5 ACH50 applies.
- ~55% of single-family homes with confirmed rating met this target in 2023.
- If permitted before 01/01/2027 and certified using National v3.3, leakage limit of \leq 4.0 ACH50 applies.
- If permitted before 01/01/2027 and certified using CA v3.5, leakage limit of \leq 4.5 ACH50 applies.



Added a new mandatory air leakage 'backstop'

4.2 Rater-measured air leakage of Dwelling or Dwelling Unit meets one of the following: 16

4.2.1 For all Versions except those noted below: For National v3.2 and CA v3.4;	≤ 4.5 ACH50 ≤ 4.0 ACH50 (see exception in Fn. 17) ¹⁷
For National v3.3 and CA v3.5:	≤ 3.5 ACH50 (see exception in Fn. 17) 17
4.2.2 As an alternative, for a Dwelling with ≤ 1,50	0 sq. ft. of Conditioned Floor Area, a Townhouse, or
an attached Dwelling Unit, air leakage is ≤ 0 Compartmentalization Boundary area.	J.30 CFM50 per sq π. of Dwelling Unit

• Less stringent limit applies to small dwellings, townhouses, and attached dwelling units (i.e., duplex).



How to make use of streamlined sealing details

• If you want to use the streamlined air sealing details in Section 4, you must certify the home using Rev. 14 of the National Rater Field Checklist in its entirety.



#3 of 5. National Rater Field Checklist: Narrowed the scope of builder-verified items



Background

- Prior to Rev. 14, at the discretion of the Rater, builders were permitted to verify up to eight checklist items.
- We provided little guidance on how much of each item was permitted to be verified by the builder.

For example, when builderverified, are builders permitted to verify air barrier for the entire ceiling, or just a subset?



Item 2.1 Fully-aligned air barrier for dropped ceilings / soffits below unconditioned attics, and all other ceilings



- Triaged Items into three groups those that:
 - a) May <u>not be verified</u> by the builder because of ease of Rater verification or importance.
 - b) May be <u>partially verified</u> by the builder but should not be wholly builder-verified.
 - c) May be <u>fully verified</u> by the builder due to logistical issues.
- Reduced allotment of builder-verified items from eight to five.



Thermal Enclosure System	Must	Builder	Rater	N/A⁴
1. High-Performance Insulation & Fenestration	Correct	Verified ¹	Verified ^{2, 3}	
 1.1 Insulation meets specifications in National Rater Design Review Checklist Item 2.1. 		Pre-rock+50 🗌		
1.2 All insulation achieves Grade I install. per ANSI / RESNET / ICC 301. Alternatives in Footnote 5. 5.6		Pre-rock+50 🗌	C D	
1.3 Fenestration meets specifications in National Rater Design Review Checklist Items 2.1 & 2.2.		-		
Not eligible to be builder verified.	}			
Up to 500 sq. ft. of wall areas that have drywall installed prior to general installation of drywall (i.e., "pre-rock" areas such as walls behind tubs or staircases), plus an additional 50 sq. ft., may be builder verified.	- 			



· · ·					
2. Fully-Aligned Air Barriers 7 - At each insulated location below, a complete air barrier is provided that is fully aligned as follows:					
<u>Ceilings</u> : At interior or exterior horizontal surface of ceiling insulation in Climate Zones 1-3; at interior horizon Climate Zones 4-8. Also, at exterior vertical surface of ceiling insulation in all climate zones (e.g., using a win height of the insulation in every bay or a tabbed baffle in each bay with a soffit vent that prevents wind washi	tal surfac d baffle f ng in adj	ce of ceiling i that extends acent bays).	nsulation i to the full ^{8, 9}	in	
2.1 Dropped ceilings / soffits below unconditioned attics, and all other ceilings.		≤50 sq. ft. 🔲			
Walls: At exterior vertical surface of wall insulation in all climate zones; also at interior vertical surface of wall	insulatio	n in Climate			
2.2 Walls behind showers, tubs, staircases, and fireplaces.		≤50 sq.ft. 🔲			
2.3 Attic knee walls and skylight shaft walls. 11		≤50 sq. ft. 🔲			
2.4 Walls adjoining porch roofs or garages.		≤50 sq.ft. 🔲			
2.5 Double-walls and all other exterior walls.		≤50 sq.ft. 🔲			
<u>Floors</u> : At exterior vertical surface of floor insulation in all climate zones and, if over unconditioned space, als including supports to ensure alignment. Alternatives in Footnotes 13 & 14. ^{12, 13, 14}	o at inte	rior horizonta	I surface		
2.6 Floors above garages, floors above unconditioned basements or crawlspaces, and cantilevered floors.		≤50 sq.ft. 🔲			
2.7 All other floors adjoining unconditioned space (e.g., rim / band joists at exterior wall or at porch roof).		≤50 sq. ft. 🔲			

Up to 50 sq. ft. of area may be verified by the builder



3. Reduced Thermal Bridging - Reduced thermal bridging strategies are not mandatory. However, the for	llowing d	etails must b	e accurat	ely
assessed per ANSI / RESNET / ICC 301. 15				
3.1 Insulated ceilings assessed at the attic edge for variance in R-value and install quality.		-		
3.2 Insulation assessed beneath attic platforms and walkways for variance in R-value and install quality.		-		
3.3 Attic access panels, drop-down stairs, & whole-house fans assessed for insulated covers.		-		
3.4 Above-grade walls separating conditioned from unconditioned space assessed for advanced framing.		-		
3.5 Slabs on grade assessed for insulation where walls separate conditioned from unconditioned space.		-		

Not eligible to be builder verified.



14 Detector waited and since the detail below to addition the barrow water of these 12 Halans of the			1 17 1 17	
4.1 Rater has verified each air sealing detail below. In addition, the home must meet item 4.2. Unless otherw the use of caulk, foam, or equivalent material.	lise note	d below, "se	aled" indic	ates
4.1.1 Ducts, flues, shafts, plumbing, piping, wiring, exhaust fans, & other penetrations to unconditioned space sealed, with blocking / flashing as needed.		≤5 penetrations		_
4.1.2 Attic access panels, drop-down stairs, & whole house fans are gasketed (i.e., not caulked) or equipped with covers that are gasketed.		-	- E	
4.1.3 Recessed lighting fixtures adjacent to unconditioned space are ICAT labeled and gasketed.		No Limit		
4.1.4 Drywall is sealed to top plate during installation, or from the attic side, at all unconditioned attic / wall interfaces. Drywall adhesive (but not other construction adhesives) is permitted to be used.		No Limit		
4.1.5 Rough opening around windows & exterior doors is sealed.		-		-
4.1.6 Walls that separate attached garages from occupiable space are sealed. In addition, an air barrier is installed and sealed at floor cavities aligned with these walls.		-	– 1 0	5
4.1.7 Doors adjacent to unconditioned space (e.g., attics, garages, basements) or ambient conditions are made substantially air-tight with weatherstripping or equivalent gasket.		-		
4.1.8 Above-grade sill plates adjacent to conditioned space sealed to foundation or sub-floor.		No Limit		
4.1.9 In townhouses and duplexes, for fire-rated area separation walls, gap is sealed between the drywall common wall and the structural framing at all exterior boundaries.		No Limit		

The builder may fully verify the item.



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Up to five penetrations may be builder verified.

#4 of 5. National Rater Field Checklist: Raters required to capture photos covering key requirements



Background

• Prior to Rev. 14, Raters were required to take photos of certain Minimum Rated Features, per ANSI / RESNET / ICC 301, but no photos were required of ENERGY STAR-specific program requirements.



• Rev. 14 requires that Raters capture photos covering 10 key checklist items, plus a Rater "selfie" photo at each inspection.



	4						
Rater Name	:	Rater Pre-Drywall Inspection Date58:	Rater Initia	S:	Photo o	of Rater ³	
Rater Name	:	Rater Final Inspection Date ⁵⁹ :	Rater Initia	s:	Photo o	of Rater ³	٥Ô

Also, a checkbox with the caption "Photo of Rater" has been added next to each inspection date / signature row to indicate the requirement for a "selfie" photo at each inspection



	2.1 Dropped ce	eilings / soffit	s below unconditioned attics, and all ot	ner ceilings.		≤ 50 sq. ft. 🔲	
Five air	2.2 Walls behin	nd showers, t	ubs, staircases, and fireplaces.			≤ 50 sq. ft. 🔲	
barrier	2.3 Attic knee v	valls and sky	light shaft walls. 11			≤ 50 sq. ft. 🔲	
details	2.4 Walls adjoir	ning porch ro	ofs or garages.			≤ 50 sq. ft. 🔲	
	2.6 Floors abov	ve garages, f	loors above unconditioned basements	or crawlspaces, and cantilevered floors.		≤ 50 sq. ft. 🔲	
	L				Į	· · ·	
Two air	4.1.2 Attic a equip	access panel ped with cov	s, drop-down stairs, & whole house fans ers that are gasketed.	s are gasketed (i.e., not caulked) or	٥	-	۵۵
details	4.1.6 Walls is inst	that separate talled and se	e attached garages from occupiable spa aled at floor cavities aligned with these	ace are sealed. In addition, an air barrier walls.		-	۵D
D a dua a ura							
pressure	6.2 Bedrooms p achieve a R when all air	oressure-bala ater-measur handlers are	anced (e.g., using transfer grilles, jump ed pressure differential ≥ -3 Pa and ≤ + e operating. Test configuration and an a	ducts, dedicated return ducts, undercut do 3 Pa with respect to the main body of the Iternative compliance option in Footnote 2	oors) to house 25. ²⁵		٥đ
balancing							•
	Location		Continuous Rate	Intermittent Rate 46			
Kitchen &	8.1 Kitchen	Airflow	≥ 5 ACH, based on kitchen volume 47, 48	≥ 100 CFM and, if not integrated with r also ≥ 5 ACH based on kitchen volume	ange, e ^{47, 48, 49}		٥đ
bath		Sound	Recommended: ≤ 1 sone	Recommended: ≤ 3 sones			
exhaust	8.2 Bathroom	Airflow	≥ 20 CFM	≥ 50 CFM			пð
3	0.2 Daunoom	Sound	Required: ≤ 1 sone	Recommended: ≤ 3 sones			

#5 of 5. Water Management System: Sunset the Water Management System Builder Requirements



Background

- Prior to Rev. 14, builders were required to complete the Water Management System (WMS) Builder Requirements, a one-page list of commonsense details to improve the durability of homes.
- While valuable, these details are not verified by the Rater.



- Water Management System Builder Requirements have been sunset with Rev. 14.
- This will improve the program's quality control by significantly reducing the number of requirements that are not third-party verified.
- WMS will be archived and available to builders or other entities, such as utilities, which may choose to continue implementing them.
- Additional guidance on these details remains available in the Building America Solutions Center.
- Water management requirements will continue to be maintained and enhanced as part of the EPA's Indoor AirPLUS program.



Non-Change: Track B – HVAC Credential May Still be Used



Background

- Program currently has two compliance tracks for completing HVAC design and commissioning requirements:
 - Track A: HVAC Grading
 - Track B: HVAC Credential
- Track B was proposed to be sunset for homes permitted on or after 1/1/2026.
- Based on partner feedback, this change will not be made.
- The EPA will continue to build capacity to use Track A and may consider more incremental steps to prepare for the eventual sunset of Track B.



Five smaller changes, clarifications, and refinements



#1 of 5-Part A. Rater Design Review Checklist Narrow scope of Item 2.1 to address only SHGC & Remove SHGC requirement for CZ 4C & 5

Rev. 13

ltem 2.1 becomes Item 2.2	2.1 Specified fenestration meets or exceeds 2009	IECC or, for National v3.2, 2021 IECC requirements. 6, 7	
	F	Rev. 14	. 1
	2.2 In CZ 1-3, 4A, and 4B, specified windows, sky	lights, and doors that are $\geq 50\%$ glazed achieve the following: %	2
SHGC requirement	For all Versions except those noted below:	Area-weighted average SHGC ≤ 2009 IECC Table 402.1.1	
removed from	For National Version 3.2:	Area-weighted average SHGC ≤ 2021 IECC Table 402.1.2	
CZ 4C & 5	For National Version 3.3:	Area-weighted average SHGC ≤ 2024 IECC Table 402.1.2	Scope narrowe

- Item 2.1 becomes Item 2.2 in Revision 14.
- The scope is narrowed to SHGC only and expanded to incorporate National v3.3. Fenestration U-factor is still considered as part of the thermal backstop.
- The SHGC requirements are removed for CZ 4C & 5 (only impacts National v3.2). Note that there were no SHGC requirements in CZ 6-8.



Regs. added for

National v3.3.

#1 of 5-Part B. Rater Design Review Checklist Item 3.1 becomes Item 2.1

		Rev. 13	
Item 3.1 becomes Item 2.1	3.1 Specified total building thermal envelope UA IECC Table 402.1.3 or, for National v3.2, 202	achieves ≤ 100% of the total UA resulting from the U-factors in 2009 1 IECC Table 402.1.2. See exception in Fn. 8. ^{7,8,9,10}	
		Rev. 14	
	2.1 Specified total building thermal envelope achi	eves the following: 6, 7, 8, 9	-
	For all Versions except those noted below:	≤ 100% of the total UA per 2009 IECC Table 402.1.3	
	For National Version 3.2:	≤ 100% of the total UA per 2021 IECC Table 402.1.2	
	For National Version 3.3:	In CZ 1-2: ≤ 108% of the total TC per 2024 IECC Table 402.1.2 In CZ 3-8: ≤ 115% of the total TC per 2024 IECC Table 402.1.2	Reqs. added for National v3.3.

- Item 3.1 becomes Item 2.1 in Revision 14.
- Requirements added for National v3.3.
- Fenestration U-factor is still considered as part of the total building thermal envelope.



#2 of 5. Applicable Program Reqs., Versions, & Revs. by Location Applicable permit date is tied to permit that governs efficiency features

 In cases where multiple permits are issued, the 'permit date' is the one on which the permit authorizing construction of the building, including the building features affecting energy use, was issued.

> **ENERGY STAR Single-Family New Homes** Applicable Program Requirements, Versions, and Revisions by Location (Rev. 14) This document, available at www.energystar.gov/newhomesrequirements, is designed to be used in conjunction with the Single-Family New Homes (SFNH) national and regional program requirements documents. Use Exhibit 1 or, for California, Exhibit 2 to determine the applicable SFNH program requirements, including the minimum Version and Revision, to which a home is eligible to be certified. For information about the minimum program versions eligible to satisfy the Section 45L New Energy Efficient Home Credit, visit www.energystar.gov/taxcredits. A home may only be certified to the SFNH program requirements applicable to the location of the home, as listed in the Exhibits below. For locations where both national and regional program requirements have been listed, a home may be certified to either one. Where the EPA has defined a newer Version and / or Revision of the same ENERGY STAR program requirements, homes are eligible to be certified to the new Version / Revision. For example, if a home is eligible to be certified to Version 3.1 of the SFNH National Program Requirements, then it is also eligible to be certified to Version 3.2 of the SFNH National Program Requirements. Exhibit 1 and 2 contain all Versions and Revisions eligible for use for homes permitted on or after January 1, 2023. Program requirements applicable prior to this date can be found in the Archives Exhibit 1: Applicable ENERGY STAR SFNH Program Requirements, Versions, and Revisions for All Locations Except California Home Is nes Meeting the Adjacent Criteria. These Ar

Or Territory:	On or After This Date:	the Applicable Program Require Minimum Version ("v") & Revisi	ments, Including on ("Rev.")
AL, AK, AZ, AR, CO, IN, ID,	01-01-2023	SFNH National v3.1	Rev. 11
KS, KY, LA, MS, MO, NH, NC, ND, OH, OK, SC, SD, TN, WV, WI, WY	01-01-2024	SFNH National v3.1	Rev. 12
	01-01-2025	SFNH National v3.1	Rev. 13
,,,	01-01-2026	SFNH National v3.1	Rev. 14

1. The 'permit date' is the date on which the permit authorizing construction of the building was issued. In cases where multiple permits are issued for a project (e.g., footing permits, building permits), the 'permit date' is the date on which the permit authorizing construction of the building, including the building features affecting energy use (e.g., insulation levels, window U/SHGC specifications, mechanical equipment efficiency), was issued. Alternatively, the date of the Rater's first site visit or the date of the contract on the home is allowed to be used as the 'permit date'. The permit application date is not allowed to be used.



#3 of 5. National Rater Field Checklist Sealing top vents of microwave exhaust fan when measuring airflow

- To encourage and facilitate the measurement of microwave-integrated exhaust fan airflow, Raters are permitted to tape off all air inlets except at the bottom.
- No correction factors shall be applied to the measured airflow to account for the increased airflow restriction caused by the tape.
 - 48.35. The Dwelling Unit Mechanical Ventilation System air flows and local exhaust air flows shall be determined and documented by a Rater using ANSI / RESNET / ICC 380 including all Addenda and Normative Appendices, with new versions and Addenda implemented according to the schedule defined by the HCO that the home is being certified under. To facilitate testing the air flow of a microwave-integrated exhaust fan, Raters are permitted to tape off all air inlets except at the bottom. However, no correction factors shall be applied to the measured air flow to account for the increased airflow restriction. Designers are permitted to provide multiple combinations of a design ventilation airflow rate, run-





#4 of 5. National Program Requirements Exhibit 1, and language preceding it, updated for clarity

Rev. 13 Exhibit 1 Layout

Hot and Mixed Climates (2021 IECC Zones 1,2,3,4A,4B) ¹¹							Cold Climates (2021 IECC Zones 4C,5,6,7,8) 11							
Cooling Equip	ment (Where Provide	d)												
 Cooling equip 	oment modeled at the a	applicable	efficiency	levels belo	w:									
 ENERGY STAR AC: 16 SEER Heat pump (See Heating Equipment) 							AC: 14 SEER Heat pump (See Heating Equipment)							
 Installation quality 	uality modeled at -20%	blower fa	n airflow (deviation, 0.	.52 W / CF	Mb	lower fan efficiency	, and Grade	e III refrigera	int charge	e			
Heating Equip	ment													
 Heating equip 	oment modeled at the a	applicable	efficiency	/ levels belo	w, depend	lent	on fuel and system	n type:						
 Gas furnace: CZ 1-3: 80 AFUE; CZ 4A & 4B: 90 AFUE ¹¹ Gas boiler: CZ 1-3: 80 AFUE; CZ 4A & 4B: 90 AFUE ¹¹ ENERGY STAR air-source heat pump: 9.2 HSPF / 16 SEER 					52)W/ (CE	O ENERGY STAR gas furnace: 95 AFUE ENERGY STAR gas boiler: 95 AFUE ENERGY STAR gas boiler: 95 AFUE ENERGY STAR air-source heat pump: 9.2 HSPF / 16 SEER								
Envelope Win	dows & Doors	Diower la	n annow (ueviation, u.	.52 W / CF		iower fan eniciency	, anu, as aj	plicable, Gi	aue in re	ingerant charge			
Insulation lev Infiltration rat ENERGY ST	els modeled to 2021 IE e modeled at 3 ACH50 AR windows and doors Climate Zone: ¹¹ Window U-Value: Window SHGC:	ECC levels modeled 1 - 2 0.40 0.25	and Gra , as illustr 3 0.30 0.25	de l installat ated below: 4A & 4B 0.30 0.30	4C - 8 0.27 0.30	NSI .	/ RESNET / ICC 30 Door Type: Climate Zone: ¹¹ Door U-Value:	Opaque All 0.17	≤½ Lite All 0.25	>1/2 1 - 3 0.30	Lite 4 - 8 0.30			
							Door SHGC:	Any	0.25	0.25	0.40			
Water Heater														
 DHW equipm 	ent modeled at the foll	owing app	licable ef	ficiency leve	els, depen	den	t on fuel type: Gas:	0.90 UEF; I	Electric: 2.20) UEF				
Thermostat &	Ductwork													
ProgrammabAll ducts and	le thermostat modeled air handlers modeled	within con	ditioned s	pace, unins	ulated, wit	th no	o leakage to the out	tside						
Lighting & App	oliances													
ENERGY ST. ENERGY ST.	AR refrigerators, dishw AR light bulbs modeled	ashers, a with Tier	nd ceiling 2 efficien	fans model cy in 100%	ed of Qualifyi	ing I	Light Fixture Locati	ons, as defi	ned by ANS	I / RESNI	ET / ICC 301			

Rev. 14 Exhibit 1 Layout

Climate Zone Type	H	Hot and Mix	ed Climates	5	Cold Climates						
2021 IECC Climate Zone 11	1	2	3	4	4C	5	6	7	8		
Thermal Enclosure											
Ceiling, Wall, & Floor Insulation Grade											
Ceiling Insulation	R-30	R-49	R-49	R-60	R-60	R-60	R-60	R-60	R-60		
Wall Insulation: Cavity + Continuous	R-13	R-13	R-20	R-20 + R-5	R-20 + R-5	R-20 + R-5	R-20 + R-5	R-20 + R-5	R-20 + R-5		
Frame Floor Insulation	R-13	R-13	R-19	R-19	R-30	R-30	R-30	R-38	R-38		
Slab Insulation & Depth	None	None	R-10 2ft	R-10 4ft	R-10 4ft	R-10 4ft	R-10 4ft	R-10 4ft	R-10 4ft		
Window U-Factor	0.40	0.40	0.30	0.30	0.27	0.27	0.27	0.27	0.27		
Window SHGC	0.25	0.25	0.25	0.30	0.30	0.30	0.30	0.30	0.30		
Door (U-Factor / SHGC)	Opaque: U-Factor: 0.17 / SHGC: Any; ≤½ lite Door: U-Factor: 0.25 / SHGC: 0.25; >½ lite Door: U-Factor										
>1/2 lite Door (SHGC)	0.25	0.25	0.25	0.40	0.40	0.40	0.40	0.40	0.40		
Heating and Cooling Systems											
Air Conditioning (SEER2)	15.2	15.2	15.2	15.2	13.3	13.3	13.3	13.3	13.3		
Gas Furnace (AFUE)	80	80	80	90	95	95	95	95	95		
Gas Boiler (AFUE)	80	80	80	90	95	95	95	95	95		
Heat Pump (HSPF2 / SEER2)	7.8 / 15.2										
HVAC Grade	Airflow Grade: II; Watt Draw Efficiency Grade: II; Refrigerant Grade: III										
Thermostat Type	Programmable										
Duct Location, Leakage, & Insulation	Location: 100% Conditioned Space; Leakage to Outside: 0 CFM; Insulation: Not Present										
Infiltration											
Infiltration Rate (ACH50)	3										
Water Heating											
Gas: Efficiency (UEF) & Capacity (Gal.)	0.90 & 0 (Instantaneous)										
Electric: Efficiency (UEF) & Capacity (Gal.)	2.20 & 60										
Lighting & Appliances											
Lighting	100% LED Lighting										
Refrigerators, Dishwashers, Ceiling Fans	eiling Fans Efficiency Equal to ENERGY STAR Product (Labeled product recommended, but not required)										

#5 of 5. National Rater Field Checklist **Time-limited allowance for CMU walls with Grade III in the cores**

- A time-limited allowance has been added for CMU block wall assemblies with Grade III insulation filling the cores for homes permitted prior to 01/01/2026.
 - 4.5. Three Two alternatives are provided:

compression caused by the excess insulation; c) CMU block wall assemblies with Grade III insulation filling the cores are permitted to be used in homes permitted prior to 01/01/26, to provide an opportunity for standards bodies to consider a protocol that may allow such assemblies to achieve Grade I.



- Standards bodies are working on new inspection protocols that may allow such assemblies to achieve Grade I.
- If successful, homes permitted after this date with this assembly type will be required to achieve Grade I.
- If not successful, then builders will have to select an alternative insulation strategy that does achieve Grade I.



Summary of most notable changes in Rev. 14

- Five big changes:
 - 1. Eliminated mandatory reduced thermal bridging details
 - 2. Streamlined air sealing details and added an air leakage backstop
 - 3. Narrowed the scope of builderverified items
 - 4. Raters required to capture photos covering key requirements
 - 5. Sunset the Water Management System Builder Requirements

- Five smaller changes, clarifications, & refinements:
 - 1. Adjusted RDRC Item 2.1 & 3.1
 - 2. Applicable permit date is tied to permit that governs efficiency features
 - 3. Sealing top vents of microwave exhaust fan when measuring airflow
 - 4. Updated layout of Exhibit 1 for clarity
 - 5. Time-limited allowance for CMU walls with Grade III in the cores



Implementation of Revision 14

- Released 01/15/25.
- Updated program documents at: <u>www.energystar.gov/newhomesrequirements</u>.
- One-page highlights document, tracked-changes documents, and updated Policy Record will be available at:

www.energystar.gov/newhomespolicyrecord

- Implementation date of 01/01/2026.
 - You <u>can</u> use Rev. 14 for any home.
 - You <u>must</u> use Rev. 14 for any home permitted after 01/01/26.



ENERGY STAR®, a U.S. Environmental Protection Agency program, helps us all save money and protect our environment through energy efficient products and practices. For more information, visit www.energystar.gov.

Highlights from Revision 14 of the Single-Family New Homes (SFNH) Program

Revision 14 of the SFNH program has been posted to the <u>ENERGY STAR website</u>. Partners are permitted to use this Revision immediately, but must apply it to all homes permitted on or after 01/01/2026. The <u>Current Policy Record</u> contains all changes in this Revision. 'Mark-up' documents showing all tracked changes except formatting will also be posted at this location. The EPA strongly encourages partners to review these documents. Following are the most substantial updates:

Applicable Program Requirements, Versions, and Revisions by Location Document

 Footnote 1 has been clarified to state that, in cases where multiple permits are issued for a project (e.g., footing permits, building permits), the 'permit date' is the date on which the permit authorizing construction of the building, including the building features affecting energy use (e.g., insulation levels, window U/SHGC specifications, mechanical equipment efficiency), was issued.

National and Regional Program Requirements

- Footnote language allowing townhouses to be certified using the Multifamily New Construction program has been
 removed to reinforce that townhouses are now only eligible to be certified using the SFNH program.
- Exhibit 1, which summarizes the key efficiency features in the ENERGY STAR Reference Design Home, has been
 redesigned to improve its utility and clarity. In addition, the language preceding the table has been updated to
 emphasize that it is not mandatory to include the features contained within the table.

National Rater Design Review Checklist

Item 2.1, which defined fenestration requirements, has been simplified to only address SHGC. In addition, the SHGC requirement in Climate Zones 4C & 5 has been removed. Fenestration U-factor will continue to be assessed as part of the overall thermal enclosure in Item 3.1. Lastly, Items 2.1 and 3.1 have been reformatted, edited for clarity, and combined into a single section titled "High-Performance Insulation & Fenestration".

National Rater Field Checklist

In Section 3, the reduced thermal bridging details have been converted from mandatory features to a list of details that
must be assessed so they can be accurately reflected in the final energy model. Homes will no longer be mandated to
include slab edge insulation, advanced framing, nor meet minimum insulation levels at attic edges, access points, and
under platforms. However, homes without such features will have to include offsetting measures to achieve the ERI
target and thermal enclosure backstop. For quality assurance purposes, partners wishing to use the revised Section 3
must certify the home using Rev. 14 of the National Rater Field Checklist in its entirety.





ENERGY STAR Multifamily New Construction (MFNC)



Current MFNC Program Versions



National Version 1.1



- Now required for certification in most states.
- Performance target:
 - ERI Path: ERI Target of ~55-65.
 - ASHRAE Path: 15% savings over ASHRAE 90.1-2016
 - Prescriptive Path: Prescriptive Measures
- In addition to the performance target, there are mandatory requirements that lock in key features related to comfort, air quality, and durability.



National Version 1.2



- Will be required for certification for permits on or after 01/01/2027 in: CT, FL, GU, HI, IL, MD, NMI, NJ, OH, OR, VA, VT, WA
- Performance target:
 - ERI Path: ERI Target of ~45-55.
 - ASHRAE Path: 15% savings over ASHRAE 90.1-2019
 - Prescriptive Path: Prescriptive Measures
- Same mandatory requirements as National Version 1.1, except for more stringent thermal backstop.



National Version 1.3



- Will not be required for certification before 01/01/2029.
 - But is allowed to be used before then.
- Performance target:
 - ERI Path: ERI Target of ~40-50.
 - ASHRAE Path: 15% savings over ASHRAE 90.1-2022
 - Prescriptive Path: Prescriptive Measures
- Same mandatory requirements as National Version 1.2, except for a more flexible thermal backstop.


Regional Requirements



- OR-WA v1.2 sunset for permits on or after 01/01/2027.
- CA v1.2, v1.3, v1.4, v1.5: dependent on plan approval date, permit date, and edition of state code enforced for the building being certified.
- Caribbean v1 not anticipating any changes in the year ahead.



Introducing Revision 05

Preview of: ENERGY STAR: Multifamily New Construction (MFNC) Revision 5 Tuesday 2:30 PM at Joshua Tree – Rebecca Hudson, Gayathri Vijayakumar (SWA)



Summary of most notable changes in Rev. 05

- Top ten changes:
 - 1. Eliminated **some** mandatory reduced thermal bridging requirements
 - 2. Narrowed the scope of builder-verified items
 - 3. Require Raters to capture photos, including selfie, for all paths
 - 4. Sunset the Water Management System Requirements
 - 5. Limit townhouse eligibility to SFNH

- 6. Require Multifamily Workbook for all paths
- 7. Consolidated ASHRAE target and documentation
- 8. Reduced minimum mass floor insulation required over garage
- 9. Added new central exhaust duct leakage test option
- 10. Updated VRF Functional testing protocols

• Additional clarifications and refinements, including relocating requirements.



Implementation of Revision 05

- Released 01/15/25.
- Updated program documents at: <u>www.energystar.gov/newhomesrequirements</u>.
- One-page highlights document, tracked-changes documents, and updated Policy Record will be available at:

www.energystar.gov/newhomespolicyrecord

- Implementation date of 01/01/2026.
 - You can use Rev. 05 for any building.
 - You <u>must</u> use Rev. 05 for any building permitted after 01/01/26.



ENERGY STAR®, a U.S. Environmental Protection Agency program, helps us all save money and protect our environment through energy efficient products and practices. For more information, visit www.energystar.gov.

Highlights from Revision 05 of the Multifamily New Construction (MFNC) Program

Revision 05 of the MFNC program has been posted to the <u>ENERGY STAR website</u>. Partners are permitted to use this Revision immediately, but must apply it to all buildings permitted on or after 01/01/2026. The <u>Current Policy Record</u> contains all changes in this Revision. 'Mark-up' documents showing all tracked changes except formatting will also be posted at this location. The EPA strongly encourages partners to review these documents. Following are the most substantial updates:

Multiple Program Documents

- The National Program Requirements eligibility has been revised to reflect the change that townhouses are no longer eligible to participate in MFNC and all townhouse-specific requirements have been removed from all documents.
- Functional testing of indoor / terminal HVAC unit requirements have been moved from the National HVAC Functional
 Testing Checklist to the National Rater Field Checklist.
- Exhibit X from the Rater Field Checklist has been moved to a new table within the ENERGY STAR Multifamily
 Reference Design in the National Program Requirements.
- Where electric water heaters are not rated in thermal efficiency, UEF, or COP, a metric has been added related to Standby Loss and the requirements for minimum efficiencies have been moved from the Rater Field Checklist to the ENERGY STAR Multifamily Reference Design.

Applicable Program Requirements, Versions, and Revisions by Location Document

Footnote 1 has been clarified to state that, in cases where multiple permits are issued for a project (e.g., footing
permits, building permits), the 'permit date' is the date on which the permit authorizing construction of the building,
including the building features affecting energy use (e.g., insulation levels, window U/SHGC specifications,
mechanical equipment efficiency), was issued.

National Program Requirements

- Exhibit 1, which summarizes the key efficiency features in the ENERGY STAR Multifamily Reference Design, has
 been redesigned to improve its utility and clarity. In addition, the language preceding the table and references in the
 certification process have been revised to clarify that the features contained within the table are only required where
 specified in the National Rater Design Review Checklists and National Rater Field Checklists, and all common space
 applicability notes have been removed.
- Exhibits 2 and 4, the Mandatory Requirements for All Certified Buildings and ASHRAE and Prescriptive Path MRO
 Documents, have been combined and also revised to require all paths to complete the Multifamily Workbook and





Preview of: Level up with ENERGY STAR NextGen: Program Updates and Rater Training Tuesday 4:00 PM at Joshua Tree – Zak Shadid, Dylan Tindall (the BER)

NextGen Energy Efficiency Specifications

Achievable, market-ready requirements





Energy use Highly energyefficient construction

Connected heat pump Multi-stage ENERGY STAR certified



Connected heat pump water heater ENERGY STAR certified



Electric cooking to improve indoor air quality



Electric vehicle charging capability



ENERGY STAR NextGen Early Participation



- ✓ ENERGY STAR NextGencertified homes: 63
- ✓ Rating companies: 12
- ✓ Builders: 20
- ✓ Utilities: **19**
- ✓ Average ERI score: 23 (with PV)





Ouality Control Updates



ENERGY STAR QAQC Enhancements

- After high-level requirements were finalized in July, 2024, HCOs (including RESNET) are implementing enhancements to the inspection and certification workflow, with more to come in the future.
- Highlights for 2025:
 - 1-hour annual training module: "ENERGY STAR Year Ahead" (Optional in 2025).
 - RESNET staff will be performing direct QC file review on fraction of ratings.
 - Raters are to begin capturing a new list of on-site photos for Revision 14/05.



On-Site Photo Collection

The Revision 14/05 National Rater Field Checklist introduces a list of photos that Raters are required to <u>capture</u> at each inspection, including:

- 1 geo-tagged and time-stamped Rater "selfie" per inspection.
- 10 photos reinforcing existing ANSI / RESNET 301 and MINHERS lists.
- 8 additional photos of ENERGY STAR-specific checklist measures





ENERGY STAR Single-Family New Homes National Rater Field Checklist, Version 3.1 / 3.2 / 3.3 (Rev. 14)

Home Address: City:	State:	P	ermit Date:		
Thermal Enclosure System		Must	Builder	Rater	NI/A4
1. High-Performance Insulation & Fenestration		Correct	Verified ¹	Verified ^{2, 3}	IN/A
1.1 Insulation meets specifications in National Rater Design Review Checklis	st Item 2.1.		Pre-rock+50 🔲		-
1.2 All insulation achieves Grade I install. per ANSI / RESNET / ICC 301. Alt	ernatives in Footnote 5. 5, 6		Pre-rock+50 🔲		-
1.3 Fenestration meets specifications in National Rater Design Review Chec	cklist Items 2.1 & 2.2.		-		-
2. Fully-Aligned Air Barriers 7 - At each insulated location below, a compl	lete air barrier is provided that is f	ully aligi	ned as follow	vs:	
Ceilings: At interior or exterior horizontal surface of ceiling insulation in Clima	ate Zones 1-3; at interior horizonta	al surfac	e of ceiling i	nsulation i	n
Climate Zones 4-8. Also, at exterior vertical surface of ceiling insulation in all	I climate zones (e.g., using a wind	i baffle t	hat extends	to the full	
neight of the insulation in every bay of a tabled battle in each bay with a soft	fit vent that prevents wind washin	g in adja	scent bays).		
2.1 Dropped centrings / some below unconditioned attics, and an other centring	s.		s 50 sq. n.	Zapas 4.9	9, 10
<u>Walls</u> . At exterior vertical surface of wall insulation in all climate zones, also a	at interior vertical surface of wait i				
2.2 Walls behind showers, tubs, stancases, and ineplaces.			≤ 50 sq. it.		
2.5 Allic Kriee walls and Skylight Shart walls.			≤ 50 sq. it.		
2.4 Walls adjoining porch tools of galages.			≤ 50 sq. it. □		
2.5 Double-walls and all other exterior walls.	if over unconditioned enage, also		ior borizonte		-
including supports to ensure alignment. Alternatives in Footnotes 13 & 14.	, 13, 14	at inter		II SUIIACE	
2.6 Floors above garages, floors above unconditioned basements or crawlsp	aces, and cantilevered floors.		≤ 50 sq. ft. □		
2.7 All other floors adjoining unconditioned space (e.g., rim / band joists at ex	xterior wall or at porch roof).		≤ 50 sq. ft.		
3. Reduced Thermal Bridging – Reduced thermal bridging strategies are	not mandatory. However, the foll	owina d	etails must b	e accurate	elv
assessed per ANSI / RESNET / ICC 301. 15	······,	g			
3.1 Insulated ceilings assessed at the attic edge for variance in R-value and	install quality.		-		
3.2 Insulation assessed beneath attic platforms and walkways for variance in	n R-value and install quality.		-		
3.3 Attic access panels, drop-down stairs, & whole-house fans assessed for	insulated covers.		-		
3.4 Above-grade walls separating conditioned from unconditioned space ass		-			
3.5 Slabs on grade assessed for insulation where walls separate conditioned	from unconditioned space.		-		
4. Air Sealing					
4.1 Rater has verified each air sealing detail below. In addition, the home mu the use of caulk, foam, or equivalent material.	ust meet Item 4.2. Unless otherwis	se noted	l below, "sea	aled" indica	ites
4.1.1 Ducts, flues, shafts, plumbing, piping, wiring, exhaust fans, & other space sealed, with blocking / flashing as needed.	penetrations to unconditioned		≤ 5 penetrations □		-
4.1.2 Attic access panels, drop-down stairs, & whole house fans are gask equipped with covers that are gasketed.	keted (i.e., not caulked) or		-	۵	
4.1.3 Recessed lighting fixtures adjacent to unconditioned space are ICA	T labeled and gasketed.		No Limit		
4.1.4 Drywall is sealed to top plate during installation, or from the attic sid wall interfaces. Drywall adhesive (but not other construction adhesi	le, at all unconditioned attic / ives) is permitted to be used.		No Limit		
4.1.5 Rough opening around windows & exterior doors is sealed.			-		-
4.1.6 Walls that separate attached garages from occupiable space are se is installed and sealed at floor cavities aligned with these walls.	ealed. In addition, an air barrier		-		
4.1.7 Doors adjacent to unconditioned space (e.g., attics, garages, basen are made substantially air-tight with weatherstripping or equivalent	nents) or ambient conditions gasket.		-		
4.1.8 Above-grade sill plates adjacent to conditioned space sealed to four	ndation or sub-floor.		No Limit		
4.1.9 In townhouses and duplexes, for fire-rated area separation walls, ga drywall common wall and the structural framing at all exterior bound	ap is sealed between the daries.		No Limit		
4.2 Rater-measured air leakage of Dwelling or Dwelling Unit meets one of the	e following: 16				
4.2.1 For all Versions except those noted below: ≤ 4.5 ACH50 For National v3.2 and CA v3.4: ≤ 4.0 ACH50 (see e: For National v3.3 and CA v3.5: ≤ 3.5 ACH50 (see e: ≤ 3.5 ACH50 (see e:	xception in Fn. 17) ¹⁷ xception in Fn. 17) ¹⁷		-	۵	
4.2.2 As an alternative, for a Dwelling with ≤ 1,500 sq. ft. of Conditioned F an attached Dwelling Unit, air leakage is ≤ 0.30 CFM50 per sq ft. of Compartmentization Boundary area.	Floor Area, a Townhouse, or f Dwelling Unit		-	۵	

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ENERGY STAR Single-Family New Homes National Rater Field Checklist, Version 3.1 / 3.2 / 3.3 (Rev. 14)

Home Address: City:	State:	Pe	ermit Date:		
Thermal Enclosure System	1	Must	Builder	Rater	
1. High-Performance Insulation & Fenestration	Co	orrect	Verified ¹	Verified ^{2, 3}	N/A*
1.1 Insulation meets specifications in National Rater Design Review Checklist I	tem 2.1.		Pre-rock+50 🗌	D 4	
1.2 All insulation achieves Grade I install. per ANSI / RESNET / ICC 301. Alterr	natives in Footnote 5. 5, 6		Pre-rock+50 🗌		-
1.3 Fenestration meets specifications in National Rater Design Review Checkli	st Items 2.1 & 2.2.		-		-
2. Fully-Aligned Air Barriers 7 - At each insulated location below, a complete	air barrier is provided that is ful	lly aligr	ned as follow	vs:	
Ceilings: At interior or exterior horizontal surface of ceiling insulation in Climate	Zones 1-3; at interior horizontal	surfac	e of ceiling i	nsulation in	n
Climate Zones 4-8. Also, at exterior vertical surface of ceiling insulation in all cli	mate zones (e.g., using a wind b	baffle th	nat extends	to the full	
height of the insulation in every bay or a tabbed baffle in each bay with a soffit	vent that prevents wind washing	in adja	cent bays).	8,9	
2.1 Dropped ceilings / soffits below unconditioned attics, and all other ceilings.			≤ 50 sq. ft. 🔲		
Walls: At exterior vertical surface of wall insulation in all climate zones; also at i	nterior vertical surface of wall ins	sulatior	n in Climate	Zones 4-8	. 9, 10
2.2 Walls behind showers, tubs, staircases, and fireplaces.			≤ 50 sq. ft. 🔲		
2.3 Attic knee walls and skylight shaft walls. ¹¹			≤ 50 sq. ft. 🔲		
2.4 Walls adjoining porch roofs or garages.			≤ 50 sq. ft. 🔲		
2.5 Double-walls and all other exterior walls.			≤ 50 sq. ft. 🔲		-
<u>Floors</u> : At exterior vertical surface of floor insulation in all climate zones and, if including supports to ensure alignment. Alternatives in Footnotes 13 & 14. ^{12, 13}	over unconditioned space, also a	at interi	or horizonta	al surface	
2.6 Floors above garages, floors above unconditioned basements or crawlspace	es, and cantilevered floors.		≤ 50 sq. ft. 🔲		
2.7 All other floors adjoining unconditioned space (e.g., rim / band joists at exte	rior wall or at porch roof).		≤ 50 sq. ft. 🔲		
 Reduced Thermal Bridging – Reduced thermal bridging strategies are not assessed per ANSI / RESNET / ICC 301, ¹⁵ 	t mandatory. However, the follow	wing de	etails must b	e accurate	ly
3.1 Insulated ceilings assessed at the attic edge for variance in R-value and ins	tall quality.		-		
3.2 Insulation assessed beneath attic platforms and walkways for variance in R	-value and install guality.		-		
3.3 Attic access panels, drop-down stairs, & whole-house fans assessed for ins	ulated covers.		-		
3.4 Above-grade walls separating conditioned from unconditioned space asses	sed for advanced framing.		-		
3.5 Slabs on grade assessed for insulation where walls separate conditioned fr	om unconditioned space.		-		
4. Air Sealing	· · ·				
4.1 Rater has verified each air sealing detail below. In addition, the home must the use of caulk, foam, or equivalent material.	meet Item 4.2. Unless otherwise	e noted	below, "sea	aled" indica	tes
4.1.1 Ducts, flues, shafts, plumbing, piping, wiring, exhaust fans, & other pe space sealed, with blocking / flashing as needed.	netrations to unconditioned		≤ 5 penetrations		-
4.1.2 Attic access panels, drop-down stairs, & whole house fans are gasketed equipped with covers that are gasketed.	ed (i.e., not caulked) or		-	۵	
4.1.3 Recessed lighting fixtures adjacent to unconditioned space are ICAT la	abeled and gasketed.		No Limit		
4.1.4 Drywall is sealed to top plate during installation, or from the attic side, wall interfaces. Drywall adhesive (but not other construction adhesive)	at all unconditioned attic /		No Limit		
4.1.5 Rough opening around windows & exterior doors is sealed.	,		-		-
4.1.6 Walls that separate attached garages from occupiable space are seale is installed and sealed at floor cavities aligned with these walls.	ed. In addition, an air barrier		-	۵	
4.1.7 Doors adjacent to unconditioned space (e.g., attics, garages, basemer are made substantially air-tight with weatherstripping or equivalent ga	nts) or ambient conditions		-		
4 1 8 Above-grade sill plates adjacent to conditioned space sealed to found	ation or sub-floor		No Limit		
4.1.9 In townhouses and duplexes, for fire-rated area separation walls, gap dated in common well and the structural forming at all exterior boundary	is sealed between the		No Limit		
4.2 Poter measured air leakage of Dwelling or Dwelling Linit meats and of the f	allowing: ¹⁶				
4.2 A Care all Versions execut these noted below< 4.5 A CLISS	unowning. ·-				
4.2.1 For all versions except those noted below: \$ 4.5 ACH50 For National v3.2 and CA v3.4: \$ \$ 4.0 ACH50 (see exce	eption in Fn. 17) ¹⁷		-	۵D	
For National v3.3 and CA v3.5: ≤ 3.5 ACH50 (see exce	eption in Fn. 17) ¹⁷				
4.2.2 As an alternative, for a Dwelling with ≤ 1,500 sq. ft. of Conditioned Flo an attached Dwelling Unit, air leakage is ≤ 0.30 CFM50 per sq ft. of D Compartmentilization Boundary control of the second secon	or Area, a Townhouse, or welling Unit		-	0	



For each item with a camera icon, capture one representative photo of the strategy installed.



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HVA	C Syste	m ¹⁸					Must	Rater	
5. Hea	ating & (Cooling Equ	ipment - Comp	ete Track A - HVAC Gra	ading ¹⁹ or Track B - HVAC Cre	edential 20	Correct	Verified ^{2, 3}	N/A "
	5a.1 Blo	wer fan volur	netric airflow is 0	Grade I or II per ANSI / R	ESNET / ACCA / ICC 310.				
Track	5a.2 Blo	wer fan watt	draw is Grade I o	or II per ANSI / RESNET	/ ACCA / ICC 310.				
^	5a.3 Re	frigerant char	ge is Grade I pe	ANSI / RESNET / ACC.	A / ICC 310. See Footnote 21	for exemptions. 21			
	5b.1 HV	AC manufact	urer & model nu	mber on installed equipn	nent matches either of the follo	wing (check box):22	_		
Track		ational HVA	C Design Report		U Written approval received fr	rom designer			
В	5b.2 Ext	2.2 External static pressure measured by Rater at contractor-provided test locations and documented below. ²³							
	Ret	urn-Side Exte	ernal Static Press	sure:IWC Sup	oply-Side External Static Press	ure:IWC		_	
	5b.3 Per	mitted, but n	ot required: Natio	onal HVAC Commissioni	ng Checklist collected, with no	items left blank.			
6. Du	ct Qualit	y Installatio	n (Applies to He	ating, Cooling, Ventilatio	on, Exhaust, & Pressure Balan	cing Ducts, Unless N	loted in F	ootnote)	
6.1 Du	uctwork in	istalled without	ut kinks, sharp b	ends, compressions, or e	excessive coiled flexible ductw	ork. 24			
6.2 Be ac wh	edrooms p chieve a F hen all air	oressure-bala Rater-measure handlers are	nced (e.g., using ed pressure diffe operating. Test	ι transter grilles, jump dι rential ≥ -3 Pa and ≤ +3 configuration and an alte	acts, dedicated return ducts, un Pa with respect to the main bo ernative compliance option in F	ndercut doors) to ody of the house Footnote 25. ²⁵		D	-
6.3 Al	l supply a	nd return duo	ts in uncondition	ed space, including con	nections to trunk ducts, are ins	ulated to ≥ R-6. ²⁶			
6.4 Ra	ater-meas	ured total du	ct leakage meets	one of the following two	o options. Alternative in Footno	te 28: 27, 28, 29			
6.4.1	Rough-in cavities	n: The greate used as duct	r of ≤ 4 CFM25 p s, & duct boots in	per 100 sq. ft. of CFA or stalled. All duct boots s	≤ 40 CFM25, with air handler & ealed to finished surface, Rate	& all ducts, building r-verified at final. 30		۵	
6.4.2	2 Final: Th	ne greater of :	≤ 8 CFM25 per 1	00 sq. ft. of CFA or ≤ 80	CFM25, with the air handler &	all ducts, building		- -	
	cavities	used as duct	s, duct boots, &	register grilles atop the fi	inished surface (e.g., drywall, f	loor) installed. 31	-		
6.5 Ra	ater-meas	sured duct lea	kage to outdoor	s the greater of ≤ 4 CFM	25 per 100 sq. ft. of CFA or ≤ 4	40 CFM25. 27, 32			
7. Dw	elling U	nit Mechani	cal Ventilation	Systems ("Vent Syste	em") ³³ & Inlets in Return D	uct 34			
7.1 Ra	ater-meas	sured ventilati	on rate is within	either ± 15 CFM or ±15%	% of design report value. ³⁵				-
7.2 A is	readily-ad	cessible ven for a toggle w	tilation override o all switch, but no	control installed and also ot for a switch that's on th	labeled if its function is not ob the ventilation equipment). ³⁶	vious (e.g., a label			-
7.3 Fc	or any out	door air inlet	connected to a d	ucted return of the HVA	C system (Complete if present	; otherwise check "N	/A"): ³⁴		
7.3.1	Controls	automaticall	v restrict airflow	using a motorized dampe	er during vent. off-cycle and oc	cupant override. 37			-
7.3.2	2 Rater-m	easured vent	, rate is ≤ 15 CFI	V or 15% above design	value at highest HVAC fan spe	ed. Alt. in Fn. 38. 38			-
7.4 Sv	/stem fan	rated ≤ 3 sor	nes if intermittent	and ≤ 1 sone if continue	ous, or exempted, 39				-
7.5 lf V	7.5 If Vent System controller operates the HVAC fan, then HVAC fan operation is intermittent and either the fan type is ECM / ICM or the controls will reduce the run-time by accounting for HVAC system heating or cooling hours. ⁴⁰								
7.6 Bathroom fans are ENERGY STAR certified if used as part of the Vent System. 41									
7.7 Ai	r inlet loca	ation (Comple	ete if ventilation a	ir inlet location was spe	cified on design report; otherwi	ise check "N/A"): 42, 4	3		
7.7.	1 Inlet pu	Ils ventilation	air directly from	outdoors and not from a	ttic, crawlspace, garage, or ad	iacent dwelling unit.			-
7.7.	2 Inlet is a not exit	≥ 2 ft. above g	grade or roof deo and ≥ 3 ft. distan	k; ≥ 10 ft. of stretched-s ce from drver exhausts a	tring distance from known contand sources exiting the roof. 44	tamination sources			-
7.7.	3 Inlet is I	provided with	rodent / insect s	creen with ≤ 0.5 in. mes	h.				-
8. Loc	cal Mech	anical Exha	ust – In each kit	chen and bathroom, a s	ystem is installed that exhaust	s directly to the outd	oors and	meets one	e of
Locat	ion		Continuous R	ate	Intermittent Rate 46				
8.1 Ki	tchen	Airflow	≥ 5 ACH, based on kitch	en volume ^{47, 48}	≥ 100 CFM and, if not integra also ≥ 5 ACH based on kitch	ated with range, en volume ^{47, 48, 49}		۵	-
		Sound	Recommended	l: ≤ 1 sone	Recommended: ≤ 3 sones		1		
0.0.0		Airflow	≥ 20 CFM		≥ 50 CFM			- *	
8.2 Ba	athroom	Sound	Required: ≤ 1 s	one	Recommended: ≤ 3 sones				-
9. Filt	tration				1		1		
9.1 Mi air	ERV 6+ fi r passes t	lter(s) installe hrough filter(ed in each ducteo s) prior to conditi	l mech. system, designe oning, and located to fac	d so all return and mechanical cilitate occupant access & regu	ly supplied outdoor llar service. 50			
9.2 Fil	Iter acces	s panel inclu	des gasket and f	ts snugly against expose	ed edge of filter when closed to	o prevent bypass. 51			
10. C	ombusti	on Applianc	es		-				
10.1 F	urnaces,	boilers, & wa	iter heaters are r	nechanically drafted or d	lirect-vented. Alternatives in Fo	ootnote 54. 52, 53, 54			
10.2 F	ireplaces	are mechani	cally drafted or o	lirect-vented. Alternative	s in Footnote 55. 52, 53, 55				
10.3 N b	No unvent	ed combustic Alternative in	n appliances oth Footnote 57. 52,	er than cooking ranges 56, 57	or ovens are located inside the	e home's pressure			
Rater	Name:			Rater Pre-Drywall Inspe	ction Date58:	Rater Initials:	Photo	of Rater ³	
Rater	Name:			Rater Final Inspection D	ate ⁵⁹ :	Rater Initials:	Photo	of Rater ³	
Builde	er Employ	ee:		Builder Inspection Date:		Builder Initials:			
OMB C	ontrol Nur	nber: 2060-05	86	Revised OMB Control Expir	01/15/2025 ation Date: 01/31/2024	EPA	Form Nur	Page 2 nber: 5900-	of 6 -428



ENERGY STAR Single-Family New Homes

National Rater Field Checklist, Version 3.1 / 3.2 / 3.3 (Rev. 14)

HVAC	Syste	m ¹⁸					Must	Rater	
5. Hea	ting & C	Cooling Equ	ipment - Complete Tr	ack A - HVAC Gra	ding 19 or Track B - HVAC Credent	tial ²⁰	Correct	Verified ^{2, 3}	
	5a.1 Blo	wer fan volu	metric airflow is Grade	l or II per ANSI / R	ESNET / ACCA / ICC 310.				
Track	5a.2 Blo	wer fan watt	draw is Grade I or II pe	r ANSI / RESNET	/ ACCA / ICC 310.				
^	5a.3 Ref	frigerant cha	ge is Grade I per ANSI	/ RESNET / ACC/	A / ICC 310. See Footnote 21 for e	xemptions. 21			
	5b.1 HV	AC manufac	urer & model number of	on installed equipm	nent matches either of the following	(check box):22			
Treat		lational HVA	C Design Report		Written approval received from	designer			
В	5b.2 Ext	ernal static p	ressure measured by F	Rater at contractor-	provided test locations and docum	ented below:23			
-	Ret	urn-Side Exte	ernal Static Pressure:	IWC Sup	pply-Side External Static Pressure:				
	5b.3 Per	rmitted, but n	ot required: National H	VAC Commissionii	ng Checklist collected, with no item	ns left blank.			
6. Duc	t Qualit	y Installatio	n (Applies to Heating,	Cooling, Ventilatio	n, Exhaust, & Pressure Balancing	Ducts, Unless N	oted in F	ootnote)	
6.1 Duo	ctwork in	stalled witho	ut kinks, sharp bends, o	compressions, or e	excessive coiled flexible ductwork.	24			
6.2 Beo ach who	drooms p nieve a R en all air	oressure-bala Rater-measur handlers are	inced (e.g., using trans ed pressure differential e operating. Test config	fer grilles, jump du ≥ -3 Pa and ≤ +3 I uration and an alte	icts, dedicated return ducts, under Pa with respect to the main body o ernative compliance option in Footr	cut doors) to f the house note 25. ²⁵		D	-
6.3 All :	supply a	nd return du	cts in unconditioned spa	ace, including conr	nections to trunk ducts, are insulate	ed to ≥ R-6. ²⁶			
6.4 Rat	ter-meas	ured total du	ct leakage meets one c	of the following two	options. Alternative in Footnote 2	B: 27, 28, 29			
6.4.1	Rough-ir cavities	<u>n</u> : The greate used as duc	r of ≤ 4 CFM25 per 100 is, & duct boots installe) sq. ft. of CFA or s d. <u>All</u> duct boots se	≤ 40 CFM25, with air handler & all ealed to finished surface, Rater-ver	ducts, building rified at final. ³⁰		۵	
6.4.2	Final: Th cavities	ne greater of used as duc	≤ 8 CFM25 per 100 sq. ts, duct boots, & registe	ft. of CFA or ≤ 80 or grilles atop the fi	CFM25, with the air handler & all on nished surface (e.g., drywall, floor)	ducts, building installed. 31		0	
6.5 Rat	ter-meas	ured duct lea	akage to outdoors the o	reater of ≤ 4 CFM	25 per 100 sq. ft. of CFA or ≤ 40 C	FM25. 27, 32			
7. Dwe	ellina U	nit Mechani	cal Ventilation Syste	ms ("Vent Syste	m") 33 & Inlets in Return Duct	34	_		
7 1 Rat	ter-meas	ured ventilat	ion rate is within either	+ 15 CEM or +15%	6 of design report value ³⁵				-
7 2 A ra	eadily ac		tilation override control	installed and also	labeled if its function is not obviou	e (e.a. a label			-
is n	equired 1	for a toggle ver	vall switch but not for a	switch that's on th	e ventilation equipment) ³⁶	s (e.g., a label			-
7 3 Eor		door air inlet	connected to a ducted	return of the HV/A	C system (Complete if present: oth	envise check "N	/Δ")· 34		
721	Controle		v restrict sirflow using	a motorized dome	or during yent, off cycle and occup	ant override ³⁷	,		
7.3.1	Deter	automatical	y restrict arritow using a	a motorized dampe	er during vent. on-cycle and occupa				-
7.3.2 Katel-measured vent, rate is \$ 15 CFM of 15% above design value at highest HVAC fan speed. Alt, in Fh. 38.							-		
7.4 System fan rated < 3 sones if intermittent and < 1 sone if continuous, or exempted. 39						-			
7.5 If Vent System controller operates the HVAC fan, then HVAC fan operation is intermittent and either the fan type is ECM / ICM or the controls will reduce the run-time by accounting for HVAC system heating or cooling hours. ⁴⁰					the fan type is g hours. ⁴⁰				
7.6 Bat	inroom ta	ans are ENE	RGY STAR certified if u	ised as part of the	vent System.	1			
7.7 AI	iniet loca	auon (Compi	ate il venulation air iniei	liocation was spec	cilled on design report; otherwise c	neck N/A):			
7.7.1	Inlet pu	lls ventilation	air directly from outdoo	ors and not from at	ttic, crawlspace, garage, or adjace	nt dwelling unit			-
7.7.2	Inlet is ? not exit	≥ 2 ft. above ing the roof,	grade or roof deck; ≥ 10	0 ft of stratchad st	ring distance from known contami	it awoning ant.			-
7.7.3			and ≥ 3 ft. distance from	n dryer exhausts a	and sources exiting the roof. 44	nation sources			-
	Inlet is p	provided with	and ≥ 3 ft. distance from rodent / insect screen	m dryer exhausts a with ≤ 0.5 in. mest	nd sources exiting the roof. ⁴⁴	nation sources			- - -
3. Loca	lnlet is p al Mech	provided with anical Exha	and ≥ 3 ft. distance fror rodent / insect screen ust – In each kitchen a the following Rat	n dryer exhausts a with ≤ 0.5 in. mesh and bathroom, a sy er-measured airflo	Initial distance from known containing not sources exiting the roof. ⁴⁴ n. ystem is installed that exhausts dir w and manufacturer-rated sound le	ectly to the outdo evel standards: ³	Dors and	meets one	- - e of
B. Loca	3 Inlet is p al Mech on	provided with anical Exha	and ≥ 3 ft. distance fror rodent / insect screen tust – In each kitchen a the following Rat Continuous Rate	m dryer exhausts a with ≤ 0.5 in. mesh and bathroom, a sy er-measured airflo	Ing distance from known containing nd sources exiting the roof. ⁴⁴ ystem is installed that exhausts dir w and manufacturer-rated sound in Intermittent Rate ⁴⁶	ectly to the outdo	Dors and	meets one	- - e of
 Location B.1 Kitch 	Inlet is p al Mech on chen	Airflow	and ≥ 3 ft. distance from rodent / insect screen ust – In each kitchen a the following Rat Continuous Rate ≥ 5 ACH, based on kitchen volu	m dryer exhausts a with ≤ 0.5 in. mesl and bathroom, a sy er-measured airflo	Ining distance from known containing n. stem is installed that exhausts dir w and manufacturer-rated sound i Intermittent Rate ⁴⁶ ≥ 100 CFM and, if not integrated also ≥ 5 ACH based on kitchen vc	ectly to the outdo evel standards: ³ with range, plume ^{47, 48, 49}	Doors and 5,45	meets one	- - e of
B. Location Location B.1 Kite	3 Inlet is p al Mech on chen	Airflow	and ≥ 3 ft. distance fror rodent / insect screen ust – In each kitchen a the following Rat Continuous Rate ≥ 5 ACH, based on kitchen volu Recommended: ≤ 1 s	in dryer exhausts a with ≤ 0.5 in. mesl and bathroom, a sy er-measured airflo ime ^{47, 48} one	Initial distance from known containing and sources exiting the roof. ⁴⁴ n. ystem is installed that exhausts dir w and manufacturer-rated sound i Intermittent Rate ⁴⁶ \geq 100 CFM and, if not integrated also \geq 5 ACH based on kitchen vo Recommended: \leq 3 sones	ectly to the outdo evel standards: ³ with range, olume ^{47, 48, 49}	Doors and 5,45	meets one	- - • of
3. Location Location 3.1 Kiton 3.2 Bat	B Inlet is p al Mech on chen throom	Airflow Airflow	and ≥ 3 ft. distance fror rodent / insect screen iust – In each kitchen a the following Rate ≥ 5 ACH, based on kitchen volu Recommended: ≤ 1 s ≥ 20 CFM	with ≤ 0.5 in. mesl and bathroom, a sy er-measured airflo ume ^{47, 48}	Initig distance from Known containing and sources exiting the roof. ⁴⁴ $r_{\rm s}$ stem is installed that exhausts dir w and manufacturer-rated sound line Intermittent Rate ⁴⁶ \geq 100 CFM and, if not integrated i also \geq 5 ACH based on kitchen vo Recommended: \leq 3 sones \geq 50 CFM	ectly to the outdo evel standards: ³ with range, plume ^{47, 48, 49}	Doors and 5,45	meets one	- - - - -
3. Locatio Locatio 3.1 Kito 3.2 Bat	3 Inlet is p al Mech on chen throom	Airflow Sound Sound Sound	and ≥ 3 ft. distance fror rodent / insect screen aust – In each kitchen a the following Rate ≥ 5 ACH, based on kitchen volt Recommended: ≤ 1 s ≥ 20 CFM Required: ≤ 1 sone	in the statusts a with ≤ 0.5 in. mesi and bathroom, a sy er-measured airflo ume ^{47, 48}	Initig distance from known containing indisources exiting the roof. ⁴⁴ n. stem is installed that exhausts dir w and manufacturer-rated sound I Intermittent Rate ⁴⁶ \geq 100 CFM and, if not integrated also \geq 5 ACH based on kitchen v Recommended: \leq 3 sones \geq 50 CFM Recommended: \leq 3 sones	ectly to the outdot evel standards: ³ with range, olume ^{47, 48, 49}	Dors and 5,45	meets one	- - e of
3. Locatio Locatio 3.1 Kito 3.2 Bat 3.2 Bat 9. Filtr 9.1 ME	3 Inlet is p al Mech on chen throom ration :RV 6+ fi passes f	Airflow Sound Airflow Sound Liflow Sound Liflow Sound	and ≥ 3 ft. distance fror rodent / insect screen aust – In each kitchen i the following Rat Continuous Rate ≥ 5 ACH, based on kitchen volt Recommended: ≤ 1 s ≥ 20 CFM Required: ≤ 1 sone d in each ducted mech s) nort or conditioning	to fr. of stechausts a with ≤ 0.5 in. mesl and bathroom, a s er-measured airflo ume ^{47, 48} ione	thing distance from known containing in a sources exiting the roof. ⁴⁴ n. ystem is installed that exhausts dir w and manufacturer-rated sound i Intermittent Rate ⁴⁶ ≥ 100 CFM and, if not integrated also ≥ 5 ACH based on kitchen vo Recommended: ≤ 3 sones ≥ 50 CFM Recommended: ≤ 3 sones d so all return and mechanically su	active the outdoor solution sources active to the outdoor sources active standards; 3 with range, olume 47, 48, 49 olume 47, 48, 49 opplied outdoor ervice 50	cors and 5, 45	meets one	- - - of -
3.1 Kito 3.1 Kito 3.2 Bat 9. Filtr 9.1 ME air	al Inlet is p al Mech on chen throom ration RV 6+ fi passes t er acces	Airflow Sound Airflow Sound Airflow Sound Iter(s) install hrough filter(and ≥ 3 ft. distance fror rodent / insect screen aust - In each kitchen i based on kitchen volu Recommended: ≤ 1 s ≥ 2 0 CFM Required: ≤ 1 sone ed in each ducted mech s) prior to conditioning, des gasket and fits some	in of stretchedas in dryer exhausts a with ≤ 0.5 in, mesl and bathroom, a si ier-measured airflo ime ^{47, 48} ione I. system, designer and located to fac	Ing distance from Known containing nod sources exiting the roof. ⁴⁴ n. ystem is installed that exhausts diri wa and manufacturer-rated sound li Intermittent Rate ⁴⁰ ≥ 100 CFM and, if not integrated i also ≥ 5 ACH based on kitchen vo Recommended: ≤ 3 sones ≥ 50 CFM Recommended: ≤ 3 sones distance and the sones difference and the sones of the sones difference and the sones of the sones of the sones difference and the sones of the sone of	active and the sources	Doors and 5,45		- - e of -
3.1 Kito 3.1 Kito 3.2 Bat 9. Filtr 9.1 ME air 9.2 Filtr	al Inlet is p al Mech on chen throom ration RV 6+ fi passes t er acces	Airflow Sound Airflow Sound Airflow Sound Iter(s) install hrough filter(s panel inclu	and ≥ 3 ft. distance fror rodent / insect screen aust – In each kitchen the following Rat ≥ 5 ACH, based on kitchen volu Recommended: ≤ 1 s ≥ 20 CFM Required: ≤ 1 sone d in each ducted mech s) prior to conditioning, des gasket and fits snu	o h. or stechausts a with ≤ 0.5 in. mesi and bathroom, a s ter-measured airflo ime ^{47, 48} ione . system, designe and located to fac gly against expose	Initig distance from known containing indisources exiting the roof. ⁴⁴ r_1 , stem is installed that exhausts diri- w and manufacturer-rated sound li Intermittent Rate ⁴⁶ \geq 100 CFM and, if not integrated $also \geq 5$ ACH based on kitchen vo Recommended: \leq 3 sones \geq 50 CFM Recommended: \leq 3 sones diso all return and mechanically su- ilitate occupant access & regular s ad edge of filter when closed to pre-	ectly to the outdo evel standards: ³ with range, plume ^{47, 48, 49} upplied outdoor ervice. ⁵⁰ vent bypass. ⁵¹	Dors and s, 45	meets one	- - - - -
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8. Location 8.1 Kitto 8.2 Batt 9. Filtr 9.1 ME air 9.2 Filt 10.2 Fil 10.2 Fil 10.3 No bo Rater N	al Inlet is p al Mech on chen throom ration ERV 6+ fi passes t er acces ombustie urnaces, ireplaces o unvent oundary. Name:	Airflow Sound Airflow Sound Airflow Sound Iter(s) install hrough filter(s panel inclu on Appliant boilers, & w. are mechan ed combustit Alternative in	and ≥ 3 ft. distance fror rodent / insect screen aust - In each kitchen i based on kitchen volu Recommended: ≤ 1 s ≥ 20 CFM Required: ≤ 1 sone di neach ducted mect s) prior to conditioning, des gasket and fits snu zes iter heaters are mechan ically drafted or direct- n appliances other than i Footnote 57, ^{52, 56, 57}	the of stretchausts a with ≤ 0.5 in. mesi and bathroom, a si ter-measured airfic ume ^{47, 48} ione 1. system, designer and located to fac gly against expose nically drafted or d rented. Alternative: n cooking ranges of Pre-Drywall Inspe	Ing distance from Known containing ing sources exiting the roof. ⁴⁴ n. stem is installed that exhausts diri wa and manufacturer-rated sound li Intermittent Rate ⁴⁶ ≥ 100 CFM and, if not integrated also ≥ 5 ACH based on kitchen vi Recommended: ≤ 3 sones ≥ 50 CFM Recommended: ≤ 3 sones d so all return and mechanically su illitate occupant access & regular s ad edge of filter when closed to pre irect-vented. Alternatives in Footnot s in Footnote 55. ^{52, 53, 56} or ovens are located inside the hor ction Date ⁵⁸ :	pplied outdoor ervice, ⁵⁰ went bypass, ⁵¹ ote 54, ⁵² , 53, 54 ne's pressure Rater Initials;	Constant Constant	meets one	- - - of - -
8. Location 8.1 Kito 8.2 Bat 9. Filtr 9.1 ME air 9.2 Filt 10.2 Fil 10.2 Fil 10.3 No 200 Rater N	al Mech on chen throom ration RV 6+ fi passes t er acces ombustie urnaces, ireplaces o unvent oundary. Name: Name:	Airflow Sound Airflow Sound Airflow Sound Hter(s) installid hrough filter(s panel inclu on Applian boilers, & wa are mechan ed combustik Alternative in	and ≥ 3 ft. distance fror rodent / insect screen aust – In each kitchen i the following Rat Continuous Rate ≥ 5 ACH, based on kitchen volu Recommended: ≤ 1 so ≥ 20 CFM Required: ≤ 1 sone ad in each ducted mech s) prior to conditioning, des gasket and fits snu 28 alter heaters are mechai cally drafted or direct- n appliances other tha i Footnote 57, ^{50, 50, 57} Rater Rater	in of stretchests a with ≤ 0.5 in. mesi and bathroom, a sy ter-measured airfic ume ^{47, 48} ione and located to fac gly against expose nically drafted or d rented. Alternative: n cooking ranges of Pre-Drywall Inspe Final Inspection D	Ining distance from known containing in a sources exiting the roof. ⁴⁴ n. ystem is installed that exhausts dir wand manufacturer-rated sound I Intermittent Rate ⁴⁶ ≥ 100 CFM and, if not integrated also ≥ 5 ACH based on kitchen vor Recommended: ≤ 3 sones ≥ 50 CFM Recommended: ≤ 3 sones d so all return and mechanically su ilitate occupant access & regular s ad edge of filter when closed to pre irect-vented. Alternatives in Footnot s in Footnote 55. ^{52, 53, 55} or ovens are located inside the hor ction Date ⁵⁸ :	pplied outdoor ervice, ⁵⁰ vent bypass, ⁵¹ ble 54, ⁵² , 53, 54 me's pressure Rater Initials; Rater Initials;	Coors and 5,45	meets one	

At each inspection (i.e., pre-drywall and final), the Rater is required to capture a geo-tagged and time-stamped photo of themselves in front of the dwelling unit.

als: Photo of Rater ³ 🗆 🗖
als: Photo of Rater ³
1

Thermal Enclosure System	Must	Builder	Rater	N/A
1. High-Performance Insulation & Fenestration	Correct	Verified ¹	Verified ^{2, 3}	
1.1 Insulation meets specifications in National Rater Design Review Checklist Item 2.1.		Pre-rock+50		-
1.2 All insulation achieves Grade I install. per ANSI / RESNET / ICC 301. Alternatives in Footnote 5. 5, 6		Pre-rock+50		-
1.3 Fenestration meets specifications in National Rater Design Review Checklist Items 2.1 & 2.2.		-		-
2. Fully-Aligned Air Barriers 7 - At each insulated location below, a complete air barrier is provided that is	fully alig	ned as follow	NS:	
<u>Ceilings</u> : At interior or exterior horizontal surface of ceiling insulation in Climate Zones 1-3; at interior horizont Climate Zones 4-8. Also, at exterior vertical surface of ceiling insulation in all climate zones (e.g., using a wind height of the insulation in every bay or a tabbed baffle in each bay with a soffit vent that prevents wind washing	al surfac d baffle t ng in adja	e of ceiling hat extends acent bays).	insulation into the full	n
2.1 Dropped ceilings / soffits below unconditioned attics, and all other ceilings.		≤ 50 sq. ft. 🔲		
Walls: At exterior vertical surface of wall insulation in all climate zones; also at interior vertical surface of wall	insulatio	n in Climate	Zones 4-8	9, 10
2.2 Walls behind showers, tubs, staircases, and fireplaces.		≤ 50 sq. ft. 🔲		
2.3 Attic knee walls and skylight shaft walls. ¹¹		≤ 50 sq. ft. 🔲		
2.4 Walls adjoining porch roofs or garages.		≤ 50 sq. ft. 🔲		
2.5 Double-walls and all other exterior walls.		≤ 50 sq. ft. 🔲		-
Floors: At exterior vertical surface of floor insulation in all climate zones and, if over unconditioned space, also including supports to ensure alignment. Alternatives in Footnotes 13 & 14. ^{12, 13, 14}	o at inter	ior horizonta	al surface	
2.6 Floors above garages, floors above unconditioned basements or crawlspaces, and cantilevered floors.		≤ 50 sq. ft. □		
2.7 All other floors adjoining unconditioned space (e.g., rim / band joists at exterior wall or at porch roof).		≤ 50 sq. ft. 🔲		
 Reduced Thermal Bridging – Reduced thermal bridging strategies are not mandatory. However, the fol assessed per ANSI / RESNET / ICC 301.¹⁵ 	lowing d	etails must l	be accurate	ely
3.1 Insulated ceilings assessed at the attic edge for variance in R-value and install quality.		-		
3.2 Insulation assessed beneath attic platforms and walkways for variance in R-value and install quality.		-		
3.3 Attic access panels, drop-down stairs, & whole-house fans assessed for insulated covers.		-		
3.4 Above-grade walls separating conditioned from unconditioned space assessed for advanced framing.		-		
3.5 Slabs on grade assessed for insulation where walls separate conditioned from unconditioned space.		-		
 4. Air Sealing 4.1 Rater has verified each air sealing detail below. In addition, the home must meet Item 4.2. Unless otherwithe use of caulk, foam, or equivalent material. 	ise noteo	d below, "sea	aled" indica	ates
4.1.1 Ducts, flues, shafts, plumbing, piping, wiring, exhaust fans, & other penetrations to unconditioned space sealed, with blocking / flashing as needed.		≤ 5 penetrations □		-
4.1.2 Attic access panels, drop-down stairs, & whole house fans are gasketed (i.e., not caulked) or equipped with covers that are gasketed.		-		
4.1.3 Recessed lighting fixtures adjacent to unconditioned space are ICAT labeled and gasketed.		No Limit		
4.1.4 Drywall is sealed to top plate during installation, or from the attic side, at all unconditioned attic / wall interfaces. Drywall adhesive (but not other construction adhesives) is permitted to be used.		No Limit		
4.1.5 Rough opening around windows & exterior doors is sealed.		-		-
4.1.6 Walls that separate attached garages from occupiable space are sealed. In addition, an air barrier is installed and sealed at floor cavities aligned with these walls.		-		
4.1.7 Doors adjacent to unconditioned space (e.g., attics, garages, basements) or ambient conditions are made substantially air-tight with weatherstripping or equivalent gasket.		-		
4.1.8 Above-grade sill plates adjacent to conditioned space sealed to foundation or sub-floor.		No Limit		
4.1.9 In townhouses and duplexes, for fire-rated area separation walls, gap is sealed between the drywall common wall and the structural framing at all exterior boundaries.		No Limit		
4.2 Rater-measured air leakage of Dwelling or Dwelling Unit meets one of the following: 16				
4.2.1 For all Versions except those noted below: For National v3.2 and CA v3.4: ≤ 4.5 ACH50 ≤ 4.0 ACH50 (see exception in Fn. 17) ¹⁷		-	۵D	
For National v3.3 and CA v3.5: ≤ 3.5 ACH50 (see exception in Fn. 17) ¹⁷ 4.2.2 As an alternative, for a Dwelling with ≤ 1,500 sq. ft. of Conditioned Floor Area, a Townhouse, or an attached Dwelling Unit, air leakage is ≤ 0.30 CFM50 per sq ft. of Dwelling Unit Compartmentalization Boundary area.		-	0	

HVAC System ¹⁸					Must	Rater	N/A 4
5. Hea	ating & O	Cooling Equ	ipment - Complete Track A - HVAC Gra	ding ¹⁹ or Track B - HVAC Credential ²⁰	Correct	Verified ^{2, 3}	11/2
	5a.1 Blo	wer fan volur	metric airflow is Grade I or II per ANSI / R	ESNET / ACCA / ICC 310.			
A	5a.2 Blo	wer fan watt	draw is Grade I or II per ANSI / RESNET	/ ACCA / ICC 310.			
	5a.3 Re	frigerant char	ge is Grade I per ANSI / RESNET / ACC	A / ICC 310. See Footnote 21 for exemptions. ²¹			
	5b.1 HV	AC manufact	turer & model number on installed equipm	nent matches either of the following (check box): ²²		ПÔ	
Track		lational HVA	C Design Report	Written approval received from designer	_		
В	5b.2 Ext	ernal static p	nal static pressure measured by Rater at contractor-provided test locations and documented below: ²³				
	Ret	urn-Side Exte	ernal Static Pressure:IWC Sup	oply-Side External Static Pressure:IWC	_	_	
5b.3 Permitted, but not required: National HVAC Commissioning Checklist collected, with no items left blank.							
6. Du	ct Qualit	y Installatio	on (Applies to Heating, Cooling, Ventilation	on, Exhaust, & Pressure Balancing Ducts, Unless N	loted in F	ootnote)	
6.1 Du	uctwork in	istalled witho	ut kinks, sharp bends, compressions, or	excessive coiled flexible ductwork. ²⁴			
6.2 Be	edrooms p	pressure-bala	anced (e.g., using transfer grilles, jump du	icts, dedicated return ducts, undercut doors) to			
w	hen all air	handlers are	e operating. Test configuration and an alte	ernative compliance option in Footnote 25. 25			-
6.3 Al	I supply a	nd return duo	ts in unconditioned space, including con	nections to trunk ducts, are insulated to \geq R-6. ²⁶			
6.4 Ra	ater-meas	ured total du	ct leakage meets one of the following two	o options. Alternative in Footnote 28: 27, 28, 29	1		
6.4.1	l <u>Rough-i</u> i	<u>n</u> : The greate	er of ≤ 4 CFM25 per 100 sq. ft. of CFA or :	≤ 40 CFM25, with air handler & all ducts, building			
	cavities	used as duct	s, & duct boots installed. <u>All</u> duct boots s	ealed to finished surface, Rater-verified at final. ³⁰			
6.4.2	2 Final: Th	ne greater of	\leq 8 CFM25 per 100 sq. ft. of CFA or \leq 80	CFM25, with the air handler & all ducts, building			
	cavities	used as duct	s, duct boots, & register grilles atop the fi	inished surface (e.g., drywall, floor) installed. ³¹	_		
6.5 Ra	ater-meas	ured duct lea	akage to outdoors the greater of ≤ 4 CFM	25 per 100 sq. ft. of CFA or \leq 40 CFM25. 27, 32			
7. DW	elling U	nit Mechani	cal ventilation Systems ("vent Syste			— —	
7.1 Ra	ater-meas	ured ventilati	tilation everyide control installed and also	6 of design report value.			-
1.2 A	readily-ad	for a toggle w	vall switch, but not for a switch that's on the	be ventilation equipment) ³⁶			-
7.3 For any outdoor air inlet connected to a ducted return of the HVAC system (Complete if present: otherwise check "I					/A"): ³⁴		
7.3.1 Controls automatically restrict airflow using a motorized damper during vent, off-cycle and occupant override. ³⁷							-
7.3.2 Rater-measured vent. rate is ≤ 15 CFM or 15% above design value at highest HVAC fan speed. Alt. in Fn. 38. ³⁸							-
7.4 System fan rated < 3 sones if intermittent and < 1 sone if continuous, or exempted. 39							-
7.5 If Vent System controller operates the HVAC fan, then HVAC fan operation is intermittent and either the fan type is					_		
ECM / ICM or the controls will reduce the run-time by accounting for HVAC system heating or cooling hours. 40							
7.6 Bathroom fans are ENERGY STAR certified if used as part of the Vent System. 41							
7.7 Air inlet location (Complete if ventilation air inlet location was specified on design report; otherwise check "N/A"): ^{42, 43}							
7.7.1 Inlet pulls ventilation air directly from outdoors and not from attic, crawlspace, garage, or adjacent dwelling unit.							-
7.7.	2 Inlet is	≥ 2 ft. above	grade or roof deck; ≥ 10 ft. of stretched-s	tring distance from known contamination sources			-
77	not exit	ing the root, a	and ≥ 3 ft. distance from dryer exhausts a	and sources exiting the roof. **		_	
1.1.	3 Inlet is	provided with	rodent / insect screen with ≤ 0.5 in. mes	N. Andreas in installed that such such a discretion to the second			-
8. LOC	cal wech	anical Exha	the following Rater-measured airflo	ystem is installed that exhausts directly to the outdo by and manufacturer-rated sound level standards: ³	5, 45	meets one	OT
Locat	ion		Continuous Rate	Intermittent Rate ⁴⁶			
		A :	≥ 5 ACH,	≥ 100 CFM and, if not integrated with range,			
8.1 Ki	tchen	AITIOW	based on kitchen volume 47,48	also \geq 5 ACH based on kitchen volume ^{47, 48, 49}			-
		Sound	Recommended: ≤ 1 sone	Recommended: ≤ 3 sones			
8 2 Ba	athroom	Airflow	≥ 20 CFM	≥ 50 CFM		ΠÔ	
0.2 00		Sound	Required: ≤ 1 sone	Recommended: ≤ 3 sones			
9. Filt	tration						
9.1 M	ERV 6+ fi	Iter(s) installe	ed in each ducted mech. system, designe	d so all return and mechanically supplied outdoor			
air	r passes t	nrougn filter(s) prior to conditioning, and located to fac	cilitate occupant access & regular service. 30	_		
9.2 FI	ombusti	s parier inclu	ues gasket and its snugly against expose	eu euge of filler when closed to prevent bypass.			
10.0	urnacec	boilers & we	ater heaters are mechanically drafted or d	lirect-vented Alternatives in Ecotoote 54, 52, 53, 54			
10.1 F	irenlaces,	are mechan	ically drafted or direct yented. Alternative	s in Ecothote 55, ^{52, 53, 55}			
10.2 F		ed combustic	on appliances other than cooking ranges	or ovens are located inside the home's pressure			
b	boundary. Alternative in Footnote 57. 52, 56, 57						

On-Site Photos for Multifamily New Construction (MFNC)

For MFNC, the National Rater Field Checklist defers to the existing MFNC Photo Documentation Guidance Document, which generally requires one photo per unique appliance/assembly/instance/etc.

Rater Name:	Rater Pre-Drywall Inspection Date(s) 88:	Rater Initials:					
Rater Company Name: On-site Photos Documented ⁸⁹							
Rater Name:	Rater Final Inspection Date(s) ⁹⁰ :	Rater Initials:					
Rater Company Name:	On-site Photos Documented ⁸⁹						

89. The Rater is required to capture photos according to the Photo Documentation Guidance Document available at <u>www.energystar.gov/</u> <u>mfnc</u>, which generally requires one representative photo per building for each specified item, as well as one geo-tagged and time-stamped photo of the Rater in front of the dwelling unit or building during each inspection.





ENERGY STAR



Catch our other sessions!

Now in Effect: ENERGY STAR's Enhanced Inspection and Quality Control Protocols Monday 2:30 PM at Joshua Tree – Elliot Seibert, Scott Doyle (RESNET)

A Beginner's Guide to ENERGY STAR Multifamily New Construction Monday 4:00 PM at Joshua Tree – Rebecca Hudson, Gayathri Vijayakumar (SWA)

Tips and Tricks for Meeting the Latest ENERGY STAR Program Requirements – and Beyond Tuesday 1:00 PM at Joshua Tree – Dean Gamble, Rebecca Hudson

ENERGY STAR: Multifamily New Construction (MFNC) Revision 5 Tuesday 2:30 PM at Joshua Tree – Rebecca Hudson, Gayathri Vijayakumar (SWA)

Level up with ENERGY STAR NextGen: Program Updates and Rater Training Tuesday 4:00 PM at Joshua Tree – Zak Shadid, Dylan Tindall (the BER)





Questions?

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