



ENERGY STAR Qualified Homes Thermal Bypass Inspection Checklist

The Thermal Bypass Inspection Checklist must be completed for homes to earn the ENERGY STAR label. The Checklist requires visual inspection of framing areas where air barriers are commonly missed and inspection of insulation to ensure proper alignment with air barriers, thus serving as an extra check that the air and thermal barriers are continuous and complete. State, local, and regional codes, as well as regional ENERGY STAR program requirements, supersede the items specified in this Checklist.

Guidance on Completing the Thermal Bypass Inspection Checklist:

1. Accredited HERS Providers and certified home energy raters shall use their experience and discretion in verifying that each Inspection Checklist item is installed per the inspection guidelines (e.g., identifying minor defects that the Provider or rater deems acceptable versus identifying major defects that undermine the intent of the Checklist item).
2. Alternative methods of meeting the Checklist requirements may be used in completing the Checklist, if the Provider deems them to be equivalent, or more stringent, than the Inspection Checklist guidelines.
3. In the event an item on the Checklist cannot be verified by the rater, the home cannot be qualified as ENERGY STAR, unless the builder assumes responsibility for verifying, under the direction and oversight of the Provider, that the item has met the requirements of the Checklist. This option is available at the discretion of the Provider or rater but may not be used to verify more than six (6) items on the Inspection Checklist. This responsibility will be formally acknowledged by the builder signing-off on the Checklist for the item(s) that they verified. The column titled "N/A" should be used when the checklist item is not present in the home or when local code requirements take precedent.
4. The Checklist may be completed for a batch of homes using a RESNET-approved sampling protocol when qualifying homes as ENERGY STAR. For example, if the approved sampling protocol requires rating one in seven homes, then the Checklist will be completed for the one home which was rated.
5. In the event that a Provider or rater finds an item that is inconsistent with the Checklist Inspection guidelines, the home cannot be qualified as ENERGY STAR until the item is corrected in a manner that meets the ENERGY STAR requirements. If correction of the item is not possible, the home cannot earn the ENERGY STAR label.
6. The Provider or rater is required to keep a hard copy record of the completed and signed Checklist. The signature of a builder employee is also required if the builder verified compliance with any item on the Checklist.
7. For purposes of this Checklist, an air barrier is defined as any solid material that blocks air flow between a conditioned space and an unconditioned space, including necessary sealing to block excessive air flow at edges and seams. Additional information on proper air sealing of thermal bypasses can be found on the Building America Web site (www.eere.energy.gov/buildings/building_america) and in the EEBA Builder's Guides (www.eeba.org). These references include guidance on identifying and sealing air barriers, as well as details on many of the items included in the Checklist.



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| Home Address: _____ | | City: _____ | | State: _____ | |
|---|--|-----------------------------------|--------------------------|--------------------------|--------------------------|
| Thermal Bypass | Inspection Guidelines | Corrections Needed | Builder Verified | Rater Verified | N/A |
| 1. Overall Air Barrier and Thermal Barrier Alignment | Requirements: Insulation shall be installed in full contact with sealed interior and exterior air barrier except for alternate to interior air barrier under item no. 2 (<i>Walls Adjoining Exterior Walls or Unconditioned Spaces</i>) | | | | |
| | All Climate Zones: | | | | |
| | 1.1 Overall alignment throughout home | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | 1.2 Garage band joist air barrier (at bays adjoining conditioned space) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | 1.3 Attic eave baffles where vents/leakage | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | Only at Climate Zones 4 and Higher: | | | | |
| | 1.4 Slab-edge insulation (A maximum of 25% of the slab edge may be uninsulated in Climate Zones 4 and 5.) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | Best Practices Encouraged, Not Req'd.: | | | | |
| 1.5 Air barrier at all band joists (Climate Zones 4 and higher) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 1.6 Minimize thermal bridging (e.g., OVE framing, SIPs, ICFs) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| 2. Walls Adjoining Exterior Walls or Unconditioned Spaces | Requirements: <ul style="list-style-type: none"> • Fully insulated wall aligned with air barrier at both interior and exterior, OR • alternate for Climate Zones 1 thru 3, sealed exterior air barrier aligned with RESNET Grade 1 insulation fully supported • Continuous top and bottom plates or sealed blocking | | | | |
| | 2.1 Wall Behind Shower/Tub | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | 2.2 Wall Behind Fireplace | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | 2.3 Insulated Attic Slopes/Walls | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | 2.4 Attic Knee Walls | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | 2.5 Skylight Shaft Walls | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | 2.6 Wall Adjoining Porch Roof | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | 2.7 Staircase Walls | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | 2.8 Double Walls | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. Floors between Conditioned and Exterior Spaces | Requirements: <ul style="list-style-type: none"> • Air barrier is installed at any exposed insulation edges • Insulation is installed to maintain permanent contact with sub-floor above • Optional until July 1, 2008, insulation is installed to maintain permanent contact with air barrier below | | | | |
| | 3.1 Insulated Floor Above Garage | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | 3.2 Cantilevered Floor | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. Shafts | Requirements: Openings to unconditioned space are fully sealed with solid blocking or flashing and any remaining gaps are sealed with caulk or foam (provide fire-rated collars and caulking where required) | | | | |
| | 4.1 Duct Shaft | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | 4.2 Piping Shaft/Penetrations | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | 4.3 Flue Shaft | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 5. Attic/ Ceiling Interface | Requirements: <ul style="list-style-type: none"> • All attic penetrations and dropped ceilings include a full interior air barrier aligned with insulation with any gaps fully sealed with caulk, foam or tape • Movable insulation and fits snug in opening and air barrier is fully gasketed | | | | |
| | 5.1 Attic Access Panel (fully gasketed and insulated) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | 5.2 Attic Drop-down Stair (fully gasketed and insulated) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | 5.3 Dropped Ceiling/Soffit (full air barrier aligned with insulation) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | 5.4 Recessed Lighting Fixtures (ICAT labeled and sealed to drywall) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| | 5.5 Whole-house Fan (insulated cover gasketed to the opening) | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| 6. Common Walls Between Dwelling Units | Requirements: Gap between drywall shaft wall (i.e., common wall) and the structural framing between units is fully sealed at all exterior boundary conditions | | | | |
| | 6.1 Common Wall Between Dwelling Units | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Home Energy Rating Provider: _____ | | Builder Company Name: _____ | | | |
| Home Energy Rater Company Name: _____ | | Builder Employee Signature: _____ | | | |
| Home Energy Rater Signature: _____ | | Inspection Date: _____ | | | |