



PENNSYLVANIA RESIDENTIAL ENERGY CODE INSPECTION CHECKLIST

Based on the 2015 International Energy Conservation Code
Climate Zone 4



ROUGH MECHANICAL & PLUMBING INSPECTION CHECKLIST

(Based on the 2015 IECC – Climate Zone 4)

House Address: _____ Permit #: _____ Date: _____

Permit holder: _____ Phone: _____

ROUGH MECHANICAL INSPECTION		
	<input type="checkbox"/>	All thermostats are programmable
Air Handler	<input type="checkbox"/>	Air handler has manufacturer’s designation of ≤ 2% air leakage when tested per ASHRAE 193
	<input type="checkbox"/>	Cooling system capacity (or make and model) matches equipment specified on the <i>Residential HVAC Equipment Design Worksheet</i>
	<input type="checkbox"/>	Heating system capacity (or make and model) matches equipment specified on the <i>Residential HVAC Equipment Design Worksheet</i>
HVAC Piping	<input type="checkbox"/>	HVAC pipe insulation is R-3 minimum (e.g. hydronic systems, refrigerant lines) and outdoor insulation is protected
Ducts	<input type="checkbox"/>	Ducts in unconditioned spaces are insulated ≥ 3” diameter insulated to ≥ R-8 in attics and ≥ R-6 elsewhere < 3” diameter insulated to ≥ R-6 in attics and ≥ R-4.2 elsewhere
	<input type="checkbox"/>	Ducts are sealed with UL 181 sealants compatible with the duct material
	<input type="checkbox"/>	General contractor is aware of duct testing requirement when any ducts or air handlers are not located completely within conditioned space
Whole-house Mechanical Ventilation	<input type="checkbox"/>	Ventilation fan capable of exhausting and/or supplying the continuous or intermittent ventilation rate specified in item #5 of the <i>Residential HVAC Equipment Design Worksheet</i> has been installed
	<input type="checkbox"/>	Fan has an HVI-rated fan efficacy of 2.8 CFM/Watt or fan make/model matches approved <i>Residential HVAC Equipment Design Worksheet</i>

ROUGH PLUMBING INSPECTION		
Service Hot Water Piping	<input type="checkbox"/>	Hot water pipes meeting any <u>one</u> of the following criteria are insulated to at least R-3 <ul style="list-style-type: none"> <input type="checkbox"/> ≥ ¾” nominal diameter <input type="checkbox"/> Located outside conditioned space <input type="checkbox"/> Between the water heater and a manifold <input type="checkbox"/> Underground or in a slab <input type="checkbox"/> Serving more than one dwelling unit <input type="checkbox"/> Supply and return piping in recirculating hot water systems other than demand recirculating systems

AIR BARRIER & INSULATION INSTALLATION CHECKLIST
 (Based on IECC 2015 Table R402.4.1.1 – Climate Zone 4)

House Address: _____ Permit #: _____ Date: _____

Permit holder: _____ Phone: _____

PRE-DRYWALL INSPECTION		
General	<input type="checkbox"/>	A continuous air barrier is installed in the building envelope.
	<input type="checkbox"/>	The exterior thermal envelope contains a continuous air barrier.
	<input type="checkbox"/>	Breaks or joints in the air barrier are sealed.
	<input type="checkbox"/>	Air-permeable insulation shall not be used as a sealing material.
Ceiling/attic	<input type="checkbox"/>	The air barrier in any dropped ceiling/soffit are aligned with the insulation and any gaps in the air barrier are sealed.
	<input type="checkbox"/>	Recessed lighting fixtures installed in the building envelope are air tight & IC rated.
Walls	<input type="checkbox"/>	Insulation is installed in all wall assemblies that separate conditioned space from unconditioned space or the outside.
	<input type="checkbox"/>	Cavity insulation is R-20 or greater ² or a combination of cavity and continuous insulation is installed with R-13 or greater cavity + R-5 or greater continuous. ³
	<input type="checkbox"/>	The junction of the foundation and sill plate are sealed.
	<input type="checkbox"/>	The junction of the top plate and the top of exterior walls are sealed.
	<input type="checkbox"/>	Knee walls have an air barrier on the attic side of the wall.
	<input type="checkbox"/>	Walls are framed to allow the corner to be insulated or exterior continuous insulation installed. Corners are insulated with a material that is at least R-3 per inch.
	<input type="checkbox"/>	Headers of frame walls are insulated by completely filling available space with a material that is at least R-3 per inch.
	<input type="checkbox"/>	Exterior thermal envelope insulation for framed walls are installed in substantial contact and continuous alignment with the air barrier.
Windows, skylights and doors	<input type="checkbox"/>	The space between window/door jambs & framing and skylights & framing are sealed.
	<input type="checkbox"/>	Window and door U-factors are 0.35 or below and SHGCs are 0.40 or below. Skylight U-factors are 0.55 or below. ³
Rim joists	<input type="checkbox"/>	Rim joists are insulated and sealed to the floor joists, subfloor, and wall plate
	<input type="checkbox"/>	Wall cavity insulation is R-20 or greater or a combination of cavity and continuous insulation is installed with R-13 or greater cavity + R-5 or greater continuous. ²
Floors (including above garage and cantilevered floors)	<input type="checkbox"/>	Insulation is installed in all floor assemblies that separate conditioned space from unconditioned space or the outside.
	<input type="checkbox"/>	Floor insulation is R-19 or greater. ³
	<input type="checkbox"/>	The air barrier is installed at any exposed edge of insulation.

² Exception: R-18 (minimum) cavity insulation is permitted if the wall framing factor is 20% or less and/or walls are framed at 24" o.c.

³ Exception: Values match those listed in an approved REScheck, Simulated Performance, or ERI report.

MUNICIPALITY OR THIRD-PARTY LETTERHEAD

	<input type="checkbox"/>	Floor framing cavity insulation is installed to maintain permanent contact with the underside of subfloor decking. ⁴
Unvented crawl space walls	<input type="checkbox"/>	Exposed earth in unvented crawl spaces are covered with a Class I vapor retarder with overlapping joints taped.
	<input type="checkbox"/>	R-10 or greater continuous insulation or R-13 or greater cavity insulation is installed ⁵ and is permanently attached to the crawlspace walls.
Shafts and penetrations	<input type="checkbox"/>	Duct shafts, utility penetrations, and flue shafts opening to exterior or unconditioned space are sealed.
Basement walls	<input type="checkbox"/>	R-10 or greater continuous insulation or R-13 or greater cavity insulation is installed ⁵
Narrow cavities	<input type="checkbox"/>	Batts in narrow cavities are cut to fit, or narrow cavities are filled by insulation that on installation readily conforms to the available cavity space.
Garage separation	<input type="checkbox"/>	Air sealing are provided between the garage and conditioned spaces.
Plumbing and wiring	<input type="checkbox"/>	Batt insulation is cut neatly to fit around wiring and plumbing in exterior walls, or insulation that on installation readily conforms to available space shall extend behind piping and wiring.
Shower/tub on exterior wall	<input type="checkbox"/>	Exterior walls adjacent to showers and tubs are insulated
	<input type="checkbox"/>	The air barrier installed at exterior walls adjacent showers and tubs shall separate them from the showers and tubs.
Electrical/phone box on exterior walls	<input type="checkbox"/>	The air barrier is installed behind electrical or communication boxes or air-sealed boxes are installed.
HVAC register boots	<input type="checkbox"/>	HVAC register boots that penetrate building thermal envelope are sealed to the subfloor or drywall.
Concealed sprinklers	<input type="checkbox"/>	When required to be sealed, concealed fire sprinklers shall only be sealed in a manner that is recommended by the manufacturer. Caulking or other adhesive sealants shall not be used to fill voids between fire sprinkler cover plates and walls or ceilings.
Roof/ceiling insulation	<input type="checkbox"/>	Insulation will be inspected during final insulation inspection. (Leave remaining boxes unchecked.)
	<input type="checkbox"/>	Insulation is installed in each ceiling assembly that separates conditioned space from unconditioned space or outdoors
	<input type="checkbox"/>	Insulation R-value is R-49 or greater. ⁵ (A minimum of R-38 insulation is allowed if the full height of uncompressed insulation extends over the top of the walls.)

Notes:

⁴ Exception: Continuous insulation is installed on the underside of the floor joists.

⁵ Exception: Values match those listed in an approved REScheck, Simulated Performance, or ERI report.

FINAL INSPECTION INSULATION AND DOCUMENTATION CHECKLIST

(Based on the 2015 IECC – Climate Zone 4)

House Address: _____ Permit #: _____ Date: _____

Permit holder: _____ Phone: _____

FINAL INSPECTION		
Ceiling/Attic	<input type="checkbox"/>	Recessed light fixtures installed in the building thermal envelope are sealed to the drywall.
	<input type="checkbox"/>	Insulation is installed in each ceiling assembly that separates conditioned space from unconditioned space or outdoors
	<input type="checkbox"/>	Insulation R-value is R-49 or greater. ¹ (A minimum of R-38 insulation is allowed if the full height of uncompressed insulation extends over the top of the walls.)
	<input type="checkbox"/>	Access openings, dropdown stairs, or knee wall doors to unconditioned attic spaces are sealed.
Documentation	<input type="checkbox"/>	Completed Duct & Envelope Testing Form received
	<input type="checkbox"/>	Blower door test result is ≤ 5.0 ACH50 ²
	<input type="checkbox"/>	Duct leakage test result is ≤ 4.0 cfm/100 sqft of conditioned floor area (3.0 cfm if tested without air handler) ³ or all ducts are located completely within the thermal envelope

¹Exception: Values match those listed in an approved REScheck, Simulated Performance, or ERI report.

²For Simulated Performance Alternative and Energy Rating Index paths, value must also be \leq the value on the 2015 IECC Energy Cost Report or 2015 Final ERI Report

³Duct leakage rates may exceed the prescriptive limits, provided they are \leq the value on the 2015 IECC Energy Cost Report or 2015 Final ERI Report

Notes: