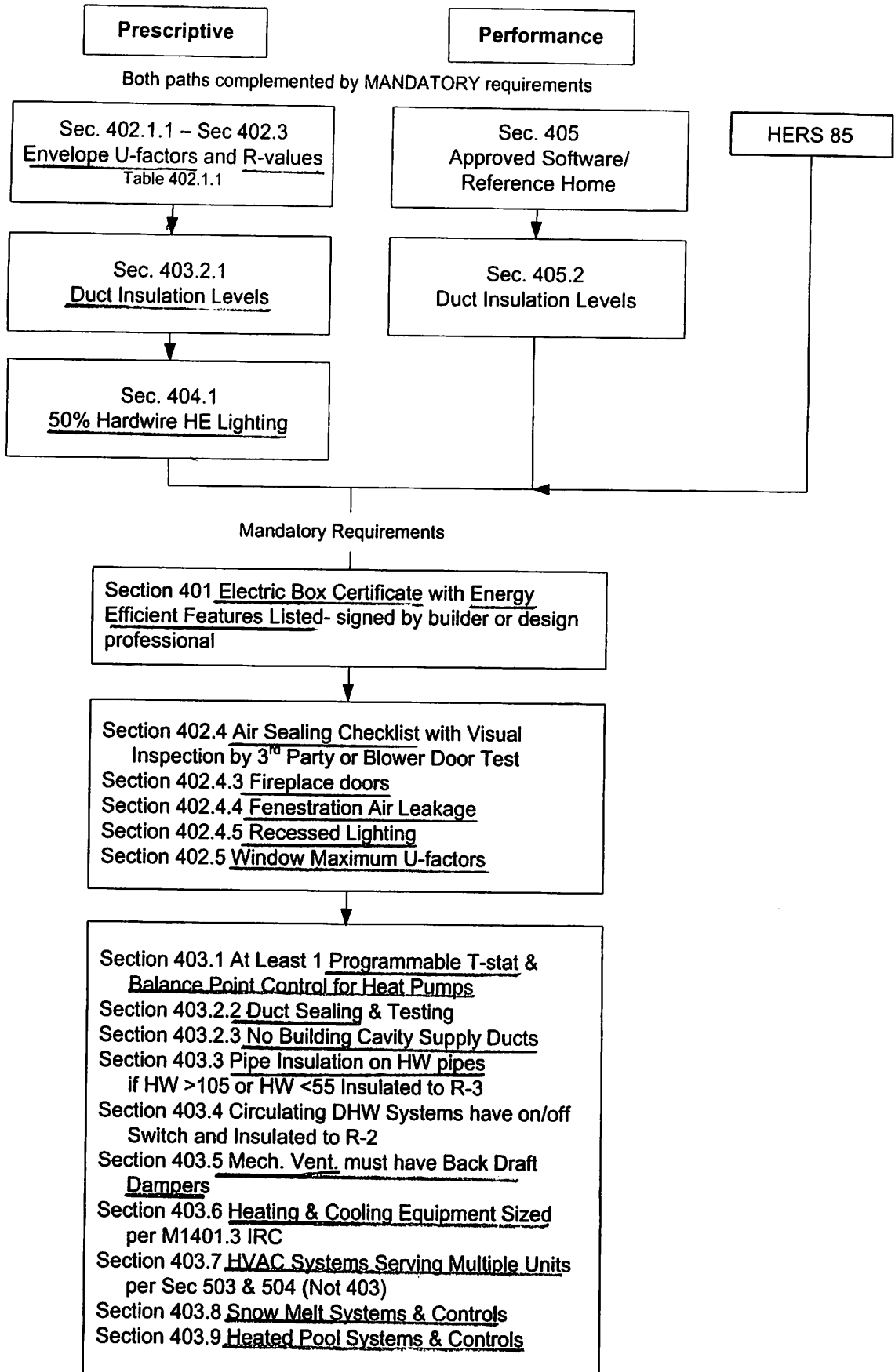


# Residential Energy Thermal Bypass Inspection Checklist

Thermal Bypass	Inspection Guidelines
1. Overall Air Barrier and Thermal Barrier Alignment	<p><b>Requirements:</b> 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>)</p> <p><b>All Climate Zones:</b></p> <p>1.1 Overall Alignment Throughout Home</p> <p>1.2 Garage Band Joist Air Barrier (at bays adjoining conditioned space)</p> <p>1.3 Attic Eave Baffles Where Vents/Leakage Exist</p> <p><b>Only at Climate Zones 4 and Higher:</b></p> <p>1.4 Slab-edge Insulation (A maximum of 25% of the slab edge may be uninsulated in Climate Zones 4 and 5.)</p> <p><b>Best Practices Encouraged, Not Req'd.:</b></p> <p>1.5 Air Barrier At All Band Joists (Climate Zones 4 and higher)</p> <p>1.6 Minimize Thermal Bridging (e.g., OVE framing, SIPs, ICFs)</p>
2. Walls Adjoining Exterior Walls or Unconditioned Spaces	<p><b>Requirements:</b></p> <ul style="list-style-type: none"> <li>• Fully insulated wall aligned with air barrier at both interior and exterior, OR</li> <li>• Alternate for <b>Climate Zones 1 thru 3</b>, sealed exterior air barrier aligned with RESNET Grade 1 insulation fully supported</li> <li>• Continuous top and bottom plates or sealed blocking</li> </ul> <p>2.1 Wall Behind Shower/Tub</p> <p>2.2 Wall Behind Fireplace</p> <p>2.3 Insulated Attic Slopes/Walls</p> <p>2.4 Attic Knee Walls</p> <p>2.5 Skylight Shaft Walls</p> <p>2.6 Wall Adjoining Porch Roof</p> <p>2.7 Staircase Walls</p> <p>2.8 Double Walls</p>
3. Floors between Conditioned and Exterior Spaces	<p><b>Requirements:</b></p> <ul style="list-style-type: none"> <li>• Air barrier is installed at any exposed fibrous insulation edges</li> <li>• Insulation is installed to maintain permanent contact with sub-floor above including necessary supports (e.g., staves for blankets, netting for blown-in)</li> <li>• Blanket insulation is verified to have no gaps, voids or compression.</li> <li>• Blown-in insulation is verified to have proper density with firm packing</li> </ul> <p>3.1 Insulated Floor Above Garage</p> <p>3.2 Cantilevered Floor</p>
4. Shafts	<p><b>Requirements:</b> 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)</p> <p>4.1 Duct Shaft</p> <p>4.2 Piping Shaft/Penetrations</p> <p>4.3 Flue Shaft</p>
5. Attic/ Ceiling Interface	<p><b>Requirements:</b></p> <ul style="list-style-type: none"> <li>• 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</li> <li>• Movable insulation fits snugly in opening and air barrier is fully gasketed</li> </ul> <p>5.1 Attic Access Panel (fully gasketed and insulated)</p> <p>5.2 Attic Drop-down Stair (fully gasketed and insulated)</p> <p>5.3 Dropped Ceiling/Soffit (full air barrier aligned with insulation)</p> <p>5.4 Recessed Lighting Fixtures (ICAT labeled and sealed to drywall)</p> <p>5.5 Whole-house Fan (insulated cover gasketed to the opening)</p>
6. Common Walls Between Dwelling Units	<p><b>Requirements:</b> Gap between drywall shaft wall (i.e., common wall) and the structural framing between units is fully sealed at all exterior boundary conditions</p> <p>6.1 Common Wall Between Dwelling Units</p>

# Massachusetts Building Code Residential Energy Efficiency Compliance Paths



**TABLE 402.4.2  
AIR BARRIER AND INSULATION INSPECTION COMPONENT CRITERIA**

<b>COMPONENT</b>	<b>CRITERIA</b>
Air barrier and thermal barrier	Exterior thermal envelope insulation for framed walls is installed in substantial contact and continuous alignment with building envelope air barrier. Breaks or joints in the air barrier are filled or repaired. Air-permeable insulation is not used as a sealing material. Air-permeable insulation is inside of an air barrier.
Ceiling/attic	Air barrier in any dropped ceiling/soffit is substantially aligned with insulation and any gaps are sealed. Attic access (except unvented attic), knee wall door, or drop down stair is sealed.
Walls	Corners and headers are insulated. Junction of foundation and sill plate is sealed.
Windows and doors	Space between window/door jambs and framing is sealed.
Rim joists	Rim joists are insulated and include an air barrier.
Floors (including above-garage and cantilevered floors)	Insulation is installed to maintain permanent contact with underside of subfloor decking. Air barrier is installed at any exposed edge of insulation.
Crawl space walls	Insulation is permanently attached to walls. Exposed earth in unvented crawl spaces is covered with Class I vapor retarder with overlapping joints taped.
Shafts, penetrations	Duct shafts, utility penetrations, knee walls and flue shafts opening to exterior or unconditioned space are sealed.
Narrow cavities	Batts in narrow cavities are cut to fit, or narrow cavities are filled by sprayed/blown insulation.
Garage separation	Air sealing is provided between the garage and conditioned spaces.
Recessed lighting	Recessed light fixtures are air tight, IC rated, and sealed to drywall. Exception—fixtures in conditioned space.
Plumbing and wiring	Insulation is placed between outside and pipes. Batt insulation is cut to fit around wiring and plumbing, or sprayed/blown insulation extends behind piping and wiring.
Shower/tub on exterior wall	Showers and tubs on exterior walls have insulation and an air barrier separating them from the exterior wall.
Electrical/phone box on exterior walls	Air barrier extends behind boxes or air sealed-type boxes are installed.
Common wall	Air barrier is installed in common wall between dwelling units.
HVAC register boots	HVAC register boots that penetrate building envelope are sealed to subfloor or drywall.
Fireplace	Fireplace walls include an air barrier.