

Success with 2009 IECC in Arkansas
Tech Tips for Builders

HVAC INSTALLATION





TECH TIPS: HVAC INSTALLATION

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1. Seal all duct work to drywall and/or subfloor and all HVAC penetrations in the building envelope with foam, caulk or mastic. Use fire-rated sealants where applicable.

X INSULATION



✓ SEAL

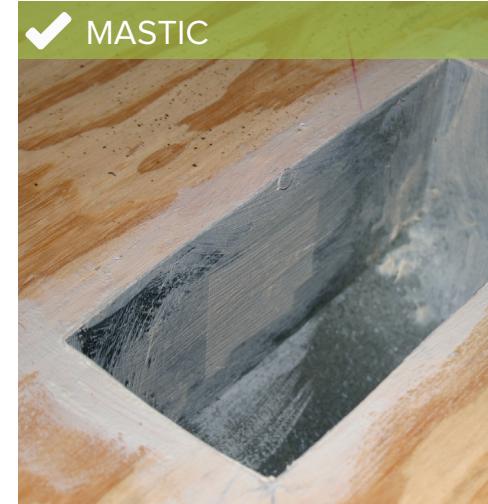


1. Seal all duct work to drywall and/or subfloor and all HVAC penetrations in the building envelope with foam, caulk or mastic. Use fire-rated sealants where applicable.

X NONE



✓ MASTIC

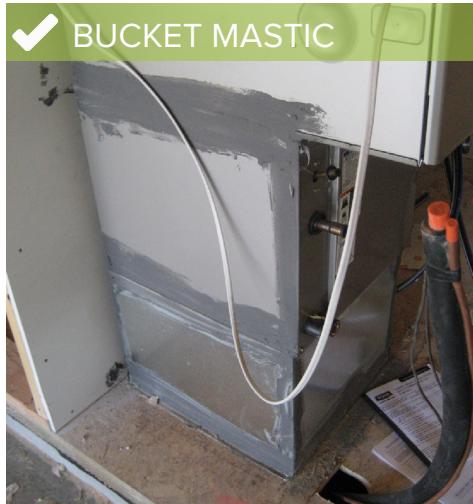


2. Seal all HVAC components at all joints, seams and corners.

X LOOSE SEAL



✓ BUCKET MASTIC



3. Mechanically fasten all metal duct work with screws. Attach the inner liner of flexible ducts with nylon/plastic straps and tighten with a manufacturer-approved tool.

X WRONG TAPE



✓ PLASTIC STRAP

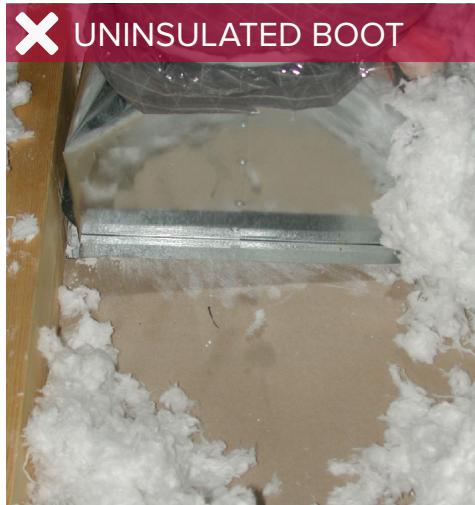




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4. Insulate all supply duct work in unconditioned attic space to R-8. Insulate all other duct work to R-6. If exterior insulation, mechanically fasten duct insulation with straps and seal all joints and seams of vapor retarder.

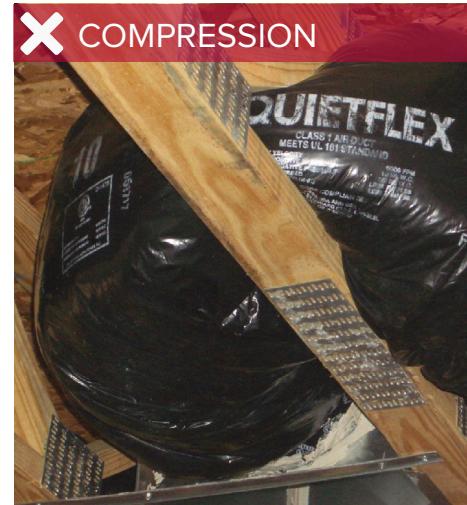


X UNINSULATED BOOT

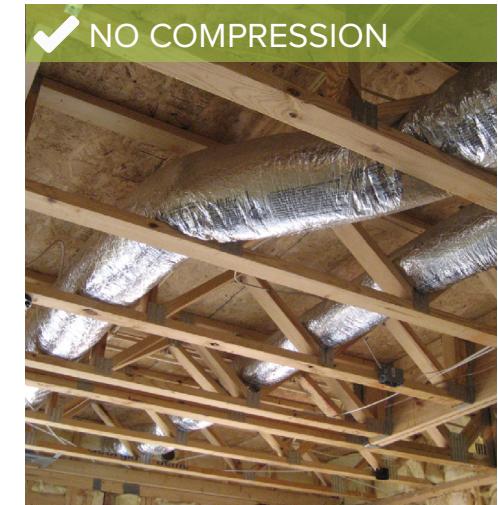


✓ INSULATED BOOT

5. Do not compress insulated flexible ducts more than the thickness of the insulation.



X COMPRESSION

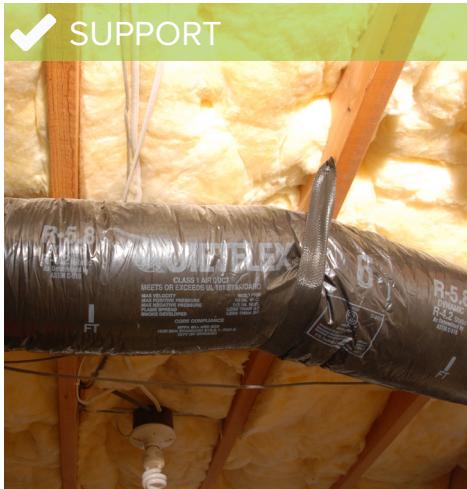


✓ NO COMPRESSION

6. Support flexible duct (including spot ventilation) at least every 10 feet and do not bend greater than 90°.



X NO SUPPORT



✓ SUPPORT

6. Support flexible duct (including spot ventilation) at least every 10 feet and do not bend greater than 90°.



X GREATER THAN 90°



✓ LESS THAN 90°



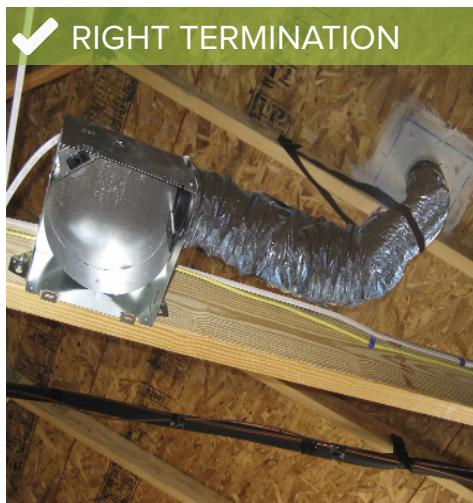
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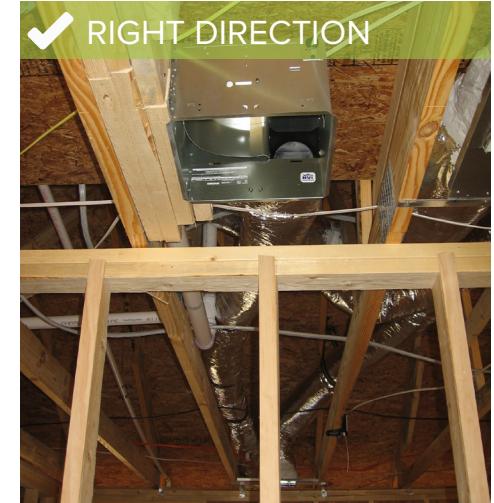
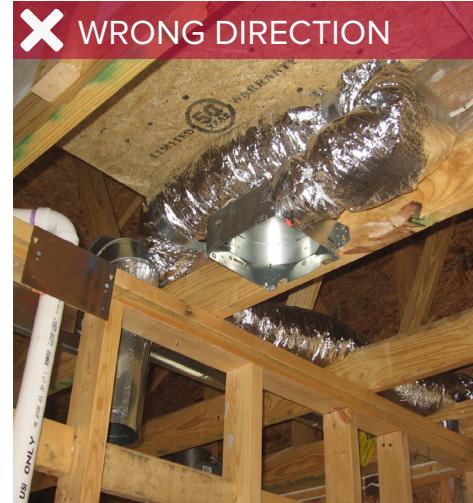
7. Install outside air ventilation intakes at least 10 feet from any exhaust vent or stack.



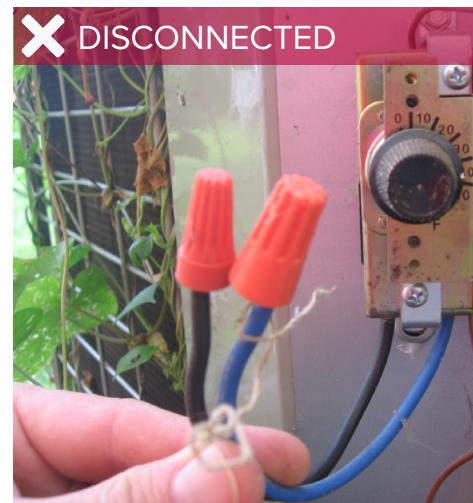
9. Terminate exhaust ventilation duct work to the outside and install a screen over the termination.



8. Coordinate bath fan exhaust duct direction with electrical contractor.



10. For heat pumps, install a heat strip outdoor temperature lockout that prevents supplemental heat operation and set it to the balance point.





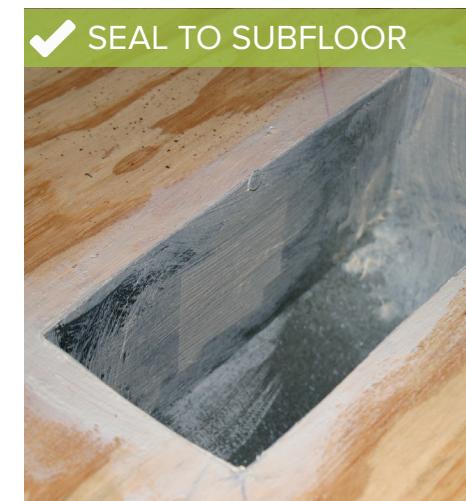
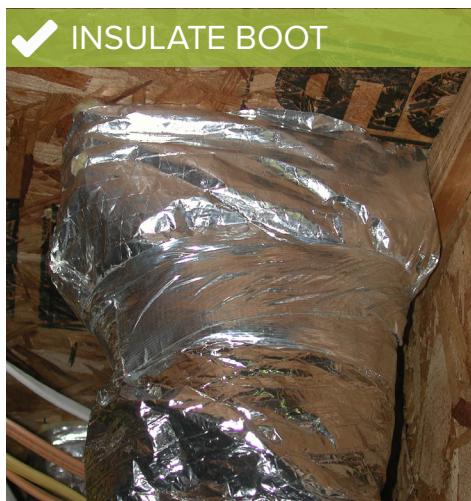
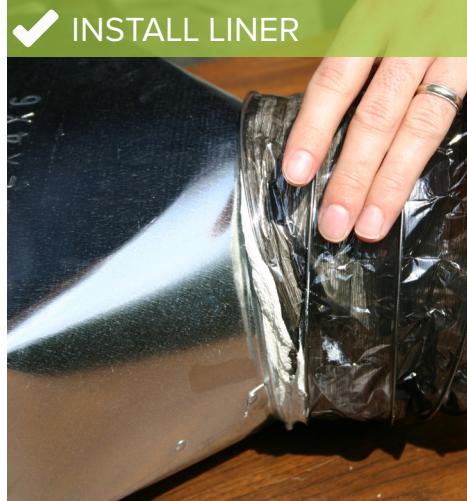
CRITICAL DETAIL: DUCT SEALING BOOTS

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The Arkansas Energy Code requires all connections, seams, joints and holes to be sealed, at a minimum, with mastic. Tapes, foams and caulk are allowed to be used in combination with the required mastic. If the visual inspection path is selected, the connections, seams, joints and holes will need to be visible at a designated point

during construction. It is important to connect with your jurisdiction to know who will inspect and when.

The tester will be measuring the total duct tightness and the duct tightness to the outside at CFM at 25 Pascals (with reference to the outside).





CRITICAL DETAIL: DUCT SEALING PLENUMS

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✓ MASTIC TAKE OFF



✓ MASTIC COLLAR



✓ INSTALL ZIP TIE



✓ MASTIC CONNECTION



✓ INSULATE COLLAR



✓ SEAL SEAMS



✓ MASTIC PLENUM



✓ USE BUCKET MASTIC

