



Success with 2012 NC Energy Conservation
Code in North Carolina:
Tech Tips for Builders

HVAC INSTALLATION



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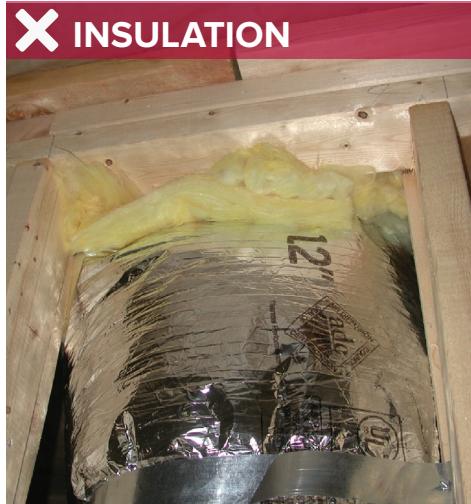
TECH TIPS:

HVAC INSTALLATION

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1. Seal all ductwork to drywall and/or subfloor and all HVAC penetrations in the building envelope with foam, caulk or mastic.

INSULATION



SEAL

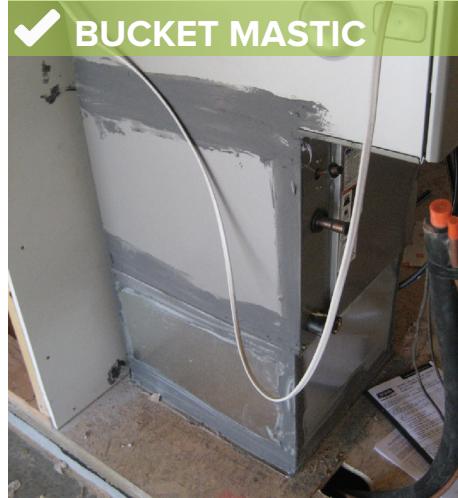


2. Seal all HVAC components at all joints, seams and corners with bucket mastic.

TAPE



BUCKET MASTIC

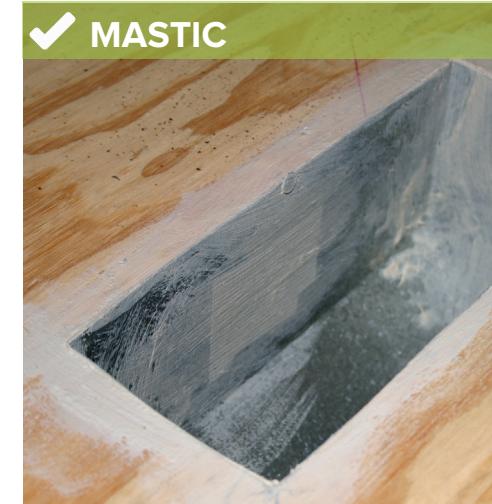


1. Seal all ductwork to drywall and/or subfloor and all HVAC penetrations in the building envelope with foam, caulk or mastic.

TAPE

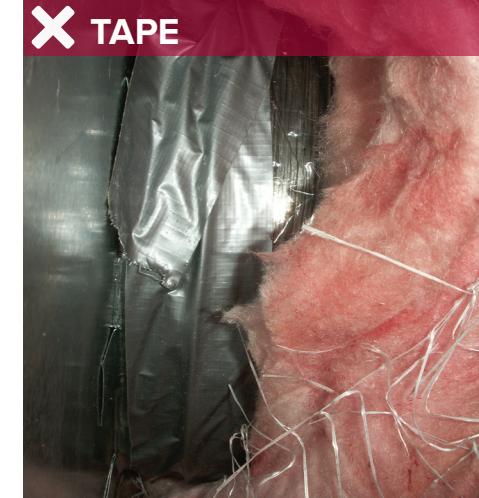


MASTIC

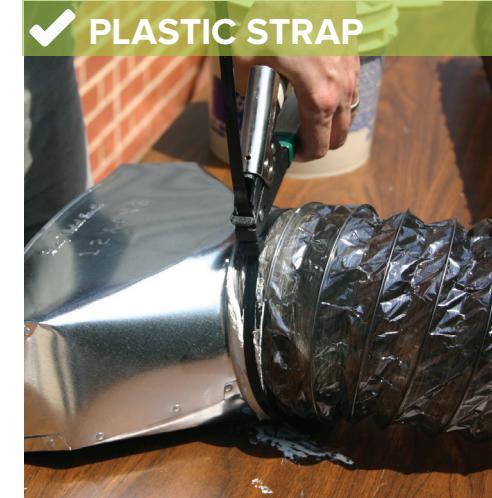


3. Mechanically fasten all metal ductwork with screws. Attach the inner liner of flexible ducts with nylon/plastic straps and tighten with a manufacturer-approved tool.

TAPE



PLASTIC STRAP





TECH TIPS:

HVAC INSTALLATION

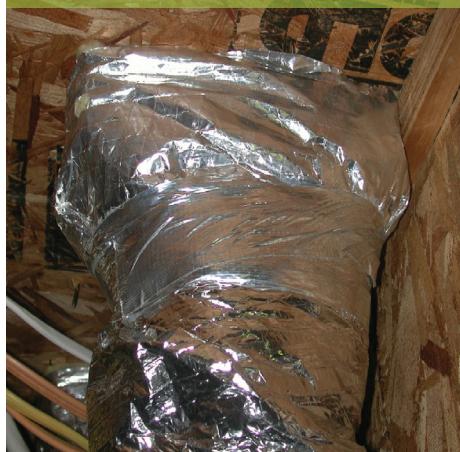
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- 4.** Insulate all ductwork in unconditioned space to R-8 (exception: kitchen exhaust ducts). Mechanically fasten duct insulation with straps.

UNINSULATED BOOT



INSULATED BOOT



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

COMPRESSION



NO COMPRESSION



- 6.** Support flexible duct (including spot ventilation) at least every 4 feet and do not bend greater than 90°.

NO SUPPORT

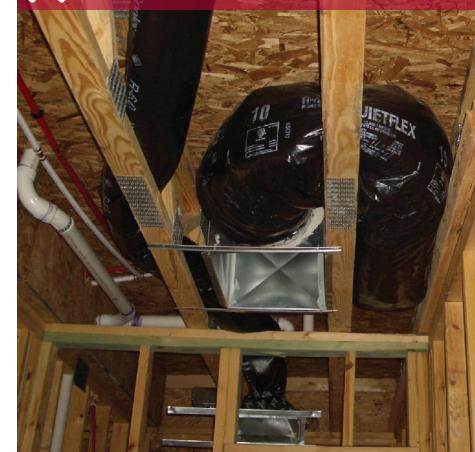


SUPPORT

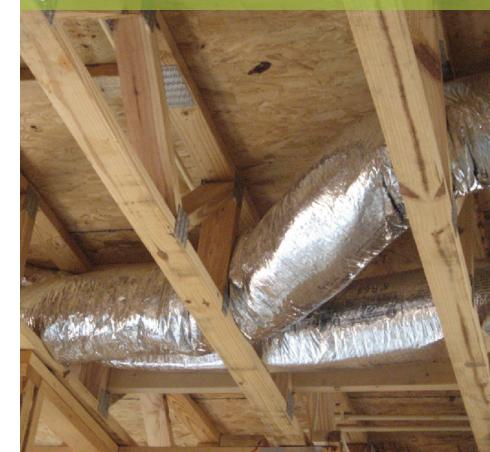


- 6.** Support flexible duct (including spot ventilation) at least every 4 feet and do not bend greater than 90°.

GREATER THAN 90°



LESS THAN 90°



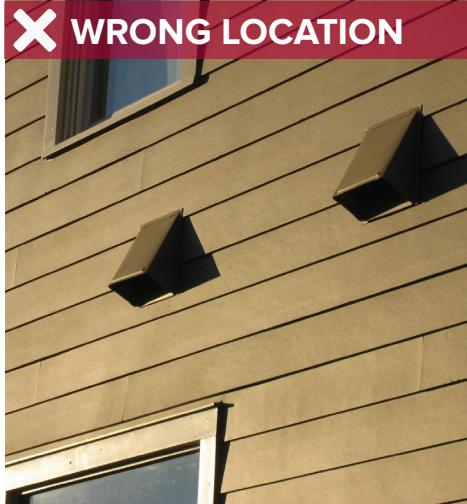


TECH TIPS: HVAC INSTALLATION

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

X WRONG LOCATION



✓ RIGHT LOCATION



- 9.** Terminate exhaust ventilation ductwork to the outside and install a screen over the termination.

X WRONG TERMINATION

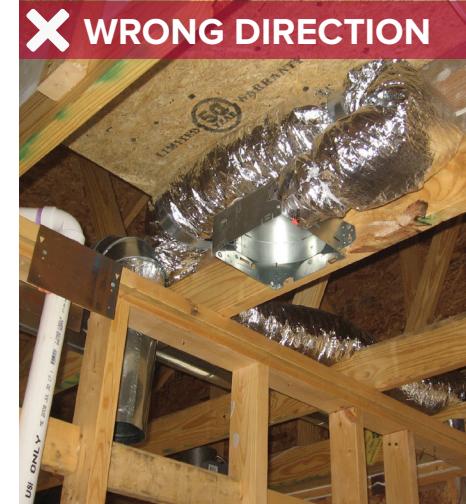


✓ RIGHT TERMINATION

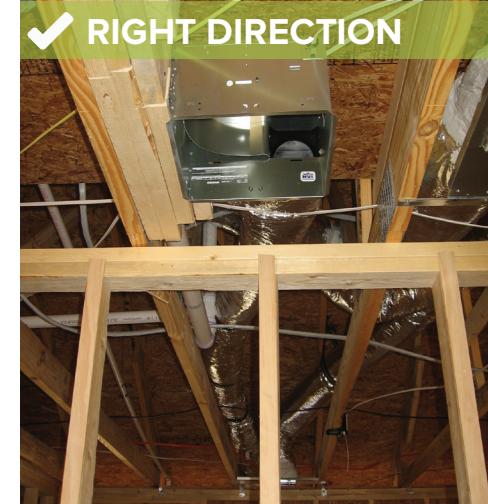


- 8.** Coordinate bath fan exhaust duct direction with Electrical Contractor.

X WRONG DIRECTION

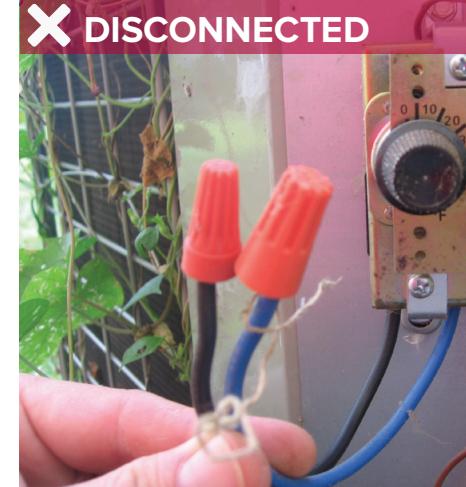


✓ RIGHT DIRECTION



- 10.** For heat pumps, install a heat strip outdoor temperature lockout that prevents supplemental heat operation and set it between 35 and 40 degrees.

X DISCONNECTED



✓ RIGHT INSTALLATION





CRITICAL DETAIL:

DUCT SEALING BOOTS

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It is recommended to seal all joints in the air distribution system with bucket duct mastic and fabric mesh.

The tester will be measuring the total duct leakage to the outside at CFM at 25 Pa (with reference to the outside). According to code requirements, the total duct leakage must be less than 4 CFM 25 pa/100 sf.

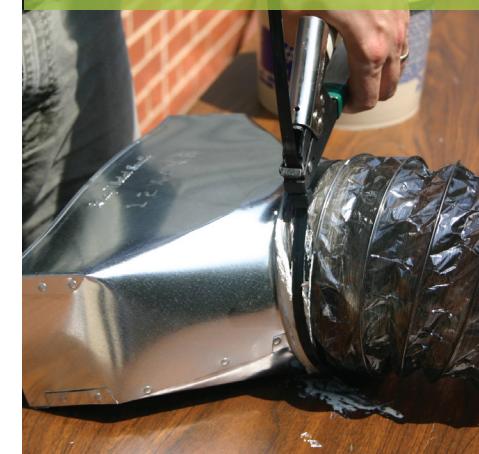
✓ MASTIC BOOT



✓ INSTALL LINER



✓ INSTALL ZIP TIE



✓ MASTIC CONNECTION



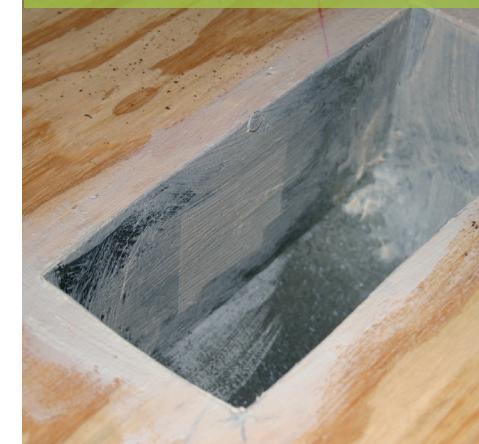
✓ INSULATE BOOT



✓ SEAL SEAMS



✓ SEAL TO SUBFLOOR



✓ SEAL TO DRYWALL





CRITICAL DETAIL:

DUCT SEALING: PLENUMS

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It is recommended to seal all joints in the air distribution system with bucket duct mastic and fabric mesh.

✓ MASTIC PLENUM

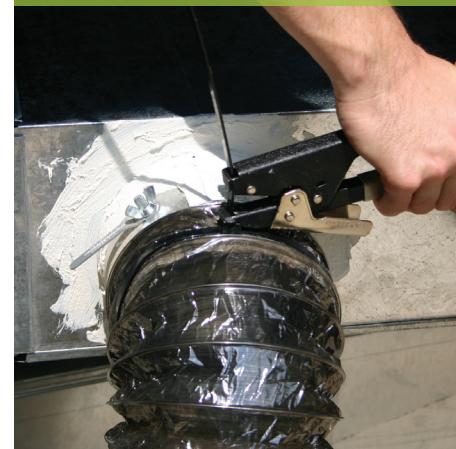


✓ MASTIC COLLAR



The tester will be measuring the total duct leakage and the duct leakage to the outside at CFM at 25 Pa (with reference to the outside). According to code requirements, the total duct leakage must be less than 4 CFM 25 pa/100 sf.

✓ INSTALL ZIP TIE



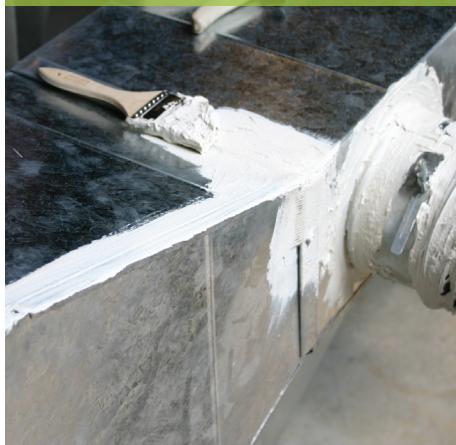
✓ MASTIC CONNECTION



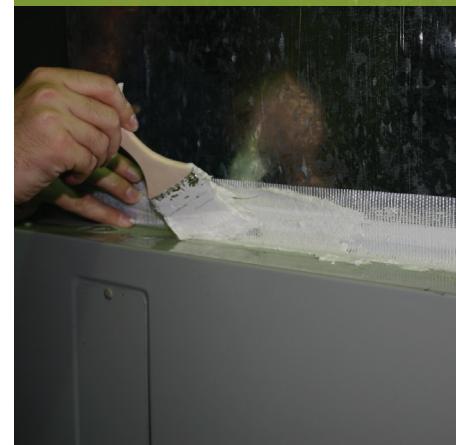
✓ INSULATE COLLAR



✓ SEAL SEAMS



✓ MASTIC AIR HANDLER



✓ USE BUCKET MASTIC

