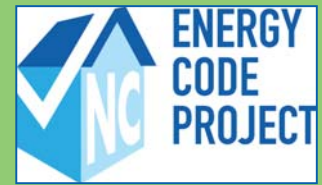


HVAC and Duct Sealing Guide

North Carolina Residential Energy Code 2012



Benefits

- Sealed ducts reduce the workload of the system, reducing the loss of conditioned air through cracks and gaps, saving energy and money on heating and cooling bills.
- Improves indoor air quality by keeping unwanted air that is in unconditioned and polluted spaces (such as the attic or crawlspace) out of living spaces.
- Improves home comfort by distributing the conditioned air where it is intended to be.

Requirements

- All ducts, air handlers, filter boxes and building cavities used as ducts shall be sealed with an approved sealant such as UL 181 rated tape, mastic, or a combination of these products.
- HVAC systems should be properly sized using Manual J and Manual D calculations. Improper sizing of equipment is a common mistake and will lower the efficiency of the equipment and shorten its life expectancy.

Common Problem Areas



Seal all connections in mechanical cabinet including refrigerant lines, condensate lines, plenum connections and other seams and holes.



Boots should be sealed at all connection points including to the interior finish.



Ducts should not be pinched or constricted to avoid restricted air flow.



Trunk ducts should be sealed at all joints, seams, and corners with mastic.



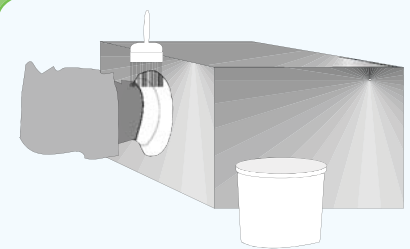
Seal seams in framed wall returns. Note: framed supply ducts are not permitted.



Junction boxes and duct connections should be sealed with mastic.

Duct Insulation Requirements

R-8	Supply and return ducts in unconditioned spaces
R-4	Supply ducts in semi-conditioned space
R-0	Supply and return ducts in conditioned space unless insulation is needed to prevent condensation



Sealing Flex-duct Collar with Mastic:

1. Attach flex-duct to take-off collar with strap
2. Apply mastic to seal flex-duct to collar and collar to plenum
3. Pull outer liner over sealed take-off; attach strap

Duct testing is required in new homes unless ducts are in the conditioned space.

Total duct leakage rate must be 6% or less, and recorded on the energy efficiency certificate.

