

TIPS FOR PLACING DUCTS IN CONDITIONED SPACE

THE BENEFITS TO YOU AND YOUR HOMEOWNERS ARE UNDENIABLE

BY CLEM NEWCAMP

Change—that dreaded word no one really wants to hear. But quite often, changes in construction practices do deliver tangible value, and moving ducts inside conditioned space definitely qualifies.

Locating the entire heating and cooling system (equipment and supply and return ductwork) within a home’s thermal enclosure may seem like an insurmountable challenge, but the benefits far outweigh the effort required to do it, including:

- System efficiency
- Occupant comfort
- Lower costs
- Environmental “friendliness”
- Reduced thermal loss
- Easier code compliance/approvals
- Healthier indoor air
- Moisture management and mitigation
- Right-sized, cost-efficient equipment
- Better overall system performance

HOW-TO TIPS

There are multiple ways to achieve these benefits, and there are new technologies that address common challenges.

One option is to make the attic a conditioned space by encasing it in insulation. You can also use plenum trusses as sealed chases or install ductwork in a suspended ceiling, chase, or soffit.

For multistory homes, run ducts through the floor system—especially when using open-web trusses that create pathways for mechanical runs. For homes with conventionally vented crawlspaces or unconditioned basements, transition to



conditioning those spaces (like the attic) to run ductwork through them.

Also consider these best practices:

- Tightly seal ducts and test for leaks (yes, even in conditioned space).
- Use ducts to carry the air instead of relying on an open or dropped chase.
- Pay strict attention to mitigating air leaks in your thermal enclosure.
- Provide adequate return-air pathways for every room in the house.
- Avoid equipment or appliances that may back-draft or are prone to spill.

WHAT’S THE RIGHT DUCT?

The most common ductwork for conditioned space includes flex duct, ductboard, and sheet metal ducts. When working

with any of these, make sure all ductwork is installed to manufacturer specifications and follows protocols in the Air Conditioning Contractors of America manuals and local building codes.

Regardless of how you decide to approach it, placing ducts in conditioned space is a great way to build long-lasting, comfortable homes. With so many benefits, it’s hard to make a case for *not* doing it.

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