



EarthCraft House™ and ENERGY STAR® Duct Installation Requirements for Manual D Duct Design

General Notes

EarthCraft House and ENERGY STAR have specific standards for heating and cooling systems, particularly duct installation.

The Manual J and Manual D reports from Wrightsoft shall be read carefully before starting.

- Blower location, duct size, duct placement, bends, elbows, reducers and outlet locations are important.
- Review these during framing to assure the ducts can be installed as shown.
- If additional elbows, turns, junctions are needed, the design can be easily modified before installation starts.
- Poorly installed flex duct with compression and sag can dramatically affect system performance. (See ACCA Manual D Appendix 17)

- Maximum allowable duct leakage is 6 cfm to outdoors / 100 sq. ft.(6%) of conditioned floor area if certified by Performance Path (HERS Rating) or 4 cfm to outdoors / 100 sq. ft.(4%) of conditioned floor area if certified by Builder Option Package (BOP).
- Air handlers & duct systems sealed with mastic or mastic tape
- Code approved solid connector required for all flex to flex connections
- All supply ducts fully ducted with code approved materials
- Balancing dampers are required at each take-off.
- Installed duct design complies with Manuals J & D on a room-by-room basis
- All supply duct take-offs spaced at least 6" apart (no ducts from cap)
- No duct take-offs within 6" of supply plenum cap
- All flex duct pulled tight with no pinches
- No ducts in exterior walls or vaulted ceilings along rooflines
- Rigid supply trunk
- Only a 1" MERV 8 filter included – NO humidifier, air cleaner or other accessory

Attachments provide information about:

Air Diffusion Council (ADC) Installation Instructions Section 4

Duct sealing using mastic appropriately for durability and air-sealing. - Section 4.6

Proper support of flex duct – Section 4.8

This document is designed to help the Builder and the HVAC Contractor in selecting and installing materials for EarthCraft Homes. These requirements MUST be followed in order to receive approval for certification. EarthCraft House will not be responsible for homes not receiving approval for certification due to failure to follow these guidelines. EarthCraft House strongly recommends builders provide this document to their HVAC contractors to ensure the system components are selected and installed properly.

For questions, please contact EarthCraft House at (334) 707-2007 or abell@alabamahabitat.org