



Manual- J Load Calculation Requirements

EarthCraft House Virginia has specific standards for sizing heating and cooling systems based on ENERGY STAR requirements. Manual J's calculated to the specifications below may be used towards EarthCraft certification.

EarthCraft House Virginia standards require that a load calculation be performed on **every** home in accordance with the latest updated version of ACCA Manual J (currently version 8.) EarthCraft House Virginia requires that the following inputs be used for the Manual J.

Required

Builders must submit the completed Manual J report to EarthCraft House Virginia prior to the Predrywall inspection. Documentation must show that all requirements have been met.

- Maximum allowable duct leakage is 5 cfm to outdoors / 100 sq. ft.(5%) of conditioned floor area
 - If software allows for grades of duct tightness, choose “notably sealed” or the equivalent rate.
- Outdoor temperatures shall be the 99.0% design temperatures as published in the ASHRAE Handbook of Fundamentals for the home’s location or most representative city for which design temperature data are available.
- House infiltration shall be based on EarthCraft House Virginia maximums (0.5 CFM50/SFBE) or shall use the software choice of “tight” or the equivalent term.
- Must use actual house orientation and location.
- Must use actual window, insulation, and door specifications.
- Indoor temperatures shall be 75F for cooling and 70F for heating.
- Number of occupants (number of bedrooms plus one)
- Cooling load for appliances (1,200 Btuh or 2,400 Btuh)
- Mechanical Ventilation

The results of the Manual J **must be used** when sizing and installing equipment. EarthCraft House Virginia and Energy Star requires the following sizing guidelines:

- Maximum over sizing limit for air conditioners and heat pumps is 15%
- In specifying equipment, the next available size may be used.
- The indoor and outdoor coils shall be matched in accordance with ARI standards. Provide the ARI “Certificate of ARI-Certified Performance” (from www.aridirectory.org) or manufacturers’ performance data to the EarthCraft House inspector.

****Please provide a copy of these requirements to your HVAC contractor or whoever does your load calculations.*

Manual J Report

Documents required for submittal:

- Project Report – Orientation; Indoor and Outdoor Temps; Sq Ft per ton
- Miscellaneous Report - outside air data and infiltration specified
- Load Preview Report- Area of each room; Sen. Gain; Lat. Gain; Duct Size

- Total Building Summary Load- Construction component description; Building loads
- System 1 & 2 Summary Loads – Required if more than 1 system
- System 1, Zone 1 Summary Load- Required if more than 1 zone