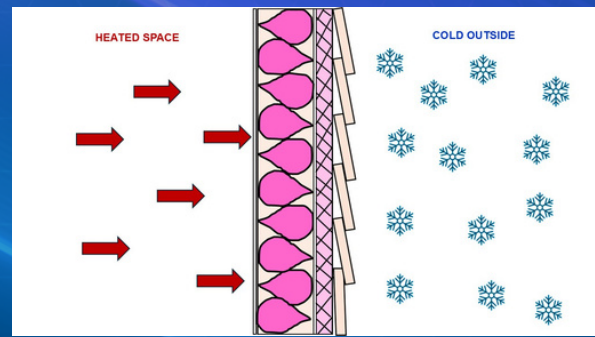
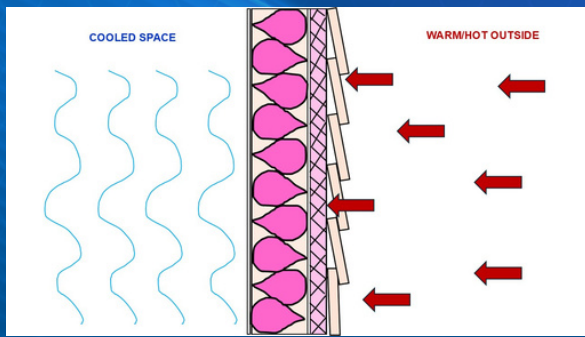
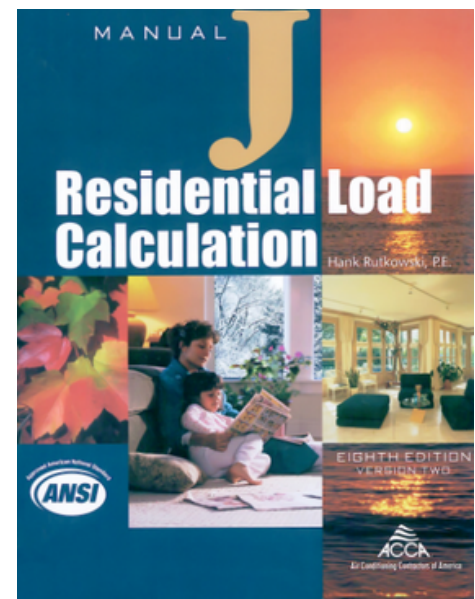




MANUAL J TERMINOLOGY



Understanding the terminology used in Manual J, Manual S, and Manual D reports is essential for accurately interpreting HVAC system designs. Familiarity with key terms, calculations, and performance metrics enables technicians, designers, plans examiners, and inspectors to understand heating and cooling load requirements, equipment selection, and duct system design. This knowledge helps ensure that HVAC systems are properly sized, energy efficient, and capable of delivering the desired indoor comfort while meeting industry standards.



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DRY BULB

The temperature of air that is measured by a thermometer that's exposed to the air but protected from moisture and radiation.



WET BULB

The lowest temperature to which air can be cooled by the evaporation of water. This is always lower than the dry-bulb temperature unless the air is at 100% humidity, in which case they are equal. The drier the air, the more water evaporates, and the lower the wet-bulb reading drops.



DESIGN TEMPERATURE DIFFERENCE (DESIGN TD)

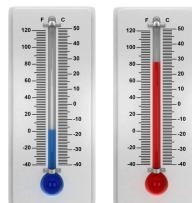
The between your desired indoor temperature and the extreme outdoor design temperature.

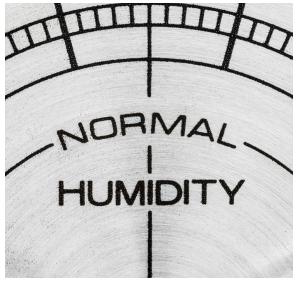


DAILY RANGE

The average difference between the daily high and low temperatures for a specific location.

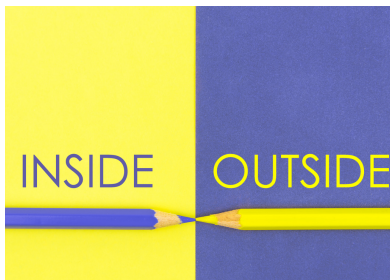
- **Low (L)** – temperature swing less than 16°F
- **Medium (M)** – Temperature swing from 16°F to 25°F
- **High (H)** – Temperature swing great than 25°F





RELATIVE HUMIDITY

The baseline target percentage used to compute latent (moisture) loads inside a home, defaulting to 50% for typical conditions.



MOISTURE DIFFERENCE

The difference in absolute humidity between outdoor design air and indoor target air. Measured in grains of moisture per pound of dry air (gr/lb).



SENSIBLE COOLING LOAD

The amount of heat that must be removed from a building to lower or maintain its air temperature. It accounts for the heat you can feel with a body and measure with a thermometer like sunlight, appliance heat, light bulb, and body heat.



LATENT COOLING LOAD

The net amount of moisture added to the inside air by people, plants, cooking, showering, bathing, infiltration, ventilation and any other moisture source.



INFILTRATION METHOD

A standardized protocol used to determine heating and cooling loads caused by air leakage through cracks, gaps, and penetrations in a building due to wind and temperature difference (stack effect).



- Simplified Method- (most commonly used)
- Detailed Method
- Blower Door Test Method

CONSTRUCTION QUALITY

Dictates how tightly sealed and well insulated a building envelope is.

Tight – (new homes) Meticulous workmanship contains a continuous air barrier, drywalled sealed, windows sealed meet air leakage rates, exhaust fans and dryer vents have backdraft dampers, no combustion in conditioned space unless it is direct vent, doesn't have powerful range hood (high powered range hood with makeup air permitted), fireplaces have outside combustion air and tight fitting glass doors

Semi-tight- (new homes) Conditions are between Tight and Average

Average – (new homes) Adequate workmanship contains a continuous air barrier, drywalled sealed, windows sealed meet air leakage rates, exhaust fans and dryer vents have backdraft dampers, no combustion in conditioned space unless it is direct vent, doesn't have powerful range hood (high powered range hood with makeup air permitted), fireplaces have outside combustion air with damper and tight fitting glass doors

Semi-loose – (newer older home) Envelope conditions are between Average and Loose

Loose – (older homes) there has been no effort or inadequate effort to seal panels, corners, penetrations, cracks. Large amounts of ceiling recessed light fixture leakage, window and doors are not rated or are above .50 cfm at 25 mph wind, some or all exhaust fans and dryer vents do not have backdraft damper, combustion air opening from outdoors are required for appliances, range hoods do not have their own source of make up air requiring power air-makeup, open window, or negative pressure relief, fireplaces use indoor combustion air and do not have glass doors or dampers

