

# Glossary of Terms

**Air Barrier:** A layer of material, typically a fabric, which reduces the air movement through the assembly.

**Air Barrier System:** The use of components such as spray foam to create a plane of air tightness in the building envelope.

**Air Exchanges Per Hour – ACH:** A measurement of ventilation rates for the number of times per hour that a home's entire air indoor air volume is replaced with outdoor air.

**Air Infiltration:** Uncontrolled air leakage into a home through joints and cracks.

**Air Intrusion:** The movement of air through a building cavity, generally caused by wind.

**Baffles:** A device used to maintain a ventilation space between the roof sheathing and the insulation.

**“BIB’S” Insulation:** A system of installing insulation by installing a netting over the wall or ceiling cavity and then blowing in the cavity with a loose fill fiberglass or cellulose.

**Blow-In Insulation:** A loose fill material such as fiberglass, cellulose or rockwool which is applied with a pneumatic machine.

**BTU: British Thermal Unit.** The amount of heat required to raise the temperature of one pound of water one degree F.

**Capillary Action:** The movement of water within a material against gravity as the result of surface tension.

**Chimney Effect:** The movement of air escaping from the upper building section caused by air being sucked out from the lower portion of the building due to air infiltration. This is also known as exfiltration, which is the movement of air from the inside of the building to the outside of the building.

**Condensation:** The changing of water from a vapor to a liquid state by removing the heat. Warm air holds more water vapor than cold air, when the air cools, the water vapor then condenses into liquid water.

**Conduction:** The flow of heat through a material. Materials such as steel and concrete have high conduction rates, insulation materials have low conduction rates.

**Convection:** The transmission of heat through a space by air movement.

**Convection Looping:** The movement of air within the insulation of a cavity. Insulations that are air permeable have warm air rising at the interior wall surface and cold air sinking at the exterior wall surface. This air movement creates an air looping within the cavity.

**Decibels:** Decibels or db, is the logarithmic measurement of sound levels.

**Density:** Insulation densities are expressed in pounds per cubic foot.

**Dew Point:** The temperate at which a water vapor begins to condense.

**Diffusion:** The movement of water vapor from areas of high relative humidity to areas of low relative humidity.

**Emissivity:** The reflection of radiation emitted from the surface of a material. Dark surfaces have high emissivity rates and light surfaces have low emissivity rates.

**Flame Spread:** Standard test for determine relative combustibility. The flame spread of a tested material is relative to the flame spread of red oak, which is 100.

**Heating Degree Day:** A unit used to measure the coldness of a climate. A heating degree day is the day's average temperature subtracted from 65 degrees. Building code uses heating degree days to determine an area's insulation zone.

**Ignition Barrier:** A covering used over plastic insulation left exposed in attics and crawlspaces. An ignition barrier is not a thermal barrier.

**Mycotoxin:** Any poisonous substance produced by mold and fungus.

**Perm Rating:** The ability of a material to retard water vapor transmission through it.

**Permeability:** The time rate of water transmission through a material induced by water pressure differences between two surfaces.

**R Value:** A test measuring the resistance of heat flow through a material. This is done through a "Guarded Hot Box Test" which does not take into account air movement.

**Radiation:** The transfer of energy through an open space. The heat is in the form of low frequency, infrared, invisible or light energy transferring from a warm object to a cold object.

**Relative Humidity:** A percentage or ratio of the amount of moisture the air contains compared to the maximum amount of moisture it could contain at the same temperature.

**Resilient Channels – RC Channels:** Metal channels used to inhibit sound transmission through studs.

**Sound Absorption:** The process of dissipating sound energy. Sound energy is converted into mechanical vibration energy which is absorbed by the wall assembly measured by the "Sound Absorption Coefficient".

**Spray Foam Insulation:** Closed or Open cell urethane foam.

**Spray On Insulation:** Typically a wet loose fill cellulose material sometimes combined with glue, or can be a wet-applied fiberglass

**STC Ratings:** A way to measure sound travel.

**Thermal Barrier:** A material which slows the temperature rise of the product behind during a fire. The requirements of a thermal barrier are to limit the rise of temperature to 250 degrees for a 15-minute period during a fire.

**Thermal Bridge:** A thermally conductive material that penetrates or bypasses the thermal insulation system, such studs, joists and metal beams.

**Vapor Retarder:** A layer of moisture resistant material which controls moisture diffusion, or the use of closed cell spray foam. Vapor retarders are defined as having a perm rating of less than 1.