**Three Heat Transfer Mechanisms**

Heat moves through building assemblies in three ways — by conduction, convection, and radiation.

1. Conduction: The process whereby heat is transferred directly through solid materials from molecule to molecule. No movement of the material plays a role in the heat transfer.

2. Convection: The process in which heat moves with the movement of a fluid, such as air. The transfer of heat occurs by physically moving the molecules from one place to another. Examples: hot air rises; heated water thermosiphons; forced-air heating systems work by moving hot air from one place to another.

3. Radiation: The movement of heat away from an object by means of electromagnetic waves. Radiation is not affected by the air, so a campfire emits heat, even when the wind is blowing. Radiated heat moves at the speed of light through the air without heating the space between the surfaces. An example is the warmth you feel on your skin from the sun, even though the space between the sun and the earth is still extremely cold.