

RADIANT HEATING / COOLING SYSTEMS

Description

Radiant heating and cooling is a proven technology that has been used in Europe for over 100 years. Within the past 35 years, commercial buildings in North America have begun using this system to better control temperature and to significantly decrease costs associated with conventional heating/cooling. Using panels in the ceiling, water filled tubes generate the desired temperature, instead of heat being passed through a heat pump or baseboards.

Benefits

“Researchers at NAHB Research Centre have found that heating a home with ceiling mounted radiant panels produced energy savings of 33% compared to a heat pump and 52% compared to baseboard heaters.”

Heating Energy Savings

Up to 52% of other conventional heating sources

Cooling Energy Savings

Up to 70% of the energy used by air conditioning systems is for fan energy used to deliver cooled air for the building. Use of panels for radiant cooling does not require fans to deliver the cooling and thus this energy usage is eliminated.

Reducing Air Leakage

Since heating is not done through the air, it reduces the air losing its heat by 12.5%

Fast Acting

Panels reach set temperatures in 3–5 minutes

Maintenance

This system is mounted to the ceiling surface, and is not vulnerable to damage typical of conventional heaters

How it works

Radiant heating/cooling is an entirely different way of achieving the desired room temperatures than conventional methods. As opposed to travelling through the air, radiant heating/cooling allows for the source to transfer energy (hot or cold) to bodies 'seen' by the panel to have a lower/warmer temperature. This eliminates the issues connected to conventional heating and cooling since the temperature does not travel through the air.

Radiant heating/cooling projects the energy directly onto whatever surface it 'shines' on, achieving thermal comfort levels with lowered temperatures.

The systems for the building provide full heating and partial cooling, (20%).

