

Mechanical Ventilation of SIPs Structures

All buildings require controlled ventilation systems. SIP buildings are inherently "tight", having almost no "natural" ventilation. Without ventilation, mitigating fumes from combustion appliances, adhesives, cleaning agents, radon, formaldehyde, and other gases and particulates will contaminate the air. SIP buildings absolutely require controlled ventilation systems.

Mechanical Ventilation is controlled, purposeful introduction of fresh, outdoor air into the conditioned space.

Several methods of controlled mechanical ventilation are available.

Air to air heat exchangers - Also known as Heat Recovery Ventilators. An air exchanger is a unit that can continually exchange stale inside air for fresh outside air, while also using the heat (or cold) from the exhaust air to raise or lower the temperature of the incoming air. This creates a healthier living environment while retaining energy savings.

Exhaust only systems - An exhaust-only ventilation system consists of a central fan or distributed fans exhausting air out of the house. "Air in" always equals "air out." As the ventilation exhaust fan(s) remove air from the house, fresh air leaks in, through inherent air leaks in the building, or small, passive air vents, to replace the air that is removed. They can create a negative pressure in the structure.

Air Cleaners - An air purifier is a device which removes contaminants from the air, manufactured as either small stand-alone units or larger units that can be affixed to an air handler unit (AHU) or to an HVAC unit. They are used to remove particulate pollutants but generally are not designed for the removal of gaseous pollutants. Typically these are not recommended for either humidity or radon control.

Ventilating windows - Windows with a small grille to both exhaust and replace air in a house. They are manually operated and can be used in selected windows or in every window in a home.