

PASSIVE HAUS DESIGN

History

Passive building design originated in 1988 between Bo Adamson of Lund University, Sweden, and Wolfgang Feist of the Institut für Wohnen und Umwelt, Germany. The Passivhaus-Institut was founded in 1996 to promote and control standards. Today, most passive houses can be found in German-speaking countries and Scandinavia. The first North American Passivhaus was built in Urbana, Illinois in 2003 and the first US passive retrofit project was certified in July 2010. The project was a remodeled 2,400 square foot craftsman O'Neill house in Sonoma.

Features

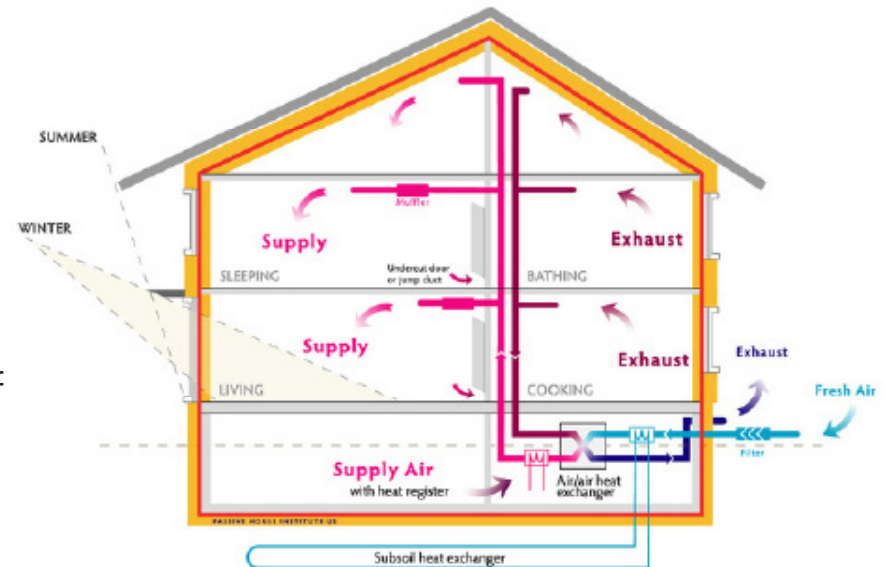
Passive houses are known for air tight building envelopes, superinsulation, advanced triple-pane windows, passive solar design (letting the sun heat the interior during winter and providing shading from the sun during the summer), incorporating heat exchanger ventilation systems, and efficient lighting and appliances. Central heating is rarely needed for passive houses, however, HVAC systems are sometimes installed due to client skepticism.

Traits of Passive Houses

- Fresh, clean air. In general, well air sealed homes prevent air infiltration from dirty attic and crawl spaces. HEPA air filters can be used with heat exchanger ventilation systems.
- Homogeneous interior temperature.
- Very low utility bills.
- If/when a homeowner decides to go solar, less panels are needed to offset energy use due to the efficiency of the building, which lowers the cost of going solar.

Resources

Passive House Institute US
phius.org



Credit: www.phius.org