

# PASSIVE HOUSE

## FREQUENTLY ASKED QUESTIONS

**Q What is the price premium to go to Passive House (PH)?**

**A** This depends on the starting point. For example, the cost difference between building to code compared to PH will be much greater than if the baseline comparison is to LEED Gold. Research into this topic has resulted in estimates ranging from no extra cost to a 15% price premium. If the concept is incorporated during the schematic design phase, costs can be significantly reduced.

**Q Is there an increase in maintenance or changes in operational procedures associated with PH buildings?**

**A** Not in general. PH techniques should result in a more durable, long lasting building. Energy recover ventilators (ERVs) are one of the more common pieces of equipment that are new to certain types of projects. These require filter cleaning and replacement at least a couple of times a year: the greater number of ERVs, the more maintenance that will be required.

With respect to operational procedure, there is a possibility that supplying cooling to a PH residential project may be needed earlier in the year than typical construction. Because PH buildings are so air tight and well insulated, internal gains in the building can result in increased cooling loads in the late spring and early fall, and not just summer months.

**Q Can occupants open their windows?**

**A** Yes. PH requires operable windows in all dwelling units. There is no restriction on opening windows.

**Q Is there a restriction on the amount of glazing?**

**A** There is no restriction as long as the energy demand thresholds and comfort requirements can be met. Reductions in glazing, where excessive, can be a cost effective way to meet the requirements.



# PASSIVE HOUSE FAQ

## **Q What are the roadblocks to PH compliance?**

**A** Supply chain restrictions with respect to ERVs are still an issue. There are a few efficient large scale models available, but more options are needed. Fire rated PH windows and ADA compliant PH doors are also not available in the US at this time. Finally, highly dense buildings and non-residential spaces have a harder time meeting the whole building energy demand.

## **Q What changes to standard practices will be needed to meet the PH criteria?**

**A** Typically, the biggest changes involve supplying fresh air from the ERVs to all habitable spaces, and using different and thorough air sealing techniques on the façade. Increased insulation will be needed compared to local code, and more rigorous inspections and testing will be needed throughout construction.

## **Q What are the implications on the construction schedule when building to PH standard?**

**A** PH construction does not typically result in scheduling delays. During construction document development, the architect, consultant and construction manager work in tandem to create the air barrier set to ensure all air sealing details are included in the drawings. This requires some additional man power up front, but should not result in delays. During construction, the PH consultant will coordinate inspections with the construction manager's schedule. A well trained member of the construction staff will be responsible for inspecting the crucial areas first and will contact the consultant when ready for inspection. This reduces the number of reinspections and any associated delays.

## **Q Are there conflicts between PH and code requirements or other program requirements?**

**A** PH ventilation rates are generally lower than those required by codes and US standards, especially for small apartments and commercial spaces. PH requires rates between 0.3 and 0.5 air changes per hour. Based on the international mechanical code exhaust ventilation rates for kitchens and baths, the ventilation rates are generally higher than 0.5 ach. This requires careful evaluation by the consultant and coordination with the MEP.

