

# Sunrooms

What's a sunroom? Some are structures made almost entirely of glass. Others are rooms in the home with larger than typical windows. The goal is to connect with the outdoors by bringing the sun in.

Sunrooms are also called solariums but the term is confusing because sun-tanning rooms are also called solariums.

## Heat gain / heat loss

A sunroom in an air conditioning climate will increase the home air conditioning load. When adding a sunroom, additional ducting and registers will be required. It

is not unusual to find sunrooms that are not properly conditioned because the installer did not account for the heat gain.

In cool climates, there will be heat loss through the glass. No matter how exotic the glass, it won't insulate as well as an insulated wall.

While heat gain and heat loss will always be an issue with a sunroom, high quality sunrooms are much better. High quality framework will be tightly sealed and high quality glass will minimize unwanted heat transfer. Glass can be selected that is tuned to the climate.

## Condensation

A common problem with full glass sunrooms is condensation. During cold weather, condensation forms on the inside of the glass and trickles down and stains the mullions. This often looks like a roof leak. A well designed and constructed sunroom will accommodate for the condensation. Many have systems that channel the condensation to the exterior. In summer with air conditioning, the condensation would occur on the outside of the glass. The quality of the materials and installation make a big difference to the performance of the sunroom.

## Water leakage

Water leakage is probably the number one complaint about sunrooms. Don't confuse condensation for a roof leak. Here are three ways for water to leak into a sunroom.

**Glass roof leaks:** The joints between the glass panels are a vulnerability. It is a common leakage point, particularly on older sunrooms. Gasket material may stiffen and break down over the years or pressure clamps may become loose resulting in leakage. Caulking is usually a sign that there has been trouble.



**Roof / wall joint:** Another vulnerable point is where the sunroom roof joins the house. Leakage in this area is common due to improper flashing. The proper flashing details are time-consuming and complicated. As a result, they are often left out or not done well. Simple caulking of these joints will not solve the problem.

**Through wall flashing:** Where the sunroom was added to an existing house and the wall between the house and the sunroom area was removed, a vulnerability may exist. If the existing house walls employ a drainage plane, weep holes and through wall flashings may be required to keep water from leaking into the house.

## Safety glass

Most sunrooms have overhead glass. This glass must have some kind of safety mechanism to resist falling tree branches and protect the people in the house from falling glass. In most cases, tempered glass is used. Tempered glass is stronger than standard glass and if it does break, it breaks into many small round pieces rather than long sharp shards. Some building authorities require laminated glass instead. Laminated glass is glass that holds together when shattered because it is laminated with a plastic film that holds the glass together.

**The converted porch/deck:** Many people who have enjoyed the use of a porch or deck for many years decide to enclose it to make a year round recreation space and this is often converted into a sunroom. There are problems with this approach if it is casually done without proper planning, design and construction.

**Converted porch:** A covered porch converted into a sunroom may have a sloped floor, giving the impression that the structure is sinking. It may simply be that the floor of the covered porch was sloped to drain rain water. Another common problem is that the floor may not be insulated as this would not have been required for a porch open to the elements. This is a problem for a year round living space.

## Converted deck

In many cases, the sunroom gets built directly on the deck and consequently the deck foundation. It is not uncommon for Pillar To Post inspectors to discover a support structure that is not ideal. While liberties may have been taken for a deck, we expect more from an enclosed structure that becomes part of the home. The foundations may simply not have been designed with this end use in mind. This can cause problems such as cracking of the glass or flashings and seals pulling apart and leaking due to movement of the structure.

