

July 2014 EnergyWiseSM Tip: Summertime Windows

Unless you are trying to rid your home of unwanted, daytime vampires, there is not an energy-efficient reason for letting sunlight pour into your home on hot, summer days. When outdoor temperatures exceed your thermostat setting for cooling, energy savings from the sun's "free lighting" begins to be rapidly offset by air conditioning costs. How can you regulate the unwanted heat?

Shades

When properly installed, window shades can be a simple and effective window treatment for saving energy. Shades should be mounted as close to the glass as possible with the sides of the shade held close to the wall to establish a sealed air space.

Quilted roller shades, some types of Roman shades, and pleated shades feature several layers of material and sealed edges. These shades act as both an insulation and an air barrier to control air infiltration more effectively than other soft window treatments. For even more efficiency, use dual-sided shades that are reflective (white) on one side and heat absorbing (dark) on the other. These can be reversed with the seasons. The reflective surface should always face the warmest side -- outward during the cooling season and inward during the heating season.

Blinds

Because of their operating slats, blinds offer flexibility in the summer. Unlike shades, you can adjust the slats to control light and ventilation. When completely closed and lowered on a sunny window, highly reflective blinds can reduce heat gain by around 45 percent. They can also be adjusted to block and reflect direct sunlight onto a light-colored ceiling to provide some lighting.

Draperies

A drapery's ability to reduce heat loss and gain depends on several factors, including fabric type (closed or open weave) and color. With such a wide variety of draperies available, it is difficult to generalize about their energy performance.

During summer days, you should close draperies on windows receiving direct sunlight to prevent heat gain. Studies demonstrate that medium-colored draperies with white-plastic backings can reduce heat gains by 33 percent. To reduce heat exchange or convection, draperies should be hung as close to windows as possible.

High-Reflectivity Films

High-reflectivity window films help block summer heat gain. They are best used in climates with long cooling seasons, because they also block the sun's heat in winter.

Silver, mirror-like films typically are more effective as a heat gain deterrent than colored, more transparent films. Covering east- and west-facing windows can produce the greatest benefit, while south-facing windows may benefit somewhat and north-facing windows gain no benefit from application of window films.

Note that window films do have some disadvantages, too. They can significantly reduce the level of interior light or visible transmittance. They may also impair outside visibility. Some films require extra care when cleaning and exterior reflections could pose a problem.

Panels – Insulated & Reflective

An insulating window panel or pop-in shutter typically consists of a core of rigid foam board insulation. You can push or clip it into the interior of a window. Panels are made so that their edges seal tightly against the window frame. Seals can be made from magnetic tape or Velcro. No hardware, such as hinges or latches, is required.

Mesh Window Screens

Mesh window screens can diffuse solar radiation, reducing heat gain in the summer. Screens should be mounted in an exterior frame and should cover entire windows. They are particularly effective on east- and west-facing windows.

Overhangs

Properly sized and installed roof overhangs can most effectively shade south-facing windows from summer heat. If oriented properly, overhangs will allow sunlight in through the windows during winter, providing more warmth to a house.

It is easy to incorporate overhangs into a home design before or while it's under construction. Adding an overhang to an existing home, however, can be quite difficult and sometimes impossible. Window awnings, louvered patio covers, or lattice-type panels can be considered as alternatives for existing homes.

Shutters

Both interior and exterior, can help reduce summertime heat gain in your home. Remember that interior shutters need a clear space to the side of the window when they are opened. They also require hardware that is fastened to the window jams or trim. Properly designed exterior shutters may provide the best possible window insulation system. They also offer advantages of weather protection, added security, and no use of interior space.

Like window blinds, louvered shutters work best for summer shading. Movable or fixed louvers allow ventilation and natural daylight to enter a room while blocking some direct radiation. However, they do not provide much insulation against heat loss in the winter. If desired, combine shutters with other window treatments such as draperies for greater insulating ability.

Awnings

With their recent rise in popularity, the U.S. Department of Energy calculates that window awnings can reduce solar heat gain in the summer by up to 65 percent on south-facing windows and 77 percent on west-facing windows. Today, awnings are made from synthetic fabrics that are water-repellent and treated to resist mildew and fading. You should choose one that is opaque and tightly woven. And be aware that light-colored awning will reflect more sunlight than a darker awning.

Your local utility and Nebraska Public Power District want to help you make the most of the energy they provide you. That includes keeping your home cool this summer. For more ideas on how you can make your home EnergyWiseSM, contact your local utility or visit www.nppd.com.