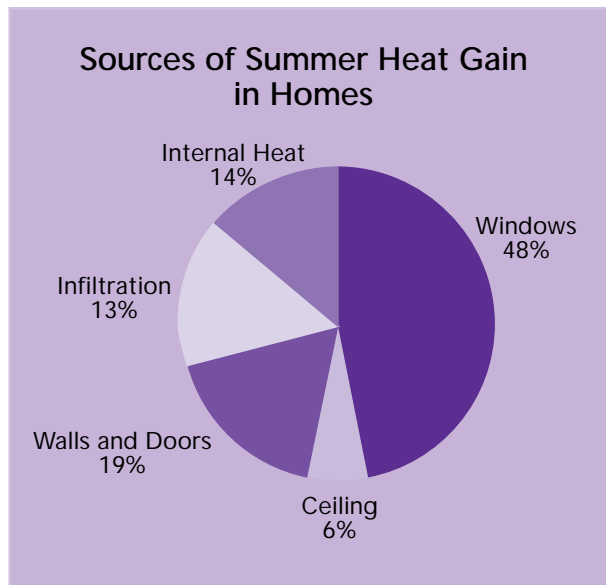


## Shade Screens and Window Treatments

### Conserve Energy and Save Money With Shade Screens and Window Coverings

A simple and effective way of keeping the cool *in* and the hot *out* is to shade your windows and glass doors from the hot Arizona sun. The benefits of deflecting the sun's heat include:

- Reduced energy consumption.
- Lower energy bills.
- Less fading of your interior furnishings.
- More consistent and comfortable inside temperature.



### Sources of Summer Heat

As shown in the chart at the left, windows on a typical home in the Phoenix area account for nearly 50% of the workload placed on your air conditioning system. That's more than the roof, walls, and attic combined! Untreated windows in the desert environment will allow about 20 times more heat into your home than an equal amount of insulated wall space. By controlling the way the sun's energy enters your home, you can save on summer energy bills and take advantage of "free" heating in the winter.

### Rating the Performance of Window Treatments

When looking for window treatments that will block out the hot sun, you'll want to consider the "shading coefficient" of different alternatives. The **Shading Coefficient** is a measure of the ability of the window treatment to reduce solar heat gain. The lower the number, the less solar heat will enter your home and the lower your cooling bills will be. For example, a window treatment with a shading coefficient of 0.40 will prevent about 60% of the solar heat gain while a shading coefficient of 0.3 will block out about 70%.

**Solar Heat Gain Coefficient** (SHGC) is another measure of the window treatment's ability to reduce solar heat gain. It's a more accurate method of measuring heat blockage, but is more difficult to determine and until recently has not been used extensively. The lower the SHGC number, the more effective the window treatment.



## External Shading Devices Reduce Heat Before It Penetrates Glass

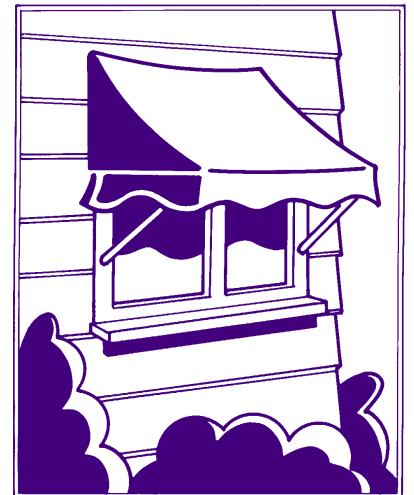
According to the U.S. Department of Housing and Urban Development, stopping the sun's heat *before* it penetrates windows and sliding glass doors is up to seven times more effective than using interior blinds or curtains. Made of small aluminum louvers, fiberglass mesh, or tough metalized polyester film laminated to vinyl, shade screens work best on windows with southern, western or eastern exposures. Removable shade screens allow you to take advantage of passive solar heat gain in the winter.

## Blinds and Draperies Reduce Heat After It Penetrates Glass

Although interior shades in your home are not as effective as exterior shades, they do block a certain amount of the sun's heat. Interior window coverings, such as blinds, shades and draperies, reduce solar heat most effectively if the surface facing the glass is a reflective color like white.

## Reflective Films

Reflective film, which is applied directly to the inside of your window, is the *most* effective interior method of blocking solar heat. It can be as effective as external shade screens. Reflective film works best on your east and west windows. Since the film is permanently applied, it is not recommended on south-facing windows because it will prevent passive solar heat gain in the winter.



## Supplemental Shading Increases Solar Blockage

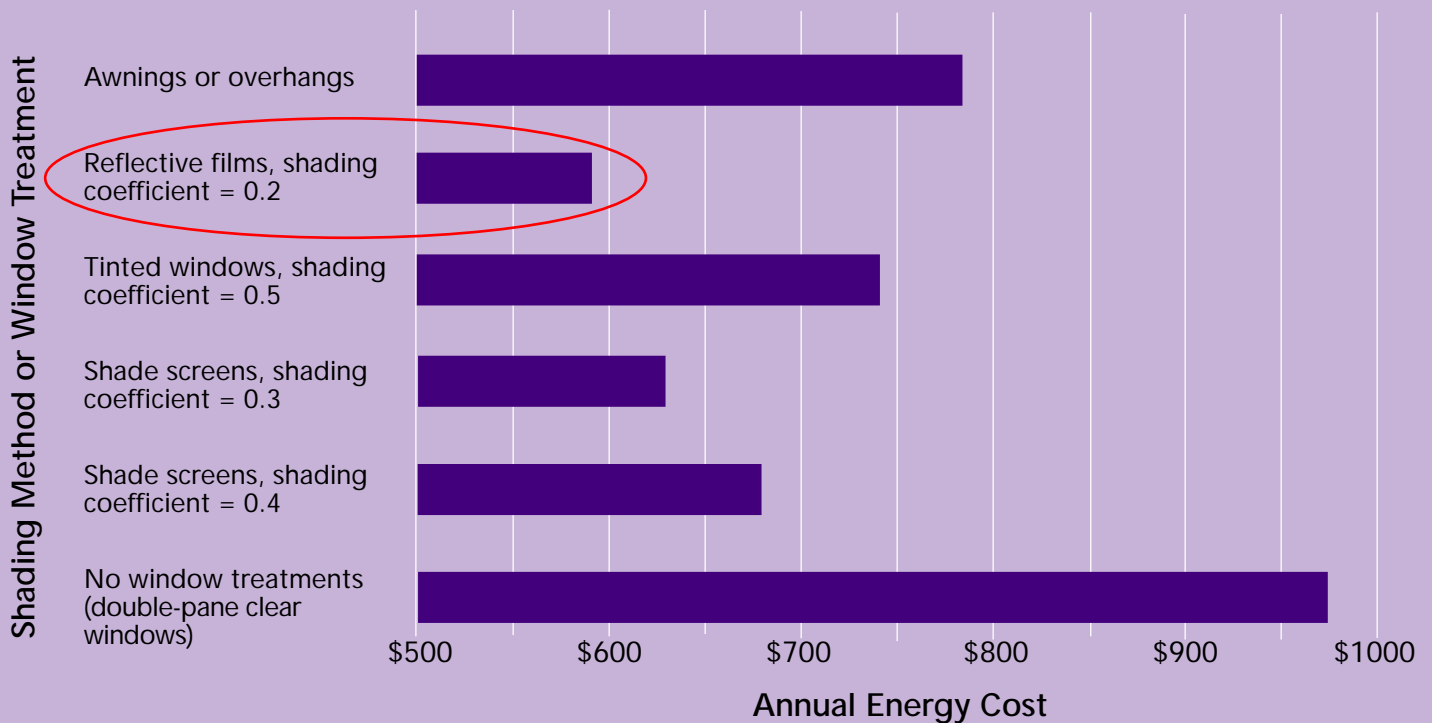
Installing awnings over your southern windows will provide shade in the summer without blocking the heat of the low winter sun. Planting deciduous trees (those that drop their leaves in the winter) and shrubs on the east, south and west sides of your home will also reduce the amount of summer heat that enters your home. Deciduous trees also allow the sun to warm your home in the winter. If you are building a new home or remodeling an existing home, you can design window shades and overhangs that will totally shade the windows in the middle of the summer when the sun is high in the sky, yet allow the sun's rays to enter the window in the winter when the sun is lower. For more information, see the Energy Answers fact sheet on *Landscaping for Energy Efficiency*.



## How Much Can You Save on Cooling Your Home with Different Window Treatments and Shade Techniques?

Both new and existing homes can benefit from window treatments that control the sun's heat. The chart on the next page compares the benefits of different window treatments and shading techniques for a typical Phoenix area home. Not only do you save money each month on your energy bills and enjoy a more comfortable home, but you can also save on the installed cost of a new air conditioning unit. You could reduce the size of your air conditioning unit by 1/2 to 1 ton with properly applied window shading techniques. The lower cost unit means more money to spend on other amenities ... without sacrificing comfort!

## Annual Heating and Cooling Energy Cost with Different Kinds of Window Treatments or Shading Methods for a Typical 2000 Sq. Ft. Home



Note: The figures above are based on energy calculations by APS using the APS Standard Plan. Your actual energy costs may vary.

**For More Information Call the APS Energy Answer Line**

For more information on energy efficiency measures for your home, call the **APS Energy Answer Line in Phoenix at (602) 371-3636 or toll-free 1 (888) 890-9730**. Or visit our web site at [www.apsc.com](http://www.apsc.com).