



## Summer Shading

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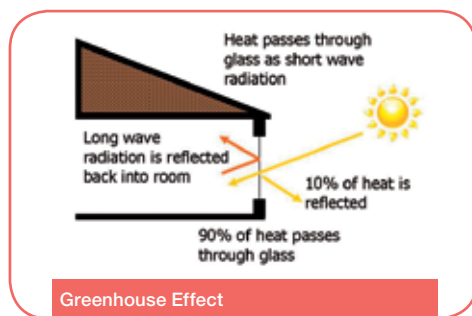
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The sun is the main source of heat gain in your home. When the sun shines through windows, it has the same heating effect as a one bar heater for every square metre of window. An unshaded window can increase room temperatures by 3°C.

### Greenhouse effect

Windows trap heat in your home much the way that glass does in a greenhouse. Up to 90% of heat energy from the sun passes through glass. This enters your home as short wave radiation, however, once it has been absorbed by materials and re-radiated back into the room it changes to long-wave radiation. Heat in this form cannot pass through glass and is therefore trapped inside your home.



The best way to keep your home cool in summer is to shade windows from direct sunlight. Closing curtains and blinds is important; however, external shading of windows is twice as effective at preventing heat gain.

### Shading windows to the east and west

East and west facing windows are often the greatest source of heat gain in summer because they let in low angle morning and afternoon sun that cannot be blocked by the eaves of the house. Shading needs to be low over the window and removable in winter to let in winter sun.

### Awning blind

Awning blinds cover the length of the window and can reduce heat gain by up to 70%. They are adjustable, allowing them to be lifted when the sun is off the window. Awning blinds are available at hardware stores for between \$100 and \$400, depending on size, and are easy to install.

### Roller shutters

Roller shutters cover the length of the window and can reduce heat gain by up to 70%. They are operated electronically from within the home. Roller shutters provide added security, insulation and noise control, as well as shading, and can be professionally installed for between \$600 and \$900.

### Window tinting

Window tinting can reduce heat gain by up to 50%. Window tinting is not adjustable and, although it can provide additional privacy, will reduce natural light all year round. Window tinting costs around \$200 per square meter of window.

### Plants

Shading from plants can reduce heat gain by up to 60% in summer. A tree, shrub or even a pergola with a vine can be used to shade windows. Deciduous trees provide shade in summer when it is needed without blocking winter sun. Remember to pick up fallen leaves so they don't reach waterways.

### Shade cloth

A low-cost solution to summer shading is shade cloth. Hanging shade cloth from the outside of the window frame or eaves is an effective way to reduce heat gain in summer.

### Shading windows to the north

Eaves are usually effective at shading north facing windows from high angle summer sun. They also allow low angle winter sun to warm the house. Pergolas with angled slats can be built on the northern facade to shade windows and alfresco areas in summer while allowing them to be warmed in winter.

### Adjustable shading

If you don't have eaves to block summer sun then you should add fixed awnings. Shade sails can also be used to shade windows and paved areas from summer sun.

