

HOME ECONOMICS GUIDE



Sun Screens for Summer Heat Control

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Sun screens can greatly cut down heat gain at windows during summer. Properly installed sun screens will reduce the BTUs per hour per square foot (BTUH/ft²) entering the home through windows by 70 percent to 75 percent. This can result in a significantly lower temperature gain. Place sun screens on the outside of windows for maximum effectiveness. For difficult to reach windows, you still can gain some benefit by placing sun screens on the inside.

There are numerous types of reflective films and materials that adhere directly to window glass. These films do reflect sun well, but are permanent once installed. You can, however, easily remove sun screens to allow maximum solar heat gain in winter.

Measuring

There are two different methods for measuring and installing sun screens.

- **Method A** - Installation over a window with no storm window, removeable storm window, or with a recessed storm window.
- **Method B** - Installation over a window with a protruding storm window.

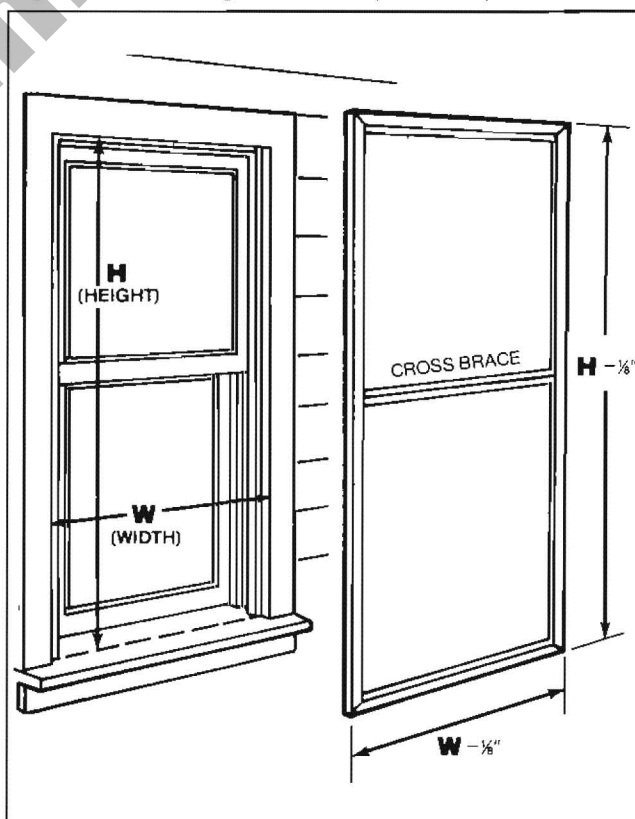
Measuring for Screens

- **Method A** - To determine the dimensions of your completed sun screen, measure on the outside of your window as shown. Measure the width (W) and height (H) to the inside of the window framing. Subtract 1/8" from the height (H) and width (W) measurements. This subtraction allows enough space for the screen frame to fit just inside the window frame.

- **Method B** - To determine the dimensions for this sun screen, measure the width (W) and height (H) to the inside edge of the window frame and add 2 inches to the width.

BE SURE TO ALWAYS MEASURE ACCURATELY!

Figure A. Measuring for screens (Method A).

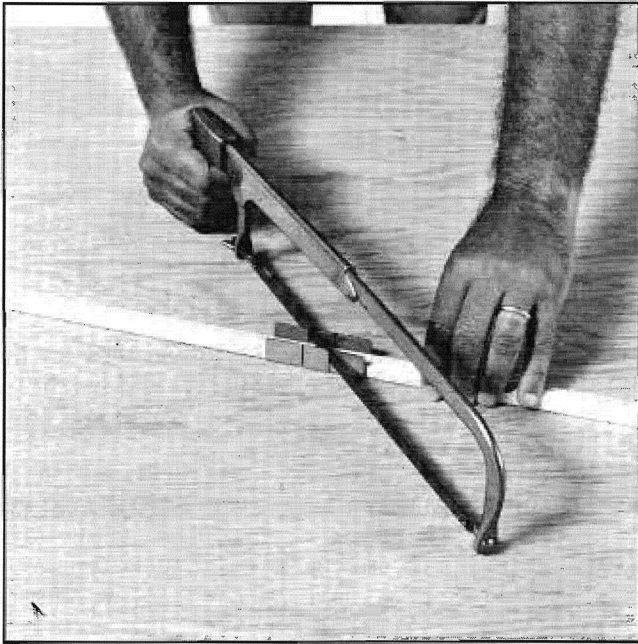


Building the Frames

Construct frames either from ready-made aluminum framing or from wood framing strips. Basic construction will be similar.

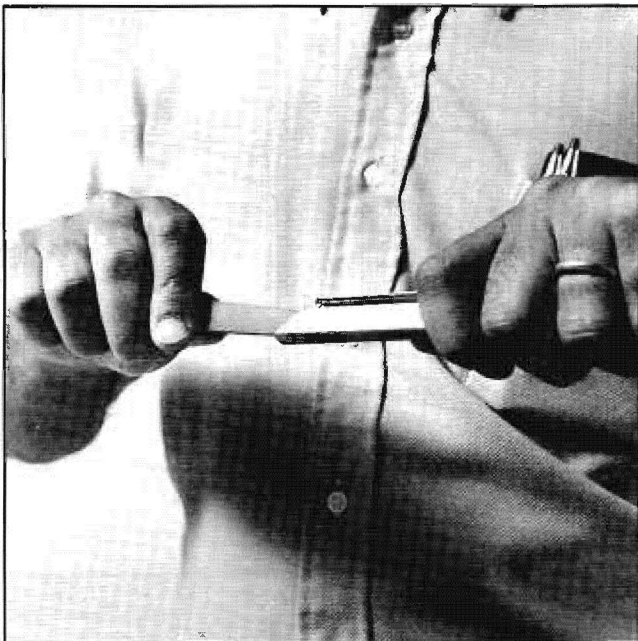
1. To cut aluminum sections, use a miter box and fine-toothed hacksaw. Mark and cut 45° angles in the aluminum sections to correspond to the sizes you have recorded.

Figure B. Miter box and hacksaw.



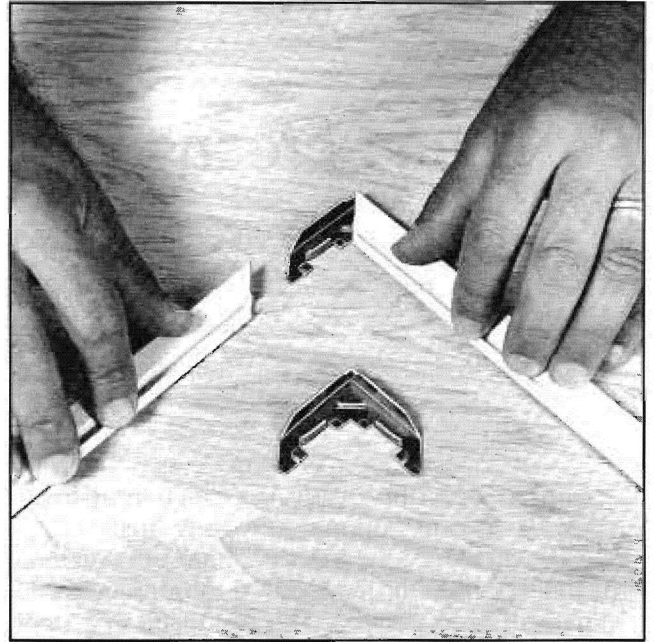
2. Remove burrs from rough edges by smoothing the cut edges with a fine-toothed metal file. This will make it easier to insert corner locks.

Figure C. Removing burrs.



3. Remove splines from framing material and insert corner locks into the end pieces of the frame section. Four corner locks are required for each frame.

Figure D. Inserting corner locks.



4. Attach long pieces to form a rectangle. Use a rubber mallet to tap in locks, if needed.

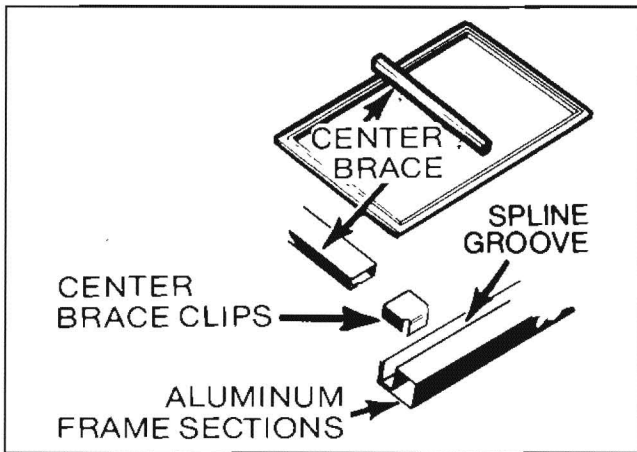
Figure E. Forming the frame.



For frames longer than 3 feet, a center brace should be added. Before inserting screen into frame, cut a length of center brace to fit the inside width of the frame. Slide center brace clips into each end of the center brace. Place the center brace across the center of the frame and insert the lip of the center brace clip into the spline groove. The center brace will be held in place when the spline is inserted. (See illustration.)

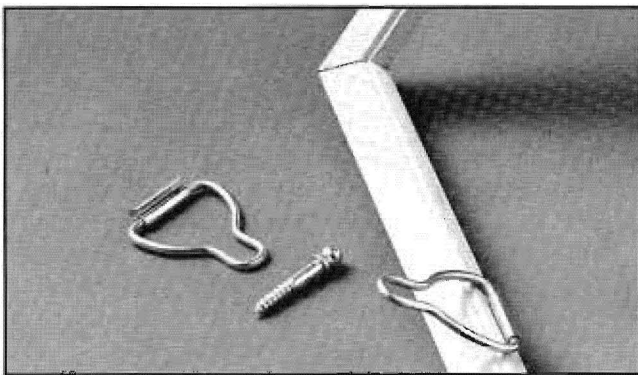
Wooden frames should be assembled using scotch clamps at corners and at center brace intersections.

Figure F. Making center brace.



5. If using the screen on a window with no storm window, attach the screen loop latches to the lip on the bottom section of frame, 4 inches from each side.

Figure G. Loop latches.

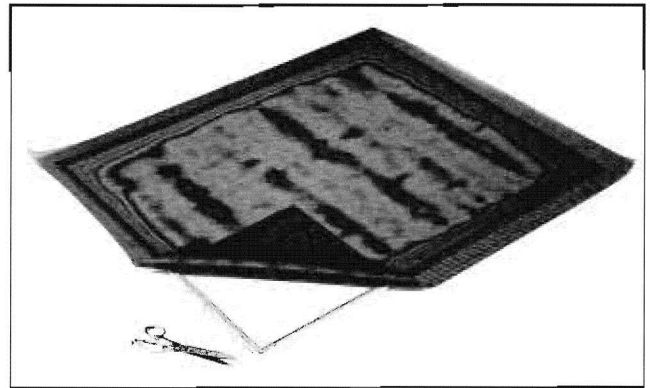


Inserting Screen into Frame

1. Cut a section of screen approximately 1 inch bigger all around than the completed frame. Cut carefully between two screen wires to help keep screening square. Place the frame (groove side up)

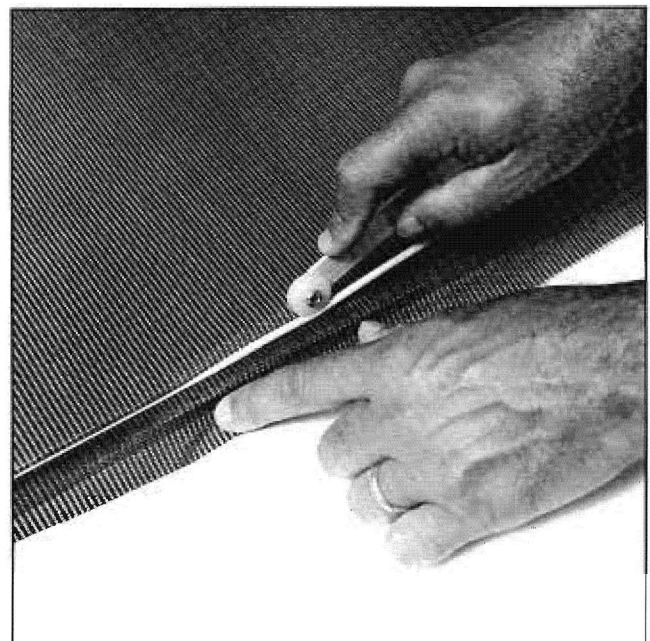
on a flat surface and lay the screen, squarely, on top of the frame.

Figure H. Cutting the screen.



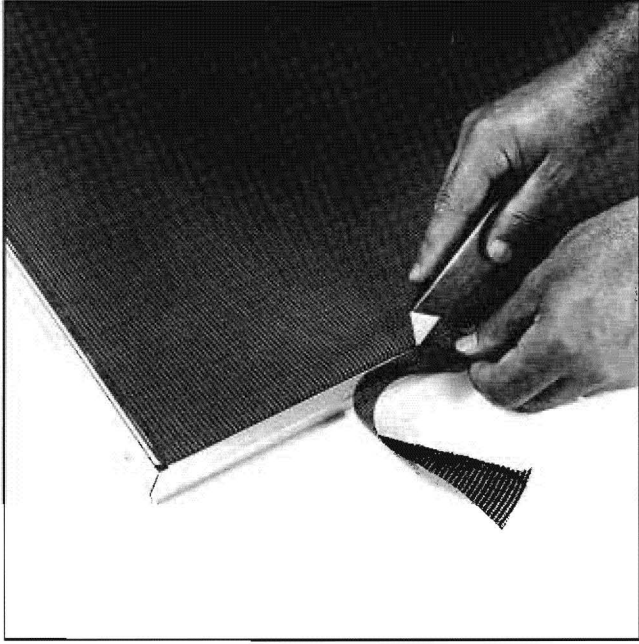
2. Begin at the center of one side and, using the spline roller, roll the spline to one corner. Next, roll in the spline from the center to the other corner. Straighten the screen with your other hand, if necessary, to make sure the screen goes on the frame straight. Repeat the process on the opposite side then on the top and bottom. Roll the splines in lightly. The screen will be slightly loose. Check to see that the screen is placed squarely on the frame. When the screen is satisfactory, roll the splines into the bottom of the track using the same method as before. Be sure the screen is smooth but not too taut or the frame may bow.

Figure I. Inserting the spline.



- Carefully trim the excess screen close to the outside edge of the spline using a utility knife. The spline may stretch during rolling, if this occurs, trim excess and force the spline ends down into the track at the corners.

Figure J. Trimming the screen.



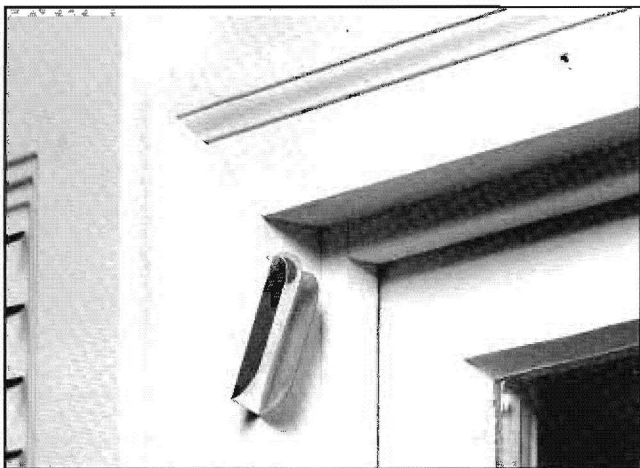
- Use a staple gun to fasten screen to wooden frames. Screen may be fastened directly to the frame or the edges may be covered with lightweight wood strips and then stapled through both the wood strip and the screen.

Installation Methods

Method A:

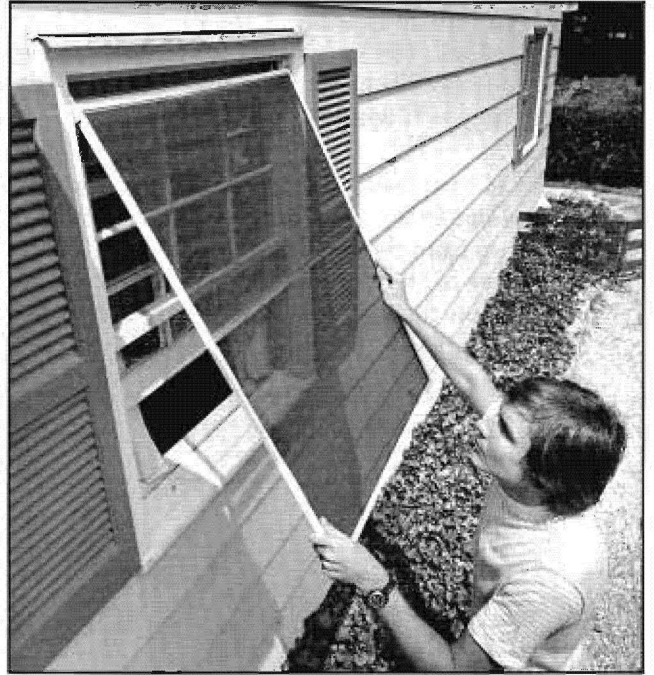
- Nail hangers to each side of the outside frame of the window. Hangers should be nailed into position approximately 1/2" from the top of the window frame.

Figure K. Installing hangers.



- Install ball head screws (2) in the window sill to line up with the loop latches on the screen. They should be installed far enough back to assure a snug fit when latches are locked over the top.

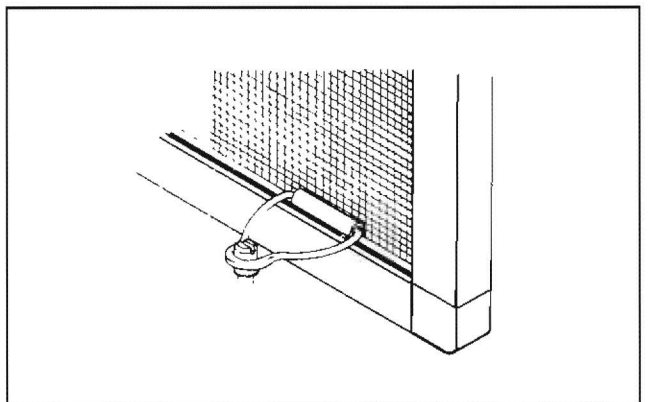
Figure L. Hanging the screen.



- Slide sun screen into place. With hangers firmly attached to each side of the window frame, slide the screen into the channels until it is flush with the top of the window frame.
- Pull the screen snug against the window sill and slide the loop latches over the top of the ball head screw.

For windows with the previously mentioned style of storm window, push the screen snugly against the window at the bottom and secure with two or three finishing nails depending on the width of the screen.

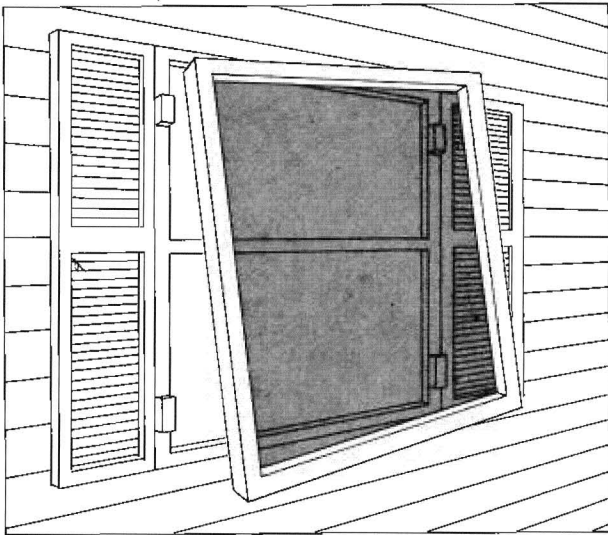
Figure M. Use ball head screws and loop latches.



Method B:

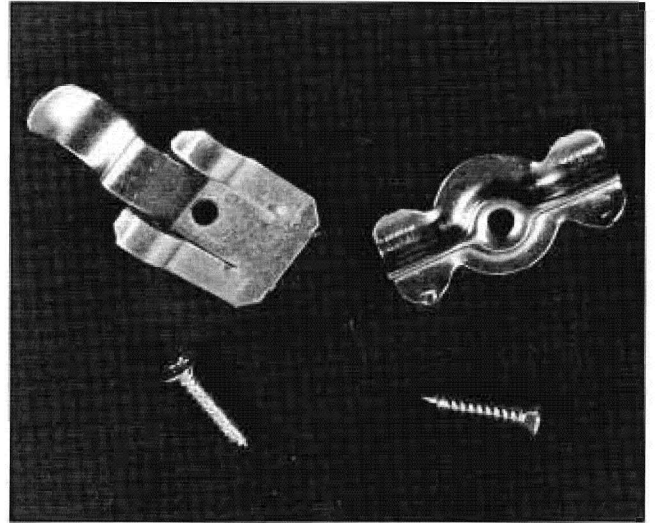
1. Measure the depth of the storm window if it protrudes from the window frame. Measure the protrusion of the storm window beyond the window framing. You will need a board thick enough to clear the window. (Example: If the protrusion is 1 inch you will need a 2-inch thick board, etc.). Cut the board into blocks 3 inches x 3 inches. You will need four (4) blocks per window. Paint or finish blocks to match window frames.
2. Fasten blocks directly on top of the window frame approximately 2 inches down from the top and 2 inches up from the bottom of the window on each side. Place the blocks so the sides of the sun screen will rest on top of them and lap over 1 inch on each side.

Figure N. Use 3"x3"x2" inch blocks.



3. Position a spring clamp or turn clamp on each block to hold the screen in place.

Figure O. Spring clamps and turn clamps.



Tips on Using Solar Screens

There are a variety of uses for sun screens:

- In mobile homes with awning windows, replace the inside screen with sun screens made to fit the same opening.
- Casement windows, which roll out, can also be fitted for inside sun screens.
- Repair broken screens with solar screening on east, south, or west windows.
- Build a sun screen shield to deflect heat from air conditioners located in hot, sunny areas. Be sure to leave room for air circulation between screen and air conditioner.
- In summer, cut sun screen to cover storm doors in sunny areas. Shading will decrease heat build up. Fasten with clear, double faced tape.
- Sun screens can be used in frames or alone. Use it wherever shading is needed.
- Sun screens, due to their weave, provide some additional privacy to windows.

Reynolds Metal Company cooperated with extension specialists to develop this guidesheet.

