"Build efficient, attractive exterior storm windows yourself"

Q: I want to install some exterior storm windows, but the prices are over my budget. I have more time than money now, so I could make them myself. Do you have any building tips and should I use double panes? - Jack W.

A: People often don't realize how expensive some custom-made exterior storm windows can be. Good quality storm windows use almost as much framing material, glass and weatherstripping as the primary windows and installation and fitting can be quite involved.

If you have time free and just medium do-it-yourself skills, you should be able to build some simple, yet attractive, storm windows yourself at a fraction of the cost. They can be as energy efficient as custom ones, if not more so, because a simple storm panel has fewer joints to leak air.

Double-pane storm windows are somewhat more efficient than single pane ones, but I would not recommend them. This increases the material cost. The payback from the extra energy savings would be greatest in cold climates, but there you would likely have a problem with fogging between the panes.

Use standard 1x2-inch lumber to make the rectangular framing for the storm windows. Any type of wood will work fine. Redwood or cedar is rot-resistant and can be stained for a very attractive appearance, but at a higher cost. Pressure-treated lumber holds up well in wet areas, but it does not accept paint well.

Use a miter block to make 45-degree angles. This makes a more professional-looking frame corner joint than just a butt joint. Size the frame slightly smaller than the outdoor window opening to allow room for foam weatherstripping. The compression of the foam will hold the storm window in place.

Use clear acrylic plastic (Plexiglas) for the glazing. Any thickness you find at your home center will work. The efficiency comes from the dead air space, not the plastic or glass itself. If you want something tougher for first-floor windows, use more expensive polycarbonate (bulletproof glass).

If you have a router, make a slot along the inner edge of the frame sides to hold the acrylic sheet. The acrylic sheet will have to be cut slightly larger than the inside of the frame. If not you do not have a router, nail some narrow wood stops on each side of the edge to form a slot.

A still easier method is to use just a bead of clear silicone caulk to hold the acrylic pane in the frame. In this case, the frame is assembled and painted first. Use a staple gun to staple the frame corners together. Also use a strong glue, such as Gorilla Glue, in all the frame corner joints.

Place the storm window in the opening and note the clearance around it. Buy adhesive-backed foam weatherstripping which is thicker than the gap. Peel off the backing and stick it to the frame. Force the frame into the window opening.

There is no Update Bulletin with this column topic.

Q: I don't understand how a furnace humidifier saves energy during winter. It takes energy to operate the humidifier and it uses cold water which cools the house. Can you explain the concept behind this? - Paul N.

A: A central humidifier mounted on the furnace uses very little electricity. It does use some cold water and the water it evaporates into the air also cools it similarly to when you perspire.

By having the room air properly humidified though, people are supposed to feel warmer because less moisture evaporates from their skin. This allows them to set the furnace thermostat lower to save energy and still feel comfortable.