

Protecting Windows, Doors, & Garage Doors with Plywood Shutters

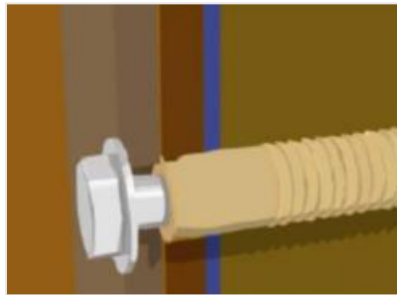
If your home is not protected by impact-resistant windows and doors, wind- or impact-resistant garage doors, or tested and approved opening protection like shutters, you can build temporary emergency panels to protect your home in a hurricane.

Step One – Assemble Your Tools and Hardware:

What you will need for this project:

- Tape measurer
- Circular saw
- Drill and drill bits
- Hammer
- Wrench
- Work gloves
- Eye protection
- Bolts
- Wood or masonry anchors
- Nuts and large washers

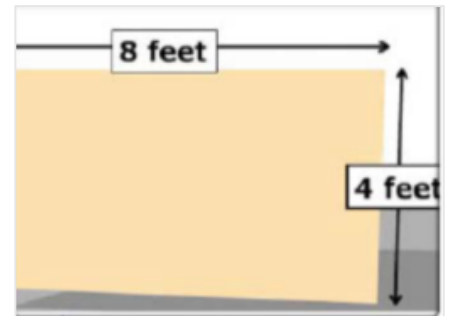
Note: Different bolts will be needed for wood-frame versus masonry homes. Use lag screws and plastic-coated permanent anchors on wood-frame homes. Use expansion bolts and galvanized permanent expansion anchors on masonry structures.



Notes

Step Two – Plan the Project:

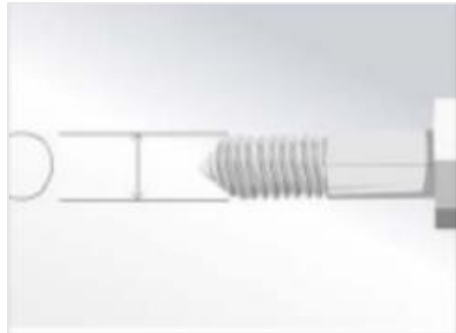
- Count and measure each window and door on your home that has glass. Don't forget French doors, sliding glass doors, skylights, or older garage doors that are not wind or impact resistant. Be sure to include roof and gable end vents or any opening large enough to allow wind to enter your home if damaged.
- Measure each opening horizontally inside the exterior trim and vertically from the sill to the bottom of the top trim.
- Add eight inches to both the height and width to provide a four-inch overlap on all sides.
- Measure from the top of the sill to the top of the window and add four inches instead of eight when measuring windows with extended sills.
- Factor in that plywood sheets are typically 4 feet by 8 feet, so you can calculate how many sheets to buy. Be sure to purchase exterior grade (CDX) plywood that is 5/8-inch or greater.



Notes

Step Three:

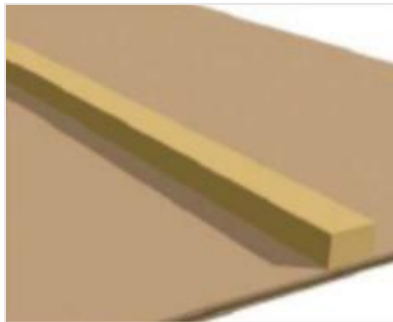
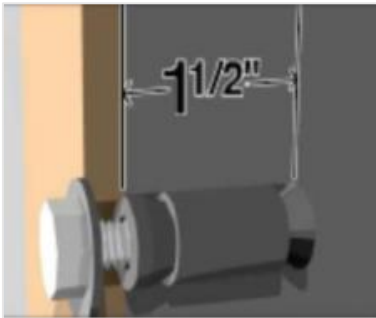
- First, drill holes in the same diameter as the bolts or screws, 2-inches in from the edges of the plywood at each corner and at 12-inch intervals around the panel.
- Next, hold the plywood firmly in place over the opening to mark where to drill mounting holes.
- If the windowsill is flush to the wall, secure the plywood on all four sides.
- If the windowsill extends out at the bottom, secure the plywood on the top and sides.
- For windows 3 feet by 4 feet or smaller installed on a wood frame house, use 1/4-inch lag screws and plastic-coated permanent anchors.
- Note, lag screws should penetrate the wall and frame surrounding the window at least 1 ¾ inches. For larger windows, use 3/8-inch lag screws that penetrate the wall and frame surrounding the window at least 2 ½ inches.



Notes

Step Three (continued):

- For windows 3 feet by 4 feet or smaller installed on a masonry house, use 1/4-inch expansion bolts and galvanized permanent expansion anchors.
- Note, expansion bolts should penetrate the wall at least 1 ½ inches. For larger windows, use 3/8-inch expansion bolts that penetrate the wall at least 1 ½ inches.
- For windows and doors (including garage doors) that are larger than a sheet of plywood, join the panels with 2-inch by 4-inch (2x4) bracing along the entire seam.
- Attach the 2x4s to the outside of the plywood panel with 10 gauge, 2 inch-long, galvanized screws (exterior deck screws) spaced every 4 inches.
- Use the widest side of the 2x4 to run the length of the entire seam.



Step Four – Finishing Up:

- Once you complete the above steps, number and label each panel with the name of the opening for ease of installation when a storm is approaching.
- Store the panels, washers, and nuts together in a location away from the weather elements.
- Consider waterproofing the panels with paint or a sealant.

