

Securing Your Belongings 1010

Once an earthquake or other natural disasters hit, it will be too late to protect your home and belongings. But there are always ways to limit the damage to your belongings. Sometimes only a little time and a few dollars are all you need.

This homeowners' checklist will help you learn how to protect your home and belongings from earthquakes and other natural disasters. It does not cover every method, but we tried to be as thorough as possible. If you're building or remodeling a home, there are many other options to consider for protecting your property.

If an earthquake or other natural disaster occurs, take cover under a sturdy table or desk, cover your head and hold on to the table. If outdoors, move into the open, away from buildings, street lights and utility wires. You should also teach family members how and when to turn off the gas, electricity, and water after a natural disaster.

Is your home securely anchored to the foundation?

If your home has a perimeter foundation, make sure the sill plate of the house is securely bolted to the foundation. You can consult with the Building Services Department in your area before deciding what to do.

If your house has wood studs that extend from the foundation to the underside of the first floor (known as cripple walls), make sure they have adequate bracing, such as plywood or structural grade particle-board. The bottom of the bracing should be nailed to the sill plate. A variety of products called "hold downs" are available for securing walls to the foundation. You can have a builder help you with this.

Test the wood near the foundation by probing it with a pointed instrument. If you can penetrate the wood easily, it probably has wood decay and should be replaced with new pressure-treated wood. Have a contractor inspect any deep cracks in the foundation. Hopefully this is something you do not need to worry about. Securing your home to its foundation again can be costly.

Is the chimney properly secured?

Some masonry chimneys pose a real hazard in natural disasters, especially the free-standing section above the roof line. To prevent the chimney from breaking away from the house, you may need to have it secured to the framing of the roof with sheet metal straps and angle bracing. Have the chimney inspected by a professional to determine the best method to do this.

Are pictures, mirrors, shelves and light fixtures properly secured?

Go around your house and anchor eyebolts to wall studs for hanging heavy items such as pictures, mirrors and shelving. Make sure picture wires are securely attached to picture frames. Hang things away from beds and places where people sit/sleep will be helpful. Make sure overhead light fixtures and hanging plants are anchored to the structural support above the ceiling.

Are televisions, computers and stereo equipment properly secured?

There are a variety of products designed to protect home equipment in a natural disaster. These include adhesive-backed latches; nylon and elastic cords; wire, plastic and elastic guardrails; and shelf edges to prevent equipment from falling on the floor. Make sure your electrical devices are secure.

Are fuel tanks and wood-burning stoves securely anchored?

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Fuel oil and propane tanks can slide or overturn in natural disasters. This could rupture the tank or break the supply line and causing a fire. These items should be securely anchored to the floor.

Move any tall, heavy objects that could fall and rupture the fuel tank in a natural disaster to a safer place. Have a contractor install a flexible hose connection between the tank and supply line, and where the supply line enters the house.

Wood-burning and other free-standing stoves also pose a fire hazard in an earthquake and should be anchored to the floor. Fasten stovepipe sections together to prevent separation. You will most likely need a contractor for this work. Make sure all work conforms with your local building codes.

Is your water heater securely strapped in place?

Strapping your water heater to wall studs and having flexible gas and water lines installed will greatly reduce the risk of fire and water damage in a natural disaster.

How to secure a water heater in a corner or closet

Materials

- 3/4" x 24 gauge perforated steel plumber's tape
- 1/4" diameter x 3" lag screws and flat washers or 1/4" expandable anchors with 2" embedment for concrete or masonry walls

Directions

- The water heater should be 1" to 12" away from the corner walls.
- Locate the wall studs on both sides of the water heater (not behind it).
- Anchor plumber's tape (a flexible steel strap) to a wall stud with a 1/4" diameter x 3" lag screw and flat washer.
- From about 9" from the top of the tank, wrap the plumber's tape all the way around the tank in a clockwise direction. Then anchor the tape to the stud on the other wall. Make sure the tape is tight.
- Repeat the process; again about 9" from the top of the tank, but this time wrap the tape in a counter clockwise direction.
- Repeat the process two more times about 4" from the bottom of the tank. Wrap one band of tape in a clockwise direction and the other band of tape in a counter clockwise direction.

How to secure a water heater on straight wall

Materials

- 3/4" x 24 gauge perforated steel plumber's tape
- 1/2" diameter conduit
- 1/4" diameter x 1" round head machine screws with nuts and flat washers
- 1/4" diameter x 3" lag screws and flat washer or 1/4" expandable anchors with 2" embedment for concrete or masonry walls

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Directions

- The water heater should be 1" to 12" away from the wall.
- Locate the wall studs on both sides of the water heater (not behind it).
- Wrap plumber's tape around the tank 9" from the top and 4" from the bottom. Secure tape with round head machine screw, flat washers and nut.
- Cut four pieces of conduit to size. The conduit is used as angle bracing from the wall studs to the tank.
- Flatten 1" at each end of the conduit and bend 45 degrees. Drill holes 1/2" from each end.
- Anchor the conduit to the wall studs. Use 1/4" diameter x 3" lag screw and flat washer. Then anchor the conduit to the plumber's tape. Use 1/4" diameter x 1" round head machine screw, washer and nut.

If you are using gas, have your utility company or a licensed plumber install a flexible hose where the gas line connects to the water heater at its base.

Install flexible hoses for the water connections as well.

Is any heavy, tall furniture away from high risk areas?

Consider each piece of heavy, tall furniture in the house, such as bookcases, china hutches and storage racks. Ask yourself whether the item could fall over, hurt someone or block an exit in a natural disaster. You can reduce the risk by moving furniture away from doors and places where people spend the most time such as couches and beds. You should also secure tall furniture to wall studs, as described in the next answer.

Is your kitchen and laundry equipment securely anchored?

All large kitchen and laundry equipment should be securely anchored to the floor, wall or countertop, depending on the item. Such equipment includes stoves and ovens, built-in and countertop microwave ovens, garbage compactors, dishwashers, refrigerators and freezers, clothes washers and dryers, and ironing equipment.

Is any heavy, tall furniture securely fastened to wall studs?

Make sure you anchor heavy, tall furniture to vertical wall studs, concrete or masonry with steel angle brackets. Even large, heavy objects that appear stable should be secured to the wall. The heavier the furniture, the stronger the restraints need to be. A heavily loaded file cabinet requires much stronger restraints to keep it from overturning than a light file cabinet with the same dimensions.

Make sure the screws penetrate the studs behind the wall. Gypsum board, drywall, plaster and other wall coverings are not strong enough to hold heavy furniture during a natural disaster.

For wood studs (typically located 16 or 24 inches on centers), use a minimum 1/4" diameter by 3" lag screws. For metal studs, use #12 sheet-metal screws long enough to penetrate the flange material. For concrete or masonry walls, use concrete anchor bolts.

If wall studs do not line up with the furniture, consider installing a wood 2"x4" or steel horizontal mounting strip to the studs near the top of the items to be anchored. Furniture can then be anchored to the mounting strip without regard to the stud locations.

When possible, bolt file cabinets together (and to the wall studs) to form a more stable shape.

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Are any heavy and/or breakable items properly secured?

Store any breakable items such as bottled foods, glass and china in low, closed cabinets with latches. Keep breakable items in original packing boxes, when possible.

Keep heavy objects on lower shelves. Protect fragile items that could tip over or fall off shelves.

Install edge restraints (such as wood molding) on bookshelves and storage shelves, or use elastic cords or wire guardrails to keep items from falling off open shelves.

Install latches on kitchen drawers and cabinets to prevent them from flying open in a natural disaster.

Are any hazardous materials stored in secure places?

Store any weed killers, pesticides and flammable products in closed cabinets with latches and on bottom shelves. Move incompatible chemicals to prevent mixing if the containers break.