

Earthquake Preparedness

Review the following websites and write a tight 1 page summary.

<http://quake.abag.ca.gov/>

<http://earthquakes.usgs.gov/hazards/prepare.html>

<http://www.earthquakecountry.info/roots/contents.html>

(manual... print a copy for your file...)

<http://www.exploratorium.edu/faultline/prep.html>

<http://www.fema.gov/areyouready/>

HOME PREPAREDNESS

Based on material from (<http://www.lafd.org/eqhomepl.htm>)

- Learn how to shut off gas, water, and electricity in case the lines are damaged.
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- Check chimneys for stability.

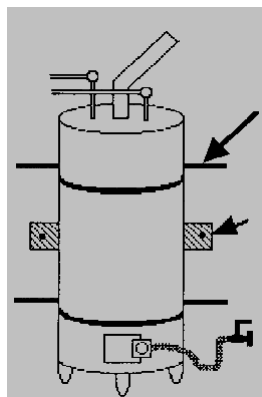
- Note: If your home was built before 1935, make sure your house is bolted to its foundation.

- If your home is on a raised foundation (footings), call a licensed engineer/contractor to check it out.

- Secure Heavy Furnishings water heater and appliances that could move enough to rupture utility lines.
- Secure water heater and appliances that could move enough to rupture utility lines.
- Keep breakable and heavy objects on lower shelves. Put latches on cabinet doors to keep them closed during shaking.
- Keep flammable or hazardous liquids such as paints, pest sprays, or cleaning products in cabinets or secured on lower shelves.
- Maintain emergency food, water, medicine, first aid kit, tools, and clothing.

SECURING YOUR HOT WATER HEATER

From The Los Angeles City Fire Department's
Earthquake Preparedness Handbook



<http://www.lafd.org/eqhotwtr.htm>

(See <http://www.lafd.org/eqhomepl.htm>)

WINDOW AND MIRROR GLASS

Sharp shards may fall or be thrown across a room. Consider safety glass, wire glass, or solar/safety film.

HEAVY FURNITURE

Furniture will move and fall during many types of disasters, especially **tall, top heavy items**. Secure the furniture to the wall. Use braided metal cable, chain, or angle brackets to secure all furniture to a wall anchor. Most often, a wall anchor is an appropriately sized eye screw.

Be sure you screw wall anchors into a **stud** (A stud is the vertical 2" x 4" wood post that supports your wall; they are normally spaced at 16" intervals.)

Use of an inexpensive electronic stud finder makes the job much easier with less damage to your walls. Screws should always be used, never nails.

See ... <http://www.lafd.org/eqhomepl.htm>

GAS APPLIANCES:

Your stove, water heater, furnace, clothes dryer, etc., may run on natural gas or propane. Unsecured gas appliances may crush someone or rupture their gas feed line during a quake. If these objects move or topple, the resulting gas leak may destroy your home. A home which would otherwise have survived with only minor damage.

REFRIGERATORS:

Refrigerators are extremely heavy, and most of them are on wheels. Because of their weight they may crush someone if they move and tip. Secure refrigerators, top and bottom, to ensure they remain in place and upright during any earth movement.

See (<http://www.lafd.org/eqhomepl.htm>)

HANGING PICTURES, MIRRORS, CLOCKS, ETC.

Anything simply hanging on a wall will come flying off in a large shake. Use an appropriately sized eye bolt and a hollow wall anchor for lighter items. Larger items will require an eye screw that is screwed into a wall stud.

DECORATIVE ITEMS:

Unsecured objects will fall during a shock. Run a wire, monofilament fishing line, or guardrail across the shelf front. (The line/rail should be placed 1/3 the height of the shelf, from the bottom.) Objects can be secured in place with velcro, two-sided tape, or porcelain glue. Place large or heavy objects on the bottom shelf. Heavy items can be secured with industrial strength velcro.

See (<http://www.lafd.org/eqhomepl.htm>)

CUPBOARD ITEMS:

Cupboards will open and spill their contents during a quake. Put heavy items on bottom shelves and use positive latches to prevent doors from opening.

FLAMMABLE LIQUIDS:

Spilled flammable liquids may cause fire and destroy a home that would have survived undamaged. Store all flammable liquids outside, in their original/proper containers, away from structures and vehicles. If you must store flammable liquids in your home, store them in the garage, keep them in a locking cabinet with locking doors, and always store them on the lowest shelf.

See (<http://www.lafd.org/eqhomepl.htm>)

BEDS LOCATED NEAR WINDOWS:

All beds need to be "safe areas," where you can ride out an earthquake without injury. Falling window glass is a serious hazard. If a bed must be located under a window, have safety film installed. The cost is approximately \$ 2.00 per square foot. The film will hold broken glass together so it will not rain down on your bed when shattered by a major earthquake. Window tinting companies can be found in the yellow pages.

See (<http://www.lafd.org/eqhomepl.htm>)

NON-STRUCTURAL HAZARD MITIGATION FOR BUSINESSES

EQUIPMENT AND FURNISHINGS:

Strap rows of multiple file cabinets, mainframes, book cases, etc., together. High racks should be secured together on top and to the floor on the bottom.

- Secure desktop computers, typewriters.
- Keep computer CPUs on the floor next to their work stations.
- Secure cabinet doors with positive latches.
- Store hazardous materials correctly and educate all your employees about them.
- Secure freestanding, moveable partitions.
- A good rule of thumb is to secure anything above desktop level.

See (<http://www.lafd.org/eqhomepl.htm>)

OVERHEAD:

Seen and unseen objects overhead and above suspended ceilings may pose hazards to workers below. Secure all objects that are above desktop level.

- Check for diagonal bracing wires suspended in ceilings.
- Ensure proper restraint of "stem" light fixtures and fluorescent light panels.
- Securely attach decorative ceiling panels, spotlights, speakers, air conditioning units, etc.
- Check above suspended ceilings for poorly attached ducts, cables, etc.

See (<http://www.lafd.org/eqhomepl.htm>)

ELECTRICAL EQUIPMENT:

Shock hazards exist if unsecured electrical equipment breaks its connection or exposes energized lines. Unsecured equipment may short out the power in your office building.

- Secure any electrically powered equipment
- Have back-up power generator for emergency lighting and to protect computer against data loss. Insure that generators, their fuel tanks, battery packs, and fuel lines are properly secured.
- Secure emergency lighting.
- Secure telecommunication equipment, switches, and control boxes.

See (<http://www.lafd.org/eqhomepl.htm>)

PLANT EQUIPMENT:



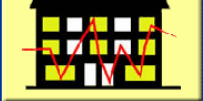
Loss of plant equipment may prevent you from continuing your business after a quake. Secure water heaters, furnaces, boilers, fans, pumps, heating, ventilating, air conditioning equipment, and the ducting or pipes that go with them.

HAZARDOUS MATERIALS:

Unsecured or improperly stored hazardous chemicals may force your business out of an otherwise undamaged building.

- Secure large containers of production chemicals or cleaning supplies.
- Ensure that all toxic items are in the correct container and properly labeled.
- Ensure that all employees know what to do in case of a spill.
- Keep all large containers or vats of toxic, hot, or hazardous items covered to prevent surging in an earthquake.

Click on one of the selections below to take the most appropriate version of our quiz!

	Single-family house Flat (was a single-family home or duplex) Duplex
	Mobile Home
	Apartment, Condo, or Townhouse

<http://www.abag.ca.gov/bayarea/eqmaps/fixit/quiz/index.html>

ABAG Residential Quake Safety Quiz

Should I be concerned about my home being so badly damaged in a future earthquake that I will be unable to sleep in it or that I will be injured? TAKE THIS QUIZ!

When was your home built?

• Before 1960 = 5 points

• 1961 - 1978 = 3 points

• 1979 - now = 1 point

If you are unsure of when your home was built, you can contact your county assessors' office. (Clicking on this button opens a new window that you will have to close to return to this quiz.)

County Assessor's Office

How tall is it?

○ 2 or more stories with living area above a garage = 5 points

○ Split level, on hillside, or on gentle slope = 6 points

○ 1 story, 3 or more steps to front door = 4 points

○ 1 story, less than 3 steps to front door = 1 point

The purpose of this question is to determine if you have potential problems due to (1) a "soft story" problem due to living area over a garage, (2) a complex configuration such as a hillside or split-level home, or (3) a "cripple wall" - a short wall between the top of your foundation and the first floor. Cripple walls commonly occur if your home is on a hill OR has more than three steps to the front door. (Clicking on the link below will open a new window with additional information on "cripple walls" that you will have to close to return to this quiz.)

Cripple Wall Info

<http://www.abag.ca.gov/bayarea/eqmaps/fixit/quiz/index.html>

What intensity (color) does the shaking intensity map show for your neighborhood?

○ Shaking = VIII, IX, or X (Red, dark red, or black) (**most of Bay Area**) = 7 points

○ Shaking = VII (Yellow) = 5 points

○ Shaking = V or VI (Green or blue) = 3 points

*If you are unsure of the shaking your home may be exposed to, you can view the shaking intensity maps. (Clicking on this button opens a new window that you will have to close to return to this quiz.) **Most of the Bay Area is likely to experience shaking of VIII, IX or X in at least one major earthquake.***

View Maps

TOTAL POINTS

If your home earned 13 or more points, it probably needs to be evaluated to see if it is strong enough to keep you and your family reasonably safe, unless it has been strengthened in the last few years.

Scientists predict that a large quake in the Bay Area is about twice as likely to happen as not to happen during the next 30 years. Are you betting your home's value and your safety on those odds?

<http://www.abag.ca.gov/bayarea/eqmaps/fixit/quiz/index.html>