



RISK MANAGEMENT

EARTHQUAKES. ARE YOU PREPARED?

Protecting You and Your Property Against Earthquakes

The forces of plate tectonics have shaped the earth over many years, as the huge plates that form the earth's surface slowly move over, under and past each other. Sometimes, the movement is gradual. At other times, the plates are locked together, unable to release accumulated energy. When the accumulated energy grows strong enough, the plates break free—thus causing an earthquake. If the earthquake occurs in a populated area, it can cause many deaths and injuries, as well as extensive property damage.

While earthquakes are widely believed to be only a West Coast occurrence, there are actually 45 states and territories throughout the United States that are at moderate to high risk for earthquakes, including the New Madrid fault line that runs through the Midwest.

Some of the most common losses occurring from earthquake are:

- Injuries and loss of life
- Equipment and building damage from direct shaking
- Water piping leakage (fire sprinklers, domestic water, process water, etc.)
- Fire after a gas line leak

The following guidance will assist you in preparing for, responding to and recovering from an earthquake, and to prevent or limit the severity of these and other potential losses:

Before an Earthquake

Here are some things you can do to protect yourself, your family and your property in the event of an earthquake:

- Use symmetric building construction in accordance with the latest EQ building code.
- Brace your water piping. Fire sprinkler piping should be braced in accordance with the latest NFPA standards and your local code requirements.
- Anchor your equipment from overturning or sliding.
- Fasten shelves securely to walls. Place large or heavy objects on lower shelves.
- Store breakable items—such as bottled items, glass and ceramics—in closed cabinets with latches.
- Fasten heavy items—such as pictures and mirrors—securely to walls and away from beds, couches, workstations, and any other places where people might sit.

Before an Earthquake (continued)

- Brace overhead light fixtures and top-heavy objects.
- Secure your water heater, refrigerator, furnace and gas appliances by strapping them to the wall studs and bolting them to the floor.
- Use flexible connections to feed utilities. Flexible fittings are more resistant to breakage.
- Provide approved, automatic seismic activated earthquake shutoff valves on gas lines.
- Repair defective electrical wiring and leaky gas connections. These are potential fire risks. Get appropriate professional help for such tasks. Do not work with gas or electrical lines yourself.
- Repair any deep cracks in ceilings, walls, or foundations. Get expert advice if there are signs of structural defects.
- Be sure your building/residence is firmly anchored to its foundation.
- Store weed killers, pesticides and flammable products securely on bottom shelves in closed cabinets with latches.
- Build an emergency kit (including items such as a whistle, a battery operated radio, etc.).
- Develop an Earthquake Emergency Response Plan for your home and business.
- Identify safe spots in the building where people can shelter, ex. under a sturdy table or against an inside wall. Reinforce this information by moving to these places during each drill.
- Hold earthquake drills with your co-workers or family. Remember to drop, cover and hold on.

During an Earthquake

When an earthquake occurs, drop, cover and hold on. Minimize your movements as much as possible.

If Indoors:

- Drop to the ground; take cover by getting under a sturdy table, desk or other piece of furniture; and hold on with one hand until the shaking stops. If there isn't a table or desk near you, cover your face and head with your arms and hold onto your neck then crouch in an inside corner of the building, away from windows.
- Stay away from glass, windows, outside doors and walls, and anything that could fall, such as lighting fixtures or furniture.
- Stay in bed if you are there when the earthquake strikes. Turn face down and cover your head with a pillow, unless you are under a heavy light fixture that could fall. In that case, move to the nearest safe place.
- Do not use a doorway unless you know it is a strongly supported, load-bearing doorway and it is close to you. Many inside doorways are lightly constructed and do not offer adequate protection during an earthquake.
- Stay inside until the shaking stops and it is safe to go outside. Do not exit a building during the shaking. Research has shown that most injuries occur when people inside buildings attempt to move to a different location inside the building or try to leave.
- Never use elevators during an earthquake.
- Remember that the electricity may go out, and the sprinkler systems or fire alarms may activate.

If Outdoors:

- Stay outside.
- Move away from any buildings, streetlights, trees, and utility wires.
- Once in the open, stay there until the shaking stops. The greatest danger exists directly outside buildings, at exits and alongside exterior walls. Most earthquake-related casualties result from collapsing walls, flying glass and falling objects.

If in a Moving Vehicle:

- Stop as quickly as safety permits and stay in the vehicle. Avoid stopping near or under buildings, trees, overpasses, and utility wires.

During an Earthquake (continued)

- Proceed cautiously once the earthquake has stopped. Avoid roads, bridges overpasses. or ramps that might have been damaged by the earthquake.

If Trapped Under Debris:

- Do not light a match.
- Do not move about or stir up dust.
- Cover your mouth with a handkerchief or clothing, if available.
- Tap on a pipe or wall so rescuers can locate you. Use a whistle if one is available. Shout only as a last resort. Shouting can cause you to inhale dangerous amounts of dust.

After an Earthquake

- When the shaking stops, look around to make sure it is safe to move. Then, exit the building.
- Expect aftershocks. These secondary shockwaves are usually less violent than the main quake, but can be strong enough to do additional damage to weakened structures. Aftershocks can occur in the first few hours, days, weeks or even months after the quake. Be prepared to Drop, Cover and Hold On if you feel an aftershock.
- Help injured or trapped individuals. Pay special attention to people who may require special assistance, such as infants, the elderly and those with access and functional needs. Give first aid (if qualified to do so) where appropriate. Do not move seriously injured individuals unless they are in immediate danger of further injury.
- Use your cellphone only for emergency calls. If you are trapped, use your cell phone to text if possible.
- Look for and extinguish small fires. Fire is the most common hazard after an earthquake.
- Listen to a battery-operated radio or television for the latest emergency information.
- If you are in an area that may experience tsunamis, go inland or to higher ground immediately after the shaking stops. Avoid floodwaters as they will likely contain chemicals, sewage and debris.
- Stay away from damaged areas unless your assistance has been specifically requested by police, the fire department or relief organizations. Return home only when authorities say it is safe.
- Be careful when driving after an earthquake and anticipate traffic light outages as well as debris in the roadways.
- If your building or any equipment sustained damage, make emergency repairs needed to prevent further damage.
- Check to ensure fire protection (sprinklers, fire pump) are in service. Repair damaged fire protection equipment as quickly as possible.
- Put on long pants, a long-sleeved shirt, sturdy shoes, safety glasses and work gloves to protect against injuries from any broken objects.
- Open cabinets cautiously. Beware of objects that may fall off shelves.
- Clean up spilled medicines, bleaches, gasoline or other flammable liquids immediately. Leave the area if you smell gas or fumes from other chemicals.
- Have your building structurally inspected to ensure there are no hidden issues caused by the earthquake.
- When making repairs, use a Hot Work permit if you use any equipment which produces heat, flames, or sparks.



After an Earthquake (continued)

- Inspect utilities for potential problems. Follow these steps:
 - **Check for gas leaks.** If you smell gas or hear a blowing or hissing noise, open a window and quickly leave the building. Turn off the gas at the outside main valve if you can and call the gas company from a neighbor's home. If you turn off the gas for any reason, it must be turned back on by a professional.
 - **Look for electrical system damage.** If you see sparks or broken or frayed wires, or if you smell hot insulation, turn off the electricity at the main fuse box or circuit breaker. Do not touch or work on any electrical equipment if you are standing in water or the equipment was submerged in water.
 - **Check for sewage and water line damage.** If you suspect sewage lines are damaged, avoid using the toilets and call a plumber. If water pipes are damaged, contact the water company and avoid using water from the tap.

What to do if You Experience Earthquake Damage

- Photograph all damaged areas and equipment, if safe to do so. Do not throw away property which sustained damage until the insurance adjuster has provided authorization.
- Notify your insurance broker or carrier to report the claim. Only your insurance carrier can make a coverage determination on your claim.
- Hire a reputable contractor for temporary or permanent repairs.

Risk Strategies is committed to helping you and your loved ones stay safe when disaster strikes. For additional risk management guidance, contact us today at safety@risk-strategies.com.

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