

- / Check foundation for cracks and repair as needed.
- / Bolt heavy, tall, upright furniture to wall studs.
- / Secure mirrors and pictures to walls or hang them with heavy wire, looped through eye screws, or tongue-in-groove hangers.



NONSTRUCTURAL MITIGATION

**BE PREPARED.
STAY SAFE.
HELP OTHERS.
IT'S WHAT WE DO.**

For more information on
nonstructural mitigation activities

Cape Girardeau County
Emergency Management
#1 Barton Square
Jackson, MO 63755
(573) 204-0911

Department of Public Safety
Emergency Preparedness
(573) 651-2547
semo.edu/emergency/procedures



SOUTHEAST MISSOURI
STATE UNIVERSITY · 1873

Department of Public Safety
One University Plaza, MS 7275
Cape Girardeau, MO 63701
(573) 651-2215



- / Over 90% of post-earthquake damage is of a nonstructural nature.
- / During an earthquake, the greatest number of injuries is caused by falling objects.
- / Reducing the risk of damage and injuries cause by earthquakes is what we do.

Nonstructural: Those portions of a building or facility and all their contents with the exception of those items that are part of the physical structure. In other words, everything except the columns, floors, beams, load-bearing walls, etc. Typical examples of nonstructural elements of a building are suspended ceilings, light fixtures, windows, doors, furniture, kitchen cabinets, computers, appliances, TVs, stereos, display cabinets, bookshelves, interior or exterior ornamentation, heating and air conditioning equipment, electrical systems, etc.

Mitigation: Actions carried out before, during, and after an emergency or disaster which are intended to reduce or eliminate the degree of risk or vulnerability to hazards present.

STEP 1. IDENTIFY THE HAZARDS

Determine the non-structural risks that are present in the home or workplace and assess the threat those risks pose.

At Home

- / Are there heavy and/or tall items in the home that may move or fall during an earthquake?
 - / If these items moved or fell, would they block exit routes out of a room or out of the house?
 - / Can these items be secured to structural support (i.e., wall studs)?
- / Are hanging plants and light fixtures secured to prevent them from swinging free, breaking against walls or furniture, or breaking windows?
- / Are gas appliances securely fastened in place (e.g., water heater and clothes dryer) so they won't pull the gas line connections apart?
- / Are wall-mounted objects (clocks, pictures, mirrors, etc.) secured against falling?
- / Are items on shelves and in display cabinets secured to prevent them from falling out?
- / Is the house securely fastened to its foundation?

At Work

- / Are items on shelves and in cabinets secured to prevent them from falling out?
- / Are there items that no longer serve a useful function that can be removed?
- / Are there incompatible chemicals stored together that should be moved to prevent mixing if the containers break?
- / Are free-standing file cabinets, bookcases, and other tall pieces of furniture secured to structural support?
- / Are items on shelves and in display cabinets secured to prevent them from falling out?

STEP 2. MAKE A PLAN

- / Identify which mitigation activities will most reduce the risks of damage and injury.
- / Determine which activities can be accomplished at little or no cost (i.e., securing bookcases to walls, closed hooks for pictures and mirrors).
- / Determine the best method for correcting larger problems (retrofit, remodel, or incremental upgrades).
- / Consider purchasing only items considered "seismic-resistant" in the future. For example, file cabinets with strong latches on the drawers and have wall or floor attachments.
- / Routinely check protective measures you have already taken to see that they are still effective.

Mitigation Activities

- / Bolt home to foundation to prevent shifting during an earthquake.
- / Lock or remove rollers on beds, furniture, and appliances.
- / Secure hanging plants and light fixtures with one or more guy wires to prevent swinging into walls or windows and breaking.
- / Locate beds away from windows and heavy wall-mounted objects.
- / Secure kitchen and bathroom cabinets with "positive" (self-closing) latches.
- / Secure items on shelves with quake mats, Velcro™, low shelf barrier, or other restraining devices.
- / Store heavy and/or breakable items on lower shelves.
- / Strap water heater and all gas appliances to wall studs.
- / Use flexible gas connections on gas appliances.
- / Check chimney for loose bricks and repair as needed.