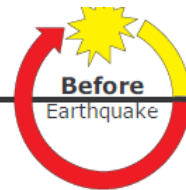
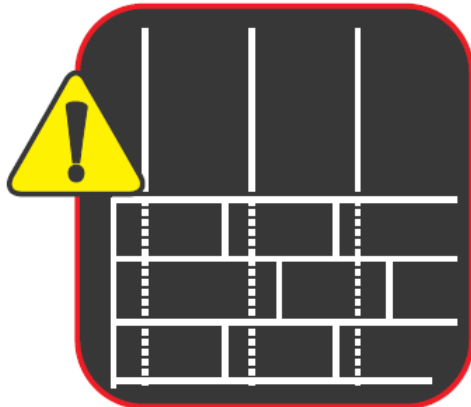


8. What to do BEFORE an earthquake?



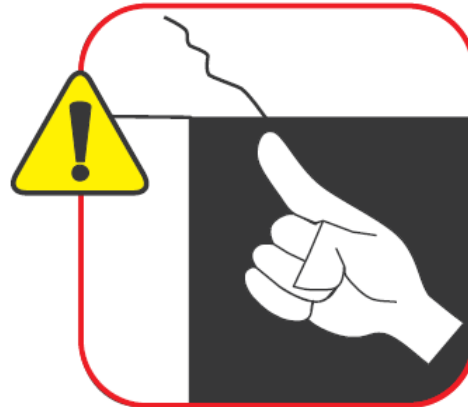
Always remember:

"Earthquakes don't kill people, unsafe buildings do."



Reinforced brick Masonry

Be sure that the proper structural design and engineering practices are followed while constructing a house.



Cracks being developed over the openings

Evaluate the structural soundness of buildings; strengthen/ retrofit if necessary.

Three Points to remember:

1. While building your house make sure it is designed for your safety. See that your building is designed and built as per the norms laid by the **BIS codes**.

Bureau of Indian Standards (BIS) has published the following seismic codes:

IS: 1893 (Part I), 2002, Indian Standard Criteria for Earthquake Resistant Design of Structures (5th Revision)

IS: 4326, 1993, Indian Standard Code of Practice for Earthquake Resistant Design and Construction of Buildings (2nd Revision)

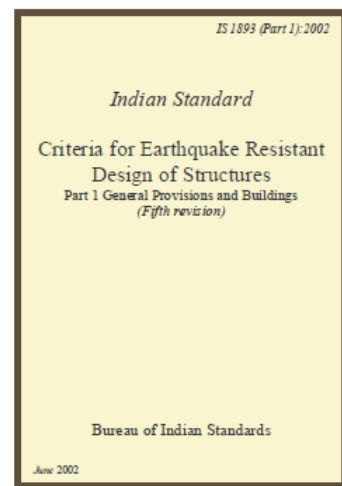
IS: 13827, 1993, Indian Standard Guidelines for Improving Earthquake Resistance of Earthen Buildings

IS: 13828, 1993, Indian Standard Guidelines for Improving Earthquake Resistance of Low strength Masonry Buildings

IS: 13920, 1993, Indian Standard Code of Practice for Ductile Detailing of Reinforced Concrete Structures Subjected to Seismic Forces

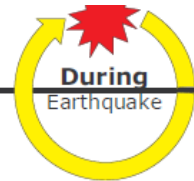
IS: 13935, 1993, Indian Standard Guidelines for Repair and Seismic Strengthening of Buildings

2. If you are living in a house/flat, work to improve its safety.
3. If you are looking for a place to stay, you should look for safety.

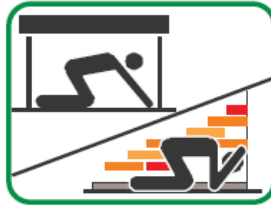


The Bureau of Indian Standards has laid down code of practice for design criteria of structures.

9. What to do DURING an earthquake?



Drop



Cover



Hold

During earthquakes, drop to the floor, take cover under a sturdy desk or table, and hold on to it so that it doesn't move away from you. Wait there until the shaking stops.



If you are in a structurally sound building, stay there.



If you are inside an old weak structure, take the fastest and safest way out.



Do not use elevators.



After the shaking stops, take the staircase to reach open space



If you are **not near an exit** or, you are situated in **high-rise building/ upstairs** stay inside. **Do not panic**; stay calm and take necessary action.



If you are **near an exit**, leave the building as soon as possible. **Do not rush** to the exit point. Get out calmly in an orderly manner.



Move away from power lines, posts, walls, false ceiling, parapet, falling flowerpots and other elements that may fall or, collapse.



Stay away from buildings with glass panes.



If you are on a steep hillside, move away in case of landslides and falling rocks.



When driving a vehicle pull to the side of the road and stop.



Do not attempt to cross bridges/flyovers, which may have been damaged.

10. What to do AFTER an earthquake?



Checklist of DO's and DON'Ts

DO's

- Check for fire and, if any, have it controlled.
- Check your water and electrical lines for defects.
- If any damage is suspected, turn the system off from the main valve or, switch.
- Clean up household chemical spills, toxic and flammable materials to avoid any chain of unwanted events.
- Gather information and necessary instructions from battery operated radios.
- Obey Public safety precautions.
- Leave a message stating where you are going if you must evacuate your residence.

- Take your earthquake **survival kit** with you.
- It should contain all necessary items for your protection and comfort.

DON'Ts

- Don't enter partially damaged buildings. Strong aftershocks can cause further damage to the buildings and weak structures may collapse.
- Don't use your telephone to call relatives and friends, call only for medical help.
- Don't use your two-wheeler/car to drive around the areas of damage. Rescue and relief operations need the road for mobility.

Until your building is declared safe, or, repairs have been complete:

1. Do not fill the overhead tank completely.
2. Do not carry out haphazard repairs. Repairs should be done only under the supervision of a structural engineer.
3. Do not put additional supports without the guidance of an experienced/qualified structural engineer.
4. Do not use the lift until it has been checked and certified by the lift company.

11. Some Important Facts

- Prediction of earthquakes is not possible. Do not listen to or, spread rumours.
- Expect aftershocks. Aftershocks are normally less intense and gradually die out.
- Long term strengthening or, retrofitting must be done to avoid future failures. The technology, expertise and the codes of practice for this exist in the country.
- The extra cost of earthquake resistant features in severe earthquake zone for masonry buildings shall be 4-6 % and for R.C. buildings (4-8 storeys) would be 5-6 %.
- Retrofitting of buildings not initially designed for earthquake will cost 2 to 3 times as much as the extra cost of the earthquake resistant features in the new buildings.