



# EHS NEWSLETTER

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## HIGH RISE: GO TALL, BUT GO SAFE.

Following the multiple calamities that has beset Japan, authorities here need to fast track their checks on developers' claims of building earthquake-resistant structures.

Win the financial capital of Mumbai, which along with Pune falls in seismic zone 3, the state's housing department has announced that it would soon work on checking whether norms are followed for every building. Meanwhile in Delhi, which falls in a higher seismic zone 4, structural engineers have begun checks to ensure the structural soundness of structures and ensuring that earthquake-resistant measures are in place.

EHS ALLIANCE  
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**SAFETY  
RULES  
ARE  
YOUR  
BEST  
TOOLS**

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# CHOOSE WISELY

Concluding their quality checks could take government agencies a long time. Meanwhile, new development will still come up, enticing prospective buyers to open their purse strings.

Developers also point out that they are bound by law to provide safe structures. According to the developers, Construction in India is taking care to avert earthquake disasters through seismic-proof buildings. It is the duty of developers that they make such buildings to minimize loss during such disasters. To make sure that people abide by earth-quake resistant buildings, the National Disaster Management Authority has made it compulsory for all new constructions to be earthquake-resistant, especially in cities located in seismic zones.

The structural designs for earthquake-resistant buildings are prepared by structural engineers/consultants and vetted by institutions such as IIT. After approval from these institutions, a NOC is issued and the same is attached with the construction plans submitted for approval to the authorities. Only after the receipt of NOC to this effect do the authorities sanction plans and allow construction.

## STANDARD MEASURES

It is important that developers spend adequate time with specialised consultants in designing high-rise buildings to ensure all safety norms are met along with giving equal emphasis to the quality of construction. As per developers, When a building experiences earthquake vibration its foundation will move back and forth with the ground. These vibrations can be quite intense, creating stress and deformation through the structure

the key measures that need to be taken while designing a high rise building:

- Provide a separate section. A gap of specified width between adjacent building or parts of the same building, to permit movement in order to avoid hammering due to earthquake.



- Electrical conduits are to be placed so as not to create planes of weaknesses in the slabs and walls.
- Sanitary works and plumbing so as not to puncture structure components and weaken walls by chasing.
- The technology involves the installation of lead-rubber bearing in a structure, or at or near the interface of structure and the ground, effectively uncoupling it from destructive horizontal and vertical ground motions.

structure designs of buildings are being done as per the soil tests to avoid soil liquefactions. He points out that buildings need to be designed for Delhi's seismic zone 4. "Select good materials, concrete ingredients, brick and steel. Especially steel having an elongation of above 14 per cent and good yield strength.

Buildings and structures need to be planned in a symmetrical way, both in plan (horizontal axis) and elevation (vertical axis).

# WAY FORWARD

The construction industry needs to focus on safe high-rises as the need for construction of tall buildings in metros will increase. The rapidly increasing population in big towns and growing need for housing will lead to taller and taller buildings. Developers need to follow specific code provisions, regulatory aspects and norms laid down for related constructions. If going tall is the only way forward, we need to also ensure the safety of all.



**"The most necessary tool during construction is safety."**



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--Walter Maddox, Mayor of Tuscaloosa



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