



LANCE LUKE

How Safe Is Your Building?

Regular inspection is the best way to avoid costly problems



Here's the big question I have for you: "Is your building safe?"

Whether you run a high-rise condominium, office building, townhouse or shopping center, here are some critical building safety components to consider.

Trip hazards

Are there any lifted or cracked walkways that could be a trip-fall hazard? Likewise for torn or bunched carpet. Are stairs even and are the riser heights the same level of graduation?

Inspect handrails and guardrails

See if you can shake anything loose when grabbing a railing and look at the base of the rail closely if something feels loose, which will usually point to corrosion at the base. Hand-railings at all stairs and lanais should be sturdy and free of corrosion.

Spalling

At the locations where the bottoms of the railing posts have corroded, it may have caused cracks or spalling inside the concrete. Spalling is caused by corrosion of metal inside the concrete. From moisture and rust, the metal expands. When the metal or reinforcing steel corrodes and expands, it causes the concrete to crack. Cracks in the concrete and rust stains from the rusted rebar or reinforcing steel are telltale signs of spalling. Falling pieces of concrete due to spalling is very much a safety concern.

Parking lots and driveways

Walk around the parking lots and driveways and look for potholes. And are there any lifted areas, loose gravel or other conditions such as a wide crack that may pose a trip hazard for a pedestrian?



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Roof leaks

Roof leaks are not hard to fix, but not if building owners do not inspect their roofs to know when the roof needs to be either repaired or replaced promptly. I've seen roofs that were leaking for years having only stop-gap measures taken when it rained that ended up causing thousands of dollars in further damages that were entirely preventable. A leaking roof causes water damage to items, damages electrical systems and contributes to mold. In older buildings, the water damage can cause damage to the asbestos-containing material. The cost for Hazmat (hazardous material such as asbestos) abatement can exceed the cost of a new roof.

Building envelope

The walls of the building need to be painted every seven to eight years to prevent water infiltration into the walls. Additionally, all window frames need to be correctly caulked to avoid water intrusion. Dually painting walls and caulking window frames is preventative maintenance for the damages wall infiltration can cause such as wood rot, spalling and mold.

Electrical

The electrical system should be inspected every five years. During an inspection, open all circuit breaker boxes and notice any overloading of power and look for any voltage drops. A certified electrician must do the assessment.

Plumbing

Old piping corrodes the drain lines and causes sewage backups and a lot of other problems. Piping problems in older high-rise buildings are known to cause flooding from the subject unit throughout many floors down.

Windows

Older buildings were built with louvered or jalousie windows that were usually designed from floor to ceiling. This design is unsafe due to the possibility of children falling out of the window at floor level. The design of the louvers was done so that each glass slat is held in place by metal clips. The metal clips become loose over time by corrosion of the metal or improper replacing of the glass slats after removal for cleaning, and the glass slat falls to the ground below.

Windows that are of the sliding jalousie type may be a hazard if constructed too low to the floor because there have been cases of children falling out of the windows due to this unfortunate window design.

Fire safety

A significant issue of concern is an updated fire alarm system. The alarm system must be properly working and tested periodically on a maintenance schedule. A properly functioning fire suppression system inspection includes inspecting fire sprinklers, fire hoses and standpipes. Inspect elevators and ensure that it has a current operating certificate. Walk through all fire exits and connecting stairwells and find the fire doors and firewalls to ensure that they are properly mapped out and posted.



Building codes

Building codes are minimum standards used as a baseline standard. In my opinion, buildings should follow a higher standard for safety. Keep this bit of advice in mind: Safety goes beyond a building code. ❖

Lance Luke is the owner of Construction Management Inspection LLC, and has been providing building inspection and construction management services for the past 40 years. Reach him at hawaiiexpert.com or lanceluke.com or his blog at <http://building.expert>.

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