

# Why Cast Iron Pipes Fail

If your building is 35 to 45 years old, its pipes may need replacing

By Lance Luke

Back in the 1960s and 1970s, when a large number of Hawaii's condo buildings were built, developers and contractors said that their cast iron piping would last 60, 80 or even 100 years based on historical data. We're now discovering that cast iron drain, waste and vent piping is instead exhibiting a lifespan of 35 to 45 years. The piping on some buildings has become so bad that insurance claims relating to plumbing leaks have multiplied, which has caused insurance carriers to demand six-figure deductibles or, in some cases, even terminate insurance.

If your building is 35 to 45 years old or older, you should be examining



Do your cast iron pipes need to be replaced?

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the condition of your cast iron pipes and considering replacement.

## Why Do Cast Iron Pipes Fail?

Cast iron piping failure can have many causes, including inferior materials used during the manufacturing process, poor design or installation, lack of maintenance, use of caustic chemicals and old age. Older buildings may not have been designed with suds relief lines or cleanouts at useful and easily accessible locations. Many also were not designed with supply piping shut-off valves at each stack or floor.

## Repiping Considerations

Most buildings do not have the proper reserves in place to pay for a total repiping. Careful financial and reserve planning is needed to prevent high special assessments or taking out a large loan to pay for the construction project. Start by contacting plumbing contractors that specialize in repiping occupied buildings and request a cost proposal for budget purposes.

You may need to replace not only drain/waste pipes, but also vent pipes and rain leaders (pipes from the roof drains). Pipe hangers and brackets may also need replacing if they're in bad condition. Your mechanical engineer may also recommend installing additional suds relief lines and shut-off valves.

Vent pipes and rain leaders going through your roof will have to be replaced, which will require roofing work to patch the roof penetrations. Make sure a licensed roofing contractor does the roof work. Any pipe penetrations through the waterproofed parking deck floor slab will also need patching at the floor/ceiling penetrations. This patchwork should also be completed by a properly licensed professional.

Each condo unit should be inspected prior to beginning repiping to document its condition. Also make sure your contractor takes the proper precautions to set up containment to avoid dust from going everywhere.


During the process of repiping, the contractor may need to remove shower walls, tubs, toilets, kitchen/bath cabinets, other walls, floors, ceilings, mirrors, light fixtures and more. It



may even be necessary to core through concrete or block tile at walls, floors and ceilings. If vanities must be removed, you might need to replace them if they become too damaged to reinstall. If toilets need to be removed and they

hookups, improperly sized pipes, improper pipe material (such as PVC for hot water), crimped copper pipes, removed washer shutoff valves, dryer vent hoses that were cut causing venting into the wall, AC condensate lines draining into a large hole cut into the main vent pipe, and newspaper stuffed into floor and ceiling penetrations. These issues and any others will all need to be properly resolved.

Keep in mind also the possibility of encountering hazardous materials when walls, floors or ceilings are cut out to remove old piping. You might uncover lead paint, asbestos-containing materials and mold. Prior to the start of piping work, a specially trained Hazmat team should first remove any affected areas and complete testing. You may also find leaks or potential leaks, which should be fixed right away. This includes leaks in the drainpipes and at the supply piping.

Lastly, you'll want to make sure that all penetrations on fire-rated walls, floors and ceilings have been properly caulked with the proper fire-rated material. 

***Your mechanical engineer can help you determine whether you need to replace not only drain/waste pipes, but also vent pipes and rain leaders (pipes from the roof drains), plus install additional suds relief lines and shut-off valves.***

aren't the low-flow type, the code will require that you install low-flow toilets.

When opening walls during construction you may discover building code and condo design violations, including owner renovations for electrical and plumbing. We've seen situations such as improper electrical wiring, incorrect wire gauge usage, open junction boxes, improper termination, overloaded circuits, improper plumbing

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