

Important Hard Flooring Info, (September 2004)

Your editor asked me about the issues around installing hardwood floors in units in the mid-rise buildings. Many homeowners are thinking about this, and there are **two important factors** they need to understand.

First of all, our mid-rise buildings are constructed so the floor of your unit is the ceiling of the unit below it. Thus, you are obligated to maintain some form of acoustical insulation between the two. The original plan required all units to use carpets and carpet pads on all floors except the kitchen and bath. In recent years, we've seen some wood floor systems that provide adequate acoustical insulation. These essentially create a wood floor platform that floats on top of some insulation material which then sits on top of the concrete floor.

A resulting concern is that the wood flooring and insulation are significantly thicker than carpet and carpet pad. This means the new floor will be higher, which means changes in floor height when entering the kitchen and bath and possibly cutting down doors to fit the new floor. Some owners have thought they could eliminate this problem by simply **grinding down the concrete floor** area under the new wood floor. Sounds good, but this **IS ABSOLUTELY FORBIDDEN**. Here's why.

Concrete has tremendous strength in compression and almost none in tension. Thus, any concrete structure which has to work in tension (like our floors) has to have a compression load installed in it. This can be pre-stress (like in bridges) or post-tension, which is how our mid-rises are constructed. Before the concrete is poured, hundreds of cables are installed across the forms. After the concrete has set, these cables are tensioned with hydraulic jacks to tens of thousands of pounds of tension, then clamped to the ends of the floor slabs. That tension of the cables puts the concrete in compression, and the floor doesn't fall down.

If one or two cables are cut, there is enough safety margin in the design that the floor is not compro-mised. But if you cut all the cables in an area, the floor will collapse into the unit below. It is entirely possible that the whole building will then collapse. Grinding the floors can cut the cables. Grinding the floor in your unit can result in millions of dollars in damages and possible deaths of dozens of your neighbors.

So, if you want to have wood floors, remember that you cannot lower the concrete floor to accommodate it. It will have to sit on top.

- MR. FIXIT (aka Bennett Woll 408-1)