

What kind of joists do I prefer?

Last Updated: Friday, August 13th, 2010, Created: Thursday, January 31st, 2002

Mila from Ottawa, Ontario writes: "We are buying a new home and have a choice of 2" x 10" solid wood kiln-dried joists or "Trust Joists" (JLE) Pre-engineered floor system. If you were buying a house for yourself -- which would you choose?" I just love it when people try to nail me down like that, but in this case, with just a little word of caution, I would choose the Trust Joists. Why? Because I can have a longer span with less support below with the engineered floor systems. In the first photo you can see just a few of the many different Pre-engineered floors joists available. The caution is that if you size the joists and the spans to the limits of the span table, you will probably be disappointed with the solidity of the floor. They will appear to be a bit springy. That does not mean that they are not safe, just that there is some movement when you walk on them, dishes rattle on the table and in some cases tiles crack. This is more common for engineered floors simply because people try to stretch to the limits. Understand that the span tables are limits, not requirements. You can undersize the span by a bit and get a much more vibration free floor. In fact the industry has gone through a whole shake-up over the question of floor vibration and the spans have been changed recently, precisely because of consumer insatisfactions. But it all comes back to taking the span tables as how it "should be built" rather than the "outside limit of how to build it". You can have a more ridged floor "system" if you do several things in addition to choosing the size and the span of the joists conservatively. Use cross bracing between the joists and use strapping under the joists, both of which mean that the joists will work together as one solid mass, supporting each other with point loads. Then glue and screw the sub-floor to the joists. Again, all of this may seem to be overkill, but even the span tables indicate that it makes for a more and more solid vibration free floor.

Keywords:

Vibrations, Strapping, Joist, Screws, Adhesive, Floors, Glues, Tiles, Support, Framing, Nails, Construction, Span Tables, Sub-Floor, Movement, Alternative, Cracks