

Ask Jon Eakes

# Self Levelling Concrete

Last Updated: Saturday, August 31st, 2024, Created: Saturday, January 10th, 2004

Kim from Victoria, B.C. pulled up a carpet and discovered that the concrete floor slab was not level with the door sill. What to do? Use Self Levelling concrete.

This is an easy to find but very special type of concrete that will say 'Self-Levelling' right on the bag. It is designed to flow like water, hence level itself, but set hard like concrete. Although great for levelling floors, its thin consistency means that it is not as strong as regular concrete and you cannot use this outdoors or where it will not be covered by something else. But this is the product of choice for levelling out sub-floors. For a very large floor you may want to check the price before proceeding because building a level sub-floor could be less expensive when you have a large area to cover.

First you put a specific primer, bought where you bought the concrete, onto the floor to help the concrete to stick well. This is especially important for pouring over wooden floors.

Second, you caulk or stuff up any cracks and build a barrier around the edges of the area you want to work with. This stuff is so thin that it will flow down a crack and all disappear below. You can put this over an old hardwood floor to level it out, but you have to seal between the boards first, or it will all just drip down to the ceiling below! The floor must have no movement in it or the concrete will end up cracking. Remember this has no strength of its own to resist cracking, but it makes a good hard sub-surface for other finishes from carpets to floating floors.

Third, and critical, is that you mix it exactly like it says on the bag. Everyone wants to add more power to the mix because you are sure it will never set-up. Follow the instructions exactly. Yes it is thinner than pancake mix; as thin as a French crepe mix.

You only have 15 minutes to work with it so don't mix up any more than you are ready to pour immediately. You can work with it in multiple layers.

Pour it out. You may want to help smooth the feather edges, but do that quickly. Actually what you are doing is simply wetting the floor on the outer edge of the pour so that it can flow smoothly to its own level. Let it set at least 3 hours before walking on it.

All forms of concrete get hard by chemical reactions, and it needs to remain saturated with water both as a wet environment for those chemical reactions and for supplying both hydrogen and oxygen (remember water is H<sub>2</sub>O) to the multiple processes going on, a hydration process commonly called "curing". You don't want to walk on this surface for at least 3 hours, if not 24 hours. In fact, in 3 days it will gain the majority of its strength. This is the period where the mix gains its strength as concrete.

Unlike pre-mixed drywall compound it does not get hard by drying out, but by chemical "curing". In fact, if the surface dries out too quickly, the surface will be weaker than the rest of the concrete, which is partially the cause of concrete that "spalls" or chips off at the surface. During the curing process it is common to cover concrete after the first three hours with a plastic sheet to keep the water in, especially for outdoor concrete on a hot dry day.

Once the water has done its job and the concrete has "cured", there remains a lot of free water still in the mix. Now we want to get that to dry out before putting a floor covering over the wet concrete or the evaporation will fill the flooring with moisture causing swelling or even mould. This could take another few days, leaving the surface open with fresh air ventilation in the room. Before installing flooring, put a small plastic sheet, even just a garbage bag, on the floor for a few hours, remove it and see if there is a water mark (darker concrete) on the floor. If you see the moisture, it is too soon for the floor covering.

[Click here for a through discussion about Myths and misconceptions about concrete and water.](#)

## Keywords:

Floors, Types, Concrete, Repair, Levels, Sub-Floor, Techniques

