



Installing Solid Hardwood Flooring to Concrete

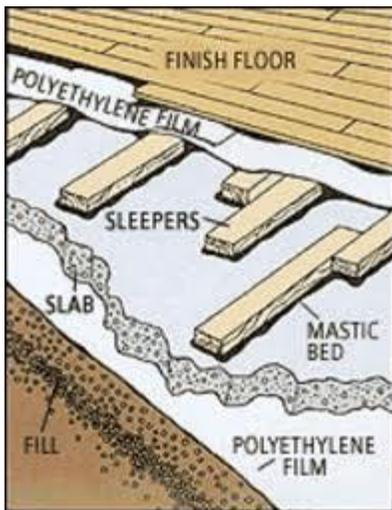


The installation of hardwood floors on concrete offers several types of applications. Over the last few years newer application techniques have all replaced the older, more dated sleeper system. With advancements in adhesives and manufacturing technology, floating floors and engineered hardwood floors glued direct to concrete with the new “All In One Adhesives” have become excellent alternatives.

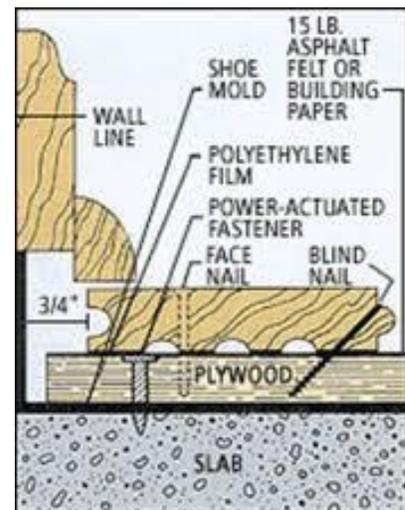
For those wanting to install solid hardwood flooring directly to concrete without a subfloor system, changes are taking place, especially when gluing directly to the concrete slab. For years, thinner solid hardwoods, have been successfully installed.

Sleeper System

The sleeper system that requires fastening 2 x 4's to the concrete laid on their side is fading from use. This involved adding a poly film and/or 15# asphalt felt laid into cutback mastic over the slab for moisture protection. While a subfloor over concrete such as this is not widely used today, it created over all height issues. Final heights are in the 2-1/4" range after the actual hardwood floor is nailed. This can cause problems with exterior door entries and other fixed objects. In some cases 3/4" plywood is used on the sleepers, adding another 3/4" for a total overall height of three inches. If using this method, plan well to avoid vertical height concerns from one floor covering to another.



Sleeper System



Nailed Subfloor to Concrete

Nailing Subfloor Directly to Concrete

Most recently, the most popular method of installing solid 3/4" hardwood floors on concrete was a plywood subfloor attached to the slab. Using a minimum 5/8" CDX plywood, the material is installed over the same moisture barriers but it is attached by way of concrete fasteners. A variety of concrete fasteners are used, including concrete cut nails, Tapcons, or Hilti type concrete fasteners. Please be advised, a gap between the subfloor panels and any vertical object (walls/pipes) must be maintained. Advantech Subflooring has a recommendation for installing their subflooring directly to concrete. Please see the attached link below.

<http://www.advantechperforms.com/uploads/technical-tips/AdvanTech%20to%20a%20Concrete%20Slab-11152010015410.pdf>

Gluing Plywood Subfloor To Concrete

If the floating subfloor doesn't work, another method calls for gluing the plywood direct to concrete. In this situation a premium All In One Urethane Adhesive (troweled) is recommended. Keeping the plywood adhered or flat can cause issues. The solution here is establishing kerf cuts on the backside of the plywood with a circular saw giving it better flexing properties. Again, a gap between the subfloor panels and any vertical object (walls/pipes) must be maintained.

Traditional ¾ Inch Hardwood Glued Directly to the Concrete

The biggest disadvantage of direct gluing ¾" solid hardwood has always been material that is not milled straight, or it is bowed or has a crook in it. This creates installation problems trying to close up gaps and requires the use of clamps and straps to hold the hardwood together. Where as when nailing to a wood sub floor, the force of the hardwood nailer forces gaps to close.

Another product currently used today is the Sika AcouBond system that also has sound dampening properties for apartment or condominium use. Again, any successful installation using these products requires very straight hardwood flooring material.