

Overview: Finishing Hardwood Floors

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I get a lot of questions about choosing and applying a finish to a hardwood floor. First understand that there is no one right answer -- there are a lot of products that each has certain advantages over the others and you need to select the properties that are the most important to you. There are also methods of application that can change the quality of the finish, or adapt to specific conditions. Here is a quick generic guide to at least help you to ask intelligent questions at the paint store.

RE-FINISHING First of all -- do you need to remove all the old finish to refinish an existing floor? If the wear and tear on the existing floor does not go down to the wood but is just in the finish itself, especially if there are no gouges or wear marks that go down through a stain, then you can use the excellent Flecto-Varathane "Renewal". Click Here for more details. Timely use of this product could allow you to avoid ever sanding the floor in the future -- just Renew it every few years. The one caution with this system is do not use the Renewal etching liquid on bare wood or spots of bare wood as it will turn the wood black or grey. Since I originally wrote this article I have received good feedback on two other re-finishing products from my web visitors. AquaShine Refinisher is less expensive than the Renewal (but does not include the necessary cleaner) and lasts a couple of years. Rejuvenate Floor Restorer picks up the shine very nicely but needs regular application. Remember the important detail for all of these restorers: they only work if the finish is not worn through to the wood. And if you are going to sand, demand that your contractor use a "dust containment" system. This is more than just plastic covering the doors, a fan in the window and a bag hanging out the back of the sander, but a separate vacuum system attached to the sander that actually sucks up the dust where it is generated -- and does not allow it to float all over the house. These systems now exist, keep interviewing flooring contractors until you find one.

PRIMING THE FLOOR If you have a new bare floor or have sanded an old floor down to bare wood, there are a lot of options for the finish. First understand as with all paints and finishes, these chemicals either adhere well to a surface, or wear well against abrasion -- but rarely will you find a single product that does both excellently. That is why either a primer coat of some kind or a diluted first coat is advisable. This first coat will penetrate deeper into the wood and provide added adhesion to the wear coats that follow. If any areas appear to soak in and disappear into the wood, you should apply another coat after the appropriate waiting time (see the instructions on the can) between coats. Anything that soaks in does not protect against abrasion. One other caution with floor finishes: always check the can for the proper solvent for cleaning or diluting the finish. Some of them will instantly turn into jelly if you put the wrong solvent in the can -- an expensive mistake.

CHOICES Although there are a constantly changing varieties of products on the store shelves, designed primarily to confuse you of course, most of them can be put into one of three categories: Catalytic finishes, polyurethane finishes, water based acrylic finishes.

URETHANE & POLYURETHANE The polyurethane and urethane finishes cover a whole range of what are considered "standard" transparent floor finishes. They are quite durable and reasonable cost. They tend to yellow with time, giving what we consider that standard yellow look to pine that we are so used to. They yellow more in sunlight than in shade. They are easy to apply and easy to maintain. They do give off slightly toxic gasses during drying and hence require good ventilation. Polyurethane finishes have a moderate tendency to "block" the floor -- see below for details.

WATER BASED ACRYLIC The water based acrylic finishes are not as durable as the polyurethane finishes and should be avoided in heavy traffic areas where outdoor shoes and boots will be worn -- but can last as long as polyurethane where slippers are used. They are more clear and do not yellow -- allowing the true colour of the floor to show through. Some people dislike the "true" colour of a parquet floor with all the wood variations whereas a polyurethane finish lessens the differences in colour. Personally I prefer all those shades of wood in a really "clear" finish. These finishes are the least toxic of all the transparent finishes, but it is always a good idea to work in a well ventilated room.

Water based acrylic finishes have the least tendency to "block" the floor. CATALYTICThe catalytic finishes, often called "Crystal" or "Basketball Court" finishes, are the most durable of all clear floor finishes. They are the most expensive and the most toxic, in fact it is advisable to leave the house for 24 hours after application in addition to good ventilation. They are excellent for permitting the true colour of the floor to show through. They act as a good glue, and hence can have serious problems of "blocking" the floor.BLOCKING & ZIG-ZAG CRACKSSo what is "blocking"? All wood floors will expand and contract, especially in the direction across the grain. Hence each piece of wood gets a bit fatter and then comes back to normal with any humidity swings in the house environment. In a house that has a closely controlled humidity, if the floor is acclimatized to that humidity level prior to finishing, nothing moves much from season to season. When a floor is not acclimatized (too wet or too dry compared to the final room environment)prior to installation it will either shrink or expand after it is finished. If the house goes from 70% humidity in the summer to 20% humidity in the winter, the floor boards will expand excessively every summer and shrink excessively every winter. If the floor were totally unfinished, each board would move independent of the others and the expansion and contraction would appear as small varying cracks between each board. The stronger the adhesive properties of the finish, the more the boards tend to stick together. As they shrink they shrink as a block until one joint lets go and all the space that should exist between each board now shows up in a single crack. This usually ends up being one or two large spaces between boards that zig-zag across the floor. So if you cannot avoid wide humidity swings in your home, do not use the Crystal finishes -- they will be long wearing but not good looking.APPLICATORSDoes it make a difference if the finish is applied with a brush, a roller or even a flat applicator? Because we are working on a horizontal surface there is not a lot of difference because the finish will "settle" onto the wood with all methods. Our objective is simply an even application. On a vertical surface, the more you work the finish onto the surface, the better the adhesion hence a brush is better than a roller is better than a pad. The key on the floor is to not put it on too thick. If you put it on too thick, the drying and curing process is not as even nor as complete as with thin layers. Follow the general rule of painting of "wet-on-wet" -- getting back to the edge of your work before it dries so that you do not create two coats where you want one. If you put it on too thin, you can simply come back and add another coat. Hence working rapidly with thin coats is a better tactic than working slowly with thick coats. APPLICATIONIf you apply a second coat too soon, the first coat will not be cured and you will in fact just be applying one thick coat. For most finishes the instructions will indicate two possible times for the next coat:- after a first minimum time and before a maximum time, the best time to recoat -- because the first coat has established itself as a cured layer, but it is still a bit soft allowing a good "bite" for the second coat with no sanding -- hence maximum adhesion with minimum work;- or after a longer period of time, often 8 hours or more -- because now the first coat is hard enough to sand lightly to remove the gloss and create a mechanical bonding with the next coat. Don't forget to wipe off the sanding dust.Remember that all the "times" suggested in the instructions are approximations attempting to establish the proper degree of drying or curing, but the chemicals themselves are greatly affected by temperature and humidity. Never paint a floor where the sun can shine on it -- always close the blinds if the sun is going to come through a window. Never paint a floor with radiant heat on. A finish that dries too fast ends up with trapped air bubbles. Try to ventilate well but avoid deliberate blowing of air on the finish, unless you must accelerate the cure such as in extremely humid conditions. Too much direct air movement could create a bit of a skinning problem -- drying too fast on the surface compared to the depth of the finish which on a thick coat can lead to a wrinkled finish as the hard top bunches up as the bottom dries. If the general atmosphere is extremely humid, you could add a bit of air movement and more time for cure. WALKING PRECAUTIONSNever walk on a newly finished floor with hard shoes, specially high heels, for at least a week, and avoid bare feet as well since the heat and moisture from your feet could cloud the finish -- enforce soft slippers or socks.Now -- what did I leave out?....

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