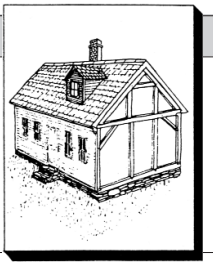

Floor Finishes: Sorting Through the Options

by Patricia Poore and Clem Labine

Modern floor finishes that are consistently sold today usually are recommended with all good intentions. But *old* floors—mellowed, patinaed, and previously refinished—demand special consideration, as much for practical as for aesthetic reasons.

There is no "best" finish for an old floor, but your options are fairly clear. Two facts emerged while we researched this article: 1) Polyurethane, while it has its place and can be a useful, practical material, is definitely *not* the long-awaited maintenance-free finish. 2) Some of the "old-fashioned" finishes are remarkably versatile.

Application

Chances for success using any finish are improved by applying it to a squeaky-clean surface according to the manufacturer's explicit instructions, and in as dust-free an environment as possible.

Since the room should be both ventilated and warm, it's best not to finish floors during cold weather. Nor should you refinish on a particularly humid day. (If you live in a humid locale, use a dehumidifier or at least a fan.)

Do not walk on a naked surface; pad around in stocking feet as you finish sanding (or put socks over your shoes) and if time passes between sanding and refinishing, close off the room or lay building paper on the floor for protection. The floor should be the last project in the room—after plastering, after finish painting, after wallpapering.

Here are the steps to follow: 1) Vacuum every inch of the room. Go over the floor with a tack rag immediately prior to each step. 2) Stain, if desired. 3) Put on sealer, if needed, or first coat of finish. Varnishes can be thinned in the first coat per label directions. 4) Fill with paste wood filler if you feel it is necessary on an open-pored wood such as oak. (It usually isn't necessary on an old floor, and filler cannot be used under polyurethane or the Swedish systems.)

Also, now's the time to fill nail holes—with one coat of finish already down, any excess will wipe off. 5) Apply second coat of finish (or first coat of urethane that's used without a sealer). 6) Apply additional finish coats according to label recommendations and your preference. 7) Apply a paste wax if desired.

Stain

Stain probably is applied more often that it needs to be. The finish alone will darken your floor to some extent (more with penetrating finishes than with urethane), and the years will darken it even more.

If you want to change the color for decorating reasons or to match other woodwork, experiment with the color on a scrap. Most commercial stains are too colorful, but you can start with one of these and bring it down by adding burnt umber or black universal tints, a little at a time. Or start with a neutral stain and bring up the color with reds, oranges, or raw umber.

Once the color is right, play with the tone by thinning the mixture with mineral spirits or turpentine. On the test scrap, apply it in various thinned-down versions, and experiment with the amount of time it's left to soak in before wiping.

The solvent in the stain must be

the same as the solvent in the final finish or you can have a mess on your hands. It's always best to use a "system" of products, all by the same manufacturer.

The Big Choice

The one big decision you have to make is whether you want *a surface* finish, such as shellac or varnish, or a *penetrating* finish, such as linseed oil, tung oil, or various proprietary oil and resin mixtures.

Basically, it's an aesthetic choice, because neither is really more "resistant." The surface finishes will protect by taking scratches and stains, but then will look the worse for it. As a general principle, penetrating finishes are the more renewable and fixable; surface coatings are more reversible, that is, they are more easily removed by stripping, which ranges from easy for shellac to much more difficult for the modern types.

Penetrating Finishes

Let's start with penetrating oils and resins as a group. A drying oil, usually linseed or tung oil, is the operative ingredient in all of these recipes and products.

Old recipes usually were based on one of these oils, with added solvents and sometimes wax. The modern commercial "penetrating resins" or "penetrating oil finishes" are an improvement, in that the oil has been chemically changed into a resin, improving its drying qualities and predictability.

The biggest, clearest advantage of penetrating finishes is that they are renewable. Simply clean off wax and dirt, and reapply. Some penetrating resins can be built up by multi-coat application (buffing in between) to come close to the surface resistance of an on-top-of-the-floor finish. This usually is true of the finishes that contain a high proportion of tung oil.

Penetrating oils may give very blond woods a grayish cast that some people would prefer to avoid. (This is more true for new light wood.) Varnishes will do less to change the color of wood. Watco, Daly's, Minwax, and others make fine penetrating-resin finishes.

Surface Finishes

Varnish chemistry is very complicated, mostly because of the variety of resins (oil, alkyd, phenolic, plastic, and so on) used in different formulations. It's more important that you use a varnish specifically formulated for floors than that you know what resin it contains.

Old-fashioned, oil-based, long-drying varnishes, including spar varnish, have all but been replaced by polyurethane varnish. Application is a bit more fussy, since old-fashioned "soft" varnishes aren't self-leveling like urethane, and it takes patience to put up with the long drying time.

The biggest complaint seems to be that the "softness" of varnish causes it to become embedded with dirt. At the risk of sounding insolent, I suspect this may result from a lack of attention to preventive maintenance (that is, sweeping).

Spirit varnishes are a different class, comprising shellac and the quick-dry varnishes. Instead of polymerizing, these finishes dry, harden, and bond by evaporation of a solvent. While they tend toward brittleness, it is relatively easy to blend in a patch if worn or damaged.

The solvent in the patch coat of a spirit varnish or shellac will partially dissolve the previous layer and a good bond is likely. (Oil varnishes have to be sanded to provide "tooth" for a new coat—and edges of a patch are more noticeable.)

Fabulon by Pierce & Stevens Chemical is a good choice for quick-dry varnish, if you should choose this system. But don't use quick-dry varnish or shellac on a softwood floor—it's not flexible enough.

The Swedish finishes are the most difficult to apply, but may be the most resistant and maintenance-free yet. They are urea-formaldehyde-based and typically put down by trained applicators. The best-known such product in this country is "Glitsa." (For more information, write Glitsa, 1921 First Ave. So., Seattle, Wash. 98134.)

It's a two-part system. The first layer impregnates the wood. The second coat provides a long-wearing and extraordinarily resistant surface. I may be convinced about its durability on new floors, but I wouldn't fool with it on an old floor. Even the manufacturer's literature says that for old floors, wood must be removed down to below previous wax, dirt penetration, fillers, and finish to ensure bonding and proper curing. And since it's chemically bonded inside the wood, you can't change your mind.

Don't confuse Swedish treatment with Danish oil, which is a penetrating finish and therefore very different, indeed.

What About Poly?

Polyurethane floor finish is essentially a varnish with a plastic resin. I have no doubts regarding its advantages on new wood. It's probably the most stain-resistant finish, it is hard and smooth enough (in the best of applications) not to require waxing, and it's easy to put down. But when it comes to refinished floors, I worry about its unpredictable bonding characteristics.

Please note that polyurethane cannot be applied over shellac, most previous surface finishes, or a paste wood filler (often used in the past on oak floors). So it's pretty much out of the question unless the floor has been thoroughly sanded. Even then, results can't be guaranteed.

Floor-Finish Recommendations

On an old but well-maintained hardwood floor in a low-traffic (no pets!) room, I'd be tempted to try shellac and wax. It looks good, and it can be fixed or removed with no damage to the floor.

On light-oak strip flooring, I'd use a semigloss or gloss oil-based varnish, also with a light waxing occasionally. I feel that modern narrow-width oak flooring is too bland to benefit from the subtle sheen of a penetrating oil. A gloss on such a floor gives it clarity; for softness I'd use area rugs on top.

On any *really* old floor (worn and patinaed) and on a pine floor, a penetrating oil would be my only choice. I'd cover or replace a floor that gave me splinters.

On parquet flooring, I'd go with a penetrating oil finish in most rooms. But in a turn-of-the-century parlor or other formal room, varnish might be more appropriate. If the floor is tight and in good shape, gloss or semigloss varnish will look terrific. But a worn or uneven floor looks worse with a glossy surface, so I'd be back to oil, or perhaps matte varnish.

Would I ever use a quick-dry varnish? Probably not. If I were willing to put up with low wear-resistance and brittleness to get a shine and renewability, I'd go with shellac. And although it's tempting to use a faster-drying varnish, the greater life you get from old-fashioned polymerizing varnish is worth the time and trouble it takes to put it down.

Would I ever use polyurethane? Probably, if I wanted good resistance to wear and knew it was in a place that wouldn't get proper maintenance (summer house, children's room). I'd buy the most expensive urethane (there *is* a difference between $10-per-gallon and $25-per-gallon urethane) and follow the label religiously. Since it can't be touched up, I'd take the trouble to apply four thin coats at the outset. ■

—Patricia Poore

The best results with urethane seem to be obtained by first using a recommended and compatible sanding-sealer (see label directions). Also, urethane must be applied in thin coats; a thick coat is almost sure to peel.

The amount of time between coats is crucial: too little time and the finish may be cloudy, too much time and you have to sand between coats, then pray it'll bond. Follow the manufacturer's guidelines for timing, but remember, too, that humidity and temperature affect the set up.

While polyurethane generally isn't recommended for softwood floors because of its hardness and relative inflexibility, some readers report using it successfully on splintered softwood. Since it is built up in layers, it can smooth out a rough floor by covering it.

Keep in mind that some softwood floors—particularly fir in secondary rooms—were not meant to show. A hardwood overlayment, linoleum or wall-to-wall carpeting (which was used in the 19th century) may once have been the finish floor. If one is determined to keep and expose a softwood floor, however, perhaps this is a good use for polyurethane. ■