PREFINISHED Strip Flooring

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Factory-coated products cut time off your schedule and provide a tough, guaranteed finish

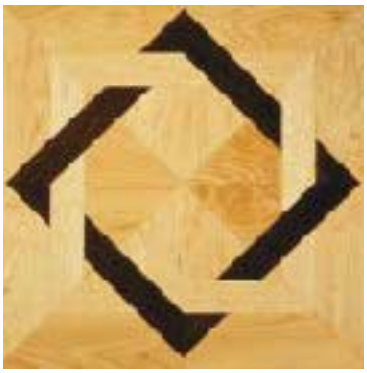
by Dave Holbrook

Site-finished flooring still enjoys premiere billing when it comes to specifying "the best." Ideally, its merits include a flat, uniform surface (installation irregularities are simply sanded away), an unlimited selection of lumber species and custom stains and finishes, and the ability to match the floor color to other room features, such as trim and cabinets.

But recent advances in surface finishes, a wider-than-ever selection of wood species and color choices, decorative borders and inlays, and improvements in the installed appearance make a strong case for factory-finished products. Just like a site-finished floor, a properly installed and maintained factory-finished floor can last a lifetime.

Prefinished Advantages

An obvious benefit of any prefinished flooring material is that the completed installation takes less time — sanding, surface preparation, and finishing are already taken care of. And once you're done, you're done — there are no callbacks for an unevenly cured finish or other finishing defects. With prefinished wood flooring, what you see is what you get — if there's an off-color or wildly-charactered plank, it's easy to cull it out before installation. Unfinished wood can yield surprises after staining, which takes differently in various wood grain orientations, sometimes resulting in an irregular or blotchy appearance. Prefinished wood provides precise coloration and a guaranteed finish. Also, the odor and



KENTUCKY WOOD

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Figure 1. A herringbone pattern (right) is challenging to install, sand, and finish, unless you're working with a prefinished product. Ready-made inlays and borders (above) make it easier to offer customers high-end custom flooring features.

off-gassing that occur as stains and solvent-based finishes cure dissipate slowly, which may be problematic for chemically sensitive or allergic occupants.

The sanding and finishing process invariably requires several days, or longer, to complete, and all other interior work usually comes to a grinding halt, instigating scheduling snafus.

Sanding an unfinished wood floor produces plenty of dust that's difficult to thoroughly remove prior to finishing. Residual dust in heat ducts and in the air can adversely affect the quality and clarity of the finish coating. Sanding dust isn't produced on a prefinished flooring job — cutting operations can even be performed outdoors to all but eliminate installation mess.

When remodeling an occupied dwelling, a prefinished floor can be installed in a furnished room. Furniture can be transferred from one side of the room to the other as installation progresses, resulting in relatively brief, minimal disruption to the living space.

Finally, precisely cut and patterned flooring and ready-made decorative inlay and border options make it far easier to produce a custom-look floor (see Figure 1).

Cost comparison. Builders making the comparison between a prefinished and an unfinished strip flooring product may be surprised to learn that the prefinished product often costs more per square foot, even after the labor of site-finishing is factored in. On average, prefinished products run from $4 to $7 per square foot, plus installation. Unfinished oak strip, the most popular wood species, typically sells for $3 to $4. Installation, sanding, and finishing add about $4, bringing the total cost for the unfinished floor to approximately $7 to $8 psf. Prices vary as style, color, finish, and wood species are factored in.

Flooring Types

Prefinished solid wood strip or plank flooring is sold in widths from 2 1/4 to 5 inches wide and varies in thickness from 1/2 to 3/4 inch. It is always end-matched, which means that it has a tongue-and-groove profile on all four edges. The long edges, and usually the ends, feature a slightly eased edge or a pronounced bevel. The surface is stained or left natural and coated with up to seven layers of a clear, film-forming or penetrating oil finish. In all other respects, this product looks and handles like unfinished flooring and is nailed or stapled down. Thinner, 1/4- and 3/8-inch strips are also available and are either stapled or glued down. Generally, the thicker the strip, the more stable the flooring.

Engineered wood flooring. Industry sources estimate that prefinished flooring accounts for at least 60% of the wood flooring market, with 37% of that portion represented by engineered wood flooring. Engineered flooring is made from cross-laminated hardwood or softwood layers, topped by a plain-sliced or rotary-cut wood face veneer. To ensure that the flooring can be repeatedly sanded and refinished, look for a heavy, minimum 1/8-inch-thick wear layer (Figure 2). The best grades of engineered

Figure 2. Look for a heavy, minimum 1/8-inch-thick wear layer in a quality-engineered plank.

flooring have a wear surface roughly equal to the thickness of the wood above the tongue and groove of a solid wood strip, making it just as sandable (for refinishing) as a solid wood strip. Engineered flooring is often preferred in the South, where concrete slab construction is common. Glue-down or "floating" installation methods are typically used to install a wood surface over concrete (Figure 3). It's important to note that some, but not all, manufacturers warrant their product only when used on or above grade, not below. This doesn't rule out a wood floor for the basement rec room, but check with the manufacturer before you take a product underground.

Micro-bevels. Contrary to popular assumption, not every factory-finished strip has a pronounced beveled edge to conceal milling irregularities. In fact, manufacturers compete to have the smallest eased edge, or "micro-bevel." The technology for producing prefinished wood flooring has advanced to the extent that many engineered wood lines are available with a true, square edge (Figure 4, next page). The mating edges and surfaces of some lines of engineered plank are so uniform that the manufacturer promises no "overwood," or difference in surface plane from plank to plank. Ironically, micro- and more exaggerated bevels thus become design options, described in certain product brochures as providing a "handcrafted look."

The devil's in the bevels. If you have to sand, rather than recoat, a floor's finish, strongly beveled plank styles may spell trouble. The sanding process eliminates the overwood, but there's no fast or simple method for removing the finish from the bevels. Superficial sanding results in a floor surface interrupted by dark bevel stripes that vary in width according to the degree of surface wood removed. There's little chance of matching these stripes in with the new stain and finish. Unless the old finish is beyond rescue, your best bet is to recoat, rather than sand, the floor.

No-sand refinishing. Eventually, every finish shows signs of wear. The best way to restore a floor's finish is to periodically recoat before the wear pattern advances through to bare wood. Some flooring installers worry that a reinforced urethane finish might be difficult to abrade in preparation for recoating. Yet John Himes, Mannington's marketing director for wood and laminate products, affirms that conventional machine-screening with the equivalent of a 3M abrasive pad will effectively prepare a tired aluminum-oxide finish for an application of conventional polyurethane. Of course, this recoat, lacking the superior scratch-resistance of the original finish, will provide only ordinary service.

Basic Coatings (800/247-5471; www.basiccoatings.com) provides a "sandless" refinishing system, TyKote, specially formulated to eliminate sanding or screening of the old finish before recoating (Figure 5, page 5). TyKote is a water-based agent that creates a chemical bond between the old finish and a proprietary water-based topcoat. The system is compatible with all existing urethane finishes, including those containing aluminum oxide. BonaKemi (800/574-4674; www.bonakemi.com) makes a similar recoat adhesion system, BonaTech Prep, for all types of polyurethane-finished hardwood floors. BonaKemi's proprietary topcoat options include both water- and oil-based products. Neither company's system is compatible with floors that have a factory- or site-applied wax coating.

Figure 3. Engineered flooring installs easily over a concrete slab or a plywood subfloor. A thin, glue-down, acoustical underlayment of rubber or cork helps reduce traffic noise between floors.

You Can't Always Get What You Want

Prefinished wood flooring is available in many species, including oak, maple,

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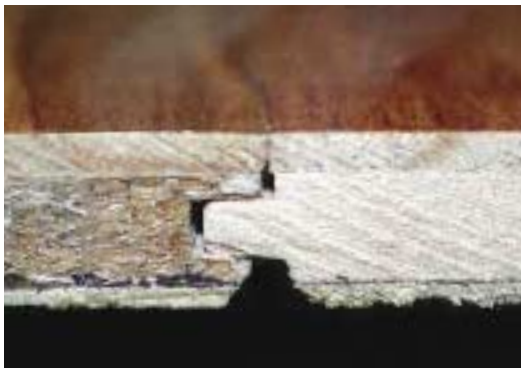

Figure 4. The micro-bevels in today's prefinished strip floors are barely perceptible (left). Engineered floors are also available with a true, square edge (right).

cherry, hickory, butternut, beech, pecan, ash, merbau, and more. Soft and "hard" pine are also available, as a wear layer over a hardwood core. Even with a selection this broad, however, you may not find exactly what you're looking for. Customization of colors and finishes is limited in residential lines. A few manufacturers offer custom short runs to residential builders to match or complement other architectural features. Not surprisingly, there's a nominal custom-color setup charge. Even in commercial flooring lines, minimum 10,000-square-foot orders may be required to justify a custom color run.

Whether prefinished or unfinished, tongue-and-groove solid strip or plank flooring occasionally requires forceful persuasion to mate. You have to be more careful and take a little more time with a prefinished plank, though, because dings are more difficult to repair. Because it isn't nearly as prone to twisting and warping as solid lumber, engineered plank typically matches up readily and can be more quickly installed. Overwood prevention requires a sharper lookout during installation. Accumulating dust, debris, and subfloor defects can keep the strip or plank from lying flat. The evenness of the finish surface depends not only on the milling tolerance of the manufacturer, but also on the smoothness of the subfloor.

Floor Finishes

The principal complaint from homeowners about any hardwood floor is the vulnerability of the finish to scratches. Deep scratches leave the wood prone to water damage and staining. Shallow scratches can be spot-treated with various touch-up products, but once the floor has reached an overall degree of dullness from wear, the only option is to refinish. If not deeply scratched, flooring with an acrylic or urethane finish can be rotary screened and recoated with good results. A badly worn or abused area, such as in an entry or hallway, probably requires resanding and refinishing of the entire floor. This is not a little job and defeats one of the main reasons for installing factory-finished flooring — avoiding the dust, disruption, odor, and scheduling of a site-finished floor.

Aluminum oxide. Site-applied finishes are no match for the latest generation of reinforced urethane coatings, available only as a factory-applied finish. Most manufacturers now offer some version of a urethane finish enhanced with aluminum oxide. It's like ordinary urethane on steroids, making the wear surface far more durable than one with an unenhanced site-applied coating. The aluminum-oxide crystals are suspended in multiple layers of u.v.-cured polyurethane, resulting in a surface that's claimed in more than one brochure to be "ten times more abrasion resistant than traditional urethane finishes." Some reinforced finishes are slightly rough to the touch, due to the hard crystal content. Mannington has recently introduced its "Scratch-Resist" finish, which employs two sizes of aluminum-oxide particulate, one far smaller than the other to act as a filler between the larger particles. This makes the surface more consistent, in terms of both hardness and smoothness of finish. Because aluminum-oxide crystals are clear, such finishes are just as clear as an ordinary urethane coating.

Conventional wisdom holds that a glossy urethane finish should be applied only on low-use areas, and that high-traffic floors require a satin finish. Aluminum-oxide-enhanced urethane is said to make those distinctions more or less irrelevant — you can choose your degree of shine without concern.

Ceramic, diamond, and titanium also turn up in various manufacturers' urethane finish formulations, alone or in combination with aluminum oxide. All

are invisible in suspension and serve the same purpose. Product literature doesn't convince me that there's any clear advantage of one formula over another. Manufacturers offer 10- to 25-year warranties on their enhanced finishes, assuming normal use and maintenance.

Other Finishes

Many types of prefinished flooring can be ordered with a traditional finish coating. Among the coatings available are wax, urethane, water-borne acrylics, and penetrating oils. You can expect these finishes to perform identically to site-applied equivalents. The main advantages of prefinishing are uniform appearance and faster completed installation.

Acrylic-wood is a unique finish option, available in 3/8-inch-thick engineered strip and plank flooring. The nominal 1/8-inch-thick wear layer of an acrylic-wood floor is solid, natural, colorized acrylic-impregnated wood with a clear, satin-like finish. In the impregnation process, liquid acrylic is forced into the porous cell structure of the wood wear layer, then permanently hardened by heat or gamma irradiation. The flooring is designed to be installed by the direct glue-down method on concrete or plywood underlayment. Its primary application tends to be commercial, but it's appropriate and available for residential use. Because the color and acrylic finish run all the way through the wear layer, the surface is said to be anywhere from three to five times harder than ordinary hardwood and highly resistant to impact. Deep scratches can be spot-repaired by buffing or localized sanding.

If you want a high-gloss surface, you can even buy acrylic-wood flooring with an aluminum-oxide urethane finish.

Things to Consider

A prefinished floor should be one of the final materials installed in a new home. Ideally, the home's heating or air-conditioning system should be up and running. Sheetrock and tile work should be fully dried, all but the final woodwork and trim should be completed, and the interior temperature should be maintained at minimum 60°F before and during installation. Don't open flooring packages until you're ready to install. Flooring should be installed from several cartons at once to ensure a good blending of color and shade mix. Dye lots are unlikely to match for later weave-ins, should a patch or repair become necessary. It's a good idea to order a little extra material and store it away on site for this eventuality.

Accommodate expansion. Allow an expansion space around the entire floor perimeter, equal to the thickness of the flooring.

In a high-moisture region, strip flooring should be spaced approximately 1/32 inch apart to accommodate normal seasonal dimensional changes. Temporary aluminum spacer strips, inserted every 8 inches or so, will prevent individual rows from being drawn up too tightly. Install at least 6 rows of strip flooring before removing or relocating the spacers — to keep track, move only the rear row of spacers forward as you complete each subsequent row.

Care and Feeding

To protect any wood floor from accidental scratches, homeowners should use felt pads under furniture legs and sweep or vacuum frequently to remove abrasive sand and dirt. Periodic waxing maintains and restores the original shine (but don't wax unless you've installed a wax-finish product in the first place).

Breathable, mesh-type rug underlays help prevent moisture entrapment and damage.

To safely move a piano or other heavy

Figure 5. Because sanding prefinished flooring can be a nightmare, floor finish manufacturers now offer sandless recoating systems, like Basic Coatings's TyKote, that allow you to restore the finish using only water-based chemical agents.

furniture item, use protective, 1/4-inch hardboard runner strips under the casters.

Avoid wetting or wet mopping any wood floor — instead, use proprietary or manufacturer-recommended cleaners — and try to dissuade your clients from choosing wood flooring for the bathroom.

Most manufacturers offer routine maintenance products for their prefinished wood flooring. There are proprietary cleaners for sticky food spills and rubber heel marks; touch-up kits are also available for light scratches, burns, and other kinds of minor damage. As a professional courtesy, leave a maintenance kit behind with every prefinished floor you install.

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For More Information

National Oak Flooring Manufacturers Association
901/526-5016
www.nofma.org

National Wood Flooring Association
800/422 4556
www.woodfloors.org

Prefinished Wood Flooring Manufacturers

Anderson
Clinton, S.C.
864/833-6250
www.andersonfloors.com
engineered strip, plank

Bamboo Flooring International
Walnut, Calif.
800/827-9261
www.bamboo-flooring.com
laminated plank

Bruce (division of Armstrong)
Addison, Tex.
800/722-4647
www.bruce.com
solid strip, engineered strip, and plank

Gammapar
Forest, Va.
800/283-5667
www.gammapar.com
engineered acrylic-wood strip

Harris Tarkett
Johnson City, Tenn.
800/842-7816; www.harris-tarkett.com
engineered strip and plank

Hartco (division of Armstrong)
Oneida, Tenn.
800/769-8528, ext. 8
www.hartcoflooring.com
solid strip, engineered strip

Husky
Colonial Heights, Va.
877/645-5347
www.huskyfloors.com
solid strip, engineered strip

Junckers Hardwood, Inc.
Anaheim, Calif.
800/878-9663
www.junckershardwood.com
solid strip, metal clip installation

Kährs
Orlando, Fla.
800/800-5247
www.kahrs.com
engineered strip

Kentucky Wood Floors
Louisville, Ky.
502/451-6024
www.kentuckywood.com
solid strip

Lauzon
Papineauville, Quebec
877/427-5144
www.lauzonltd.com
solid strip

Les Parquets Dubeau
Saint-Norbert, Quebec
450/836-4405
solid strip

Mannington
High Point, N.C.
800/814-7355
www.mannington.com
engineered strip, plank

Medallion Hardwood Flooring
Linden, Ala.
866/295-2576
www.medallionhardwood.com
solid strip, solid plank

Mercier Wood Flooring
Montmagny, Quebec
418/248-1785;
www.mercierdurable.com
solid strip, solid plank

Mirage
St.-Georges, Quebec
800/463-1303
www.boa-franc.com
solid strip, engineered strip

PermaGrain Products, Inc.
Newtown Square, Penn.
877/771-6470
www.permagrain.com
acrylic-wood

Robbins (division of Armstrong)
Addison, Tex.
800/733-3309
www.robbinsflooring.com
solid strip, engineered strip

Tembec
Timmons, Ontario
705/360-1298
www.tembec.ca
solid strip

Wood Flooring International
Delran, N.J.
856/764-2501
www.wflooring.com
solid strip, engineered strip

Zickgraf Hardwood
Franklin, N.C.
800/243-1277
www.zickgraf.com
solid strip, plank