

Price: \$30



MAINTENANCE AND RECOATING OF HARDWOOD FLOORS

CONTENTS

MAINTENANCE/RECOATING

3 INTRODUCTION

Importance of maintenance
Education of the consumer

4 ALL FLOORS

General guidelines
Preventive maintenance
Humidity control
Routine maintenance

4 WHAT TO USE?

Wood floor cleaning products
Prefinished floors
Job-site finished floors

5 SURFACE FINISHES

Routine maintenance
Recommended cleaners
Cleaning up spills
Stubborn stains
Losing luster

5 WAX FINISH

Cleaning up spills
Removing white spots
Losing luster
Conditioners and cleaners
Stripping and rewaxing

5 ACRYLIC IMPREGNATED

Non-urethane-coated floors
Urethane-coated floors

6 SPORTS FLOORS

General maintenance guidelines

7 RECOATING

Customer reminders
Floor inspection
Determining the finish
Testing for wax
The recoating process
Prefinished floors
Aluminum-oxide finishes
Spot touch-ups
Cautioning customers about rentals

9 GLOSSARY

10 INDEX/SOURCES AND CREDITS

11 RESOURCES

NO GUARANTEE OR WARRANTY

The information contained in this publication represents widely accepted industry practices. There are, however, no universally approved methods of maintenance and recoating. The National Wood Flooring Association accepts no risk or liability for application of the information contained in this publication.

MAINTENANCE AND RECOATING

OF HARDWOOD FLOORS

Importance of Maintenance

Unlike most floor coverings, wood floors are a long-term investment that, correctly maintained, will last the lifetime of the home. Fortunately for consumers, today's wood floors offer a wide spectrum of product options that are easy to maintain. Unlike times past, when people had to get down on their knees to buff their wax floors, taking care of wood floors today requires little effort. The routine maintenance involves protecting the finish from scratches and moisture. If consumers avoid both of those things, they've got a handle on most of their wood floor care.

EDUCATION OF THE CONSUMER

Creating realistic expectations of wood floor maintenance up front — before the contract is

even signed — is important. Consumers who realize that their floors aren't impervious to an onslaught of spills, grit and water will be happier with their floors and less likely to call back with complaints in the future. That means explaining proper maintenance — both preventive, such as using throw rugs and floor protectors, and routine, such as the use of the correct wood floor cleaner. (Many contractors include the cost of the cleaner in their job estimates or offer it as the floor is being completed.) Consumers need to be made aware that using improper cleaners can void their warranty and also cause future problems with recoating.

Another area where you need to be up front with consumers is the recoat schedule.

Depending on the traffic on the floor, most floors will need recoating at some point during

the life of the floor. Tell them to call a wood flooring professional when they think the floor might need recoating. If the floor performs as you've said it will, the customer will feel confident calling you when it's time for a recoat.

A simple explanation of how humidity levels affect wood floor performance also helps avoid typical complaints about cracks between boards. In addition to a verbal explanation, give this information to the customer in writing.

When maintained properly, wood floor finishes can look beautiful for years to come.



All Floors

While specific finish types may require different maintenance, some guidelines apply to the care of all wood floors.

First, before furniture is placed onto the wood floor, floor protector pads should be installed on the bottom of all furniture legs. Also, rugs should be placed at all entrances to the area (check with the finish manufacturer for when these can be placed. Most should not go down on the floor for at least seven days, and sometimes more than 21 days after the finish is applied). These rugs help trap grit and also absorb moisture before either one has a chance to damage the finish. Rugs should be shaken out, cleaned and thoroughly dried when they get wet. Take special precautions with non-skid pads that are frequently placed under area rugs. These pads may imprint their pattern onto the finish and/or wood floor. (Natural fibers may not transfer as much as synthetic pads.) Also, be aware that area rugs may cause color differences in the floor due to differences in light exposure.

Consumers should expect that their floors will shrink and expand with changes in humidity, sometimes leaving small cracks between boards. To minimize the changes, it is recommended that consumers use some kind of humidity control in their homes.

Routine basic maintenance includes sweeping, vacuuming and/or dust-mopping to remove dirt and grit. (Use only vacuums that have a special hard-surface setting.) The more that dirt and grit are allowed to accumulate, the more they will be tracked over the floor, leaving scratches. Some manufacturers recommend lightly damp-mopping a floor, while others do not. Regardless, household dust treatments should never be used. All shoes, especially high heels, should be kept in good repair — if they lose their protective cap, they will dent the surface of *any* floor. Pet nails

need to be trimmed regularly to prevent finish and wood damage.

Be especially attentive to potential spill areas, such as dishwashers, sinks, icemakers and stove tops. Other potential problem spots include household plants and Christmas tree stands.

Consumers see the best results if they develop a cleaning schedule and stick to it. In addition to their regular schedule, they should be aware that not only should they clean the floor immediately after a major event, they should clean immediately before it. (The increased traffic on the floor will result in more damage from any dirt or grit present on the floor.)

Those are some of the basics. For information specific to finish types, read the following sections.

WHAT TO USE?

It is important to impress upon consumers exactly which directions to follow and which products to use in caring for their wood floors. Although Mr. Smith may use cleaning product X, his floor may have a finish totally different from Mrs. Brown's finish next door.

For prefinished wood floors, consumers should follow the directions of the flooring manufacturer as to which cleaning products to use. This is extremely important, because not following those directions may void the manufacturer's warranty of the wood floor.

Consumers with floors that were finished at the job site should follow the maintenance directions of the floor finish manufacturer.

In either case, using a non-recommended product to clean the floor may ruin the appearance of the finish, and also may cause problems down the road when it is time for the floor to be recoated.

If it is unknown who the manufacturer is, the customer should follow the general guidelines detailed on the next page.



DO use floor protectors



DON'T use wet mops



DO vacuum often

SURFACE FINISHES

Maintenance tips specific to surface-type finishes (water-based urethane, oil-modified polyurethane, conversion varnish and moisture-cured urethane) include:

- As with any wood floor, follow a program of cleaning, sweeping and vacuuming to eliminate as much dirt and grit as possible, and remember that moisture should not come in contact with the floor. If it does, it should be wiped up immediately.
- Always use manufacturers' recommended cleaning products, which won't leave a contaminating residue on the floor. If the manufacturer is not known, use a generic hardwood floor cleaner available at local retail wood flooring stores.
- Most warranties from finish manufacturers and factory-finished wood flooring manufacturers are voided by use of oil soap cleaners.
- Wipe up spills immediately with a lightly dampened cloth, then follow up with a recommended cleaning product.
- For stubborn stains, lightly dampen a soft cloth with a manufacturer's recommended cleaner or a generic hardwood floor cleaner. Apply directly to the stain and repeat as necessary.
- Never use a wax finish on top of a surface finish.
- When the floor loses its luster, the floor needs help. There are options available to revive the floor. A topcoat dressing may revive the floor's appearance. Or, the floor may need to be screened/padded and recoated.

WAX FINISH

Maintenance tips specific to wax-type finishes include:

- Wipe up spills immediately with a dry cloth.

Buffing may be required.

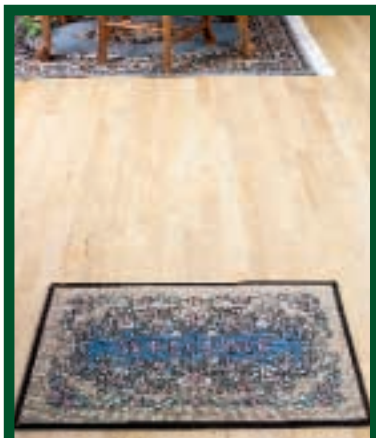
- To remove white spots caused by water spills, use a fine steel wool and a small amount of mineral spirits. Rub gently in a circular motion until the spot is gone, then re wax the area and re buff.
- When the floor loses its luster in heavy traffic areas, buff those areas with a polishing brush or pad. If that does not restore luster, re wax only those areas and buff. Note that too much wax causes the floor to scuff easily.
- Conditioners and cleaners are available on the market to be applied to wax floors, which can then be coated over with another coat of wax. Pay careful attention to manufacturer's directions as to how long such cleaners should remain on the floor.
- Eventually (after many years), the floor will need to be stripped and re waxed. Even if waxed floors are completely sanded down, they may be very difficult to coat over with a surface finish.

ACRYLIC-IMPREGNATED

Acrylic-impregnated floors are generally available in two types: those with a urethane coating and those without, and their care varies accordingly.

Non-urethane-coated acrylic impregnated floors take a regular maintenance routine of sweeping, vacuuming or dust-mopping. Beyond that, however, their care differs significantly from most other floor finishes:

- Use a low-speed buffing machine with the appropriate pad and recommended cleaning product as necessary. Depending on the manufacturer, different pads may be recommended for different steps in the cleaning process.



DO use throw rugs



DON'T use ammonia



DON'T use dust cleaner

- Use recommended dust mop treatments to enhance dust mopping.
- For white/bleached products, always use an *untreated* mop — never any water or petroleum-based products. The floor should be buffed with a low-speed buffer and a recommended product specifically for white/bleached floors. (More maintenance will be required of white/bleached floors than other colors.)
- Some manufacturers recommend that floors that have become dull be lightly screened, to be followed up with a recommended cleaner and recommended conditioning product.
- Follow manufacturers' directions for spot-cleaning stubborn stains. Methods include spot sanding or screening and then applying the recommended cleaner and conditioner. Other methods include using mineral spirits or hydrogen peroxide and a hand-sized piece of pad to remove the stain.

Note that recoating such floors with urethane will void the manufacturer's warranty.

Urethane-coated acrylic-impregnated floors also require routine maintenance of sweeping, vacuuming or dust-mopping, but they do not need the commercial-type equipment recommended for non-urethane products. Recommendations include:

- Damp-mop using a cleaner recommended by urethane finish manufacturers. Damp-mopping with water should not be part of routine maintenance.
- For light scratches, apply a light wax coat to the scratched area. Deeper scratches or damage may require spot sanding, refinishing and resealing by a hardwood floor professional. Some manufacturers also have touch-up kits available.

SPORTS FLOORS

Sports floors, from basketball courts to aerobics studios, usually take a beating of heavy daily use. Specific recommendations on caring for sports floors are available from the Maple Flooring Manufacturers Association:

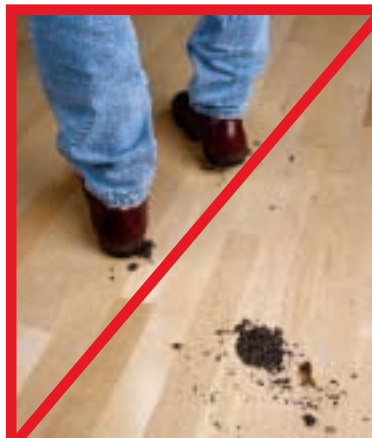
60 Revere Drive, Suite 500
 Northbrook, IL, 60062
 phone: 847/480-9138
 fax: 847/480-9282
 e-mail: info@maplefloor.org
 website: www.maplefloor.org

General guidelines include the following:

- DO dry mop the floor daily with a properly treated dust mop. Floors with especially heavy use should be swept up to three times a day.
- DO use walk-off mats at all doorways.
- DO wipe up spills or any other moisture on the floor immediately.
- DO remove heel marks using an approved wood floor cleaner applied with a soft cloth or a dust mop.
- DO make sure the heating/ventilating/air conditioning system is working properly, with normal humidity levels. Indoor relative humidities should be between 35 and 50 percent year-round. In areas of consistently high or low outside humidity, a 15 percent fluctuation will not adversely affect the maple.
- DO inspect the floor for abnormal tightening or shrinkage. In wet weather, carefully monitor doors and windows for water leakage.
- DO remove debris from expansion voids.
- DO NOT shut down the system for a prolonged period of time.
- DO NOT use household cleaning products, which damage the floor finish and also may leave the floor slippery or sticky.
- DO NOT clean the floor with scrubbing machinery or power scrubbers.



DO use walk-off mats



DON'T track in dirt



DO use dust mops

RECOATING

The savvy contractor doesn't just leave it up to his consumers to decide that their floors are due for a recoat. Just like the dentist who so diligently sends reminders every six months, wood flooring contractors should let their consumers know when their floors are due for a check-up. A simple postcard can be all the reminder the customer needs.

Before attempting a recoat, it is important to inspect the floor for wear, thus determining what steps will be necessary to refinish the floor. If the finish is worn to the point that the color of the wood is not uniform or that bare wood is exposed, complete resanding and finishing is necessary. If the wear is not that severe, there are several options. Typically, a buffer is used with a screen, pad or other abrasive and the floor is recoated. There are also various systems available to clean the floor and simply coat over it, with no abrasion necessary.

When recoating, the first step is to determine what type of finish is already on the floor. Ask the homeowner what has been used on the floor, and find out as much about maintenance habits as possible.

If the floor was installed or last serviced before the mid-'60s, you should assume the finish used was varnish or shellac. To determine this, scratch the surface in an inconspicuous place with a coin or other sharp object. If the finish flakes, it is probably shellac or varnish. These finishes are rarely used today and will need to be completely sanded down before application of a new finish.

If it is a wax finish, it may be very difficult to recoat the floor with a surface-type finish (i.e. oil-modified, waterborne, conversion varnish, moisture-cure), even with resanding. There are several methods to test for wax (perform the tests in an inconspicuous place, such as in a corner, in a closet or under furniture). One is to use a small amount of mineral spirits on a clean, white rag in an area that has not been exposed to high traffic. If a slight yellow or brown color appears on the rag, then paste wax is probably present. Another method involves taking a piece of screen or sandpaper and lightly abrading the floor. If residue balls up, it is a paraffin-based product. Yet another test involves putting two drops of water on the floor. If white spots appear there after about 10 minutes, the finish is probably wax (the white spots can be removed by gently rubbing them with #000 steel wool dampened with wax). If wax is not present on the floor, most likely the finish can be coated over with a regular surface finish.

Next, the floor should be cleaned with a non-residue cleaner designed specifically for hardwood floors. Then, use a buffer with steel wool, a sanding screen, pad or sandpaper to abrade the surface finish

SOME FLOORS CAN'T SIMPLY BE RECOATED...



Deep scratches that go through the finish.



Dents (these usually require board replacement).



Cupped floors.

SOME FLOORS CAN'T SIMPLY BE RECOATED...



Changes in color due to differences in light exposure, such as under an area rug.



Water or pet stains (pet stains may not come out even after total resanding).



Dirty floors with finish totally worn off.

— follow the recommendations of the manufacturer of the finish to be applied (steel wool should never be used with a waterborne finish). After abrading, vacuum all dust possible and tack the floor with a lightly dampened towel.

Factory-finished wood floors can be recoated, usually with the same procedures that are used for site-finished flooring. Screening/padding and recoating is recommended to restore the finish when it shows excessive wear but is not totally worn through. Sanding and refinishing is necessary only when there is severe damage, such as finish completely worn through, to a large area. Severe damage to just a few boards can be repaired by replacing only those boards.

For factory-applied UV-cured aluminum-oxide-type finishes, consult the wood flooring manufacturer's directions for recoating. The process for recoating such floors involves an adequate abrasion with a buffer and recoat, and/or a chemical recoating system.

Spot touch-ups for small finish repairs are possible, but they may not offer the same appearance as a total recoat. Many finish manufacturers offer a consumer-oriented product for minor spot finish and stain repairs. Depending on the extent of the repair, however, buffing and recoating of the entire floor may be necessary.

It is important to emphasize to the consumer that although rental sanders and buffers are readily available, **resanding, buffing and/or recoating of a wood floor is a job best performed by a wood flooring professional.**

WHICH PUTS GREATER FORCE ON A FLOOR?



An elephant has a force of 50 to 100 pounds per square inch (psi) on a floor, while a 125-pound woman in high heels has the force of 2,000 psi. That's 20 times greater than the elephant. Such force can damage any floor, not just hardwood. Exposed nailheads are especially brutal to a floor — their 8,000 psi is damaging enough to pulverize hardened concrete.

GLOSSARY

Abrasion Resistance That property of a surface that resists being worn away by a rubbing or friction process. Abrasion resistance isn't necessarily related to hardness, as believed by some, but is more closely comparable to, or can be correlated with, toughness.

Adhesion The property that causes one material to stick to another. Adhesion is affected by the condition of the surface to be coated and by the closeness of contact.

Bond The adhesion between two dissimilar materials.

Conversion Varnish See **Swedish Finish**.

Cure To change the properties of an adhesive by chemical reaction (which may be condensation, polymerization or vulcanization) and thereby develop maximum strength. It is generally accomplished by the action of heat or a catalyst, with or without pressure.

Drying The act of changing from a liquid film to a solid film by the evaporation of solvents, oxidation, polymerization or by a combination of these phenomena.

Dry Tack-Free The stage of solidification of a film of finishing material when it doesn't feel sticky or tacky when a finger is drawn lightly across it in a quick continuous motion.

Durability The ability of a finishing material to withstand the conditions or destructive agents with which it comes in contact in actual usage, without an appreciable change in appearance or other important properties.

Fading The loss of color due to exposure to light, heat or other destructive agents.

Gloss The luster, shininess or reflecting ability of a surface.

Hardness That property of a dried film of finishing material that causes it to withstand denting or being marked when pressure is exerted on its surface by an outside object or force.

HVAC — Heating, ventilating and air conditioning.

Moisture-Cure Urethane A solvent-based polyurethane that dries by solvent evaporation and cures by a reaction of the polyurethane with atmospheric moisture.

Oil-Modified Urethane A solvent-base

polyurethane that dries by solvent evaporation and cures by a reaction of the polyurethane with driers and air.

Peeling A defect in a dried film manifested by large pieces becoming detached from the under surface and coming loose in sheets or large flakes.

Scratches Slight incisions, breaks, tears or indentations on the surface caused by abrasive friction.

Sheen The degree of luster of the dried film of a finishing material. It is usually used to describe the luster of rubbed surfaces or of flat-drying materials.

Solvent A liquid that can dissolve another substance.

Staining The act of changing the color of wood without disturbing the texture or markings, through the application of transparent or semitransparent liquids made from dyes, finely divided pigments or chemicals.

Swedish Finish A term sometimes used to describe two different types of finishes. One is also called a conversion varnish, though it's not a varnish, but rather a two-component system consisting of a base coat and an acid-curing top coat. The term is also sometimes used to refer to water-base finishes, which — like conversion varnishes — originated in Sweden.

Urethane A synthetic chemical structure formed by one of three specific chemical reactions.

UV-Cured Polyurethane A special type of polyurethane that is cured by subjecting it to a specific dosage of radiation in the form of ultraviolet light.

Water-Base Urethane A waterborne urethane that is fully cured and dries by water evaporation.

Wax Any of a number of resinous, pliable substances of plant or animal origin that are insoluble in water, partially soluble in alcohol, ether, etc. and miscible in all proportions with oils. It is used for making polishes and other products.

Wet-Mop Mopping a floor using a mop dripping with water. Hardwood floors should NEVER be wet-mopped.

Yellowing The tendency of a dried film to take on a yellowish cast with age.

INDEX

Acrylic-impregnated floors	5	Rugs	4
Non-urethane coated	5	Spills	
Urethane coated	5	Prevention	4
Aluminum oxide finishes	8	On surface finishes	5
Cleaning products	4	On wax	5
Customer expectations	3	Sports floors	6
Cracks between boards	4	Surface finishes	
Floor protectors	4	Maintenance	5
Humidity control	4	Recoating	8
Prefinished floors		Touch-ups	8
Cleaning products	4	Vacuums	4
Recoating	8	Wax finishes	
Recoating	7	Maintenance	5
Routine maintenance	4	Testing for wax	7

SOURCES AND CREDITS

NWFA TECHNICAL MANUAL COMMITTEE

- Galen Fitzel*, 3M Co., Chair
- Steve Seabaugh*, NWFA
- Joe Audino, Rode Bros. Floors
- Bob Bailey, Artisan Hardwood Floors
- Howard Brickman, Brickman Consulting
- Bill Costello*, Dura Seal
- Jim Garth, Decorative Flooring
- Mel Hollis*, Basic Coatings
- Frank Kroupa, R&R Hardwood Flooring
- Michael McSwain, McSwain's The Hardwood Floor Store
- Mickey Moore, NOFMA
- Brian Roberts, Franklin International
- Paul Ruiz*, Glitsa American
- Janet Sullivan*, Lenmar

*Indicates Maintenance Subcommittee Members

COMMITTEE ADVISORS

- Don Bollinger, The Oak Floors of Greenbank
- Chris Coates, Coates & Associates
- Don Conner, Harris-Tarkett
- John Goss, Woodwise/Design Hardwood Products
- Woody Hilscher, BonaKemi USA
- Neil Moss, Triangle Pacific Corp.

PUBLICATION EDITORS

- Kim Wahlgren, *Hardwood Floors* magazine
- Chris Michaels, *Hardwood Floors* magazine

ART DIRECTOR

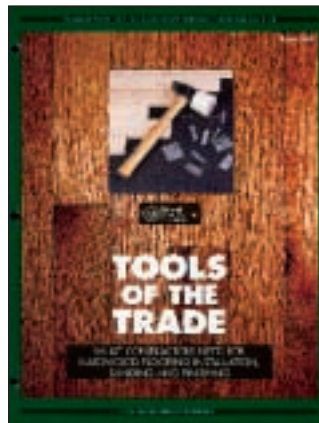
- Catherine Liewen, *Hardwood Floors* magazine

PHOTO AND ILLUSTRATION CREDITS

- **Cover:** Background photo courtesy of Harris-Tarkett, Johnson City, Tenn. Inset photo by Dale Hall Photography, Middleton, Wis.
- **Page 3:** Photo courtesy of NWFA. Hardwood floor by Anderson Wood Flooring, Kingston, N.H.
- **Page 4:** Photos on left and right courtesy of BonaKemi USA, Aurora, Colo. Center photo by Dale Hall Photography.
- **Page 5:** Photo on left courtesy of BonaKemi USA. Center, right photos by Dale Hall Photography.
- **Page 6:** Photo on left by Dale Hall Photography. Center, right photos courtesy of BonaKemi USA.

RESOURCES

For more technical information, consult the other chapters in the NWFA's Technical Manual Series:



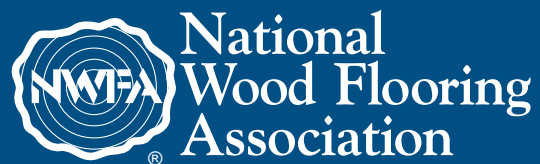
Look for these chapters coming in the future:

- Methods of Installation*
- Troubleshooting*
- Repairs/Refinishing*
- Stairs/Vents/Trim*

For more information, contact:

National Wood Flooring Association (NWFA)

16388 Westwoods Business Park
 Ellisville, MO 63021
 800/422-4556 (United States)
 800/848-8824 (Canada)
 636/391-5161 (local and international)
 Fax: 636/391-6137
 E-mail: info@nwfa.org
 Web Site: www.woodfloors.org



For more information, contact:

National Wood Flooring Association

16388 Westwoods Business Park

Ellisville, MO 63011

Phone: 800/422-4556 (U.S.)

800/848-8824 (Canada)

636/391-5161 (Local and International)

Fax: 636/391-6137