

How to Choose a Hardwood Floor Finish

- One That's Right For You

By Ward Braun

One of the most common questions we get asked is – What type of finish should I put on my floors?

That's a great question to ask for two reasons, first because it can greatly affect the overall look and color of your floors and second because it has a great impact on the durability of your floors. Obviously choosing the right one appropriate for you and your floors is important.

In this article we will look at the different finishes available and discuss the pros and cons of each to help you decide which is best for your wood floor.

If you're short of time and you don't need a long, detailed answer, you can skip to page 4 and read the section "So What Finishes Do We Recommend?"

Finish is the layers of coatings that are applied in liquid form to your hardwood floors to help protect them from wear, grit and moisture. At the same time they also accentuate the wood's natural beauty and color and provide a nice sheen.

These finishes can be split up into two basic groups, surface finishes and penetrating finishes.

Surface Finishes

Surface finishes are very popular because they are durable, water-resistant and need very little maintenance.

These finishes are basically combinations of resins mixed with solvents or water. The solvents or water allow the resins to be fluid. Once the finish is applied the water or solvents evaporate and leave the resin to set up a thin film on the surface or the wood.

They're commonly referred to as urethanes or polyurethanes because that is what remains on the surface of the wood to form the protective

coating. This creates a protective barrier between the wood floor and the surrounding environment.

When you walk on the floor you are really walking on the finish. As wear occurs on the floor, it's the finish, not the wood, that's wearing away.

They're generally available in high-gloss, semi-gloss, satin and matte sheens.

Surface finishes in general are very durable and make cleaning easy, but they can be difficult to repair and patch without refinishing the entire floor.

There are four basic types of surface finishes available for site finished floors:

Oil Based/Oil Modified Polyurethane

Oil based finish is a solvent based urethane. It's the most common surface finish used today and most floors in Vancouver have this type of finish. The wood turns a beautiful amber color when it's applied.

It's generally applied in a 2 or 3 coat process. We always use 3 coats which provides a very nice wear layer.

The only downside of oil based finish is that it has a somewhat strong solvent smell and will change color and darken over time when exposed to sunlight.

Water Based/Waterborne Polyurethane

Water based finishes are polyurethanes, acrylics or a blend of both. They come as either a single or a two component product.

The two component products have a separate catalyst that is added to the finish just prior to use. They are fast drying and the finish is clear when dry.

They have far more wear resistance than oil based finishes. Being water based, they have extremely little odor. There are no solvents

2 component water based finishes are the most advanced type of finish

released as it cures, only water vapor. They also have the lowest VOC's (Volatile Organic Compound) among surface finishes.

Two component water based finishes are the most advanced type of finish. Every finish manufacturer is putting lots of effort into making these the best finishes available and these finishes are the way of the future.

They're among the most durable finishes as well. They are generally the most resistant to chemicals, scratches and abrasion when compared to other types of finishes.

Of all the finishes, 2 component water based finishes are the most expensive. Most have the benefit of having built in UV inhibitors so your floor won't change color anywhere near as fast as it will with an oil finish.

Single component water based polyurethanes are generally not as durable as the two component types and they will turn yellowish over time.

Moisture Cured Urethane

Moisture cure is a solvent based urethane finish. As its name implies, it reacts with moisture in the air to cure.

It's one of the most durable and moisture resistant finishes available. It's mainly used on commercial projects. It is extremely difficult to apply, very toxic and has an extremely high amount of VOC's.

Not many homes have this finish applied and it's banned in many areas because of the high VOC level.

Swedish Finish/Acid Cure

Most commonly referred to as Swedish finish, acid cure is a very durable finish. This finish is quite popular in Vancouver. You may recognize the name Glitsa, this is a Swedish finish. It provides a nice amber color to the wood similar to oil based finishes.

Swedish finish has extremely strong fumes that smell terrible (similar to moisture cure) and comes with a very high VOC level. It will also change color over time and it takes quite a long time to cure.

Penetrating Finishes and Wax

Penetrating finishes, as the name implies, penetrate into the wood pores and then harden to form a protective penetrating seal.

So instead of walking on the finish, like you would with the finishes we talked about above, you are actually walking on the actual wood and it's the wood that wears down, not the finish.

These types of finishes include tung oil, linseed oil and other various specialty oils. They take a much longer time to dry compared to other finishes.

Penetrating finishes don't offer a lot of resistance to staining from solvents, water, alcohol, and urine. Most scratches though can be repaired by simply recoating the affected area.

Another advantage of penetrating finishes is that they are flexible and move with the wood, this can be beneficial especially on softer or wider plank floors.

After they're applied, wax is sometimes buffed into the floor to give them a higher sheen and for durability. In this case, wax needs to be regularly maintained with additional thin applications of wax buffed into the floor. Only certain cleaners can be used on the floor with these finishes.

So How Do You Go About Choosing Between All Of These Finishes?

Choosing a finish is not an easy or obvious decision to make as there are many factors that you need to consider about each of these finishes.

We'll talk about each of these and then line up each finish in a side by side comparison chart.

continued over...

Durability

One of the big deciding factors when it comes to choosing between these finishes is their durability and how they will hold up over time. Below we've listed the three areas that affect the durability of a finish:

Abrasion Resistance

Abrasion resistance refers to how well a finish stands up to everyday wear from shoes, dirt or other things rubbing and wearing against the finish.

Scratch Resistance

Scratch resistance refers to the finish's resistance to damage beyond everyday wear. Things like furniture being dragged across the floor, rocks brought in by shoes and pets running across the floor with unkempt claws etc.

Chemical Resistance

Chemical resistance is the measure of a finishes ability to be unaffected by a variety of chemicals such as nail polish remover, blood, coffee, wine, ammonia, and alcohol.

Other Factors

While durability is a very important factor in a finish, there are other things to consider as well when choosing which finish to use.

Looks

You want to choose a finish that accentuates the wood's natural beauty and color and provide a nice sheen.

Most surface finishes are available in four sheens: gloss, semi-gloss, satin and matte. Penetrating finishes

have a beautiful hand rubbed look unless they are waxed and buffed.

Aging/Yellowing

As floors age the urethane resins in most surface finishes start to yellow or amberize. The UV will have its effect on these finishes as well.

This will be especially noticeable in areas where you have furniture and area rugs and they're moved after a long period of time.

Fumes/Smell

More and more people are concerned about the environmental impact and emissions (VOC's, solvents and off-gassing) from the products they use. This is a good thing for not only the protection of our planet but also for your own health.

Some of these finishes have such strong off-gassing as the solvents evaporate that you can't be anywhere near them for days, sometimes weeks if you're very sensitive.

They really, really stink and the fumes are not healthy for you at all. A lot of them are banned from use in many areas in North America because of their high VOC levels.

Maintenance

You want your floors to be easy to look after, clean and maintain.

Surface finishes provide a hard, durable surface that is very easy to sweep, damp wipe and keep clean in general.

If properly maintained they provide excellent moisture and chemical resistance. However, when the surface is scratched or damaged, they can be more difficult to repair without professional help.

Penetrating finishes on the other hand can be easier to repair if they've been scratched, most scratches can be repaired by simply recoating the affected area. But they offer minimal resistance from water and chemical damage and thus need to be maintained often.

Drying Time

You want you floors looking great but you also don't want to be out of your home for any longer than you need to be. Because of this the drying, application and curing time becomes important, especially if you need to move back in a hurry.

Some of these finishes really, really stink and are not healthy

Hardwood Floor Finish Comparison Chart

Type of Finish →	2 Part Water	Single Water	Oil Based	Swedish Finish	Moisture Cure	Penetrating And Wax
Durability						
Abrasion	5	2	3.5	4.5	5	3
Scratch	4.5	2	4	4.5	5	3
Chemical	5	5	5	5	5	2
Other Factors						
Looks	3.5	3.5	5	5	5	5
Aging/Yellowing	5	3	3	3	3	5
Fumes/Smell	5	5	3	1	0.5	3
Maintenance	4	4	4	4	4	3
Time	5	5	4	3.5	3.5	2
Total Out of 40	37	26.5	31.5	30.5	31	26

The numbers above are the general average for each finish type. Specific products may perform a little better or worse.

5 – Excellent 4 – Very Good 3 – Good 2 – Fair 1 – Poor 0 – Horrible

So What Finishes Do We Recommend?

That's a lot of information to take in about finishes. It may be hard to believe, but we haven't even begun to scratch the surface (pun intended!) when it comes to information about all of these finishes. This article could be ten times longer if we wanted.

We've had the benefit of testing all of these finishes in many different circumstances over many years.

We continually test new products that come on the market as we like to be up to date with what's happening in the industry so we can provide the best options for you and your floors.

So what finish systems do we use and recommend at Woodsmith Hardwood Floors?

Well, we ruled out moisture cure and Swedish finishes (like Glitsa) because of their toxicity, safety concerns (fire hazards, combustibility etc) and horrible smell and fumes from the solvents evaporating as they dry. We don't like subjecting ourselves let alone others to that.

Yes they're durable finishes, but the two component water based finishes are just as durable, if not more so and they don't have the stinkage or safety factor.

We also ruled out penetrating finishes because most people in Vancouver are used to the convenience of surface finishes and aren't willing to spend the time maintaining a penetrating oil or wax floor like their grandparents were.

A lot of the floors we refinish here have been sanded many times already and are now quite

thin, so walking on the actual wood and wearing it down would not be a good idea either. Plus they take far too long to dry and cure.

We also don't use single component water based finishes because they're just not durable enough at the moment compared to the 2 component finishes. This may change in the future though, so we'll be testing these regularly.

So depending on your answers to the questions listed below, we'll recommend using either oil based finish or a 2 component water based finish.

Our answer will depend on a number of factors, like:

- What type of hardwood floor you have?
- How many kids and/or pets do you have?
- Will you be walking on your floors with your dirty outside shoes?
- Are you willing to clean them regularly?
- Are you going to be staining your floors or keeping them natural?
- How sensitive are you to fumes and smell?

Oil Based Polyurethane – *Highly Recommended*

This is one of the nicest looking floor finishes. It gives a beautiful amber look to the wood and provides a very nice build layer which is great if your floors have been sanded a number of times and are now thin. It looks especially good on vintage fir floors.

We like the satin sheen finish and recommend this as it hides scratches and wear better than a glossier sheen. It looks great over stained floors too.

It has excellent durability, provides a very nice build layer, especially when 3 coats are applied and it's very easy to clean and look after.

It does have a solvent smell to it as it off-gasses and dries, but it's nowhere as bad as moisture cure or Swedish finishes. If the windows are left open and your house can air out, the smell should be gone in a day or two.

It can be a little difficult to spot repair an oil based finish though and it will change color with age and sunlight like most of the other finishes. After much testing we decided on a product from a company called BonaKemi. The finish is called Woodline. We believe this is the best oil based finish available on the market today.

All things considered, this is an excellent finish system. I have this finish in my own home and have been extremely happy with its looks and performance.

If you're looking for a finish with a great wear layer, very respectable durability, amazing looks, one that's easy to clean and you can put up with some smell for a day or two then this is an excellent choice.

2 Component Water Based – *Highly Recommended*

These are among the most durable floor finishes available. They are also on the cutting edge of technology for finishes. As more people get concerned about emissions and VOC's these finishes will become far more popular.

It's not to say they're not without any environmental impact, they still have many chemicals in them, but they release water vapor as they dry so they don't smell bad at all.

Once the catalyst is mixed into the finish and it's applied to the floor, it becomes a very tough protective film. It's also somewhat rigid, like a sheet of plastic, so for soft floors like fir with a lot of movement, it may not be the best choice but it's a perfect finish for maple or oak floors.

One downside to water based finishes if you have oak floors, is the color. If you just apply a clear water base finish to oak, it looks terrible. It's dull, flat and lifeless.

We don't use single component water base finishes

How to Choose a Hardwood Floor Finish

- One That's Right For You

So your floor will either need to be stained first or we could use an oil based quick dry sealer that's compatible with this finish.

This way you'll get the rich, deep color as well as the durability. No matter what we do though, it still won't look as rich and deep as an oil based finish.

Another downside is the price. These are the most expensive finishes. A gallon of finish is in the triple digits. Because they are applied in thin layers you also need more coats.

They're also more challenging to apply and can be difficult to spot repair. Expect to pay around 30% more for this very durable high end finish system.

If you have a high traffic home with lots of dogs or children that run around with shoes on or claws untrimmed, or you're always walking inside with your dirty shoes, then you may want to consider this option.

It's also a good option if you're worried about the smell of the oil based finish, although the stain and sealer will have an odor to them if they're used underneath. It has built in UV inhibitors, so it won't change color anywhere near as quickly as the oil based finish.

This is the finish we use for our commercial projects like retail stores, hotel lobbies, dance floors and restaurants because of its durability and low odor.

After considerable testing of dozens of 2 component finishes we decided on a product from a company called Basic Coatings. The finish is called StreetShoe.

We're convinced this is the best 2 component water based finish available on the market today for many reasons including those mentioned above.

So there you have it. Hopefully this article has shown you a clear choice for what you'll use on your floors.

If you have any other questions, feel free to phone us and ask. We're always happy to help.

Ward Braun is the President of Woodsmith Hardwood Floors Ltd.

Visit us online at www.WoodsmithHardwood.com

We're convinced this is the best finish available today