

Welcome to our "How to" page

Following will be an overview of the hardwood floor sanding process. This will cover:

- Preparing For the Job
- Preparing the Jobsite
- Sanding the Floor (Floor Sanding Equipment and the proper use of the equipment)
- Screening the Floor
- Proper Finishes and Application
- Care for Your New or Refinished Floor

There are several videotapes and books available to the consumer on how to sand hardwood floors. We at Essex Silver-Line believe that if you follow some simple procedures, take your time and use the proper equipment you will sand a floor that you will be proud to show off.

Job Preparation

Job Preparation is the first step in your floor sanding job. It doesn't take a lot of time but it is very important. Line up people to help you with the project. Remember, you will have to move furniture, possibly remove old carpets, etc. and the sanding process is easier with two people.

Get out your phone book and locate the local rental dealers. Call the stores and locate the Silver-Line SL-8 floor sander and SL-7 floor edger. If a store does not rent Silver-Line Sanders, (ask for them by name), call another store until you find the Silver-Line brand. If you want your job to come out looking professional and be something you're proud of, use only Silver-Line sanders.

When you are speaking with the rental store, ask for the cost to rent and also the cost of sandpaper. Most stores will take a deposit on the sander, edger and sandpaper and then charge the customer for the sandpaper that they actually use while sanding. Check with the store on the cost of sandpaper, per sheet, per disc and per grit.

Speak with the rental store about floor finishes. Make it easier on yourself by doing one stop shopping. If the rental store carries a top quality finish buy it there instead of driving to another store for finish. If they sell polyurethane you can buy the product when you return the machines. There are a lot of manufacturers of finishes on the market, some are made specifically for hardwood floors, some are not. Picking the proper finish will be addressed later on.

Once you find the Silver-Line equipment, reserve the machines. If you can go into the store, check out the condition of the units. Some stores have multiple units and you may be able to choose the machines you want to rent. Check the drum, wheels and general look of the sander. On the edger, check out the disc pad, and casters. On both machines look at the

condition of the dustbags. If the machines don't look up to snuff, tell the person at the store. If the equipment is not maintained properly, it will not function properly.

When you speak with the rental store ask the person if the "How to Finish Wood Floors" video by Fabulon® Products and Essex Silver-Line Corp. is available to watch before you rent the machines. If you can watch the video then take the time to watch it, it is well worth the time. If the store rents Silver-Line machines, then the video should be in their store. There are other videos we've seen in stores, but this video reviews the whole process of floor sanding.

The following is a list of items that you may need to complete your floor sanding project.

Tools needed:

- "How to finish wood floors" video by Fabulon Products and Essex Silver-Line Corp.
- Hammer, nailset and nails (6D or 8D)
- Essex Silver-Line Floor Sander and Floor Edger (SL-8 & SL-7) with 25' cord, bags and wrenches
- Essex Silver-Line U2 with cord (Under radiators, baseboard heating, kickboards, etc.)
- Floor sanding abrasives: including sander sheets, edger discs, screens, 9x11 sheets
- Essex Silver-Line Floor Polisher (13" or 17")
- Silver-Line Wet\Dry vac
- Top Quality Floor Finish (Fabulon®)
- Finish applicator and brush
- block sander or electric finish sander (fix spots, blend edges)
- tack clothes (oil modified finish)
- scraper for corners
- safety equipment: dust masks, ear plugs, eye protection, etc.
- Dustpan and Broom

Make sure these items are readily available to you before you start your project.

Jobsite Preparation

After you have prepared yourself for the project, picked a time to do the work and reserved the machines it is time to prepare the room for the job. To save money and time, complete all the room preparations before you pick up the rental equipment, make a list of the tools and supplies that you will need and check it off before you start the project.

The people that are going to do the work should wear comfortable clothing and non-marking shoes. Avoid black soles! You may want to wear a headband, but above all be comfortable! Remove all obstructions from the area to be sanded. This includes, but is not limited to: furniture, drapes, pictures, wall hangings, breakables, etc. Heating grates can be removed, or you can leave them in place until you are sanding near them.

If you are sanding a room that had been covered by wall to wall carpet, it is time to remove the carpet. This job takes some time so be sure you allocate enough time and energy to tackle this. Pull up the carpet pad and tackstrip and remove them from the area.

Note: Be careful with the tackstrip.

Next, get on your hands and knees to inspect the floor for:

- staples from the pad
- nails from the tackstrip
- nails protruding from the floor

Remove the staples and tackstrip nails. The floor nails should be set and countersunk below the surface of the wood. At this time you could also nail down squeaky floor boards, try to hit a joist if possible.

Next you will want to protect the areas that are not being sanded from sawdust. Sawdust is like water, it will always find its own level. The more you do to prevent the spread of sawdust, the less sawdust there will be to clean up. But, be aware that no matter how much you do, you'll always find some sawdust at the end of the project. Tape off doors, cabinets, etc. with plastic, or use old damp sheets (dust will stick to these) close adjoining doors, open windows, etc. If your house has forced air heating system, plug the vents in the work area to prevent circulation of the dust.

After these steps have been completed, sweep the floor and vacuum the whole room. When your room prep is all done, go out and pick up the Silver-Line SL-8 floor sander, SL-7 floor edger, all abrasives and the video. If you have not done so watch the video!

Sanding the Floors

When you return home from the rental store with the equipment, take a moment to make a final inspection for nails, tacks, etc. and remove any items from the area. Sweep the floor one last time and then get ready to sand!

Before you start to sand your hardwood floors, it might be a good idea to know just what you want to accomplish. Sanding is a process in which you cut your floors with different abrasives to remove old finish, level the floor and smooth out the wood to accept the new finish! The heavier grits make deeper cuts into your floors and the successive lighter grits remove the earlier scratch marks to make the hardwood floor ready to be finished with your choice of coatings.

Sanding jobs can be completed in either 3 or 4 cuts with the different abrasive grits. It depends on the condition of the floor being refinished. New floors will not need as aggressive cuttings as a floor being sanded and refinished.

For reference (Sand & Refinish old floors):

The first cut is to remove the old finish and level the floor so it is flat across the room, remove high and low spots. This will be the heaviest sanding and will make heavy scratch marks. Most of the time sanding a room can be completed with all grits with the grain of the wood. Most finishes can be removed with the proper grit of sandpaper. Sanding your floor at a 45 degree angle to the grain should be a LAST RESORT!!!

The second cut is made to eliminate the roughness from the first cut, smooth out the scratch marks and to remove any finish that may not have been removed on the first cut.

The final cut is done to obtain a smooth finish when the coating is applied. It also removes more of the remaining marks from the previous sandings.

For reference (Sand new floors):

The first cut is to level the floor. Although it is a new installation there will still be unevenness. The wood mills cannot make each piece of wood the same thickness, there are some variations. Of course, the leveling process for a new floor is not nearly as aggressive as for an old floor. The sandpaper grit used will be higher, so the marks to be removed will not be as deep. You finish the sanding process in the same manner as with a refinish project.

Start your sanding using the lightest grit possible to achieve the objective of the first cut, if a 36 grit will do the job then stay with it. If you find the finish is not coming off, then go down to a 20 grit sheet. 20 grit sheets will make heavier scratch marks and you'll have to do more sanding to get your desired finish. We recommend a sanding process that includes: 20, 36, 60 and 100 grits.

Now that you know what you want to accomplish, start the sanding. At the rental store pay attention to the person helping you. He or she should show you the proper method for paper installation for the sander and edger. The most common problem that renters encounter is incorrect installation of paper on the sander drum.

Take the SL-8 floor sander to the room to be sanded. Sanding will be done from the right to the left. Locate an outlet in the room that will allow the cord to be behind you as you sand. Before you put on any sandpaper or plug the machine into the wall you may want to practice the movement of sanding. Practice lowering the drum to the floor while you are moving forward and also feathering the drum off the floor as you approach the wall. Do the same practice motion as you would make the return cut.

Note: Some sanders will sand with the edger first and then follow with the sander. The reason they do this is so the edger casters are not rolling across the floor

where the sander has already finished its cut. They believe that the caster marks will show in the finished floor, especially with a soft wood.

Many floor refinishers use the sander first and follow with the edger. The reason behind this was to sand the field of the room to the desired level and then bring the edges to that same level. The caster marks, if any would be removed with the screening process.

Finally, it comes down to you. This page is going to follow the sander then edger method.

Tilt the SL-8 back so you can install the paper (Remember, you only need to turn the cams 1/4 turn in the correct direction to install the paper). Once the paper is installed on the drum, tie the dustbag on the dust tube elbow securely. The SL-8 sander is designed so the drum does not touch the floor until the user wants it to make contact. Look at the machine, it should be resting on the back of the chassis. Plug in the sander to your outlet. The SL-8 runs on 14 amps, but we suggest you try to find a circuit that is not overloaded. When you are ready to turn on the machine, put the cord over your shoulder, it will help keep it out of your way as you do your return sanding. Put on your earplugs and dustmask, you are going to sand the floor!

Note: Always unplug any sanding equipment before you change abrasives. Then remember to plug them back in after the new abrasive is installed.

Note: If you trip a breaker or blow a fuse, turn the equipment off. Then reset the breaker or replace the fuse.

Note: Remove all sawdust from the house as you empty the dustbags. Empty your sander bags when they are 1/2 full. It will help the dust pick up. Sawdust can be flammable and you do not want it in your house.

When you sand a room with the floor sander you will do it in two sections. Start the sanding with 2/3's of the room in front of you with the grain of the wood. Sand this section of the room from right to left, overlapping the previously cut path. Then turn around and sand the remaining 1/3 overlapping the two sections. Stagger the place where you lift the drum off the floor to avoid stop marks where the two sections of the room meet.

Sand both forward and backward in the same path with the Silver-Line floor sander, just like a professional floor sander. As you begin to move in either direction, slowly lower the drum to the floor, be moving before you lower the drum. A smooth feathering action with the drum and constant movement when the drum is in contact with the floor will eliminate gouge marks. The backwards cut will be your most aggressive and also the best for dust pick up. Never stop moving the sander once it is in contact with the floor. Pay attention to your position in relation to the wall you are sanding towards. Don't get too close to the wall in front of you before you lift the drum, you may not get the drum off the floor completely. Don't walk into the wall behind you as you make your return cut, it will cause you to stop the drum in contact with the floor.

If the cutting action of your sander seems to slow or diminish, it is probably time to change the sandpaper. In an effort to save money, don't try to extend the life of the paper, replace it as needed. If you hit a nail but the paper does not break, beware, there will be heavier wear in the paper at the point where the nail hit. If you do not replace the paper, there will be a mark in your floor because the grit on the sandpaper was worn away.

Note: If you skimp on the amount of paper you use on this project it will effect the end result. Don't look at the cost at the time of sanding, but rather over the life of the floor. A \$3.00 dollar sheet of paper over a 10 year period is 30 cents a year. Replace abrasives to get the same type of cut across the floor.

After you sand the field of the room with the floor sander it is time to sand the edges with the floor edger. Unplug the SL-8 floor sander and move it out of your way, unless someone else is running it. Put the bag on the edger, lay the edger on it's side and install the paper. Check to make sure the edger on/off switch is OFF, and then plug the unit into the power.

Pick the edger up and rest it on the casters only, tilted back off the disc pad. Turn on the edger and lower the pad to the floor. Moving from left to right, level the floor from the area the floor sander has already sanded towards the wall or baseboard. Move the edger in 12 to 18 inch sections and then move over, always keep the edger moving, work in a semi-circular motion. When you sand along a wall that the wood runs perpendicular to, rotate the edger to the right on each board so you avoid sanding against the grain.

Another method of edging is to sand from the wall or baseboard to the area that has already been cut by the sander. In this method you cut a line along the baseboard, and then sand out to the drum area in 12 to 18" sections. In either method, move left to right.

Let the edger do the work, don't put extra pressure on the machine. Work at a pace that you're comfortable with, and take frequent rests. If two people are working together, the person running the edger is responsible to the person running the sander in regards to the cords. Keep an eye on both sets of cords so none get run over.

Sand the room with both the sander and the edger with all the required grits. Don't try to skip grits to save time and money. Remember that the process requires removal of previous scratch marks with successive cuts.

When the sanding is completed with the SL-8 and SL-7 it is time to do areas not reached by this equipment. If you have baseboard heating, radiators or toekicks in the room or rooms that you are sanding then you will need to sand under these obstructions. Use the Silver-Line U2 under radiator sander in these applications. It uses a 5" pressure sensitive disc (PSA) and will fit under these items because of its elongated nose. Sand right to left with this unit and repeat all the grits that were required with the other sanders. There is no dust retrieval system so make sure you are wearing a dustmask.

When you're done with the electric floor sanding equipment, it is time to scrape the corners and crevices of the room. The rental store may rent or sell a good scrapper. Get on your

hand and knees and scrape all the corners. Keep the blade sharp as you scrape, especially when you must sand against the grain of the wood. Don't forget to look for any areas that the edger could not sand, around door casing and thresholds etc. Hand sand the areas after you scrape them.

After you have sanded the floors and scraped the corners, look at the floor one more time and check for errors. If you see drum marks, gouges or spots with old finish, scrape these areas. After you scrape, hand sand these areas.

When you're done with the sanding process, return the sanders. Rental stores will charge for time out, not time used. When you return sanders, remember to bring back: ALL CORDS, WRENCHES, BAGS AND UNUSED SUPPLIES.

Screening the Floor

After the sanding is completed you should screen the floor before you apply any coating or stain to achieve the best possible finish. A professional floor sander will screen all his work. Spend the time and money to screen the floor.

Why? You identify any mistakes in the floor before you put finish on the wood. This process also blends the areas that were sanded by the sander and the edger to attain a uniform look. The floor will end up with a better sheen and a finer appearance if you screen.

How do I Screen?: Using a polisher, either rotary or orbital, a nylon pad and a screen mesh disc you will screen the floor. A screen is an abrasive product that looks like the screen you would see on your door or window. They come in various sizes, grits and shapes. You will be using a round screen with a rotary polisher and a rectangular screen with an orbital polisher, the rental store will be able to give you the proper screen.

Note: When you first use a rotary polisher, start the machine in the middle of the room. Get familiar with the machine you will be operating. Adjust the handle on the polisher to about waist height, be comfortable with the machine. Work with the polisher 5 to 10 minutes before you give up on screening. Remember, the polisher will stop running when you let go of the trigger. A rotary polisher runs clockwise. If you push the handle down the machine will move to the left, and if you pull the handle up, the machine moves to the right. Don't try to muscle the machine, you will not win.

To screen a floor you run the polisher along the edges of the room first and then you screen the field of the floor with the grain of the wood. As you screen, look for edger marks, drum stop marks, or other imperfections. If you see imperfections, work with the polisher and screen until the mark is out of the floor. Move side to side with the polisher by shifting your feet, not by twisting your body.

Floor sanding screens come in grits ranging from 60 to 180. Most rental stores will carry 60, 80, and 100 grit. 120, 150 and 180 grit screens are available for finer finishes. If you are

using a oil modified coating, you can screen to 100 grit. When you are using a water based finish, screen with at least 120 grit, to close up the pores in the wood so you do not get a lot of grain raise.

After you finish the screening, return the polisher to the rental store, unless you want to keep it until your finish dries for screening between coats. It may save you money to return the polisher at this point and reserve it for when you need it for the finishing process. Do not throw out your used screens, as you may want to use them as abrasives for the inter-coat screening.

Proper Finishes and Application

Before you begin coating a floor with any finish or stain, you must thoroughly vacuum the room. This means the floors, walls, woodwork, light switches, etc. Any surface can catch dust... let the dust settle and then vacuum.

After vacuuming you will tack the floor to remove any dust that was left by the vacuum. You will want to use a tacking agent that is made with the solvent used in the finish. If you are using a water based finish, use water on a diaper, make the diaper damp, not wet. For an oil modified stain or polyurethane use a premade tackcloth or a rag damp with paint thinner or mineral spirits.

Staining

Staining a floor adds color and brings out a different look and texture to the hardwood floor. There are many different colors of stains and choosing one can be tricky. Color charts are helpful, but actual samples on your wood gives a better indication of the final finish.

Follow the instructions of the manufacturer when applying stain. Take your time, do not get ahead of yourself when in the staining process.

Screening the floor is critical if you plan to apply a stain to the wood. Stain will highlight any imperfections from the sanding. After application, let the stain dry. It will flash off quickly, but will not totally dry for 24-36 hours.

Floor Finishes

If you are not staining your hardwood floor, or if the stain has dried completely, it is now time to apply your floor finish. There are several types of hardwood floor coatings; waxes, lacquer sealers, Swedish finishes, oil modified and water-based polyurethanes. We at Essex Silver-Line have had the opportunity and resources to try and experiment with many different types of finishes. For the DIY floor refinisher there are only a couple of choices to consider, either oil modified or water based polyurethane. These two urethane finishes, have distinct advantages to the user and the final choice will be based on personal preferences.

The following is a list of the difference between the oil modified and water based finishes:

Oil Modified Poly:

- Less expensive than water based
- You should apply 3 coats
- The finish provides traditional warm appearance
- The finish will have a solvent odor when drying

Water based poly:

- Quick Dry finish, more coats can be applied in one day
- 4 to 5 coats of finish for proper wear, more coats will give a higher gloss
- The finish provides a light appearance when applied
- The finish will not yellow with age, dries crystal clear
- Water Clean up
- No odor
- VOC Compliant MA, NY, NJ, CA

Review this information and then decide which type of polyurethane you wish to apply. Once you know which type to use, be aware of the difference between the many urethanes on the market. First and foremost, select a top quality floor finish. Think of the cost of the good finish extended over the life of the floor, not just at the time of purchase. The money spent now will more than pay for itself over the next 10 to 15 years, when properly maintained.

Note: If you pay sixty to ninety dollars for finish it works out to six to nine dollars per year for ten years of use.

There are very definite differences between cheaper polyurethane's and the more expensive products. The old saying "You get what you pay for" is very much evident when you see how easily the polyurethanes are applied and how long they last on your floor. Fabulon® products are your best bet. They are designed for wood floors and are formulated with only the highest quality polyurethane resins. Other products may state that they have a high solids content, but they include fillers and other non-polyurethane resin items. The key is Polyurethane resins, and Fabulon® has an exceptionally high polyurethane resin content. Apply this with confidence.

When you are going to apply the finish, the first step is proper stirring. Do not shake the finish in the cans. This will cause problems with bubbles in your finish. Stir your finish very well, and continually stir the urethane as you use it to keep the body of the finish mixed.

Note: Remember to plan you coating process so that you can leave the room by a door.

After the finish is prepared, cut in the edges with the 4" brush. Cut in only the area that you can keep up with while applying the finish with the applicator. Don't get ahead of

yourself. The strip you cut in should be 4 to 6 inches wide, make sure you apply enough finish to cover the area completely.

Depending on the type of finish, there are certain types of finish applicators. When applying water-based finishes you will use either a pad or T-bar type applicator. Lambswool applicators are used with oil modified finishes.

Because of the different bases of these two popular finishes, there are different practices for applying them. The following is an overview of the two distinct applications.

Oil Modified

Apply with the grain of the wood. Pour a line of urethane across the grain of the wood, or dip the applicator in the finish and draw out the urethane in a line. Using a lambswool applicator, spread the polyurethane following the grain of the wood. You can push and pull the finish, as long as you make the last pass over each area in the same direction. Apply an even, thin coat without puddles or drops. After a pass with the applicator, excess finish can be removed by rolling the applicator in the next area to be coated. A top quality finish will be self leveling and easy to apply. Avoid the bubbles that can result from "working the finish" too much.

You should check the area that has just been finished for puddles, missed areas, etc. before you begin the next area. Once you are satisfied that the area is complete, cut in the next area and apply the finish. Make sure to overlap the areas completed and keep the last applicator movements in the same direction.

Note: Keeping the last strokes with your applicators in the same direction is even more important when you apply a satin finish. The dulling agents in this finish must be applied in the same direction to keep the sheen the same throughout your project.

Water based

With a water based finish you pull the applicator when applying the finish. Pour a line of finish on the floor, following the grain. Then pull the applicator like a squeegee plowing the finish to the end of the room. The applicator should be positioned with a slight angle so the urethane flows into the next area to be coated, and not back into the area just completed. This can be tricky, Fabulon® Products has made a video on the application of water borne finishes, watch it. If you don't want to use the "T" bar applicator then a 9" pad painter can be used.

Unlike the "T" bar, you apply the finish in a fashion like the 10" lambswool applicator. Cut in your edges and apply the finish with the applicator. Remember to overlap the finish and to be careful of missing spots. Water based finishes are designed to be used in many thin coats. The advantage of the drying time will be effected if you apply it too heavily.

Note: Many professional floor refinishers will apply a coat of Super Gloss finish as their first layer, no matter what the final desired finish. This is believed to be the best base coat, and it is true that the final coat will determine the final sheen. A coat of satin over two coats of Super Gloss will dull the sheen to a satin finish.

Note: Most manufacturers do not recommend thinning out their products for the first coat, they do manufacture some type of sealer.

Note: With either type of finish, Do Not Stop the applicator in the finish as you apply it. Feather the applicator in and out of the urethane.

Once the whole area is coated, you must close it off until the finish dries. Be sure to keep animals off the floor as it dries. Close the doors, put up "Keep Off" signs, etc. Let the urethane dry thoroughly before you attempt to recoat the room. A water based finish should dry in 2 to 4 hours, and the oil modified finishes can dry in 4 to 8 hours, the more fillers, etc. will effect the dry time, making it longer. Read the can for dry times.

After the first coat dries you must prepare for the next coat. If you are using a water based urethane, you just recoat the floor. Unlike the previous coat, on bare wood it will be harder to see areas that need their second coat. Use the wood as a guide and take your time. Some refinishers will put pieces of masking tape along the baseboard to keep track of where they are on the floor.

If you are using the oil modified finish then there is another step to complete before you apply any more finish. You must screen the floor. This time the process will remove any grain raise resulting from the application of finish.

When you screen the finish it should powder up. If you do not get a powder, then the finish is not sufficiently dry. Stop and wait for the finish to dry. You will screen your floor with a buffer like before, but at a much faster rate. Again screen with the grain of the room, outside edge first and then the body. For screening between coats you can use a new 150 or 180 grit screen or a used screen you saved from the original screening. Be careful not to remove the finish you just applied.

Note: If you do not want to rent the buffer at this point, you can use a pole sander with the proper grits of sandscreens to achieve the same result. The rental store should have the proper screens and may rent a pole sander.

After you screen your finish, you must vacuum and tack rag the whole room. When this is completed you will apply your next coat of finish in the same manner as the previous coat. You will screen the floor between all the coats when applying oil modified finish. When you apply the water borne finish you will not screen after the first coat, as with oil modified finish, but you will screen between the following coats. Repeat this process until you have applied the recommended number of coats for the finish.

Note: Always follow the instructions provided by the manufacturer of the product.

When you are done with applying the finish, it is time to let the urethane dry or cure. In 2 to 3 days most urethanes should be dry enough to place the furniture back into the room. It is recommended to purchase furniture pads and use them on the legs of any and all furniture. You must wait at least 10 to 14 full days before you place any area rugs on the floor. The urethane will fully cure in 14 to 21 days.

Care for the Floor

Now that you have sanded and refinished your floor you should now think about the proper maintenance of it. The following will be some do's and don'ts to keep you floor looking great!

- Do not wax a urethaned floor. They will be less slippery and you will not have a problem in the future if you want to recoat the floors in years to come.
- Do be careful where you use furniture wax, overspray can lead to problems with recoating the floor.
- Do use cleaners recommended or made by the urethane manufacturer
- Do clean the floors regularly, using a vacuum or dust mop to remove heavy grit
- Do clean dirtier floors with clear water on a damp mop, but remember, water is the enemy of wood and do not get you floor too wet.
- Do place rugs at entrances to avoid dragging in excessive grit
- Do recoat the floor periodically, when it begins to show signs of wear. If the finish wears off the floor completely you may have to sand and refinish the floor again, due to staining in the bare spots.

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Essex Silver-Line is a proud member of the National Wood Flooring Association.

Essex Silver-Line Corporation
1118 Lakeview Ave
Dracut, MA. 01826
Phone: 978-957-2116
Fax: 978-957-6989

Thanks for visiting.
Frank and Dennis

Please E-MAIL us with any questions:

johng@essex-silver-line.com
frankb@essex-silver-line.com

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