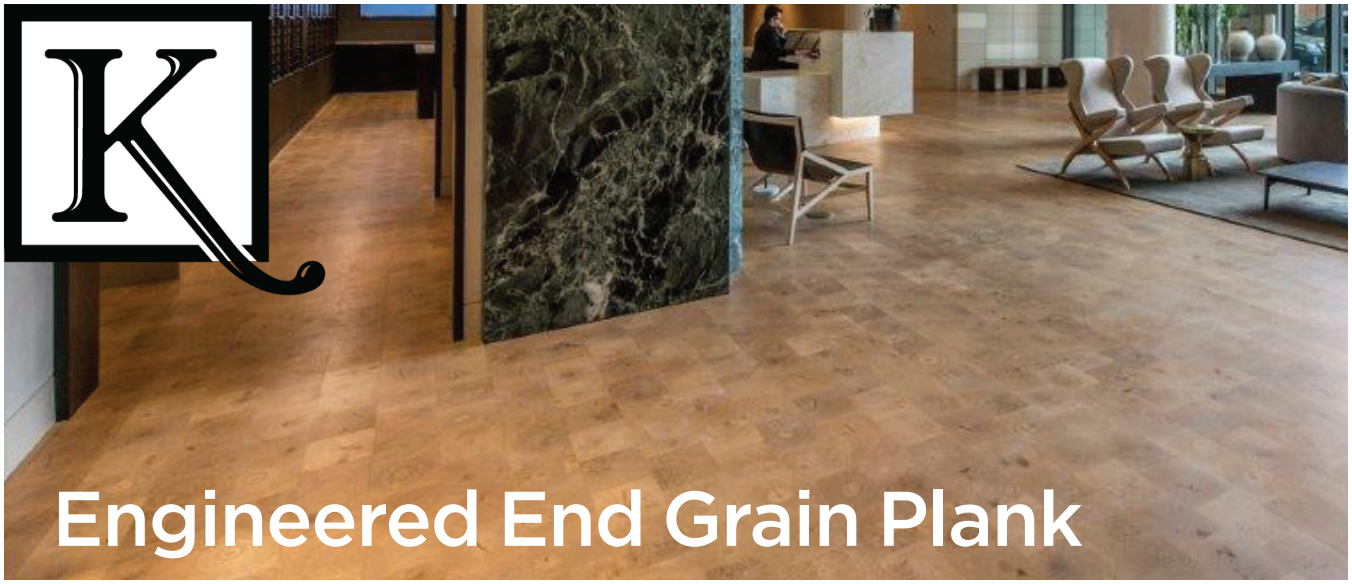
KASWELL FLOORING SYSTEMS



Engineered End Grain Plank

revised 12/2020

INSTALLATION, FINISHING, & MAINTENANCE INSTRUCTIONS FOR THE FOLLOWING SPECIES:

Cypress	White Oak
Larch	Teak

PLEASE READ THE ENTIRE SPECIFICATION BEFORE STARTING THE INSTALLATION.

BEFORE STARTING THE INSTALLATION

All jobsite conditions should comply with Kaswell specifications, including but not limited to humidity levels and sub-floor conditions. Be sure that our end grain planks meet your expectations. When possible, we suggest loose-laying several square feet of flooring in the general location where they will be installed. If the visual appearance, color, sheen, or manufacturing quality does not meet your expectations, do not proceed with the installation. The placement of Kaswell flooring into mastic for adhering purposes constitutes your acceptance of the materials.

Do not open cartons prior to installation. Store and climatise the unopened cartons in-doors. Length of acclimation will depend on job site conditions. If you call us, we'd be pleased to discuss your particular conditions. Prior to installation, inspect all planks in daylight for any visible faults or damage. Report as needed. No claims can be accepted once flooring has been installed. To achieve a regular distribution of the grade in the installed floor, we recommend installing from different cartons at the same time.

CHECK HUMIDITY

With a reliable hygrometer, sling psychrometer, or electronic monitoring device, check the humidity in the space where the flooring is to be installed. Humidity should read between 35-55% assuming a 65°-75° temperature. If humidity is not normal, postpone installation until conditions are normal.

CONDITIONING

Do not install unless heating, air conditioning, and humidity controls are in full operation and room conditions are normal. Do not open cartons prior to installation. Store and acclimate unopened cartons inside the spaces where they are to be installed. The length of acclimation may be adjusted at the discretion of the installing contractor and is based upon the atmospheric conditions at the time of the year. In any event, the temperature of the room and the building must be uniformly maintained at not less than 65°F from delivery, through acclimation, as well as during and after installation. Inspect the boards in daylight prior to installation, for any visible faults or damage, and also check color and structure. No claims are accepted once flooring has been installed.

ACCLIMATION FOR ALL KASWELL INTERIOR WOOD FLOORING PRODUCTS

The purpose for acclimating wood flooring is to allow the moisture content of the planks to adjust to normal conditions; the temperature and humidity that will be typical once the facility is opened, and the permanent Heating, Ventilating and Air Conditioning (HVAC) system is up and running.

Before planks are delivered, the job site must be checked to determine if it is ready. The structure should be fully enclosed, with doors and windows in place, and interior climate controls operational for at least 48 hours to stabilize the moisture conditions of the interior. Wood flooring should not be delivered until all wet-work is completed.

If conditions are not stable, acclimation may be harmful to the installation. For example, acclimation could dry the planks too low if the humidity were too low. In so doing, you might install the planks too dry during the heating season, and have problems during the more humid months.

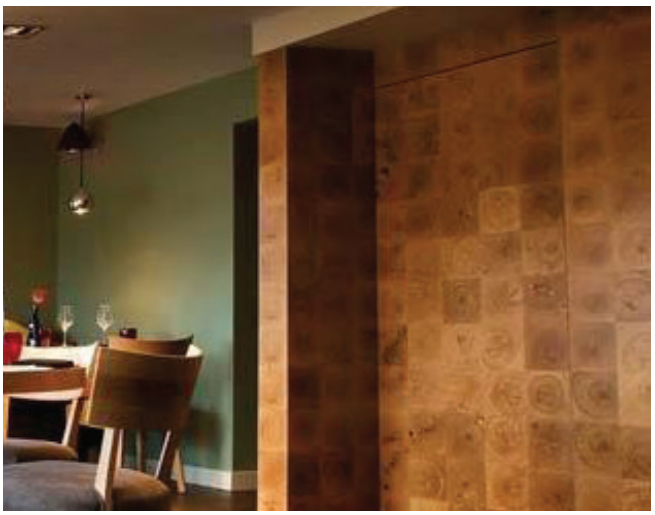
If you know the Equilibrium Moisture Content (EMC) of wood in your region, the wood might already be at the proper moisture content, and acclimation for any length of time may not be necessary. The installer should have a clear understanding of the EMC in order to determine the length of acclimation. This requires knowing and recording the moisture content of the wood at the time of delivery, and what the expected moisture content will be at equilibrium. The flooring is manufactured at 7-9% EMC.

At equilibrium the moisture content of the wood neither gains nor loses water because it has reached equilibrium with the vapor pressure of the surrounding atmosphere. Changes in relative humidity and temperature of surrounding air cause both seasonal, long term, and daily short-term changes in the moisture content. Long-term changes are gradual as moisture slowly penetrates the wood, while short-term fluctuations influence only the wood surface. Protective coatings slow the changes in moisture content, but ultimately the wood will be in equilibrium.

We are often questioned about the humidity being too high or too low. Humidity maintained above 60-70% at normal residential temperatures can adversely affect wood components. Humidity sustained at or above this level can result in an EMC of 12% or more with associated expansion. Humidity maintained at or below 25-30% can adversely affect wood components and result in an EMC below 6%.

Engineered End Grain planks remain in packaging until installed

Coffee table with Engineered End Grain White Oak surface



Wall surface with Engineered End Grain White Oak

This condition can cause greater than normal shrinkage with associated cracks. *(Source: Wood Handbook U.S. Department of Agriculture, Forest Products Laboratory)*

Ideal conditions for all wood flooring would be to acclimate and install at the average level of humidity in your particular facility, which should be in 35-55% range. *(Source: National Wood Flooring Association Wood Flooring Installation Guidelines and Methods, revised 05/2012, page 10, article B-1 Wood's Comfort Zone. As a general rule, with geographic exceptions, wood flooring will perform best when the interior environment is controlled to stay within a relative humidity range of 30-50%, and a temperature range of 60° to 80° F. In some climates, the ideal humidity range might be higher or lower, 25-45% or 45-65%, for example.* We would be pleased to discuss with you length of acclimation for your particular installation.

NOTE: We always recommend at least 2 days of acclimation prior to installation. We never deliver and install plank flooring on the same day.

CHECK CONCRETE SUB-FLOOR

The sub-flooring should be depressed corresponding to the depth of the plank specified. If cork or rubber underlayment is specified for added resiliency, allow for extra depth. A vapor barrier or reliable water resistant concrete sealer (i.e. Bostik's MVP or an equivalent) should be used when moisture from below is of concern. New concrete slabs must be cured (at least 50 days) and dry. Below grade installations are not recommended. Be sure the concrete sub-floor is smooth and level. Tolerance should not exceed 3/16" on a 10 ft. straight edge in any direction. Check floor level with straight metal strip on edge, double check edges and corners. Eliminate any washboard irregularity. All rough spots or gravel protruding must be ground smooth and low areas filled with leveling compound. If tolerance is not as specified, flooring contractor shall INSIST masonry contractor make necessary corrections. Concrete should be tested for moisture content, and be no greater than 3 lbs. per 1,000 sq. ft. per 24 hours (ASTM F-1869), or 75% RH (ASTM 2170). We recommend a bond test before spreading mastic and installing planks. A test should be made with your chosen adhesive and several of our planks before beginning the installation. Check with us about your particular condition.

WOOD SUB-FLOOR

Engineered End Grain planks may be installed directly over wood or plywood sub-floors which are solid, level, and well ventilated below. There should not be any cupped area, or projecting nails. If planks are to be installed on an existing synthetic floor or raised computer floor system, ½" minimum plywood or hardboard underlayment should be added, glued and screwed to the synthetic surface.

EXPANSION VOID

Cork strips ½" to 1-½" should be used against all walls and columns, unless concealed by shoe moldings or other base. Place temporary wooden strips along the walls and columns equal to the width of the void to be created. After installing planks flush to the strips, at the end of the day, remove the temporary strips, leaving a uniform void for expansion. In aisleways and other narrow areas where planks meet carpet or other flooring, the expansion void can be omitted. Schluter strips should be used at plank edges against carpet or other adjacent flooring materials.

APPLYING MASTIC

NOTE: Be sure flooring has been accepted before gluing in place. For older sub-floors, be sure the surface is clean and free from dirt, oil, or grease. Store all mastic/adhesive for 72 hours at room temperature. Use a 3/16" V notched trowel. If the coverage is less than 50 sq. ft. per gallon, change trowel angle or file down trowel to reduced depth. For all species, with the exception of treated pine blocks, we suggest Bostik's Best Urethane or Mapei 980 adhesive.

DO NOT: use mastic or adhesive that contains water or a mastic that combines vapor barrier quality within the adhesive, such as Bostik's "Single Step". This type of adhesive/vapor barrier product requires a spread of approximately 20 sq. ft. per gallon. This is too much adhesive for our flooring. planks and could sink into the Single Step product during installation, creating significant high and low planks. Also, the mastic could ooze up between planks during installation. We suggest Bostik's MVP if a vapor barrier is needed. Allow MVP to dry and apply Bostik's Urethane Adhesive the next day.

INSTALLING PLANKS

Engineered End Grain planks can be installed in any direction. However, board direction many times depends on the main source of light. We believe the boards should run parallel with the entering light for best appearance. However, the proportions of the room can also be emphasized by skilled selection of the direction in which the flooring is installed. In doorways and large areas over 33 feet in length and/or width, a cork expansion joint or other suitable material should be installed. Apply a molding or cover strip over the expansion joint. We can provide cork expansion joint ⅝" in height x any width up to 1". Insure that the boards are always laid lengthwise in narrow hallways.

For sound insulation and to smooth out slight irregularities of the sub-floor, use roll or sheet goods of ⅛" cork. Mylar foam underlayment can also be used below the flooring for a "floating" plank installation. Glue in place for a more permanent installation.

Start the installation in the right-hand corner of the room and fix the first flooring board in place with distance spacers from the wall ⅜" to ½". We suggest the groove side of the board be placed towards the wall, thus exposing the tongue as laying is performed. Start every other row with a half of a plank. Using hammer and tapping plank to snug the newly installed planks over the exposed tongue. Measure the last board of the first row, and keep in mind to leave a gap of ⅜" to ½" between board ends and walls. Start the second row with the leftover piece of the first row, which will reduce cutting waste.

Join the subsequent boards together row by row, working from right to left. Snap the boards together at the long side using hammer and tapping plank. Do not tap directly on the flooring edge. On completion, remove the distance spacers at all walls. Attach a base molding to the wall and not to the flooring, covering over the space created during installation. If no base is to be used, suggest filling void with pre-molded cork. Kaswell can supply all cork and mastic.

! CAUTION

Since Engineered end grain has only a thin surface of end grain wood, there can be no voids left below the end grain surface. Therefore, when installing the plank up against another flooring surface, or up against Schluter, you must cut off either the tongue or the groove, so that the end grain and ply bottom on which it sits fits tight against the adjacent flooring or Schluter. If a void is left by installing the tongue side against Schluter, you must first fill the void with ½ of a wooden slip tongue. If a void is left after installation, the entire edge of the end grain surface will break away, requiring difficult repairs. If there are any questions about this subject, please contact us before starting your installation.

If a **custom color** is desired, Engineered End Grain would be provided unfinished, factory sanded to 80-grit. Field finished sanding should begin with no less than 80-grit, but possibly 100-grit immediately after installation, using a disc sander with 120-grit screen or finer. Vacuum clean and stain with the desired oil base stain, wiping all excess from the surface. If the flooring is to be finished with urethane, we suggest using an oil-based urethane. If water-based urethane must be used, wait at least 4 days for the oil stain to dry before applying finish. Screen, tack clean, and apply additional coats as needed. Custom pre-finishing in oil available for Oak and Larch only.

SANDING

Drum sanding should not be necessary. Disc sand with 80- and 100-grit paper, 120- and 180-grit screens, making sure sanding is uniformly performed, and all circular disc lines are removed. Vacuum clean. Fill voids, cracks or spaces between planks. Filler materials can include stain accepting patch compound, granulated cork, wood flour, or a mixture of granulated cork and wood flour. Mix wood flour with the chosen finish. For detailed information on product and technique of application for filling voids and cracks, please request our "Filling Voids and Cracks" information sheet. See Woca application instructions below. Be absolutely sure no liquids (i.e. paint, coffee, water, mud, etc.) touch the flooring at this point, and keep everyone out of the room until the surface is protected. If there is a time lag between sanding and finishing, resin spots might appear in some species. They will disappear once finished.

APPLYING OIL FINISH

Oil finishes are NOT top coatings like urethane. Therefore, they MUST be applied, then wiped off. Oil finishing is a PROCESS of applying oil to the floor surface several times, allowing the oil to penetrate, wiping the surface of excess oil after each application. The oil is applied and re-applied

PLEASE FOLLOW ALL WOCA OIL FINISH INSTRUCTIONS:

until the blocks will not take on any more oil. After each oiling and wiping off excess, the floor MUST be buffed and re-buffed with absorbent towels or other soft cloth so that there is NO oil left on the surface. You cannot overbuff. Continue buffing until no oil is left behind.

At least three oil applications will be needed. Softwoods, like pine and fir, will require more oil than hardwoods, like oak and mesquite. Depending on the block specie, a fourth or fifth application may be needed to create the uniform holdout necessary. Inspect the surface at different angles after each oil application and wiping. If there remains an uneven or starved block appearance, the flooring must be re-oiled until the uniform holdout is achieved. When a uniform silky, matte surface has been achieved, then no further oiling is needed at that time. However, weeks later the flooring may appear dry and dull. This is normal and to be expected. Resins in the oil will shrink slightly, and the wood will then take on more oil. Re-oiling and re-buffing will return the surface to a "like new" condition.

Oil finishes can be re-applied at any time without surface preparation. If you re-apply oil and it is not penetrating the wood, it means the wood is essentially full. Just remember to wipe off ALL excess oil.

If you prefer a higher sheen/luster at this time, apply a very thin application of Woca Maintenance Gel, then polish with Woca polishing cloths or other soft cloths.

! DO NOT USE TAPE PRODUCTS ON THE FLOOR AFTER SANDING, DURING SANDING, OR AFTER OIL FINISH IS COMPLETE.

DO NOT ALLOW WATER OR WATER SOLUBLE PRODUCTS OVER AN OIL FINISHED FLOOR.

WE RECOMMEND ONLY ONE APPLICATION OF WOCA PER DAY

1st Application:

Woca Master Oil is considered the primer application. Its role is to act as a base for subsequent oil applications. Choose your starting area and pour the oil into a paint tray. Spread the oil with a ¼" nap paint roller and extension pole or lambs wool applicator. Roll the oil as if you are painting the floor. Continue to spread oil until finished. Do not buff the oil into the floor, as this forces too much oil into the floor and the oil will be too deep. This may cause later bleed back and prolonged drying. When finished, rest your roller in the paint tray or on cardboard. Inspect for shiny spots. Within 30 minutes buff or wipe the entire surface with clean white towels to remove any shiny spots and/or excess oil. Coverage may approximate 130-170 sq. ft. per liter. It is best to let this (primer) application dry and harden for 24-48 hours.

Buffing Woca Oil

Applying Woca Oil using lambswool applicator

! ALL FURTHER OIL APPLICATIONS MUST BE THOROUGHLY WIPED OFF FROM THE SURFACE. DO NOT ALLOW THE OIL TO BUILD UP.

2nd Application and Filling:

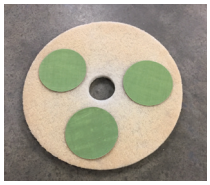
The second application is made with a mixture of Woca Master Oil and wood flour to fill joints and spaces between blocks, if they are to be filled . The oil is mixed with the sanding dust that accumulates in the drum sander bag during drum sanding. This filler mixture can be forced into the voids with a sponge trowel or rags, then buffed clean with a towel to remove excess. Buff with white towels to remove excess oil. You can not over buff. Let this application dry and harden before commencing with the third application.

NOTE: Other filler materials include stain-accepting patch compound and granulated cork.

BEFORE THE 3RD OIL APPLICATION (URETHANE OVER OIL OPTION):

Urethane can be applied over Woca Master Oil. If a urethane is to be applied, it must be applied after the second application of Woca Master Oil. If urethane is to be applied you must allow the first and second application of Master Oil to dry thoroughly and cure a minimum of 3 days. **Warning:** No further oil applications can be made after urethane finish has been applied unless the floor is re-sanded back to bare wood.

3rd Application



If you proceed with Woca Oil, the third, fourth and fifth applications, if needed, are to be made using **Woca Diamond Oil Active.** We suggest removal of the small center hole of a 3M white pad. Pour a capful of Woca Diamond Oil Active into the hole. Place the buffer over the pad and buff and polish the oil into the floor with or without Kaswell green patina discs. Continue to spread and polish as you pass the buffer back and forth across the work area. Coverage should approximate 300-400 sq. ft. per liter depending on specie. Buff the surface with a new clean 3M white pad, then buff with soft white towels to remove all excess oil. You cannot over buff. The Diamond Oil Active will usually pre-harden in 4-6 hours.

However, let this application dry and harden 24 hours before commencing with any additional applications. Allow the oil to cure 72 hours before placing rugs and furniture on the floor.

ADDITIONAL APPLICATIONS IF NEEDED:

4th Application:

The fourth application is made using Woca Diamond Oil Active, repeating the process of the third application with or without green patina discs. After the fourth application the floor should appear silky, with a uniform appearance. Pour more oil onto the floor if needed and continue polishing and buffing. Overlap work areas to ensure a uniform finish with no spray residue from previous passes. Always buff to remove excess oil. You cannot over buff. Coverage should now approximate 1,250 sq. ft. per liter. The Diamond Oil Active will usually pre-harden in 4-6 hours. However, let this application dry and harden 24 hours before commencing with any additional applications. Allow the oil to cure 72 hours before placing rugs and furniture on the floor.

5th Application:

A fifth application will repeat the process of the fourth application, but WITHOUT green patina discs.

WOCA DRYING TIME

Dry time for careful walking could be after 6 to 8 hours without issue. However, drying time is affected by temperature, humidity, air movement, and exchange. Therefore, we suggest hospital booties be used to protect against damage from footprints, especially construction boots with a grid bottom. Best to wait until the next day before walking. For Woca application the HVAC system should be running with good airflow, between 60°F and 86°F, and within 30-60 RH. Full cure after all applications have been made will be 3-5 days after the last application, depending on temperature and humidity. **Caution:** DO NOT INTRODUCE WATER DURING CURE TIME.

Woca Oil finished flooring can be covered if necessary within 12-18 hours after the last oil application. Use breathable covers such as brown kraft paper, RAM board, or a combination of both. DO NOT EVER cover the flooring with polyethylene plastic.

HOW TO INCREASE THE LUSTER AND/OR SHEEN LEVEL OF WOCA OILS:

Standard Woca Oils provide a low matte sheen level. We suggest three methods to increase the sheen level.

Option one (preferred method): Apply a thin layer of Woca Maintenance Gel. This product is supplied in tubes with cover-

age approximately 1,000 sq. ft. per tube. Woca Maintenance Gel is to be applied sparingly and consistently. Buff with 3M white pads and Woca polishing cloths. LESS IS MORE.

Option two: Apply one or two applications of Hard Wax Oil to the surface. Since very little Hardwax Oil is to be used, spreading the product must be done carefully and sparingly. We suggest using a squeegee applicator with a sharp edge with lots of downwood pressure on the squeegee. Pour a small bead of Hardwax Oil onto the floor, and carry the bead back and forth from one side of the area to the other with the sharp edged squeegee. Only a very small amount of Hardwax Oil will be left behind, and that is correct. Work small areas. No worries for overlap marks. Once the spread is complete, buff the Hardwax Oiled surface with 3M white pads. Dry buff the surface with new clean 3M White pads. You cannot over buff. We suggest the last buffing be done with a soft cloth or felt. This will polish the surface slightly. Allow to dry overnight before using.

Option three: Use patina discs, available in 400, 600, and 800 grit. They are edger type discs that adhere to 3M white pads with Velcro. Start with 400 grit patina discs. The resulting luster may be sufficient. If not, then try 600 grit patina discs, etc. The procedure is as follows: Apply Woca Diamond Oil Active to the surface and disc the oil in with the patina discs/white buffing pad. Towel buff off all excess, then re-oil without patina discs and towel buff off all excess again. The last buffing is done with a soft cloth or felt. This will polish the surface slightly. Allow to dry overnight before using. **BE SURE NOT TO ALLOW** the Hardwax Oil to build on the surface. If you are not sure of the results, dry buff again. The results should be the same as before, but with a slightly higher sheen.

Woca Oils are Volatile Organic Compound FREE. In 2007, new regulations were introduced in the European Union regarding VOC levels in coating materials. All Woca products fulfill these regulations. Woca VOC free oils have the following features:

- Positive influence on the working area and living environment. Improvement of product characteristics and application methods. No effect on indoor-air quality.
- Woca products are certified by independent laboratories, the German Institute for Biological Building Materials, and are in accordance with DIN-Norm 53-160. Woca WoodCare Denmark products meet or exceed the most stringent US standards for volatile organic compounds.

Woca Leed Rating: Woca is a plant-based non-emitting finish, which complies with South Coast Air Quality Management standards and always qualifies for the following LEED credits in the chart below.

AVOID SPONTANEOUS COMBUSTION:
WATER-SOAK ALL OILY CLOTHS AFTER USE AND PLACE OUTSIDE OF BUILDINGS AND AWAY FROM COMBUSTIBLE MATERIALS.

DIRECT APPLICATION FOR URETHANE FINISH

For urethane application directly on the wood surface, either water based or solvent based, we recommend Bona Woodline Satin or Bona Traffic water based urethane. Visit Bonakemi.com for instructions. Solvent-based urethanes are preferable, but water-based urethanes can be applied with care. Four applications of urethane may be needed. Always apply thin coats until the surface is uniformly sealed.

NOTE: There are many excellent urethane finishes for wood flooring, including Bonakemi. In all cases the finishes should be a commercial or industrial brand. Coverage rates on finishes will vary depending on the wood specie. We suggest checking with us before purchasing your chosen finish.

QUESTIONS AND CONCERNS

If there are any questions or concerns, please do not hesitate to contact us before or during installation and finishing. Call or e-mail for technical support. Kaswell Flooring Systems cannot be responsible for results of installations made by others. **We reserve the right to change specifications without notice.**

Environmental Feature	Leed Credit	Lead Points
Rapidly Renewable Materials	Materials and Resources (MR) Credit 6	1
Low-Emitting Adhesives and Sealants	Indoor Environmental Quality (EQ) Cr. 4.2	1

CARE & MAINTENANCE INFORMATION PREPARED BY WOCA FOR THEIR OIL FINISH ON KASWELL WOOD FLOORING

To protect your investment, and to ensure that your Kaswell Flooring System maintains its beauty with years of lasting service, we offer the following recommendations for care and maintenance.

Daily maintenance:

For dirt, drips, spots, etc., sweep/dust/vacuum area regularly using broom or cotton cover on swiffer style mop. Woca Natural Soap is available in a spray bottle for easy, touch up wipe ups. Using this light, fine mist spray is an excellent way to prevent future stains. Please be sure to wipe away all liquid. Excessive water will damage wood flooring.

Monthly/Quarterly maintenance procedures using WOCA Cleaning Oil:

The care and maintenance schedule for this type of cleaning may need to be adjusted based on the look of the floor from wear, traffic, etc.

Objective: To leave large floor areas clean of dirt and free of scratches from foot traffic.

Items needed: Slow speed buffer, WOCA Cleaning Oil, WOCA Green Patina Discs under white buffer pads, absorbent cloths around white pads

Working method: Spray WOCA Cleaning Oil on surface area. Using 3 Green Patina Discs on white polish pad, wet buff the WOCA Cleaning Oil into the floor. A second pass with buffer, with a WOCA polishing cloth or cotton rag wrapped around a clean white pad, will be used to remove the excess oil from the floor. The process is totally dependent on the Patina Discs as that add abrasion to the process and grind oil into paste, which both eases its removal and accelerates drying time.

Drying Time: The oil is dry on the surface within 1 hour. A further dry burnish is recommended to remove a latent greasiness on the floor that is attractive to dust. Any oil that remains damp at the start of the dry burnishing stage should be quickly buffed with patina discs beforehand. This serves to convert the oil into a paste and ensure it is picked up by the burnishing pads.

Productivity: A 2-man squad should complete at least 700 sq. ft. per man per hour. After 2 hours of drying, one man should dry burnish the area before traffic begins walking on the floor.

Pros: Cures all the ills the floor may accumulate. Cleans the floor without using water. Keeps the floor saturated with oil helping to keep dirt on the surface instead of deep into the wood grain. Sections can be done at regular intervals. No building closed. Work can be done in the evening and walked on in the morning.

Cons: Areas cleaned with oil must be dry burnished during the same shift (no later than 4 hours). If not, a greasy film will be left on the floor that is attractive to dust walked on it; i.e. it can quickly look dirtier than it nothing had been done!

KASWELL FLOORING
Top 10 maintenance tips:

1. Maintain proper humidity conditions, ideally in the 35-55% range.
2. Vacuum lightly or sweep daily to remove sand and grit.
3. Apply carpet or felt protection to chair legs.
4. Wipe spills promptly.
5. Use walk off mats at entrance doors.
6. Reapply finish at the appropriate time.
7. For urethane finish:
   Use damp mops. Never use wet mops.
8. For urethane finish:
   Avoid using wax or oil soap products.
9. Use only maintenance products furnished and recommended by the finish manufacturer.
10. Call or e-mail Kaswell regarding your flooring.

CARE & MAINTENANCE INFORMATION FOR URETHANE FINISHED FLOORING

Keep the surface free from dirt and abrasive particles by daily sweeping, using a treated flat mop or regular dust mop. Under no circumstances should water be permitted to remain on the flooring more than 10 minutes, either from spills or from washing. Routine cleaning is best accomplished with a mist mop. Be sure no puddles are created or left on the surface. Soft steel wool buffing and waxing can be added. However, if waxes are used, they will make future re-coating with urethane more difficult. An acrylic "after market" product can be used to "dress up" the surface. To refinish with the same urethane used originally will first require screening by rotary disc type sanding machine. Tack-rag dust and recoat. For additional information contact your water-based urethane manufacturer.

KASWELL END GRAIN BLOCKS GRADING AND SIZE TOLERANCE

The National Wood Flooring Association does not provide grading information/rules or size tolerance requirements for end grain block flooring, as they do for conventional hardwood flooring. And so, we offer the following information, and believe it to be an accurate description of our block flooring products.

Wood is a natural product, subject to numerous variations in grain, color, hardness, and dimensional stability. Machine tolerances are measured by us during manufacturing only, with tolerance of +/- .02". Moisture can enter and exit rapidly through the end grain. And so, after manufacturing, the blocks can gain or lose moisture, thus changing their measurement. Our blocks, as well as other wood items, change in moisture content and dimension during and after fabrication, while awaiting shipment, in transit, and at the job site. For this reason, as well as others, it is important that the installer measure and record the moisture content of the blocks at time of delivery. Doing so is necessary to determine the length of acclimation time for your project. The target moisture content for all of our wood flooring products is 8-10%, with a 5% allowance for pieces outside that range up to 13%.

There is a grading allowance for hardwood flooring shipments of not greater than 5% of the pieces mis-graded or off graded. However, end grain blocks are not graded at all, and therefore no description that we can make, and no sample that we can make, could encompass all possible variations. However, there is an ASTM specification D1031-86 for industrial pine blocks, which includes block description and size tolerance. The ASTM size tolerance was written as follows: "Permissible variations from the specified dimension shall not exceed 1/16". We recognize that this is for industrial application, and may not be appropriate for high end commercial and residential applications. ASTM does not grade pine blocks but they do describe them in detail, and we have adopted their standard for all of our end grain species for commercial and residential applications as follows: "Blocks should be sound and well manufactured, square butted, and square edged, and shall be free from unsound, lose or hollow knots, knot holes, and other defects such as shakes and checks that would be detrimental to their performance". In most cases, normal season checks in end grain blocks are not detrimental to their performance and so we do not consider checks to be a defect.

We can produce blocks in many species that are check-free, sap-free, knot-free, pitch pocket-free, blueing-free, and the number of annual growth rings per inch can even sometimes be part of a specification. These natural conditions should be addressed when ordering. We encourage you to speak with us about your particular project and specie choice.

Although our logs are kiln dried to 8-12% +/-2%, square blocks can go "out of square" after fabrication because radial and tangential expansion and contraction is different. Even rectangular blocks can "go out of rectangle" with a change in moisture content. We recommend our blocks not be installed tightly together side by side. Our installation instructions advise the blocks should be slightly spaced apart to accommodate slight irregularity of size and shape. The space can allow for some growth as well and the net affect will be that "out of square" or "out of rectangle" blocks can appear below the JND, the "Just Noticeable Difference" (in size and shape). If slightly irregular squares, rectangles, or hexagon blocks are installed tightly together, the blocks might appear slightly above the JND, and you might deem them un-useable or unacceptable for your project.

Running bond patterns of both rectangles and squares can easily be created below the JND. However, due to slight size variation, you should "open an installation of square blocks" even slightly if a tile pattern is required. The four points of the four blocks must meet. Therefore, square blocks must be carefully placed during installation. All voids created from spacing can be easily filled during the finishing process.

KASWELL LIMITED WARRANTY

Seller warrants for a period of two years from date of delivery that Kaswell flooring is free from defects, which makes the flooring not fit for use for which they are normally intended. Seller's only obligation during this warranty period is, at its sole option, to either repair, replace, refund or credit the purchase price of the flooring, or part thereof, found to be so defective. At the conclusion of this warranty period, Seller shall be under no further obligation whatsoever. This warranty is void in the event of negligence, abuse, abnormal usage, misuse, accidents, improper installation, improper maintenance, or any circumstances or conduct beyond the control of the Seller, most particularly job-site conditions. Seller is not liable for consequential damages arising out of or in connection with the sale or use of Kaswell wood flooring including, but not limited to, all labor and/or material charges or loss of income or profit relating to the goods in any way whatsoever.

CONDITIONS OF SALE

All pricing is per sq. ft. or surface measure with no milling or cutting waste figured.
All orders are subject to availability of stock for prompt delivery.
Special orders are non-cancelable and non-refundable.
A 15% restocking and handling charge is applicable on all authorized returns.