



## Pavé End Grain Panels

revised 7/2020

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

Douglas Fir	Iroko	Tigerwood
Hevea	Oak-Red	Wenge
Guatambu	Oak-White	

**!** 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 condition. Be sure that our end grain blocks, planks, strips, or panels 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.

### 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.** 2<sup>3</sup>/<sub>4</sub>" x 2<sup>3</sup>/<sub>4</sub>" face size blocks on panels are available in 1/2" depth. They are factory sanded to 150-grit screen before packaging. The panels can be sealed with one application of Woca Master Oil, or one application of Woca Pre-color before packaging and shipping. See [woodcareusa.com](http://woodcareusa.com) for more information about Woca Oil finishes for wood flooring. The blocks on panels are dried to 8-10%. All panel blocks must be allowed to acclimate or adjust to your specific room condition. Only after HVAC systems are operating normally and assuming a room temperature between 65°F and 75°F, then open cartons or cut the cardboard sides to expose the panels to jobsite conditions. Spread panels if possible, and carefully. Do not store panels where humidity is abnormal.

## ACCLIMATION FOR ALL KASWELL INTERIOR WOOD FLOORING PRODUCTS

The purpose for acclimating wood block is to allow the moisture content of the wood 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 Pavé panels are delivered, the jobsite 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.

Acclimation must include removal of panels from cartons or boxes. Acclimation will be faster if the panels are spread out and spaced.

If conditions are not stable, acclimation may be harmful to the installation. For example, acclimation could dry the block too low if the humidity were too low. In so doing, you might install the block 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 brought to a jobsite 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.

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.



*Acclimation of pavé panel blocks*

Humidity maintained at or below 25-30% can adversely affect wood components and result in an EMC below 6%. 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 block flooring on the same day.

### CHECK CONCRETE SUB-FLOOR

The sub-flooring should be depressed corresponding to the depth of the block 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/flashed. We recommend low areas be filled with the chosen mastic, and not with a cementitious material. 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 blocks. A test should be made with your chosen adhesive and several of our blocks before beginning the installation. Check with us about your particular condition.

### WOOD SUB-FLOOR

Wood blocks 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 blocks are to be installed on an existing synthetic floor or raised computer floor system, ½" minimum plywood or hard-board underlayment should be added, glued and screwed to the synthetic surface.

### EXPANSION VOID

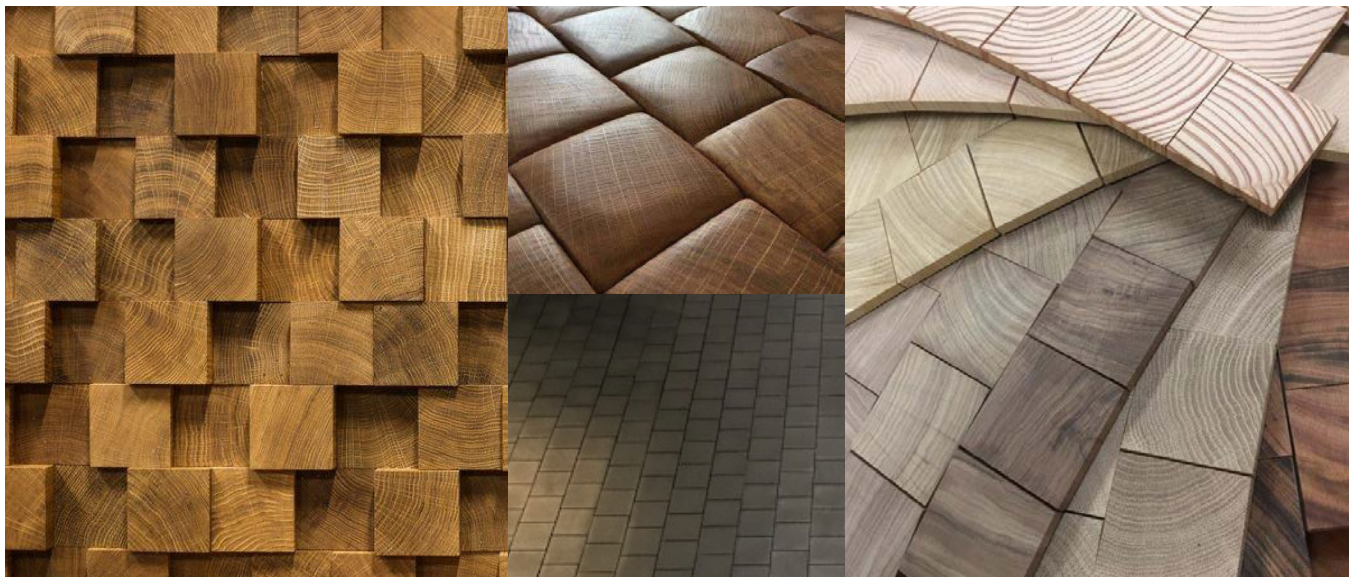
Cork strips ½" to 1-½" should be used against all walls and columns, unless concealed by shoe moldings or other base. Place temporary wooden strips along the walls and columns

equal to the width of the void to be created. After installing blocks flush to the strips, and at the end of the day remove the temporary strips, leaving a uniform void for expansion. In aisle ways and other narrow areas where blocks meet carpet or other flooring, the expansion void can be omitted. Schluter strips should be used at block edges against carpet or other adjacent flooring materials.

**PLEASE NOTE: PAVE PANELS HAVE A CUSTOMIZED ADHERING METHOD FOR GLUING TO THE SUBFLOOR. PLEASE CONTACT US PRIOR TO INSTALLATION FOR FURTHER EXPLANATION OF THIS PROCESS.**



*Applying mastic*



## APPLYING MASTIC FOR PAVÉ PANEL BLOCKS

**NOTE:** Be sure flooring has been accepted before gluing in place. **Use mastic from tubes or sausages only\***. Store mastic tubes for 72 hours at room temperature. Be sure the subfloor is clean and free of dirt or other contaminants that could affect bond. Apply a dollop of mastic in all membrane holes (at the bottom) with a caulking gun so that every block is then glued to the subfloor with mastic. Follow mastic manufacturer's instructions for open time. Place panel mastic-side down on to the sub-floor and press firmly. We suggest gluing one panel and checking overnight for bond with subfloor prior to installation.

**\*We recommend the following mastics, in tubes or sausages from, Bonakemi, Bostik, Fortane, Loba, Mapei or Sikaflex.**

## INSTALLING PANEL BLOCKS

Be sure panels are well mixed before beginning installation. If panels are not mixed some clustering may result. Continue to mix panels. Place panels with mastic on to sub-flooring, maintaining square-ness. Place the first panel in a corner parallel and tight to a temporary lumber filler. Precision manufacturing will allow placement of adjoining panels as close as possible to the next panel. The lines created from each panel must be kept straight and parallel, and an effort should be made to create a lap of at least 3-4 blocks. Straight lines in two directions cannot be created with square blocks on membrane. We suggest rolling the surface with a 70-100 lb. wood floor roller during installation.

## SCREENING AND FINISHING

Panels are provided factory sanded to 100 grit. After panels have been placed in mastic, and after the mastic has "set up", usually over one night only, the flooring is ready to be finish sanded, and screened before finishing. If the sub-floor was flat and level, and if the mastic application was uniformly applied, sanding should be minimal. See our Master Specification, page 5 for more sanding detail if needed. When all blocks are flat and smooth one panel to the next, the flooring is ready for oiling, filling, and additional oiling.

## 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



*Grouting*



*Application of Woca Oil*



*Applying Woca Oil using lambswool applicator*

after each application. The oil is applied and re-applied 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.

## PLEASE FOLLOW ALL WOCA OIL FINISH INSTRUCTIONS:

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 hold-out 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.

**! 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 coverage 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 Lead 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](http://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 damp 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 jobsite. 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, loose 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.