



## ENGINEERED HARDWOOD FLOORING INSTALLATION INSTRUCTIONS

**IMPORTANT!** Adhesive/masking tape applied directly to hardwood floor surface will damage the factory finish and void the manufacturer warranty.

### **Protection During Construction or Remodeling**

If your hardwood flooring is installed while other trades are working at the jobsite, or afterwards, when doing any kind of remodeling or wall painting, it should be completely covered by a clean, dry, plain uncoated cardboard or heavy bond paper product.

Do not cover McMillan hardwood floors with plastic, red rosin, felt, wax paper or previously used cardboard. Damage to the factory finish caused by the use of improper floor covering materials will void the manufacturer warranty.

Before covering the hardwood flooring, it should be cleaned to remove grit, dust and other abrasive debris and thoroughly dry.

Do not use a wet cloth or wet mopping to remove drywall dust as doing so will create a pasty residue that will damage the factory finish and void the manufacturer warranty.

When covering the hardwood flooring area, the proper covering material should be overlapped 4 inches to the adjoining paper, secured with masking tape applied to the covering material only and then secured at perimeter walls or baseboards to prevent the covering from moving or shifting, and ensure that the tape itself, construction debris, dry wall dust and/or wet paint does not penetrate to the flooring below.

**Installation is the responsibility of the Homeowner, Installer, Turnkey Retailer, and Contractor. McMillan Flooring assumes no liability for any installation. It is the responsibility of the installer to ensure the job site conditions and method/manner of installation meets all criteria acceptable to The National Wood Flooring Association (NWFA) as well as those listed in these instructions. Only a qualified professional hardwood flooring installer should perform your hardwood flooring installation. These installation guidelines should be followed carefully to ensure the proper installation of your new McMillan hardwood floor.**

### **Adhesive Requirements**

*Only a moisture cured MS Polymer adhesive approved (DriTac 7800, Mapei 985 and Bostik Green Force) for hardwood floor installation is acceptable. The use of a cheaper brand flooring adhesive or other glue not approved for use with hardwood flooring will lead to flooring failure and void the manufacturer warranty.*



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***Do not use oil-based wax, oil soap, mineral oil, polish or other household cleaners or dusting products on oil finished hardwood floors.***

### **PRODUCT INSPECTION**

Beautiful hardwood floors are a product of nature and therefore, are not perfect. McMillan hardwood floors are manufactured in accordance with accepted industry standards, which permit a defect tolerance not to exceed 5%. The defects may be of a manufacturing or natural manner.

It is strongly suggested that upon delivery of product to the jobsite, two or three boxes be opened and laid out before the end user. The end user/homeowner should compare the contents of each box to their floor sample to verify that it is the expected product. If there is any discrepancy between what was expected/purchased and the actual product received, **DO NOT PROCEED WITH THE INSTALLATION!** Notify the retailer, dealer, contractor, immediately.

Individual wood products may vary due to dye lot changes in the staining process. McMillan Flooring cannot honor claims due to a lack of on-site product inspection/acceptance by the homeowner/purchaser.

The homeowner/installer should perform a final inspection of the boxes to check on manufacturing and factory finish of the delivered product. The installer must use reasonable selectivity and hold out or cut off pieces with defects, whatever the cause. McMillan hardwood shall not accept responsibility for the installation of flooring with visible defects. The use of stain, filler, or putty stick for the correction of minor defects during installation should be accepted as normal procedure.

Before installing McMillan hardwood flooring, the installer and homeowner should verify that the jobsite and sub floor conditions meet all installation requirements as outlined here. Our Limited Warranty does not cover flooring failures resulting from poor jobsite and/or poor sub floor conditions.

### **CAUTION: WOOD DUST!**

The International Agency for Research on Cancer has classified wood dust as a nasal carcinogen. The sawing, sanding, and/ or machining of wood products can produce wood dust that can cause respiratory, eye, and skin irritations. Equipment should be equipped with a dust collector to reduce airborne wood dust. Wear an appropriate NIOSH designated dust mask to reduce exposure to airborne wood dust. Avoid contact with eyes and skin. In case of irritation, flush eyes or skin with water for at least 15 minutes. In cases of severe irritation; seek immediate medical attention.

### **PRE-INSTALLATION & JOBSITE REQUIREMENTS**



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All issues involving water or moisture should be resolved prior to the installation of McMillan hardwood flooring. In fact, for any new construction or remodeling project, pre-finished hardwood flooring should be one of the last items installed. As a general rule, the jobsite should be monitored for consistent, normal room temperature between 60° and 80°F and relative humidity between 30% and 50% and acclimate as necessary. Failure to maintain proper temperature and humidity levels may cause damage to your McMillan hardwood floor. Such damage would not be covered under McMillan limited warranty. McMillan hardwood flooring must not be stored directly on concrete or near outside walls. It is not recommended to install McMillan oiled hardwood flooring in areas subject to repeated moisture, such as bathrooms, laundry rooms, or kitchens.

McMillan hardwood floors are recommended for interior and residential installations, on grade, above grade, and also below grade applications. If installing your hardwood flooring below grade, such as a basement, a floating installation is recommended along with proper consideration for possible moisture issues, including the use of a fully warranted moisture barrier between the subfloor and the McMillan hardwood flooring product.

**McMillan hardwood flooring is not warranted over radiant heat.**

### **ACCLIMATION PROCESS / JOBSITE CONDITIONS**

Do not open cartons of McMillan hardwood flooring until the day of installation.

Always store cartons on a flat surface. Protect the cartons from moisture. The jobsite should have a consistent room temperature of 60° and 80°F. The relative humidity should be maintained between 30% and 50%, before, during and after installation. Do not open the boxes or take the planks out until the wood floor is acclimated and ready to be installed. This process may take several days. Room temperature and humidity level in the installation environment is a major part of the acclimation process. The humidity level must stay consistent during the life of the wood floor. Wider boards and product with 5mm wear layer will require a longer acclimation time. We recommend having such product on-site, in a controlled environment at least one week prior to beginning the installation.

Never have flooring material delivered to a jobsite that does not have doors and windows installed. Also, all “wet work” i.e. painting, drywall, concrete, masonry, plumbing must be complete and dry well in advance of delivery of hardwood flooring. Gutters and downspouts should be in place and the exterior grade complete to allow for proper drainage of water away from the building’s exterior perimeter. Flooring should not be exposed to extremes of humidity or moisture. Permanent HVAC should be on and operational a minimum of 5 days prior to having the hardwood flooring delivered and maintained between 60° and 80°F and a relative humidity of 30% to 50% prior to delivery, during, and after installation of the flooring.

It is the installer/ owners’ responsibility to ensure that the jobsite conditions and jobsite subfloor are environmentally and structurally acceptable prior to the installation of any hardwood flooring. McMillan Hardwood declines any responsibility for failures or deficiencies of



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hardwood flooring resulting from or related to sub-floor, subsurface, or job-site environmental conditions.

### **Acceptable Subfloor Types**

CDX Plywood

Concrete – With a minimum compression strength of 3000 PSI

OSB/Particleboard – Must be structurally sound. Floating installation only.

### **Subfloors**

Subfloors must be clean and free of dirt, curing compounds, sealers, drywall mud, paint, wax, grease, urethane, or other materials that may affect the integrity of the flooring material or adhesives used to install the flooring. All subfloors must be flat to a maximum height variation of 1/8" in a 6' radius or 3/16" in a 10' radius, dry, and structurally sound.

### **Concrete Subfloors**

Concrete slabs should be of high compressive strength and constructed to prevent groundwater from permeating the concrete. All acceptable concrete slabs are those which have been cured for at least 60 days and have a minimum 6mil poly film moisture barrier between the ground and the concrete.

Acceptable moisture tests for concrete slabs include:

**Calcium Chloride test.** A moisture transfer reading that exceeds 3lbs/1000 square feet with this test requires the use of a warranted moisture barrier. Do not install McMillan Hardwood over any slab that gives reading over 6lbs/1000 square feet.

**Tramex concrete moisture encounter meter.** Moisture reading should not exceed 4.5 on the upper scale.

**Relative Humidity probe test** with a maximum reading of 75%.

***Perform at least three tests in different areas of the first 1000sf and one more for each 1000sf after that.***

**Remember:** A "DRY" SLAB, AS DEFINED BY THESE TESTS CAN BE WET AT OTHER TIMES OF THE YEAR. THESE TESTS DO NOT GUARANTEE A DRY SLAB. ALL CONCRETE SLABS SHOULD HAVE A MINIMUM OF 6-MIL POLY FILM MOISTURE BARRIERS BETWEEN THE GROUND AND THE CONCRETE.

Grind high spots or use a Portland-cement based leveling material (minimum compressive strength 3000 psi) to fill all low spots to a maximum height variation of 1/8" in a 6' radius 3/16" in a 10' radius. Follow the leveling compound manufacturer's instructions. Leveling compounds must be allowed to thoroughly cure and dry prior to installation of wood flooring. McMillan engineered hardwood flooring can be installed on, above, or below



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grade. In addition, it can be installed over above-ground, suspended concrete floors. The suspended concrete must be a minimum of 1-1/2" thick and must be structurally sound. The exception to this is lightweight concrete (which usually contains high amounts of gypsum) having a density of 100 pounds or less per cubic foot. Test for lightweight concrete by using a nail to scratch the surface of the concrete. If the concrete crumbles or turns to powder, it is not sound and you should **NOT** glue down the hardwood flooring. Instead, use the floating installation method only for lightweight concrete subfloors.

### **Wood Subfloors**

Test wood sub floors and wood flooring for moisture content using a pin-type moisture meter. Take readings of the subfloor – minimum of 20 readings per 1000 sq. ft. and average the results.

In most regions, a “dry” subfloor that is ready to work on has a moisture content of 12% or less and the wood should be within 4% of the subfloor moisture content for engineered floors, 2% for solid hardwood floors.

Basements and crawl spaces must be dry. Use of a 6 mil black polyethylene is required to cover 100% of the crawl space earth. Crawl space clearance from ground to underside of joist to be no less than 18" and perimeter vent spacing should be equal to 1.5% of the total square footage of the crawl space area to provide cross ventilation.

The subfloor must be flat, meeting a maximum height variation of 1/8" in a 6' radius or 3/16" in a 10' radius. All subfloors and subfloor systems must be structurally sound and must be installed

following local building codes. Keep in mind that local building codes may only establish minimum structural requirements of the subflooring system and may not provide adequate rigidity and support for proper installation and performance of a hardwood floor. Check the subfloor for any loose areas and secure them down to minimize the chance for squeaking. Whenever possible install the planks perpendicular to the floor joists for maximum stability. The

**McMillan Flooring warranties DO NOT cover any problems caused by inadequate substructures or improper installation over said substructures.**

Subfloor panels should conform to U.S. Voluntary Product Standard PS1-07, Construction and Industrial Plywood and/or US Voluntary PS 2-04 and/or Canadian performance standard CAN/CSA 0325.0-92 Construction Sheathing. Other CSA standards also apply.

**Acceptable Panel Subfloors:** Truss/joist spacing will determine the minimum acceptable thickness of the panel subflooring. On truss/joist spacing of 16" o/c or less the industry standard for single panel subflooring is minimum 5/8" 19/32", 15.1 mm) CD Exposure 1 subfloor panels, 4x8 sheets. On truss/joist spacing of more than 16", up to 19.2" (488mm) o/c, the standard is nominal 3/4" (23/32", 18.3 mm) T&G CD Exposure 1 Plywood subfloor panels, (Exposure 1) or nominal 3/4" 23/32", (18.3mm) OSB Exposure 1 subfloor panels, 4'x8' sheets,



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glued and mechanically fastened. Truss/joist systems spaced over more than 19.2" (488mm) o/c up to a maximum of 24" (610mm) require minimum 7/8" T&G CD Exposure 1 Plywood subfloor panels, (Exposure 1), or minimum 7/8" OSB Exposure 1 subfloor panels, 4'x8' sheets glued and mechanically fastened – or two layers of subflooring or brace between the truss/joist in accordance with the truss/joist manufacturer's recommendations and with local building codes.

Some truss/joist systems cannot be cross-braced and still maintain stability. For existing wood floors, install new flooring at right angles to the existing flooring. Do not glue, staple, or nail down hardwood flooring over particle board. Floating application is acceptable (products 4" or wider). Do not glue down new flooring over existing glued down hardwood floors.

### **Blending of Cartons**

To achieve a uniform appearance across the entire floor, we highly recommend that you open and work from several cartons of McMillan hardwood flooring at a time and drylay the flooring, mixing the planks from several cartons. This will allow you to blend the planks for maximum aesthetic appearance. It is imperative that you make certain the room is well lit to ensure color is consistent and that any visual defects can be seen and removed.

### **Expansion space**

Expansion space around the perimeter is required and should be equal to the thickness of the flooring material. For floating installation the minimum is 1/2" regardless of the thickness of the material. For commercial installations use a minimum of 1/2" expansion.

### **For oil Finish products:**

#### **VERY IMPORTANT:**

All McMillan oil finished floors listed above are finished with WOCA oil products and must be maintained only with WOCA cleaning and maintenance products. Use of any other products may void your warranty.

**Your McMillan Hardwood Floor comes finished from the factory, fully saturated with hard-wax oil. As a result, its not required to apply maintenance oil immediately following installation, though regular annual oiling still applies, its required after installation to clean the floor using WOCA Oil Refresher Natural or, for the white colors, WOCA Oil Refresher White.**

**See the WOCA website ([www.woodcareusa.com](http://www.woodcareusa.com)) for more details and instructional videos.**