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### **Gluing Ten Oaks Hardwood Flooring Directly to Concrete**

The glue down method is appropriate where height allowances are less than 1” and no additional wood subfloor can be added to the finished site. This setting is appropriate in above ground concrete slab construction that is on or above grade. When installing Ten Oaks Hardwood Flooring with this method, we recommend using Wakol adhesive products for installation.

Along with Ten Oaks Flooring’s LEED credits MR-5.1 and MR-5.2, Wakol products qualify for LEED Credit EQ-4.1: Low-Emitting Materials Adhesives and Sealants. The suggested Wakol PU 280 Moisture Barrier and the Wakol MS 260 Adhesive qualify for these LEED credits with their zero V.O.C content.

For technical information about Wakol products, please contact the manufacturer at (800) 230-6456 or find information available online at [www.loba-wakol.com](http://www.loba-wakol.com). For more information about your Ten Oaks Hardwood Flooring, please contact your Ten Oaks Hardwood Flooring Distributor or visit our website online at [www.tenoaksflooring.com](http://www.tenoaksflooring.com).

#### **Subfloor Preparation**

The subfloor should be clean, dry, sound, and flat before any flooring installation is possible. Additional moisture content and pressure testing is necessary with concrete slab installations. Subfloors should meet all NWFA recommendations for determining subfloor condition prior to installation. Please read these manufacturer instructions completely before installation.

#### **Moisture Content**

With wood flooring installation over concrete, moisture content testing is necessary to determine approved subfloor conditions. Although Wakol adhesives can be used on concrete slabs measuring 3 lbs or less vapor transmission, we recommend adding an appropriate primer and/or moisture barrier under any type of floor. For these installations and slabs with higher moisture content, we recommend using Wakol PU 280 Moisture Barrier prior to adhesive application. One coat of Wakol PU 280 protects up to 12 lbs. or 2 coats protects up to 18 lbs. as measured by calcium chloride tests. Slabs with moisture content over these recommendations are not suitable for glue down installation.

## **Radiant Heat Subfloor Preparation**

For radiant-heat slabs, the moisture content is not to exceed 6 lbs. even with a moisture barrier, like the Wakol PU 280 Moisture Barrier. A pressure test must also be completed and documented by a qualified plumber or system installer with all water-heated radiant-heat systems prior to installation of Ten Oaks Hardwood Flooring.

Also, the surface of the radiant heated slab must not exceed 85°F/25°C. For more information on installation over radiant heat, continue reading and/or contact your Ten Oaks Hardwood Flooring Distributor.

## **Acclimation**

Traditionally, solid hardwood flooring must be acclimated and stored in a controlled climate once the flooring has reached the jobsite. With Ten Oaks' Six-Side-Seal Protection, our flooring does not have to be acclimated prior to installation.

## **Installing Ten Oaks Hardwood Flooring Over a Concrete Slab**

1. Determine the moisture content of the slab using the Calcium Chloride Test (ASTM F-1869). This process recommends testing three areas per 1000 sq/ft and one test for each additional 1000 sq/ft. Follow all NWFA guidelines on testing moisture content of concrete slabs.
2. After determining the moisture content of the slab, we recommend applying an appropriate moisture barrier sealant, such as a coat of Wakol PU 280 Moisture Barrier. Using a roller to cover the designated area, apply sealant at a coverage rate of approximately 400 sq/ft per gallon. Make sure to cover the designated area completely without puddles or gaps. Allow the sealant dry approximately one hour. If needed for additional moisture protection, apply a second coat cross-directionally. Curing time for each layer is approximately 40-50 minutes.
3. For the starting and ending boards, we recommend using an additional adhesive, such as Wakol MS 245 Montinator Adhesive cartridges. This adhesive is actually an MS polymer adhesive in an easy to use cartridge and contains no water.
4. Continue installation across floor with wood flooring adhesive and a notched trowel. We recommend using Wakol MS 260 Adhesive and spreading with a solid strip trowel, like the Wakol B3 or B5 design. Take care to immediately wipe away any adhesive that may seep through each joint. The Tongue-and-Groove design will be adversely affected by excess adhesive between the joints.
5. We recommend allowing 24 hours of curing time for your flooring adhesive, like the Wakol MS 260 Adhesive and the additional Wakol MS 245 Montinator Adhesive.

## Installing Ten Oaks Flooring Over Radiant Heat

1. Determine the moisture content of the slab using the Calcium Chloride Test (ASTM F-1869). This process recommends testing three areas per 1000 sq/ft and one test for each additional 1000 sq/ft. For radiant heat slabs, the moisture content is not to exceed 6 lbs. even with a moisture barrier, like the Wakol PU 280 Moisture Barrier. Follow all NWFPA guidelines on testing moisture content of concrete slabs. Once this test is complete, it may be a good idea to allow the heating system to run for a week before installation to allow residual moisture to be driven out before installation begins.
2. Once the slab is dry, the system must be turned off at least 24 hours before installing. The surface temperature for installation must be between a minimum 60°F or 15.5°C and maximum 68°F or 20°C. This process ensures that the adhesive will provide the necessary time to install the floor before beginning to set. During installation, occasionally lift a newly installed plank to ensure at least 90% adhesive transfer.
3. After determining the moisture content of the slab, we recommend applying an appropriate moisture barrier sealant, such as a coat of Wakol PU 280 Moisture Barrier. Using a roller to cover the designated area, apply sealant at a coverage rate of approximately 400 sq/ft per gallon. Make sure to cover the designated area completely without puddles or gaps. Allow the sealant to dry approximately one hour. If needed for additional moisture protection, apply a second coat cross-directionally.
4. For starting and ending boards, we recommend using an additional adhesive, such as Wakol MS 245 Montinator Adhesive cartridges. This adhesive is actually an MS polymer adhesive in an easy to use cartridge and contains no water.
5. Continue installation across floor with wood flooring adhesive and a notched trowel. We recommend using Wakol MS 260 Adhesive and spreading with a solid strip trowel, like the Wakol B3 or B5 design. Take care to immediately wipe away any adhesive that may seep through each joint. The Tongue-and-Groove design will be adversely affected by excess adhesive between the joints.
6. We recommend allowing a minimum of 24 hours for curing process of your adhesive, like the Wakol MS 260 Adhesive and the additional Wakol MS 245 Montinator Adhesive. After installation, the heat must be raised gradually any time the system is turned on so moisture that was collected in the floor while the system was off will dissipate gradually and the movement of the floor will be minimal.