

hardwood floors

THE MAGAZINE OF THE NATIONAL WOOD FLOORING ASSOCIATION

OCT / NOV 2020

nwfa

2021 INDUSTRY OUTLOOK



N.O.W. ONLINE
EVENT PREVIEW

FLOATING A WOOD FLOOR

AT THE SITE

INSPECTOR'S REPORT:

THE NEED TO UNDERSTAND THE FLOORING INSTALLATION SYSTEM



With more than 40 years in the flooring industry, and more than 25 years as a practicing inspector, FloorWorks Inspection Services has expanded into more “consultive” services. In addition to teaching/consulting for my regional Home Builders Association, my company assists flooring contractors, general and restoration contractors, and homeowners in preventing and/or resolving flooring issues.

Many general/restoration contractors opt to perform the installation of a replacement wood floor after an insurance loss for a number of reasons (e.g., controlling costs and/or timelines, and maximizing profits). However, issues can arise when attempting to undertake the replacement of a wood floor without understanding the installation requirements, including jobsite conditions.

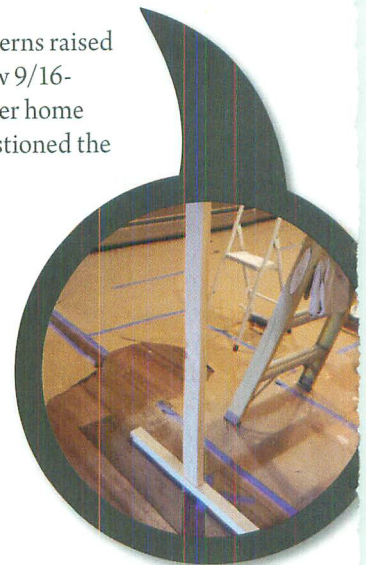
For example, there is always a concern when I see 2x4 “trees” braced against a ceiling in an attempt to hold the newly installed floor down.

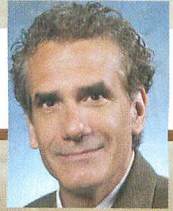
A recent job I was asked to inspect dealt with concerns raised by a homeowner following the installation of a new 9/16-inch thick multi-width engineered plank floor in her home following a water-loss incident. The customer questioned the notable degree of noise (i.e. creaking/crackling) and deflection when the newly installed floor was walked across. It was reported this noise did not exist with the previously installed 3/4-inch thick by 2-1/4 inch wide solid hickory hardwood floor.

Photos provided by the homeowner during the remediation/restoration process confirmed a screed/sleeper system had been previously set/adhered with a black mastic adhesive/tar. The original 3/4-inch hickory flooring was installed directly over the screeds/sleepers.



ALL PHOTOS COURTESY OF ANDREW FRONCZEK





By Andrew Fronczek

Photos of the installation process and on-site observations confirmed the new 9/16-inch thick engineered floor had been installed directly over perpendicular 2x4-inch screeds/sleepers. These sleepers appeared to be installed at 8 to 12-inch intervals, which was confirmed with magnetic discs when the fastening schedule was verified.

The homeowner's statement of work (e.g., contract) referenced adhering the new screeds to the concrete subfloor with mastic and powder-actuated fasteners. The new flooring was to be secured to the screeds/sleepers with adhesive and fasteners.

Although the overall appearance of this floor, when viewed from a standing position, appeared in good condition, slight movement/deflection was felt to varying degrees throughout this installation when walked across. Additionally, some squeaking/creaking could also be heard in the areas with the most pronounced movement. When uninstalled boards were

examined, the lengthwise joint match of these samples was fairly snug and held together by the mechanical fit of their tongue and groove.

Subfloor flatness could not be assessed, but the flatness of the installed engineered floor was measured with a 6 and 10-foot straight edge and taper gauge. Overall flatness was found to be within 3/16 of an inch in 10 feet (1/8 of an inch in 6 feet), except for 3-4 of the most pronounced areas of noise/deflection, which were measured to be between 1/8 of an inch in 2 feet and slightly more than 3/16 of an inch in 3 feet.

A vapor retarder between the screeds/sleepers could not be confirmed. There was no indication of adverse moisture conditions given that both the installed and uninstalled planks were exhibiting similar moisture readings that were within expected ranges for this home's temperature and humidity levels.

Engineered Flooring System

An alternative to solid hardwood flooring – Only from Union Tool



The Union Tool Corporation offers a complete material handling and coating system for laminating engineered flooring. Count on Union Tool for your next engineered flooring system.

- Includes a hot melt roller coater, lay-up conveyor and multi-nip roll machine.
- The hot melt roller coater applies a controlled and consistent amount of (PUR) adhesive.
- The lay-up conveyor allows a piece of lamella to be placed on top of the coated core.
- The multi-nip roll machine is then used for pressing and holding the two pieces together.

Get the whole story at www.uniontoolcorp.com



The Union Tool Corporation

www.uniontoolcorp.com

574-267-3211

E-mail: sales@uniontoolcorp.com

AT THE SITE

The Need to Understand the Flooring Installation System (Continued)



The flooring manufacturer's installation guidelines stated this product can be fastened down, glued, or floated (with an approved underlayment) over a wood subfloor; or this floor may also be glued or floated (with an approved underlayment and vapor retarder). The manufacturer's guidelines also stated that the subfloor should be flat within 3/16 of an inch in 10 feet, or 1/8 of an inch in 6 feet. These guidelines did not reference installing this product over a screed/sleeper system. The manufacturer's technical services department did state that a professional installer may choose to install over screeds/sleepers as long as they follow industry-approved guidelines (e.g., NWEA). This is where the dilemma begins.

In this instance, NWEA's Problems, Causes, & Cures (2018) addresses noise and deflection issues with regards to a wood floor installed over a sleeper system to potentially be related to the screed/sleeper system, out-of-flatness tolerances, and/or the substrate not being flat to within required tolerances. However, to truly understand the issues with this installation, we need to look deeper into the NWEA's Installation Guidelines (2019).

Installation Guidelines have been abbreviated for the context of this article. Please refer to the complete guidelines located online at NWEA.ORG/TECHNICAL-GUIDELINES/.

NWEA's Installation Guidelines state that only 3/4-inch thick solid (e.g., similar to that which was previously installed in this home prior to the water loss incident) and engineered flooring can be installed directly over screeds/sleepers that are no more than 8-inches apart. These guidelines further state that engineered wood flooring less than 3/4-inch thick (as is the case with this floor), any solid or engineered wide plank floor (>5 inches wide), and solid thin-classification strip flooring (including 1/2-inch thick) should be installed over screeds/sleepers no more than 12 inches apart and overlaid with a 23/32-inch plywood/OSB. Furthermore, the concrete subfloor flatness over which the screeds are being placed must be within 1/8 of an inch in 6 feet, or 3/16 of an inch in 10 feet. Alternatively, if subfloor thickness is an issue, then a double layer wood panel floor should be considered.

In summary, this failure resulted from installing a plank floor that was less than 3/4-inch thick over screeds (without a subfloor) and not flattening the concrete subfloor adequately.

The lesson of this unfortunate event, regardless of your background and experience, is not assuming that all installation methods apply to all flooring types. Consulting the manufacturer's guidelines and/or industry standards is critical to a successful installation. ■

Andrew Fronczek, an NWEA CWFI, CI, and CSA, is the President/Owner of FloorWorks Inspection Services in the Greater Cleveland Area of Ohio. He can be reached at help@inspectmyfloor.pro.