Installation Expertise with Tim McAdoo

What Is A Hardwood Expansion Zone and Why Is It Needed

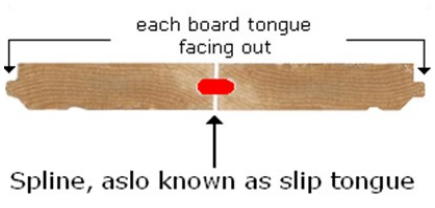
The Expansion zone is hardwood flooring is the space left around the perimeter of rooms, against fixed objects such as columns, thresholds, hearths, baseboard, and other stationary items built or secured into the framing structure of the home. Even though hardwood flooring used is no longer living and breathing it still reacts to moisture changes in the environment. The cells in the hardwood will take on or absorb moisture when the relative humidity is high, or when exposed to water. Expansion takes place, and the hardwood grows across the grain (width) of the plank. When air moisture levels decrease, moisture content evaporates, causing shrinking with the hardwood.

When we say expansion space, this is defined as installing the hardwood flooring up to and away from the fixed objects or other stationary flooring material such as ceramic tile. When Fitting up to things like fireplaces, it may take undercutting these areas to accommodate the proper expansion zone, or by leaving the required expansion and caulking the expansion zone with a colored silicone caulk or by covering with the the use of a molding

Solid Hardwood Floors

Solid hardwood floors by far, will expand and contract more than engineered products. How much will depend on the manufacturer of the hardwood. Most solid hardwood (3/4″, 7/16″, or 5/16″ solid) manufacturers recommend a 3/4″ expansion zone around any fixed object. Just because shoe molding was sold with the job, does not mean that is the required expansion zone.

Solid hardwood flooring will expand more in the direction of the tongue and across the face of the product. In large layouts (greater than 20-25 feet in width) it may suggested to start your installation near the center to offset the expansion properties. The use of slip tongues or splines would be used to reverse the direction; having the flooring installed with the tongue facing out both ways from the center.



Installation Expertise with Tim McAdoo

Splines may also come be used when reversing the direction of the installation. In some cases you may have most of your installation going forward (tongue facing out) through the house. Other areas may fall behind you, requiring a direction change with the tongue facing out. Solid hardwood floors should not be fastened through the groove. Another area where splines may be used would be starting or running an installation off stair nosing. Stair nosings have the groove milled into them.

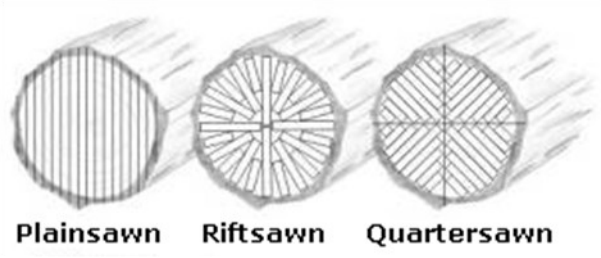
Engineered Hardwoods

Glue down and mechanically fastened engineered hardwood flooring does not require the overall expansion area solid products need due to the way they are constructed in cross ply layers similar to plywood. Expansion and contraction is limited as the ply layers act to restrict the movement in the overall product itself, but still require an expansion zone.

Floating engineered hardwood floors once installed basically become one large sheet of flooring. The entire unit will expand and contract as a whole. You are beginning to see more and more floating engineered hardwood installations require larger expansion zones and even some are now requiring t-moldings in doorways on large installations.

What Kind of Log Cut Makes A Difference

Another wrench thrown into the equation lies in how much each type of hardwood species will expand and contract without any reference to the moisture level changes. Much can depend on the way it is cut from the tree. Most solid hardwoods sold today are considered flat or plain sawn, where the expansion takes place across the grain when installed.



Installation Expertise with Tim McAdoo

Keep in mind, many factors can affect the expansion and contraction of hardwood floors. Maintaining a stable level of relative humidity in your residence will minimize movement. Installing floors in warmer more humid conditions combined with dry winter heating months can prove troublesome, unless some precautions are taken.

Stabilizing the environment will reduce the amount of movement the hardwood flooring will experience. Here is the statement from the NWFA on environmental conditions;

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 to 50 percent and a temperature range of 60° to 80° Fahrenheit. (In some climates, the ideal humidity range might be higher or lower – 25 to 45 percent or 45 to 65 percent, for example.)

Acclimation of the product under the right conditions will also have an effect on the dimensional change of the hardwood flooring. Again, per the NWFA;

NOTE: Not properly acclimating wood flooring may cause excessive expansion, shrinkage, dimensional distortion or structural damage.

The point of acclimating wood flooring before installation is to allow the moisture content of the wood to adjust to the installation site's "normal living conditions" — that is, the temperature, humidity conditions and moisture content that will typically be experienced once the structure is occupied.

Installation Expertise with Tim McAdoo

About Tim McAdoo:

Tim is a certified instructor for Armstrong, Avaire, Konecto and Starloc products an has been a member of the Armstrong Installation Training Team since 1984. Tim has highly developed installation skills and qualifications that have been combined over his 32 years in the floor covering industry. Tim is privy to all the latest innovations and techniques used in the installation of their products.

We are sure you will find your skills improved after attending one of his installation courses.

To view a complete list and register for one of Tim's installation trainings, click here on the QR or visit: http://www.jjhaines.com/for-customers/installation-training/

CONTACT TIM
tmcadoo@jjhaines.com
410-903-2930