CHAPTER 8
ENGINEERED WOOD FLOORING INSTALLATION

Part I - Acceptable Jobsite Conditions and Jobsite Checklist

A. Refer to Chapter 1

Part II - Acclimation Guidelines

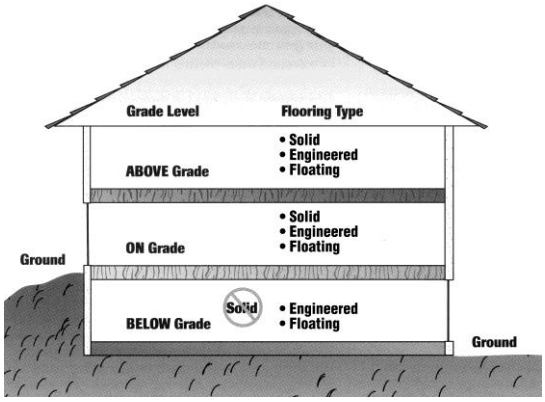
A. See Chapter 2 and Appendix B.

Part III – Appropriate Grade Levels

A. Engineered wood floors can be installed successfully on, above or below grade level. Engineered wood floors can be installed directly to concrete or wood subfloor.

B. The entire flooring level is considered to be BELOW grade where soil is present along any perimeter wall and is more than 3" above the installed wood flooring level. Ground should be sloped away from the house for proper drainage. (Check local building codes. Local building codes prevail. Follow local building codes.)

Grade Level diagram



If the soil surrounding a structure is 3 inches or more above the floor of any level, consider that level below grade. This includes walk-out basements. In addition, the surrounding soil should be sloped away from the structure.

Part IV - Subfloors – Wood Joist Systems

A. See Chapter 4.

Part V - Subfloors – Concrete Slab

A. See Chapters 5-6.

Part VI – Engineered Flooring Installation Methods

A. Engineered wood flooring can be installed directly to screeds, provided the engineered flooring is a minimum of ¾" thick. For engineered flooring less than ¾" thick, the screed system must be overlaid with proper subflooring. See Appendix I, Installation Over Screeds.

B. Note on random-width plank

1. Random-width plank is laid out with alternating courses varying by widths. Start with the widest board, then the next width, etc., and repeat the pattern.

C. Choose a Starting Wall

1. Choose a starting wall according to the most aesthetically or architecturally important elements in the room, taking into consideration fireplaces, doors, cabinets and transitions, as well as the squareness of the room. The starting wall will often be the longest unbroken wall in the room.

D. Glue-Down Engineered Strip and Plank

1. There are several different ways to start the installation of glue-down engineered wood flooring. The following has proven successful. However, where instructions differ from manufacturer recommendations, manufacturer recommendations prevail.
2. Test the substrate for moisture according to appropriate moisture testing procedures in Chapter 3. Excessive/elevated moisture should not be present. The subfloor should be within acceptable moisture content as per adhesive and wood manufacturer's recommendation before installing.
3. Expansion space should be left around the perimeter in accordance with the manufacturer's recommendation.
4. Snap a working line parallel to the starting wall, the width of the board, plus the tongue and recommended expansion space.
5. Install a starter board along the edge of the working line and begin installation. Alternatively, lay one row of plank in the adhesive along the length of the working line.
6. Follow manufacturer instruction for tongue and groove direction and placement.
7. Use an adhesive approved by the flooring manufacturer. Follow the installation procedure recommended by the adhesive manufacturer, which includes subfloor moisture content, spread rate, trowel size, open time, working time and flash time as necessary. Spread the adhesive as instructed up to and along the working line.
8. Distribute lengths, avoiding "H" patterns and other discernible patterns in adjacent runs. Stagger end joints of boards row to row a minimum of 6" for strip flooring, 8-10" for 3" to 5" plank, and 10" for plank wider than 5". (See Figures 8-1 and 8-2.)
9. If recommended by the manufacturer, use tape or tensioners to maintain a tight floor.
10. If recommended by the adhesive manufacturer, roll the floor with the proper roller.

E. Mechanically Fastened Strip and Plank

1. If necessary, add a vapor retarder.
2. Snap a working line parallel to the starting wall, allowing expansion space as specified by the manufacturer.
3. Lay one row of plank along the entire length of the working line.

Figure 8-1 Stagger End Joints

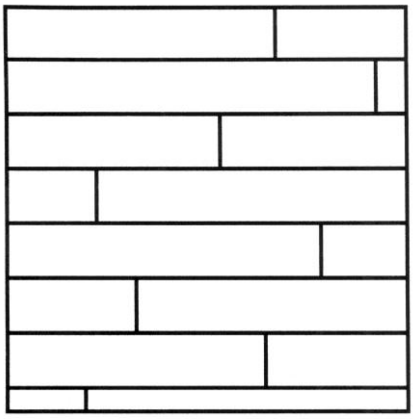
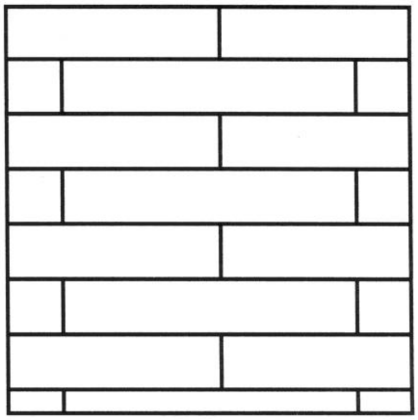


Figure 8-2 Avoid "H" Joints



4. Top-nail and blind-nail the first row (hand-nail if necessary), using appropriate fasteners. Denser species may require pre-drilling. Each succeeding row should be blind-nailed wherever possible.

   a. Typical: narrow crowned (under 3/8") 1"-1$^{1}/_{2}$" staples or 1"-1¼" hardwood flooring cleats designed for engineered flooring, spaced as recommended by the manufacturer.

   b. Typical: every 3-4" with staples, every 4-6" with cleats, and within 1-2" of end joints. Use appropriate size fastener for top nailing first row, last row and any area where blind nailer will not fit.

5. Add each additional row of flooring. Distribute lengths, avoiding "H" patterns and other discernible patterns in adjacent runs. Stagger end joints of boards row to row a minimum of 6" for strip flooring, 8-10" for 3" to 5" plank, and 10" for plank wider than 5".

6. During installation of flooring pieces, push or gently tap boards flush to the previous row. Tap against the tongue; tapping the groove may damage the edge. To prevent damage to the finish, avoid tapping the face of the board with a rubber mallet.

F. Floating Engineered Flooring

1. Subfloor flatness is critical to the success of a floating floor installation. (See Chapter 4, Wood Subfloor Guidelines, and Chapter 5, Concrete Subfloor Guidelines.)

2. Test the substrate for moisture according to appropriate moisture testing procedures in Chapter 3. Excessive/elevated moisture should not be present. The subfloor should be within acceptable moisture content as per manufacturer recommendation before installing.

4. If necessary, add vapor retarder. (See Acceptable Vapor Retarders in Chapter 3, Moisture Requirements and Moisture Testing.)

5. Expansion space should be left around the perimeter or in accordance with manufacturer's recommendation.

6. Typical: Subfloors are covered with a resilient material, foam underlayment or cork. Follow manufacturer's instructions for correct materials and thickness.
7. Typical: floating engineered flooring is edge-glued or edge-attached with a self-locking mechanism.
   a. For edge-glued products, use an adhesive approved by the manufacturer.
   b. Apply adhesive at the spread rate to the side grooves and/or ends as recommended by the manufacturer.
8. Starter boards should be aligned with the groove side and end against the starting wall. Tapping block should be used against tongue only.
9. Stagger end joints per manufacturer’s recommendation. Typical: 18”-20”.