

## valley installation instructions:

### installer/owner responsibility:

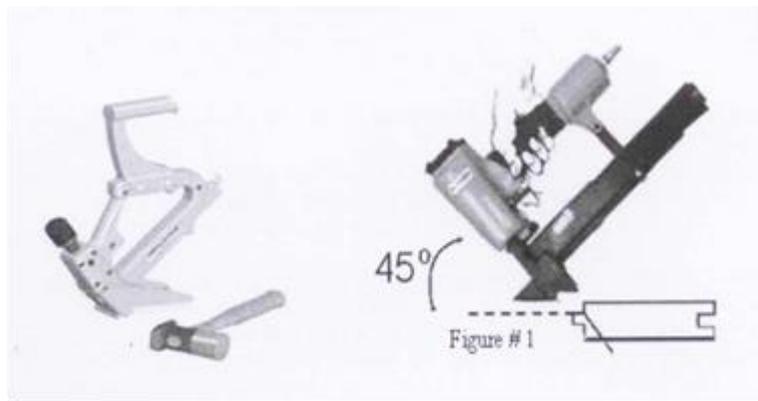
**Hardwood floors are a product of nature** and therefore, not perfect. Wood floors are manufactured in accordance with accepted industry standards, which permit a defect tolerance not to exceed 5%. All hardwood flooring may contain manufactured and or natural defects.

- The installer assumes all responsibility for final inspection of product quality. This inspection of all flooring should be done before installation. Carefully examine flooring for color, finish and quality before installing it. If material is not acceptable, do not install it and contact the seller immediately.
- Prior to installation of any hardwood flooring, the installer must determine that the job-site environment and the sub-surfaces involved meet or exceed all applicable standards and recommendations of the construction and materials industries. These instructions recommend that the construction and subfloor be dry, stiff and flat. The manufacturer declines any responsibility for job failure resulting from or associated with sub-surface or job-site environment deficiencies.
- Prior to installation, the installer/owner has final inspection responsibility as to grade, manufacture and factory finish. The installer must use reasonable selectivity and hold out or cut off pieces with defects, whatever the cause.
- Use of stain, filler or putty stick for defect correction during installation should be accepted as normal procedure.
- When flooring is ordered, 5% must be added to the actual square footage needed for cutting and grading deviation allowance.
- Should an individual piece be doubtful as to grade, manufacture or factory finish, the installer should not use the piece. Of all flooring materials for defects must be done before installation.

### tools & accessories checklist :

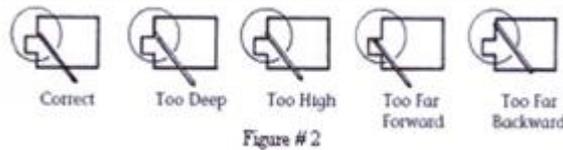
- |                                     |                |
|-------------------------------------|----------------|
| • Broom                             | • Tape measure |
| • Hand saw                          | • Hammer       |
| • Table saw, jig saw & circular saw | • Chalk Line   |
| • Flooring nail gun                 | • Moisture     |

**note:** When using a mechanical nailer, follow the nailer manufacturer instructions regarding the use of proper adapters and fasteners. Improper fasteners, machines and air pressure can cause severe damage. The Manufacturer is not responsible for damage caused by tools or misuse. Several makes and models of mechanical nailers are available. **Important:** Because flooring profiles vary slightly by manufacturer, modifications to your machines available shims or spacers may be required. Simple modifications can be made to most adapters with duct tape or shim material in order to assure that the proper fastener depth and angle are achieved without applying too much pressure on the tongue. Practice on a piece of scrap flooring and make necessary adjustments prior to installation. See figures 1 - 2 for illustration of proper fastener placement, depth and angle.



### nailing guidelines:

Improper pressure settings and failure to use proper adaptors can cause severe damage to the flooring. The correct fastening machine and air pressure setting will properly set the nail in the nail pocket. (See figure #2)



### nailing guide:

Inadequate nailing may lead to cracks and noisy floors by allowing movement of the flooring. Blind nail along the length of the strip/plank and near ends (1-3"). Minimum of 2 nails per strip/plank.

- ½" thick engineered T&G plank requires a 1 ½" barbed flooring cleat (18-20 gauge), 5d bright wire casing nail
- 9/16" thick engineered T&G plank requires a 1 ½" barbed flooring cleat (16-20 gauge), 5d bright wire casing nail
- Never mix types of fasteners when blind nailing the field, except near walls where hand nailing is required. Consult nailing machine manufacturer's fastener recommendation and use the thinnest gage recommended when installing solid T&G flooring made from denser, harder species such as Brazilian Cherry, Maple and Oak.

### pre-installation: job site inspection:

- The building should be closed in with all outside doors and windows in place. All concrete, masonry, framing members, drywall, paint and other 'wet" work should be thoroughly dry.
- The wall coverings should be in place and the painting completed except for the final coat on the base molding. When possible, delay installation of base molding until flooring installation is complete.
- Exterior grading should be complete with surface drainage directing water away from the building. All gutters and downspouts should be in place.
- Hardwood floors may be installed on or above grade. Do not install in full bathrooms.
- Subfloor must be checked for moisture content using the appropriate testing method.
- Permanent air conditioning and heating systems should be in place and operational. The installation site should have a consistent room temperature of 60-75-degree F and humidity of 45-60% for 14 days prior, during and until occupied, to allow for proper acclimation.

### storage and handling:

Hardwood flooring should be stored in the environment in which it is expected to perform. Deliver the materials to an environmentally controlled site. Materials should be allowed to acclimate for as long as necessary to meet minimum installation requirements for moisture content (minimum 48 hours). Handle and unload with care. Store in a dry place being sure to provide at least a four-inches of air space under cartons to be stored upon "on-grade" concrete floors. Flooring should not be delivered until the building has been closed in with windows and doors in place and until cement work, plastering and all other "wet" work is complete and dry. Concrete should be at least 60 days old. Air conditioning/heating systems should be in place and in operation at least 14 days prior, during and after installation of the flooring.

### subfloor requirements - subfloors must be:

-  CLEAN - Scraped, broom cleaned, and smooth. Free of wax, paint, oil or debris.
-  LEVEL/FLAT - Within 3/16" in 10' and/or 1/8" in 6. Sand high areas or joints. Low spots can be flattened using shims or layers of builders felt between the wood and the subfloor during installation.
-  STRUCTURALLY SOUND - Nail or screw any loose areas that squeak. Replace any water-damaged, swollen or delaminated subflooring or underlayments, as they are unable to properly hold fasteners. Avoid subfloor with excessive vertical movement unless they have been properly stiffened prior to the installation of the wood flooring.
-  DRY - Check moisture content of subfloor. Moisture content of wood subfloor must not exceed 12% on a wood moisture meter, or read more than a 4% difference (3% for plank) than moisture level of product being installed

### recommended subfloor surfaces – nail down:

-  3/4" (19 mm) CDX grade plywood
-  3/4" (23/32") O55 P52 rated underlayment
-  MINIMUM: 5/8" CDX grade plywood
-  Existing solid wood flooring
-  Vinyl, resilient tile, cork flooring
-  3/4" chip, wafer board, particleboard

### wood/concrete subfloor systems:

Bonded: Install suitable moisture retardant followed by a plywood subfloor with a minimum thickness of 3/4". Allow 1/2" expansion space around all vertical objects and 1/8" between all flooring panels. The panel must be properly attached to the subfloor using a minimum of one fastener per square foot and more if necessary. Use pneumatic or powder actuated fasteners. Do not hand nail the subfloor with concrete nails. Install a moisture retardant barrier with joints lapped 6" and begin installation of flooring using 1 1/2" fasteners.

### wood subfloors & wood structural panel subfloors:

-  Plywood: Must be APA CDX grade or better
-  Oriented Strand Board (OSB): Must be P52 rated installed sealed side down.
-  Particleboard: Must be a minimum 40-LB density, stamped underlayment grade and 3/4" thick. Do not install over pressed wood or fiberboard.

### nail down:

-  Make sure existing floor or subfloor is dry and well nailed or screwed down every 6" along each joist to avoid squeaking or popping before the floor is installed. Measure moisture content of both subfloor and wood flooring to determine proper moisture content with a reliable wood moisture meter. The wood subfloor must

not exceed 12% moisture content as measured with a reliable wood moisture meter. The difference between the moisture content of the wood subfloor and the wood flooring must not exceed 4%.

Optimum performance of hardwood floor covering products occurs when there is no horizontal or vertical movement of the subfloor. The MINIMUM subfloor recommendations described above are for 16" O/C joist spacing. The thicker, PREFERRED subfloor recommendations described above will allow 19.2" joist spacing if the joist manufacturer's recommended span is not exceeded. Spacing in excess of 19.2" O/C may not offer optimum results. Install flooring perpendicular to the floor joists when possible. Installations should not be made parallel to the floor joists or on joist spacing that exceeds 19.2" O/C unless the subfloor has been properly stiffened. Stiffening may require the addition of a second layer of subflooring material to bring the overall thickness to at least 1-1/8".

All underlayment panels should be spaced 1/8" apart to insure adequate expansion space. This can be achieved by using a circular saw set at the depth of the underlayment and cutting around the perimeter of the panel. T&G panels normally have built in expansion; DO NOT cut around the perimeter of T&G panels. Do not install over existing glue-down wood floors. Do not install over nailed floors that exceed 3-1/4" in width. Wide width floors must be overlaid with plywood. When installing over existing wood floors parallel with the flooring, it may be necessary to install an additional 1/4" layer of plywood to stabilize the flooring or install the wood floor at right angles. Applicable standards and recommendations of the construction and materials industries must be met or exceeded.

### glue down:

For a glue-down installation, use a quality branded urethane flooring adhesive, following the adhesive manufacturer's directives for trowel type, spread rate and any special subfloor preparation requirements. In general, the subfloor must also be free of oil, grease, paint, sealants or other materials that may affect the performance of your adhesive. Check to ensure your subfloor is completely smooth. Nail and screw heads must be countersunk.

Set up your starting line for the first row by measuring the width of the engineered floor plank. Add 3/8" (10mm) to this number and mark the floor at each end of your starting wall, (approximately 6" (150mm) away from the corners). Using a chalk-line, carefully snap a line between these two points. This will ensure your first row is straight, even if your wall isn't.

Select the longest boards for the first two rows to ensure a straight and true installation. Apply adhesive to floor wide enough for the first two rows, using the trowel recommended by the adhesive manufacturer. Align the grooved edge of the first row of boards along the chalk line, tongue facing the starter wall. Ensure the first row is well seated in the adhesive by applying sufficient down pressure along all portions of the board. Full adhesive transfer is essential for the floor to be properly bonded to the subfloor. To correctly install each subsequent board, insert tongue of board into the next row leaving a minimal gap to board on left. Tap board into place and continue.

We recommend you use temporary 3/8" (10mm) shims to keep the floor away from the walls, as the floor will shift during installation due to it being a "floating floor" until the adhesive sets. Place the shims every 2-3' (60-90 cm) along the starting wall, plus at the end of each of the starting rows so boards do not shift when set into place.

Check to make sure the boards are making adequate floor contact, you can flatten the boards with weights to ensure full adhesive transfer, as required. Place the weights on a protective layer of cardboard to avoid damage to the floor. Leave weights for 24 hours.

To keep joints tight we recommend taping every 4 to 5 rows together with painters easy release masking tape (make certain that no adhesive residue remains on the surface).

Remove all tape when adhesive is fully cured.

Remove all temporary shims, sweep & vacuum immediately.

## Installers – advise your customer of the following:

### seasons: heating and non-heating:

Recognizing that wood floor dimensions will be slightly affected by varying levels of humidity within your building, care should be taken to control humidity levels within the 45-60% range. To protect your investment and to assure that your floors provide lasting satisfaction, we have provided our recommendations below:

- Heating Season (Dry) - A humidifier is recommended to prevent excessive shrinkage in wood floors due to low humidity levels. Wood stoves and electric heat tend to create very dry conditions.
- Non-Heating Season (Humid, Wet) - Proper humidity levels can be maintained by use of an air conditioner, dehumidifier, or by turning on your heating system periodically during the summer months. Avoid excessive exposure to water from tracking during periods of inclement weather. Do not obstruct in any way the expansion joint around the perimeter of your floor.

### floor repair:

Minor damage can be repaired with a touch up kit or filler. Minor damage will require board replacement.

### completing the job:

- Complete cleanup with a thorough cleaning using floor cleaners.
- Re-install any transition pieces that may be needed, such as Reducer Strips, T -moldings, or Thresholds. These products are available pre-finished to blend with your flooring.
- Re-install all bases and/or quarter round moldings. Nail moldings into the wall, not the floor.
- Do not cover the floor while the floor is still moveable. Do not cover with a non-breathable material such as plastic.
- To prevent surface damage avoid rolling heavy appliances and furniture on the floor. Use plywood, hardboard or appliance lifts if necessary.