XVI

Laminate Flooring

Laminate – Armstrong and Bruce
Armstrong- American Duet, Arbor Real, Classics, Origins, Exotics, Nature's Gallery
Bruce - Gardenstone Collection and Reserve Collection

Gauge: Armstrong **–** Arbor Real: 7mm
American Duet, Classics, Origins, Exotics,
Nature's Gallery Tiles and Rustics: 8 mm
Bruce **–** Gardenstone Collection and Reserve Collection: 8 mm

Use: Residential **–** 7mm and 8mm; Light Commercial - 8mm only

Installation
System: ArmaLock Installation System **–** Angle-Angle Method
Seams: S-1800 Laminate Glue or Bruce Everseal Adhesive
to be used in:
Full Bathroom Installations – 100% silicone caulk must
be used around the entire perimeter and a 3/32″ bead of
glue on the top of the tongue ONLY. Bathroom
installation for residential use only.
Light Commercial Installations – Must be installed using
a 3/32″ (2.4 mm) bead of glue on the top of the tongue
ONLY.

Special Precautions and Recommendations:
1. Refer to the Laminate Flooring Installation System in Section XVI for complete installation recommendations.
2. Armstrong and Bruce Laminate Flooring may be installed in residential full bathrooms following the guidelines outlined in the Bathroom Installation Section J.
3. Armstrong and Bruce Laminate Flooring are not recommended over most carpets or in high-humidity areas where the floor is normally wet – e.g., steam rooms, or saunas.
4. The subfloor slope should not exceed 1″ in 6′ (2.54 cm in 1.83 m).
5. Variations in subfloor flatness should not exceed 3/16″ in 10′ (4.76 mm in 3.05 m) or 1/8″ in 6′ (3.17 mm in 1.83 m). Level floors with a suitable cement-based self-leveling underlayment following the manufacturer's recommended guidelines.
6. Radiant heated subfloors should not exceed 85°F (29°C).
7. Armstrong and Bruce Laminate Flooring can not be installed over carpet unless the carpet is a maximum 1/4″ (6.35 mm) thick, fully adhered over a suspended wood substrate.

Laminate – Armstrong and Bruce
Armstrong- Cumberland and Woodland Park
Bruce - Heritage Heights and American Home

Gauge: Armstrong **–** Cumberland and Woodland Park: 7mm
Bruce **–** Heritage Heights: 7 mm; American Home: 8 mm

Use: Residential **–** 7mm and 8mm; Light Commercial - 8mm only

Installation
System: ArmaLock Installation System **–** Compac Lock, Angle-Angle Method, which requires a higher angle (Approx. 45°).

Seams: S-1800 Laminate Glue or Bruce Everseal Adhesive to be used in:

Full Bathroom Installations - 100% silicone caulk must be used around the entire perimeter and a 3/32″ (2.4 mm) bead of glue on the top of the tongue ONLY. Bathroom installation for residential use only.

Light Commercial Installations – Must be installed using a 3/32″ (2.4 mm) bead of glue on the top of the tongue ONLY.

Special Precautions and Recommendations:
1. Refer to the Laminate Flooring Installation System in this section for complete installation recommendations.
2. Armstrong and Bruce Laminate Flooring may be installed in residential full bathrooms following the guidelines outlined in the Bathroom Installation Section J.
3. Armstrong and Bruce Laminate Flooring are not recommended over most carpets or in high-humidity areas where the floor is normally wet **–** e.g., steam rooms, or saunas.
4. The subfloor slope should not exceed 1″ in 6′ (2.54 cm in 1.83 m).
5. Variations in subfloor flatness should not exceed 3/16″ in 10′ (4.76 mm in 3.05 m) or 1/8″ in 6′ (3.17 mm in 1.83 m). Level floors with a suitable cement-based self-leveling underlayment following the manufacturer's recommended guidelines.
6. Radiant heated subfloors should not exceed 85°F (29°C).
7. Armstrong and Bruce Laminate Flooring can not be installed over carpet unless the carpet is a maximum 1/4″ (6.35 mm) thick, fully adhered over a suspended wood substrate.

Laminate
Armstrong Pacific Heights

Gauge: Armstrong – Pacific Heights: 8mm

Use: Residential, Light Commercial

Installation
   System: ArmaLock Installation System– Lock and Fold Method
   Seams: S-1800 Laminate Glue to be used in:
   Full Bathroom Installations – 100% silicone caulk must be used around the entire perimeter and a 3/32″ (2.4 mm) bead of glue on the top of the tongue ONLY. Bathroom installation for residential use only.
   Light Commercial Installations – Must be installed using a 3/32″ (2.4 mm) bead of glue on the top of the tongue ONLY.

Special Precautions and Recommendations:
1. Refer to the Laminate Flooring Installation System in this section for complete installation recommendations.
2. Armstrong Laminate Flooring may be installed in residential full bathrooms following the guidelines outlined in the Bathroom Installation Section J.
3. Armstrong Laminate Flooring is not recommended over most carpets or in high-humidity areas where the floor is normally wet – e.g., steam rooms, or saunas.
4. The subfloor slope should not exceed 1″ in 6′ (2.54 cm in 1.83 m).
5. Variations in subfloor flatness should not exceed 3/16″ in 10′ (4.76 mm in 3.05 m) or 1/8″ in 6′ (3.17 mm in 1.83 m). Level floors with a suitable cement-based self-leveling underlayment following the manufacturer's recommended guidelines.
6. Radiant heated subfloors should not exceed 85°F (29°C).
7. Armstrong Laminate Flooring can not be installed over carpet unless the carpet is a maximum 1/4″ (6.35 mm) thick, fully adhered over a suspended wood substrate.

S-1800 Laminate Floor Glue

INSTALLATION:
- Laminate Flooring, Residential
- Laminate Flooring,
  Light Commercial

PRODUCTS:
- *Armstrong 7mm:*
  Arbor Real
  Bayberry
  Cumberland
  Woodland Park
- *Armstrong 8mm:*
  Ambrosia
  Beyond
  Classics
  Galway Stone Creek
  Forrester
  Nature's Gallery
  Origins
  Pacific Heights
- *Bruce 7mm:*
  Heritage Heights Collection
- *Bruce 8mm:*
  American Home Collection
  Gardenstone Collection
  Reserve Collection

DESCRIPTION:

Type: Polyvinyl acetate cross-linking emulsion (water based)

Color: White when wet; dries opaque in 1 hour; Contains no visible taggants

Applicator: Predrilled cap on 16 oz. Bottle

Spread Rate: 3/32″ (2.4 mm) bead up to 150 sq. ft. (500 lin. ft.)

Removal from Surface: Wet: Use clean white cloth dampened with warm water. Dry: Can be easily peeled away. Remove with cloth dampened with 8 oz. (1 cup) white distilled vinegar to 1 Gal. water (1:16 ratio)

Shelf Life: One year if unopened

Available Units: Single unit 16 oz. Bottle

Advantages: Nonflammable; specifically designed to create a strong, water-resistant bond between the tongue and groove; Use for Laminate installations in residential full bathrooms, high moisture areas and light commercial environments; easy clean up.

Bruce Everseal Adhesive

INSTALLATION:
- Laminate Flooring, Residential
- Laminate Flooring,
  Light Commercial

PRODUCTS:
- *Armstrong 7mm:*
  Arbor Real
  Bayberry
  Cumberland
  Woodland Park

- *Armstrong 8mm:*
  Ambrosia
  Beyond
  Classics
  Galway Stone Creek
  Forrester
  Nature's Gallery
  Origins
  Pacific Heights

- *Bruce 7mm:*
  Heritage Heights Collection

- *Bruce 8mm:*
  American Home Collection
  Gardenstone Collection
  Reserve Collection

DESCRIPTION:

Type:	Polyvinyl acetate cross-linking emulsion (water based)
Color:	White when wet; dries opaque in 1 hour; Contains no visible taggants
Applicator:	Predrilled cap on 16 oz. Bottle
Spread Rate:	3/32″ (2.4 mm) bead up to 150 sq. ft. (500 lin. ft.)
Removal from Surface:	Wet: Use clean white cloth dampened with warm water. Dry: Can be easily peeled away. Remove with cloth dampened with 8 oz. (1 cup) white distilled vinegar to 1 Gal. water (1:16 ratio)
Shelf Life:	One year if unopened
Available Units:	Single unit 16 oz. Bottle
Advantages:	Nonflammable; specifically designed to create a strong, water-resistant bond between the tongue and groove; Use for Laminate installations in residential full bathrooms, high moisture areas and light commercial environments; easy clean up.

XVI. Laminate Flooring

A. LAMINATE TOOLS AND MATERIALS

- Armstrong Laminate Flooring
- Armstrong Two-in-One *Premium* Underlayment S-1832
- Armstrong Two-in-One *Advanced* Underlayment S-1830
- Armstrong Moisture Barrier Sheeting S-1831
- Armstrong Laminate Flooring Accessories
  - Armstrong S-1800 Laminate Glue
  - Bruce Everseal Adhesive
  - Tapping Block S-1814
  - Pull Bar S-1812
  - Spacers S-1813
- Armstrong Laminate Flooring Coordinated Transitions & Moulding Pieces
  - Quarter-Round Moulding
  - T-Moulding
  - Multi-Purpose Reducer
  - Reducer Strip
  - Baby Threshold
  - Wall Base
  - Flush Stairnose
  - Over-the-Top Step Nose
- Carpenter's Square
- Tape Measure
- Polyethylene Tape
- Hammer
- Utility Knife
- Safety Glasses
- NIOSH-Designated Dust Mask
- Saw (see optional tools)
- 100% Silicone Caulk (for bathroom & high moisture installations)
- Bucket of Warm Water
- Clean Cotton Cloths
- Touch-Up Kit/Filler Kit
- Plastic Scraper for Glue Removal

B. OPTIONAL TOOLS AND MATERIALS

- Router
- Drill
- Saws
  - Table Saw
  - Miter Saw
  - Circular Saw
  - Hand Saw
  - Jigsaw
- Dividers
- Chalk Line
- Cleaner such as Armstrong Hardwood & Laminate Floor Cleaner (S-302) or Bruce Dura-Luster No-Wax Floor Cleaner
- White Vinegar
- Pocket Plane

⚠ CAUTION **WOOD DUST**

Sawing, sanding or machining wood products can produce wood dust. Airborne wood dust can cause respiratory, eye and skin irritation. The International Agency for Research on Cancer (IARC) has classified wood dust as a nasal carcinogen in humans.

Always follow the manufacturer's recommended safety instructions and practices when using power tools.

Precautionary Measures if Power Tools Are Used:
The power tools must be equipped with a dust collector. If high dust levels are encountered, use the appropriate NIOSH-designated dust mask. Avoid dust contact with eyes and skin.

First Aid Measures in Case of Irritation:
Flush eyes and skin with water for at least 15 minutes. Seek medical attention if irritation persists.

C. INTRODUCTION

Floating Floor Structure

Armstrong Laminate Flooring is considered a "floating" floor and is installed using a floating floor system. These floors are intended for indoor use only and can be installed over virtually any existing floor structure. Since these floors are composed of natural cellulose fibers, they will expand and contract with changes in relative humidity.

- Do not attach to the subfloor at any point.
- Do not fit flush against any fixed vertical surfaces like walls, pipes, passageways, or staircases.
- For most installations, where the relative humidity is between 45% and 65%, a minimum 1/4″ (6.35 mm) to 1/2″ (12.7 mm) expansion zone is required around the perimeter of the room as well as against any fixed objects. This zone accounts for the normal movement of the floor system.

- Where the room is larger than 40′ (12.19 m) but less than 80′ (24.38 m) in plank length or wider than 26′ (7.92 m) but less than 52′ (15.85 m) a minimum of 1/2″ (12.7 mm) expansion zone is required around the perimeter of the room as well as against any fixed objects or T-mouldings must be used to compensate for this movement. Refer to Section K, Transitions & Moulding Pieces, for further details.
- Temperature changes will have little effect on the movement of these floors.
- The number of square feet of laminate required is not equal to the number of square feet in the area of the room because the laminate must be fit to walls and objects. An approximate cutting allowance of 10% for wood visuals and 15% for tile visuals or herringbone must be added to the square footage estimate.

Laminate Flooring Glue

- Specifically designed to create a strong, water-resistant bond between the tongue and groove.
- The integrity of the floor installation depends on the use of the appropriate glue, the amount of glue and the proper installation techniques.
- Use for Locking Laminate installations in full bathrooms, high moisture areas, and light commercial environments.
- Easy cleanup.
- Coverage for Locking Laminate using glue: up to 150 sq. ft. (500 Lin. ft.)/ 16 ounce bottle.
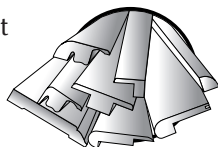
Two-in-One *Premium* Hard-Surface Flooring Underlayment

- Recommended under all laminate flooring with no attached underlayment (use Armstrong Moisture Barrier Sheeting under laminate flooring with attached underlayment).
- A rubber-like layer over 100% synthetic fiber.
- Acts as a moisture barrier when the seams are taped together with polyethylene tape. (Refer to Section E Subfloor Requirements for further details.)
- Provides a cushion between the floor and the subfloor and compensates for slight subfloor irregularities.
- Provides a thermal barrier, reducing the "cold floor" feeling common to floors that are directly bonded to the subfloor.
- Absorbs underfoot noise and provides greater underfoot comfort.
- Eliminates the need for a separate vapor barrier.
- Installed with logo side up.
- Coverage: 100 sq. ft./roll.

*Questions about Armstrong Laminate Flooring should be directed to our Consumer Solution Center at 1 800 233 3823.*

Two-in-One *Advanced* Hard-Surface Flooring Underlayment

- Recommended under all laminate flooring with no attached underlayment (use Armstrong Moisture Barrier Sheeting under laminate flooring with attached underlayment).
- A polyethylene closed-cell foam product.
- Acts as a moisture barrier when the seams are taped together with polyethylene tape. (Refer to Section E Subfloor Requirements for further details.)
- Provides a cushion between the floor and the subfloor and compensates for slight subfloor irregularities.
- Provides a thermal barrier, reducing the "cold floor" feeling common to floors that are directly bonded to the subfloor.
- Eliminates the need for a separate vapor barrier.
- Installed with the logo side up.
- Coverage: 100 sq. ft./roll.

Moisture Barrier Sheeting

- Recommended under all laminate flooring with attached underlayment when installed over concrete.
- .005″ (.127 mm) polyethylene film.
- Acts as a moisture barrier when seams are taped together with polyethylene tape.
- Coverage: 30″ x 40′ roll –100 sq. ft./roll
  60″ x 400′ roll – 2,000 sq. ft./roll

D. CARE INSTRUCTIONS

Armstrong Laminate Flooring is extremely easy to clean.

- DO NOT WAX OR POLISH your floor.
- For everyday cleaning, vacuum with a wand attachment or damp mop.
- To remove excessive dirt buildup, use Armstrong Hardwood & Laminate Floor Cleaner (S-302) or Bruce Dura-Luster No-Wax Floor Cleaner.
- Before using water, or Armstrong Hardwood & Laminate Floor Cleaner (S-302) or Bruce Dura-Luster No-Wax Floor Cleaner, thoroughly wring out your mop or sponge. An excessive amount of moisture is not necessary.
- **As with any hard-surfaced material, laminate flooring can be slippery when wet.** Promptly wipe up spills with a moist sponge or soft cloth.
- DO NOT CLEAN THIS FLOOR WITH ABRASIVE CLEANSERS, ABRASIVE SCRUBBING PADS, STEEL WOOL, OR SCOURING POWDER.
- To avoid scratching, use Armstrong Floor Protectors or protective pads under chairs and furniture legs.
- Use walk-off mats at entryways to collect tracked-in dirt and grit and to absorb excess moisture.
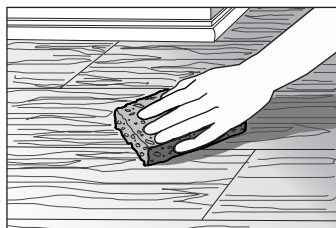
- Because metal rolling casters can damage the floor, we do not recommend them. If rolling casters are used, we recommend only soft wheels wide enough to support the load.

E. SUBFLOOR REQUIREMENTS

Armstrong Laminate Flooring can be installed over most subfloors and existing floors on all grade levels.

All substrates must:

- meet applicable building codes
- be structurally sound
- show minimal deflection
- be dry, clean and flat

Precautions:

- Armstrong Laminate Flooring may be installed in bathrooms following the guidelines outlined in the Bathroom Installation Section J.

- Armstrong Laminate Flooring is not recommended over most carpets or in high-humidity areas where the floor is normally wet – e.g., steam rooms, or saunas.

- The slope should not exceed 1″ in 6′ (2.54 cm in 1.83 m).

- Variations in subfloor flatness should not exceed 3/16″ in 10′ (4.76 mm in 3.05 m) or 1/8″ in 6′ (3.17 mm in 1.83 m). Level floors with a suitable cement-based self-leveling underlayment following the manufacturer's recommended guidelines.

- Radiant heated subfloors should not exceed 85°F (29°C).
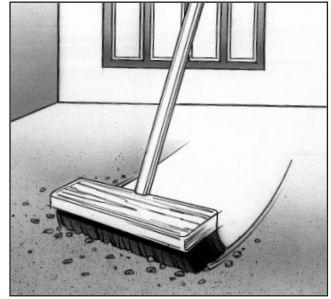
Concrete Subfloors

- Concrete floors must be cured properly and allowed to dry for at least 60 days after the curing process.

- Concrete floors must not show any signs of moisture or alkali.

- Use Two-in-One underlayment for laminate with no attached backing (or Moisture Barrier Sheeting for laminate with attached underlayment), butt the edges together and tape the seams with polyethylene tape.

Test for moisture in concrete prior to installation. *Too much moisture can cause significant damage to laminate flooring.*

- Tape 3′ x 3′ (91 cm x 91 cm) pieces of polyethylene film to the subfloor.

- After 24 hours, if moisture condensation appears on the film or the concrete appears dark-colored, it is likely excessive moisture is present and a Calcium Chloride test must be run.

- *The maximum acceptable moisture emission level for Armstrong Laminate Flooring installations is 5.0 lb./1000 sq. ft./24 hours (2.26 kg/101.6 m^2/24 hours).*

Wood Subfloors

- Wood subfloors must be suspended and have a minimum of 18″ (45.7 cm) of well-ventilated crawl space.
- Regardless of grade level, do not install over wood subfloors applied directly to concrete or on sleepers over concrete.
- Installation of a polyethylene film vapor barrier such as Armstrong Moisture Barrier Sheeting over the ground in the crawl space is recommended.
- Use Two-in-One Underlayment for Laminate with no attached backing. No additional underlayment is needed for Laminate with attached backing. The seams do not need to be taped.

Underlayment Boards

- Armstrong Laminate Flooring can be installed over any wood, cement, or gypsum-based underlayment boards that are installed according to the manufacturer's recommended guidelines.
- Use Two-in-One Underlayment for Laminate with no attached backing. No additional underlayment is needed for Laminate with attached backing. The seams do not need to be taped.

Wood Flooring

- All wood flooring must be dry, level, flat and installed over suspended subfloors.
- Sand any ridges or uneven portions and repair squeaks.
- Use Two-in-One Underlayment for Laminate with no attached backing. No additional underlayment is needed for Laminate with attached backing. The seams do not need to be taped.
- Install Armstrong Laminate Flooring at a 90° angle to existing wood plank flooring.
- Wood flooring over concrete must be removed.

Ceramic and Resilient Tile

- *Tile installed over concrete:*
  Use Two-in-One Underlayment for Laminate with no attached backing (or moisture barrier sheeting for laminate with attached underlayment), butt the edges together and tape the seams with polyethylene tape.
- *Tile installed over wood:*
  Use Two-in-One Underlayment for Laminate with no attached backing. No additional underlayment is needed for Laminate with attached backing. The seams do not need to be taped.

Vinyl Sheet

- *Vinyl sheet installed over concrete:*
  Use Two-in-One Underlayment for Laminate with no attached backing (or moisture barrier sheeting for laminate with attached underlayment), butt the edges together and tape the seams with polyethylene tape.
- *Vinyl sheet installed over wood:*
  Use Two-in-One Underlayment for Laminate with no attached backing. No additional underlayment is needed for Laminate with attached backing. The seams do not need to be taped.

Carpet

- **Fully adhered, maximum 1/4″ (6.35 mm) carpet over a suspended wood subfloor is a suitable substrate.**
- All other carpet and any carpet pad must be removed. If the carpet was glued in place, remove all remaining debris and excessive adhesive residue. Do not install laminate over carpet adhered to concrete.
- Two-in-One Underlayment is not recommended.
- Use moisture barrier sheeting over the carpet. The seams do not need to be taped.

F. ROOM PREPARATION

Conditioning

1. Armstrong and Bruce Laminate floors do not require acclimation.
2. The room temperature should be at a minimum of 65°F (18°C) for 48 hours before, during, and 48 hours after installation.
3. During and after installation, the room temperature should not exceed a maximum of 100°F (38°C).

Preparation

1. Removal of existing wall base, millwork, or trim is optional.
2. Door trims and doorjambs must be undercut to allow the floor to move freely. Use a discarded piece of floor and foam underlayment to support the saw blade at the correct height for undercutting.
3. Sweep the subfloor and remove all dust and debris.
4. If the drywall is slightly elevated at the floor and wall juncture, create a solid wall surface by fastening a 2″ – 3″ (5 cm – 7.6 cm) wide facing strip such as 1/4″ (6.35 mm) plywood to the wall at the stud location.
5. New wall base or moulding must be installed at the end of the job to cover the 1/4″ (6.35 mm) to 1/2″ (12.7 mm) expansion zone around the perimeter of the floor.
6. It may be necessary to plane or cut the bottom of the door to accommodate the change in floor height.
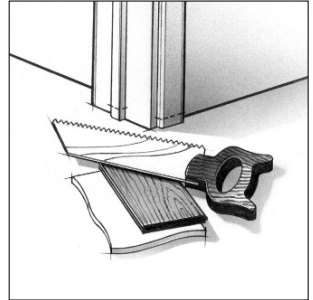
Layout

- Install parallel to incoming light from any windows or if lighting is not a concern, parallel to the longest wall in the room.
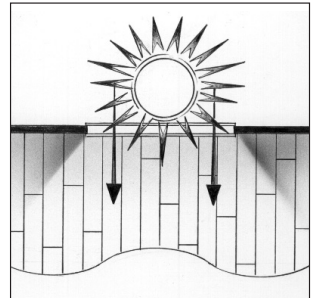
High Moisture Areas

- It is a good idea to use 100% silicone caulk in areas of rooms where excessive moisture may be present, such as at kitchen sinks, dishwashers and ice makers. See Bathroom Installation section for instructions on Full Bathroom Installations Section J.

Installing Cabinets

- Install Cabinets and then the laminate around the cabinets leaving the 1/4" (6.35 mm) to 1/2 " (12.7 mm) expansion zone.
- If installing cabinets after the laminate has been installed, most or all of the cabinet weight should be supported by the wall mountings. To secure the cabinets to the substrate with screws or nails, drill holes through the laminate 1/2″ (12.7 mm) diameter larger than the screw or nail to allow for expansion.

Installing Kitchen Islands

- The island must be free standing and weigh less than 250 pounds if it is to be installed over the laminate.
- If the island weighs more than 250 pounds, the laminate is to be installed around the island allowing the normal 1/4″ (6.35 mm) to 1/2″ (12.7 mm) expansion area around the base of the island.
- If the laminate has already been installed, and the island must be installed over the laminate, and the island weighs more than the 250 pound maximum, drill holes through the laminate 1/2″ (12.7 mm) diameter larger than the bolts (to allow for expansion) and bolt the island to the subfloor.

G. ANGLE ANGLE LOCK, LOCKING LAMINATE PLANKS – WOOD AND TILE VISUALS

Getting Started

Always check each board for damage before installing.

1. Avoid narrow pieces at the finish wall. Measure the distance between the starting wall and the finish wall.

2. Divide this number by the width of the board.

3. If the remainder is less than 2 1/2″ (6.35 cm), cut off 2 1/2″ (6.35 cm) from the width of the first row or to balance the room add the difference to the plank width and divide by two.

4. Roll out Armstrong Two-in-One Premium or Advanced Hard-Surface Flooring Underlayment or Moisture Barrier Sheeting along the starting wall, and cut to length. Kitchen and bathroom installations require folding the underlayment up the wall 2″ (5 cm). Place additional sections with butt seams as the installation progresses.

5. **To minimize pattern repeats in the floor, always pull from at least three cartons of flooring while installing.**

Wall Irregularities

All wall irregularities require cutting the first or last row of boards to fit the contour of the wall.

1. Use dividers or a spacer turned sideways 1″ (2.54 cm) wide to mark the contour.

2. Cut to shape.

3. Position the cut piece, using the pull bar to tighten the last piece in place.

4. Place a spacer between the end of the board and the side wall.

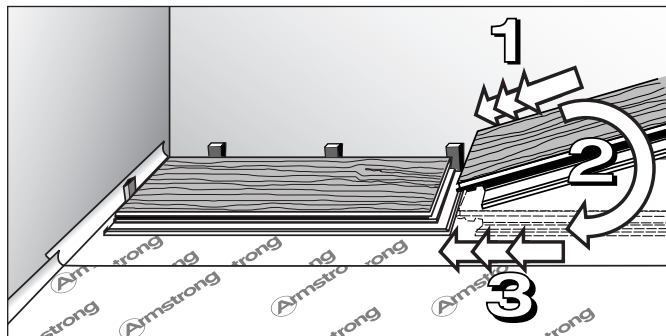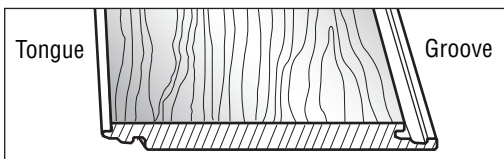5. Two tapered spacers can be used as wedges to accommodate irregular walls.

Cutting

1. A good quality carbide-tipped cutting blade that has been designed for composition and laminate materials such as melamine, coreboard, or other hard, dense, man-made materials is recommended. When extra clean cut edges are required — e.g., custom installations — you may need more elaborate cutting equipment.

2. When using a hand saw, cut with the decorative side of the board facing up.

3. When using power saws, the direction of blade must cut into the decorative side of the board to minimize chipping.

4. Use a square to keep your cut line straight.

5. Cut the marked piece in another area to keep the sawdust away from the installation site.

Installing the First Row

1. Begin on the left side of the room and work right.

2. **Lay the first full piece with the small, tongue side facing the wall.**

Tongue   Groove

3. Install second and subsequent full pieces in the first row by aligning short ends of boards and locking into place.

4. Use spacers along all sides that butt up against walls to maintain 1/4″ (6.35 mm) to 1/2″ (12.7 mm) expansion zone.

5. Continue laying boards in the first row until you need to cut the last piece.

6. Measure the distance between the wall and the face surface of the last board. Subtract 1/4″ (6.35 mm), and cut the board. (See cutting instructions above).
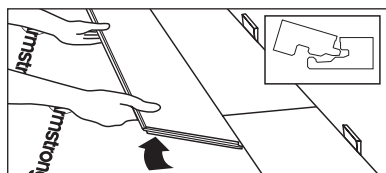
7. If this distance is less than 8″ (20.32 cm) go back to the first full plank and cut approximately 8″ (20.32 cm) from the end closest to the starting wall. This will leave a longer piece at the end of the first row.

8. When installing tile visuals, grout lines can be aligned or off-set. If the tiles are being balanced in the room with equal-sized tile along each wall, measurements and adjustments should be done before proceeding to second row.

Installing Remaining Rows

1. Begin the second row of planks with the piece cut from the last piece in the first row. If the piece is shorter than 8″ (20.32 cm) cut a new plank in half and use it to begin the second row. Whenever practical, use the piece cut from the preceding row to start the next row. End joints of all boards should be staggered 8″ (20.32 cm) or more. Grout lines on planks with tile visuals can be aligned, or off-set as long as end joints are staggered.

2. Install the long end of the first board at an angle to the board in the previous row. Keep this board at its natural angle slightly raised off the subfloor. Use a scrap piece of laminate to support the row if needed.
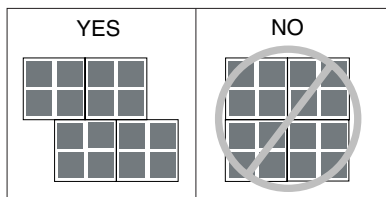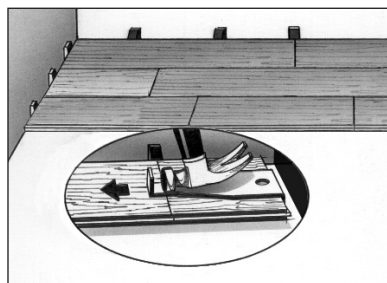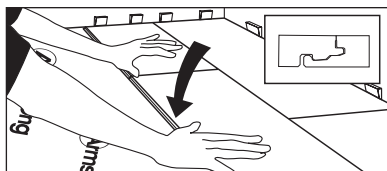

3. Continue installing full boards in the second row by angling the short end of the next board in the row to lock into the previous board. Position the board so that the long side of the board is close to boards in the previous row and overlapping the groove of the boards in the previous row.
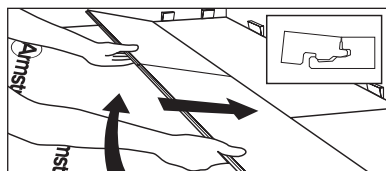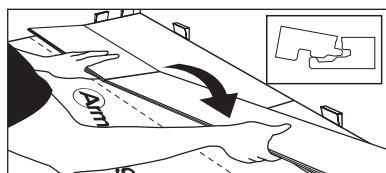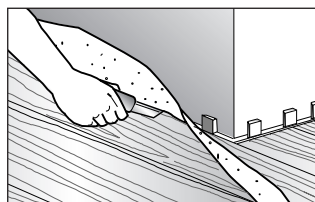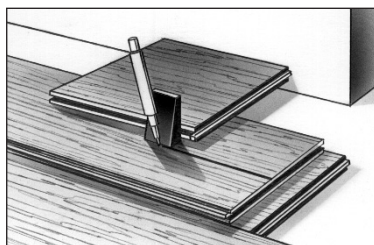
4. Angle up and push forward until the boards lock together.

5. Continue installing full boards in the second and subsequent rows until you reach the wall on your right.

6. Mark the last piece, cut and install. After all boards in the row are installed, press or walk all boards flat to the subfloor to begin the next row.

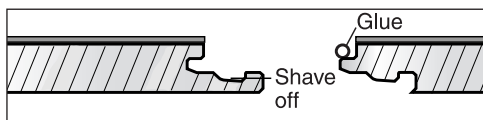7. Use a pull bar when necessary to ensure joints are tight.

Installing the Last Row

1. The last row in the installation may need to be cut lengthwise.

2. Place the row of planks to be fit on top of the last row of installed planks. Use a divider or a piece of the plank as a scribe to trace the contour of the wall.

3. Be sure to place a spacer between the marking pen and "scribe" piece of board. This adds the 1/4″ (6.35 mm) to 1/2″ (12.7 mm) space you need at the finish wall.

4. Mark where the board should be cut.

5. If the fit at the finish wall is simple and straight, just measure for the correct width and cut.

6. After the last row is installed, use the pull bar to tighten the joints.

7. When appropriate, cut the underlayment even with the top of the floor.

Installing Under a Door Jamb or Toe Kick

Installation of locking laminate through a door jamb or under a toe kick requires the lip of the groove to be reduced in size.
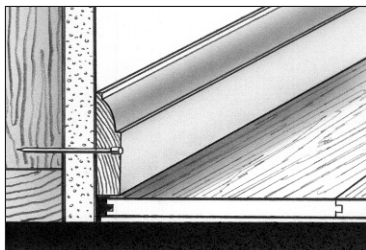
1. Using a small plane or utility knife, plane or shave off 75% of the ledge of the groove.

2. Be careful not to trim too much. Excessive reduction can weaken the joint.

3. After the groove ledge has been trimmed, place the board in position laterally and lightly pull the board into place using the pull bar.

4. Sometimes, more than one passing may be necessary in order to trim the ledge of the groove to the correct height.

5. Joint should be tight with no movement, however a thin, 3/32″ (2.4 mm) bead of glue on top of tongue only, should be used at this juncture to ensure joint integrity.

Finishing the Installation

1. Remove spacers and install moulding pieces. (See Coordinated Transitions and Moulding Pieces Section K.)

2. Always predrill transitions or mouldings prior to nailing. To allow the floating floor to move freely, **do not** fasten the trim to the laminate flooring.

3. For everyday cleaning, vacuum or damp mop. To remove excessive dirt buildup, use Armstrong Hardwood & Laminate Floor Cleaner (S-302) or Bruce Dura-Luster No-Wax Floor Cleaner.

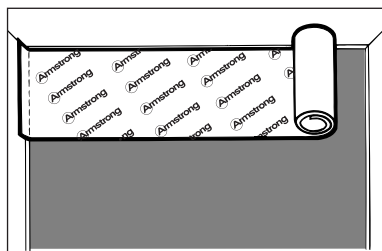4. DO NOT WAX OR POLISH your floor.

H. COMPACT LOCK

Getting Started

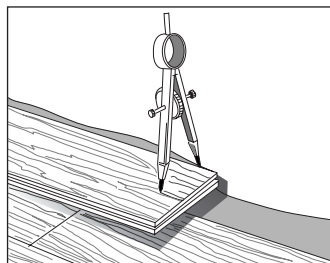*Always check each board for damage before installing.*

1. Avoid narrow pieces at the finish wall. Measure the distance between the starting wall and the finish wall.

2. Divide this number by the width of the board.

3. If the remainder is less than 2 1/2″ (6.35 cm), cut off 2 1/2″ (6.35 cm) from the width of the first row. Or to balance the room, add the difference to the plank width and divide by two.

4. Roll out Armstrong Two-in-One Advanced Hard-Surface Flooring Underlayment along the starting wall and cut to length. Kitchen and bathroom installations require folding the underlayment up the wall 2″ (5 cm). Place additional sections with butt seams as the installation progresses.

5. **To minimize pattern repeats in the floor, always pull from at least three cartons of flooring while installing.**

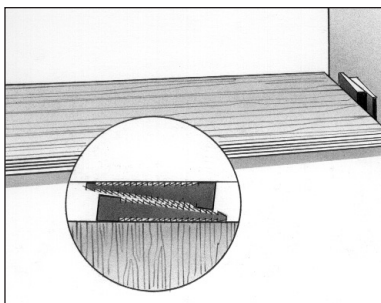6. Dry fit the first three rows.

Wall Irregularities

All wall irregularities require cutting the first or last row of boards to fit the contour of the wall.

1. Use dividers or a spacer turned sideways 1″ (2.54 cm) wide to mark the contour.

2. Cut to shape.

3. Position the cut piece, using the pull bar to tighten the last piece in place.

4. Place a spacer between the end of the board and the side wall.

5. Two tapered spacers can be used as wedges to accommodate irregular walls.

Cutting

1. A good-quality carbide-tipped cutting blade that has been designed for composition and laminate materials such as melamine, coreboard, or other hard, dense, man-made materials is recommended. When extra clean cut edges are required — e.g., custom installations — you may need more elaborate cutting equipment.

2. When using a hand saw, cut with the decorative side of the board facing up.

3. When using power saws, direction of blade must cut into decorative side of the board to minimize chipping.

4. Use a square to keep your cut line straight.

5. Cut the marked piece in another area to keep the sawdust away from the installation site.

Installing the First Row

1. Begin on the left side of the room and work right.

2. **Lay the first full piece with the small, tongue side facing the wall.**

3. Install second and subsequent full pieces in the first row by aligning short ends of boards and locking into place.

4. Use spacers along all sides that butt up against walls to maintain 1/4″ (6.35 mm) to 1/2″ (12.7 mm) expansion zone.

5. Continue laying boards in the first row until you need to cut the last piece.

6. Measure the distance between the wall and the face surface of the last board. Subtract 1/4″ (6.35 mm), and cut the board. (See cutting instructions above).

7. If this distance is less than 8″ (20.32 cm) go back to the first full plank and cut approximately 8″ (20.32 cm) from the end closest to the starting wall. This will leave a longer piece at the end of the first row.

8. When installing tile visuals, grout lines can be aligned or off-set. If the tiles are being balanced in the room with equal-sized tile along each wall, measurements and adjustments should be done before proceeding to second row.
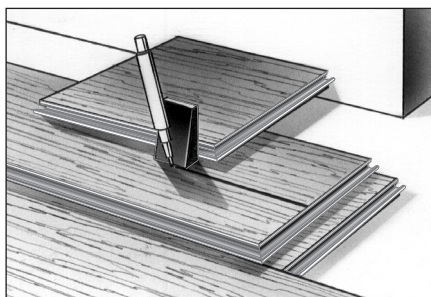
Installing Remaining Rows

1. Begin the second row of planks with the piece cut from the last piece in the first row. If the piece is shorter than 8″ (20.32 cm), cut a new plank in half, and use it to begin the second row. Whenever practical, use the piece cut from the preceding row to start the next row. End joints of all boards should be staggered 8″ (20.32 cm) or more. Grout lines on planks with tile visuals can be aligned or off-set, as long as end joints are staggered.

2. Install the long end of the first board by raising the board to a **45° angle** to the board in the previous row. Keep this board at its natural angle slightly raised off the subfloor. Use a scrap piece of laminate to support the row if needed.

3. Continue installing full boards in the second row by angling the short end of the next board in the row to lock into the previous board. Position the board so the long side of the board is close to boards in the previous row and overlapping the groove of the boards in the previous row.

4. Angle up at a **45° angle** and push forward until the boards lock together.

5. Continue installing full boards in the second and subsequent rows until you reach the wall on your right.

6. Mark the last piece, cut and install. After all boards in the row are installed, press or walk all boards flat to the subfloor to begin the next row.

7. Use a pull bar when necessary to ensure joints are tight.

Installing the Last Row

1. The last row in the installation may need to be cut lengthwise.

2. Place the row of planks to be fit on top of the last row of installed planks. Use a divider or a piece of the plank as a scribe to trace the contour of the wall.

3. Be sure to place a spacer between the marking pen and "scribe" piece of board. This adds the 1/4″ (6.35 mm) to 1/2″ (12.7 mm) space you need at the finish wall.

4. Mark where the board should be cut.

5. If the fit at the finish wall is simple and straight, just measure for the correct width and cut.

6. After the last row is installed and glued, use the pull bar to tighten the joints if necessary.

7. When appropriate, remove spacers and cut the underlayment even with the top of the floor.

Installing Under a Door Jamb or Toe Kick

Installation of locking laminate through a door jamb or under a toe kick requires the lip of the groove to be reduced in size.

1. Using a small plane or utility knife, plane or shave off 75% of the ledge of the groove.

2. Be careful not to trim too much. Excessive reduction can weaken the joint.

3. After the groove ledge has been trimmed, place the board in position laterally and lightly pull the board into place using the pull bar.

4. Sometimes, more than one passing may be necessary in order to trim the ledge of the groove to the correct height.

5. Joint should be tight with no movement, however a thin, 3/32″ (2.4 mm) bead of glue on top of tongue only, should be used at this juncture to ensure joint integrity.

Finishing the Installation

1. Remove spacers and install moulding pieces. (See Coordinated Transitions and Moulding Pieces Section K.)

2. Always predrill transitions or mouldings prior to nailing. To allow the floating floor to move freely, **do not** fasten the trim to the laminate flooring.

3. For everyday cleaning, vacuum or damp mop. To remove excessive dirt buildup, use Armstrong Hardwood & Laminate Floor Cleaner (S-302) or Bruce Dura-Luster No-Wax Floor Cleaner.
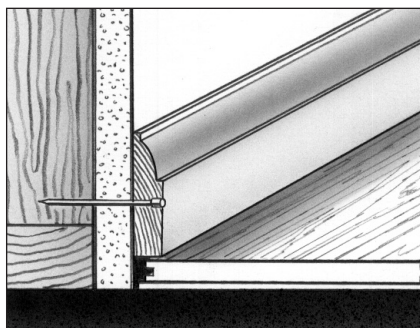
4. DO NOT WAX OR POLISH your floor.

I. LOCK AND FOLD

Refer to Section E.

Getting Started

Always check each board for damage before installing.

1. Avoid narrow pieces at the finish wall. Measure the distance between the starting wall and the finish wall.

2. Divide this number by the width of the board.

Tongue

End Joint

Groove
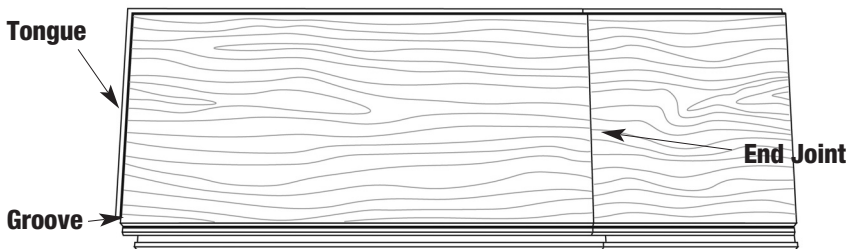
3. If the remainder is less than 2 1/2″ (6.35 cm), cut off 2 1/2″ (6.35 cm) from the width of the first row or to balance the room add the difference to the plank width and divide by two.

4. Roll out Armstrong Two-in-One Advanced or Premium Hard-Surface Flooring Underlayment or Moisture Barrier Sheeting along the starting wall, and cut to length. Kitchen and bathroom installations require folding the underlayment up the wall 2″ (5 cm). Place additional sections with butt seams as the installation progresses.

5. **To minimize pattern repeats in the floor, always pull from at least three cartons of flooring while installing.**
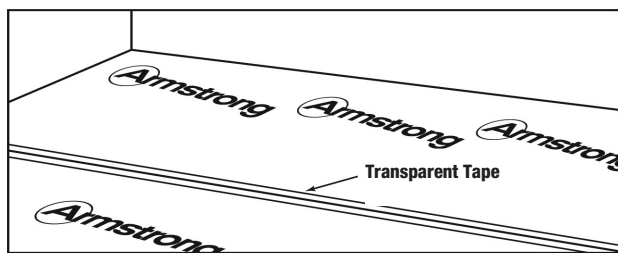
Wall Irregularities

All wall irregularities require cutting the first or last row of boards to fit the contour of the wall.

1. Use dividers or a spacer turned sideways 1″ (2.54 cm) wide to mark the contour.

2. Cut to shape.

3. Position the cut piece, using the pull bar to tighten the last piece in place.

4. Place a spacer between the end of the board and the side wall.

5. Two tapered spacers can be used as wedges to accommodate irregular walls.

Cutting

1. A good quality carbide-tipped cutting blade that has been designed for composition and laminate materials such as melamine, coreboard, or other hard, dense, man-made materials is recommended. When extra clean cut edges are required — e.g., custom installations — you may need more elaborate cutting equipment.

2. When using a hand saw, cut with the decorative side of the board facing up.

3. When using power saws, the direction of blade must cut into the decorative side of the board to minimize chipping.

4. Use a square to keep your cut line straight.

5. Cut the marked piece in another area to keep the sawdust away from the installation site.

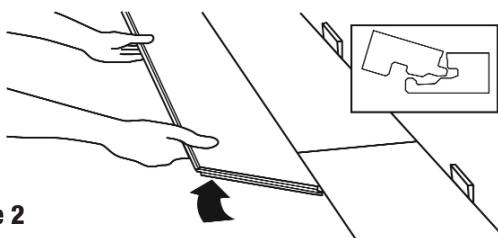**Figure 1**

Install Underlayments

Cover subfloor with underlayment, Logo side up. If subfloor is concrete or any existing floor over concrete, tape the seams with clear plastic tape. (Figure 1)

Install First Row

1. Inspect each piece prior to installation for damaged boards.

2. Always pull from at least 3 cartons while installing to minimize pattern repeats.

3. Lay first row of boards with tongue side facing the wall.

4. If the starting wall is crooked, trace the contour of the wall on the first row of planks and trim as needed.

5. Use spacers along all sides that butt up against walls to maintain 1/4″ (6.35 mm) to 1/2″ (12.7 mm) expansion zone.

6. Lay pieces from left to right. Lock the end joints by installing at an angle to the previous board.

7. When measuring the last piece in the row, subtract 1/4″ (6.35 mm) from the end of the board to maintain expansion zone.

8. Cut decorative side up if using a hand saw or decorative side down if using a power saw to minimize chipping.

9. If the cut-off piece from the first row is 8″ (20.32 mm) or longer, use it to start the second row. If it is less than 8″ (20.32 mm), cut a full board in half and use that.
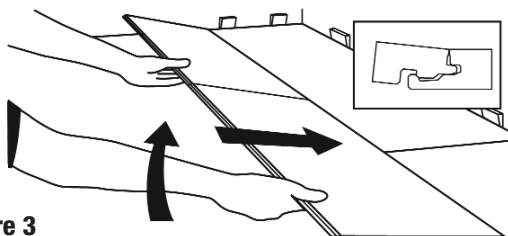
Install Remaining Rows

1. Continue laying boards, one row at a time and staggering the end joints.

2. Install the long end of the first board in the second row at an angle to the board in the first row. (Figure 2) Press flat to subfloor to lock into place.

Figure 2

3. Angle the long end of the next board in the second row to lock into the first row. (Figure 3)

Figure 3

4. Follow the order described above to continue laying the boards in the second and additional rows.

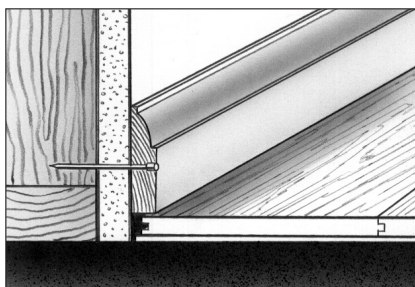5. Use a pull bar if necessary to tighten joints.

Installing Under a Door Jamb or Toe Kick

Installation of locking laminate through a door jamb or under a toe kick requires the lip of the groove to be reduced in size.

1. Using a small plane or utility knife, plane or shave off 75% of the ledge of the groove.

2. Be careful not to trim too much. Excessive reduction can weaken the joint.

3. After the groove ledge has been trimmed, place the board in position laterally and lightly pull the board into place using the pull bar.

4. Sometimes, more than one passing may be necessary in order to trim the ledge of the groove to the correct height.

5. Joint should be tight with no movement; however a thin, 3/32″ (2.4 mm) bead of glue on top of tongue only, should be used at this juncture to ensure joint integrity.

Finishing the Installation

1. Remove spacers and install moulding pieces. (See Coordinated Transitions and Moulding Pieces Section K.)

2. Always predrill transitions or mouldings prior to nailing. To allow the floating floor to move freely, **do not** fasten the trim to the laminate flooring.

3. For everyday cleaning, vacuum or damp mop. To remove excessive dirt buildup, use Armstrong Hardwood & Laminate Floor Cleaner (S-302) or Bruce Dura-Luster No-Wax Floor Cleaner.

4. DO NOT WAX OR POLISH your floor.

J. FULL BATHROOM INSTALLATION RECOMMENDATIONS FOR LOCKING LAMINATE

Prolonged exposure to water could damage the laminate flooring. Installation recommendations should be closely followed to prevent water from contacting the core material of the flooring.

1. Full bathroom installations require folding the underlayment up the wall 2″ (5 cm). Cut the underlayment even with the top of flooring after installation.

2. All joints must be properly glued. Apply a thin, continuous 3/32″ (2.4 cm) bead of glue to the top of the tongue ONLY.
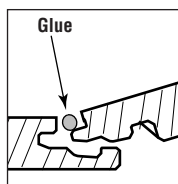

Glue

3. A thin, continuous bead of glue must ooze to the surface as the laminate pieces are locked together. Proper gluing provides both strength and moisture resistance to the joint. Wipe off excess glue with a damp cloth.

4. Joint integrity is integral to moisture resistance. Avoid excessive joint flexing during installation.

5. Allow the installation to dry overnight before using the bathroom.

6. All perimeter expansion zones must be completely filled with 100% silicone caulk following the manufacturer's recommendations. When applying caulk, it is helpful to first apply a strip of masking tape parallel to and approximately 1/32″ (.79 mm) from the edge of the laminate. Then fill the expansion zone with caulk, remove the excess with a plastic scraper or putty knife, and remove the tape.
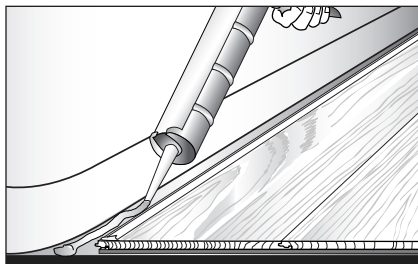
7. Moulding may be used along a straight tub or shower base. The expansion zone should be filled with 100% silicone caulk and the moulding seated in the caulk while it is still wet. The joint between the moulding and the tub or shower base should also be caulked. If moulding is not an option, a normal 1/4″ (6.35 mm) expansion zone may be used at the tub and then completely filled with 100% silicone caulk.
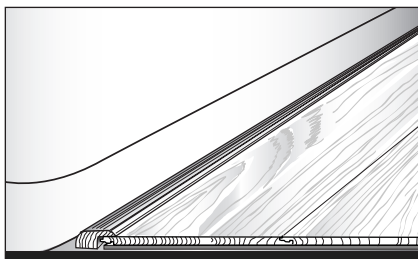
8. The toilet should be removed before installing the laminate flooring. Allow a 1/4″ (6.35 mm) expansion zone between the laminate flooring edge and the toilet flange. Completely seal the zone with 100% silicone caulk.

9. Use a T-moulding to separate a bathroom installation from any surrounding rooms with laminate flooring.

10. **As with any hard-surfaced material, laminate flooring can be slippery when wet.**

## K. COORDINATED TRANSITIONS AND MOULDING PIECES

Armstrong offers specially designed Quarter-Round Moulding T-Moulding, Multi-Purpose Reducer, Reducer Strip, Flush Stair Nosing, Baby Threshold, Wall Base and Over the Top Step Nosing to complete the floor installation.

■ Attach any of these pieces with nails (6d finish nails) or construction adhesive. When using construction adhesive, weigh down the transition strip evenly to ensure proper contact with the subfloor. Do not use an excessive amount of construction adhesive that could ooze out and fill the expansion zone.

- To allow the floating floor to move freely, never fasten the transition pieces to the laminate flooring.
- Keep the placement of the transition strip such that the 1/4″ (6.35 mm) expansion around the perimeter is maintained.
- When installing over a radiant heated floor, always use construction adhesive to attach transition pieces.
- Always predrill any of these pieces with the appropriate size drill bit to avoid cracking or splitting the strip.
- To prevent wood core from being exposed, add a "return" to end of moulding at outside corners; for inside corners miter at a 45° angle if corner is square or use a cope saw if corner is not square.

The Track System

The track system is an optional installation method to use with certain mouldings. See specific mouldings for further detailed installation instructions.
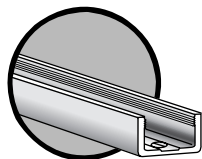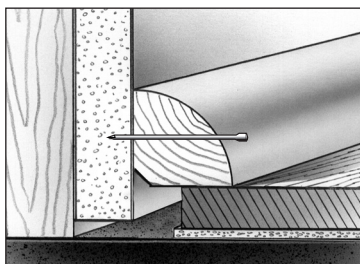
1. Screw or nail the track to the subfloor.
2. Snap in moulding.

Quarter-Round Mouldings

Coordinate with floor and provide the perfect finishing touch.

1. Nail the moulding to the wall, not the floor.
2. Do not force the trim against the floor.
3. The floating floor must move freely.

Multi-Purpose Reducer

Provides a smooth transition from your Laminate floor to another type of flooring of a lower height. Also finishes the space where Laminate flooring ends against a vertical surface and where quarter round cannot be used.

If Installing Without The Track System:

1. Screw or nail a temporary spacer block 1 1/4″ (3.18 cm) wide and a minimum of 1/2″ (12.7 mm) high to the subfloor with one side located where the Multi-Purpose Reducer will eventually be located.
2. Install the Laminate floor up to the other side of the spacer block using Armstrong Spacers to obtain a 1/4″ (6.35 mm) expansion zone.
3. Remove the spacer block and spacers.
4. Install the Multi-Purpose Reducer.

If Installing Using The Track System:

1. Install the Track System FIRST.
2. Install the Track System so that the outside edge of the metal Track is 5/8″ (15.88 mm) away from where the Multi-Purpose Reducer nose will eventually be located.
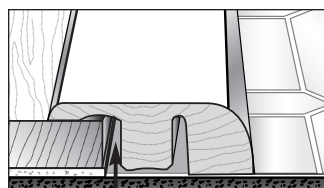
3. Install the Laminate floor up to the Track System using Armstrong Spacers to obtain a 1/4″ (6.35 mm) expansion zone.

4. Snap the Multi-Purpose Reducer into the Track System.

Reducer Strips

Use when going from Armstrong Laminate Flooring to other flooring materials, particularly those of a lesser height.

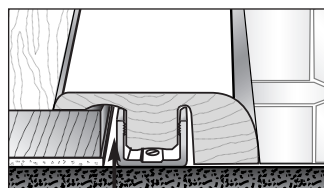**1/4″ gap**

If Installing Without The Track System:

1. Screw or nail a temporary spacer block 1 1/4″ (3.175 cm) wide and a minimum of 1/2″ (12.7 mm) high to the subfloor with one side located where the Reducer strip nose will eventually be located.

2. Install the laminate floor up to the other side of the spacer block using Armstrong spacers to obtain a 1/4″ (6.35 mm) expansion zone.

3. Remove the spacer block and spacers.

4. Install the Reducer strip.

If Installing using the Track System:

1. Install the track system FIRST.

2. Install the track system so that the outside edge of the metal track is 5/8″ (15.88 mm) away from where the Reducer strip nose will eventually be located.

1/4″ gap

3. Install the laminate floor up to the track system using Armstrong spacers to obtain a 1/4″ (6.35 mm) expansion zone.

4. Snap the Reducer strip into the track system.
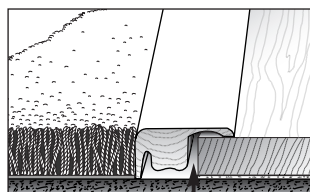
1/4″ gap

Baby Threshold (only available in some colors)

Use when laminate flooring ends against a vertical surface and where quarter round or wall base cannot be used — e.g. in front of a sliding glass door or under a toe kick. Additionally, the finished edge to this piece makes it an ideal fit against carpet.

1/4″ gap

If Installing Without The Track System:

1. Screw or nail a temporary spacer block that is 3/4″ (19.05 mm) wide and a minimum of 1/2″ (12.7 mm) high to the subfloor with one side located against the vertical surface or adjacent flooring.

2. Install the laminate floor up to the spacer block using spacers to obtain 1/4″ (6.35 mm) expansion zone.

3. Remove the spacer block and spacers.

4. Install the Baby Threshold.
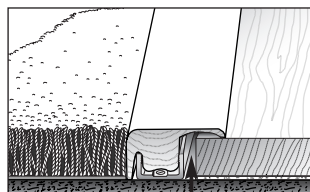
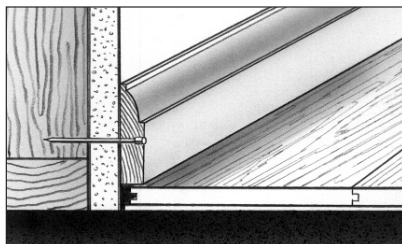**If Installing Using The Track System:**

1. Install the track system FIRST.

2. Install the track system so that the outside edge of the track is 3/16″ (4.76 mm) away from vertical surface or adjacent flooring.

3. Install the laminate floor up to the track system using Armstrong spacers to obtain 1/4″ (6.35 mm) expansion zone.

4. Snap Baby Threshold into the track system.

Wall Base
(only available in some colors)

Provides customized finish along walls.



1. Nail the moulding to the wall, not the floor.

2. Do not force the trim against the floor.

3. The floating floor must move freely.

Over-The-Top Step Nose

Use where laminate flooring meets a step down or landing. Install using the Track System. **Do not use on individual stair treads.** See following pages for Flush Stairnose Installations.

Serpentine glue to back of nosing

1. Install the track system FIRST.

2. Install the track system so that the outside edge of the track is 5/8″ (15.88 mm) away from the edge of the stepdown.

3. Install the laminate floor up to the track system using Armstrong spacers to obtain 1/4″ (6.35 mm) expansion zone.

4. Measure and cut step nose to length.

5. Predrill holes in the step nose for finish nails.

6. Adhere the step nose to the subfloor using a high quality, construction adhesive.

Floor Level Change – Side View
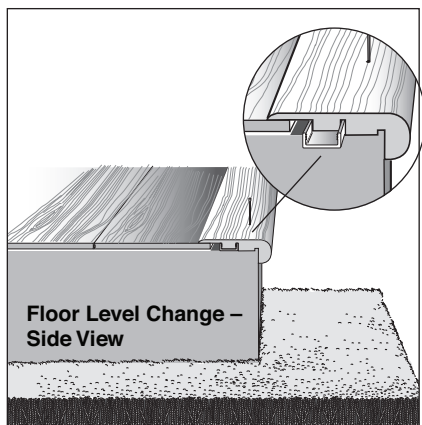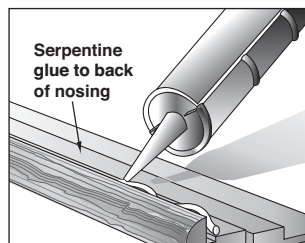
7. Apply a 3/16″ (4.76 mm) bead of adhesive in a serpentine pattern to the back of the step nose. *Carefully read cautions on container and follow the manufacturer's recommended instructions on the adhesive label.*

8. Snap the step nose into the track and anchor the step nose with finish nails.

9. DO NOT USE THE STEP NOSE ON INDIVIDUAL STAIR TREADS.

10. Always make sure to use mechanic (nail) and adhesive (glue) fasteners to secure step nose.

L. FLUSH STAIR NOSE INSTALLATION FOR STAIR TREADS AND RISERS

IMPORTANT SAFETY NOTICE: The installation of laminate flooring on stairs is a fully adhered system. Under no circumstances should foam underlayment be placed on stair steps or risers. This will result in an unsafe condition. Do not use over-the-top step nose molding on individual stair treads.

Tool List
■ Table Saw or Miter Saw
■ 10″ (25.4 cm) 60- or 80-Tooth Carbide-tipped ATB or Triple Chip Saw Blade
■ Power Drill
■ Hammer
■ 6d Finish Nails
■ Construction Adhesive
■ 5-Minute Epoxy

Optional Tools
■ Router
■ Router Table
■ 7 mm Router Bit
■ 8 mm Router Bit
■ 7 mm Splines
■ 8 mm Splines
■ Armstong™ S-1800 Laminate Flooring Glue or Bruce® EverSeal™

Preparation of Stair Treads

Treads and risers should be structurally sound, flat, dry, clean, smooth, and free from paint, varnish, wax, oils, solvents, and other foreign matter. Cut off any existing bullnose flush with the riser of the stair (providing the dimension change does not violate local building codes) (Figure 1).

Installation of Stair Treads

1. Beginning at the bottom riser, measure and cut a piece of laminate plank to fit flush with the existing stair tread. **If the laminate has an attached foam or fabric, it must be removed.**

2. Glue in place by applying a 3″ (7.6 cm) serpentine bead of construction adhesive to the back of the flooring (Figure 2). Refer to construction adhesive label for all recommendations, warnings and safety precautions.
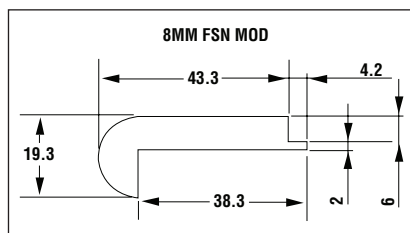
Stair Nose Dimensions

3. Press in place.

4. Measure and cut stair nose to length.

5. Dry fit the stair nose to the edge of the first tread with the molding nose overlapping the laminate piece on the riser below. Measure the distance from the edge of the stair nose to the next riser (Figure 3).

6. Measure and cut to width and length another piece of laminate plank for the stair tread. Using a utility knife or table saw, remove the tongue. **If the laminate has an attached fabric, it must also be removed.**

7. Apply a bead of construction adhesive in a 3″ (7.6 cm) serpentine pattern to the back of the cut piece of stair nose and affix to the stair. (On wood subfloors, drill appropriate size holes into the installed stair nose and anchor with 6d finish nails (Figure 4). Set nails using a nail punch. Fill holes with a repair stick.)

8. To avoid shifting over concrete, allow enough time for the construction adhesive to set prior to continuing the installation. This time will vary depending upon the adhesive being used.

9. Apply construction adhesive to the tread of the existing stair and spread evenly using a 1/16″ x 1/16″ x 1/16″ (1.59 mm x 1.59 mm x 1.59 mm) square-notch trowel.

10. Apply a bead of adhesive (preferably a 5-minute epoxy) to the lip of the stair nose. Following the manufacturer's recommendations, immediately remove any excess adhesive from the laminate surface.

11. Place the tongue side of the flooring against the stair nose, being sure that the laminate plank surface is flush with the stair nose surface.
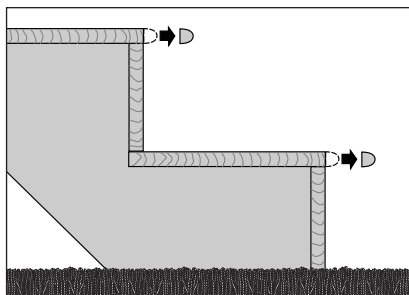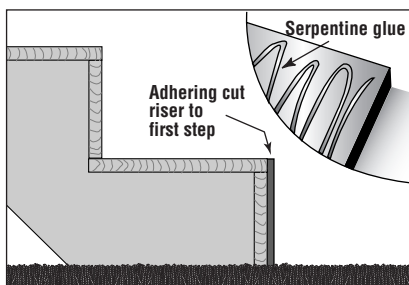

Figure 1

Serpentine glue

Adhering cut riser to first step

Figure 2

X

Figure 3

6d finish nail
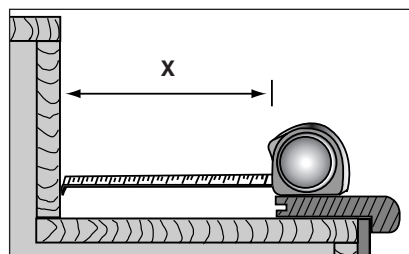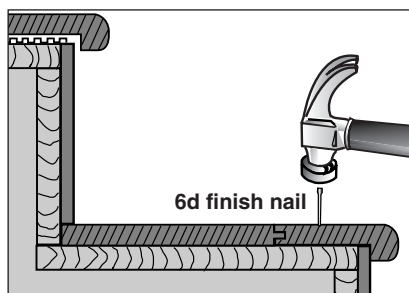
Figure 4

12. Push pieces together until joint is tight and flush, then remove excess adhesive.

13. Repeat steps 1-11 until installation is complete.

14. Allow 24 hours curing time before exposing stairs to traffic.

Installation on Step Downs or Landings Using Armstrong™ S-1830 Two-in-One® Advanced Underlayment

1. Measure and cut stair nose to length.

2. Apply a bead of construction adhesive in a 3″ (7.6 cm) serpentine pattern to the back of the cut piece of stair nose and affix to the stair. Refer to construction adhesive label for all recommendations, warnings and safety precautions. (On wood subfloors, drill appropriate size holes into the installed stair nose and anchor with 6d finish nails. Set nails using a nail punch. Fill holes with a repair stick.)

3. To avoid shifting over concrete, allow enough time for the construction adhesive to set prior to continuing the installation. This time will vary depending upon the adhesive being used.

4. Install the S-1830 Two-in-One® Advanced Underlayment leaving a gap between the stair nose and the underlayment one-half the width of the laminate plank.

5. Using a utility knife or table saw, remove the tongue from the laminate plank to be installed to the stair nose.

6. Apply a bead of construction adhesive in a 3″ (7.6 cm) serpentine pattern on the substrate between the stair nose and the underlayment.

7. Apply a bead of adhesive (preferably a 5-minute epoxy) to the lip on the stair nose. Following the manufacturer's recommendations, immediately remove any excess adhesive from the laminate surface.

8. Place the tongue side of the flooring against the stair nose being sure that the laminate surface is flush with the stair nose surface.

9. From this point, continue the installation of the laminate flooring using the installation instructions provided with the laminate flooring.

Installation on Step Downs or Landings Using Armstrong™ S-1833 Quiet Comfort™ Underlayment

1. Measure and cut stair nose to length.

2. Using a non-compressible material, such as 1/8″ VCT or 1/8″ hardboard, make a shim that is 4″ (10 cm) wide and the length of the stair nose.

3. Apply a bead of construction adhesive in a 3″ (7.6 cm) serpentine pattern to the substrate and install the shim flush with the edge of the step down. Refer to construction adhesive label for all recommendations, warnings and safety precautions.

4. To avoid shifting over concrete, allow enough time for the construction adhesive to set prior to continuing the installation. This time will vary depending upon the adhesive being used.

5. Apply a bead of construction adhesive in a 3″ (7.6 cm) serpentine pattern to the back of the cut piece of stair nose and affix to the shim. (On wood subfloors, drill appropriate size holes into the installed stair nose and anchor with 6d finish nails. Set nails using a nail punch. Fill holes with a repair stick.)

6. Install the Armstrong S-1833 Quiet Comfort Underlayment up to the shim.

7. Using a utility knife or table saw, remove the tongue from the laminate plank to be installed to the stair nose.

8. Apply a bead of construction adhesive in a 2″ (5.08 cm) serpentine pattern on the substrate between the stair nose and the underlayment.

9. Apply a bead of adhesive (preferably a 5-minute epoxy) to the lip on the stair nose. Following the manufacturer's recommendations, immediately remove any excess adhesive from the laminate surface.

10. Place the tongue side of the flooring against the stair nose being sure that the laminate surface is flush with the stair nose surface.

11. From this point, continue the installation of the laminate flooring using the installation instructions provided with the laminate flooring.

Instructions for Installing Laminate Perpendicular to the Stair Nose

1. Measure and cut stair nose to length.

2. Using a utility knife or table saw, remove the bottom lip of the stair nose.

3. Following the instructions listed below, set the router bit and manufacture a groove on the stair nose. Use a 7 mm router bit and 7 mm splines for 7 mm products and an 8 mm router bit and 8 mm splines for 8 mm products.

4. Apply a bead of construction adhesive in a 3″ (7.6 cm) serpentine pattern to the back of the cut piece of stair nose and affix to the stair. Refer to construction adhesive label for all recommendations, warnings and safety precautions. (On wood subfloors, drill appropriate size holes into the installed stair nose and anchor with 6d finish nails. Set nails using a nail punch. Fill holes with a repair stick.)

5. To avoid shifting over concrete, allow enough time for the construction adhesive to set prior to continuing the installation. This time will vary depending upon the adhesive being used.

6. Using a utility knife or table saw, remove the tongue or groove from the laminate plank to be installed to the stair nose.

7. Following the instructions listed below, set the router bit and manufacture a groove on the laminate plank.

8. Apply a bead of Armstrong™ S-1800 Laminate Flooring Glue or Bruce® EverSeal™ to both sides of one edge of the spline and insert it into the groove of the stair nose.

9. Apply another bead of glue to the top of the exposed portion of the spline.

10. Apply a bead of glue to the bottom lip of the groove of the piece of flooring to be installed.

11. Place the piece of flooring into position and gently tap the pieces together using the tapping block.

12. A small, continuous bead of glue must ooze to the surface to ensure a water-resistant joint.

13. Remove the excess glue with a damp cloth followed by wiping with a clean, dry, cotton cloth.

Setting the Router Bit

1. Set the depth of the router bit by placing two pieces of flooring on a flat, sturdy surface with the factory grooves facing each other.

2. After the bit has been installed into the router, place the router on the surface of the flooring and adjust the bit height visually to match the groove position.

3. To check the accuracy of your router bit setting, rout a groove on the tongue edge of a piece of scrap.

4. If there is a slight scrap of the tongue left above or below the groove, adjust the bit depth accordingly and recheck your adjustment.

NOTE: If desired, the stair nose and laminate may be grooved and splined together regardless of the direction of the laminate installation. Use a 7 mm router bit and 7 mm splines for 7 mm products and an 8 mm router bit and 8 mm splines for 8 mm products. When using splines the tongue or groove edge of the laminate flooring and the bottom lip of the stair nose must be removed.

Expansion Zone

All expansion zones between the edge of the laminate flooring installation and all vertical surfaces parallel to the stair nose should be increased according to the chart below:

| If distance between nosing and vertical surface is:	Expansion zone should be:
5′ - 9′	1/4″
10′ - 14′	3/8″
15′ - 19′	1/2″
20′ - 24′	3/4″
25′ - 29′	7/8″
30′ +	1″

## M. SPECIAL CUTTING PROCEDURES

Irregular-Shaped Pieces

Make a paper pattern for irregular-shaped pieces, and transfer the pattern to the piece to be cut.

Holes for Pipes

1. On the end of the piece, measure and drill holes that are 1/2″ (12.7 mm) larger in diameter than the pipes.
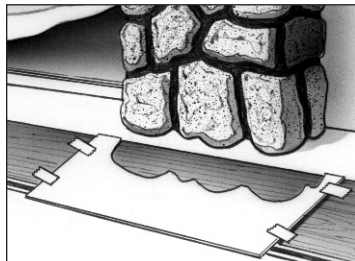
2. Cut across the piece through the center of the holes.

3. Glue the edge of the end piece.

4. Use the pull bar to put the piece in place.

5. Use spacers as wedges to hold in place.

6. On the long side of the piece, mark and drill holes that are 1/2″ (12.7 mm) larger in diameter than the pipes.

7. Cut in from the edge at a 45° angle towards the holes in the piece.

8. Apply glue to the cut edges.

9. Use the pull bar to put the piece in place.

10. Use spacers as wedges to hold in place.
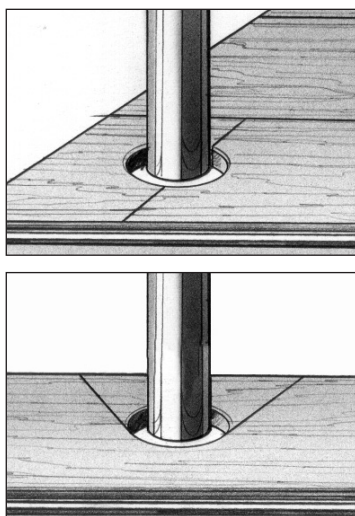
Custom Cutting

Starting Point Modifications:

When installing a custom floor, you may find starting the floor layout from the longest wall is not necessary. In many custom layouts, it may work to your advantage to start from the middle and work out towards the wall. This technique works well for borders and insets. To assist in the installation, a temporary starting block can be attached to the subfloor. This starting block acts much like the usual starting wall and gives you something to tap against during the installation. Once you have reached the opposite wall, the temporary starting block can be removed and the installation completed.

Routing and the Use of Splines: Many custom installations require you cut the board to achieve a desired visual effect. If these cut pieces will be installed in the field of the floor, they will have to be routed. Use a router bit to modify the piece so it can accept the tongue of the next piece or be fitted with a spline. It is critical during the routing process that the groove being cut is properly lined up to match the next piece. This will eliminate any ledging that might occur if the router bit is too high or too low. Also, if the cut is exposed and not hidden from view, make sure the cut is as true and straight as possible.

How to Install Borders or Insets: To create a simple border, start by determining the "visual center" of the room. Then, working out from that point, measure in whole width or length units of the piece you plan to install — a 7 1/2″ x 50 5/8″ (19.05 cm x 128.59 cm) Board, a 15″ x 15″ (38.1 cm x 38.1 cm) Square or a 15″ x 25 5/16″ (38.1 cm x 64.29 cm) Block. Measure until you reach a suitable place for the border. Dry-fit the field and border to help arrange the layout. The majority of the cuts should fall at the perimeter of the floor and be hidden by the Wall Base or Quarter-Round. To install this type of floor layout, you could either start at the longest wall, if all the cut pieces have been calculated, or from the start of the border row. To start from the border, use a 2 x 4 (as a straightedge, and fasten it to the floor to use as a starting wall. Once the field and border have been installed, you can go back and fill out the perimeter of the floor.
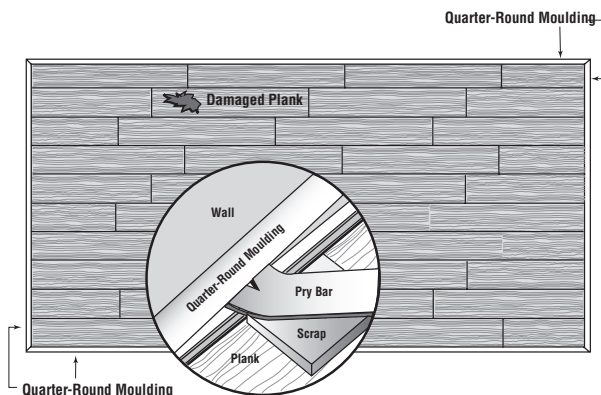
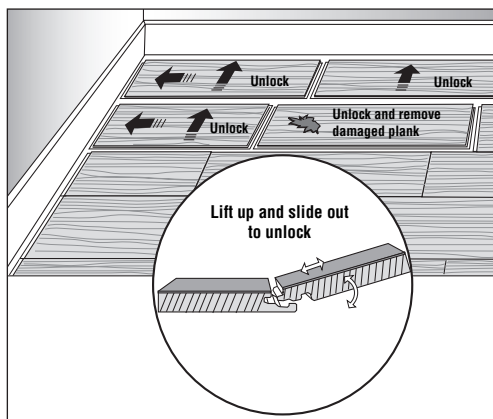## N. REPAIRING LOCKING LAMINATE

Minor Repairs

Minor chips or scratches can easily be repaired using a color-matched Laminate Flooring Touch-Up Kit or Filler Kit.
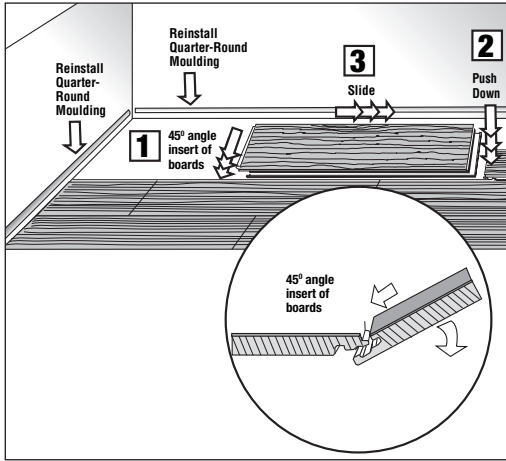
Major Repairs — Close to a Parallel Wall

1. In case of a major problem with the locking system, it is possible to replace an entire piece of the flooring. In most cases, just remove the moulding from the walls nearest the damaged board.

Quarter-Round Moulding

Damaged Plank

Wall

Quarter-Round Moulding

Pry Bar

Scrap

Plank

Quarter-Round Moulding

2. Remove the boards by unlocking them. You can work in either direction, carefully working back to the damaged piece.


Unlock

Unlock

Unlock

Unlock and remove damaged plank

Lift up and slide out to unlock

3. Replace the damaged board with a new one. Reassemble the floor.

**Reinstall
Quarter-Round
Moulding**

**Reinstall
Quarter-
Round
Moulding**

3 Slide

2 Push
Down

**1** 45º angle
insert of
boards

45º angle
insert of
boards

Major Repairs — In Center of Room (Repair is Permanent)

1. Check replacement board for damage, size and fit.

2. Mark damaged board 1 1/2″ (3.81 cm) from ends and sides.
   Drill 3/16″ (4.76 mm) holes in corners and at relief cuts.
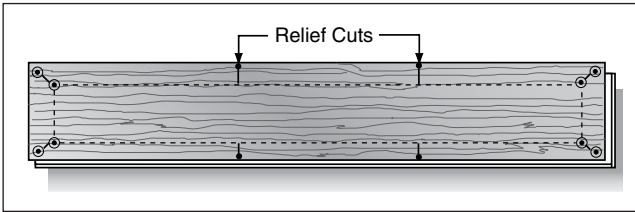
Relief Cuts

3. Set saw depth to board thickness. Cut along lines and remove center section.
   Make relief cuts using drilled holes as visible stop.

4. Carefully lift and pull center length cut first, then work into corners to
   remove end pieces last.

5. If the floor was installed with Armstrong Laminate Glue, clean factory edges
   using a sharp chisel. Remove glue from top of groove using a tongue and
   groove cleaner tool or a small piece of laminate with tongue edge.

6. Prepare replacement board by removing bottom of groove on end and side.

**FACTORY
TONGUE
DO NOT REMOVE**

**FACTORY
TONGUE**

SURFACE

SAW OFF

**FACTORY
GROOVE**
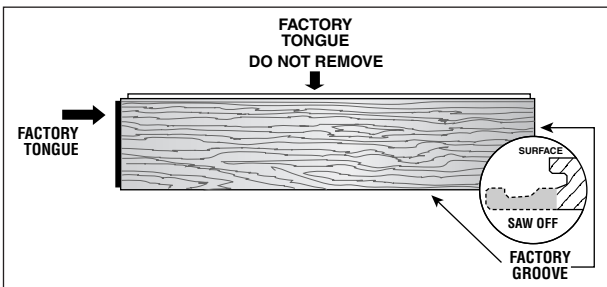
7. Carefully remove tongue from end of board with sharp utility knife.

8. Clean area thoroughly and test fit. Check for high edges and adjust fit using 120-grit sandpaper.

9. Apply Armstrong Laminate Glue to top of tongue and bottom of groove.

10. Carefully place the new piece into the opening. Press firmly.

11. Remove all residual glue on the surface with a clean, damp cloth.

12. Make sure all edges are even on either side of the joints. Apply heavy pressure for at least 24 hours. Use heavy weights.

13. Make sure that the weight is evenly distributed across the new piece.

## O. REPAIRING GLUED LAMINATE
Minor Repairs
Minor chips or scratches can easily be repaired using a color-matched Laminate Flooring Touch-Up Kit or Filler Kit.

Major Repairs

1. Acclimate replacement boards.

2. Check replacement board for size and damage.

3. Mark damaged board 1 1/2″ (3.81 cm) from ends and sides. Drill 3/16″ (4.76 mm) holes in corners and at relief cuts.
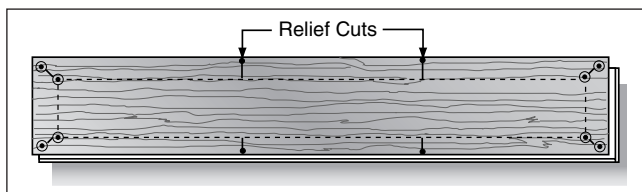

Relief Cuts

4. Set drill and saw depths to board thickness. Cut along lines and remove center section. Make relief cuts using drilled holes as visible stop.

5. Using a pry bar, lift floor and place 1/2″ (12.7 mm) dowel or pipe under factory joint. Using pliers or available laminate floor repair tools, remove middle piece of long joint first, then work into the corners with end pieces removed last.
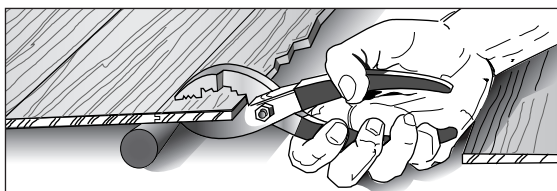
6. Use a piece of countertop laminate or similar material to protect underlayment. Clean factory edges using a sharp chisel. Remove glue using a tongue and groove cleaner tool or a small piece of laminate with a factory tongue and groove.
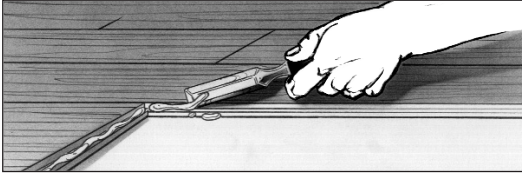

7. Clean factory groove using router and a router bit. Any damaged factory tongue should be routed. Make sure router depth is set exactly. Place a spline into grooved end joint and any areas of damaged factory tongue.
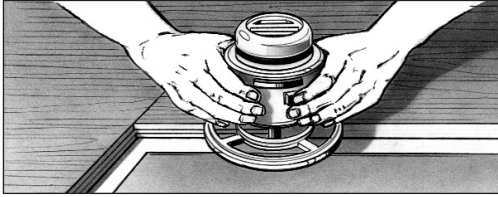

8. Prepare replacement board by routing off factory tongue short end. Remove bottom lip of groove on three sides, leaving long edge factory tongue. When removing bottom of groove, cut the thickness of a saw blade into the board.
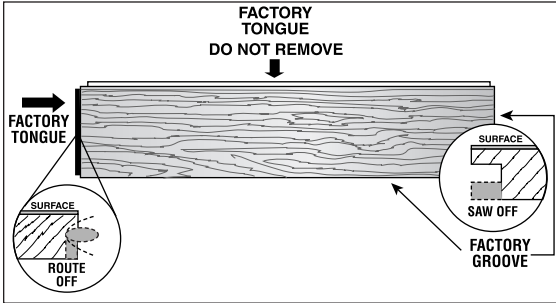
9. **Thoroughly clean area and dry-fit board. Check for right fit and make any necessary adjustments.**

10. Repair the existing underlayment with polyethylene tape, or remove and replace it with new underlayment. Do not overlap onto existing underlayment.

11. Remove splines, and fill the newly milled grooves in the opening with Armstrong Laminate Flooring Glue. Use a small piece of spline to force the glue into the grooves. Insert the spline into position from left to right so as not to trap glue in the groove.
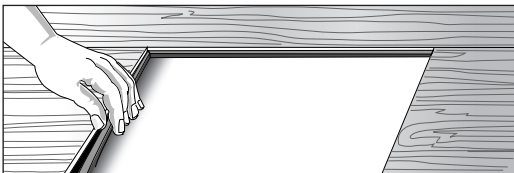
12. Apply glue under the notches of the replacement piece.
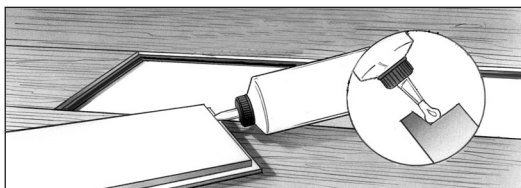
13. Carefully place the new piece into the opening. Press firmly.

14. Remove all residual glue on the surface with a clean, damp cloth.

15. Make sure all edges are even on either side of the joints. Apply heavy pressure for at least 24 hours. Use heavy weights.

16. Make sure that the weight is evenly distributed across the new piece.