

## INSTALLATION INSTRUCTIONS 3/8" & 1/2" (10 mm and 13 mm) ENGINEERED PRODUCTS

FOR STAPLE-DOWN, MECHANICALLY FASTENED,  
FLOATING AND GLUE-DOWN APPLICATIONS



Do not staple down products that exceed 6" in width or Pecan, Maple or Hickory Products

**RECOMMENDED ADHESIVES:** Armstrong™ ProConnect™ Flooring Adhesive, Armstrong® Equalizer Urethane Adhesive, Armstrong Summit™  
**RECOMMENDED ADHESIVE REMOVER:** Low Odor mineral spirits  
**RECOMMENDED CLEANER:** Armstrong Hardwood & Laminate Floor Cleaner or Bruce Hardwood & Laminate Floor Cleaner  
**RECOMMENDED UNDERLAYMENT (Floating installation system only):** Quiet Comfort Premium or Quiet Comfort  
**RECOMMENDED WOOD GLUE (Floating installation and joint gluing):** Armstrong EverSeal™ Adhesive



Do not staple down products that exceed 6" in width or Pecan, Maple, Northshore®, or Hickory Products

**RECOMMENDED ADHESIVES:** Armstrong ProConnect Flooring Adhesive, Armstrong Equalizer urethane adhesive, Armstrong Summit™  
**RECOMMENDED ADHESIVE REMOVER:** Low Odor Mineral Spirits  
**RECOMMENDED CLEANER:** Bruce Hardwood & Laminate Floor Cleaner or Armstrong Hardwood & Laminate Floor Cleaner  
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**Note:** All species of hand-scraped products (such as American Scrape, Century Farm, Legacy Manor, Artesian Hand Tooled & Rural Living) can be stapled down with 20 gauge staples (1" minimum length). Birch, Hickory, Maple and Pecan hand-scraped products can be stapled down using the recommended fastening machines.

**For Products wider than 5":** In addition to the use of mechanical fasteners, assisted glue applications should be used. The glue should be a premium grade urethane construction adhesive applied in a serpentine pattern to the back of each board. Then follow the recommended fastening pattern.

## I. GENERAL INFORMATION

### Owner/Installer Responsibility

Beautiful hardwood floors are a product of nature and therefore, not perfect. Our hardwood floors are manufactured in accordance with accepted industry standards, which permit grading deficiencies not to exceed 5%. These grading deficiencies may be of a manufacturing or natural type. When flooring is ordered, 5% must be added to the actual square footage needed for cutting and grading allowance (10% for diagonal installations).

- The owner/installer assumes all responsibility for final inspection of product quality. Inspection of all flooring should be done prior to 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 product, the owner/installer must determine that the job-site environment and the sub-surfaces involved meet or exceed all applicable standards. Recommendations of the construction and subfloor materials industries, as well as local codes, must be followed. These instructions recommend that the construction and subfloor be clean, dry, stiff, structurally sound and flat. The manufacturer declines any responsibility for job failure resulting from, or associated with, subfloor and substrates or job-site environmental deficiencies.
- Prior to installation, the owner/installer 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 deficiencies, whatever the cause. Should an individual piece be doubtful as to grade, manufacture or factory finish, the installer should not use the piece.
- Use of stain, filler or putty stick for touch-up and appropriate products for correcting subfloor voids is accepted as part of normal installation procedures.

## ATTENTION INSTALLERS

### CAUTION: WOOD DUST

Sawing, sanding and 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.

**Precautionary Measures:** If power tools are used, they should be equipped with a dust collector. If high dust levels are encountered, use an appropriate NIOSH-designated dust mask. Avoid dust contact with eye and skin.

**First Aid Measures in Case of Irritation:** In case of irritation, flush eyes or skin with water for at least 15 minutes.

If you have any technical or installation questions, or to request a Material Safety Data Sheet, please call 1 800 233 3823 or visit [www.floorexpert.com](http://www.floorexpert.com), our technical website.

**MINNESOTA RESIDENTIAL FORMALDEHYDE REGULATION:** IMPORTANT HEALTH NOTICE THESE BUILDING MATERIALS EMIT FORMALDEHYDE, EYE, NOSE, AND THROAT IRRITATION, HEADACHE, NAUSEA AND A VARIETY OF ASTHMA-LIKE SYMPTOMS, INCLUDING SHORTNESS OF BREATH, HAVE BEEN REPORTED AS A RESULT OF FORMALDEHYDE EXPOSURE. ELDERLY PERSONS AND YOUNG CHILDREN, AS WELL AS ANYONE WITH A HISTORY OF ASTHMA, ALLERGIES, OR LUNG PROBLEMS, MAY BE AT GREATER RISK. RESEARCH IS CONTINUING ON THE POSSIBLE LONG-TERM EFFECTS OF EXPOSURE TO FORMALDEHYDE. REDUCED VENTILATION MAY ALLOW FORMALDEHYDE AND OTHER CONTAMINANTS TO ACCUMULATE IN THE INDOOR AIR. HIGH INDOOR TEMPERATURES AND HUMIDITY RAISE FORMALDEHYDE LEVELS. WHEN A HOME IS TO BE LOCATED IN AREAS SUBJECT TO EXTREME SUMMER TEMPERATURES, AN AIR-CONDITIONING SYSTEM CAN BE USED TO CONTROL INDOOR TEMPERATURE LEVELS. OTHER MEANS OF CONTROLLED MECHANICAL VENTILATION CAN BE USED TO REDUCE LEVELS OF FORMALDEHYDE AND OTHER INDOOR AIR CONTAMINANTS. IF YOU HAVE ANY QUESTIONS REGARDING THE HEALTH EFFECTS OF FORMALDEHYDE, CONSULT YOUR DOCTOR OR LOCAL HEALTH DEPARTMENT.

## II. PREPARATION

### Storage and Handling

- Handle and unload with care. Store in a dry place being sure to provide at least a four-inch air space under cartons which are stored upon "on-grade" concrete floors. Flooring should not be delivered until the building has been enclosed with windows doors are in place, and cement work, plastering and all other "wet" work is completed and dry.
- Although it is not necessary to acclimate engineered flooring it is best to store it in the environment in which it is expected to perform prior to installation. Check adhesive label for adhesive storage limitations.

### Job-Site Conditions

The building should be enclosed 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. Basements and crawl spaces must be dry and well ventilated.

## INSTRUCTIONS D'INSTALLATION 10 mm et 13 mm (3/8 po et 1/2 po) PRODUITS DE REVÊTEMENT DE SOL S'INGÉNIERIE

POUR LES APPLICATIONS FIXÉES MÉCANIQUEMENT OU  
À L'AIDE D'AGRAFES, COLLEES ET FLOTTANTES

N'agrafez pas les produits dépassant 13 cm (6 po) de largeur ou les produits en bois de pacane, érable ou hickory

**ADHÉSIFS RECOMMANDÉS :** Adhésif pour revêtement de sol Armstrong™ ProConnect™, Adhésif à base d'uréthane Armstrong® Equalizer, Armstrong Summit™  
**DISSOLVANT D'ADHÉSIF RECOMMANDÉ :** Essence minérale à faible odeur  
**PRODUIT NETTOYANT RECOMMANDÉ :** Nettoyant pour revêtements de sol en bois dur et stratifiés Armstrong ou Bruce  
**SOUS-COUCHE RECOMMANDÉE (installation de plancher flottant uniquement) :** Quiet Comfort Qualité supérieure ou Quiet Comfort  
**COLLE À BOIS RECOMMANDÉE (installation de plancher flottant et encollage des joints) :** Adhésif Armstrong EverSeal™

N'agrafez pas les produits dépassant 6 po de largeur ou les produits en bois de pacane, érable, Northshore™ ou hickory

**ADHÉSIFS RECOMMANDÉS :** Adhésif pour revêtement de sol Armstrong ProConnect, Adhésif à base d'uréthane Armstrong Equalizer, Armstrong Summit™  
**DISSOLVANT D'ADHÉSIF RECOMMANDÉ :** Essence minérale à faible odeur  
**PRODUIT NETTOYANT RECOMMANDÉ :** Nettoyant pour revêtements de sol en bois dur et stratifiés Bruce ou Armstrong  
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**Remarque :** Toutes les espèces de produits grattées à la main (comme American Scrape, Century Farm, Legacy Manor, Artesian Hand Tooled & Rural Living) peuvent être agrafés à l'aide d'agrafes de calibre 20 (longueur minimum de 1 po). Les produits grattés à la main en bouleau, hickory, érable et pacane peuvent être agrafés en utilisant les agrafeuses recommandées.

**Pour les produits ayant une largeur supérieure à 13 cm (5 po) :** En plus de l'utilisation d'agrafes mécaniques, l'application d'adhésif devrait être effectuée. La colle devrait être un adhésif de construction à base d'uréthane de qualité supérieure appliquée en serpentin à l'endos de chaque planche. Poursuivez ensuite la méthode de fixation recommandée.

## INSTRUCCIONES DE INSTALACIÓN 3/8" y 1/2" (10 mm y 13 mm) PRODUCTOS PROCESADOS

PARA APLICACIONES GRAPADAS, DE SUJECCIÓN  
MECANIZADA, FLOTANTES O CON PEGAMENTO

No fije con grapas los productos que exceden 6" (13cm) de ancho ni los productos Pecan, Maple o Hickory

**ADHESIVOS RECOMENDADOS:** Adhesivo de revestimiento para piso ProConnect™ de Armstrong®, adhesivo de uretano Equalizer de Armstrong®, Summit™ de Armstrong  
**REMOVEDOR DE ADHESIVO RECOMENDADO:** Alcoholes minerales con poco olor  
**LIMPIADOR RECOMENDADO:** Limpiador para pisos de madera dura o laminados de Armstrong o Bruce  
**BASE DE PISO RECOMENDADA (Sistema de instalación flotante solamente):** Quiet Comfort de primera calidad o Quiet Comfort  
**PEGAMENTO PARA MADERA RECOMENDADO (Instalación flotante y encolado de junta):** Adhesivo EverSeal™ de Armstrong

No fije con grapas los productos que exceden 6" de ancho ni los productos Pecan, Maple, Northshore® o Hickory

**ADHESIVOS RECOMENDADOS:** Adhesivo de revestimiento para piso ProConnect de Armstrong, Adhesivo de uretano Equalizer de Armstrong, Summit de Armstrong  
**REMOVEDOR DE ADHESIVO RECOMENDADO:** Alcoholes minerales con poco olor  
**LIMPIADOR RECOMENDADO:** Limpiador para pisos de madera dura o laminados Bruce o Armstrong  
**BASE DE PISO RECOMENDADA (Sistema de instalación flotante solamente):** Quiet Comfort de primera calidad o Quiet Comfort  
**PEGAMENTO PARA MADERA RECOMENDADO (Instalación flotante y encolado de uniones):** Adhesivo EverSeal™ de Armstrong

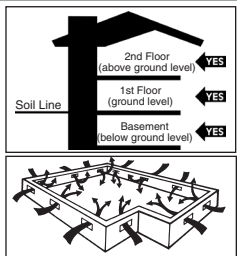
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**LIMPIADOR RECOMENDADO:** Limpiador para pisos de madera dura o laminados Bruce o Armstrong  
**BASE DE PISO RECOMENDADA (Sistema de instalación flotante solamente):** Quiet Comfort de primera calidad o Quiet Comfort  
**PEGAMENTO PARA MADERA RECOMENDADO (Instalación flotante y encolado de uniones):** Adhesivo EverSeal™ de Armstrong

**Nota:** Todas las especies de productos raspados a mano (tales como los de American Scrape, Century Farm, Legacy Manor, Artesian Hand Tooled & Rural Living) se pueden fijar con grapas de calibre 20 (de 1" mínimo de largo). Los productos raspados a mano de Birch, Hickory, Maple y Pecan se pueden grapar utilizando las máquinas de fijación recomendadas.

**Para productos más anchos de 5" (13cm):** Adicionalmente al uso de fijadores mecánicos, se debe utilizar aplicaciones de pegamento como refuerzo. El pegamento debe ser un adhesivo de construcción a base de uretano de primera calidad y aplicarse en un patrón de serpentin a la parte posterior de cada tabla. Luego siga las recomendaciones del patrón de fijación.

- Exterior grading should be complete with surface drainage, offering a minimum drop of 3" in 10' (7.6 cm in 3.05 m) to direct flow of water away from the structure. All gutters and downspouts should be in place.
- Engineered flooring may be installed below-, on- or above-grade level. Do not install in full bathrooms.
- Crawl spaces must be a minimum of 18" (46 cm) from the ground to the underside of the joists. A ground cover of 6-20 mil black polyethylene film is essential as a vapor barrier with joints lapped 6" (15 cm) and sealed with moisture resistant tape. The crawl space should have perimeter venting equal to a minimum of 1.5% of the crawl space square footage. These vents should be properly located to foster cross ventilation (Figure 1).
- Where necessary, local regulations prevail.
- Permanent air conditioning and heating systems should be in place and operating. The installation site should have a consistent room temperature of 60-80°F (16-27°C) and humidity of 35-55% for 14 days prior to and during installation and until occupied.



**WARNING: EXISTING IN-PLACE RESILIENT FLOOR COVERING AND ASPHALTIC ADHESIVES. DO NOT SAND, DRY SWEEP, DRY SCRAPE, DRILL, SAW, BEADBLAST, OR MECHANICALLY CHIP OR PULVERIZE EXISTING RESILIENT FLOORING, BACKING, LINING FELT, ASPHALTIC "CUTBACK" ADHESIVE, OR OTHER ADHESIVE.**

These existing in-place products may contain asbestos fibers and/or crystalline silica.

Avoid creating dust. Inhalation of such dust is a cancer and respiratory tract hazard.

Smoking by individuals exposed to asbestos fibers greatly increases the risk of serious bodily harm.

Unless positively certain that the existing in-place product is a non-asbestos-containing material, you must presume it contains asbestos. Regulations may require that the material be tested to determine asbestos content and may govern removal and disposal of material.

See current edition of the Resilient Floor Covering Institute (RFCI) publication Recommended Work Practices for Removal of Resilient Floor Coverings for instructions on removing all resilient floor covering structures or contact your retailer or Armstrong World Industries, Inc. 1 800 233 3823.

The floor covering or adhesive in this package does NOT contain asbestos.

### Subfloor Conditions

- CLEAN – Subfloor must be free of wax, paint, oil, sealers, adhesives and other debris.
- LEVEL/FLAT – Within 3/16" in 10' (5 mm in 3 m) and/or 1/8" in 6' (3 mm in 2 m). Sand high areas or joints. If the floor is to be glued down, fill low areas with a latex additive cementitious leveling compound of 3,000-PSI minimum compressive strength such as Armstrong S-194 Patch, Underlayment & Embossing Leveler with S-195 Underlayment Additive. Follow the instructions of the leveling compound manufacturer, but make certain the leveling compounds are completely DRY before beginning installation. When mechanically fastening the floor down, flatten low spots with a maximum of 6 layers of 15# builders felt, plywood or shims (not leveling compounds). Leveling materials must provide a structurally sound subfloor that does not affect the holding power of the fastener.
- DRY – Check and document moisture content of the subfloor using the appropriate moisture test. Concrete subfloors must be a minimum of 30 days old before testing begins.
- STRUCTURALLY SOUND – Nail or screw any areas that are loose or squeak. Wood panels should exhibit an adequate fastening pattern, glued/screwed or nailed as system requires, using an acceptable nailing pattern. Typical: 6" (15 cm) along bearing edges and 12" (31 cm) along intermediate supports. Flatten edge swell as necessary. Replace any water-damaged, swollen or delaminated subflooring or underlayments.
- Avoid subfloors with excessive vertical movement. Optimum performance of hardwood floor covering products occurs when there is little horizontal or vertical movement of the subfloor. If the subfloor has excessive vertical movement (deflection) before installation of the flooring, it is likely it will do so after installation of the flooring is complete.

### Subfloors with Radiant Heat

NOTE: Always make certain the product selected is recommended for this type application. The following products are not recommended to be installed over radiant heat subfloors: Armstrong Global Exotics System must be operational and heated for at least 7 days prior to beginning the installation.

- Use an incremental control strategy that brings the floor through temperature changes gradually which may include an external thermostat.
- Turn off heat and let subfloor cool down to room temperature 3-4 hours prior to starting the job.
- BEFORE installation begins, ascertain that the heating system is designed and controlled for wood flooring and that the circuit does not include other floor covering types. Failure to do so may cause excessive heat damage and shrinkage. NOTE: Refer to radiant heat system manufacturer's precautions for staple down installation. Beware of stapling through radiant tubing or mesh.

- After installation, turn the heating system back on immediately. The finished floor surface must not exceed 85°F (29°C) throughout the life of the floor.
- Radiant heating systems normally create dry heat that can lower interior humidity levels. It may be necessary to add humidity with humidifiers to maintain the recommended levels (35-55%) and prevent damage to the wood floor.
- The flooring should be end-glued over radiant heat to reduce longitudinal shrinkage. Apply a bead of the recommended wood glue to the groove end then insert the tongue. Wipe excess adhesive away immediately.

### Tools & Accessories Needed

#### (All Installation Methods)

- Broom • Tape measure • Hammer • Chalk line & chalk • Hand saw or jamb saw
- Recommended hardwood flooring cleaner • Electric power saw • Eye protection • Recommended wood glue
- Moisture Meter (wood, concrete or both) • Transition and wall moldings • NIOSH-designated dust mask

#### (Add for Glue-Down Installations)

- Recommended adhesive and adhesive remover
- 1/4" x 1/2" x 3/16" (6 mm x 13 mm x 8 mm) V-Notch trowel (Figure 2)
- 3M Scotch-Blue™ 2080 tape
- Recommended wood glue for floors exceeding 3-1/4" (9.5 cm) in width
- Armstrong VapArrest S-135 Professional Moisture Retardant System on concrete (if needed). Use with urethane adhesive only.

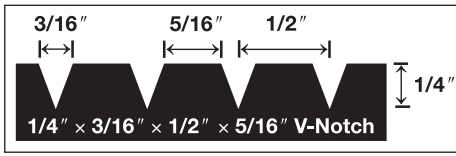


Figure 2

#### (Add for Mechanically Fastened/Staple-Down Installations)

- PowerNail 20FS & PowerNail 2000 • Stanley Bostitch 2025K & Stanley Bostitch LHF 97125
- 1" Staples/fasteners (minimum) • 20 gauge fasteners • Compressor and hose
- Nylon/Plastic tapping block • In-line regulator
- Recommended wood glue for floors exceeding 3-1/4" (9.5 cm) in width

#### (Add for Floating Installations)

- Recommended underlayment • Pull bar • Tapping block • Recommended wood glue

## III. SUBFLOOR / UNDERLAYMENT REQUIREMENTS

### Recommended Subfloor/Underlayment Surfaces

#### (Glue Down and Floating Installations Only)

- Concrete • Ceramic Tile, Terrazzo, Slate & Marble • Acoustic cork

#### (All Installation Methods)

- Wood subfloors • Wood structural panels and underlayment • Fully adhered existing wood floors
- Fully adhered vinyl sheet, resilient tile, cork flooring and linoleum

### Concrete

#### (Glue Down and Floating Installations Only)

The flooring can be glued directly to concrete with a minimum compressive strength of 3000 PSI. Do not install over a concrete sealer or painted concrete. If present, remove by grinding or sanding. Do not install over slick, heavily troweled or burnished concrete. Roughen the surface as necessary by sanding or grinding. Use an appropriate NIOSH-designated dust mask. Floating floors can be installed over any structurally sound concrete.

### Concrete Moisture Tests

All concrete subfloors should be tested, and results documented, for moisture content. Visual checks may not be reliable. Test several areas, especially near exterior walls and walls containing plumbing. Acceptable test methods for subfloor moisture content include:

- **Tramex Concrete Moisture Encounter Meter:** (Figure 3) Moisture readings should not exceed 4.5 on the upper scale. (Figure 3 shows an unacceptable reading of over 4.5.)
- **Polyfilm Test:** Apply 3' x 3' (1 m x 1 m) pieces of polyethylene film to the subfloor and leave in place for 24 hours. Assure all edges are completely sealed with water resistant tape. Darkened concrete or condensation on film indicates presence of moisture and requires additional measurements with a Calcium Chloride or RH test.



Figure 3

#### NOTE: The following tests are required in commercial applications.

Either or both tests are acceptable. If both tests are conducted then both tests must pass.

- **Calcium Chloride Test (ASTM F 1869):** The maximum moisture transfer must not exceed 3 lbs./1000 ft.<sup>2</sup> in 24 hrs. with this test.
- **RH Levels in Concrete Using In-situ Probes (ASTM F 2170)** should not exceed 75%.

"DRY" CONCRETE, AS DEFINED BY THESE TESTS CAN BE WET AT OTHER TIMES OF THE YEAR. THESE TESTS DO NOT GUARANTEE A DRY SLAB. ALL NEW CONSTRUCTION CONCRETE SLABS SHOULD HAVE A MINIMUM OF 10 MIL POLY FILM MOISTURE BARRIER BETWEEN THE GROUND AND THE CONCRETE.

### Moisture Retardant Systems

If excessive moisture is present or anticipated, use Armstrong VapArrestTM S-135 Professional Moisture Retardant System, Armstrong Summit adhesive or inexpensive sheet vinyl to reduce vapor intrusion.

NOTE: DO NOT use Armstrong Proconnect™ Professional Hardwood Flooring Adhesive when using Armstrong VapArrest S-135 Professional Moisture Retardant System or sheet vinyl as a moisture retardant. Use only Armstrong® Equalizer™.

- **Armstrong VapArrest S-135:** Apply the materials after all subfloor preparation is complete. Follow the instructions on the VapArrest S-135 label. Allow 8-24 hours curing time before application of the hardwood flooring.
- **Armstrong Summit adhesive:** Apply the adhesive using the Summit trowel that is included in every pail. Flooring can be installed immediately after applying the adhesive.
- **Sheet vinyl:** An inexpensive sheet vinyl or "slip-sheet" (felt-backed with vinyl wear layer) may be installed. Use a premium grade, alkali resistant adhesive and a full spread application system to properly bond the vinyl to the subfloor. Follow the sheet vinyl manufacturer's instructions for installation procedures. A bond test may be required as an adhesion test. Install several small areas (3' x 3') (1 m x 1 m) and allow the vinyl to set for 72 hours. Remove the vinyl. If the backing remains attached to the concrete, the subfloor should be acceptable for sheet vinyl installation. Install the sheet vinyl and allow the adhesive to cure for 24 hours prior to beginning installation. Degloss as necessary to create an adequate adhesive bond. Always check for adequate adhesive bond.

### Acoustic Concrete

#### (Glue Down and Floating Installations Only)

Acoustic concrete normally contains large quantities of gypsum that may inhibit the adhesive's capability to properly bond. Acoustic concrete must be primed with the concrete manufacturer's recommended primer/surface hardener. Test the concrete by scraping the surface with a nail or other sharp object. If the concrete powders or crumbles, it is not sound and suitable for direct application of hardwood flooring and may require the use of a floating sub-floor system. Always check for adequate adhesive bond. The concrete must have a minimum compressive strength of 2000 PSI.

### Ceramic, Terrazzo, Slate & Marble

#### (Glue Down and Floating Installations Only)

All joint grooves and broken corners that exceed 3/16" (5 mm) must be filled with a cementitious leveling compound such as Armstrong S-194 Patch, Underlayment & Embossing Leveler with S-195 Underlayment Additive. The surface should be cleaned and abraded to create a good bonding surface for the adhesive. Loose tiles must be re-adhered to the subfloor or filled as above. Remove all sealers and surface treatments. Always check for adequate adhesive bond.

### Acoustic Cork Underlayment

#### (Glue Down and Floating Installations Only)

The flooring can be glued or floated directly over full-spread, permanently bonded acoustic cork. The cork should have a density of no less than 11.4 lb./cubic foot. The cork, in general, should be pure cork combined with a polyurethane or resin binder. Install cork in accordance with cork manufacturer's recommendations. Always check for adequate adhesive bond. When floating floors over cork DO NOT use foam underlayment.

### Wood Subfloors and Underlayment

#### (All Installation Methods)

General: The wood subflooring materials must not exceed 13% moisture content. Using a reliable wood moisture meter, measure moisture content of both the subfloor and the hardwood flooring to determine proper moisture content. The difference between the moisture content of the wood subfloor and the hardwood flooring must not exceed 4%. When installing parallel to the floor joists it may be necessary to stiffen the subfloor system by installing an additional minimum of 3/8" (9.5 mm) approved underlayment. Applicable standards and recommendations of the construction and materials industries must be met or exceeded.

NOTE: As flooring manufacturers, we are unable to evaluate each engineered system. Spacing and spans, as well as their engineering methods, are the responsibility of the builder, engineer, architect or consumer who is better able to evaluate the expected result based on site-related conditions and performance. The general information provided below describes common, non-engineered joist/subfloor systems. Engineered flooring systems may allow for wider joist spacing and thinner subflooring materials.

**Option 1:** When wider joist spacing of 19.2" or greater is used, additional plywood subfloor material must be added to reduce movement and deflection.

**Option 2:** In addition to the use of mechanical fasteners, assisted glue applications should be used. The glue should be a premium grade urethane construction adhesive applied in a serpentine pattern to the back of each board. Then follow the recommended fastening pattern.

**Option 3:** With wider spacing of 19.2" apply a bead of Armstrong EverSeal to the bottom of the end and side groove. This will lock the tongue and groove together eliminating movement that may contribute to noise. Then follow the recommended fastening pattern with a staple or cleat.

Our products will not be warranted against cracking and popping associated with a staple down or nail down installations. With wider joist spacing of 19.2" or greater please follow one of the above methods to reduce noise associated with a mechanically fastened installation.

### Wood Structural Panel Subfloors and Underlayment

#### (All Installation Methods)

Structural panels/underlayment must be installed sealed side down. When used as a subfloor, allow 1/8" (3 mm) expansion space between each panel. If spacing is inadequate, cut in with a circular saw. Do not cut in expansion space on tongue and groove panels.

- **Plywood:** Must be minimum CDX grade (exposure 1) and meet US Voluntary Product Standard PS1 performance standard or Canadian performance standard CAN/CSA 0325-0-92. The preferred thickness is 3/4" (19 mm) as a subfloor [minimum 5/8" (16 mm)] or 3/8" (9.5 mm) as underlayment.
- **Oriented Strand Board (OSB):** Conforming to US Voluntary Product Standard PS2 or Canadian performance standard CAN/CSA 0325-0-92 construction sheathing. Check underside of panel for codes. When used as a subfloor, the panels must be tongue and groove and installed sealed side down. Minimum thickness to be 23/32" (18 mm) thick when used as a subfloor or 3/8" (9.5 mm) as underlayment.
- **Waterboard and Chipboard:** Conforming to US Voluntary Product Standard PS2 or Canadian performance standard CAN/CSA 0325-0-92. Must be 3/4" (19 mm) thick when used as a subfloor and 3/8" (9.5 mm) thick when used as an underlayment.
- **Particleboard:** Must be a minimum 40-lb. density, stamped underlayment grade and 3/4" (19 mm) thick.

### Solid Wood Subfloors

#### (All Installation Methods)

- Minimum 3/4" (19 mm) thick with a maximum width of 6" (15 cm) installed at a 45° angle to the floor joists.
- Group 1 dense softwood (Pine, Larch, Douglas Fir, etc.) No. 2 common, kiln dried with all board ends bearing on joists.
- For glue down applications add 3/8" (9.5 mm) approved underlayment.

### Existing Wood Flooring

#### (All Installation Methods)

- Existing engineered flooring must be well bonded/fastened. When gluing over existing wood flooring of any thickness, the finishing materials must be abraded or removed to foster an adequate adhesive bond. When flooring is to be mechanically fastened, the existing engineered wood flooring must be a minimum of 3/8" (9.5 mm) thick installed over approved wood/wood composite underlayment that has been properly fastened. When installing over engineered flooring that is glued to concrete, the minimum thickness of that flooring must be 1/2" (13 mm) to allow for the length of the fastener.
- Existing solid wood flooring that exceeds 6" (15 mm) in width must be covered with 3/8" (9.5 mm) approved underlayment and fastened as required. Do not install over solid flooring attached directly to the concrete.

### Existing Wood Flooring

#### (All Installation Methods, see notes below)

#### (Glue-Down Installations)

DO NOT use Armstrong ProConnect Professional Hardwood Flooring Adhesive when installing over these surfaces. Use only Armstrong Equalizer Premium Urethane Adhesive or Summit All-In-One Adhesive

- Make certain the floor covering materials are well bonded to the subfloor/underlayment with full spread adhesive and are no more than two layers thick, not to exceed 3/16" (5 mm).
- With approved wood/wood composite subfloors, if vinyl or tiles are loose, broken, or in poor condition, install a 3/8" (9.5 mm) approved underlayment directly over the flooring materials.
- Clean the flooring materials as necessary to create a good adhesive bond. If a maintenance material is present on the floor covering or a gloss is present, de-gloss with a flooring pad and a commercially available stripper, then rinse completely. Allow ample drying time. (NOTE: Do not sand any resilient products. They may contain asbestos fibers, which may be harmful.)
- Cork floors must have all sealers and surface treatments removed before installation begins. Always check for adequate adhesive bond.

#### (Mechanically Fastened/Staple-Down Installations)

- Do not install over floors that exceed one layer, as the thickness of the flooring materials will prevent an adequate mechanical bond.
- Make certain that the subflooring materials meet minimum requirements.
- Some tile products may be too brittle for staple penetration. Always test an area for breakage before proceeding.

## IV. INSTALLING THE FLOOR

### General Installation Tips

#### (Glue Down and Floating Installations Only)

NOTE: When installing UNFINISHED engineered flooring, allow a minimum of 72 hours adhesive curing time before applying seals, stains and finishes to unfinished flooring. Test the moisture content of the wood in accordance with the stain/finish manufacturer's recommendations.

- Do not staple or mechanically fasten products that exceed 6" (13 cm) in width.
  - Floor should be installed from several cartons at the same time to ensure good color and shade mixture.
  - When possible, preselect and set aside boards that blend best with all horizontally mounted moldings used to assure a uniform final appearance. Install these boards adjoining the moldings.
  - Be attentive to staggering the ends of the boards at least 4"-6" (10-15 cm) when possible, in adjacent rows (Figure 4). This will help ensure a more favorable overall appearance of the floor.
  - When installing engineered products of uniform length, begin the rows with starter boards cut to various lengths. Avoid staggering the rows uniformly to prevent stair-stepping. Boards cut from the opposite end of the row may be used for the next starter boards.
  - Always allow a minimum 1/4" (6 mm) expansion around all vertical obstructions. Allow 1/2" (13 mm) for floating floors.
- NOTE: (For Glue-Down Installation) When installing products wider than 3 1/4" (8 cm), apply a bead of recommended wood glue to all of the end grooves prior to installing into the adhesive. (For Staple Down Installation) When installing products wider than 3 1/4" (8 cm) but not to exceed 5" (13 cm), apply a bead of recommended wood glue to all of the end grooves prior to stapling down.

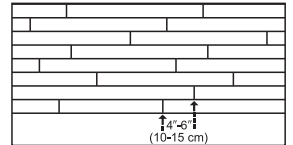


Figure 4  
Preferred Alignment

### STEP 1: Doorway and Wall Preparation

#### (All Installation Methods)

Undercut door casings and jambs. Remove any existing base, shoe molding or doorway thresholds. These items can be replaced after installation. All door casings and jambs should be undercut to avoid difficult scribe cuts (Figure 5).

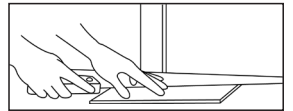


Figure 5

### STEP 2: Establish a Starting Point

#### (All Installation Methods)

- Installation parallel to the longest wall is recommended for best visual effects, however, the floor should be installed perpendicular to the flooring joists unless the subfloor has been reinforced to reduce subfloor sagging.
- When possible, always begin the layout or installation from the straightest wall, generally an outside wall.
- In at least two places, at least 18" (46 cm) from the corner, measure out equal distance from the starting wall (Figure 6) and snap a chalk line. The measurement must be the sum of the width of the flooring plus an additional 3/8" (9.5 mm) to allow for 1/4" (6 mm) expansion space and the width of the tongue. Allow 1/2" (13 mm) expansion when installing floating floors.

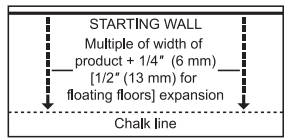


Figure 6

### STEP 3: Installing First & Second Rows

#### (Mechanically Fastened/Staple-Down Installations)

- Use the longest, straightest boards available for the first two rows. For random and alternate width products, use the widest plank for the first row. Align tongue of first row on chalk line. The groove should be facing the starting wall. Pre-drill 1/2" (13 mm) from back (groove) edge, 1"-2" (2.5-5 cm) from each end, and at 6" (15 cm) intervals when possible (Figure 7). Fasten using 4 or 6d finishing nails or 1" (2.5 cm) pneumatic finish nails/brads. Countersink the nails.

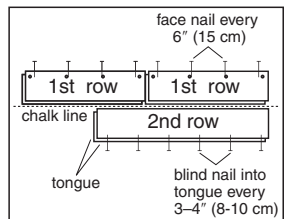


Figure 7

- Pre-drill and blind-nail at a 45° angle through the tongue of the first row every 1"-2" (2.5-5 cm) from the ends and spaced in 3"-4" (7.6-10 cm) intervals. Countersink nails to ensure flush engagement of groove with the following row(s). Continue blind nailing using this method with following rows until stapler can be used. Alternatively use a pneumatic finish nailer and install nails/brads at the same intervals with a minimum length of 1" (2.5 cm).
- End-joints of adjacent rows should be staggered a minimum of 4"-6" (10-15 cm) when possible, to ensure a more favorable overall appearance (Figure 4).

### STEP 4: Installing the Floor

#### (Mechanically Fastened/Staple-Down Installations)

- Always use the recommended stapler for the specific product being installed (see "Installation Applications"). Use a minimum 1" (2.5 cm) staple recommended by the stapler manufacturer, 1"-2" (2.5-5 cm) from the ends spaced at 3"-4" (8-10 cm) intervals. Continue to Step 5.
- Set compressor at 70 PSI. If tongue damage occurs, lower air pressure (Figure 8).
- Fasten several sacrificial boards to the floor. At least two boards, stapled side by side, must be used to indicate proper machine adjustments.
- Check for surface damage, air pressure setting, tongue damage, edge blistering, etc. before proceeding. Make all adjustments and corrections before installation begins. Once proper adjustments have been made, remove and destroy the boards.
- Install the remainder of the floor working from several cartons.
- The last 1-2 rows will need to be face-nailed when clearance does not permit blind nailing with a stapler or a Brad nailer. Pre-drill and face-nail or pneumatically nail on the tongue side, following the nailing pattern used for the first row.

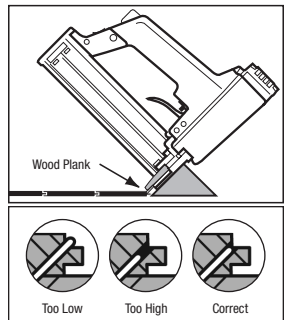


Figure 8

## General Information for Glue-Down Applications

- Maximum adhesive working times: Armstrong Equalizer adhesive - 60 minutes; Armstrong ProConnect™ Hardwood Flooring Adhesive - 60 minutes. When not in use, keep the adhesive container tightly closed to prevent thickening. Thickening will cause difficulty in spreading the adhesive. Summit - 50 minutes
- Open times and curing times of ALL adhesives vary dependent upon subfloor porosity, air movement, humidity and room temperature. Urethane adhesive has a shortened working time in high humidity environments, whereas the working time for ProConnect™ and polymeric resin adhesives will be lengthened. In areas of low humidity, open time will be longer with urethane adhesives and shorter with ProConnect™. Adjust the amount of adhesive spread on the subfloor accordingly. The adhesive should not be applied if subfloor or room temperature is below 60°F (16°C). WORKING TIME WILL VARY DEPENDING ON JOB SITE CONDITIONS.

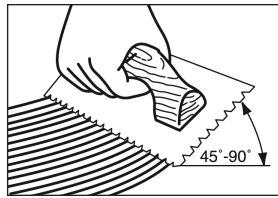


Figure 9

- Hold trowel at a minimum 45° angle (Figure 9) firmly against the subfloor to obtain a 40-60 ft.<sup>2</sup> (4-5.5 m<sup>2</sup>) per gallon spread rate (30-35 ft.<sup>2</sup> per gallon for Summit spread with the included Summit All-In-One trowel) The trowel will leave ridges of adhesive and very little adhesive between the ridges. This will allow you to still see the chalk lines between the ridges and provide the recommended spread rate.
- For additional application instructions, follow the recommendations on the adhesive container.
- Proper ventilation within the room must be provided. An electric fan is helpful.
- Rolling is not required, but if desired, do not do so until the adhesive has cured for two hours.

NOTE: DO NOT INSTALL FLOORING USING RUBBER MALLETS. STRIKING THE SURFACE WITH A RUBBER Mallet MAY "BURN" THE FINISH CAUSING IRREPAIRABLE DAMAGE.

### STEP 3: Spread the Adhesive

#### (Glue-Down Installations)

- Spread sufficient amounts of the recommended adhesive with the recommended trowel (Figure 2) in an area that can be covered in 60 minutes (see adhesive information).
- If necessary, nail a sacrificial row with 1" (2.5 cm) nails on the dry side of your chalk line to help hold the first row in place.

NOTE: Avoid installing on the surface of the flooring. If necessary, distribute weight using a kneeler board.

### STEP 4: Installing the Floor

#### (Glue-Down Installations)

(Figure 10a-10d)

- Use the longest, straightest boards available for the first two rows. For random and alternate width products, use the widest plank for the first row. The first row of planks should be installed with the groove lined up on the chalk line. The tongue should be facing the starting wall. The first row must be aligned and seated in the adhesive, as all additional rows will be pushed back to this original row. Remove tongue to allow for expansion space, if necessary, on the row adjoining the wall. Continue to Step 5.
- When installing products wider than 3 1/4" (8 cm), apply a bead of recommended wood glue to all of the end grooves prior to installing into the adhesive.
- When installing pieces, engage the end-joint first, as close to the side (long) tongue and groove as possible, then slide together tightly to engage the side (long) joint tongue and groove. To avoid adhesive bleed-through and memory pull-back, avoid sliding pieces through the adhesive as much as possible when placing them in position.
- During the installation occasionally remove a piece of flooring from the subfloor and inspect the back for proper adhesive transfer. Adequate adhesive transfer is necessary to ensure sufficient holding strength.
- If the adhesive skins over and fails to transfer, remove and spread new adhesive to achieve proper bonding.

NOTE: Clean adhesive from the surface of the floor frequently, using the recommended adhesive cleaner. Urethane adhesives become extremely difficult to remove when cured. Do not use 3M Scotch-Blue™ 2080 Tape before adhesive is removed from the surface. Use clean towels, changed frequently, to prevent haze and adhesive residue.

- Check for a tight fit against all edges and ends of each plank. End-joints of adjacent rows should be staggered 4"-6" (10-15 cm) when possible, to ensure a more favorable overall appearance (Figure 4).
- It may be necessary to align the product with a cut-off piece of scrap as shown (Figure 11 - Keep scrap angle low to avoid edge damage).
- To eliminate minor shifting or gapping of product during installation, use 3M Scotch-Blue™ 2080 Tape to hold the planks together. After installation is complete, remove all of the 3M Scotch-Blue™ 2080 Tape from the surface of the newly installed flooring. Do not let the tape remain on the flooring longer than 24 hours. Avoid the use of masking or duct tape, which leaves an adhesive residue and may damage the finish.
- If necessary, use weights to flatten boards with bows until adhesive cures, in order to prevent hollow spots. Boards that cannot be flattened should be cut in length to reduce the bow, or not used.
- Be sure not to spread adhesive too far ahead of your work area (Figure 10d).
- Complete the installation using this same technique for the remainder of the floor.
- Avoid heavy foot traffic on the floor for at least 24 hours. Lift the furniture or fixtures back into place after 24 hours.

### General Information for Floating Floors

Floating floors can be installed over any structurally sound surface that meets or exceeds local building codes. Any width of flooring can be installed in this manner but wider widths are preferred.

- Plan the floor layout (in width) to avoid having to rip the last row narrower than 1" (2.5 cm). This may require ripping the first row to assure the last row is at least the minimum width.
- Allow 1/2" (13 mm) expansion around all vertical obstructions.

### STEP 3: Installing the Underlayment

#### (Floating Installations Only)

- Install the underlayment in the same direction the hardwood flooring is to be installed.
- Extend the underlayment a few inches up the wall.
- Trim excess prior to installing trim or moldings.
- The floating floor underlayment already has double-sided tape for ease of taping the pre-cut overlapping seams (Figure 12). If a non-adhesive underlayment is used, tape all seams with the included tape.

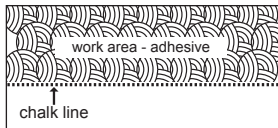


Figure 10a

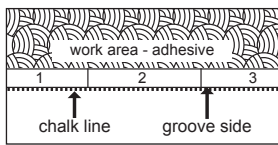


Figure 10b

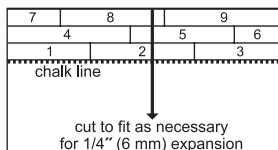


Figure 10c

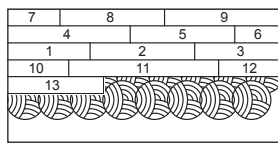


Figure 10d

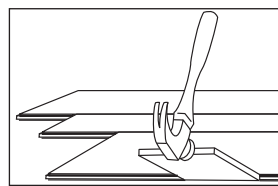


Figure 11

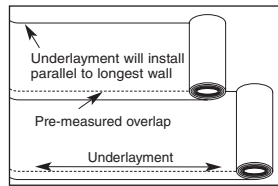


Figure 12

### STEP 4: Installing the Floor

#### (Floating Installations Only)

- The first row can be installed using one of two methods after the layout has been completed (Step 2). Allow 1/2" (13 mm) expansion.
- **Sacrificial board:** If the wall is not straight, scribe the first board (Figure 13) as necessary to maintain alignment with the chalk line. Install a sacrificial board (with a straight edge) using the appropriate fasteners for the subfloor. If a board is used for the starter row make certain the groove faces the wall.
- **Wedges:** Align the first row with the wall using wedges to maintain a 1/2" (13 mm) expansion in place and to stabilize the product. If the wall is not straight, scribe the first board (Figure 13) as necessary to maintain alignment with the chalk line.
- Select the first board. All installations should begin with the groove side against the wall using the longest boards available. Apply a continuous 1/8" (3 mm) glue bead to the inside bottom of the groove on the end of the board. Do not apply glue to the groove side at this time (Item C, Figure 14). Products with the end tongue on the left should be installed right to left, opposite tongues should be left to right. (Item D, Figure 14). If a sacrificial board was used DO NOT glue the first row to it.
- Complete the first row. Cut the last board allowing for 1/2" (13 mm) clearance between the wall and the floor. (Use the remaining end of the cut board as a starter board for any row following row three). Install a wedge on the end of the board between the hardwood flooring and the wall, allowing 1/2" (13 mm) expansion space. Avoid installation of any boards shorter than 16" (40.6 cm) in the first four rows. (Item F, Figure 14).
- Use a pull bar to pull the last board into place from the opposite end. Install wedges into the gap and tighten (Item B, Figure 14).
- If any glue gets on the surface of the flooring, wipe off immediately with a clean damp cloth.
- Cut or use a shorter board for the first board of the second row. Start the second row by applying a 1/8" (3 mm) bead along the inside bottom of the end and side groove of the new board. Install the first board of row two. Apply a bead of glue to the inside bottom of the end and side groove of the next board and install. When installing boards together, use a tapping block against the tongue, not the groove (Item G, Figure 14). Tap the boards into place by tapping with a hammer on the tapping block. DO NOT tap on the edge directly with the hammer. Complete the second through fourth rows using this technique. Insert wedges on the ends, as necessary, to restrain the movement of the floor.
- In the remaining rows, stagger joints 4"-6" (10-15 cm) apart. Install the rest of the floor. Be sure all joints are tight. Use spacers on the long and butt walls. Use a tapping bar to tighten the joints from the ends.

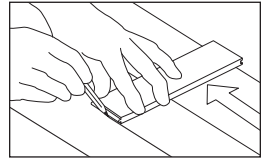


Figure 13

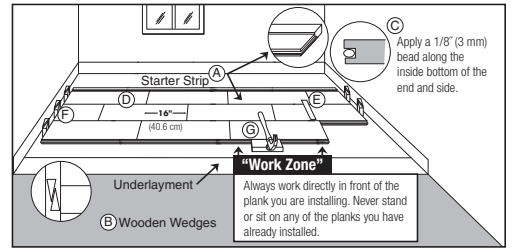


Figure 14

### STEP 5: Complete the Installation

#### (All Installation Methods)

- Remove all tape and clean the floor with the recommended hardwood flooring cleaner.
- Trim all underlayment (floating only) and install or re-install any transition pieces, reducer strips, T-moldings, thresholds, bases and/or quarter round moldings that may be needed. These products are available pre-finished to blend with your flooring (see below). Nail moldings into the wall, not the floor.
- Inspect the floor, filling all minor gaps with the appropriate blended filler.
- If the floor is to be covered, use a breathable material such as cardboard. Do not cover with plastic.
- Leave warranty and floor care information with the owner. Advise them of the product name and code number of the flooring they purchased.
- To prevent surface damage, avoid rolling heavy furniture and appliances on the floor. Use plywood, hardboard or appliance lifts if necessary. Use protective casters/caster caps or felt pads on the legs of furniture to prevent damage to the flooring.

## V. TRANSITION AND WALL MOLDINGS



- **Reducer Strip:** A teardrop shaped molding used around fireplaces, doorways, as a room divider, or as a transition between hardwood flooring and adjacent thinner floor coverings. Fasten down with adhesive, small nails or double-faced tape.
- **Threshold:** A molding undercut for use against sliding door tracks, fireplaces, carpet, ceramic tile, or existing thresholds to allow for expansion space and to provide a smooth transition in height difference. Fasten to subfloor with adhesive and/or nails through the heel. Pre-drill nail holes to prevent splitting.
- **Stair Nosing:** A molding undercut for use as a stair landings trim, elevated floor perimeters, and stair steps. Fasten down firmly with adhesive and nails or screws. Pre-drill nail holes to prevent splitting.
- **Quarter Round:** A molding used to cover expansion space next to baseboards, case goods, and stair steps. Pre-drill and nail to the vertical surface, not into the floor.
- **Combination Base and Shoe:** A molding used when a base is desired. Used to cover expansion space between the floor and the wall. Pre-drill and nail into the wall, not the floor.
- **T-Molding:** A molding used as a transition piece from one rigid flooring to another of similar height or to gain expansion spaces. Fasten at the heel in the center of the molding. Additional rigid support may need to be added to the heel of the molding dependent upon the thickness of the goods covered. Do not use this molding as a transition to carpet.

### INSTALLERS - ADVISE YOUR CUSTOMER OF THE FOLLOWING

#### Seasons: Heating and Non-heating

Recognizing that hardwood floor dimensions will be slightly affected by varying levels of humidity within your building, care should be taken to control humidity levels within the 35-55% 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 hardwood 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.

NOTE: Final inspection by the end-user should occur from a standing position.

#### Floor Repair

Minor damage can be repaired with an Armstrong touch-up kit or filler. Major damage will require board replacement, which can be done by a professional floor installer.

## I. INFORMATION D'ORDRE GÉNÉRAL

### Responsabilité du propriétaire/installateur

Les beaux revêtements de sol en bois durs sont des produits naturels et sont donc imparfaits. Ils sont fabriqués conformément aux normes établies dans l'industrie, autorisant une tolérance aux défauts qui ne doit pas dépasser 5%. Il peut s'agir d'un défaut de fabrication ou d'un défaut naturel. Lors de la commande du revêtement de sol, vous devez ajouter 5% à la surface réelle nécessaire pour tenir compte des coupes et des défauts (10% pour l'installation en diagonale).

- Le propriétaire/installateur assume toutes les responsabilités relatives à l'inspection finale de la qualité du produit. Une inspection de tout le revêtement de sol devrait être exécutée avant l'installation. Examinez minutieusement la couleur, la finition et la qualité du revêtement de sol avant de l'installer. Si le produit n'est pas acceptable, ne l'installez pas et contactez immédiatement le vendeur.
- Avant d'installer tout revêtement de sol en bois dur, le propriétaire/installateur doit s'assurer que le site du chantier et les sous-planchers visés par l'installation sont conformes à toutes les normes applicables ou les dépassent. Les recommandations des industries de la construction et des matériaux doivent être observées. Selon ces recommandations, la construction et le plancher brut doivent être propres, secs, structurellement sains et plats. Le fabricant n'assume aucune responsabilité quant aux défauts de l'installation liés à des défaillances environnementales du plancher brut et des supports ou du lieu de travail.
- Avant l'installation, le propriétaire/installateur a la responsabilité d'exécuter l'inspection finale relative à la catégorie, à la fabrication et à la finition effectuée à l'usine. L'installateur doit effectuer la sélection de façon raisonnable et rejeter ou couper les morceaux de planche qui ont des défauts, quelle qu'en soit la cause. Si l'installateur doute de la classe, de la fabrication ou de la finition d'une section de planche, il ne devrait pas l'utiliser.
- Les retouches effectuées à l'aide de teinture, de bouche-pores ou de béton de mastic et autres produits appropriés pour corriger les aspérités des planchers bruts font partie des procédures d'installation normales.

## AVERTISSEMENT ADRESSÉ AUX INSTALLATEURS

### MISE EN GARDE : POUSSIÈRE DE BOIS

Les produits de sciage, de ponçage et d'usinage du bois peuvent produire de la poussière. La poussière de bois en suspension dans l'air peut provoquer une irritation des voies respiratoires, des yeux et de la peau. Le Centre International de Recherche sur le Cancer (CIRC) a classifié la poussière de bois en tant qu'agent cancérigène nasal chez les humains.

**Précautions :** Les outils électriques utilisés devraient être munis d'un collecteur de poussière. En cas de niveaux de poussière élevés, utilisez le masque antipoussières homologué par le NIOSH. Évitez tout contact de la poussière avec les yeux et la peau.

**Premiers soins en cas d'irritation :** En cas d'irritation, rincez la peau ou les yeux avec de l'eau pendant au moins 15 minutes.

Pour obtenir une copie de la fiche signalétique de ce produit ou pour toute question technique ou concernant l'installation, composez le 1 800 233 3823 ou visitez [www.floorexpert.com](http://www.floorexpert.com), notre site Web technique.

**RÉGLEMENTATIONS CONCERNANT LES ÉMISSIONS DE FORMALDÉHYDE EN MILIEU RÉSIDENTIEL AU MINNESOTA :** IMPORTANT AVIS MÉDICAL : LES MATÉRIEAUX DE CONSTRUCTION ÉMETTENT DU FORMALDÉHYDE DES PROBLÈMES D'IRRITATION DES YEUX, DU NEZ, DE LA GORGE, AINSI QUE DES MAUX DE TÊTE, DES NAUSEES ET TOUTE UNE VARIÉTÉ DE SYMPTÔMES ASTHMATIQUES, Y COMPRIS DES ESSOUFFLEMENTS, ONT ÉTÉ SIGNALÉS APRÈS UNE EXPOSITION AU FORMALDÉHYDE. LES PERSONNES ÂGÉES ET LES JEUNES ENFANTS, AINSI QUE TOUS CEUX QUI ONT DES PROBLÈMES D'ASTHME, D'ALLERGIES OU PULMONAIRES POURRAIENT ÊTRE EXPOSÉS À PLUS DE RISQUES. LA RECHERCHE SE POURSUIT SUR LES EFFETS POSSIBLES À LONG TERME D'UNE EXPOSITION AU FORMALDÉHYDE. UNE VENTILATION INSUFFISANTE PEUT ENTRAÎNER UNE ACCUMULATION DE FORMALDÉHYDE ET AUTRES CONTAMINANTS DANS L'AIR INTÉRIEUR. DES TEMPÉRATURES ET UN TAUX D'HUMIDITÉ INTÉRIEURES ÉLEVÉES AUGMENTENT LES NIVEAUX DE FORMALDÉHYDE. SI LA RÉSIDENCE EST SITUÉE DANS UNE RÉGION OÙ LES TEMPÉRATURES ESTIVALES SONT EXTRÊMES, UN SYSTÈME DE CLIMATISATION PEUT ÊTRE UTILISÉ POUR LES RÉGULER. D'AUTRES MOYENS DE CONTRÔLE MÉCANIQUES PEUVENT ÊTRE UTILISÉS POUR RÉDUIRE LES NIVEAUX DE FORMALDÉHYDE ET AUTRES CONTAMINANTS DE L'AIR INTÉRIEUR. POUR TOUTES QUESTIONS RELATIVES AUX EFFETS DU FORMALDÉHYDE SUR LA SANTÉ, CONSULTEZ VOTRE MÉDECIN OU LE MINISTÈRE DE LA SANTÉ.









- Fije varios tabloncillos de sacrificio al piso. Es necesario usar al menos dos tablas, engrapadas una al lado de la otra, para indicar los ajustes adecuados en la máquina.
- Verifique si hay daños en la superficie, la graduación de la presión neumática, si hay burbujas en los bordes, etc., antes de continuar. Haga todos los ajustes y correcciones antes de comenzar la instalación. Una vez que haya hecho los ajustes adecuados, retire y destruya las tablas.
- Instale el resto del piso trabajando con tablas de varias cajas
- La última y penúltima hilera deberán clavarse cuando el espacio libre no permita el clavado oculto con la grapadora o la clavadora de remate. Pretaladre y clave la parte frontal o utilice una clavadora neumática en el lado de la lengüeta siguiendo el patrón de remate utilizado para la primera hilera.

### Información general para aplicaciones con pegamento

- Tiempo máximo para trabajar con el adhesivo: Adhesivo Equalizer de Armstrong - 60 minutos; Adhesivo de revestimiento para pisos de madera dura ProConnect™ de Armstrong - 60 minutos. Cuando no esté en uso, conserve el envase del adhesivo firmemente cerrado para evitar que espese. Si espesa ocasionará dificultades para esparcir el adhesivo. Summit - 50 minutos
- Los tiempos de exposición y de curado de TODOS los adhesivos varían dependiendo de la porosidad del contrapiso, la intensidad de la corriente de aire, la humedad y la temperatura de la habitación. El adhesivo de uretano tiene menor tiempo para trabajarlo en ambientes de alta humedad, en tanto que los adhesivos de resina polimérica ProConnect™ serán más prolongados. En áreas de baja humedad, el tiempo de exposición será mayor con los adhesivos de uretano y menor con los de ProConnect™. Regule la cantidad de adhesivo que espere en el contrapiso de acuerdo a ello. El adhesivo no debe aplicarse si el contrapiso o la temperatura ambiente es inferior a 60°F (16°C). EL TIEMPO PARA TRABAJARLO VARIARÁ DEPENDIENDO DE LAS CONDICIONES EN EL SITIO DE TRABAJO.

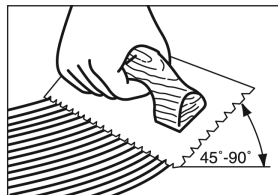


Figura 9

- Sostenga el palustre firmemente a un ángulo mínimo de 45° (Figura 9) contra el contrapiso para obtener un índice de cobertura de 40-60 pies² (4- 5.5 m²) por galón índice de cobertura (30-35 pies² por galón para Summit con el palustre Summit All-In-One incluido). El palustre dejará crestas de adhesivo y muy poco adhesivo entre las crestas. Esto le permitirá ver todavía los cordones de tiza entre las crestas y proporcionar el índice de cobertura recomendado.
- Para instrucciones de aplicación adicionales, siga las recomendaciones del envase del adhesivo.
- Debe proporcionar adecuada ventilación dentro de la habitación. Un ventilador eléctrico resulta útil para este fin.
- No es necesario pasar el rodillo, pero si lo desea, no lo haga hasta que el adhesivo haya curado durante dos horas.

NOTA: NO INSTALE EL REVESTIMIENTO PARA PISO UTILIZANDO MAZOS DE HULE. GOLPEAR LA SUPERFICIE CON UN MAZO DE HULE PUEDE "QUEMAR" EL ACABADO OCASIONANDO DAÑOS IRREPARABLES.

### PASO 3: Esparza el adhesivo

#### (Instalaciones con pegamento)

- Esparza suficiente cantidad del adhesivo recomendado con el palustre recomendado (Figura 2) en un área que pueda cubrirse en 60 minutos (refiérase a la información del adhesivo).
- Si fuese necesario, clave una hilera que luego sacrificará con clavos de 1" (2.5 cm) en el lado seco de su cordón de tiza para ayudarlo a conservar la primera hilera en su lugar.

NOTA: Evite instalar en la superficie del revestimiento para piso. Si fuese necesario distribuya el peso utilizando una base acolchada para arrodillarse.

### PASO 4: Instalación del piso

#### (Instalaciones con pegamento)

(Figuras 10a-10d)

- Utilice las tablas más largas y rectas para las primeras dos hileras. Para piezas al azar y de anchos alternos, utilice la tabla más ancha para la primera hilera. La primera hilera de tablas se deberá instalar con el borde de la ranura alineada sobre el cordón de tiza. La lengüeta deberá estar orientada hacia la pared inicial. La primera hilera se acomodará en el adhesivo, ya que todas las hileras adicionales se empujarán hacia esa hilera inicial. Saque la lengüeta para dejar un espacio de expansión, si es necesario, en la hilera contigua a la pared. Continúe al Paso 5.
- Cuando instale productos más anchos de 3-1/4" (8 cm), aplique una gota del pegamento para madera recomendado en todas las ranuras extremas antes de instalarlas en el adhesivo.
- Cuando instale secciones, enganche la junta de extremo primero, tan cerca de la lengüeta y ranura lateral (larga) como sea posible, y entonces deslicelas juntas y apretadas para enganchar la lengüeta y ranura de la junta lateral (larga). Para evitar que el adhesivo respase y se retroceda su inicio, evite tanto como sea posible deslizar las piezas a través del adhesivo cuando las coloque en posición.

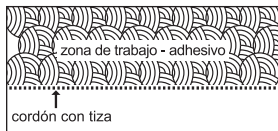


Figura 10a



Figura 10b

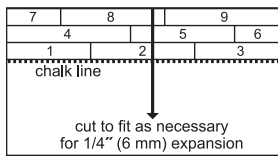


Figura 10c

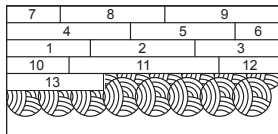


Figura 10d

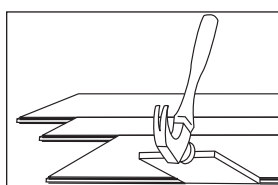


Figura 11

- Durante la instalación retire ocasionalmente del revestimiento para piso una pieza instalada desde el contrapiso e inspeccione su parte posterior para comprobar la transferencia adecuada del adhesivo. La transferencia adecuada del adhesivo es necesaria para garantizar suficiente resistencia de agarre.
- Si el adhesivo forma película y no se transfiere, retírelo y esparza adhesivo nuevo para lograr la unión adecuada.
- NOTA: Limpie el adhesivo de la superficie del piso con frecuencia, utilizando el limpiador de adhesivo recomendado. Los adhesivos de uretano son extremadamente difíciles de retirar cuando han curado. No utilice la cinta Scotch-Blue™ 2080 de 3M antes de retirar el adhesivo de la superficie. Utilice toallas limpias, cambiándolas frecuentemente, para evitar la bruma y el residuo del adhesivo.
- Compruebe que exista un encaje ajustado entre todos los bordes y extremos de cada plancha. Las uniones de extremo de las planchas adyacentes deben escalonarse 6" (10-15 cm) cuando sea posible, para lograr una apariencia general favorable (Figura 4).
- Puede ser necesario alinear el producto con una pieza recortada de desecho como se ilustra (Figura 11) - Conserve bajo el ángulo de la pieza de desecho para evitar dañar el borde.
- Para eliminar pequeños desplazamientos o separaciones durante la instalación, use la cinta ScotchBlue™ 2080 de 3M para sujetar juntas las tablas. Después de finalizar la instalación, retire la cinta ScotchBlue™ 2080 de 3M de la superficie del revestimiento de piso recientemente instalado. No permita que la cinta permanezca en el revestimiento para piso durante más de 24 horas. Evite el uso de cinta adhesiva para revestir o cinta de tuberías, que dejan un residuo adhesivo y podrían dañar el acabado.
- Si fuese necesario, utilice pesos para aplanar las tablas que tengan deformaciones hasta que el adhesivo cure para evitar puntos huecos. Las tablas que no se puedan aplanar se deben cortar a lo largo para disminuir la deformación o no se deben utilizar.
- No esparza el adhesivo mucho más adelante del área donde está trabajando (Figura 10d)
- Finalice la instalación utilizando esta misma técnica para el resto del piso.
- Evite la circulación pedestre en el piso durante 24 horas después de la instalación. Coloque los muebles o las instalaciones fijas nuevamente en el piso después de 24 horas.

### Información general para pisos flotantes

- Los pisos flotantes se pueden instalar sobre cualquier superficie estructuralmente firme que cumpla o sobrepase los requerimientos de las normas locales de construcción. Se puede instalar un revestimiento para piso de cualquier ancho de esta manera, pero se prefieren pisos más anchos.
- Planifique la disposición del piso (en ancho) a fin de tener que evitar cortar la última hilera a un ancho menor de 1" (2.5 cm). Para lograr esto es necesario cortar la primera hilera para garantizar que la última hilera tenga por lo menos el ancho mínimo requerido.
- Deje 1/2" (13 mm) de expansión alrededor de las obstrucciones verticales.

### PASO 3: Instale la base de piso

#### (Instalaciones flotantes únicamente)

- Instale la base de piso en la misma dirección en que se va a instalar el revestimiento para piso de madera dura.
- Extienda la base de piso una pocas pulgadas hacia arriba de la pared.
- Recorte el excedente antes de instalar los bordes y las molduras.
- La base de piso del piso flotante está equipado con una cinta de doble faz para facilitar el encintado de las juntas precortadas traslapadas (Figura 12). Si se usa una base de piso sin adhesivo, coloque la cinta que se incluye en todas las juntas.

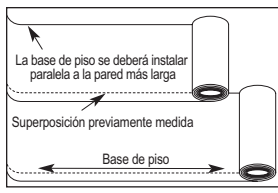


Figura 12

### PASO 4: Instalación del piso

#### (Instalaciones flotantes solamente)

- La primera hilera se puede instalar utilizando uno de dos métodos después de haber completado la disposición (Paso 2). Deje 1/2" (13 mm) de expansión.
- **Tabla de sacrificio:** Si la pared no está derecha, corte la primera tabla (Figura 13) según sea necesario para mantener alineamiento con el cordón de tiza. Instale una tabla de sacrificio (con un borde recto) utilizando los sujetadores apropiados para la base de piso. Si se usa una tabla para la hilera de inicio, asegúrese de que la ranura quede orientada hacia la pared.
- **Cuñas:** Alinee la primera hilera con la pared usando las cuñas para mantener la expansión de 1/2" (13 mm) en posición y estabilizar el producto. Si la pared no está derecha, corte la primera tabla (Figura 13) según sea necesario para mantener alineamiento con el cordón de tiza.
- Elija la primera tabla. Todas las instalaciones se deben iniciar con el lado de la ranura contra la pared utilizando las tablas más largas disponibles. Aplique un cordón continuo de pegamento de 1/8" (3 mm) en la parte interior e inferior de la ranura en el extremo de la tabla. No aplique pegamento del lado de la ranura en este momento (Ítem C, Figura 14). Los productos con la lengüeta extrema en la izquierda se deben instalar de derecha a izquierda, las lengüetas opuestas se deben instalar de izquierda a derecha. (Ítem D, Figura 14). Si se utilizó una tabla de sacrificio NO adhiera con pegamento la primera hilera a esta.
- Complete la primera hilera. Corte la última tabla dejando una separación de 1/2" (13 mm) entre la pared y el piso. (Utilice el extremo restante de la tabla cortada como una tabla de inicio para cualquier hilera después de la tercera hilera). Instale una cuña en el extremo de la tabla entre el revestimiento para piso de madera dura y la pared, dejando un espacio de expansión de 1/2" (13 mm). Evite la instalación en las primeras cuatro hileras de tablas que midan menos de 16" (40.6 cm). (Ítem F, Figura 14).
- Utilice una barra de tracción para empujar la última tabla desde el extremo opuesto. Instale cuñas en la separación y apriete (Ítem B, Figura 14).
- Si sale pegamento hacia la superficie del revestimiento para piso, limpie inmediatamente con un paño húmedo limpio.
- Corte o utilice una tabla más corta para la primera tabla de la segunda hilera. Comience la segunda hilera aplicando una gota de pegamento de 1/8" (3 mm) a lo largo de la parte interior e inferior de la ranura lateral y extrema de la nueva tabla. Instale la primera tabla de la hilera dos. Aplique una gota de pegamento en la parte interior e inferior de la ranura extrema y lateral de la tabla siguiente e instálela. Cuando esté instalando las tablas, utilice un bloque para golpear contra la lengüeta, no contra la ranura (Ítem G, Figura 14). Golpee las tablas para colocarlas en su lugar con un martillo en el bloque para golpear. NO golpee el borde directamente con el martillo. Complete la segunda hilera hasta la cuarta usando esta misma técnica. Inserte cuñas en los extremos según sea necesario para restringir el movimiento del piso.
- En las hileras restantes, alterne las juntas aproximadamente a una distancia de 4"-6" (10- 15 cm). Instale el resto del piso. Asegúrese de que todas las juntas estén bien apretadas. Utilice espaciadores en las paredes largas y a tope. Use una barra de tracción para apretar las juntas desde los extremos.

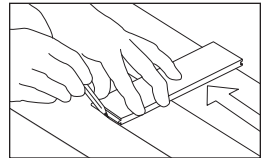


Figura 13

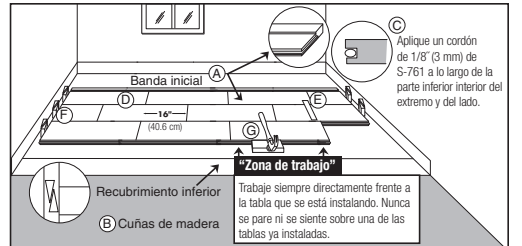


Figura 14

### PASO 5: Parte final de la instalación

#### (Todos los métodos de instalación)

- Retire todas las cintas y limpie el piso con el limpiador recomendado de revestimiento para piso de madera dura.
- Recorte toda la base de piso (solo la flotante) e instale o reinstale cualesquiera piezas de transición, bandas reductoras, molduras en T, umbrales, zócalos o molduras de cuarto de círculo que sean necesarias. Estos productos están disponibles preacabados para combinar con su revestimiento para piso (consulte más abajo) Clave la moldura a la pared, no al piso.
- Inspeccione el piso, rellenando todas las separaciones menores con el relleno mezclado adecuado.
- Si va a cubrir el piso, utilice un material que permita la respiración, tal como el cartón. No lo cubra con plástico.
- Déjele al cliente la información sobre la garantía y el piso. Infórmele el nombre del producto y el número de código del revestimiento para piso que adquirió.
- Para evitar daños al piso, evite rodar muebles o electrodomésticos pesados sobre el piso. Utilice madera contrachapada, chapa de madera dura o dispositivos para elevar electrodomésticos, si fuese necesario. Utilice protectores como soportes con ruedas o almohadillas de fieltro en las patas de los muebles para evitar dañar el piso.

### V. MOLDURAS DE TRANSICIÓN Y DE PARED



- **Banda reductora:** Una moldura en forma de lágrima que se usa alrededor de las chimeneas, las entradas, para dividir habitaciones, o como transición entre el revestimiento para piso de madera y el recubrimiento de piso contiguos más delgados. Sujétela con adhesivo, clavitos o cinta adhesiva doble.
- **Umbral:** Una moldura cortada por debajo que se usa contra los rieles de puertas corredizas, chimeneas, alfombras, losetas de cerámica o umbrales existentes, para dejar un espacio de expansión y proporcionar una transición suave en lugares con alturas diferentes. Sujételos a la base con adhesivo y/o con clavos a través del talón. Perflore los orificios de los clavos de antemano para no rajarlo.
- **Nariz de escalera:** Una moldura cortada por debajo que se usa como reborde en rellano de escaleras, perímetros de pisos elevados y en escalones. Sujételos firmemente con clavos o con tornillos. Perflore los orificios de los clavos de antemano para no rajarlo.
- **Cuarto de círculo:** Una moldura que se usa para cubrir espacios de expansión cerca de zócalos, muebles encerrados y escalones. Perflore los orificios de antemano y clavélos en la superficie vertical, no en el piso.
- **Combinación de base y contera:** Una moldura que se usa cuando se desea una base. Úsela para cubrir espacio de expansión entre el piso y la pared. Pretaladre y clave en la pared, no en el piso.
- **Moldura en T:** Una moldura que se usa como sección de transición desde un revestimiento para piso rígido hasta otro de igual altura, o para obtener espacios de expansión. Sujételas en el talón, en el centro de la moldura. Es posible que se necesitan más soportes rígidos para añadirlos al talón de la moldura, según el espesor de los bienes que se cubran. No utilice esta moldura como una transición para la alfombra.

### INSTALADORES - ADVIERTAN A SUS CLIENTES DE LO SIGUIENTE

#### Estaciones: Cuando se usa o no la calefacción

En vista de que las dimensiones de los pisos de madera dura se verán afectadas ligeramente por las variaciones de los niveles de humedad dentro de la edificación, se debe tener la precaución de conservar los niveles de humedad dentro del rango de 35-55 %. Para proteger su inversión y garantizar que sus pisos le brinden una satisfacción duradera, indicamos nuestras recomendaciones a continuación.

- **Estación cuando se usa la calefacción (seca):** Se recomienda un humidificador para evitar la contracción de los pisos de madera dura debido a los niveles bajos de humedad. Las estufas de madera y la calefacción eléctrica tienden a crear condiciones muy secas.
- **Estación cuando no se usa la calefacción (húmeda, lluviosa):** Se pueden conservar niveles adecuados de humedad utilizando un acondicionador de aire, deshumidificador o activando periódicamente el sistema de calefacción durante los meses de verano. Evite la exposición excesiva al agua que arrastra en los zapatos durante los periodos de clima inclemente. No obstruya en forma alguna la junta de expansión alrededor del perímetro del piso.

NOTA: La inspección final del usuario debe realizarse desde una posición vertical.

#### Reparación del piso

Los daños menores pueden repararse con un kit para retoque de Armstrong o con relleno. Los daños de mayor cuantía requerirán el reemplazo de la tabla, lo cual puede hacerlo un instalador de pisos profesional.

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