

## INSTALLATION INSTRUCTIONS

### 3/4" SOLID PLANK & STRIP PRODUCTS

FOR NAIL-DOWN METHOD ONLY

## MODE DE POSE DES PLANCHES ET LAMES DE BOIS MASSIF de 19 mm (3/4 po) COLLÉES SEULEMENT

## INSTRUCCIONES PARA LA INSTALACIÓN DUELAS Y DUELLAS MACIZAS de 19 mm (3/4") PARA INSTALACIÓN CON CLAVOS SOLAMENTE

### Bruce

RECOMMENDED CLEANER:  
Dura-Luster™ No-Wax Cleaner

NETTOYANT RECOMMANDÉ:  
Nettoyant sans cire Dura-Luster™

LIMPIADOR RECOMENDADO:  
Limpiador Dura-Luster™ para pisos sin cera

### Hartco

RECOMMENDED CLEANER:  
Easy Clean

NETTOYANT RECOMMANDÉ:  
Easy Clean

LIMPIADOR RECOMENDADO:  
Easy Clean

### ROBBINS

RECOMMENDED CLEANER:  
ForEver™ Finish Cleaner

NETTOYANT RECOMMANDÉ:  
Nettoyant de fini ForEver™

PRODUCTO LIMPIADOR RECOMENDADO:  
Limpiador de acabado ForEver™

## INSTALLER/OWNER RESPONSIBILITY

Beautiful hardwood floors are a product of nature and therefore, not perfect. Our wood 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.

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

## PRE-INSTALLATION PROCEDURES FOR JOB SITE INSPECTION

- The building should be closed in with all outside doors and windows in place. All concrete, masonry, framing members, drywall, paint and other "wet" work should be thoroughly dry. The wall coverings should be in place and the painting completed except for the final coat on the base molding. When possible, delay installation of base molding until flooring installation is complete. Basements and crawl spaces must be dry and well ventilated.
- Exterior grading should be complete with surface drainage offering a minimum drop of 3" in 10' to direct flow of water away from the structure. All gutters and downspouts should be in place.
- Solid wood flooring must be installed on or above grade level. Do not install in full bathrooms.
- Crawl spaces must be a minimum of 24" (600 mm) from the ground to underside of joists. A ground cover of 6-8 mil black polyethylene film is essential as a vapor barrier with joints lapped six inches and taped. 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 (see figure #1). Where necessary, local regulations prevail.
- Subfloor must be checked for moisture content using the appropriate testing method.
- Permanent air conditioning and heating systems should be in place and operational. The installation site should have a consistent room temperature of 60-75° F and humidity of 35-55% for 14 days prior, during and until occupied, to allow for proper acclimation.

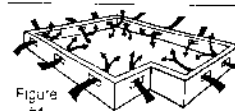
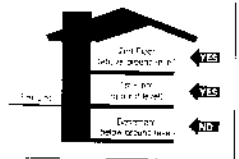


Figure #1

## STORAGE AND HANDLING

Solid wood flooring should be stored in the environment in which it is expected to perform. Deliver the materials to an environmentally controlled site. Materials should be allowed to acclimate for 72 hours or as long as necessary to meet minimum installation requirements for moisture content. Acclimation within a closed carton may not be adequate due to lack of air movement. 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 closed in with windows and doors in place and until cement work, plastering and all other "wet" work is completed and dry. Concrete should be at least 60 days old.

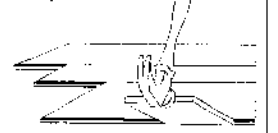
## INSTALLATION APPLICATIONS

NOTE: MINOR OCCASIONAL NOISES IN MECHANICALLY FASTENED FLOORS IS NOT ABNORMAL DUE TO STRUCTURAL MOVEMENT CAUSED BY CHANGES IN ENVIRONMENTAL CONDITIONS. FOLLOWING THESE INSTRUCTIONS CAN MINIMIZE THESE FACTORS BUT OFFER NO GUARANTEE THAT THE FLOOR WILL NOT CREATE MINOR OCCASIONAL NOISES.

### GENERAL INFORMATION FOR ALL FASTENING MACHINES:

Avoid striking the edge of factory finished products with the fastener's mallet. Edge crushing can occur causing unsightly cracks and splinters. Use a block to hammer against if necessary (figure #2). Faceplates should be covered with protective materials to prevent damage to the surface of the flooring. Any water damaged, swollen or delaminated sub flooring materials will not hold staples properly and must be repaired or replaced.

Figure #2



### GENERAL INFORMATION FOR MANUAL FASTENING MACHINES:

Improper adapter plate selection can cause severe edge damage. Ascertain that the proper adapter has been selected and properly installed for 3/4" flooring.

### GENERAL INFORMATION FOR PNEUMATIC FASTENING MACHINES:

Improper pressure settings and failure to use proper adapters can cause severe damage to the flooring. The correct adapter and air pressure setting will properly set the fastener in

## 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*

Bruce: 1-800-722-4647 Hartco: 1-800-769-8528 Robbins: 1-800-733-3309

## TOOLS & ACCESSORIES NEEDED

NOTE: IT IS EXTREMELY IMPORTANT TO USE THE PROPER ADAPTERS AS WELL AS STAPLES OR CLEATS. IMPROPER FASTENERS, MACHINES AND AIR PRESSURE CAN CAUSE SEVERE DAMAGE. THE MANUFACTURER OF THIS FLOORING PRODUCT IS NOT RESPONSIBLE FOR DAMAGE CAUSED BY USE OF IMPROPER TOOLS OR MISUSE.

- Broom • Drill with 1/16" drill bit • Tape Measure • Hammer • Chalk line & chalk
- Recommended Hardwood Flooring Cleaner • Hand saw • Nail Set
- Table saw jig saw, or circular saw • 6-7d screw-shank nails
- Moisture meter (wood, concrete or both) • 2" "Blind" fastening machine
- Undercut or Jamb Saw • Ear plugs and safety glasses

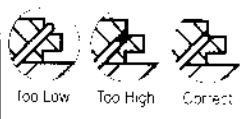


Figure #3

the nail pocket (figure #3). Low air pressures may fail to properly set the staple and damage adjoining boards. Air pressures set too high may cause damage to the tongue, preventing installation of adjoining boards and cause blisters on the face of the flooring. Make certain that the compressor has a regulator in-line with the air hose for proper adjustment. Set pressure at 70 PSI to begin with and adjust until proper staple setting occurs.

## SUBFLOOR REQUIREMENTS MUST BE:

- **CLEAN** - Scrape, broom clean, and smooth. Free of wax, paint, oil, sealers, adhesives, curing agents and other debris.

- **LEVEL/FLAT** - Within 3/16" in 10' and/or 1/8" in 6'. Sand high areas or joints. Flatten low spots with layers of 15# builders felt, plywood or shims (not leveling compounds).

**NOTE:** Laminated rosin paper or 15# builders felt (tarpaper) acts as a moisture retarder and may be used to reduce movement caused by changes in subfloor moisture, thereby reducing cupping and warping (This is especially helpful over crawl spaces and basements). In addition, the use of these materials can give the flooring a more solid feeling, reduce sound transfer, prevent noise caused by minor irregularities and debris, and make it easier to slide the wood together across the surface of the subfloor. Kraft paper may be used to make installation easier but DOES NOT serve any other purpose.

- **STRUCTURALLY SOUND** - Nail or screw any loose areas that squeak. Replace any water-damaged, swollen or delaminated sub flooring or underlayments. Avoid sub floors with excessive vertical movement.

- **DRY** - Check moisture content of the subfloor with the appropriate moisture meter.

## RECOMMENDED SUBFLOOR SURFACES

- **PREFERRED:** 3/4" (19 mm) CDX grade plywood  
3/4" (23/32") OSB PS2 rated underlayment  
**MINIMUM:** 5/8" CDX grade plywood

- Existing solid wood flooring

- Screeds

- T&G wood subflooring

## SUBFLOOR TYPES:

Note: Do not install solid wood plank or strip over radiant heated subfloors or attempt to glue to a subfloor of any type

## WOOD SUBFLOORS & WOOD STRUCTURAL PANEL SUBFLOORS

**Plywood:** Must be minimum APA grade rated sheathing or CDX minimum.

**Oriented Strand Board (OSB):** Must be PS2 rated installed sealed side down.

**Do Not install over particleboard, waferboard, pressed wood or fiberboard.**

Make sure existing floor or subfloor is dry and well nailed or screwed down every 6" along each joint to avoid squeaking or popping before the floor is installed. The wood subfloor must not exceed 13% moisture content. Measure moisture content of both subfloor and wood flooring to determine proper moisture content with a reliable wood moisture meter (figure #4). The difference between the moisture content of the wood subfloor and the wood flooring must not exceed 4%.

Optimum performance of hardwood floor covering products occurs when there is little horizontal or vertical movement of the subfloor. The **MINIMUM** subfloor recommendations described above are for 19 2" O/C joist spacing with minimum recommended spans. 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. Deflection may cause the floor to become loose creating a noisy floor or cause premature finish wear. Avoid installations over sub floors that do not meet this minimum criterion. As flooring manufacturers we are unable to evaluate each engineered system. Other 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 performance.

All underlayment panels should be spaced 1/8" apart to insure adequate expansion space or have the space cut around the perimeter using a circular saw. T&G panels normally have built in expansion; DO NOT cut around their perimeter. When installing over existing wood floors parallel with the flooring, it may be necessary to install an additional layer of plywood to stabilize the flooring or install the wood floor at right angles. Applicable standards and recommendations of the construction and materials industries must be met or exceeded.

## CONCRETE SLABS

Solid flooring can be installed over concrete once the appropriate nailing surface has been installed. The concrete must be of high compressive strength. All concrete subfloors should be tested for moisture content (Figure #5). Visual checks are not reliable. NOTE. Test several areas, especially near exterior walls and walls containing plumbing.

**A "DRY" SLAB, AS DEFINED BY THESE TESTS CAN BE WET AT OTHER TIMES OF THE YEAR. THESE TESTS DO NOT GUARANTEE A DRY SLAB. ALL CONCRETE SLABS SHOULD HAVE A MINIMUM OF 6 MIL POLY FILM MOISTURE BARRIER BETWEEN THE GROUND AND THE CONCRETE.**



Figure #5

## SUBFLOOR SYSTEMS

### BONDED:

Install a suitable moisture retardant followed by a plywood subfloor with a minimum thickness of 3/4". Allow 1/2" expansion space around all vertical objects and 1/8" between all flooring panels. The panel must be properly attached to the subfloor

using a minimum of one fastener per square foot and more if necessary. Use pneumatic or powder actuated fasteners. Do not hand nail the subfloor with concrete nails. Install a moisture retardant barrier with joints lapped 6" and begin installation of flooring using 1 1/2" fasteners.

## FLOATING:

Install a suitable moisture retardant followed by a plywood subfloor with a minimum of 3/8". Allow 1/2" expansion space around all vertical objects and 1/8" between all flooring panels. Install a second layer of 3/8" plywood at a right angle to the previous panels, offsetting the joints 2'. Staple together with staples that will not penetrate the first layer of subfloor with a crown width of 3/8" or more. Install a moisture retardant barrier with joints lapped 6" and begin installation of flooring.

## GENERAL INSTALLATION TIPS

Floor should be installed from several cartons at the same time to ensure good color and shade mixture.

Be attentive to staggering the ends of boards at least 6", when possible, in adjacent rows (figure #6). This will help ensure a more favorable overall appearance of the floor

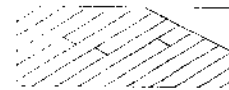


Figure #6  
Preferred Alignment

Large spans in areas of high humidity may require the addition of internal or field expansion. This can be accomplished by using spacers, such as small washers, every 10-20 rows inserted above the tongue and removed after several adjoining rows have been fastened.

## STEP 1: DOORWAY AND WALL PREPARATION

Undercut door casings. Remove any existing base, shoe mold or doorway thresholds. These items can be replaced after installation. All door casings should be notched out (figure #7) or undercut to avoid difficult scribe cuts.



Figure #7

## STEP 2: ESTABLISH A STARTING POINT - WALL-TO-WALL INSTALLATION

Installation parallel to the longest wall is recommended for best visual effects, however the floor should be installed perpendicular to the flooring joists unless subfloor has been reinforced to reduce subfloor sagging. Find appropriate subfloor from "Subfloor Type" section in this instruction manual.

If a moisture retardant material is to be used, such as Laminated Rosin Paper (see NOTE, Subfloor Requirements), install this material before proceeding, lapping joints 6" and stapling if necessary.

Measure the width of the product being installed. For random or alternate width products, use the widest plank for the first row.

Add 1" to allow for 3/4" expansion and the width of the tongue.

Using this measurement, in at least two places, measure out equal distance from the starting wall and 12" - 18" from the corners (figure #8) and snap a chalk line.

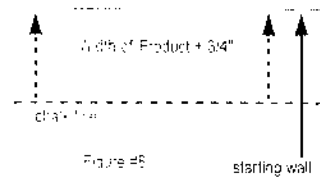


Figure #8

## STEP 3: INSTALLING FIRST ROWS - WALL-TO-WALL INSTALLATION

**NOTE:** Always end glue wide width (4" or more) planks with a PVA wood glue.

Use the longest, straightest boards available for the first two rows. Align tongue of first row on chalk line. The groove should be facing the starting wall. Pre-drill the nail holes 1" from back (groove) edge, 1'-2" from each end, and at 6" intervals at a 45° angle down through the nailing "pocket" on top of the tongue (figure #9).

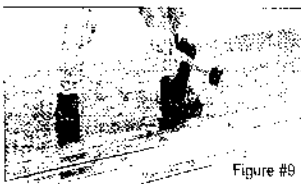


Figure #9

Continue blind nailing using this method with following rows until stapler or nailer can be used.

End-joints of adjacent rows should be staggered a minimum of 6" to ensure a more favorable overall appearance.

Beginning rows may be blind-nailed where clearance allows using a pneumatic finish nailer with 15 gauge, 1 1/2" (minimum) nails in lieu of above.

## STEP 2 & 3: CENTER TO WALL INSTALLATION

Snap a chalk line down the center of the room.

Install a sacrificial row that extends the entire length of the room on the centerline.

Install three rows of flooring.

Remove the sacrificial row and insert a slip tongue (spline) in the open groove. Always glue and nail the slip tongue in place.

## STEP 4: RACKING THE FLOOR

"Dry" lay (rack) materials to cover approximately 2/3 of the room. Begin dry laying (racking) approximately 6" from the edge of the previously installed rows. Avoid pulling boards too tightly together on the sides, as they must move freely when fastening begins

Mark the final board in each row and cut to proper length allowing for expansion. Visually inspect flooring, setting aside boards that need to have natural character flaws cut out. Use these boards for starting and finishing row after objectionable characteristics have been removed.

## STEP 5: INSTALLING THE FLOOR

Fasten a sacrificial board to the floor. Check for surface damage, air pressure setting,

tongue damage, etc. before proceeding. Make all adjustments and corrections before installation begins. Once proper adjustments have been made, remove and destroy the board.

Begin installation with several rows at a time, fastening each board with at least two fasteners, 8-10" apart and 1-1 1/2" from the ends (to avoid splitting). Tighten boards as necessary to reduce gaps before fastening.

End-joints of adjacent rows should be staggered 6" when possible to ensure a more favorable overall appearance.

The last 1-2 rows will need to be face-nailed where clearance does not permit blind nailing with stapler or brad nailer. Pre-drill and face-nail on the tongue side following the nailing pattern used for the first row.

Rip final row to fit and face-nail. If the final row is less than 1" in width, it should first be glued to the previous UNINSTALLED row and the two joined units should be face-nailed as one.

## STEP 6: COMPLETE THE JOB

Clean the floor with the recommended wood flooring cleaner.

Re-install any transition pieces that may be needed, such as Reducer Strips, T-moldings or Thresholds. These products are available pre-finished to blend with your flooring.

Re-install all base and/or quarter round moldings. Nail moldings into the wall, not the floor. 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 appliances or furniture on the floor. Use plywood, hardboard or appliance lifts if necessary.

## MOLDINGS

### • REDUCER STRIP:



a teardrop shaped molding used around fireplaces, doorways, as a room divider, or as a transition between wood flooring and adjacent floor coverings that are less thick. 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 flooring to another of equal height or to gain expansion spaces. Fasten at the heel in the center of the molding. Additional support may need to be added to the heel of the molding dependent upon the thickness of the goods covered.

## MODE DE POSE DES PLANCHES ET LAMES DE BOIS MASSIF de 19 mm (3/4 po) COLLÉES SEULEMENT

### RESPONSABILITÉ DU POSEUR/PROPRIÉTAIRE

Puisque les magnifiques planchers de bois franc sont des produits de la nature, ils ne peuvent être parfaits. Nos planchers de bois sont fabriqués conformément aux normes acceptées de l'industrie qui admettent une tolérance de déficiences d'au plus 5 %. Ces déficiences peuvent être naturelles ou découler de la fabrication.

• Le poseur assume l'entière responsabilité de l'inspection finale quant à la catégorie et à la qualité de la fabrication et du fini d'usine. Cette inspection du plancher doit se faire avant la pose. Il doit bien examiner la teinte, le fini et la qualité du plancher avant de le poser. Si le matériau est inacceptable, il ne doit pas le poser et doit contacter le vendeur immédiatement.

• Avant de poser tout produit de plancher de bois franc, le poseur doit s'assurer que le chantier de pose et les surfaces-supports à couvrir soient conformes ou supérieurs à toutes les normes applicables. Il doit également suivre les recommandations qu'exigent les industries de la construction et des matériaux, de même que les codes locaux. Ces instructions recommandent que la construction et le sous-plancher soient secs, solides et bien plats. Le fabricant décline toute responsabilité pour les déficiences de la pose qui découleront des déficiences du support, du sous-plancher ou de l'environnement du chantier, ou qui y sont reliées.

• Avant la pose, le poseur/propriétaire a la responsabilité de faire l'inspection finale quant à la catégorie et à la qualité de la fabrication et du fini d'usine. Le poseur doit faire preuve d'une sélectivité raisonnable et doit retenir ou découper les pièces comportant des déficiences, quelle qu'en soit la cause.

• Durant la pose, l'utilisation de teinture, de bouche-pores ou de crayons de retouche au mastic est considérée normale pour corriger les imperfections.

• En commandant le plancher, ajouter 5 % au nombre de pieds carrés, pour tenir compte des pertes lors du découpage et de la sélection.

• Le poseur ne doit pas utiliser une pièce dont la catégorie, la qualité ou le fini d'usine sont douteux.

• L'utilisation de produits appropriés pour corriger les vides du sous-plancher est considérée pratique normale dans l'industrie.

## POUR LES POSEURS

### ⚠ ATTENTION À LA POUSSIÈRE DE BOIS

**Le sciage, le ponçage et l'usinage du bois peuvent produire de la poussière de bois. Dans l'air, cette poussière peut irriter les voies respiratoires, les yeux et la peau. Le Centre international de recherche sur le cancer (CIRC) a classé la poussière de bois comme étant un carcinogène nasal chez les humains.**

**Précautions :** Si l'on utilise des outils motorisés, ils devraient être équipés d'un collecteur de poussière. En présence d'un niveau élevé de poussière, porter un masque antipoussière approprié désigné par le NIOSH. Éviter tout contact de la poussière avec les yeux et la peau.

**Premiers soins en cas d'irritation :** Rincer les yeux et la peau avec de l'eau durant au moins 15 minutes.

*Pour toute question technique ou concernant la pose, ou pour obtenir une fiche signalétique, s'adresser à :*

Bruce: 1-800-722-4647 Hartco: 1-800-769-8528 Robbins: 1-800-733-3309

### OUTILS ET ACCESSOIRES REQUIS

REMARQUE : IL EST EXTRÊMEMENT IMPORTANT D'UTILISER LES ADAPTATEURS APPROPRIÉS, DE MÊME QUE LES AGRAFES OU TAQUETS CONVENABLES. TOUTE FIXATION, MACHINE OU PRESSION D'AIR INADÉQUATE PEUT CAUSER DE GRAVES DOMMAGES. LE FABRICANT DE CE PLANCHER SE DÉGAGE DE TOUTE RESPONSABILITÉ POUR LES DOMMAGES CAUSÉS PAR UN OUTIL OU USAGE INAPPROPRIÉ.

- Balai • Perceuse avec foret de 1/16 po • Ruban à mesurer • Marteau
- Cordeau et craie • Nettoyant recommandé pour les planchers de bois franc
- Égoïne • Poinçon • Scie à table, sauteuse ou circulaire • Clous virelés 6-7d
- Hygromètre (bois, béton ou les deux) • Machine à clou invisible de 2 po
- Scie de montant ou cadre • Bouchons d'oreilles et lunettes de sécurité

### PRÉPARATION POUR INSPECTION DU LIEU

• Le bâtiment doit être fermé; toutes les fenêtres et les portes donnant à l'extérieur doivent être en place. Le béton, la maçonnerie, les membres de charpente, les panneaux de mur sec, la peinture et les autres matériaux «humides» doivent être parfaitement secs. Le papier peint doit être posé et la peinture doit être terminée, sauf pour ce qui est de la couche finale à donner sur les plinthes. Si possible, poser les plinthes uniquement après la pose du plancher. Le sous-sol et l'espace sanitaire doivent être secs et bien ventilés.

• Le sol extérieur doit être en pente de manière à assurer une chute minimale de 7,6 cm sur 3 m (3 po sur 10 pi) de débit d'eau direct, qui s'éloigne du bâtiment. Les gouttières et les tuyaux de descente doivent être en place.