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COMMERCIAL SHEET VINYL – HOMOGENEOUS INSTALLATION INSTRUCTIONS

THANK YOU FOR CHOOSING AHF PRODUCTS FLOORING

If properly installed and cared for your new flooring will be easy to maintain and will look great for years to come. These directions are based on industry standards and best practices. Failure to follow these installation instructions may result in damage to the flooring and void the floor's warranty.

- For complete warranty information call 1-866-243-2726 or go to www.ahfproducts.com.
- For technical or installation questions, or to request a Safety Data Sheet, please call 1-866-243-2726 or visit www.hardwoodexpert.com, our technical website.
- For general questions or comments, please visit us at www.ahfproducts.com or call 1-866-243-2726.

WARNING: FOR 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.

Visit rfci.com to see the 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.

AHF floor coverings and adhesives do NOT contain asbestos.

Gauge	Adhesive – Porous BondLink™ & TuffLink™	Adhesive – Non-Porous BondLink™ & TuffLink™	Concentrated Static & Dynamic Loads – Apex Pro™	Heat Weld
.008 in (2.0 mm)	X	X	X	X
	X	X	X	X

ADHESIVES:

Use the recommended adhesive found in the chart above and follow the manufacturer's instruction for the adhesive application.

It is necessary to smooth out the adhesive trowel ridges using a 3/16" (4.8 mm) nap paint roller.

INSTALLATION:

Location: All grade levels

Fitting: All methods

TOOLS:

Tape measure, chalk line, utility knife, pencil, straight edge, vacuum or broom, heat welding equipment, recess scribe, keyfoot prep supplies; recommended adhesives.

KEYS TO SUCCESSFUL SHEET VINYL INSTALLATION:

- Sheet vinyl should not be exposed to direct sunlight for prolonged periods. Direct sunlight can result in discoloration, and excessive temperatures may cause expansion. The use of drapes or blinds is recommended during peak sunlight exposure.
- Proper conditioning of both the jobsite and the flooring is necessary. Sheet vinyl should not be exposed to sudden changes in temperature.
- Store, transport and handle sheet vinyl so as to prevent any distortions. Do not store rolls on their sides. Distortions will not disappear over time. Ensure that the rolls lay flat after unrolled
- Protect the floor from heavy-rolling loads, other trades and replacement and/or movement of appliances by using sheets of plywood or similar.
- Sheet vinyl alone is waterproof but excessive subfloor moisture may promote mildew or mold issues.

GENERAL INFORMATION:

Before starting the installation, verify that the material is of the correct style, color, quantity, and run numbers, and ensure that the correct adhesive has been selected for area of usage. Also, confirm that all pre-installation requirements, as detailed in the remainder of this section, have been satisfactorily completed. Start of flooring installation indicates acceptance of current subfloor conditions and full responsibility for completed work.

CHECK RUN NUMBERS AND MANUFACTURE DATE:

Upon receipt, immediately remove all shrink wrap and confirm materials are the correct color, style and quantity for each dye lot with consecutive roll numbers for sheet goods. Carefully check all materials for shipping damage. Note any damage on bill of lading when signing for delivery. Visible damage not reported on bill of lading to trucking company is your responsibility.

Store all flooring products and accessories in a dry interior area maintained between 55°F and 85°F (13°C and 29°C). Using outside temporary storage and other uncontrolled storage locations may result in unintended installation issues including bond failure, gapping or buckling and is not covered under the product warranty. Handle materials with care to prevent intended damage.

SHEET FLOORING - Once received, unstrap all rolls from pallet and store upright with capped end down. This helps prevent distortion, and compression.

SUBSTRATES:

All substrates listed must be properly prepared and meet certain requirements. There may be other exceptions and special conditions for these substrates to be suitable as noted below. The application of subfloor preparation materials must be in strict accordance with the manufacturer's instructions. All warranties and guarantees pertaining to the suitability and performance of any preparation or ancillary product rests with that material manufacturer or the flooring contractor.

Embossing levers, patches, concrete, gypsum-based products and other such items, are the sole responsibility of the flooring contractor, general contractor, and/or manufacturer of the particular sub-flooring product.

SUITABLE SUBSTRATES INCLUDE:

- Concrete – dry and smooth on all grade levels
- Suspended wood subfloors with approved wood underlayments – must have minimum of 18" well-ventilated crawl space underneath
- Suspended hardwood flooring that is fully adhered, smooth and square edge without texture
- Single-layer, fully-adhered, existing resilient floors – must not be foam-backed or cushion-backed
- Ceramic tile, Terrazzo, Marble
- Polymeric Poured (seamless) floors
- Steel, Stainless Steel, Aluminum

DO NOT INSTALL OVER:

- Particleboard or waferboard
- Existing resilient tile floors that are below grade
- Existing cushion-backed vinyl flooring
- Carpet/Carpet pad
- Hardwood flooring that has been installed directly over concrete
- Floating floors
- Cement tile backer boards
- Ferrous substrates
- Sleeper substrates

If you have any technical or installation questions, or to request a Safety Data Sheet, please call at 1 866 243 2726 or visit www.hardwoodexpert.com our technical website.

JOB CONDITIONS/PREPARATIONS:

- Surface Preparation: The surface must be free of dust, solvents, varnish, paint, wax, oil, grease, sealers, curing compounds, residual adhesive, adhesive removers and other foreign materials that might affect the adhesion of resilient flooring to the substrate or cause a discoloration of the flooring from below. Spray paints, permanent markers and other indelible ink markers must not be used to write on the back of the flooring material or used to mark the substrate as they could bleed through, telegraphing up to the surface and permanently staining the flooring material. If these contaminants are present on the substrate, they must be mechanically removed prior to the installation of the flooring material.
 - In renovation or remodel work, remove any existing adhesive residue* so that 100% of the overall area of the original substrate is exposed.
 - Temperature: Sheet flooring should only be installed in temperature-controlled environments. It is necessary to maintain a constant temperature before, during and after the installation. Therefore, the HVAC system must be in operation before the installation of resilient flooring. Portable heaters are not recommended, as they may not heat the room and subfloor sufficiently. Kerosene heaters should never be used.
 - Allow all flooring materials and adhesives to condition to the room temperature for a minimum of 48 hours before starting the installation.
 - The area to receive the resilient flooring should be maintained at a minimum of 65° F (18° C) and a maximum of 85° F (29° C) for 48 hours before and during installation, as well as 48 hours after completion. When installing sheet flooring, the maximum room temperature should not exceed 85° F (29° C).
 - During the installation, the temperature should never rise above 85° F (29° C) for the sheet flooring. The performance of the flooring material and adhesives can be adversely affected outside this temperature range. During the service life of the floor, the room temperature should never rise above 100° F (38° C) nor fall below 55° F (13° C). The performance of the flooring material and adhesives can be adversely affected outside this temperature range.
 - Testing: Conduct calcium chloride tests or percent relative humidity tests must be conducted. Bond tests should be conducted for compatibility with the substrate when using the full spread method.
 - Radiant-Heated Substrates: Radiant-heated substrates must not exceed a maximum surface temperature of 85° F (29° C).
 - Radiant heated subfloors must be turned off 2 days or longer before installation until 2 days after installation and temperature maintained with supplemental heat. Gradually bring the temperature up 2° F (1° C) per day until reaching normal operating temperature. Radiant heated subfloors must not exceed 85 degree F.
 - Concrete Floors: Concrete floors should be tested for alkalinity. The allowable readings for the installation of sheet flooring are 5 to 9 on the pH scale.
 - Use of Adhesive: Use Bruce® Apex Pro™ Adhesive in areas where the product will be subjected to direct sunlight, topical moisture, concentrated static and dynamic loads or temperature fluctuations.
- ATTENTION:** Mold and mildew grow only in the presence of moisture. Jobsite mold and moisture issues must be addressed and corrected prior to installation. Please visit www.epa.gov/mold for information about safely preventing and removing mold, mildew and other biological pollutants.
- Floor Flatness: The surface shall be flat to 3/16" in 10 ft. (3.9 mm in 3 m). Level high spots by sanding, grinding, etc. and fill low spots. Smooth surface to prevent any irregularities or roughness from telegraphing through the new flooring.
 - Acclimation: Acclimate the flooring, adhesive and subfloor at the jobsite in the area to be installed to a stable and consistent temperature between 65°F and 85°F (18°C and 29°C) adhesives with ambient relative humidity between 35% and 65% RH. The key is to condition the flooring materials, adhesive and jobsite environment to closely match the facilities operational environmental conditions. Maintain the stable and consistent temperature for a minimum of 48 hours before, during, and for a minimum of 48 hours after installation.

Concrete Floors:

- All concrete floors, regardless of age or grade level must be properly cured, free of excess moisture, and prepared in accordance to the most current version of ASTM F710 (Standard Practice for Preparing Concrete Floors to Receive Resilient Flooring). Below and on-grade concrete subfloors must have a suitable vapor retarder properly installed beneath the slab (ASTM E1745). The surface of concrete floors to receive resilient flooring must be dry, clean, smooth, and structurally sound.

WARNING: Concrete Subfloors Containing Coal Fly Ash: Fly ash is routinely used in cement in LEED-certified projects. Installing floors on concrete substrates containing coal fly ash can be problematic and therefore may require aggressive scarification or shot blasting prior to installation of flooring materials. Perform bond test prior to the installation of sheet flooring if coal fly ash has or may have been used.

- Concrete PSI: Concrete substrates must have compression strength of 3,000 psi or greater.
- Expansion Joints / Isolation Joints: Such joints (or other moving joints) are incorporated into concrete floor slabs in order to permit movement without causing random cracks in the concrete. These joints must be honored and not be filled with underlayment products or other materials, and floor coverings must not be laid over them.
- Treating Surface Cracks: Cracks, grooves, depressions, control joints, or other non-moving joints, and other irregularities shall be filled or smoothed with high-quality Portland cement-based patching or underlayment

compounds for filling or smoothing or both. Some surface cracks may need to be chased and filled. Patching or underlayment compound must be moisture, mildew and alkali-resistant, and must provide a minimum of 3,000 psi compressive strength after 28 days, when tested in accordance with Test Method ASTM C109 or ASTM Test Method C472, whichever is appropriate. Refer to manufacturer's instructions of such subfloor preparation materials for more details.

• Concrete Compressive Strengths: Because of traffic loads anticipated for commercial and institutional environments, concrete slabs should meet the requirements for ACI* Class 2 or Class 4 floors.

WARNING: Do not lightly skim-coat highly polished or slick, power-troweled concrete surfaces. A thin film or residue of floor patch will not bond sufficiently to a slick subfloor and may become a bond breaker, causing tiles to release at the interface of the subfloor and patching material.

Lightweight Concrete:

- The minimum density of lightweight concrete should be greater than 90lbs. per cubic foot, with minimum compression strength of 2,500 psi or greater. Some concrete slabs may require higher dynamic and static loads and should be designed to accommodate these requirements. Lightweight concrete or gypsum substrates may need to be primed prior to the installation of flooring. Contact the subfloor preparation manufacturer for recommendations, and always perform a bond test before proceeding.
- Because lightweight concrete can retain significant amounts of moisture within the slab, the lightweight floors should be tested in accordance with ASTM F2170. Do not use ASTM F1869 test method, as this method does not indicate moisture deep in the concrete slab.

Tile, Terrazzo, Asbestos Tile, Resilient Tile, and Non-Cushion Sheet Vinyl:

- Existing floors must be firmly attached to the structural floor. They must be clean, smooth, dry, structurally sound and flat within 3/16" within a 10-foot radius with no abrupt height differences.
- The substrate should not slope more than 1" per 6' in any direction. Fill all grout joints on ceramic tiles, terrazzo, quarry tiles and similar floors with a leveling and patching compound.

Underlayment Panels:

Underlayments for resilient flooring must be:

- Structurally sound
- Specifically designed and warranted for resilient flooring
- A minimum of 1/4" (6mm) thick
- Of a smooth surface, so as to prevent telegraphing
- Able to resist indentations
- Free of any substances that may cause flooring to stain

AHF Products is NOT responsible for:

- Joint or texture show-through
- Tunneling and ridging over underlayment joints
- Discoloration from stain sources in the panel, regardless of the type of underlayment panel used
- Underlayment panel problems caused by local climate conditions, basement wall and subfloor construction, or improper installation.

We strongly suggest that you secure a written guarantee and installation instructions from the supplier or manufacturer of the underlayment board being used.

Plywood:

Use only American Plywood Association (APA) rated underlayment grade plywood, with a minimum grade of "BB" or "CC", and minimum 1/4" thickness. Allow expansion spacing between plywood butt joints of 1/32"-1/16" or follow manufacturer's instructions. When installing underlayment, stagger cross-joints 4' on an 8' panel (minimum 16'), lightly butt the panels, and set fasteners flush or slightly below the surface level of the underlayment. Fill underlayment seams, nail holes and any indentations with an approved Portland Cement-type floor patch; allow recommended drying time and sand the patch until smooth; otherwise, use manufacturer-certified poplar, birch, and spruce plywood underlayment, with a fully sanded face and exterior glue.

All dust must be COMPLETELY removed to ensure a strong adhesive bond. Vacuum or sweep thoroughly, then apply adhesive.

Lauan Plywood:

Use only Type 1 lauan exterior grade "BB" or "CC" for underlayment. The use of lesser grades of lauan plywood is unacceptable and may cause severe problems when used as an underlayment, including discoloration, indentation, loss of bond and delamination.

NOTE: The use of lauan plywood and other extremely porous wood underlayments will reduce the flash and working time of adhesives. It is best to apply an acrylic-based primer-sealer to any porous substrate prior to installing sheet vinyl. A manufacturer's certification of lauan grade must accompany any claim involving the use of a lauan underlayment.

Treated Plywood:

Sheet vinyl is not recommended for installation directly over fire-retardant treated plywood or preservative treated plywood. The materials used to treat the plywood may cause problems with adhesive bonding. An additional layer of at least 1/4" thick underlayment should be installed so that the construction still meets the applicable building or fire codes.

- **Oriented Strand Board (OSB):** OSB is made of thin narrow strands of hardwoods and softwoods that are longer than they are wide. The strands are dried, screened, blended with adhesive, and formed into a multilayered mat. In the surface layer, the long axes of the strands are oriented so that they are, in general, parallel with the long direction of the panel. The strands in the inner layers may not be oriented in any particular direction or may be generally oriented perpendicular to the long direction of the panel. OSB subfloors require an additional recommended underlayment to install AHF sheet vinyl.
- **Fiber Reinforced Gypsum Underlayment, Fiber Cement Board and Cementitious Backerboard:** These products must be designed specifically for vinyl floor coverings. Written installation instructions and a guarantee for the product's use in conjunction with vinyl floor coverings should be provided by the manufacturer.
- **Wood Subfloors with Concrete or Gypsum Toppings:** These subfloors consist of lightweight concrete or gypsum-based topping over plywood on wood joists or trusses.

Raised Access Panels:

- Inspect the subfloor thoroughly. The access panels should be structurally sound, smooth, level, clean, dry and free of any foreign loose matter or defects. The raised panels should meet the following standards:
- The entire raised access floor must be clean, smooth, dry, structurally sound, and flat within 3/16" within a 10-foot radius with no abrupt height differences.
- Gaps between panels should not exceed .04" (1 mm).
- Lipping of panels and the height differences between adjacent panels should not exceed .03" (.075 mm).

Metal Substrates:

- Sheet vinyl may be installed directly over steel, stainless steel, aluminum, and lead substrates using the appropriate adhesive. These types of substrates must be thoroughly cleaned, dried and free of dust, dirt, wax, paint, grease, or any other contaminants that may interfere with the adhesive bond. The surface may require cleaning with mineral spirits to remove oil or grease prior to abrading or lightly sanding the surface to achieve a satisfactory bond.
- A bond test should be performed prior to installation. Metal substrates require the non-porous application method. Due to the softness of lead, it is recommended that it be coated with a minimum of 1/8" cement-based underlayment. While this may not be a requirement for thin applications of lead, it must be understood that lead will indent quite easily. A bond test should be performed prior to installation.

Polymeric Poured Floors:

- These type of floors are generally two-part, resin-based, epoxy paints or coatings. It's very difficult to tell whether or not they are well bonded to the substrate and are subject to issues with excessive moisture. It is therefore recommended that polymeric poured floors be removed so as to avoid potential problems.

INSTALLATION:

Carefully clean the surface of all debris and contamination and confirm the subfloor is properly prepared and complies with installation and adhesive requirements before proceeding. Installation of flooring implies acceptance of subfloor and jobsite conditions.

- For best appearance, balance the installation within the area to be installed. Determine the center point of the room by marking reference lines on the surface across the center point of opposite walls. Review the alignment of the flooring materials to the reference line and shift reference line to optimize flooring placement. Work from the center outwards, achieving a net fit between sheets and along the perimeter between the floor and walls, vertical surfaces or columns.
- All Sheet flooring materials have production date codes and roll numbers. Sheet flooring materials installed together in the same area shall be from the same production date code and rolls used and installed in sequence.
- Cut all material 2"-3" more than needed (maintaining pattern match between sheets when appropriate) and allow to relax flat and face up on subfloor for 24 hours. Keep all flooring materials running in the same direction. Carefully back roll materials that are wavy and will not lay flat. Do not back roll materials tightly or crease the flooring as this can cause a permanent mark on the flooring. Inspect dry laid flooring for telegraphing of any remaining subfloor defects or sheet imperfections, and correct before proceeding.

CAUTION: After dry laying materials and before applying adhesive, carefully look at each sheet edge to edge to make sure there is not a shade difference under normal daytime lighting conditions. If any shading is noticed, reverse sheets and see if this resolves the issue. Contact your local sales representative with any questions. Check materials as you unroll for any visible issues before cutting. Cut drops (maintaining pattern match along seams when necessary) a minimum of 2"-3" longer than length needed for final cuts to allow materials to relax. Allow materials to relax unrolled flat and face up on substrate for twenty four (24) hours before installation. For materials that are not lying flat, carefully back roll materials to enable the sheet to lay flat. Do not tightly back roll or crease the materials during installation as this may cause permanent damage to floor.

- After 24 hour relaxation, trim selvage edges for installation making sure to remove all edge compression, distortion and damage. This usually requires the removal of 1/4" to 1/2" inch or more of material along each length. Trim off damaged ends and again check materials for any visible issues or defects.
- Prepare seams edges for installation by straight edge and underscribing for a net fit or double cut by overlapping edges 1" and cutting through both layers of flooring with a straight edge and sharp knife held perpendicular to the floor for a net fit. Do not leave a gap along seam edge more than 1/32" as this can result in a weak weld and seam splitting. Making sure there is excess flooring to trim for fitting to the opposite wall, trim the ends of the cuts along one wall to fit.
- Recess Scribe or Underscribe Seams – This method is recommended for heavier materials that are not easy to cut through in one cut. Recess scribing is the easiest way to cut seams if the installer can cut a good straight edge on the first piece, has set the underscriber correctly, has a sharp knife and can cut on the score line. After fitting the first piece in the room, it should be straight-edged with a sharp knife. Hold the knife straight up and down. Keep the scrap on the same side as the hand with which you are cutting. Non-patterned materials may also be trimmed using an edge trimmer or by cutting at least 1/4" off the factory edge. On patterned material, remove the proper selvage using a straightedge and sharp knife.
- Fit the second piece of material and obtain proper overlap. With the second piece overlapping the first straight-edged piece, insert the recess scribe. If the scribe is set correctly, the knob on the bottom will follow the straight-edged piece, and the pin that is set over the back edge of the knob will mark the top piece directly over the straight edge. Insert a piece of scrap material face down beneath the scribe mark. Cut the seam using a straight-blade knife. These seams must be cut with the adhesive spread beneath them. One advantage of recess scribing is that you have to spread adhesive only one time. The seam must be cut before the adhesive sets up. The seam edges should lay together with no fullness. They should not have to be forced into place. After the seam is rolled into place with a hand roller, remove the burr or rough edge. This burr comes from the recess scribe when the seam is scribed. After the piece is in place, use the back of a knife to skive off the burr; or, before putting the second piece of flooring in place, hold a small piece of #320 sandpaper at an angle to the cut edge. Move lightly back and forth to remove the burr. After hand rolling seams in place, roll again with a 100-lb. roller.

Procedure: Glue Down

Adhesive	Set in wet	Dry to touch	Trowel
BondLink 99% RH 12lbs-MVER	20-30 minutes	30-60 minutes	Porous: 1/16" x 1/16" x 1/16" (1.6 x 1.6 x 1.6 mm) Sq. Notch Non-Porous: 1/16" x 1/32" x 1/32" (1.6 x .8 x .8 mm) U-notch
TuffLink 99% RH 12lbs-MVER	20-30 minutes	30-60 minutes	Porous: 1/16" x 1/16" x 1/16" (1.6 x 1.6 x 1.6 mm) Sq. Notch Non-Porous: 1/16" x 1/32" x 1/32" (1.6 x .8 x .8 mm) U-notch
Apex Pro* No moisture test needed	10 minutes		Notch: 1/16" x 1/32" x 1/32" (1.6 x .8 x .8 mm) U-notch

*Apex Pro can be used in areas of heavy rolling loads or high dynamic loads.

- Apply adhesive in accordance with adhesive instructions and label instructions. Pay careful attention to using proper trowel to achieve correct adhesive coverage, open and working times based on surface absorbency and environmental conditions. Do not apply excess adhesive or leave lumps in adhesive or allow adhesive to over-dry. If adhesive has been down too long before installation, scrape clean and apply fresh adhesive. Do not spread more adhesive than can be installed within the recommended working time and time available to install that day. It may be necessary to use a short nap paint roller moistened with adhesive to roll out trowel marks before installation. Periodically check the floor backing for coverage and to make sure that sufficient adhesive has been applied to fully cover the backing and not too much adhesive was applied. Once adhesive is applied allow the appropriate open time for jobsite conditions before installing flooring.
- Carefully place the first sheet into the adhesive. Roll the first sheet into adhesive being careful to maintain proper alignment and pattern match and to avoid trapping air between adhesive and sheet. Frequently check adhesive application of back of flooring to ensure full adhesive coverage and that trowel ridges are flattened.
- Once the first portion of the first sheet has been applied into the adhesive and rolled, continue with the adjoining drop. Continue installing each drop until all flooring is bonded on one side.
- With the sheets bonded on one side, trim the opposite end cuts for a net fit to the wall or vertical surface. Once all drops are trimmed for a net fit, fold back the loose section of flooring to where the adhesive has been applied. Before proceeding, carefully sweep the exposed substrate to remove any remaining dirt and debris. Apply adhesive onto the clean substrate for the next section of flooring.
- Proceed with installation as before after allowing adhesive the proper amount of open time and rolling each section as it is installed. Once the room is installed, slowly roll the flooring with 50% overlapping passes using a 100 lb. 3 section roller in both directions. Confirm trowel ridges are completely flattened. If trowel ridges are still evident and do not roll out, scrape up that section of adhesive and reapply fresh adhesive. The installer is responsible for understanding the jobsite conditions and managing the installation process to achieve the desired end result. This includes laying the flooring into the adhesive and rolling the flooring at the proper time. Continue to check and confirm adhesive trowel ridges are completely flattened to a uniform film thickness and full adhesive transfer to back of flooring.

HEAT WELDING:

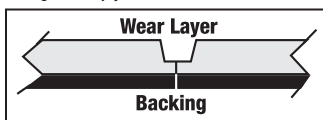
Prepare seams for heat welding after waiting appropriate set up time for adhesive used. Wait 24 hours before heat welding with all trowel applied acrylic or epoxy adhesives and wait a minimum of 1 hour with spray adhesives before heat welding seams. Use a 4 mm round grooving tool and 4 or 5 mm round heat weld tip with narrow throat.

CAUTION: Using a heat welding tip with a narrow throat is critical to concentrate the heat into the groove and not on the edge of the flooring where it can cause distortions and or a shiny edge. The narrow throat also facilitates good melting of the weld rod and fusion between the weld rod and sheet flooring making a strong seam. Failure to achieve 100% fusion during heat welding causes a weak weld that can fail over time resulting in seam splitting and gapping. Distorted or shiny edges and split or gapped seam conditions are installer induced and not covered under the product warranty. Properly use the correct tools to prevent unintended installation damage to the flooring.

- Use an automatic router equipped with a 3.5 mm (0.1379") thick blade. In areas where an automatic router cannot be used, use a hand-groover.
- Make sure the routed seam is free of dirt, adhesive and particles produced by routing.
- Cut the weld rod long enough to weld about 3/4 of the seam.
- Set the correct welding temperature and pre-heat welding gun for several minutes.
- Attach the appropriate tip (nozzle) to the gun and adjust to the proper temperature. Use of pre-heated welding nozzles will require higher temperatures.
- Feed the weld rod through the welding tip and apply the weld rod into the routed seam.
- The heat gun is at the proper angle when the bottom of the nozzle is parallel to the floor. Welding is accomplished by pulling the heat gun slowly toward you.

PRACTICE HEAT WELDING BEFORE PROCEEDING:

- Before heat welding on jobsite, take a large scrap of flooring and practice grooving and welding to determine the best practices to achieve a uniform and consistent centered groove to 2/3 the depth of the sheet flooring and a strong secure heat weld. While practice heat welding, be sure to note the exact temperature setting and speed of application needed to achieve good melting of the weld rod and fusion between the weld rod and sheet flooring. After installation of a section of weld rod that has cooled for several minutes, roll your fingers perpendicular across weld rod to determine if it is well secured or if it rolls out of the groove. Do not proceed unless you are getting melted weld rod wash at the interface between the edge of the floor and weld rod. Continually look for wash along the base of the weld rod. No fusion or wash is a no-go.
- After the adhesive wait time and just before welding, groove 2/3 the depth of the sheet flooring material centered on the seam. Use specified matching or contrasting weld rod. Confirm correct weld rod color before proceeding. Installation of materials implies acceptance. Use a 4 or 5 mm round heat weld tip with a narrow throat to apply weld rod to flooring. Allow a minimum of 30 minutes and ensure weld rod has cooled to room temperature before trimming seams. Make first pass with guide plate on trim knife or spatula knife to leave a small amount of rod above surface of floor. Carefully make final trim in a continuous straight motion along seam to cleanly remove excess weld rod leaving a smooth, flush weld. After final trim, carefully glaze the weld rod to seal the weld rod surface.
- Rout or groove the seams to a depth 1/2 to 2/3 the thickness of the wear layer. **DO NOT expose the backing by routing too deeply.**



- Flooring installed using the dry-to-touch method may be heat welded immediately. For all other installations, wait a minimum of 6 hours.

For Flash coving please refer to separate document at www.hardwoodexpert.com

FINISHING THE JOB:

- The Owner and General Contractor are responsible to protect completed flooring after installation is released by the Flooring Contractor. Cover with protective material appropriate to prevent any damage from other construction trades until final acceptance by owner.
- After installation protect installation from traffic for time specified for adhesive used. By inspecting your completed installations, you often avoid future problems by making minor adjustments to your installation techniques, such as adjusting adhesive open times, proper trowel notching, conditioning the material, or subfloor preparation.

REPAIRING HEAT-WELDED SEAMS:

- Remove the damaged rod with a hand-grooving tool. If the original seam was grooved using a routing machine, you can easily remove the welding rod with a hand-grooving tool. If the original seam was grooved using a hand-grooving tool, you may have problems with the seam being wider in places and removing the rod with a hand-grooving tool could make the seam even wider and possibly harder to weld with the new welding rod.
- When grooving the seam, take out the width of the original rod. It is not necessary to groove out the entire depth of the rod. As long as the original rod is firmly bonded, this will not create any problems. Once the seam has been grooved and cleaned out, you can weld the seam with the new rod following the recommended temperature settings for the flooring material.
- Skive the excess rod from the flooring surface in two passes. On the first pass, skive away the top part of the welding rod using a spatula knife and trim plate while the welding rod is still warm. The welding rod must be cooled to room temperature to remove the remainder of the welding rod on the second pass. Remove the remaining rod by holding the spatula knife flush with the flooring surface while skiving.
- If the resilient flooring in the repaired area was being maintained with floor polish (finish) consider applying one or two coats of that same floor polish to the repaired seam. If the original welded seam was being maintained with a field-applied coating for use on welded seams, consider applying a thin, even application of a commercially available, high-quality multi-purpose top coating such as a Weld Rod Coating Pen. Use care when applying the finish to avoid over-application onto the wear layer of the adjacent sheet flooring material. In high traffic areas, apply one or two additional coats making sure the finish is completely dry between applications. Always use the finish in conjunction with the manufacturer's recommendation.

INSPECT YOUR WORK:

Inspect your workmanship. Was the floor properly rolled into the adhesive as required for most products? Check for loose edges or seams and correct as necessary. Are there trapped air blisters, buckles, dirt, or debris particles under the flooring? Is there adhesive on the surface? Take care of any problems immediately. Don't wait for call-backs.

CLEAN-UP:

- The most obvious consideration in clean-up is trash and waste product removal. Tools, equipment, adhesives, or any chemicals that may present safety hazards should be properly stored or disposed of. Be alert to such materials and conditions when other trades are working in the same area and in occupied homes. Keep all walkways, work areas, stairways and doorways free of obstruction or trash. In residential work, you should remove all items except for a few square yards of material in case repair insets are needed in the future.
- Check surrounding walls, cabinets and fixtures for adhesive smears or accidental damage that may have occurred during the installation. Correct as necessary, and show the owner any conditions that require further attention by plumbers, electricians, etc.

PROTECT THE FLOOR:

Moving Heavy Appliances and Equipment:

- When moving heavy or sharp objects (such as appliances) over resilient flooring installations, place a wood panel under the object. Without moving the panel, slide or roll the object over it. Follow with additional panels as needed. This prevents scratches, tears, or buckling of the flooring material.
 - Before moving wheeled or castered objects over newly adhered flooring, use wood panels to protect the floor by distributing the load. Otherwise, permanent wheel tracking could develop in the flooring, caused by movement in the fresh adhesive. **We recommend protecting the resilient flooring with wood panels whenever heavy objects are moved across it.**
 - Newly installed commercial flooring should not be exposed to routine rolling load traffic (carts, lifters, etc.) for at least 72 hours after installation to allow setting and drying of adhesives. If rolling loads cannot be avoided, protect the newly installed commercial flooring for 72 hours after installation by covering with wood panels. Equip table and chair legs with floor protectors to minimize scratches and indentations.
 - Equip table and chair legs with floor protectors to minimize scratches and indentations.
 - Take care to prevent damage to resilient flooring by wheeled vehicles, castered furniture, and appliances and dollies. Wheels or casters should have widths and diameters suitable for the loads to be carried. This will reduce rolling resistance and minimize or eliminate the risk of cutting or permanently indenting the flooring.
- NOTE:** Since rolling-type casters and certain feet on furniture, and appliances may damage resilient flooring, any warranty as to their suitability rests with the furniture or appliance manufacturer.

Guidelines for Floor Protection Devices (furniture feet, rests, casters, wheels, etc.):

- The contact area should be smooth and flat to provide full contact and be free of small protrusions, irregularities, roughness, depressions, mold lines, embedded dirt, grit etc.
- The contact area should be large enough to distribute the load evenly without damaging the floor.
- All edges should be slightly rounded to prevent damage if briefly turned on edge.
- Floor contact devices should be manufactured from non-staining materials.
- Floor contact devices should be properly maintained. Worn, damaged and missing devices should be replaced.
- Furniture, appliances, equipment, etc. should be properly leveled so that all floor contact devices rest fully and firmly on the floor at all times.