GENERAL

· Ensure proper moisture testing of substrate prior to installing any moisture sensitive floor covering.
· The use of cementitious patching and leveling compounds must meet or exceed Bering's maximum moisture level and pH requirements to be approved for use.
· The use of gypsum-based patching and/or leveling compounds which contain Portland or high alumina cement must meet or exceed a compressive strength of 3,000 psi.
· For cracks or saw cuts deeper than 1", follow the preparation and application instructions for approved floor patch. Floor patch is a 2-part urethane treatment designed to prevent potential damage and stop moisture penetration to the surface of the slab that may damage or deteriorate adhesives or improper patching compounds.
· Resilient floor covering installation should not begin until all other trades are completed so as to avoid dust, debris, and damage such as spilled paint.
· Material must be visually inspected prior to installations. Any material installed where defects are present will not be considered a legitimate claim where it applies to labor cost.
· Bond testing must be performed in order to establish compatibility of adhesive to the substrate.

STORAGE & HANDLING

· All rolls must be stored in an upright standing position; rolls must **NEVER** lay for extended periods.
· In circumstances where more than one roll of a color is being installed, all material should originate from the same batch and the rolls must be installed in consecutive order. If material from more than one batch is to be used, the job should be prepared so that different batch numbers are not installed in a side-by-side orientation.
· Prior to installation, all flooring material and adhesive must be acclimated to the installation environment for no less than 48 hours. Cartons of tile or plank products should be stored flat and squarely on top of one another. Ideal placement of material should be located in the "center" of the installation site (i.e., away from vents, direct sunlight, etc.) Cartons exposed to direct sunlight may impact proper acclimation by prompting thermal expansion or contraction.
· Palletizing on a jobsite requires vinyl plank or tiles to be stacked 2 rows high in a flush, side by side placement with no visible space in between. Then quarter turned for 2 rows side by side, not to exceed 12 boxes high. A 5/8" or thicker plywood must also be laid on the pallet prior to the placement of cartons.
· Pallets must never be stacked more than 2 high unless a 1" thick plywood is first placed in between pallets.

JOBSITE CONDITIONS

Areas that are designated for flooring must have efficient lighting throughout all phases of the installation process. Controlled environments are crucial. HVAC systems must be fully operable to ensure proper control of temperature and humidity levels.

RESILIENT FLOORING PRODUCTS MUST NOT BE INSTALLED UNTIL THE WORK AREA CAN BE VERIFIED AS TEMPERATURE CONTROLLED.

The permanent HVAC system must be functional and set to a minimum of 65°F (20°C) or a maximum of 85°F, for no less than 7 days prior to, during, and after installation. After the installation is complete, the temperature should never surpass 85°F.

SUBFLOOR REQUIREMENTS

Note: All substrates to accept resilient flooring shall be dry, clean, smooth and structurally sound. Substrates must be clear of any dust, solvent, paint, wax, oil, grease, residual adhesive, adhesive removers, curing, sealing, hardening/parting compounds, alkaline salts, excessive carbonation/laitance, mold, mildew, and other foreign materials that might interfere with the adhesive bonding process.

· Adhesive residues that are asphalt-based (cut-back), or if there is any other type of adhesive in place, must be removed by industry-standard removal methods such as mechanical or wet scraping.

· Removal of adhesives through the application of solvents or citrus adhesive removers is not suggested. Any remaining solvent residue left in or on the subfloor may alter the newly applied adhesive and floor covering. **THE WARRANTY MAY BE VOIDED IF THE RESILIENT FLOORING, BACKING, "CUT BACK" ADHESIVES OR OTHER TYPES OF ADHESIVES ARE SUBJECTED TO SANDING, DRY SWEEPING, DRY SCRAPING, DRILLING, SAWING, BEAD BLASTING OR MECHANICALLY CHIPING OR PULVERISING.**

The aforementioned adhesive products may contain either asbestos fibers and/or crystalline silica. Any process that creates dust should be avoided. Inhalation of such dust particles carries the risk of cancer and respiratory tract hazard. Smoking by individuals exposed to asbestos fibers significantly increases the risk of serious bodily harm. Unless a definitive conclusion can be made that the product does not contain asbestos, the presence of asbestos must be assumed. Some regulations may require further testing of the material to be cleared for asbestos content and may require the removal and disposal of material. Refer to the current edition of the Resilient Floor Covering Institute (RFCI) publication Recommended Work Practices for Removal of Resilient Floor Coverings for complete information and removal instructions for all resilient covering structures. For the most updated information, please visit www.rfci.com.

WOOD SUBFLOOR REQUIREMENTS

· All wood subfloors must be considered structurally sound and in compliance with local building codes.
· It is suggested that your preferred APA underlayment grade panels be specifically designed for installation under resilient flooring, and include a written warranty covering replacement of the complete flooring system.
· Double-Layered APA rated plywood subfloors must have at least 1" total thickness, with a minimum of 12" adequately ventilated air space below.
· For crawl spaces, insulation and protection should be implemented with the use of a vapor barrier to cover the ground.
· The use of particleboard, chipboard, flakeboard, OSB, hardboard or similar substrates are not suitable subfloor materials. An additional layer of an APA ¼" underlayment grade panel should be used.
· Installation over sleeper construction subfloors or wood subfloors applied directly over concrete is **NOT** acceptable. Underlayment panels can resolve only slight defects in the sub-floor while providing a sufficiently smooth, stable surface for proper adhering of resilient flooring.
· Any performance failures in the underlayment panel are the sole liability of the panel manufacturer and are not the responsibility of Bering.
· Bering resilient flooring is not recommended for direct application onto plywood surfaces that have been treated with fire-retardant chemicals or preservatives.
· Materials used in plywood treatments may conflict with the adhesive bonding process. Where plywood has been treated, an additional layer of APA rated 1/4 " thick underlayment should be installed.
· Underlayment manufacturer's installation instructions must always be followed.
· Crumb rubber underlayments are not approved for use with resilient floor coverings due to performance failures resulting from incompatible chemical structures.

STRIP – PLANK WOOD FLOORING

· To avoid issues with expansion or contraction of individual boards that occur during seasonal changes, the addition of a 1/4 " or thicker ·
· APA rated underlayment panels must be installed over these types of subfloors.
· Wood flooring installed directly over concrete is **NOT** an acceptable subfloor option.

CONCRETE SUBFLOOR REQUIREMENTS

NEW CONSTRUCTION OF AND CURRENT CONCRETE SUBFLOORS SHOULD MEET THE GUIDELINES OF THE LATEST EDITION OF ACI 302 AND ASTM F710, "STANDARD PRACTICE FOR PREPARING CONCRETE FLOORS TO RECEIVE RESILIENT FLOORING" AVAILABLE FROM THE AMERICAN SOCIETY FOR TESTING AND MATERIALS, 100 BARR HARBOR DRIVE, WEST CONSHOHOCKEN, PA 194 28; 610-832-9585; HTTP://WWW.ASTM.ORG.

Required Moisture Testing - Maximum moisture level per ASTM 1869 CaCl is 8 lbs. and ASTM 2170 In-situ Relative Humidity 90% per 1000 sq.ft. in 24 hours. PH of concrete sub-floor needs to be between 7 &10.

· Substrates shall be smooth, structurally sound, dry, clean and free of all foreign material such as dust, wax, solvents, paint, grease, oils, old adhesive residue, curing and hardening/ curing compounds, sealers and other foreign material that might interfere with the adhesive bonding process.

· Slabs that are on or below grade must have a sufficient vapor barrier in place directly below the slab.

The optimal method for curing new concrete consists of a wet curing for 7 days.

· **DO NOT USE** curing compounds. These can hinder the bonding process of adhesives to the concrete. Please contact a substrate manufacturer for additional instruction if curing agents are present.

· Curing compounds should be removed 28 days after placement to ensure concrete has adequate drying time. Concrete floors shall be flat and smooth within 1/8" in 6 feet or 3/16" in 10 feet.

· F-Number System: Overall values of FF 36/ FL 20 may be acceptable for resilient floor coverings.

· Expansion and isolation joints in concrete are designed for the proper expansion and contraction of the concrete. Do not install resilient flooring products over expansion joints. Expansion joint covers designed for use with resilient floorings should be utilized. Control joints (saw cuts) may be patched and covered with resilient once the concrete is completely cured, dry and acclimated.

· 4100 Adhesive/ S150 - may not exceed 95% RH and 4151 Adhesive 99% RH.

· Concrete floors must be tested per the latest edition of ASTM F710.

NOTE: IT MAY NOT BE THE FLOOR COVERING INSTALLER'S RESPONSIBILITY TO CONDUCT THESE TESTS. IT IS, HOWEVER, THE FLOOR COVERING INSTALLER'S RESPONSIBILITY TO ENSURE THESE TESTS HAVE BEEN PERFORMED, AND THAT THE RESULTS ARE SATISFACTORY PRIOR TO INSTALLING THE FLOOR COVERING. WHEN MOISTURE TESTS ARE CONDUCTED, ONLY THE CONDITIONS AT THE TIME OF THE TEST ARE REPORTED.

LIGHTWEIGHT CONCRETE REQUIREMENTS

All guidance and guarantees as to the suitability and performance of lightweight concrete under resilient flooring are the sole obligation of the lightweight concrete manufacturer. The installer of the lightweight product may require certification or authorization from the manufacturer.

· The proper on-site mixing ratios and fully functioning pumping equipment are crucial. To determine accurate mixture, slump testing is advised.

· Lightweight aggregate concretes having dry densities greater than 90 lbs. per cubic foot may be acceptable under resilient flooring. Concrete slabs with heavy static and/or dynamic loads should be designed with higher strengths and densities to support such loads. Surface must be permanently dry, clean, smooth, free of all dust, and structurally sound.

· Bond testing should be performed to establish the compatibility of adhesive to the substrate. Shaw 9050 primer can be applied to augment adhesion.

· For areas up to 1000 SF, three internal relative humidity tests should be performed. One additional test should be conducted, for every additional 1000 SF.

RADIANT HEAT REQUIREMENTS

Acceptable Radiant-heated subfloor systems can be concrete, wood or a combination of both. The heating systems components must have at least 1/2" separation from the flooring product. The system must be on and operational for a minimum of 2 weeks prior to installation to decrease residual moisture. Three days before installation, lower the temperature to 65°F. After installation, slowly increase the temperature in increments of 5°F to prevent overheating. Maximum operating temperature should never surpass 85°F. The use an in-floor temperature sensor is preferred to eliminate overheating. Contact the radiant heating system manufacturer for additional instructions.

Electric Radiant Floors are comprised of electric cables and/or mats of electrically conductive materials secured t the subfloor beneath the floor covering. Mesh systems are generally embedded in thin-set. When embedding the system components, utilize cementitious patching and leveling compounds that meet or surpass Bering's maximum moisture level and pH requirements. Use of gypsum-based patching and/or leveling compounds which contain Portland or high alumina cement and meet or exceed the compressive strength of 3,000 psi are sufficient.

Hydronic Radiant Floors consist of pump heated water from a boiler through tubing laid in a pattern below the flooring. *(continued)*These floors are typically installed in channels beneath a wooden subfloor or encased in concrete slabs. Requires the installer follow a distinct nailing pattern to avoid perforation of the heating system.

EXISTING FLOORING REQUIREMENTS

· Must be layered individually with a non-cushioned backing, fully adhered with a smooth surface. No signs of moisture or alkalinity should be present.
· All waxes, polishes, grease, grime, and oil must be removed.
· Any cuts, cracks, gouges, dents and other variances in the existing floor covering must be fixed or replaced.
· It is suggested to use an embossing leveler to support proper bonding and to prevent telegraphing.
· Do not install over rubber-based substrates.

NOTE: IT IS THE SOLE RESPONSIBILITY OF THE INSTALLER/FLOORING CONTRACT OR ON SITE TO DETERMINE IF THE EXISTING FLOORING IS ACCEPTABLE TO BE INSTALLED OVER TOP OF WITH RESILIENTTHE EXISTING FLOORING SHOULD BE REMOVED IF THERE IS ANY UNCERTAINTY OF THE SUITABILITY, OR A SUFFICIENT UNDERLAYMENT INSTALLED OVER IT. INSTALLATIONS OVER EXISTING RESILIENT FLOORING MAY BE MORE VULNERABLE TO INDENTATION.

QUARRY TILE, TERRAZZO, CERAMIC TILE, POURED FLOORS (EPOXY, POLYMERIC, SEAMLESS)

· Must be fully cured and sufficiently bonded to the concrete.
· Must be completely clear of any residual solvents and petroleum derivatives. All waxes, polishes, grease, grime, and oil must also be removed.
· No signs of moisture or alkalinity should be present.
· Any cuts, cracks, gouges, dents, and other variances in the existing floor covering must be repaired or replaced.
· Low spots, holes, chips and seams must all be filled to prevent telegraphing through the new flooring. Highly polished or irregular/smooth surfaces should be ground.
· Quarry tile or Ceramic tile grout joints and textured surfaces must be filled using an embossing leveler or an approved material by a substrate manufacturer.

ADHESIVES

In order to receive a underbed warranty, the product being installed must be approved for underbed applications (see product specification) and must be installed with an approved Bering Underbed Adhesive. *(continued)*

RESILIENT TILE & PLANK PRODUCTS

Required Moisture Testing - maximum moisture level per ASTM 1869 CaCl is 8 lbs. and ASTM 2170 In-situ Relative Humidity 90% per 1000 sq.ft. in 24 hours. PH of concrete sub-floor needs to be between 7 & 10.

· Permanent HVAC system must be in place and maintaining temperature between65°F (20°C) and 85°F, for a minimum of 7 days prior to installation, during installation and for at least 7 days after installation. After installation, the maximum temperature should not exceed 85°F.

· Overstacking increases likelihood of damage to the product. Product should never be stacked more than 5 cartons high.

· Flooring material and adhesive must be acclimated to the installation area for a minimum of 48 hours prior to installation.

· Use a 1/16" wide x 1/32" deep x 1/32" apart (U) notch trowel only (unless using S150-95 Spray Adhesive where no trowel is required).

· Material must be inspected prior to installation for visible defects. Installation of visibly defective material voids the manufacturer warranty and will be considered an installation defect.

· Make sure all material is from the same batch number so as to avoid any slight differences that may exist between manufacturing batches. ·

· Always install tiles running in the same direction by using arrows on back of the tile.

· Sub-floor and jobsite conditions must be met prior to beginning the installation.

BERING TILE AND PLANK

· Install using conventional tile and plank installation techniques. Plank products should have a minimum of 6 – 8" seam stagger.

· Unless job requirements state otherwise, it is customary to center rooms and hallways, so borders are not less than half a tile or plank. Working out of multiple boxes at a time if possible.

· In hallways and small spaces, it is a best practice to work lengthwise from one end using a center reference line as a guide.

· Cut edges should always be placed against the wall so as to maintain the overall aesthetics and reduce visibility of imperfect cuts.

· To ensure the cleanest cut of any LVT /LVP products, score the top side of the material with a utility knife. Bend the product and finish the cut through the backside. A heat gun may be used to cut around vertical obstructions. Allow the heated LVT /LVP to return to room temperature before installation.

· Cutting resilient product into a fine point may lead to delamination.

· Use an ethyl cyanoacrylate-based glue to help fuse the resilient point together. Be sure to clean all glue from the top surface immediately.

(continued)

· Do not use Alcohol based glues as these may cause resilient products to swell.
· Use a 3 section, 100lb. roller to roll the glued down plank/tile throughout the working day, so as to ensure to ensure a proper bond.
· Applying tape or any other adhesive product to the surface of your resilient flooring could damage the surface. Therefore, do not use tape or any other adhesive to secure flooring protection to the product during construction. Instead, only use tape to secure the flooring protection to the base molding or use an alternative protection material such as ram board.

Bering warrants its product to be free from manufacturing defects for ten years from the date of purchase. Bering does not warrant against and cannot be held responsible for faulty installation. Installation errors should be addressed with your installer. Therefore, it is important to choose an installer who has demonstrated expertise in installation of commercial flooring. For complete warranty information, limitations and terms and conditions please call Bering customer support at 1-855-792-1010.