



FLOOR PREPARATION

FOR ALL AMERICAN BILTRITE FLOORING PRODUCTS

SITE CONDITIONS

1. Thorough inspection and preparation of subfloors is mandatory to ensure a satisfactory installation. No resilient flooring installation should be started before the installer is completely familiar and satisfied with the subfloor conditions. Serious defects should always be reported immediately to the responsible authority.
2. Ensure that heating, ventilation and/or air conditioning (HVAC) in the installation area is operative for a minimum of 7 days prior to, during and following the installation.
3. The temperature must be kept between 18°C (65°F) and 29°C (85°F) for 48 hours before, during installation and 72 hours after installation. Ambient relative humidity must be maintained between 40 and 60%.
4. Both flooring and adhesive must be acclimatized 48 hours prior to installation. Flooring should be removed from the pallet at least 24 hours prior to installation and stacked no more than 3 cartons high with at least 10 cm (4 inches) of airflow around the cartons. For rolls, immediately upon reception, store standing up with at least 10 cm (4 in) of airflow around the rolls. Do not leave boxes or rolls close to heating or cooling ducts.
5. Avoid placing flooring in direct sunlight (windows or doors) before installation, as it could create shading.
6. Loose-lay flooring in the room. Identify the different lots and place the flooring to ensure uniform color and overall appearance requirements are met.
7. Flooring products with arrows on the back should be installed with the arrows all pointing in the same direction.
8. American Biltrite warrants the installation of its products as a system with the recommended adhesive (see [Adhesive Quick Check Chart](#)).
9. Contact American Biltrite or one of its distributors about any questions regarding preparation of subfloor prior to installation of our products.

A. CONCRETE SUBFLOORS

General Conditions

1. Follow ASTM F710 "Standard practice for preparing concrete floors to receive resilient flooring".
2. Concrete subfloors should be made of a good standard mix as recommended by the American Concrete Institute, using clean sand and crushed stone. A loose, sandy or scaly surface or evidence of a white, powdery surface is unacceptable.
3. The installation of a permanent, effective moisture vapor retarder with a minimum thickness of 0.25 mm (0.010 in) is required under all on- and below-grade concrete floors as per ASTM E1745.
4. Crawl spaces, with a minimum of 46 cm (18 in) of ventilated space, will require an effective moisture vapor retarder on the ground.
5. Concrete subfloors suitable for the installation of American Biltrite flooring must be dry, clean, smooth, level and structurally sound. They must be free from old adhesive, dust, solvent, paint, wax, oil, grease, asphalt, sealing and curing compounds and other foreign substances.
6. The surface of concrete floor should be flat to within the equivalent of 4.75 mm over 3 m (3/16 in over 10 ft) and within the equivalent of 0.8 mm over 305 mm (1/32 in over 12 in).
7. Do not use dry sweep oil-based material, as the oil in the sweeping compound will interfere with the adhesion of the material to the concrete.
8. Fill or level cracks, grooves and other irregularities. Where filling or leveling is required, the use of a high strength Portland cement-based patching compound is recommended.
9. Saw cuts must be cleaned carefully and flooring must not be installed over expansion joints.



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10. Concrete curing agents, surface hardeners and similar products should not be used on the subfloor unless the manufacturers of these products guarantee that they will not affect the bonding process. If these products have been used without the manufacturer's guarantee, they must be removed before American Biltrite flooring is installed. In many cases, these agents form a surface film of oil, wax or resin that impairs the bond between the concrete and the adhesive.
11. In the case sealers, curing agents or hardeners were used in/on the concrete; refer to the "[Remediation System](#)" documentation for solutions.
12. Excess Moisture: American Biltrite does not guarantee any product performance against excess moisture (including hydrostatic pressure) under any circumstances. The use of underlayment, leveling and patching compounds is no guarantee against excess moisture (including hydrostatic pressure) or concrete deficiencies.
13. In the case moisture levels are higher than the recommended specification for installation; refer to the "Remediation System" documentation for solutions.
14. Chemical abatement: do not use chemical adhesive removal products. Using such products will void the American Biltrite's floor covering warranty.
15. In the case chemical abatement products were used; refer to the "Remediation System" documentation for solutions.
16. It is the responsibility of the flooring contractor to determine whether or not the concrete is suitable for covering.

Surface Porosity

1. Follow ASTM F3191 "Standard practice for Field Determination of Substrate Water Absorption (Porosity) for Substrates to Receive Resilient Flooring"
2. To test for porosity, place a 0.05 ml bead of water on concrete's surface and observe absorption. If water is not absorbed within one minute, the floor is considered non-porous.
3. Depending of surface porosity (porous or non-porous), allow proper open time when applying the adhesive on the substrate. Further than surface porosity, open and working times are dependent on the air movement, ambient temperature, and humidity as well as subfloor humidity and temperature.
4. Follow ASTM F3311 "Standard Practice for Mat Bond Evaluation of Performance and Compatibility for Resilient Flooring System Components Prior to Installation".
5. Perform the mat bond test with the flooring to be installed and specified adhesive as per Adhesive Quick Check Chart. Use flooring pieces that will cover approximately 0.4 sq. m (4 sq. ft); by example, it represents two tiles of 45 cm x 45 cm (18 in x 18 in). When the flooring pieces are set into the adhesive, use duct tape to seal the edges of the flooring to the subfloor on all sides. The bond strength evaluation must be done after 72 hours in the absence of an adhesive cure time by lifting the sample from the subfloor.
6. If an unsatisfactory bond test is obtained, it can be improved by mechanically abrading the concrete's surface.
7. It is the responsibility of the flooring contractor to adjust installation in accordance to the open and working time of the adhesive to jobsite conditions.

Conducting Moisture and pH Tests on Concrete Subfloors



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1. Testing of existing and new concrete subfloors (on, below and above grades) using the protocols outlined below is required:
 - a. ASTM F1869, Anhydrous Calcium Chloride test.
 - b. ASTM F2170, Relative Humidity (RH) test using in situ probes.
 - c. ASTM F710, pH level.
 - d. Refer to the latest ASTM versions for specific testing, guidelines and safety procedures.
2. New concrete slabs must be properly cured before any testing is undertaken. Depending on atmospheric conditions, type of concrete and/or possible excess water content, curing time may vary.
3. ASTM F1869 - Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride.
 - a. Purpose: this test is designed to measure the moisture emission at the surface of a concrete slab.
 - b. Areas should be tested as follows: conduct 3 tests for the first 1,000 sq. ft. (93 sq. m), then 1 test for every additional 1,000 sq. ft (93 sq. m) as outlined in the most recent edition of ASTM F1869.
 - c. Maximum allowable readings vary depending on the adhesive system chosen. Refer to Adhesive Quick Check Chart for the maximum allowable levels for each adhesive.
4. ASTM F2170 - Standard Test Method for Determining Relative Humidity in Concrete Floor Slabs Using in situ Probes.
 - a. Purpose: this test is designed to measure the percentage of relative humidity in a concrete slab.
 - b. Areas should be tested as follows: conduct 3 tests for the first 1,000 sq. ft. (93 sq. m), then 1 test for every additional 1,000 sq. ft (93 sq. m) as outlined in the most recent edition of ASTM F2170.
 - c. Maximum allowable readings vary depending on the adhesive system chosen. Refer to Adhesive Quick Check Chart for the maximum allowable levels for each adhesive.
5. ASTM F710, pH level.
 - a. Purpose: new concrete floors or where moisture is present may be susceptible to elevated pH levels due to excess alkaline salts. Adhesives are subject to deterioration resulting in bond failure in the presence of strong alkaline conditions.
 - b. Conduct one pH test for every 1,000 sq. ft (93 sq. m) throughout the area.
 - c. Maximum allowable readings vary depending on the adhesive system chosen. Refer to Adhesive Quick Check Chart for the maximum allowable levels for each adhesive.
6. It is the responsibility of the flooring contractor to determine whether or not the concrete meets specification.
 - a. Record all measurements in the project log.
 - b. Results of the test must be made available upon request to American Biltrite.

Radiant Heated Concrete Subfloors

1. American Biltrite flooring may be installed over radiant heated subfloors; however, the maximum temperature must never exceed 29°C (85°F).
2. The moisture requirement levels that apply to on, below and above grade concrete floors also apply to floors with radiant heating systems.
3. The radiant heated floor must be operating at a temperature of 18°C (65°F) for 48 hours before, during installation and 72 hours after installation. The temperature thereafter can be incremented by 5°C (9°F) per 24 hours until a maximum of 29°C (85°F).



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4. If radiant heated floors have been allowed to cool after installation, moisture may have permeated the concrete subfloor. It is therefore recommended that the floor temperature be increased gradually at a rate of 5°C (9°F) per 24 hours to ensure that moisture and temperature changes do not adversely affect adhesion.
5. To choose the proper adhesive, consult the Adhesive Quick Check Chart.

B. WOOD SUBFLOORS

1. Installer needs to verify that the wood subfloor meets the requirements of ASTM F1482 "Standard Practice for Installation and Preparation of Panel-Type Underlayment to Receive Resilient Flooring".
2. American Biltrite does not approve of the use of particle board, luan, flake board, wafer board or chip board underlayments under its flooring, as their quality and performance vary widely.
3. Some particle boards are suitable for use as underlayment, but the particle board manufacturer should provide a guarantee to this effect.
4. American Biltrite only recommends installing their products on wood subfloors if they are made from two layers of staggered construction grade plywood that is at least 3.18 cm (1¼ in) total thickness for the combined layers. The first layer must be a minimum of 1.6 cm (5/8 in) thick.
5. The wood subfloor must be dry, smooth, and free from vertical movement and any foreign substance, such as, old adhesive, paint, oil, dirt, grease, and wax.
6. The surface of the wood subfloor should be flat to within the equivalent of 4.75 mm over 3 m (3/16 in over 10 ft) and within the equivalent of 0.8 mm over 305 mm (1/32 in over 12 in).
7. Lightly sand any surface roughness, particularly at joints and around nails.
8. Use a Portland cement-based compound to level or patch wood subfloors.
9. Wood subfloors over crawl spaces require a minimum of 46 cm (18 in) of ventilated space, with an effective moisture vapor retarder on the ground.

C. TERRAZZO, CERAMIC, NATURAL/AGGLOMERATED MARBLE OR GRANITE

1. Caution: terrazzo, ceramic, natural/agglomerated marble, or granite are non-porous floors that require special attention to secure proper adhesion to the flooring.
2. The glazed and polished surface finish causes the problem. Often the floor is treated with sealers and wax as well, which can build up. Remove glaze, polished finish, sealers and wax by sanding or bead blasting.
3. Ensure that the surface is free of dirt, dust, debris, or any other substances that will prevent bonding.
4. Use a Portland cement-based underlayment and follow the manufacturer's recommendations for subfloor preparation and priming.

D. METAL SUBFLOORS

1. Metal surfaces could be covered with rust, dirt, or contaminants.
2. Sand the metal (aluminum, steel, brass, copper, and bronze) to create a surface finish that will ensure a good adhesive bond; install the flooring right away after metal surface sanding and cleaning.
3. To choose the proper adhesive, consult the Adhesive Quick Check Chart.



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E. PREPARATION OF FLOORS WITH EXISTING RESILIENT FLOORING AND/OR OLD ADHESIVE

1. American Biltrite will not accept any responsibility for installation over existing resilient floor coverings. We recommend that all existing resilient material be thoroughly removed prior to installing American Biltrite flooring.
2. Consult the Resilient Floor Covering Institute's (RFCI's) recommendations for removal of existing resilient floor coverings and/or old adhesives.
3. Caution: do not sand, dry sweep, dry scrape, drill, saw, bead blast or mechanically chip or pulverize existing resilient flooring, backing, felt lining, paint, asphalt cutback adhesives or other existing flooring. These products may contain asbestos fibers or crystalline silica. Avoid creating dust as inhalation increases the risk of cancer and respiratory disease. Smokers exposed to asbestos fibers are at greater risk of serious bodily harm. Unless certain that the product and adhesive are asbestos-free, presume that it contains asbestos. Regulations may require that material be tested to determine asbestos content.
4. The preferred and recommended method for the removal of old adhesive is by a mechanical means
5. Disposal guidelines for materials containing asbestos: Before removing and disposing of a resilient floor covering that contains asbestos, obtain a special permit. Check with local authorities to see what regulations apply. Various environmental agencies have regulations concerning the removal and disposal of materials containing asbestos that could override local regulations.
6. In the case where removal of the existing flooring is not possible, consult American Biltrite technical services.

Please note that technical web site documents prevail.





AmericanBiltrite
Flooring

ABPURE® with Nfuse Technology Imagine, Hammered, Slate, and Round RUBBER TILE FLOOR INSTALLATION INSTRUCTIONS

For proper installation of all American Biltrite flooring, you will need the following documentation:

- [Floor Preparation](#)
- [Adhesive Quick Check Chart](#)
- **Adhesive's Technical Data Sheet**

Follow the [Floor Preparation](#) document for specific instructions concerning site conditions, subfloor preparation and moisture testing.

REMOVAL OF OLD FLOORING

Warning: Do not sand, dry sweep, dry scrape, drill, saw, bead blast, mechanically chip or pulverize existing resilient flooring, backing, felt lining, paint, asphaltic cutback adhesives or other adhesives. These products may contain asbestos fibers or crystalline silica. Regulations may require that material be tested to determine asbestos content. Consult the Resilient Floor Covering Institute's (RFCI's) recommendations for removal of existing resilient floor coverings. Avoid creating dust as inhalation increases the risk of cancer and respiratory diseases. Smokers exposed to asbestos fibers are at greater risk of serious bodily harm. Unless certain that the product is asbestos-free, assume that it contains asbestos.

PRODUCT LIMITATIONS

1. For interior use only.
2. ABPURE must not be installed outdoor or in areas with no temperature control.
3. ABPURE must not be installed in a closed area that is directly exposed to sunlight and where temperature will rise excessively, that is, above 38°C (100°F).
4. Use only at temperatures between 55°F and 100°F (13°C and 38°C) as per ASTM F1482 and a relative humidity between 40 and 60%.

ADHESIVE SYSTEMS

1. The use of the proper adhesive is critical for a successful end result. American Biltrite will only guarantee its flooring products with recommended adhesives as defined in the [Adhesive Quick Check Chart](#).
2. Whenever working with two-part adhesives, the use of a kneeboard is required to prevent adhesive displacement or working off the flooring.
3. Clean spills promptly on surface and/or joints as well as tools with soapy water, rubbing alcohol, denatured alcohol or methyl hydrate. Mineral spirits are to be avoided.



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ABPURE® with Nfuse Technology
Imagine, Hammered, Slate, and Round
RUBBER TILE FLOOR
INSTALLATION INSTRUCTIONS

4. Do not reuse container. Dispose of container and adhesive in accordance with federal, provincial/state and local waste disposal regulations.
5. If there is any doubt about which adhesive to use, contact American Biltrite or its distributors for additional information.

INSTALLATION

1. First locate the center of the room and pattern a square using the 3-4-5 squaring method.
2. Balance the layout to the size of the tiles to be installed so a minimum of 1/3 of a tile forms border perimeter.
3. Transcribe the square pattern and draw a chalk line at the starting point of the installation.
4. Apply adhesive to the subfloor and allow for proper open time. Open and working times are dependent on the ambient temperature, humidity, air movement as well as subfloor temperature. It is the responsibility of the flooring contractor to adjust installation in accordance to the open and working time of the adhesive to jobsite conditions.
5. If directional arrows are present on the back, lay tiles with arrows pointing in the same direction.
6. Tiles should be lightly butted together when they are laid into the adhesive. Do not force them together and avoid sliding them as this will result in adhesive displacement into the seam.
7. During installation always make sure proper adhesive transfer is achieved.
8. Roll flooring in both directions with a 45 kg (100 lb.) three-section roller to enhance adhesive transfer; use a small hand roller in difficult-to-reach areas.
9. Immediately clean any adhesive spills on tile surface or in seams.
10. Prior to traffic, allow proper adhesive curing time based on the Adhesive's Technical Data Sheet.

FLOOR PROTECTION AND INITIAL MAINTENANCE

1. Following installation and cleanup of the tiles, protect it by laying sheets of non-staining brown Kraft paper over the flooring and then a layer of plywood sheets (rolls of heavy non-staining cardboard material could also be used for protection). Leave in position until the work of all other trades has been completed.
2. Prior to maintenance, allow proper adhesive curing time based on Adhesive's Technical Data Sheet.
3. Do not, at any time during the initial maintenance or thereafter, flood the floor with water or maintenance solutions.
4. Refer to product-specific [Maintenance Instructions](#) for details.

Please note that technical web site documents prevail.





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REMEDIATION SYSTEMS

FOR ALL AMERICAN BILTRITE FLOORING PRODUCTS

The following document addresses how to correct issues related to subfloor conditions that are outside American Biltrite specifications as outlined in the "Floor Preparation", "Adhesive Quick Check Chart" and the different "Product Installation" instruction documents.

The remediation systems described in this document were tested and qualified for American Biltrite Flooring products; it is however the responsibility of the flooring contractor to choose the right remediation system that addresses the site conditions, and to use the system as per the manufacturer's specifications.

There are similar remediation systems sold by other manufacturers, but if a product different than the ones listed in this document is selected, it is the responsibility of the flooring contractor to make sure it is a true equivalent and will perform satisfactorily, as it might not have been tested with American Biltrite products.

For all situations described hereunder, an adhesion test is mandatory to ensure the proper performance of the system. Refer to ASTM F3311 for the mat bond test.

Consult American Biltrite Technical Services before undertaking any work concerning site remediation.

HIGH MOISTURE CONDITIONS

1. Refer to [Adhesive Quick Check Chart](#) for limits to the specific adhesives.
2. When moisture vapor emission rate (MVER) is higher than the recommended limit but not exceeding 15 lbs (ASTM F1869), and the RH up to 99% (ASTM F2170), the recommended remediation system is "Planiseal MSP"; the product description can be found at:
 - a. In Canada: [Planiseal MSP Can](#)
 - b. In USA: [Planiseal MSP USA](#)
3. When moisture vapor emission rate (MVER) is higher than 15 lbs (ASTM F1869) but not exceeding 25 lbs, and the RH higher than 99% (ASTM F2170), the recommended remediation system is "Planiseal VS"; the product description can be found at:
 - a. In Canada: [Planiseal VS Can](#)
 - b. In USA: [Planiseal VS USA](#)
4. American Biltrite two-part adhesive AD-590 can be used when RH values are between 90% and 100%, and up to 25 lbs MVER, as long as the skim coat Planiprep MRS is used; the product description can be found at:
 - a. In Canada: [Planiprep MRS](#)
 - b. In USA: [Planiprep MRS](#)



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REMEDIATION SYSTEMS

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CHEMICAL ABATEMENT WAS PERFORMED ON SUBFLOOR

1. Before proceeding with the installation of new resilient flooring after an old one was removed, it is imperative to check if chemical abatement was performed to remove old adhesive. Unfortunately, there is no simple test to check that chemical abatement was performed. Markings on the subfloor may be visible and there would be the presence of a chemical solvent odor.
2. Clean and neutralize the subfloor with "Planiprep SA"; the product description can be found at:
 - a. In Canada: [Planiprep SA Can](#)
 - b. In USA: [Planiprep SA USA](#)
3. Seal the subfloor with "Planiprep ET"; the product description can be found at:
 - a. In Canada: [Planiprep ET Can](#)
 - b. In USA: [Planiprep ET USA](#)

SEALER OR CURATIVE ADDITIVES ADDED TO THE CONCRETE SUBFLOOR

1. If a failure on the mat bond test with the flooring to be installed and the specified adhesive is encountered, having also determined the porosity of the concrete, it will be necessary to further treat the subfloor.
2. The surface may be required to be sanded or shot blasted to create enough porosity to get the required adhesion level.
3. If needed, the surface can be leveled and repaired with a Portland cement-based patching compound like "Planipatch/Planipatch Plus"; the product description can be found at:
 - a. In Canada: [Planipatch Can](#) ; [Planipatch Plus Can](#)
 - b. In USA: [Planipatch USA](#) ; [Planipatch Plus USA](#)

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