

Forbo Sustain 100 Adhesive Technical Data

Recommended for Use With

- Marmoleum Sheet, Walton, Marmoleum Composition Sheet (MCS), Marmoleum Sport
- Marmoleum Modular, Marmoleum Composition Tile (MCT)

IMPORTANT!! Forbo strongly recommends that prior to the placement of concrete on site that concrete professionals are consulted regarding the terms for performance of the adhesive system listed below. This will ensure that the necessary and appropriate admix design is specified to eliminate any unnecessary cost or loss once the concrete substrate has been poured.

**Specifications**

- SCS-Certified 35% Post-Consumer Recycled Content (PCC)
- Cradle to Cradle Certified™ at the Bronze level.
Cradle to Cradle Certified™ products are evaluated for material health, material reutilization, renewable energy use and carbon management, water stewardship, and social fairness. For more information visit www.c2ccertified.org.
- Packaged in biodegradable plastic pails
- FloorScore Certified by SCS Global Services
- Dual Acrylic Polymer
- Non-flammable; 100% Solvent free
- Storage: Freeze-thaw stable: 1 cycle at 20° F (-6° C). If the pail is opened and found to be frozen, let it set closed and undisturbed at room temperature until thawed. **DO NOT** try to mix frozen adhesive.
- Shelf life: 2 years in unopened container
- Appearance and Odor: Blue paste with little or no odor
- VOC Emissions: 0 grams per liter (calculated per CA South Coast Rule 1168)
- Spread Rate: Approximately 125 square feet per gallon
- Testing in accordance to the latest versions of ASTM F 1869 or ASTM F 2170 are not required when using Forbo Sustain 100 Adhesive.
- Tolerant up to 100% internal relative humidity.
- Available in four-gallon units only.

Substrate & Testing Requirements

- When properly applied and used, Forbo Sustain 100 Adhesive will act as both an adhesive and moisture mitigation system.
- Forbo Sustain 100 Adhesive can be used on all grade levels of concrete. All concrete substrates must be prepared in strict accordance with the conditions set forth in the latest version of ASTM F 710. The substrate must be dry, clean, smooth, and structurally sound.
- Forbo Sustain 100 Adhesive can be used on both old and new concrete substrates. While Forbo Sustain 100 Adhesive is suitable for use over substrates where no vapor retarder is present, it is NOT recommended for use on any substrates demonstrating symptoms of or with a history of moisture related issues. Forbo Sustain 100 Adhesive is not warranted against issues of hydrostatic pressure, water intrusion or catastrophic flooding. In situations exhibiting or with pre-existing issues of flooring failure where no vapor retarder is present, Forbo recommends consulting with a concrete specialist who may be able to advise on the most appropriate remedial measures to render the substrate suitable to receive commercial resilient flooring. For additional information, contact Forbo's Product Support and Education Services.

IMPORTANT! To avoid adhesive displacement and to allow **immediate occupancy***, appropriate open time for the adhesive must be observed. This is essential to allow much of the water in the adhesive to be drawn out by evaporation and/or absorption, prior to placing the material into the adhesive. Floors properly installed over substrates that are considered porous may be occupied as soon as 45 minutes following the completion of the installation. Floors properly installed over substrates that are considered non-porous may be occupied as soon as 90 minutes following the completion of the installation.

***IMMEDIATE OCCUPANCY IS ONLY POSSIBLE WITH MARMOLEUM SHEET PRODUCTS. DO NOT ALLOW HEAVY TRAFFIC OR ROLLING LOADS ON MARMOLEUM MODULAR OR MCT INSTALLED WITH FORBO SUSTAIN 100 ADHESIVE FOR A MINIMUM OF 72 HOURS FOLLOWING THE INSTALLATION. ADDITIONAL TIME MAY BE NECESSARY IF THE INSTALLATION IS OVER A NON-POROUS SUBSTRATE.**

- The surface pH of the concrete must not exceed 12.0. Concrete surfaces with pH readings of less than 7.0 or above 12.0 will require remediation prior to installation.

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Adhesive Mat Bond Testing for Marmoleum Sheet Products

- Always conduct adhesive mat bond testing before beginning the installation. Adhesive mat bond testing can identify potential bonding problems and is essential for ensuring the integrity of the flooring system prior to the installation. The adhesive mat bond test is **required** to determine the necessary open time for the adhesive. Adhesive mat bond tests should be conducted using the adhesive(s) and material(s) to be used on the project **after** all remediation and/or preparation work has been completed. Testing shall be conducted on the final concrete substrate profile or assembly as it will exist at the time of installation. This includes any patching or leveling compounds that may be in use.
 - Spread Forbo Sustain 100 Adhesive using a 1/16" x 1/16" x 1/16" square notch trowel and allow the correct open time-based on-site conditions. It is required to allow the adhesive to build body, but not to flash off or dry. Install the material and roll with 100 lb. roller to ensure proper adhesive transfer. Proper placement and rolling will result in a complete "explosion" of the trowel ridges, creating a continuous flat film of adhesive on the substrate and on the material backing.
 - Take note of the open time allowed before placing the material into the adhesive.
 - Wait 15 minutes.
 - Two inches from one edge of the bond test, use the edge of a steel seam roller with some force to make a line on the material to try to displace the adhesive.
 - Make a cut next to the line and remove the strip. Evaluate the adhesive where the material was removed. There should 100% complete transfer of the adhesive and no displacement of the adhesive from the line. If there is displacement, wait another 10 minutes and repeat until there is no adhesive displacement.
 - Take note of the time required to achieve no displacement.

IMPORTANT! The open time and the waiting time identified to achieve no displacement indicates the time required for immediate occupancy. Not observing these times can result in adhesive displacement.
- Conduct adhesive mat bond tests by adhering 3' x 3' squares of material, following Forbo's installation guidelines, in various locations throughout the area where flooring is to be installed. Although the number of tests required may vary, enough tests should be performed to allow an evaluation of the entire area where material will be installed. A good rule of thumb is one mat bond test for every 1,000 square feet. This will help identify the effects of the site-specific conditions that will influence the open time and working time of the adhesive. There are five main site conditions that influence open time and working time of adhesives: surface dryness, porosity of the substrate, ambient temperature, ambient humidity and air flow. Be sure to conduct mat bond tests on **ALL** substrates.

Adhesive Mat Bond Testing for Marmoleum Sheet Products

- Refer to **Forbo's Substrate Evaluation and Preparation Guidelines** for additional information on adhesive mat bond testing with Marmoleum Modular and MCT products.

Installation Recommendations

- Areas to receive material should be clean, fully enclosed and weather tight. The permanent HVAC should be fully operational and controlled and set at a minimum temperature 65° F (18.3° C). If this is not possible, the areas should be acclimated and controlled by means of temporary HVAC to the service level conditions expected during occupancy. The temperature and humidity should range from 75° F ± 10° F (23.9° C ± 5.5° C) with a 50% ± 10% ambient relative humidity. These conditions **MUST** be established at least seven days prior to beginning the installation, maintained during the installation, and continued for at least seven days following the installation.
- The substrate must be free of all foreign materials including, but not limited to, dust, solvent, paint, wax, oil, grease, residual adhesive, adhesive removers, film-forming curing compounds, silicate penetrating curing compounds, sealing, hardening, or parting compounds, alkaline salts, excessive carbonation or laitance, mold, mildew, and other foreign materials that might affect the rate of moisture dissipation from the concrete, the adhesion of resilient flooring to the concrete or cause a discoloration of the flooring from below.
- Before beginning the installation, all testing requirements should be conducted: pH and adhesive mat bond testing. Refer to **Forbo's Substrate Evaluation and Preparation Guidelines** for additional information.
- Trowel recommendation: 1/16" x 1/16" x 1/16" square notch trowel. Replace the trowel when proper coverage is no longer attainable.
- The open time and working time of adhesives will vary depending on site conditions such as ambient temperature and humidity, the porosity of the substrate and air circulation.

IMPORTANT! Always refer to the results of the adhesive mat bond tests conducted on site for proper determination of open and working times of Forbo Sustain 100 Adhesive.

- FOR MARMOLEUM SHEET PRODUCTS:** Install one sheet at a time. The flooring material must remain in contact with the adhesive while the adhesive is drying and curing. In order to ensure continuous contact of the material and the adhesive, all material must be rolled repeatedly during installation. When installing Marmoleum sheet, the natural "roll curl" at the end of each cut of Marmoleum must be addressed by massaging to remove the tension caused by being

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rolled. Adequate massaging should enable the material to remain in contact with the adhesive but, if necessary, weight should be applied to ensure that the flooring material remains in full contact with the adhesive while the adhesive is drying. Proper placement and rolling will result in a complete "explosion" of the trowel ridges, creating a continuous flat film of adhesive on the substrate and on the material backing.

7. **FOR MARMOLEUM MODULAR PRODUCTS:** A short open time will be necessary. The flooring material must remain in contact with the adhesive while the adhesive is drying and curing. Proper placement and rolling will result in a complete "explosion" of the trowel ridges, creating a continuous flat film of adhesive on the substrate and on the material backing, with no trace of trowel marks or ridges. When dry, complete transfer of the tile backing will appear in the surface of the adhesive with no visible trowel marks.
8. Check for adhesive transfer frequently; there must be a wet transfer of adhesive to the material backing in order to achieve a secure bond.
9. Immediately roll the flooring in all directions using a 100 lb. roller to ensure proper adhesive transfer. Additional rolling is required during adhesive setup to ensure that the material is flat and fully adhered.
10. The use of a three-section wall roller or steel seam roller is required at wall, under toe kicks or anywhere the full weight of a 100 lb. roller cannot access or be applied.
11. Remove fresh adhesive residue immediately with a clean white cloth. Dried adhesive can be removed with a clean white cloth and a properly diluted solution of neutral pH cleaner or with Forbo Adhesive Remover. The area must then be rinsed with clean, cool water to remove all residue from the floor. Refer to Forbo's Floor Care Guidelines for further information.
12. Keep the lid on the pail when not in use.
13. On porous substrates, the flooring can be cleaned and occupied as soon as 45 minutes following the completion of the installation. For non-porous substrates, the flooring can be cleaned and occupied as soon as 90 minutes following the completion of the installation**.
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14. While Marmoleum sheet products can immediately be cleaned and occupied, the adhesive will continue to cure and build bond strength. Allow for additional time before conducting wet maintenance. For Marmoleum modular products, to allow the adhesive to dry and cure properly, wait a minimum of five (5) days following the installation before conducting wet cleaning procedures or initial maintenance. Additional time may be necessary if the installation is over a non-porous substrate.

For additional information, *Forbo's Installation and Floor Care Guidelines* are available for download at www.forboflooringNA.com, or contact Forbo's Product Support & Education Services at 1-800-842-7839.