Installing Marmoleum Sheet Flooring

- Always refer to and follow the recommendations in ***Forbo's General Installation Guidelines*** prior to installing Marmoleum sheet flooring.
- Always refer to and follow the recommendations in ***Forbo's Substrate Evaluation and Preparation Guidelines*** prior to installing Marmoleum sheet flooring.
- When welding is required, refer to and follow the recommendations in ***Forbo's Installing Marmoweld ETU*** or ***Heat Welding Marmoleum Guidelines*** prior to welding Marmoleum Sheet.
- Beginning the installation is an implied acceptance of site conditions and liability for any failure directly related to inadequate site conditions becomes the responsibility of the installer and/or flooring contractor.
- Marmoleum Sheet may be installed on approved substrates on all grade levels.
- For the tolerance in the sequence of roll numbers, refer to ***Forbo's General Installation Guidelines***.
- Use Forbo Sustain 1195, Sustain 100*, or 660 adhesive.

  *Forbo does **NOT** recommend using Forbo Sustain 100 adhesive with Marmoleum Decibel. While Forbo Sustain 100 is suitable for use over both new and old concrete 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 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.
- Use the trowel recommended in ***Forbo's Adhesive Technical Data Sheets*** for the Forbo adhesive to be used for the installation. Replace the trowel blade when proper coverage is no longer attainable.
- Store Marmoleum rolls standing upright.
- Forbo Marmoleum Sheet flooring is installed using Conventional Fit seams, resulting in a seamless monolithic floor.
- Do not allow heavy traffic or rolling loads for a minimum of 72 hours following the installation. For installations over non-porous substrates, additional time may be necessary because the adhesive may take longer to cure.
- Wait a minimum of five days following the installation before conducting initial cleaning. For installations over non-porous substrates, additional time may be necessary because the adhesive may take longer to dry and cure.
- Forbo does NOT recommend the application of adhesive tape on Marmoleum. Adhesive tape may cause damage to the factory coating of resilient flooring products. When using floor protection materials, tape the seams of the floor protection together and secure the floor protection by weighing down in corners and against walls. DO NOT secure floor protection materials by taping them directly to the surface of resilient floor coverings.
- Take pride in your work and be Professional at all times.
- For additional information, contact Forbo's Product Support & Education Services at 1-800-842-7839 or www.forboflooringNA.com.

Cutting and Fitting the First Sheet

Forbo recommends that Marmoleum Sheet be installed one sheet at a time. Always install all Marmoleum sheets in the same direction. It is recommended that each sheet be trimmed to fit and that factory edge be properly removed before adhering. Seams should always be under scribed after the material has been placed into the adhesive and rolled. Following these recommendations will give the installer the best opportunity to manage the open and working time of the adhesive and ensure that the flooring material is placed into wet adhesive.

- Measure the area to be installed and determine the direction in which the material will be installed and seam placement. Seams should be a minimum of 6" away from underlayment and concrete joints, saw cuts, etc.
- Cut the required length for the first sheet off of the roll, adding approximately 3" - 6" for extra trimming.
- Fit the first sheet along the main (long) wall and at the ends using standard fitting methods.

  NOTE: For sheets longer than 20' - 25', the material may shrink enough when adhered to cause a slight gap at the ends if they are pre-fitted. For these longer sheets, do not fit the ends at this time. Additional steps, covered later in this section, will be needed in order to ensure a proper conventional fit at the end of longer sheets.
- Position the fitted sheet in place against the main wall.
- The factory edge must be trimmed in order to produce a clean edge suitable for seaming. The Forbo Seam & Strip Cutter has been developed to efficiently and effectively trim the factory edge. In lieu of the Forbo Seam & Strip Cutter, a straight edge, utility knife and hooked blade knife may also be used. Position the straight edge approximately 1/2" - 3/4" from the factory edge and score the material using the utility knife along the straight edge. After scoring, complete the cut using a hooked blade knife following the score line. Hold the blade at a slight angle to the surface of the material so the seam edge will have a slight undercut.
- After trimming the seam edge, draw a pencil line on the substrate lengthwise along the trimmed edge. This line will serve as a spread line when applying the adhesive.

Installing Marmoleum Sheet Flooring

Adhering the First Sheet

- When ready to adhere the first sheet, lap the material back about halfway from one end.
- Begin spreading adhesive at the lap point and work back toward the wall. Spread the adhesive from the side wall up to the pencil line at the seam edge. Be sure to spread adhesive all the way to the pencil line without leaving any voids. For longer sheets, do not trim the ends. Stop spreading the adhesive approximately 4' - 6' from the wall to allow for final fitting at the ends after the center portion has been adhered.

  NOTE: Not spreading adhesive approximately 4' - 6' at the end of each sheet allows any shrinkage of the material to occur within the center of the sheet, ensuring a proper fit and net seam at the end of the sheet.
- 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. It is the installer's responsibility to make adjustments to specific conditions as may be necessary to ensure 100% wet adhesive transfer to the material backing. A general indication of proper open time is when a light touch produces transfer of adhesive to the finger, but a firm touch will flatten and "smear" the adhesive. For additional information, refer to ***Forbo's Adhesive Technical Data Sheets***.
- When installing **Marmoleum Decibel** with the acoustic foam backing on porous substrates, a short open time may be necessary before placing the flooring material into the adhesive. For non-porous substrates, a longer open time will be necessary in order to allow the adhesive to develop body before placing the flooring material into the adhesive, but ***DO NOT ALLOW THE ADHESIVE TO DRY.***
- Check for adhesive transfer frequently. There must be **100% wet** transfer of adhesive to the material backing in order to achieve a secure bond. 100% wet transfer is a continuous film of adhesive, when wet, on both the backing of the material and the substrate with no trace of trowel marks or ridges.
- 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, the natural "end curl" at the end of each cut of Marmoleum must be addressed by massaging both before and during the installation to remove the tension caused by being 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.
- 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.
- The use of a three-section wall roller or steel seam roller is required at walls, under toe kicks or anywhere the full weight of a 100 lb. roller cannot access or be applied.
- Proper sheet placement and rolling will result in a complete "explosion" of the trowel ridges, creating a continuous flat film of adhesive. Complete transfer of the sheet backing will appear in the surface of the adhesive.
- Repeat the same procedure on the other half of the sheet. Again, for longer sheets that have not yet been trimmed to fit at the end, stop spreading adhesive approximately 4' - 6' from the wall.
- To finish the ends of longer sheets, fit the ends to walls and fixtures after the center portion of the sheet has been adhered. After fitting, adhere each end in the same manner as before to complete the installation of the first sheet.

Cutting and Fitting the Second Sheet

- Cut the required length for the second sheet off of the roll, adding approximately 3" - 6" extra for trimming.
- If there will only be two sheets installed, the second sheet should be fit to the opposite long wall and overlapping the first sheet approximately 1/2" - 3/4" at the seam. If there will be additional sheets, simply position the second sheet adjacent to the first sheet, overlapping the first sheet approximately 1/2" - 3/4" at the seam. Prepare the opposite edge for seaming in the same manner as for the first sheet.

  NOTE: Do not reverse the sheets. Install all Marmoleum sheets in the same direction.
- Draw a pencil line down the length of the edge of the second sheet.
- Lap the material back about halfway.
- Begin spreading the adhesive at the lap point and work back toward the wall. Spread from the edge of the first sheet up to the pencil line at the seam edge of the second sheet. Be sure to spread adhesive all the way to the pencil line without leaving any voids. Do not spread the adhesive 4' - 6' from the end of the sheet.
- The material must be laid into the wet adhesive and rolled in all directions with a 100 lb. roller. Additional rolling is required during adhesive set up to ensure that the material is flat and fully adhered.
- The use of a three-section wall roller or steel seam roller is required at walls, under toe kicks or anywhere the full weight of a 100 lb. roller cannot access or be applied.
- After the material has been laid into the adhesive and rolled, immediately under scribe the seam using recess scribers.

Conventional Fit Seams

Forbo **REQUIRES** conventional fit seams. A properly executed conventional fit seam will have no gaps or fullness. Always set the recess scribers so that the seam will be conventional fit. If the material is cut too full, it will result in bubbled or peaked seams. Gaps will allow dirt or contaminants to accumulate.

NOTE: The guide button on the bottom of most recessed under scribers must be filed down to avoid removing adhesive at the seam. Failure to do so may cause seam failure.

- Cut the material along the scribe line using a hooked blade knife, holding it at an angle so as to slightly undercut the material.
- Roll the seam with a steel seam roller, making sure that the flooring material is placed into wet adhesive.
- Remove fresh adhesive residue immediately with a clean white cloth. Dried adhesive can be removed with a clean white cloth and Forbo Adhesive Remover. If this is not available, a solution of properly diluted neutral pH cleaner may be used. The area should then be rinsed with clean, cool water to remove all residues from the floor.

  NOTE: If using Forbo 660 adhesive, refer to ***Forbo's 660 Adhesive Technical Data Sheet*** for additional information.
- Repeat the same procedure on the other half of the sheet.
- Finish the ends of each sheet in the same manner as the first sheet.
- Repeat the same procedures for each sheet, completing one sheet at a time until the job is completed.

Cross Seams

If cross seams must be made, follow the steps below to account for any shrinkage that may occur in the length.

- Straight edge and undercut at an angle the end of the first sheet.
- Draw a pencil line at the end of the first sheet. Spread the adhesive to the line and lay in the material.
- Roll the material in all directions with a 100 lb. roller.
- Overlap the second sheet at the cross seam approximately 1".
- Fully adhere and roll the second sheet as usual, except for the last 18"; allow adequate time for shrinkage.
- Spread the adhesive for the last 18", place the material into wet adhesive, under scribe the seam with no gaps or fullness and roll in all directions with a 100 lb. roller.

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, the natural "end curl" at the end of each cut of Marmoleum must be addressed by massaging both before and during the installation to remove the tension caused by being 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.

NOTE: In some situations, such as installing material in a narrow hallway where only one piece of material is being used, tubing (folding the material lengthwise) will be necessary. In these situations, close attention should be paid to making sure the material is laid into wet adhesive, as well as being sure to avoid adhesive overlap which could result in a ridge line where the material was folded back. Tubing minimizes the shrinking of the material.

Installing Marmoleum on Stairs

Marmoleum can be installed on stairs, however it is **NOT** recommended to be wrapped on stairs.

- The substrate must meet all the requirements set forth in ***Forbo's Substrate Evaluation and Preparation Guidelines***.
- A stair nosing must be used with an individual piece of Marmoleum for each stair.
- If the tread and riser are to be covered, it is best to flash cove the material. For additional information on flash coving, refer to ***Forbo's Flash Coving Marmoleum Guidelines***.
- Adhere the Marmoleum using Forbo Sustain 1195 or Sustain 100* adhesive.

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- Check for adhesive transfer frequently. There must be **100% wet** transfer of adhesive to the material backing in order to achieve a secure bond. 100% wet transfer is a continuous film of adhesive, when wet, on both the backing of the material and the substrate with no trace of trowel marks or ridges.
- 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, the natural "end curl" at the end of each cut of Marmoleum must be addressed by massaging both before and during the installation to remove the tension caused by being 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.

- Immediately roll the flooring in all directions using a three-section wall roller or steel seam roller
- Proper sheet placement and rolling will result in a complete "explosion" of the trowel ridges, creating a continuous flat film of adhesive. Complete transfer of the sheet backing will appear in the surface of the adhesive.

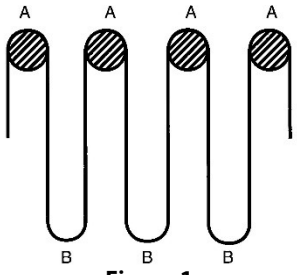

Figure 1

Stove Bar Marks

When Marmoleum products are in the curing process during manufacturing, the material is suspended in large loops in the "drying rooms." The top of each loop (Figure 1A), known as a pole mark, is cut off and recycled. The bottom of each loop (Figure 1B) is called a "stove bar mark" and will appear approximately in the center of each roll (Figure 2). When installing material with a stove bar mark, simply spread the adhesive with the flat side of the trowel in the stove bar mark area on the backside of the sheet (Figure 3) and spread the adhesive on the floor following standard recommendations. Place the material directly into the wet adhesive. Be sure that when placing the stove bar mark into the wet adhesive to massage the material down and push the material flat. Roll the material in all directions, starting across the width of the material. Be sure the stove bar mark is rolled first to avoid trapping the tension in the material. Additional rolling is required during adhesive setup to ensure that the material is flat and fully adhered.

NOTE: Stove bar marks are not a material defect. If a problem occurs, it is directly related to improper installation techniques.


Figure 2


Figure 3

What is Ambering?

Ambering is the slight yellow hue to Marmoleum when it is first removed from the packaging. This is a natural phenomenon that happens with Marmoleum and is completely normal. Linseed oil, a natural oil extracted from flax seeds and one of the main ingredients in Marmoleum is what causes this yellow hue. This very important ingredient in Marmoleum provides several unique characteristics:

- Linseed oil, along with wood flour, makes the floor naturally antistatic, repelling dust, making Marmoleum easy to clean.
- When exposed to air and light, the linseed oil oxidizes from within the Marmoleum and continues for the life of the product. This makes the material harden over time and become more durable.

As time passes, the ambering will fade as Marmoleum is exposed to light, but its unique characteristics will not. The process may take as little as a few hours in bright sunlight, but it can take longer with artificial light. Areas that are not exposed to any light will retain the yellow hue until they are exposed to light. If an area of Marmoleum is covered for an extended period, it's possible the yellow hue will re-appear. Don't be alarmed – it will fade once again when it's exposed to light.

Because this is a natural occurrence in the product, there is no set time frame for the yellow hue to fade. This is not a material defect. It's actually a sign that Marmoleum is revealing its unique and valuable characteristics! Performing floor care procedures will not inhibit the process. It just takes a little bit of time and understanding what great benefits this process brings to Marmoleum! All colors of Marmoleum are subject to ambering, however it can be more noticeable in certain colors. Light blues, greens, greys, and beiges will display a more visible yellow hue than darker colors. To discover the true color of Marmoleum, follow these few simple steps:

1. Take a piece of Marmoleum and cover one half with heavy paper, cardboard, or another piece of Marmoleum.
2. Place these pieces in direct sunlight for approximately 1 hour.
3. After the time has passed, remove the cardboard or heavy material and see the visual difference first hand.

Shrinkage and Expansion

Marmoleum sheet products will shrink in the length and expand in the width when placed into wet adhesive. Cutting conventional fit seams with a slight undercut on both sides will accommodate this expansion. Techniques for minimizing shrinkage are back rolling, tubing and/or, for longer sheets, not immediately fitting to the end walls. Stop spreading the adhesive approximately 4' - 6' from the end walls to allow for final fitting after the center portion has been adhered. Not spreading adhesive approximately 4' - 6' at the end of each sheet allows any shrinkage of the material to occur within the center of the sheet. Final fitting after the shrinkage has occurred will ensure a conventional fit at the end walls.

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