

Miracle Tiles

17 Pembroke Rd
Chatham NJ 07928

*Tough
Interlocking
Rubber Tiles*

www.miracletiles.com
973 701-1070
by New Millennium

Miracle Tiles® Installation / Maintenance Guidelines

MIRACLE TILES can be used as a temporary floor simply by placing the tile on a clean and level surface that is structurally sound. Tiles may be removed, replaced and reused as needed.

The following installation guidelines are for permanent application using a bonding adhesive.

MIRACLE TILES can provide years of durable and low maintenance flooring if installed and maintained properly. In order to enjoy your new floor fully, proper installation procedures must be followed. The following installation tips are guidelines only. Local ordinances and building codes should be consulted to determine if there are any requirements regarding installation of flooring. Adhesive manufacturers directions should also be followed. Please read this manual before laying MIRACLE TILES rubber flooring.

On receipt of merchandise:

- Inspect your shipment for damage
- Verify packing slip
- Store in a dry, heated, clean area
- Read and follow Adhesives label instructions for storage and use
- Read technical data sheets and material safety data sheets for adhesive

Note: Rubber will expand and contract with temperature and humidity changes. (see Section III, 1) Petroleum distillates will damage tiles (e.g. solvents, chlorine, acidic chemicals). Keep MIRACLE TILES rubber tiles dry. Wet tiles will cause adhesion problems. Improper installation will void warranty.

Section	CONTENTS
I	Tools & Accessories
II	Preparation of the Sub-Surface
III	Before Starting the Installation
IV	Installing Miracle Tiles
V	Measuring and Cutting Tiles
VI	Adhesives
VII	Cleaning and Maintenance
VIII	Disclaimer

Section I Tools & Accessories

A) Tools and safety equipment required:

- | | |
|--------------------------------|---|
| ➤ Rubber gloves | ➤ Safety glasses |
| ➤ Linoleum roller (50 – 70 lb) | ➤ Drill and mixer for adhesive |
| ➤ Rubber boots | ➤ Clean 5 gallon pail for mixing adhesive |
| ➤ Knee pads | ➤ Straight edge |
| ➤ Chalk line | ➤ V-notch trowel 1/16" (1.6mm) |
| ➤ Measuring tape | ➤ Utility knife and/or table saw for cutting and trimming |

B) Transition strips

If there is to be a transition in the level of flooring between an existing floor and the Miracle Tile floor - some means of safely transitioning floor heights should be installed to avoid a trip hazard.

MIRACLE TILES can be cut on an angle (45 degrees or greater) to provide a step up transition to the tile from a sub floor (see Fig. 1 below).

Alternately a molding strip made of wood or metal (available in flooring section of Home Depot or other flooring supply store) can be utilized (see Fig. 3) below. If needed - use edge trim to support finished edge as shown in Fig 2.

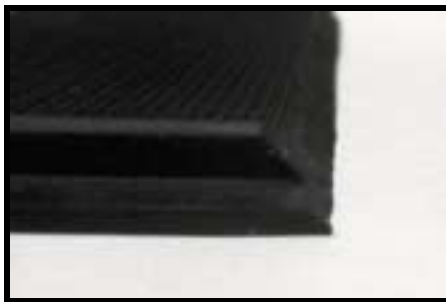


Fig. 1) Miracle Tile cut on angle



Fig. 2) Miracle tile edge trim



Fig. 3) Wooden threshold strip

C) Adhesive

MIRACLE TILES can be bonded with any high quality rubber adhesive. Epoxies and urethanes give the best bonds for most applications. Some quality brands are as follows:

Miracle Tiles

17 Pembroke Rd
Chatham NJ 07928

*Tough
Interlocking
Rubber Tiles*
www.miracletiles.com
973 701-8070
by New Millennium

- LePage Epoxy (2 component)
- Chemrex CX 941 Polyurethane (single component) "VOC Compliant"

Avoid freezing of the adhesive and follow other Manufacturers directions and recommendations.

Section II Preparation of the Sub-Surface

A) Applying MIRACLE TILES over Concrete flooring

New concrete sub-floors must be thoroughly cured and free from hydrostatic pressure before MIRACLE TILES rubber flooring is installed (allow 30 days for complete cure after pouring). Consult adhesive specifications for allowable moisture tolerance.

If existing concrete is too rough, apply a Portland cement based leveling compound for a smoother surface, allowing a minimum of 7 days for curing. If finishing cement is not used, the amount of adhesive needed will be greater. Once all surfaces are level, make sure total surface is clean and dry before starting the installation.

Paint, dirt, oil, or contamination must be removed for proper bonding. A 25% solution of chemical grade muriatic acid and water (1 part acid to 3 parts water) will create a permanent bond by roughing the concrete surface. Rinse thoroughly and allow drying. Any separation of concrete layers, heaving, etc. is the sole responsibility of the installer and/or owner.

Insure good drainage of the area by having either a well defined gradient of the surface, or well placed drainage pipes in the lower spots.

Important:

Moisture is the single greatest cause of bonding failure! The sub-surface must be clean and dry. A rough or uneven sub-surface will result in an uneven appearance of the rubber flooring.

B) Wooden sub-surfaces

Rubber tile installations over a wooden sub-surface are not ideal, as trapped moisture may cause deterioration and premature rotting of the wood. You should consult local building codes before installing. If this type of installation cannot be avoided, the following recommendations must be followed:

Recommendations for plywood sub-surfaces are as follows:

- Plywood underlayment shall be exclusively COFI EXTERIOR "SELECT TIGHT-FACE" (SEL TF) grade plywood according to the COFI classification and conforming to CSA-0121(B+CC) standard for Douglas fir.
- Plywood surfaces must be installed smooth face up.
- When the subfloor is in direct contact with the ground, the plywood shall have at least an 18" (45 cm) cross-ventilated air space between the underside of the floor and the

Miracle Tiles

17 Pembroke Rd
Chatham NJ 07928

*Tough
Interlocking
Rubber Tiles*
www.miracletiles.com
973 701-1070
by New Millennium

ground. Under no circumstances shall any floor material be laid over wood or subfloors that are subject to conditions which might cause buckling or rotting of the wood.

- On any soft floor covering installation, the plywood shall be dry and the moisture content shall not exceed 10% when measured with "Delmhorst Wood Moisture Tester".
- Plywood substrates shall consist of a ¾" (19 mm) thick (minimum) plywood underlayment. Each sheet of plywood is to be spaced 1/16" (1.6 mm) apart. For additional information, refer to Table I in "Recommended installation specification for sheet vinyl flooring, flat laid, fully adhered to the floor" published by the Resilient Floor Covering Institute or to the NFCA's floor covering specifications manual.

Note: Wooden sub-surface installations are at the sole risk of the installer, general contractor, or owner.

Section III Before Starting the Installation

1. **Rubber will expand and contract with temperature and humidity changes and a tile laid in the morning hours at 32°F (0°C) would be a different size than a tile laid at 68°F (20°C) later in the day. Therefore, before starting the installation, lay out ALL the tiles you will be installing on the next day, on or near the sub-surface. Allow tiles to equalize to ambient temperature.**
2. The sub-surface must be level, clean, and dry. It is recommended that all concrete slabs be tested for hydrostatic pressure. Simply test by placing a rubber tile over concrete and tape edges. Moisture or dark areas that are noticeable under a tile after 24 hours indicate that the area is not considered to be dry.
3. During storage, MIRACLE TILES rubber tiles must be kept dry, and adhesive must be stored above 50°F (10°C) in a dry, heated space. Adhesive that has undergone a freeze thaw cycle may not be useable.
4. **Check the room temperature.**
 - Temperature range for adhesive use: above 50°F (10°C) and below 104°F (40°C)
 - In-floor radiant heat should be shut OFF. Glue will dry too quickly resulting in adhesion problems.
5. Higher temperatures will increase the curing rate and reduce the working time (pot-life) of adhesive. **Follow instructions on label of can!**

Section IV Installing MIRACLE TILES

A) Total glue down on hard surfaces (e.g. concrete, wood)

Advantages

- mechanical stability (minimum expansion and contraction)
- safety precautions

Make two chalk lines on either side of the center line, and measure the size of the Miracle Tiles (nominal 12 inches). Start first row by laying a tile between center line and the chalk line. Start

Miracle Tiles

17 Pembroke Rd
Chatham NJ 07928

*Tough
Interlocking
Rubber Tiles*
www.miracletiles.com
973 701-1070
by New Millennium

second row on either side of the center line towards the chalk line.

Installation tip:

- Put the tile that your installing on top of the tile already glued down and pull towards the area you want to fill until the tile falls into place, then firmly press the tile up to edge of existing tile. This will keep excess adhesive from protruding up between the seams, resulting in a cleaner finish.

Roll each row when finished and roll total floor when completed. Roll floor in both directions. Avoid traffic on newly installed tiles. Epoxy adhesive is slippery when first spread and tiles will shift position even if only slightly disturbed. NO foot traffic of any kind should be allowed on tiles for the next 12 hours (24 hours for ice skate blade and golf shoes...72 hours for maximum strength).

Installation tip:

- A 50 to 70 pound roller should be used to ensure the underside tile surface is fully bonded to the glue and sub-floor. Too much rolling or too heavy a roller will cause the tiles to stretch. When this happens the tiles will tend to return to their natural/original size before the glue dries causing a small gap to appear between the tiles.

Guideline: 12mm thick floor: use a 70 lb. roller.

- Do not allow adhesive to cure on your hands or the flooring. Immediately wipe off excess adhesive using a damp cloth with mineral spirits (use sparingly). Cured adhesive is very difficult to remove. We strongly suggest wearing gloves when applying adhesive.

Section V Measuring & Cutting the Tiles

Any tool used for cutting the Miracle Tiles must be sharp. Alternately you can use a table or band saw to cut Miracle Tile. If using a table saw – caution must be taken to not overheat the blade as this will cause smoking and burning of the rubber.

Lay tile on a piece of wood (e.g. 2" x 4") hold the straight edge on the cut line, and cut with knife. Let the tile droop or hang over the edge of the wood base and keep scoring cut until separated. For odd angles, circular patterns, etc. a cardboard template is suggested.

NOTE: For cutting around posts, drains, etc. use saber saw. Make sure that you measure carefully so that the tile will fit properly and does not leave gaps, resulting in the installation being out of alignment.

Section VI Adhesives

► **Moisture is the single greatest cause of bonding failure!**

Miracle Tiles

17 Pembroke Rd
Chatham NJ 07928

*Tough
Interlocking
Rubber Tiles*

*www.miracletiles.com
973 701-1070
by New Millennium*

- ▶ Higher temperatures and humidity decrease pot-life of adhesive.
- ▶ Use safety glasses, rubber boots, and rubber gloves when applying adhesive.
- ▶ Room must be well ventilated.
- ▶ For first aid and safety instructions see can labels, technical data sheets, and MSDS for adhesive.
- ▶ Please read label on adhesive packaging thoroughly before starting with the installation.
- ▶ For an extra strength durable bond we recommend using a rubber primer.

During storage, MIRACLE TILES rubber tiles must be kept dry, and adhesive must be stored above 50°F (10°C) in a dry, heated space.

Recommended adhesives:

<u>Brand</u>	<u>Type</u>	<u>Packaging</u>	<u>Spread Rate</u>
LePage 7150	Epoxy (2 component)	2 gallon kit (7.1L)	90 ft ² per gallon
Chemrex CX 941	Polyurethane (1 component) – VOC Compliant	2 gallon kit (7.6 L)	75 ft ² per gallon
Helmicol 3002 A&B	Two component Epoxy adhesive	4.2 kg	56-70 m ²

Note: The above spread rates are based on MIRACLE TILES recommendation of using a 1/16" (1.6 mm)V-notch trowel.

Primers applied to the rubber before applying the adhesive can greatly enhance bonding. A recommended primer is SATREAT (www.helmitinadhesives.com) recommended for use with Helmitin polyurethane type adhesives.

Section VII General Cleaning & Maintenance

Typically, MIRACLE TILES rubber flooring requires less maintenance than other types of flooring. Clean and maintain on a regular basis as required. Vacuuming then damp mopping is the preferred method, very little or no detergent is necessary. Change water frequently. Sealing or coating is not necessary and is based purely on the customer's preference. MIRACLE TILES recommends that the cleaning product used be "non-aggressive" (e.g. solvent and acid free). Products containing solvents and acids may attack Miracle Tiles and cause deterioration. Sealants, waxes, etc. can alter the surface characteristics and appearance of the Miracle Tiles. MIRACLE TILES does not assume any responsibility of additives causing damage to its surfacing.

Miracle Tiles

17 Pembroke Rd
Chatham NJ 07928

*Tough
Interlocking
Rubber Tiles*
www.miracletiles.com
973 701-8070
by New Millennium

A) For fitness center applications:

- When cleaning fitness equipment with disinfectant, or other strong cleaners, be careful that overspray or excess cleaner does not drip onto the rubber flooring. Strong chemicals may cause the surface to deteriorate, reducing the life of the floor.

B) For ice arena applications:

- Use a neutral pH cleaner, e.g. 7 – 8
- Then use a cleaner, e.g. "Taski" (<http://www.taski.com>), (the "Profi" solution - 3 to 4 oz. per gal. of water)
- A low RPM scrubber, e.g. between 200 - 300 revolution per minute, e.g. "Clark"
- Use a soft nylon brush, e.g. bristles 1½" - 2" long.

Note: To find out if a brush is too hard, test it on the back of your hand. If your hand hurts, use a softer brush.

The ideal machine to use is one that combines all steps, i.e. vacuum, wash, rinse, dry. (contact Whittaker <http://rewhittaker.com/> or Tennant <http://www.tennantco.com/> or other commercial floor care equipment company for more information) If a scrubber machine is used, these steps should be taken:

- Mix soap with water.
- Use string mop to dampen floor.
- Let solution act, (approx. 10 minutes).
- Use scrubber machine.
- Use clear water to rinse.
- Remove excess water for quicker drying.

Note: To maintain the nice appearance of the Miracle Tiles, dirty water must be completely removed.

Section VIII Disclaimer

The installation guidelines in this manual represent a typical installation work procedure. Every site is different and MIRACLE TILES does not claim to have covered all possible installation circumstances in these guidelines.

MIRACLE TILES does not warrant any installation work not directly performed by MIRACLE TILES, and specifically disclaims liability for any direct or indirect personal injury, property damage or other costs or losses resulting from installations or applications by third parties. Please see the MIRACLE TILES Limited Warranty for the particulars of warranty coverage relating to MIRACLE TILES products.

Contact MIRACLE TILES. at 973-701-8070 or fax us at 973-635-7845 or send e-mail to

Miracle Tiles

17 Pembroke Rd
Chatham NJ 07928

*Tough
Interlocking
Rubber Tiles*
www.miracletiles.com
973 701-1070
by New Millennium

support@miracletiles.com if further information is required.