

D2™

Milliken™

Convertible Flooring™

Care Instructions

D2™ Printed and Micromix

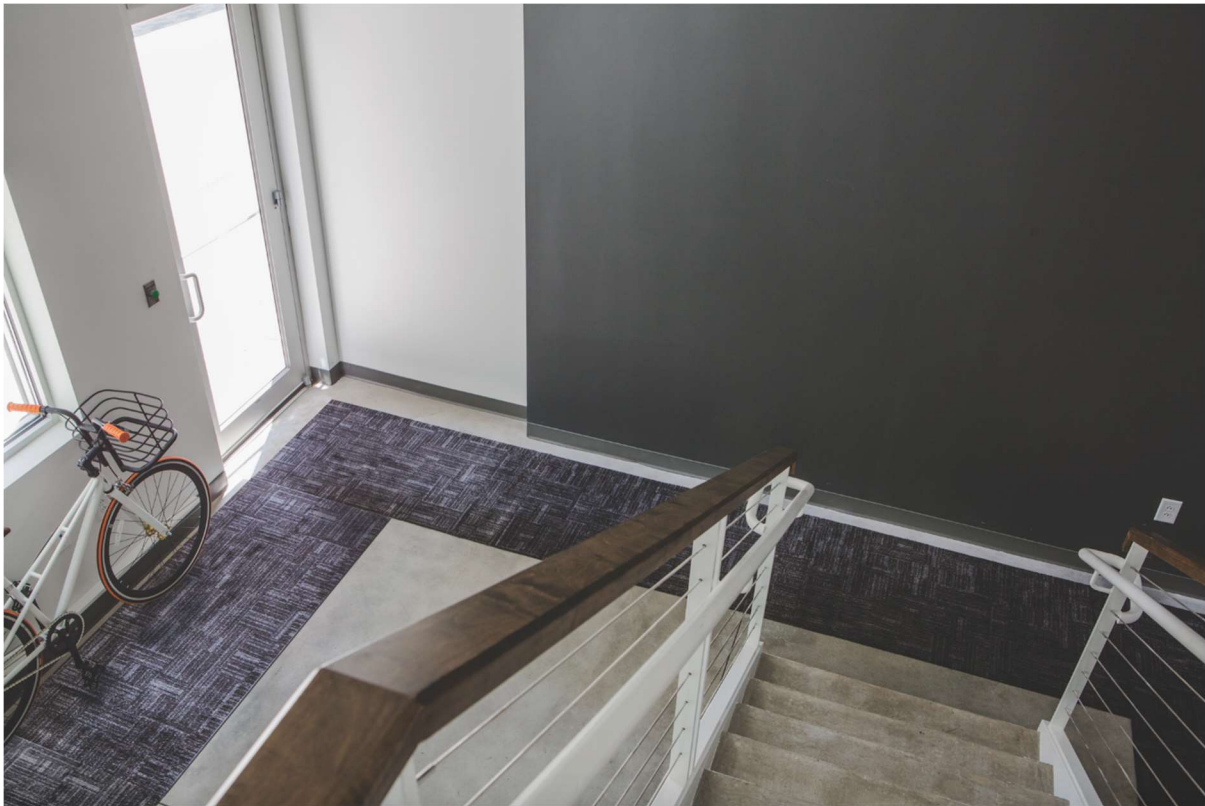


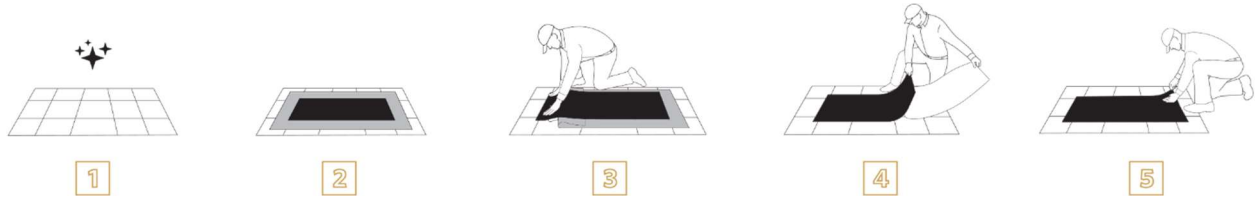
Table of Contents

1.0 Installation, Application, & Removal	3
1.1 D2 Base Installation	3
1.2 D2 Top Application	3
1.3 D2 Top Removal	4
1.4 D2 Base Removal	4
2.0 Storage & Handling	5
2.1 Storage.....	5
2.2 Temperature Limits	5
3.0 D2 Top Processing	6
3.1 Initial Wash.....	6
3.2 Pre-Shaking / Beating Machines	6
3.3 Machinery	6
3.4 Detergents.....	6
3.5 Recycled or Reuse Water.....	6
4.0 D2 Top Extraction	7
4.1 Calculating G-Forces	7
4.2 Extraction Limitations	7
5.0 D2 Top Drying	8
6.0 D2 Base	9
6.1 D2 Base Testing on Floor Surface Before Full Installation	9
6.2 D2 Base Magnetic Properties	9
7.0 General Warnings	10
7.1 D2 Tops	10
7.2 D2 Bases.....	11
7.3 Repairs & Alterations	11
8.0 Wash Processes for Wash Extractors	10
8.1 Standard Soiling	10
8.2 Heavy Soiling.....	11
9.0 Important Warranty Information	14

1.0 Installation, Application, & Removal

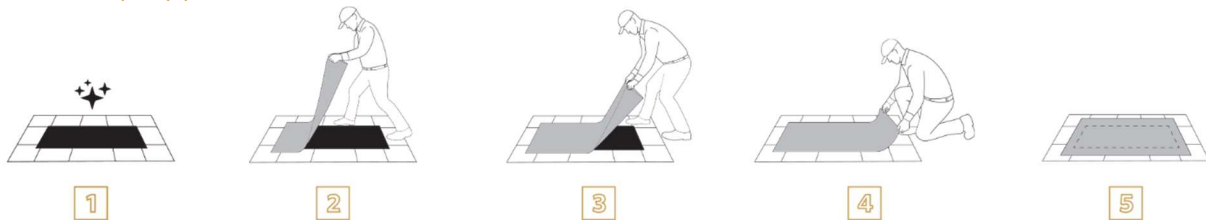
D2 Convertible Flooring is easy to use, but initial installation requires care and precision. These instructions are the recommended method of installing and maintaining the flooring system. Please follow these steps for best results.

1.1 D2 Base Installation



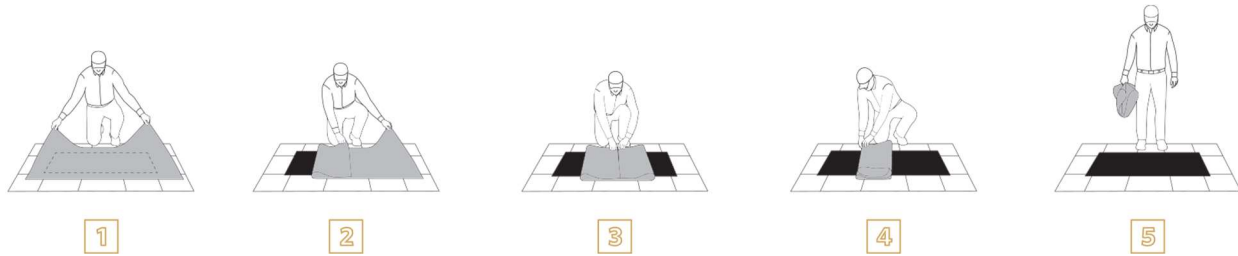
1. Inspect existing floor surface to ensure it is clean and dry.
2. Place D2 Top in desired install location, aligning with surroundings as needed. Centre the D2 Base (with backing still intact) over the D2 Top.
3. Fold one end of the D2 Top under the D2 Base. Peel backing to expose adhesive on one edge of the D2 Base and press firmly against floor surface.
4. Remove D2 Top from under the D2 Base and set aside. Peel backing from D2 Base in a fluid motion so that D2 Base lies flat on floor surface. Discard or store backing.
5. If needed, lift edge(s) and smooth out any visible air pockets.

1.2 D2 Top Application



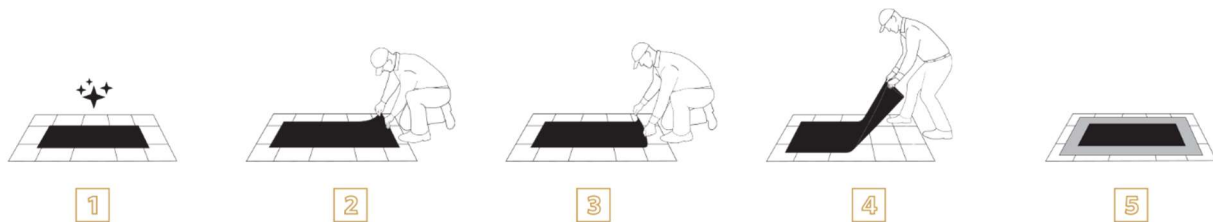
1. Inspect D2 Base to ensure surface is clean, dry and free of debris (See Section 6.0 for D2 Base cleaning instructions).
2. Centre-align and pull D2 Top over D2 Base.
3. Align D2 Top with surroundings. D2 Top does not slide or shift, so be as precise as possible.
4. Set D2 Top down in a fluid motion so that it lies flat on floor surface. If needed, smooth out D2 Top.
5. Check for any exposed D2 Base areas. D2 Top should be centred over D2 Base.

1.3 D2 Top Removal



1. Grab edges of D2 Top.
2. Fold one edge to the middle.
3. Fold opposite edge to the middle.
4. Fold D2 Top in half.
5. Lift D2 Top on the non-folded side to capture dirt and debris.

1.4 D2 Base Removal



1. Inspect D2 Base to ensure surface is clean, dry and free of debris.
2. Peel one corner of D2 Base toward the centre of the D2 Base.
3. Once first corner is lifted, repeat with closest corner.
4. With one end of the D2 Base now lifted, slowly lift the length of the D2 Base off the floor in a steady motion.
5. Once removed, lay the D2 Base flat with adhesive side up on a clean surface (such as a D2 Top). Store or re-install as needed.

Option #1 - Storing Used D2 Bases Flat

Cover the adhesive side of the D2 Base with a release liner, such as the original backing or a wax sheet.

1. Flat D2 Bases should always be flat when held and transported to prevent folds or creases.
2. For flat storage on pallets or racks, the stacking surface should be perfectly flat. This can be ensured by placing on top of cardboard sheets.

Option #2 - Storing Used D2 Bases Rolled

Roll D2 Base - with adhesive side facing inward - into a roll no tighter than 7.6 cm (3 inches) in diameter.

1. Keep the rolled D2 Base as-is. If stacking, D2 Bases should be stacked no more than 3 high.

2.0 Storage & Handling

2.1 Storage

D2 Tops should not be stored folded after laundering.

D2 Tops should be stored flat or rolled after laundering. If D2 Tops are rolled, they should be rolled with the top surface of the D2 Top facing out. If rolled D2 Tops are stacked, they should be stacked no more than 4 high to prevent crushing and creasing.

New D2 Bases should always be stored flat. D2 Bases should never be folded.

Used D2 Bases (post-removal) should be stored as outlined in Section 1.4.

D2 Tops and Bases should be stored indoors.

Storage in direct or reflected sunlight, even through windows, should be avoided.

D2 Tops and Bases should be stored on a first in first out basis to facilitate full stock rotation.

2.2 Temperature Ranges

The recommended storage and installation temperatures for D2 Tops and Bases ranges from 10°C/50°F to 21°C/70°F at a 50% relative humidity.

The product can be stored, installed and used outside these temperatures but may not be as easy to work with.

Bases should not be kept in storage for more than two years from the date of manufacture.

3.0 D2 Top Processing

3.1 Initial Wash

Milliken recommends all new D2 Tops be processed once upon receipt before initial placement at the end user's location.

3.2 Pre-Shaking / Beating Machines

Shaking D2 Tops prior to washing to remove debris that can be disposed of as solid waste can be beneficial in the cleaning process. A variety of such machines are available that provide this function either in conjunction with tunnel washers or conventional washer extractors.

3.3 Machinery

Many types of washing machinery are suitable for the washing of D2 Tops, but Milliken does not advocate the use of any particular machinery for washing. However, do not use flatbed washers, wet and dry vacuum systems, other systems substantially similar to either of these, or ozonated water systems for cleaning D2 Tops. Please contact a Milliken representative with any questions regarding specific machinery.

3.4 Detergents

Many detergents are suitable for the washing of D2 Tops, but Milliken does not advocate the use of any particular detergent. However, do not use (i) products containing optical brightening agents, (ii) chlorine, (iii) oxidising bleaches, or (iv) wash or rinse baths with a pH below 6 or above 10.

3.5 Recycled or Reuse Water

The use of recycled or reuse water is not recommended. Recycled or reuse water may damage D2 Tops if it contains (i) optical brightening agents, (ii) chlorine and (iii) oxidising bleaches, or if it results in a wash or rinse bath with a pH below 6 or above 10. Damage to D2 Tops caused by the use of recycled or reuse water will void the product warranty.

4.0 D2 Top Extraction

D2 Tops are not perforated.

Membrane presses are not recommended for D2 Top processing. If a membrane press is to be used for extraction, do not overload the pockets and do use a tamping action during pressing. Damage caused by use of membrane presses is not covered by the product warranty.

4.1 Calculating G-Forces

Metric Measurements:

$$\text{G-force} = \frac{0.56 \times \text{RPM}^2 \times \text{drum diameter (in metres)}}{1000}$$

Imperial Measurements:

$$\text{G-force} = \frac{0.9144 \times \text{RPM}^2 \times \text{drum diameter (in yards)}}{1790}$$

Where RPM^2 = square of extractor speed (revolutions/minute).

4.2 Extraction Limitations

Extraction G forces at or below 300 G are recommended.

Extraction G forces above 600 G are not approved.

5.0 D2 Top Drying

Tumble-drying D2 Tops as part of the full processing cycle is recommended.

When tumble-drying, the following specifications must be met:

- | | |
|---------------|--|
| Loading: | Refer to the dryer manufacturer's specifications. |
| Temperature: | The temperature inside the tumble drier must be no more than 80°C/176°F to minimize the risk of over drying, pile damage or body distortion. |
| Drying Times: | Refer to the dryer manufacturer's specifications. Conduct own evaluations because D2 Tops should dry quicker than mats due to less rubber material per unit. |
| Moisture: | Do not over dry D2 Tops. As a general guideline, moisture weight should be 10 to 15% of the fabric weight. |
| Cool Down: | All D2 Tops should be promptly removed from the dryer upon completion of the drying cycle and laid flat until cooled to at least 30°C/86°F.
This minimizes any creasing memory that might be put into the rubber while still warm and minimizes the risk of the D2 Tops "sweating". |

6.0 D2 Base

D2 Convertible Flooring is designed for use on most common industrial and commercial floor coverings and surfaces; however, not all floor surfaces may be suitable for the adhesive on the D2 Base. All adhesives have some potential to leave residue or lift or discolour finish coatings, paint, and loose or pre-damaged flooring depending on the condition and age of the floor covering or surface.

6.1 D2 Base Testing on Floor Surface Before Full Installation

One should test a piece of a D2 Base in a non-conspicuous area before use. The test should include a sample of D2 Base under a load for a minimum of 48 hours before removal of the piece and inspection of the floor surface. Note that the customer or end-user assumes the risk that a D2 Base may damage or alter the existing floor covering or surface. (Please reference the *Warranties & Product Disclaimer* document for more information.).

D2 Bases are intended to stay in place and should not be removed during routine maintenance. When removal is necessary, the removal of a D2 Base should be performed by a trained professional.

The presence of dirt, debris, and other contaminants on the top of the D2 Base weakens the performance of Milliken's proprietary Adaptex™ technology which can result in a weaker adhesion between the D2 Top and Base. D2 Bases should be cleaned in place when the top of the D2 Base becomes soiled or dirty. The D2 Base can be cleaned with a broom, mop, vacuum, floor scrubber, or spray hose, with water or an all-purpose cleaning solution. The D2 Base should be dry before applying a D2 Top.

6.2 D2 Base Magnetic Properties

The magnetism between a D2 Top and its Base remains at a level that prevents relative motion between the Top and the Base over the normal life and use of the product so long as these care instructions are followed.

7.0 General Warnings

7.1 D2 Tops

Do not use damaged D2 Tops, as they may pose a safety hazard.

Do not wash D2 Tops in a dishwasher.

Do not dry-clean D2 Tops.

Do not wash D2 Tops with mats that have been over-dyed. Over-dyed mats must be washed separately.

Do not wash D2 Tops in an ozonated water system.

Do not expose D2 Tops to oxidizing agents (such as hydrogen peroxide, ozone or chlorine bleaches).

Do not expose D2 Tops to acids or acids in mixtures (such as a wash or rinse bath) with a pH below 6. Acids should not be used as spotting agents.

Do not expose D2 Tops to basic solutions or bases in mixtures with pH greater than 10.

Do not expose D2 Tops to organic solvents.

Care should always be taken when exposing D2 Tops to any chemical agent. Check with Milliken to determine if the chemical agent is suitable for use with D2 Tops.

D2 Tops may be washed with printed mats and solution dyed mats if washed at temperatures between 40°C/104°F and 50°C/122°F. However, it is recommended that D2 Tops be washed separately to optimise efficiency as well as extend their life.

D2 Printed Tops should not be washed at temperatures above 50°C/122°F.

7.2 D2 Bases

Do not use damaged D2 Bases, as they may pose a safety hazard.

Do not wash D2 Bases in the laundry.

Do not expose D2 Bases to oxidising agents (such as hydrogen peroxide, ozone or chlorine bleaches).

Do not expose D2 Bases to acids or acids in mixtures (such as a wash or rinse bath) with a pH below 6. Acids should not be used as spotting agents.

Do not expose D2 Bases to basic solutions or bases in mixtures with pH greater than 10.

Do not expose D2 Bases to organic solvents.

Care should always be taken when exposing D2 Bases to any chemical agent. Check with Milliken to determine if the chemical agent is suitable for use with D2 Bases.

7.3 Repairs & Alterations

D2 Tops should not be repaired if they become damaged. D2 Tops should not be altered in any way. Repairs or alterations to D2 Tops will void the product warranty.

D2 Bases should not be repaired if they become damaged. D2 Bases should not be altered in any way, to include the cutting of D2 Bases into smaller sizes. Repairs or alterations to D2 Bases will void the product warranty.

8.0 Wash Processes for Wash Extractors

8.1 Standard Soiling

PROCESS	DIP LEVEL	TEMP (°C)	TIME (mins)	ADDITIONS	MAX pH
PRE-WASH	MEDIUM	COLD	3 to 5	-	-
DRAIN	-	-	1	-	-
MAIN WASH	LOW / MED.	40°C to 50°C	8 to 10	YES	10
DRAIN	-	-	1	-	-
RINSE 1	HIGH	COLD	2	-	-
DRAIN	-	-	1	-	-
RINSE 2	HIGH	Up to 40°C	2	-	-
DRAIN	-	-	1	-	-
EXTRACT	-	-	8 to 15	-	Ambient

8.2 Heavy Soiling

The heavy soiling wash process is for D2 Micromix Tops only, this process is unsafe for D2 Printed Tops.

PROCESS	DIP LEVEL	TEMP (°C)	TIME (mins)	ADDITIONS	MAX pH
PRE-WASH	MEDIUM	40°C	3 to 5	YES	10
DRAIN	-	-	1	-	-
MAIN WASH	LOW / MED.	60°C	8 to 10	YES	10
DRAIN	-	-	1	-	-
RINSE 1	HIGH	COLD	2	-	-
DRAIN	-	-	1	-	-
RINSE 2	HIGH	COLD	2	-	-
DRAIN	-	-	1	-	-
RINSE 3	HIGH	Up to 40°C	2	-	-
DRAIN	-	-	1	-	-
EXTRACT	-	-	8 to 15	-	Ambient

Loading

This will vary from machine to machine, but it is recommended that the machines be filled to their rated capacity.

Dip Levels

These vary from machine to machine but a slightly lower level for the main wash will ensure full mechanical action is achieved & a higher level for rinsing will help dilute any residue detergent & soiling.

Temperature

None of the D2 Micromix Tops should be detrimentally affected by temperatures up to 50°C if processed in conjunction with approved wash chemicals. **D2 Printed Tops should not be processed using the Heavy Soiling process.**

Maximum pH

A maximum pH of 10 should not be exceeded to ensure the long-term optimum condition is maintained of the D2 Tops. A pH below pH10 is preferable. The final pH of the processing effluent should be as close to that of the ambient water pH as possible, which should be about pH 7.

Additions

Basic detergents will be sufficient for the majority of soiling types, but the addition of emulsifiers may be required for more heavily soiled mats. Be aware of some of the chemicals listed in the Care Instructions. This is not an exhaustive list but gives details on some of the more common problematic chemicals.

Extraction

This will vary considerably from machine to machine but further advice on Extraction is in the Care Instructions. A warm final rinse bath (about 40°C) has been shown to improve extraction efficiency.

General

Never wash D2 Tops with cotton mats.

9.0 Important Warranty Information

Any warranty on Milliken's D2™ Convertible Flooring™ will be void if the D2 Tops and Bases are not used together and stored, handled, processed, used, and maintained in accordance with this document. In addition, no warranty is given for damage or deterioration caused through normal wear and tear. Wear and tear may be more visible on the bottom of the D2 Top over its life as D2 Tops are uniquely manufactured and consist of different construction of material than a mat. This type of wear and tear is considered "normal wear and tear" and is not a manufacturing defect covered by the warranty for D2 Tops or any other warranty. Please reference the **Warranties & Product Disclaimer** document for more information.