

## MIXED MATERIALS MAINTENANCE GUIDELINES

Patcraft's Mixed Materials carpet tile and resilient are engineered to provide a dynamic visual with a long, useful life and enhance the built environment. The design aesthetic paired with innovative engineering allows this collection to seamlessly combine carpet tile and resilient flooring without the need for a transition, an industry first. Because of this innovative installation method, diligent and extreme testing has been completed to ensure performance and appearance retention are maintained.

The Mixed Materials maintenance program should be considered part of the purchasing decision. If proper maintenance is neglected, the carpet and resilient appearance will suffer, shortening the life of your product and raising life cycle costs.

A comprehensive care program consists of four elements:

- Reduction of soil entering the building
- Removal of dry soil
- Removal of spots and spills
- Cleaning by high performance hot water extraction

### The Importance of Planning

A successful maintenance program starts with the selection of the carpet and resilient that meets specific performance requirements. Attributes to consider include construction, backing, yarn, dye method, finish and color. Pattern and color are major factors in the perception of a successful maintenance program. The visual degree of soiling is measured as color contrast. The best soil hiding colors are usually medium to dark shades with pattern.

Maintenance of your flooring must be established as a scheduled program, rather than infrequent cleanings or random reactions to soiling conditions. Virtually every complaint of poor appearance, rapid soiling, and many times poor performance are related to the lack of planning and execution of a comprehensive maintenance program.

The most important consideration when planning a maintenance program is budget. Like furnishings or other finishes, flooring represents a substantial investment for any facility and requires adequate care to prolong its life. If the maintenance budget is set unrealistically low or if maintenance is scheduled infrequently, the flooring will not retain appearance and will need to be replaced prematurely.

It is recommended that a plan be tailored that accounts for the product type, amount of traffic and type of soiling, which could vary by area. Determine the amount of traffic and soil levels where Mixed Materials will be installed. See the chart below for frequency of each step of the maintenance program:

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### Suggested Frequency Chart for Commercial Carpet Care

Traffic Level	Vacuum	Spot Removal	Interim Cleaning	Hot Water Extraction
Light	2+ times per week	As needed	As needed	1 time per year
Moderate	1 time per day	As needed	As needed	2 times per year
Heavy	1+ times per day	As needed	Monthly	4 times per year
Extra Heavy	1+ times per day	As needed	Weekly	Monthly

### Suggested Frequency Chart for Resilient Floor Care

Traffic Level	Vacuum or Dust Mop	Spot Removal	Wet Mop	Auto-Scrub or Buffing
Light	2+ times per week	As needed	As needed	1 time per year
Moderate	1 time per day	As needed	2+ times per week	2 times per year
Heavy	1+ times per day	As needed	1+ times per day	4 times per year
Extra Heavy	1+ times per day	As needed	1+ times per day	Monthly

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## Removal of Dry Soil

Vacuuming is the most significant element in the maintenance of flooring and the overall appearance of the facility. Research has shown that 85% of the soil tracked into a building is dry, and the remaining 15% is oily. Vacuums are designed to remove the dry soil. Walking on soiled carpet or resilient products permits the soil particles to work their way down into the pile where they are more difficult to remove. And with resilient, loose soil allows for frequent vacuuming removes soil particles from the surface before this happens. Heavily trafficked areas, such as entrances and major corridors, should be vacuumed at least once a day. Areas with less traffic such as offices should be vacuumed every other day depending upon conditions.

## Vacuum Cleaner Recommendations:

We only recommend use of vacuums certified in the Carpet & Rug Institute (CRI) ([www.carpet-rug.org](http://www.carpet-rug.org)) vacuum cleaning indoor air quality program. Vacuums specifically designed for commercial installations offer functionalities that help meet the demands of a good maintenance program.

1. For carpet tiles that are glued directly to the floor without cushion, a vacuum with a rotating cylindrical brush, rather than a beater bar, should be used to agitate the pile and loosen the soil. Beater bars can damage the pile of direct-glued carpet if the machine height adjustment is set too low. This can also damage the vacuum.
2. Vacuums with either a beater bar or rotating brush can be used for carpet installed over pad, or with attached cushion backings. These vacuums are also recommended for double stick installations where the carpet is glued to the pad.
3. Bags that fill from the top are preferred over those that fill from the bottom. Replaceable paper bags or paper liners for cloth bags are better filters than cloth bags alone because they can trap more of the small particles that cloth bags allow to pass back into the air. Many vacuums can also be used with micro filtration or high efficiency bags that capture even smaller particles that tend to be related to allergy complaints. These bags can also reduce the need for dusting. Check bags frequently and replace when 1/2 to 2/3 full to avoid a decrease in efficiency. When changing bags, also check the belt and replace if loose or worn.
4. A good vacuum is vital to prolonging the life of your carpet. A cheap vacuum can remove surface dirt but may not effectively remove the hidden particles embedded in the pile. This can lead to rapid appearance loss and complaints of poor product performance. A hundred dollars saved on the price of a vacuum can easily cost thousands of dollars in reduced useful life of the carpet.

## Spot and Spill Removal

All maintenance procedures mentioned thus far have been planned; spot and stain removal is the reaction to an unplanned incident. Therefore, it is desirable to have the needed materials handy by planning ahead of time. The professional cleaning companies have spot removal kits in convenient carrying cases that contain all the necessary materials. For assistance with specific stain removal procedures, contact Technical Services Department through Patcraft's Customer Connect at 800.241.4014.

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### General Instructions:

Spot removal products that have been tested and certified in the CRI Seal of Approval Program for cleaning products are recommended for specific spots (reference [www.carpet-rug.org](http://www.carpet-rug.org)) Additional spot removal procedures are listed below if professional and CRI certified products are not available:

Gently scoop up any solids with a spoon or dull knife. Absorb wet spills as quickly as possible by blotting with **white** paper or cloth towels.

Always blot, **never scrub or rub abrasively**, because it may create a fuzzy area. When blotting, work from the outer edge in toward the center of the spot to avoid spreading the spill and enlarging the problem.

Thorough removal of both the stain material and the detergent residue is critical to prevent re-soiling. Water extraction is the best way to accomplish this. Many cleaning equipment manufacturers offer small extraction machines specially designed for spot cleaning. These are small, lightweight and highly portable. They do an excellent job of rinsing after spot cleaning. They are also an excellent way to deal with body fluids on the carpet. For additional information on these machines call the Technical Services Department.

Place several layers of white towels on the spot to draw out any remaining moisture. Weight them down with a heavy object that will not transfer color, such as a plastic jug of water.

### Removal Procedures:

**A. WATER SOLUBLE STAINS** - Absorb as much as possible with white towels. Blot the affected area with more towels dampened with cool water until no more color transfers to the towels. If any of the stain remains, use a detergent solution of 1/2 teaspoon (no more) of **CLEAR** liquid hand dishwashing detergent (do not use those containing lanolin or hand lotions) to a quart of water in a clean spray bottle. You may also use a general purpose spot cleaner with a pH of less than 10.

**8.** Spray lightly onto the spot and blot repeatedly with white towels. **Rinse thoroughly** by spraying with clean water, and then blot or extract. Do not use too much detergent because the residue will contribute to rapid re-soiling.

**A-1.** Either: apply a white vinegar solution (one part white vinegar to one part water) to a white towel and blot or spray onto spot. Continue as in "**A**" or use a slightly acidic spotter made for coffee, tea and other tannin stains rather than the detergent.

**A-2.** Either: apply a solution of household ammonia (one tablespoon of ammonia to one cup water) to a white towel and blot or spray onto spot. Continue as in "**A**" or use an alkaline spotter made for removing blood and protein stains rather than the detergent. **Do not use on printed styles.**

**B. GREASE-** Blot as much as possible with white towels. Apply a solvent designed for grease removal to a towel and blot. **Use sparingly and do not pour or spray directly** on the carpet pile as damage to the backing or adhesive

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underneath may result. A better option is the use of a gel solvent. The advantage of the gel is that it remains on or near the surface where the grease is. The application is much more controllable and has two distinct advantages. By remaining in the area where gel is applied, it allows additional dwell time for the contaminant to soften and by not penetrating to the backing, there is no risk of carpet delaminating.

Use the towels to transport the solvent to the carpet. Repeat until no more color transfers to the towel. Protective gloves should be worn because the solvent will quickly remove oils from the skin and may result in irritation. Provide adequate ventilation and **do not use flammable solvents!** Rinse thoroughly by spraying with clean water, and then blot or extract. If needed, continue with procedures in "A".

**C. FREEZE** areas with chewing gum and candle wax with ice or a commercially available product in an aerosol can. Shatter with a blunt object and vacuum before the chips soften. Follow up with solvent as in **"B"**. A better option is the use of a gel solvent.

**D.** Several specialty spotting products are available from cleaning industry suppliers to remove difficult stains such as Betadine, food dyes, mustard, etc... For specific specialty products, contact Technical Services through Customer Connect at 800.241.4014.

**E. RUST** can be removed in most cases with a 10% solution of oxalic acid which is available under several brand names at most stores selling cleaning products. Stubborn cases require 5% hydrofluoric acid which is difficult to obtain and dangerous to use. Both should be used with **caution** by a trained professional.

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## Recommended Procedures by Stain Type

STAIN	REMOVAL PROCEDURE
Adhesive, Carpet*	B, A,
Alcoholic Beverages	A
Asphalt	B
Beer	A
Betadine*	A, D
Blood, wet	A
Dry	A-2
Butter	B
Chewing Gum	C
Chocolate	A-2
Coffee*	A-1, D
Cola Drinks	A
Cosmetics*	B, A, D
Crayon	B
Deicer, Salt	Vacuum, A
Excrement	A
Food Dyes*	A, D
Furniture Polish	A, B

STAIN	REMOVAL PROCEDURE
Grease, Auto	B
Food	A
Ink, Ballpoint	B
Permanent	B, D
Washable*	A
Lipstick	B
Milk	A
Mustard*	A, D
Nail Polish	Polish Remover
Paint, Latex, Wet	A
Latex, Dry	B
Oil	B
Rust*	E
Tea*	A-1, D
Toner, Copier	Vacuum, A
Unknown*	B, A
Urine	A-1
Vomit	A-1
Wax	C
Wine	A-2

\*Consulting a trained professional cleaner is an option

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## Encapsulation

Encapsulation is a low moisture appearance improvement method through the use of a spray encapsulant and a dual, counter rotating brush machine. The encapsulation chemical encapsulates soil particles and crystallizes. The encapsulated soil can then be removed at the next scheduled vacuum cycle. Patcraft recommends no more than 3-4 encapsulations between hot water extractions. Encapsulation is not a substitute for deep cleaning using hot water extraction.

When encapsulating the carpet in a mixed material application, resilient that is installed next to or inset within a carpet installation will need to be cleaned with a neutral pH cleaner to remove the encapsulant from the resilient tiles. Failure to do so, could result in a milky visual on the resilient.

## Cleaning

Even with thorough vacuuming, cleaning is necessary to remove the 15% of soil that is the oily type material, as well as that which the vacuum cannot remove. In order to maintain acceptable appearance, the carpet and resilient **must** be cleaned on a periodic basis to prevent the carpet from becoming so dirty that it can no longer be cleaned satisfactorily. The frequency of cleaning must be adjusted to the rate at which soil accumulates; therefore, heavily trafficked areas typically require more frequent cleaning, as do areas with less traffic but more soil.

When the color of the carpet begins to look dull, it is time to clean the carpet. The traffic lanes will show this first. If the carpet is cleaned before it becomes excessively soiled, the cleaning will be more successful and a much easier task. This is especially important in places where oily soil is prevalent, such as the areas near streets or asphalt parking lots, and those around cooking or dining facilities. Oil tends to oxidize slowly, forming a sticky material similar to varnish that becomes nearly impossible to remove as it ages.

Another stubborn problem is the salt or deicer from snow melt that accumulates in the carpet over winter. Salt pulls moisture from the air and prevents the carpet from drying as quickly as it normally would. Remember that damp carpet acts like a wet sponge to clean shoes and collect soil faster. The resulting black discoloration in the traffic lanes requires pretreatment with a traffic lane cleaner to break down the soiling and the use of hot, not warm, water to dissolve and remove the salt and soil. Residue from snow melt can cause possible damage, including discoloration. Salt is also an abrasive substance that can cause damage to the fibers.

## The Cleaning System:

A number of cleaning systems are available; their effectiveness varies widely. When choosing the cleaning system, the important considerations are:

It must clean effectively

It must not damage the texture of the carpet

It must not leave excessive residues of cleaning materials.

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The Mixed Materials product recommendations are based on significant laboratory work and many years of experience in the field. For Mixed Materials installations, Patcraft recommends only the high performance hot water extraction system, that research indicates provides the best capability for cleaning. This system is commonly referred to as "steam cleaning" although no steam is actually generated. The process consists of applying a cleaning agent onto the pile, using a dual counter rotating brush machine and using water in the extractor to recover the used solution and soil. The dual counter rotating brush machine can agitate pre-spray, as well as, act as a scrubber for the resilient flooring. This can be done from a truck-mounted unit outside the facility with only the hose and wand brought inside, or where a truck-mounted unit cannot reach, by a portable system brought into the facility.

A list of cleaning products that have been tested and certified in the Carpet and Rug Institute (CRI) Seal of Approval Program may be found at [carpet-rug.org](http://carpet-rug.org). For additional assistance contact Customer Connect at 800.241.4014.

The Hot Water Extraction method using high performance equipment should be the **primary** scheduled method to clean Mixed Materials. The use of hot water extraction equipment is recommended which has obtained a Gold Rating in **the Carpet and Rug Institute (CRI) Seal of Approval Program. A list of equipment that has obtained the Gold Rating may be found at [www.carpet-rug.org](http://www.carpet-rug.org).**

Self-contained, walk-behind machines are another type of hot water extraction equipment commonly used. They apply the cleaning solution at a rate that is balanced with the recovery capability of the machine. This type machine is often employed where cleaning is done by in-house maintenance staffs. Since these machines cannot equal the performance of high performance extractors, their use should be scheduled as an interim frequency supplemented by periodic high performance cleaning. It is best to use an extraction machine with brushes underneath to agitate the surface of the resilient and the carpet prior to extraction.

When necessary, interim cleaning systems are successful when used to supplement the extraction program. These interim cleaning processes help enhance the carpet's appearance between deep cleanings.

Low moisture encapsulation systems are also interim cleaning processes that enable the carpet's appearance to be improved and returned to service in a short amount of time. The cleaning agent is agitated into the carpet's pile with a dual counter rotating brush machine, allowed to dry and vacuumed to remove the encapsulated soil from the carpet. In conjunction with scheduled Hot Water Extraction cleanings, the low moisture systems can help maintain a satisfactory appearance.

## MIXED MATERIALS DOES NOT RECOMMEND

### "Bonnet" Systems:

The name for these systems is derived from the rotating bonnet of terry cloth or other absorbent material used to agitate the pile and pick up soil. A detergent solution is sprayed onto the pile, and is then worked with the bonnet attached to a rotary floor polisher. It is at best a temporary appearance enhancement because it only absorbs at the surface and does no real extraction of deep soil. **PATCRAFT DOES NOT ADVOCATE THIS SYSTEM.** It is **not a substitute for hot water extraction.**

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It has very limited capability for soil removal and often leaves most of the detergent in the pile. The spinning bonnet may distort the pile of cut pile carpets and leave distinct swirl marks.

**EXPERIENCE HAS BEEN THAT MORE CUSTOMER SOILING COMPLAINTS RESULT FROM THIS SYSTEM THAN ALL OTHER CAUSES COMBINED.**

The bonnet system may damage the edges of some carpet tiles.

### Buffing

Although buffing with a low rpm (175 rpm) buffer with a red/white pad is a proper cleaning method for resilient flooring as a stand-alone installation, it is not recommended in a mixed installation. Buffing with a pad could damage the edges of the carpet tile.

### Auto Scrubbing

Auto scrubbing is a recommended cleaning method for resilient flooring as a stand-alone installation, it is not recommended in a mixed installation.

### Water recycling machines

**Any cleaning machine which continuously recycles the cleaning solution is not recommended.** A growing body of experience is showing that although the large particles are filtered out, the soluble materials, including detergents and soluble contaminants are distributed over the whole area. With repeated cleanings these materials become more concentrated and begin to cause rapid resoiling.

### Choosing a Professional Cleaner

One way to locate a nearby professional carpet cleaner who uses a hot water extraction system is to contact the **Institute of Inspection, Cleaning & Restoration Certification (IICRC) at 800-835-4624 or [iicrc.org](http://iicrc.org)**

This organization maintains a national directory of independent professional cleaners who are trained and certified in a variety of cleaning specialties. You must specifically request a professional cleaner using hot water extraction. IICRC certified firms with the "Master Cleaner" certification are preferred.

### Basic Guidelines for In-House Maintenance

If you choose to maintain your Mixed Materials using in-house personnel, here are some guidelines to follow. For a good reference describing carpet cleaning and the hot water extraction method specifically, read the *Carpet Cleaning Standard*, (\$100) by the IICRC, available at the number listed above.

1. Thoroughly vacuum the area to be cleaned before the hot water extraction to remove as much dry soil as possible. Use a dual, counter-rotating brush machine, if necessary, in high traffic areas.

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2. Remove spots and stains using the procedures above or a commercially available spot removal kit. Pre-treat the heavily soiled areas and traffic lanes with traffic lane cleaner **certified in the Carpet and Rug Institute (CRI) Seal of Approval Program / [carpet-rug.org](http://carpet-rug.org)**. Agitate the carpet using a dual counter rotating brush machine. This allows the cleaning agent to penetrate. A minimum of ten minutes of dwell time is recommended to allow the cleaning agent time to loosen contaminants. Although it is advisable to minimize the use of solvents, many traffic lane cleaners do contain some solvents to help remove the stubborn oily dirt often found in traffic areas. Treat a small area and extract the liquid before the traffic lane cleaner dries.

3. On most commercial carpets, **use a detergent with a pH less than 10, preferably near 9, and with a minimum of non-sticky residue.**

4. For resilient flooring, use a neutral pH cleaner to damp mop the resilient design. Be sure to use a neutral pH cleaner, such as Shaw R2X Hard Surface Cleaner or Diversey's Stride or Prominence. Using a micro fiber mop, spray mist the neutral pH cleaner on the resilient flooring and damp mop.

**Cleaning products that have been tested and certified in the Carpet and Rug Institute (CRI) Seal of Approval Program for Cleaning Products are recommended. For additional assistance contact Customer Connect at 1-800-241-4014.**

Your cleaning solution selection is important. It is even more important to remove all the detergent you put into the carpet and on resilient. A cleaning solutions' ability to bind to particles of soil and oil is what makes cleaning happen.

However, the cleaner residue continues to attract and hold soil even after drying. Increasing the amount of detergent beyond the recommended level does not increase cleaning performance, but makes the complete removal of detergent more difficult. **Excessive cleaner residue is the most common cause of accelerated re-soiling complaints.** Patcraft **does not recommend the use of cleaning solutions with optical brighteners.**

4. **Avoid over-wetting** the carpet and resilient. Prolonged dampness may cause discoloration, promote growth of mildew and bacteria in the carpet, or cause separation of the backing. This can be controlled by a combination of proper equipment and operator training.

5. Do **not** use any silicone-based anti-soil treatments on Mixed Materials carpet or resilient products.

6. **Reduce drying time** by using several fans or air movers to move air across the carpet in combination with a dehumidifier or air conditioner to pull moisture out of the air. Carpet should be completely dry within 12 hours or less.

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