

MAINTENANCE OF PHILADELPHIA AND QUEEN COMMERCIAL CARPETS

Philadelphia and Queen Commercial Carpets are quality engineered to provide a long useful life and enhance the indoor environment. Carpet offers many advantages over other flooring systems, such as reduced fatigue, sound absorption, and lower life cycle costs.

From the start, the carpet maintenance program should be considered part of the carpet buying decision. If proper maintenance is neglected, the carpet's appearance will suffer, shortening the carpet's useful life and raising long term costs.

A comprehensive carpet 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

Please note that the information in this booklet pertains to most carpets made of synthetic or man-made fibers in commercial installations. Some procedures may not be suitable for wool or wool-blend carpets or printed carpets. For these type carpets, please see the special appropriate maintenance brochure from the Shaw Industries Technical Services Department.

This Brochure contains specific procedures for maintenance of printed carpets.

THE IMPORTANCE OF PLANNING

A successful maintenance program starts with the selection of carpet that meets specific performance requirements. Attributes include construction, backing, yarn, dye type, and color. Color and pattern 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. These are best specified for known areas having severe traffic and soil.

Carpet maintenance must be established as a scheduled program, rather than being a random series of reactions to soiling conditions and infrequent cleaning. Virtually every complaint of poor appearance, rapid soiling, and many times poor performance has been shown to be related to a lack of planning and control of the maintenance program.

The most important consideration when planning a maintenance program is the budget. Like other expensive furnishings or equipment, carpet represents a substantial investment for any facility and deserves adequate care to prolong its effective life. If the carpet maintenance budget is set unrealistically low, the carpet will need to be replaced prematurely.

Tailor the design of the program to the amount of traffic and type of soiling which vary by area. Due to higher traffic levels, entrance lobbies, elevators, and hallways will need more care than offices. Food service areas and entrances will require more effort due to the more difficult soiling conditions. Consult the chart for suggested frequencies by traffic levels.

Traffic Level	Vacuum	Spot Clean	Hot Extraction	Water
Light	2-3 times/week	As needed	Annually	
Moderate	Daily	As needed	Twice/year	
Heavy	1+ times/day	As needed	Quarterly	
Extra Heavy *	1+ times/day	As needed	Minimum needed	Monthly/as needed

Light traffic = private offices & cubicles

Moderate traffic = shared offices, interior hallways & conference rooms

Heavy traffic = entrances, elevators, main hallways, break rooms, work/copy rooms & mailrooms

Extra Heavy traffic = airports & entries to hospitals, malls & theaters *extra heavy traffic & soiling require frequent attention

WHAT YOU CAN EXPECT FROM YOUR CARPET IN THE REAL WORLD

Although Shaw Industries products are designed for specific applications and are tested to withstand the tremendous beating that carpet receives in some uses, there are some conditions where appearance change must be expected. Carpet and other flooring materials where the oily material from asphalt sealers is tracked into the building may become yellowed over time. This material stains not only carpet but other flooring materials as well. It is virtually impossible to remove all of this material once it has penetrated the fiber of any carpet. Walk off mats and periodic cleaning can reduce this phenomenon. When sealing asphalt parking lots specify a high quality sealer and ask the vendor for a warranty that this will not occur.

Areas where large amounts of sandy soil enter the building may become dull in appearance over time. This is due to abrasion of the fiber surface, reducing the reflection of light. This is minimized by frequent vacuuming.

REDUCTION OF SOILING

One of the most critical aspects of maintenance is the use of walk-off mats at building entrances. Mats are also one of the least understood and neglected parts of the maintenance program. Walk-off mats greatly reduce the amount of soil carried into a building by foot traffic. Other areas where mats are beneficial are service entrances with direct contact to the outside, from the hard surface area in a kitchen to the carpeted dining area in a restaurant, or at entrances from plant facilities into the offices. Various studies have shown that the cost of removing a pound of soil from a building ranges up to \$500 or more! Clearly, it is far cheaper to stop the dirt at the door.

The choice of mats is important because the cheaper mats do a poor job of trapping soil and have a short life span. Walk-off mats fall into two categories; those designed to remove and trap gritty soil and those intended to absorb water during wet weather. They should be used in combination.

Good soil removal mats have a coarse texture, are able to brush soil from shoes, and can hold large amounts of soil in their pile. The water absorbent mat is used inside to prevent tracked in moisture from getting to the carpet. A wet carpet acts like a giant shoe cleaner and soils rapidly. When both types of mats are used in combination, they should always be placed so that incoming traffic passes over the soil removal mat first, because the absorbent types have very little soil holding ability.

For mats to continue to trap soil, they should be cleaned on a regular basis, more frequently than the carpet. If accumulated soil is not removed, the mat will become overloaded and cannot prevent soil from entering the building - the mat may even become a source of soil itself. When a building is new or still under construction, soil may be tracked in from unfinished grounds so the

mats need to be cleaned more often.

REMOVAL OF DRY SOIL

Vacuuming is the **most significant element** in the maintenance of carpet and the overall appearance of the facility. Research has shown that 85% of the soil tracked into a building is dry, and the other 15% is oily. Vacuums are designed to remove the dry soil. Walking on soiled carpet permits the soil particles to work their way down into the pile where they are more difficult to remove. 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:

1. We only recommend use of vacuums certified in **The Carpet and Rug Institute (www.carpet-rug.org) Vacuum Cleaning Indoor Air Quality Program**. Vacuums specifically designed for commercial installations offer characteristics which help meet the demands of a good maintenance program.
2. For carpet tile and carpets 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.
3. 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.
4. 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** which capture even smaller particles which tend to be related to allergy complaints and 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.
5. 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.

PILE LIFTING

Between cleanings, regular use of a **pile lifter** can remove deeply embedded dry sand and soil, help stand up the pile and renew the appearance of the carpet in high traffic areas such as traffic funnel zones, elevators, and lobbies. A pile lifter is an upright two motor vacuum with a large, adjustable motor driven brush, a high suction vacuum motor, and a sand trap. Using a pile lifter in traffic lanes just prior to cleaning removes the deeply embedded soil and opens up the pile so the hot water extraction can be more effective. **Follow the pile lifting with a thorough vacuuming.**

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 Shaw Industries Technical Services Department through Shaw Information at 800-441-7429.

General Instructions:

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

* Scoop up any solids gently 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 Shaw 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 less than 10.

For printed carpets, do not use cleaning agents with a pH higher than 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 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 Shaw Technical Services through Inforum at 877-502-7429.

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.

RECOMMENDED PROCEDURES BY STAIN TYPE

STAIN	REMOVAL PROCEDURE
Adhesive, Carpet*	B, A,
Alcoholic Beverages	A
Asphalt	B
Beer	A
Betadine*	A, D
Blood, wet Dry	A 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 Food	B A
Ink, Ballpoint Permanent Washable*	B B, D A
Lipstick	B
Milk	A
Mustard*	A, D
Nail Polish	Polish Remover
Paint, Latex, Wet Latex, Dry Oil	A B 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

CLEANING

Even with thorough vacuuming, cleaning is necessary to remove the 15% of soil which is the oily type material, as well as that which the vacuum cannot remove. In order to maintain acceptable appearance, the carpet **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 which becomes nearly impossible to remove as it ages.

Another stubborn problem is the salt or deicer from snow melt which 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 which 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.

Shaw Industries recommendations are based on significant laboratory work and many years of experience in the field. **Shaw recommends only the high performance hot water extraction system, which 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, and using water in the extractor to recover the used solution and soil. 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 www.carpet-rug.org. For additional assistance contact Shaw Information at 800-441-7429.

The Hot Water Extraction method using high performance equipment should be the **primary** scheduled method to clean carpets. Shaw Industries recommends the use of Hot water extraction equipment 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.

Self-contained, walk-behind machines are another type of hot water extraction equipment commonly used. They apply the cleaning solution at a rate which 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.

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 mechanical brush, 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.

SHAW 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. **SHAW DOES NOT ADVOCATE THIS SYSTEM.** It is **not substitute for hot water extraction.**

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.

SHAW'S 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.

Water recycling machines

Shaw Industries does not recommend any cleaning machine which continuously recycles the cleaning solution. 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 www.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 carpet 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*, (S100) 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 pile lifter if necessary in high traffic areas.
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** (www.carpet-rug.org). Agitate the carpet using carpet rake or agitation equipment. 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. For printed carpets, use a detergent solution that has a pH between 6 and 8.**

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 Shaw Information at 800-441-7429.

Your detergent selection is important. It is even more important to remove all the detergent you put into the carpet. A detergents' ability to bind to particles of soil and oil is what makes cleaning happen. However, the detergent 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 detergent residue is the most common cause of accelerated resoiling complaints. Shaw does not recommend the use of cleaning agents with optical brighteners.**

4. **Avoid over-wetting** the carpet. 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 carpet produced by Shaw.
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.