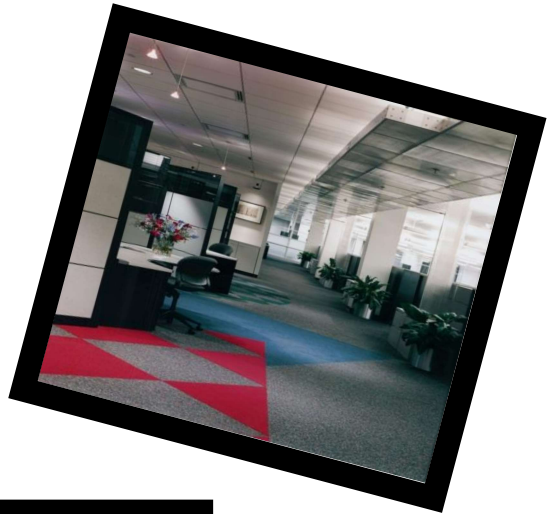


The Carpet and Rug Institute's



Carpet Maintenance Guidelines

For Commercial Applications



Foreword

Carpet has excellent wear and soiling characteristics, which are unique and totally unlike those inherent to other floor coverings.

This publication is written to assist facilities managers, maintenance supervisors and anyone who buys, sells, specifies, or is responsible for the maintenance of a commercial carpet installation. It is designed to provide information in two very important areas: first, to build awareness of the importance of clean carpet and good indoor air quality; and second, to offer recommendations that will assist in developing a maintenance plan tailored to the commercially carpeted environment.

Written in concise, yet thorough fashion, the information included in the Carpet Maintenance Guidelines is science based and backed up by sound environmental management principles. If utilized, its contents can help foster a healthier indoor environment and extend the life of the carpet.

Where any doubt exists as to the best method of cleaning a carpet, check with the manufacturer of the carpet or seek expert advice from a professional. The carpet manufacturer strongly recommends the Carpet Maintenance Guidelines be followed to develop your maintenance plan for commercial carpet care to ensure the investment that has been made will be pleasing visually and will perform for the life of the carpet. Failure to follow the guidelines set forth could result in the loss of warranty coverage for your investment.

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Purpose of Cleaning and Maintenance

Your commercial carpet installation is a significant investment, both in monetary terms and overall facility image. The need to implement a maintenance program from the beginning is very important. A consistent and effective carpet maintenance program can maintain the initial facility image and dramatically extend the life of your monetary investment. It is the goal of this publication to assist you in preserving the original appearance of your commercial carpet.

There are many valuable reasons we clean or maintain any object, including carpet. The incentive for an effective cleaning and maintenance program is magnified when we recognize these activities contribute to the following:

- Allows for the healthy reuse of space and materials
- Maintains the value of property and reduces the rate of depreciation
- Contributes directly to personal security, comfort, and productivity
- Accents aesthetics
- Creates a unique psychology that enhances quality of life
- Encourages topophilia (affection for place)
- Elevates a sense of wellbeing which is the essence of good health
- Sends caring messages and image
- Promotes human dignity
- Manages waste and hazards and contributes to environmental protection
- Ensures sanitation – reduces adverse exposure levels
- Serves as a form of insurance that reduces risk and prevents crisis

The appearance of carpet depends upon several factors – color, pattern, density, fiber and a viable carpet maintenance program. In order to help keep carpet products performing to their best, designing and implementing a comprehensive maintenance plan is very important. Great care should be given when choosing carpet colors, patterns and textures. These features, combined with fiber quality and construction standards engineered to meet performance requirements are important factors. The same effort is required for effective maintenance.

Carpet Performance

Start with the right carpet choices that lead to the best end-use carpet performance...

1. **Specifications**...Was the carpet properly specified in relation to the intended use of the carpet at its location?
2. **Color Selection**...Was the proper color selected to meet traffic conditions, intensity of sunlight, etc.?

3. **Installation**...Was the carpet installed according to CRI Carpet Installation Standard 2011 or previous version?
4. **Maintenance**...Has a scheduled maintenance plan been designed to serve the needs of the location?

Carpet performance is directly related to the specification, installation and the proper maintenance of it. When the right style of carpet is chosen and it is professionally installed, a professionally designed and instituted maintenance program will increase the life expectancy and performance of that carpet. Color selection is critical in long term appearance retention. For example, a light color is a poor choice in heavy traffic areas; a darker color will retain its appearance longer and is a better choice in heavy traffic areas. Facility managers and maintenance supervisors who understand this concept can help in the decision to select carpet that provides longevity of the carpet and save on future capital replacement cost.

There is a big difference between cleaning carpet and maintaining carpet. Cleaning is the removal of apparent soil. In the minds of many commercial carpet owners, cleaning takes place imprecisely “as needed.” Soiling is a cumulative process which, if allowed to go too far, cannot easily be reversed. Maintenance, on the other hand, is a planned ongoing process of soil removal designed to retain carpet appearance at a good level every day; i.e., “*very little soil build up*”.

Carpet performance is most effectively enhanced and maintained when the following exist:

- A definition of cleaning is the process of locating, identifying, containing, removing and properly disposing of unwanted material. This means removing unwanted substances from an environment or environmental compartment. When exposure is reduced the probability of an adverse effect is also reduced.
- Constant attention to and application of principles of maximum deep cleaning and minimum residue especially as they apply to safety, the proper and effective use of solutions, carpet extraction machines, and vacuum cleaners.
- A recognition that carpet care must be conducted in relation to the management of sources of unwanted substance that can get into the carpet, activity levels, design of carpet and the environment in which carpet is installed, and ventilation.

A consistent management program emphasizes:

- Effective cleaning systems directed at maximum restorative cleaning, minimum residue, safety, and ease of use
- Cost effective cleaning strategy, plan, schedule
- Training and recognition of cleaning technicians
- Periodic inspection, assessment and management review of cleaning programs

Clean and Dry – Improving air quality and environment

To promote a healthy environment Dr. Michael Berry states in his book, *Protecting the Built Environment: Cleaning for Health*, “A clean environment is sanitary. When a sanitary condition exists, an adverse health effect is unlikely. Manufacturers’ recommendations for cleaning provide adequate guidelines, calling for frequent vacuuming and periodic professional deep cleaning that emphasizes removal of foreign substances and minimizing residue. In the long run, these measures protect the carpet and promote environmental health.” ⁽²⁾

Carpet has a unique, positive “filter-like” or particle trapping feature that tends to trap and hold particles to the floor that would otherwise become airborne. Matter being held by the “filter-like” feature of carpet can be removed from the environment instead of re-circulating in the air continually, by using a high power vacuum cleaner that has the “CRI Seal of Approval/Green Label”. Refreshing the indoor environment can be as easy as having a regular vacuuming and deep cleaning schedule.

Keeping the environment dry is a very important process. To help prevent the growth of bacteria and mold, one should immediately attend to liquid spills and fix sources of excess moisture and humidity. Air movers, HVAC handling systems and dehumidifiers will assist in the drying when hot water extraction has been utilized.

Developing a Commercial Carpet Maintenance Plan Program

A commercial carpet maintenance program should be designed and instituted immediately after installation. There are many different cleaning systems used today. Customizing a maintenance program that, uses CRI's Seal of Approval certified solutions, equipment and systems, follow manufacturer's guidelines, protects manufacturer's warranties, and meets end user expectations takes time and training.

These programs are designed to help achieve optimum appearance levels and maximum use life. Differences in cleaning frequencies and target areas can vary. Changes in a plan may be necessary to meet cleaning or end user goals. Variables associated with the success of a plan may include but is not limited to the proper design and employment of plan, cleaners experience and training, equipment, systems, foot traffic, traffic patterns, environmental conditions, carpet location, carpet selection, cleaning budget and carpet use.

Maintenance Programs and Schedules –

A customized comprehensive carpet care program consists of five elements:

1. **Soil Prevention** – isolation or containment of soil by proper mat placement and interior and exterior hard surface maintenance
2. Routine **Vacuuuming** – scheduled frequency for removal of dry soil using a CRI approved “Seal of Approval/Green Label (SOA/GL)” vacuum.
3. Routine **Spot and Spill Removal System** - using professional spot removal techniques.
4. **Interim Maintenance System Cleaning Systems** – scheduled frequency appearance cleaning for all traffic areas.
5. **Deep Cleaning** Systems– scheduled **frequent** deep cleaning to remove residues and trapped soils.

There are some conditions where appearance change must be expected. In areas where the oily material from asphalt sealers is tracked into the building, carpet and other flooring may become yellowed over time. Check the traffic lanes often for slight dulling of color; which is a possible indication of asphalt or petroleum oils. This indicates a buildup of soil. It is virtually impossible to remove all of this material once it has bonded to the fiber of any carpet. Entrance mats and scheduled cleaning can reduce this issue from becoming irreversible. 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, effecting the reflection of light. Frequent vacuuming with a Seal of Approval/Green Label certified vacuum cleaner helps to minimize this problem.

A thoughtfully designed and implemented maintenance program performed by qualified personnel, properly equipped and trained, is essential for optimal long-term performance.

There are several considerations when developing a carpet maintenance plan, including building layout, planning for traffic flow, activities and proper cleaning, which includes soil prevention, interim maintenance system maintenance and deep cleaning.

Soil Prevention

Preventive measures consist of using outside mats capable of scraping debris off shoes and have the capability to hold that material. Inside mats should remove smaller particles of dirt as well as oils and other liquids that can be tracked in from outside. (See **Figure 1**)

Outside entrance - use soil-removal mats that have a coarse texture, are able to brush soil from shoes and hold large amounts of soil in their pile.

Inside mats- use water absorbent mats to prevent tracked-in moisture from getting to the carpet. Mats that extend for 6 to 15 feet inside the entrance will trap eighty percent of soil and moisture from the first five or six steps. Using both types of mats at entrances helps prevent excessive soiling on carpet.

Keeping parking lots, sidewalks and entrances clean will cut down on the tracking in of debris.

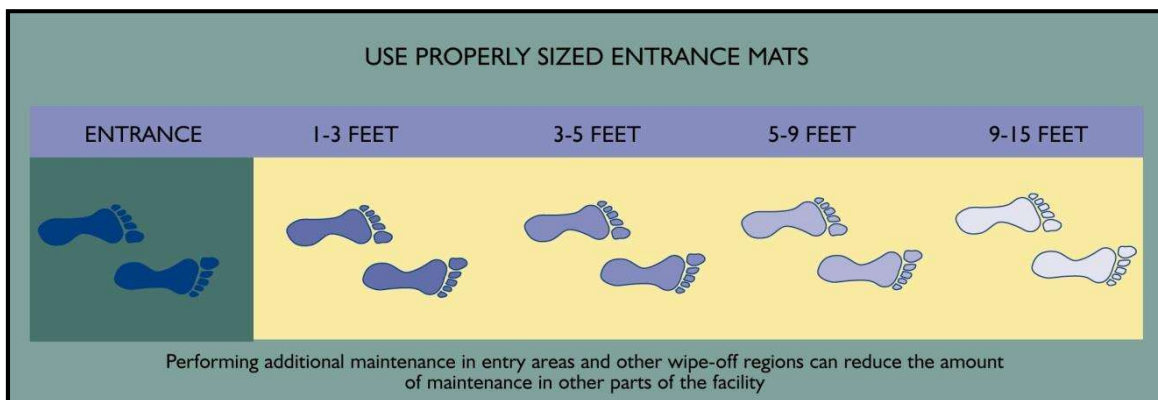


Figure 1

Protective mats should be used around food stations, water coolers, elevators and stair thresholds to prevent moisture and dirt from becoming ground into carpet.

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.

Other preventive tips include restricting food and beverage consumption to specific areas, requiring lids on drinks or oversized cups and by placing trashcans in easily accessible areas.

[Note: The area underneath a desk should be protected by a chair mat. These areas are sometimes considered low traffic areas; however, the chair rollers can create damage due to the concentration of wear.]

The Three Levels of Cleaning

1. Routine Cleaning

Routine carpet cleaning: performed daily, weekly, or more regularly: regular vacuuming and timely spot cleaning.

- **Routine cleaning** includes processes intended to prevent soil from building up in carpet and to minimize its impact on the carpet's appearance and maximize its use-life. Vacuuming and/or pile lifting, and spot cleaning activities should be performed daily,—Vacuuming and/or pile lifting: accomplished at a regularly scheduled frequency to reduce the potential effects of dry soils on the carpet and the indoor environment. Different levels of traffic and soiling help determine vacuuming and pile lifting frequencies:
 - entry foyers: soils that are not contained by entry mats will eventually wind up in the carpet immediately inside entrances to buildings. Entry foyers are an example of a soil-prone area where vacuuming and/ pile lifting frequency should likely be increased;
 - reception areas: the cleanliness of lobbies and reception areas has a direct impact on carpet life cycle and aesthetics. They should be maintained daily or even more frequently;
 - Elevator cabs and lobbies: carpeted elevator cabs and lobbies are high-traffic, frequent-pivot areas. They should be maintained or pile lifted daily or even more frequently,;
 - corridors or common areas: confined traffic-flow corridors should be maintained daily during the week with regular vacuuming and pile lifting. Otherwise, accumulated soils can progressively spread to adjacent areas (e.g., offices, conference rooms) and become part of the soil burden in those locations. Periodic pile

lifting is also beneficial in removing soil and preventing matting and crushing of the carpet;

- less frequently used areas: private offices, meeting rooms and board rooms can be vacuumed on a two or three-times-per-week schedule;
- Periodically, maintenance personnel should focus on high soil load areas, in corners, around wall perimeters and behind and under furnishings using appropriate vacuuming tools and equipment.
- Carpet spotting: Routine spot or spill cleaning is normally performed by the building maintenance personnel. The longer that certain spots remain on carpet, the greater the potential for permanent staining. Also, the longer a spot residue remains on/in the carpet, the more soil it usually attracts.
- It is recommended that facility service providers and management be informed of the importance of timely spotting, utilizing proper spotting products and procedures.

2. Interim Maintenance System Cleaning

Interim Maintenance System cleaning: Is cleaning for appearance improvement, which can postpone or limit the need for deep cleaning. Interim maintenance system cleaning utilizes systems with a goal of maintaining a carpet's uniform appearance. Typically, such systems are intended to be high production and return the carpet to use quickly. Frequency of cleaning depends on carpet location, use, and exposure to soiling, and determines effectiveness of soil prevention, routine maintenance and need for restoration. Interim cleaning may be performed in all exposed carpeted areas or performed with a focus mainly on soil-prone areas. The frequency of interim cleaning depends on such factors as the size of the facility, the carpet's location, color, use, the type and buildup of soil, and the effectiveness of routine cleaning efforts and frequencies, both outside and inside the building (e.g., parking lot and entry maintenance, vacuuming, pile lifting, and spotting). In addition, it is recommended that the objectives of building managers or office facility managers be taken into consideration.

3. Deep Cleaning

Deep carpet cleaning: Deep carpet floor covering cleaning is deep cleaning to return the carpet to a relatively clean condition and uses systems that extract accumulated soils and cleaning residues at a higher intensity to maximize removal of embedded soils. Frequencies of deep

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cleaning depend on effectiveness of maintenance, location of carpet, traffic intensity, or use and manufacturer's requirements.

Deep cleaning should be implemented before the soil in the carpet is easily visible. In order to preserve carpet aesthetics and life cycle, as well as any applicable warranties, follow CRI's Seal of Approval program along with cleaning recommendations or guidelines.

Figure 3

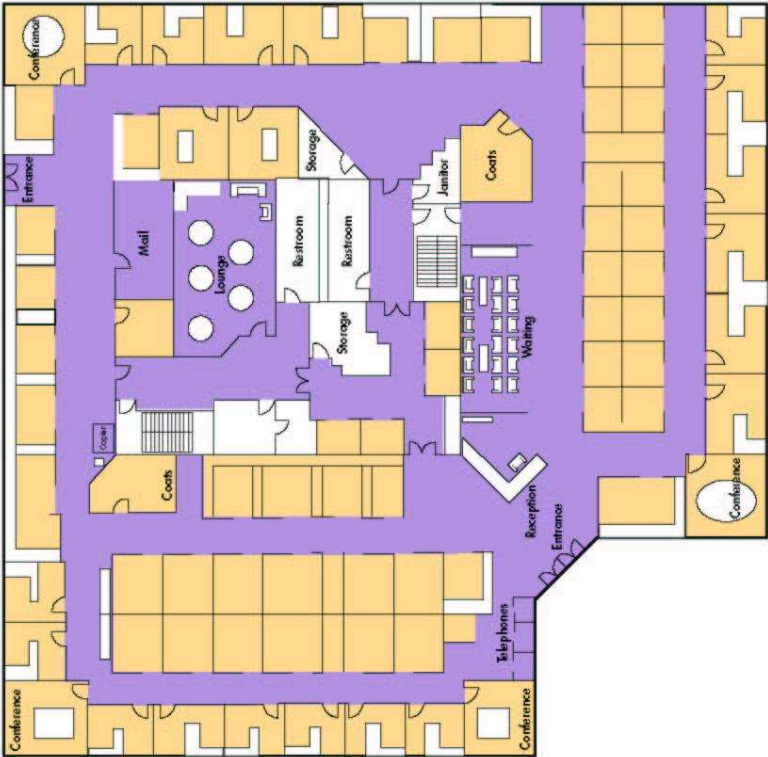
VACUUMING

Recommended flooring maintenance

Traffic Level	Vacuum
Light/Medium	As needed, but at least every 2-3 days
Heavy	Daily

Light/Medium Traffic - Private offices, cubicles, shared offices and conference rooms

Heavy Traffic - Entrances, elevators, main hallways, break rooms, work/copy rooms, mail rooms and interior hallways



Understanding the science based principles of effective deep carpet cleaning will aid immensely in enhancing the long term performance of carpet. Appreciating the power of these principles begins by understanding the purpose and objectives of cleaning. (Bishop, 2003)

Cleaning is the traditional activity of removing contaminants, pollutants and undesired substances from an environment or surface to reduce damage or harm to human health or valuable materials. Carpet cleaning is the process of locating, identifying, containing, removing and properly disposing of unwanted substances from a fibrous surface or material. A primary objective of carpet cleaning is to maximize the removal of unwanted or foreign matter from the carpet and to minimize residues in the carpet. (See **Figure 4**)

Basic Scientific Principles of Cleaning

The basic scientific principles of effective cleaning can be divided into five major steps: **dry soil removal, soil suspension, soil extraction, pile setting (finishing or grooming) and drying.**

Principle 1: Dry Soil Removal (Dry Vacuuming) - Dry soil removal is accomplished in phases:

- Pile preparation (using grooming tools) is employed to untangle the fiber of high-pile carpet, and must precede dry vacuuming.
- Overall vacuuming with an efficient vacuum
- Concentrated entry area vacuuming (removal of the destructive build-up of abrasive soil)
- Vacuuming the perimeter of the room to remove fine dust and soils that can settle in the crevices around the room causing filtration soiling (see definition on page 17).
- Removing soil from carpet can be accomplished in a variety of ways using different types of vacuum cleaners or pile lifters. Due to the fact that 79% or more of the soil can be removed dry by vacuuming and/or vacuuming-pile vacuuming, frequency charts should be developed and added to total carpet care maintenance programs. (Reference Figure 3)

Principle 2: Soil Suspension – Once dry soil has been removed from the carpet, soil suspension (preconditioning) procedures begin. Soil suspension and removal are the most critical steps in effective carpet cleaning. The goal of soil suspension is to separate soil from fiber surfaces. There are four fundamental activities to be accomplished under the soil suspension principle. These are chemical action, elevated temperature (heat), agitation and time.

Chemical action is employed in two phases of the cleaning process.

- In the first phase, cleaning solutions, or compounds, are used to prepare the carpet for cleaning by reducing surface tension and dissolving various soils. This step, called “preconditioning” is essential. It is unreasonable to suggest that soils, which have been ground into carpet, along with oils that have had years to oxidize or dry out, could be suspended adequately in the few seconds that elapse between the removal phase employed in the deep cleaning method.
- The second phase of chemical activity occurs when cleaning solutions, or compounds, are mixed or metered into rinse solutions to suspend light soils that accumulate in non-traffic areas, along baseboards, or under furniture. Therefore, solutions properly formulated, mixed and applied during preconditioning are essential for full effective cleaning.

Elevated Temperature (Heat) – Heat reduces the surface tension of water, and enables faster, more efficient cleaning than cold water. It is merely a matter of thermodynamics, or the ability of heat to accelerate the molecular activity of the solutions employed and thus aid in separation of unwanted matter from fibers.

Agitation – Agitation in some form is required to accomplish uniform solution penetration and distribution. Without agitation, soil suspension tends to be non-uniform which is often indicated by soil streaks following the removal process.

Agitation, using a common, multi-bristled brush or comb to work in pre-conditioner solutions is more effective and time-efficient. Brush agitation refers to the fore-and-aft stroking of preconditioned carpet pile throughout traffic areas, placing particular emphasis on entry, pivot and heavily soiled areas. Mechanical agitation involves the use of mechanized, cylindrical, brush action to achieve aggressive agitation and distribution of preconditioning solutions into the carpet pile.

Time – The fourth fundamental, time, is often the least considered. Soils deposited and compacted over extended periods between cleanings take time to dissolve and become suspended. Pre-conditioner solutions, or compounds, require prolonged contact or “dwell time” for adequate fiber penetration and soil suspension to occur. Based on the formulation and application temperature, dwell time can vary. Follow manufacturer’s label instructions.

Principle 3: Soil Extraction – Soil is an unwanted substance that is foreign to the construction of the carpet. In order to achieve a state of effective cleaning, suspended soils must be extracted (wet or dry) physically from the pile by suspending, dissolving, encapsulating or adsorption/absorption

Principle 4: Drying – Cleaning is not complete until carpet is dry and ready to be trafficked. Drying carpet is essential for several reasons:

- First, it is required to return the carpet to use by end-users as soon as possible.
- Second, drying carpet essentially eliminates slip-fall hazards, especially in areas where carpet transitions to hard surfaces.
- Third, rapid drying eliminates the potential for microorganism growth (bacteria and fungi) and associated musty odors and health hazards that may arise if carpet stays wet in excess of 8 hours. Supply natural or mechanical ventilation during the cleaning and drying phases of deep cleaning. Adequate ventilation is necessary to speed drying time. The use of commercial air movers (drying fans), HVAC handling systems or dehumidifiers greatly reduce drying time.

A facility wide deep cleaning should take place at least twice a year to remove the accumulation of soil overlooked during daily maintenance.

[Note: Inspect heavy use areas for slight dulling of color, this indicates a build-up of soil and requires more frequent intensive cleaning.]

Precautions: When deep cleaning carpet, follow several common sense precautions:

- Always vacuum first.
- Apply pre-spray, following manufacturer's label instructions, and agitate into the carpet's fibers.
- If using a cleaning agent, it is important to use an extraction system to remove any potential agent residue from the carpet yarn.
- As necessary, supply natural or mechanical ventilation during the cleaning and drying phases of deep cleaning. Adequate ventilation is necessary to speed drying time. The use of commercial air movers (drying fans), HVAC air handling systems or dehumidifiers greatly reduce drying time.
- Follow directions for mixing solutions carefully.
- Limit access to damp carpet until it is completely dry to avoid slip and fall.
- Furniture should not be moved back into the room until carpet is completely dry. **Note:** If furniture has to be moved back into the room before carpet is completely dry, be sure to use protective tabs or blocks under the legs of furniture to prevent rust or furniture stains from developing on the carpet.

One of the most beneficial features of deep cleaning is its capability of removing deep down soils. Carpet should always be cleaned according to carpet manufacturers' specifications. If manufacturer is not known, procedures should be followed as stated in The Institute of Inspection, Cleaning and Restoration (IICRC) S100.

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

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- It must clean effectively
- It must not damage the carpet
- It must not leave excessive residues of cleaning materials
- It follows manufacturer's recommendation

Traffic Soil Rating	vacuum and/or pile-lift entrance level**	vacuum and/or pile-lift other floors	spot cleaning	Interim Maintenance System cleaning	Deep cleaning
Light	Daily vacuum	2-3x weekly vacuum	daily or as needed	1-2x annually soil-prone areas as needed	1-2x annually. Monthly in soil-prone areas
Medium	daily*** vacuum and/or pile-lift	daily vacuum and/or pile-lift	daily or as needed	6-12x annually soil-prone areas as needed	2-6x annually. Bi-weekly in soil-prone areas
Heavy	daily vacuum and/or pile-lift 2x daily in traffic areas	daily vacuum and/or pile-lift	daily or as needed	12-52x annually soil-prone areas particularly	2-26x annually *Weekly in soil-prone areas

Hard Surfaces Adjoining Carpet Surfaces

Transition areas where carpet and hard floors meet can be a challenge. It is very important to keep hard surface flooring clean in order to prevent the tracking of hard surface residues onto carpet. Daily maintenance of hard surface floor coverings, such as VCT tile, ceramic tile, wood and terrazzo floors, presents a greater challenge to the average maintenance staff than carpeted surfaces.

Hard surface flooring must receive constant care because of its inability to hide soil and possible damage to the finish by dry soil. Hard surfaces that have become wet due to spills, leaks or even tracked in moisture must be a constant concern to the maintenance staff, as well as the risk management staff due to risk of slips and falls.

To avoid problems, observe a few common sense rules.

- During treatment of hard surface floors, whether stripping, finishing or maintaining keep solutions off the carpet. Many of the cleaning agents used to maintain hard floors can cause damage to carpet.
- After damp maintenance of hard surfaces, dry completely before allowing traffic onto carpet to help prevent tracking of any residues of hard surface cleaning agents.
- When using rotary equipment on hard surfaces next to carpet, be careful not to allow pads or brushes to come in contact with the carpet and, thus, abrade the carpet pile.
- Do not set buckets or equipment used for the maintenance of hard floors on the carpet as residues on the bucket, or solution sloshing out on movement of the bucket or ringing out of the mop, may cause soiling or staining.

Spot prone areas should be checked daily in order to remove spills before they attract soil or become permanent.

It is a misperception that carpet maintenance is more costly than hard surfaces. As stated in "A Life-Cycle Cost Analysis for Floor Coverings in School Facilities"⁽⁴⁾ cleaning and maintenance of carpet is cost effective.

Spills, Spots and Stains

Caution! Read the following information carefully! Too often a carpet is damaged or bleached when home remedies or mixtures are used without consulting a professional source first. Spills, spots and stains are inevitable, but they may not have to be permanent. There should be an immediate action to remove incidental spills, mud, oil, tar, etc. from the surface of the carpet. These contaminants should be removed as quickly as possible to prevent the possibility of a permanent stain and/or discoloration.

Many suppliers that sell cleaning and spot treatment products to professional carpet cleaners are willing to assist you in selecting the right agents and procedures for your situation. Be sure to always check with the carpet manufacturer to make sure what type of cleaning solutions can be safely used on the carpet. See CRI approved cleaning solutions: <http://www.carpet-rug.org/CRI-Testing-Programs/CRI-Seal-of-Approval-Program/Cleaning-Solutions.aspx>

Always vacuum dry spills first. Pouring any liquid onto a dry spill may create additional problems.

Definitions:

According to the IICRC S100 Reference Guide for Professional Cleaning of Textile Floor Coverings spills, spots and stains are defined as:

- spills can be wet, dry, oily or combination states of matter that accidentally are deposited on the textile floor covering. Depending on the composition of the spill, quick response time and cleaning procedures may assist in minimizing the probability of it becoming a spot or a stain.
- spots are defined as foreign material on the surface of a fiber, usually changing the texture of the fiber (e.g., sticky, oily, greasy, stiff). Spots usually can be removed. However, some spots, if left untreated for too long, can become stains.
- stains indicate the addition of color, frequently in liquid or pigment form that has been more strongly attracted to the carpet fiber. This added dye or pigment may bind to a dye site and actually alter the structure of the fiber. Not all stains respond positively to removal efforts.

Removing Spills, Spots and Stains:

Steps to follow when removing Spills, Spots and Stains include:

1. Identification if possible
 2. Removal of excess material
 3. Testing of cleaning agent in inconspicuous area for colorfastness
 4. Apply cleaning techniques (see chart)
- **Act Quickly!** Most carpet available today has been treated with a stain-resist treatment, so many spills can be removed if proper procedures are followed immediately after the accident. The longer the delay, the higher the probability of a spill becoming a permanent stain. Remember, staining is influenced by many factors, and no carpet is completely stain proof.
 - **Blot, absorb/adsorb or wet extract excess liquids** with a white absorbent cloth, dry compound, water wet vacuum or white (no printing) paper towels.
 - **Do not scrub the area!** Scrubbing can cause pile distortion in the affected area. For semi-solids, gently scrape up with a rounded spoon. Solids should be broken up and vacuumed until completely removed.
 - If the spot can be identified, locate the substance in the spot removal computer and **follow the cleaning directions carefully.**

<http://www.carpet-rug.org/Carpet-for-the-Home/Cleaning-and-Maintenance/Spot-Solver.aspx>

- **Pretest any spot removal agent** in an inconspicuous area to make certain the compound or solution will not damage the fiber or the dye. After applying liquid spot removal agent to the testing area, hold a white cloth on the wet area for 10 seconds. Examine the carpet and cloth for color transfer, color change, or damage to the carpet. If a change occurs, another cleaning solution should be selected.
- **Apply a small amount** of the selected cleaning agent. Always follow directions on label.
- **Work from the edges of the spill** to the center to prevent the spill from spreading. Do not scrub! Blot or absorb as much of the spot or spill as possible, and repeat if necessary.
- **Be patient!** Complete removal of the spill may require repeating the same step several times.
- **When using more than one cleaning agent** extract or remove one spotting agent before applying another. Always rinse out liquid cleaning agents or dry extract out dry absorbent agents prior to use of another. Some cleaning agents may set stains used on top of another.
- Some cleaning agents will cause rapid soiling if not completely removed... Rinse out liquid agents. Vacuum out dry compound. If a wet vacuum is not available add water then apply a one-half inch layer of white paper towels to the affected area, and weigh down with a flat, heavy object. Continue to change paper towels as needed.
- Complete removal of many common spills may require the repeated use of a single cleaning agent or the use of a combination of cleaning agents. Follow cleaning agent instructions.
- For more detailed information on a specific spill, please use the CRI Spot Solver located at <http://www.carpet-rug.org/Carpet-for-the-Home/Cleaning-and-Maintenance/Spot-Solver.aspx>

Different types of Spill, Spot and Stain Cleaning Agents

Dry Absorbent/Adsorbent Compound- this type of material typically contains liquids which can be used to loosen and absorb both water soluble and dry solvent soluble spills and spots, and helps to deter wicking.

Volatile Solvent (A fast evaporating dry cleaning fluid) – Exercise caution when using a solvent. A nonflammable spot removal solution is preferred. Never pour a volatile cleaning solvent directly onto the carpet. Volatile cleaning solvents will destroy the latex that holds the carpet components together.

Non-volatile Solvents – (Referred to as paint, oil and grease removers.) This type of cleaning solvent evaporates slower for more effective cleaning. Non-volatile solvents can leave residues that may cause rapid soiling. When using a non-volatile remover, always rinse the area thoroughly with a volatile solvent or use a dry adsorbent compound to adsorb residue. Many nail polish removers contain a non-volatile solvent and can be an effective cleaning solution. Nail

polish removers containing amyl or ethyl acetate also contain alcohol to assist in rinsing residues. See residue precautions.

Detergent Solution – Mix ¼ teaspoon liquid, non-lanolin, non-bleach, hand dishwashing detergent with one cup warm water. Mix professionally formulated detergent solutions according to the manufacturer's recommendations. NEVER USE A STRONGER CONCENTRATION, (increasing the amount of detergent beyond the recommended level does not increase cleaning performance but makes the complete removal of detergent more difficult), always use a detergent with a pH of less than 10. Thorough rinsing is necessary to remove detergent residues that may cause rapid soiling. You may need to rinse with warm water several times to completely remove residues or use an adsorbent compound to adsorb the residue. (See residue precautions.) Care should be used in selecting a detergent. Never use a laundry detergent of any type because laundry detergents may contain optical brighteners (fluorescent dyes) that dye the fiber. Do not select an automatic dishwashing detergent because many contain bleaching agents that destroy dyes. A professionally formulated, neutral detergent solution, specifically designed for use on carpet, should also be considered for consistent spot removal results.

Small portable extraction machines designed for spot cleaning are also very effective.

Warm Water Rinse – Use lukewarm tap water in most cases to rinse the spotting agent from the fiber. Failure to completely rinse the solutions from the fiber may cause accelerated soiling, also wicking will occur if contaminate is not totally removed.

Vinegar Solution – Mix one cup of white vinegar (a 5% acetic acid solution) and one cup of water. This is used most often to lower the alkalinity caused by detergent solutions or alkaline spills removing residue. A professional solution may also be used (available from sanitation suppliers).

Ammonia Solution – Mix one tablespoon of household ammonia and one cup of water, or use a professional protein spotter, (available from cleaning suppliers).

Spot Removal Kit – Available from most carpet retail stores and professional carpet cleaning suppliers. Follow directions closely! Some spot removals kits contain a detergent solution and a stain-resist solution. Use of the stain resist solution prior to the complete removal of the spill may cause a permanent stain. Other spot removal kits may have dry absorbent cleaning products for fast spot removal. It is suggested that a professional spotting kit be purchased.

Spot Removal Residue Precautions!

Carpet Maintenance Guidelines

Your cleaning agent selection is important, it is even more important to remove what you put into the carpet. A spot cleaners 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. A small, portable extractor is recommended for efficient rinsing and spot removal or use an adsorbent compound to remove the spot and any residue. A solution of one cup white vinegar (5% acetic acid solution) to one cup water can be used to remove heavy detergent residue. **Remember: Never use any of the solutions in concentrations stronger than those recommended.**

Avoid Overwetting – Prolonged dampness may cause discoloration, promote growth of mold and bacteria in the carpet, or cause separation of the backing. This can be controlled by a combination of proper equipment use and operator training.

Summary of Carpet Cleaning Principles

1. **Dry Soil Removal** through vacuuming in three areas: **overall** with an efficient commercial vacuum; in **entries** to remove abrasive particle soils; along **edges** (perimeter of rooms) to remove dust and dirt buildup that can cause soil filtration.
2. **Soil suspension** through **chemical action** to dissolve, suspend and emulsify soils; **elevated temperature (heat)** to excite solutions for optimum performance; **agitation** for uniform solution distribution to achieve maximum contact with soils; **dwelt time** to allow solutions to suspend embedded or oxidized soils.
3. **Removal of Suspended Soil**

Once soils have been suspended as completely as possible, they should be physically removed. Mechanisms for removing suspended soils and the methods to which they apply include:

- absorption or adsorption: (AKA dry extraction); absorbent pad; soil transfer;
- wet vacuuming: dry foam, shampoo methods;
- rinsing: water extraction;
- flushing: immersion cleaning of rugs, or
- dry residue vacuuming: absorbent compound, dry foam, shampoo, encapsulation.

Substances removed, such as soil or water, by any cleaning system shall be disposed of in accordance with applicable federal, state, provincial, and local laws and regulations.

4. **Finishing or Grooming (Pile Setting)** of carpet surface: **maximize appearance** for customer; **distribute additives**, such as fabric protectors; **promote drying** by untangling tufts; **eliminate appearance of matting and crushing** that causes complaints.
5. **Drying** to minimize customer inconvenience and promote safety and health use adequate ventilation for speeding up drying time. The use of commercial air movers (drying fans) or HVAC handling systems, dehumidifiers, greatly reduce drying time.

Troubleshooting

Burns

Burn damage can be remedied only by reweaving, retufting, or resectioning the damaged area. However, in some cases, the appearance of an area of charred carpet can be improved by carefully clipping off blackened ends of tufts using small, sharp scissors. Trim surrounding tufts to minimize indentation. Remember, clipping blackened ends of tufts are permanent.

Crushing

Crushing is the loss of pile thickness due to foot traffic. It is not a manufacturing defect unless specifically cited in manufacturer's warranty. Regular vacuuming can help reduce crushing. Manufacturers' definitions of crushing may vary.

Depressions

The weight of heavy pieces of furniture can put indentions in carpet. Use furniture glides or cups under the legs of heavy pieces, or, occasionally move your furniture a few inches backward or sideways so that the weight is not concentrated in one place. If depressions do occur, apply water to the indentions with a spray bottle. Hold a hair dryer, set on medium, a few inches above the indentation. As the spot is drying use your fingers to gently work the pile upright and in the opposite direction.

Fading or Color Loss

Protect carpet from direct sunlight to minimize fading or color loss. Fading can be caused by emissions from heating fuels or solutions, such as pesticides, household cleaning agents, and other household items.

Filtration Soiling

Filtration soiling may appear as dark or grayish lines on carpet along walls, stairways, around vents, and under doors. It is caused by airflow over and through the carpet that allows fine, airborne soils to settle on the carpet surface. This type of soiling, while sometimes permanent, requires special treatments for effective removal. Contact a carpet cleaning professional for assistance.

Fluffing or Shedding

The balls of fluff found on carpet or in the vacuum cleaner bag, are merely loose bits of fiber left in the carpet from the manufacturing process. The removal of loose fibers does not affect the carpet life or quality. With proper vacuum, using

a quality vacuum cleaner, most shedding gradually disappears within the first year after installation.

Matting

Matting, the untwisting of the fiber and intermingling of the yarn tips, is usually the result of concentrated foot traffic and possibly inadequate maintenance. But other factors, including improperly specified cushion or cushion failure, can also be the cause. Matting is not considered a manufacturing defect unless specifically cited in the manufacturer's warranty. Manufacturers' definitions of matting may vary.

Shading, Pile Reversal, "Watermarking" or "Pooling"

Shading is not a change in color, but a change in pile direction that sometimes randomly appears in a carpet or rug. It may look darker or lighter from different directions. Shading may be more prevalent in a solid color cut pile carpet than in patterned and textured styles. This is not considered a manufacturing defect and is usually permanent and has no known cause.

Soiling

The secret to maintaining the beauty of your carpet is to vacuum often and clean it regularly before it becomes excessively soiled. Dulling is caused by the deposits of all types of soil that abrade the carpet's fibers. Still, the original color is not lost, but is present under the soil film. If the soil is allowed to remain, the carpet is much more difficult to clean. Frequent cleanings are important to avoid excessive soiling.

Sprouting

Occasionally a yarn tuft will rise above the pile surface of a carpet. Just snip these tufts off level with the tufts. **Do not pull them out.** If a long run has occurred, consult your dealer, installer or professional cleaner promptly. It is frequently possible for the yarn to be retufted (reburled) or glued back into place.

Static

The static electricity generated by some carpets is aggravated by low humidity. That is why it is most bothersome in colder weather when the relative humidity is low. The use of a humidifier can help, by reducing the buildup of static and reducing annoying shocks.

Be cautious about using anti-static treatment on carpets, as some can cause the carpet to soil very readily. For the same reason, never use fabric softeners made for home laundry, as they may leave sticky residues that will cause rapid soiling.

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The Carpet and Rug Institute (CRI) is the national trade association for the carpet and rug industry. Its members are manufacturers and suppliers providing over 90% of all carpet produced in the United States.

CRI offers extensive information about carpet, installation, maintenance, and indoor air quality through a website at www.carpet-rug.org. See referenced studies at www.carpet-health.org.

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Carpet Maintenance Guidelines

Carpet Care Tips For the Commercial Environment Preventive Measures 1 - Use entrance mats to keep dirt from entering or spreading through the building. 2 – At least once a month replace air filters and inspect air ducts often for build-up of contaminants Vacuuming 1 – <i>Light-to-medium traffic areas</i>: Vacuum as needed, but at least every 2-3 days 2 – <i>Heavy-traffic areas</i>: Vacuum daily – entrances, corridors/all areas, break areas, elevators, and work/copy rooms. 3 – When selecting a vacuum cleaner, choose a CRI - Approved Vacuum and follow the manufacturer's recommendations for use. Look for the Seal of Approval/Green Label Vacuum Cleaner label on vacuum cleaner packaging and merchandising. A CRI Seal of Approval/Green Label Vacuum Cleaner logo may also appear on the vacuum cleaner. Treatment of Spots and Spills 1 – Check for spots daily and treat immediately 2 – Most carpet today has a soil-resistant treatment, making spots easier to remove. 3 – Act Quickly! The longer the delay, higher the probability for a permanent stain. (see reverse)	Carpet Care Tips For the Commercial Environment Preventive Measures 1 - Use entrance mats to keep dirt from entering or spreading through the building. 2 – At least once a month replace air filters and inspect air ducts often for build-up of contaminants Vacuuming 1 – <i>Light-to-medium traffic areas</i>: Vacuum as needed, but at least every 2-3 days 2 – <i>Heavy-traffic areas</i>: Vacuum daily – entrances, corridors/all areas, break areas, elevators, and work/copy rooms. 3 – When selecting a vacuum cleaner, choose a CRI Seal of Approval/Green Label-Approved Vacuum and follow the manufacturer's recommendations for use. Look for the Seal of Approval/Green Label Vacuum Cleaner label on vacuum cleaner packaging and merchandising. A CRI Seal of Approval/Green Label Vacuum Cleaner logo may also appear on the vacuum cleaner. Treatment of Spots and Spills 1 – Check for spots daily and treat immediately 2 – Most carpet today has a soil-resistant treatment, making spots easier to remove. 3 – Act Quickly! The longer the delay, higher the probability for a permanent stain. (see reverse)
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