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THE CARPET AND RUG INSTITUTE

**CRI 204 Commercial  
Carpet Standard for  
Maintenance and Cleaning**

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## Introduction

The CRI 204 Commercial Carpet Standard for Cleaning and Maintenance is the foremost source for guidance on cleaning carpet in a commercial environment. The information in this guide was developed in collaboration with the manufacturers of carpet with additional input from professionals in the cleaning industry to provide the best content on commercial cleaning and maintenance.

### 1.0 Foreword

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Properly maintained carpet can enhance the indoor environment and aesthetic value of any commercial facility. The inherent characteristics of carpet are designed to trap soil, improve acoustical conditions, and increase safety by reducing the risk of slip-fall accidents while adding unique properties of color and design to the facility.

This standard requirement for maintenance of carpet is based upon principles and procedures developed through practical experience, research, and information obtained from manufacturers, facility service providers, end users, testing laboratories, and others who have specialized expertise. It is recommended for anyone who buys, sells, specifies, or is responsible for the maintenance of a commercial carpet installation. For more detailed information, instructions, and training, please contact the specific manufacturer.

This document is designed to provide information to build awareness of the importance of clean carpeting and its connection to improved indoor air quality along with recommendations that will assist in developing a maintenance plan tailored for carpet in a commercial environment.

Written in concise, yet thorough fashion, the information included in the CRI 204 Commercial Carpet Standard for Maintenance and Cleaning 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.

Carpet manufacturers highly recommend the use of CRI 204 Commercial Carpet Standard for Maintenance and Cleaning, in addition to the carpet manufacturer's maintenance guidelines, to develop your maintenance plan for commercial carpet. This approach will help ensure that the carpet will be pleasing visually and will perform for its expected life.

Failure to follow this standard or the carpet manufacturer's maintenance guidelines may result in the loss of warranty coverage and/or reduction in long-term performance.

For the most current version of the CRI 204, please visit The Carpet and Rug Institute at [www.carpet-rug.org](http://www.carpet-rug.org).

## 2.0 Definitions

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**Extractor** - a type of cleaning equipment that uses pressure, water/cleaning solution, and suction to extract deeply embedded soil or stains from carpeting.

**Vacuum** - a type of cleaning equipment that removes and collects dry foreign material or soil from the carpet by means of suction.

**Counter-Rotating Brush (CRB)** - a cleaning tool with cylindrical rotating brushes that spin vertically to lift and agitate the carpet pile.

**Deep Cleaning System** - a cleaning system comprised of a vacuum, solution, and extractor.

**Interim Maintenance System** - a cleaning system comprised of an encapsulate solution, a CRB, and a vacuum.

**The following type of equipment is NOT recommended for carpet cleaning:**

**Rotary** - a type of cleaning equipment with a head (with or without a brush, pad or bonnet) that spins, orbits or oscillates horizontally on the carpet surface. The machine may eject water/solution through jets or water/solution may be sprayed on carpet surface by other means.

### 3.0 The Seal of Approval Program

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Throughout this standard you will see references to the Seal of Approval (SOA) program. If you are unfamiliar with the program, it is an important resource that you should know about as a consumer, facility manager, or cleaning professional.

The CRI Seal of Approval program is a voluntary testing program that tests the effectiveness of carpet cleaning products and certifies those products that remove difficult stains or a sufficient amount of soil without damage to the carpet. Not all products clean well enough to earn this distinction. Seeing the CRI Seal of Approval logo on products helps consumers recognize that they are buying quality products. The Seal of Approval program also has become a central program in our industry as many carpet manufacturers now require the use of SOA-certified products and CRI-certified cleaning methods to maintain carpet warranties.

In the early 2000s, CRI fielded numerous calls from consumers regarding carpet cleaning products that did not effectively clean carpet or, in some cases, were harmful to the carpet. In response, our organization decided to test products to better understand the issue. The results showed that many of the tested products cleaned at the same efficacy of water. Following this CRI founded the Seal of Approval program to test and certify carpet cleaning products and equipment.

What are the SOA Product Categories?

- Vacuums
- Deep Cleaning Systems
- Deep Cleaning Extractors
- Solutions
- Interim Maintenance Systems

Each category has subcategories that will allow you to select the best product for your facility's needs.

For more information on SOA or to view the certified products, visit The Carpet and Rug Institute website at [www.carpet-rug.org/SOA](http://www.carpet-rug.org/SOA).

## Commercial Carpet Information

### 4.0 Purpose of Maintenance Programs

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To protect your commercial carpet investment, the need to implement a maintenance program from the beginning is very important. A customized maintenance program's main objective should be to control soil distribution in carpet. The program should include indoor and outdoor walk off mats, a vacuuming schedule, a protocol for spot removal, deep cleaning, and interim cleaning frequencies. It is the goal of this standard to make commercial carpet maintenance recommendations that will preserve the appearance and extend the life of your carpet.

There is a big difference between cleaning carpet and maintaining carpet. Cleaning is the removal of unwanted matter. In the minds of many consumers, cleaning takes place "as needed." Soiling is a cumulative process which, if allowed to build up, will potentially damage the carpet fibers physical characteristics, change the carpets appearance and become more difficult to remove. Maintenance, on the other hand, is a planned, ongoing process of soil removal designed to retain carpet appearance at an optimum level every day.

Developing an effective cleaning and maintenance program:

- Maintains the appearance and value of property
- Allows for the healthy use of space and materials
- Helps to manage contaminants and improves indoor air quality
- Contributes to occupants' comfort, productivity, and quality of life
- Accents aesthetics
- Extends the life of the commercial carpet

The appearance of carpet depends upon several factors – use, traffic, color, pattern, density, fiber, and a viable carpet maintenance program. When specifying commercial carpet, consider construction, colors, patterns, textures, and installation method. 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.

## 5.0 Carpet Performance

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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.

**Optimum commercial carpet performance begins with the proper selection and ends with planned maintenance.**

- **Specifications** - Was the carpet properly specified in relation to the intended use of the carpet at its location? Was the proper color selected to meet traffic conditions, intensity of sunlight, etc.?
  - **Use**
  - **Color**
  - **Style**
  - **Construction**
- **Installation** - Was the carpet installed according to CRI 104 Standard For Installation of Commercial Carpet?
- **Maintenance** - Has a scheduled maintenance plan been designed and modified as necessary to serve the intended use?



### Commercial Carpet Specification

Style, construction, color, and pattern selection is critical in long-term appearance retention. For example, a light color will require more maintenance in heavy traffic areas; a darker color may retain its appearance longer and may be a better choice in heavy traffic areas. Designers, purchasers, property managers, **CRI SOA-certified service providers**, and maintenance supervisors who understand this concept can help in the decision to select carpet that optimizes longevity and saves on future capital replacement cost.

### Types of Commercial Installation include:

- Carpet Tile/Planks Installation
  - Pressure Sensitive
  - Adhesive Tape
  - Floating Floor
- Broadloom
  - Stretch-in
  - Direct Glue
  - Double stick
- Woven
  - Axminster
  - Single-face Wilton
  - Face-to-face Wilton

**NOTE:** For more information on installation, visit [www.carpet-rug.org/install](http://www.carpet-rug.org/install).

## 6.0 Commercial Carpet Maintenance

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

- Scheduled maintenance that includes properly specified deep cleanings interim or appearance cleanings and timely spot, spill, and stain removal treatments.
- Proper, safe and effective use of solutions, carpet extraction machines, and vacuum cleaners
- Recognition that carpet care must be maintained 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 deep cleaning, minimum residue, safety, and ease of use.
- Cost effective cleaning strategy, plan, and schedule.
- Training of cleaning technicians (professional training organization, SOA-certified Service Providers program, etc.).
- Periodic inspection, assessment, and management review of cleaning programs

## Developing a Maintenance Program

A commercial carpet maintenance program should be designed and instituted immediately after installation. A successful maintenance program includes preventative maintenance, following carpet manufacturer's maintenance guidelines and using SOA-certified cleaning solutions, equipment, and Service Providers.

These programs are designed to achieve optimum appearance levels and maximum useful life of the carpet. 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 may not be limited to the proper design and deployment of plan, cleaners experience and training, equipment, systems, foot traffic, traffic patterns, environmental conditions, carpet location, carpet selection, cleaning budget, and carpet use.

Accessibility to all carpeted space is of utmost importance. Coordination between property management and carpet cleaners is key to the performance and longevity of the carpet.

### 7.0 Programs and Schedules

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A customized comprehensive carpet care program consists of five elements:

1. **Soil Prevention** – isolation or containment of soil by proper interior and exterior mat placement and interior and exterior hard surface maintenance
2. **Routine Vacuuming** – scheduled frequency for removal of dry soil using a SOA-approved vacuum.
3. **Routine Spill, Spot, and Stain 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 can be tracked into the building (such as asphalt sealers, newly paved parking lot, parking garages, etc.), carpet and other flooring may become yellowed over time. It is extremely difficult to remove all of this material once it has bonded to the fiber of any carpet. Entrance mats and scheduled cleaning may reduce this issue from becoming irreversible.

Areas where large amounts of granular soil or salt/ice melt tracked into the building may cause dullness in appearance over time. This is due to abrasion of the fiber surface, affecting the reflection of light. Frequent vacuuming with a SOA-certified vacuum cleaner helps to minimize this problem.

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

## 8.0 Soil Prevention

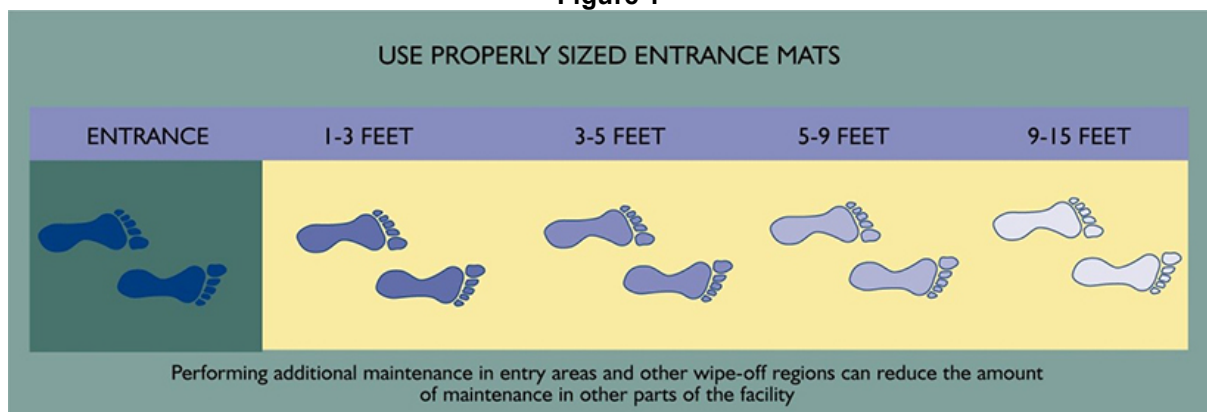
Preventive measures consist of using interior and exterior walk off systems capable of scraping, brushing, or absorbing moisture, and debris off shoes. Inside mats remove smaller particles of dirt as well as oils and other liquids that can be tracked in from outside (See **Figure 1**).

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

Inside interior mats (or installed walk-off tile) - use water absorbent mats to prevent tracked-in moisture from getting to the carpet. Mats that extend for 9 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 and slip/fall hazards.

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/coffee stations, water coolers, printers, elevators, service entrances, and stair thresholds to prevent moisture and dirt from becoming ground into carpet.

For mats to continue to trap soil, they should be cleaned/vacuumed or replaced 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:** It is recommended the area underneath a desk should be protected by a chair mat. (Check carpet manufacturer's warranty for product specific information). These areas are sometimes considered low-traffic areas; however, the chair rollers can create damage due to the concentration of wear.

**NOTE:** During new construction or renovation, plastic carpet protectors with adhesives should not be used to cover the carpet. Self-adhering plastic films may leave residues that result in rapid soiling after removal. Do not place plastic sheeting over any carpet installation because it may present a slip hazard. Most importantly, plastic coverings will trap moisture, retard adhesive curing, and may promote mold growth.

## 9.0 Levels of Cleaning

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Every maintenance program should consist of three levels of cleaning: routine cleaning, interim maintenance, and deep cleaning.

### 9.1 Routine Cleaning

**Routine carpet cleaning:** performed daily, weekly, or more often: 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 useful life. Dry soils abrade and scratch the fibers creating appearance issues such as traffic lanes in corridors, which significantly shorten the useful life of the carpet. Therefore, vacuuming and spot cleaning activities should be performed daily to reduce the potential effects of dry soils on the carpet and the indoor environment. Different levels of traffic and soiling help determine vacuuming 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 frequency should 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;
  - Carpeted elevator cabs, lobbies, restroom entryways and areas adjacent to food service are high-traffic, frequent-pivot areas. They should be vacuumed and maintained daily or even more frequently;
  - Corridors or common areas should be maintained daily during the week with regular vacuuming. Otherwise, accumulated soils can progressively spread to adjacent areas (e.g., offices and conference rooms) and become part of the soil burden in those locations.

- Less-frequently used areas: private offices, meeting rooms, and boardrooms 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.

To lift pile, prevent matting and crushing and buildup of embedded soil, a counter-rotating brush cleaning system may be beneficial.

## 9.2 Interim Maintenance

**Interim Maintenance System:** Cleaning for appearance improvement, which can postpone or limit the need for deep cleaning. Interim maintenance cleaning systems utilize low-moisture carpet cleaning technology with a goal of maintaining a carpet's uniform appearance (Refer to carpet manufacturer for specific recommendations). 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 along with determining 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 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, and power pile brushing (counter rotational brush (CRB))), and spotting. In addition, it is recommended that the objectives of building or facility managers be taken into consideration.

## 9.3 Deep Cleaning

**Deep carpet cleaning:** Deep carpet cleaning returns 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 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, utilize products in the CRI's Seal of Approval program along with carpet manufacturers' cleaning recommendations and/or guidelines.

If the carpet manufacturer is unknown, follow procedures from CRI 204 Commercial Carpet Standard for Maintenance and Cleaning.

**When deep cleaning carpet:**

- Always vacuum first.
- Follow directions for mixing solutions carefully.
- Apply pre-spray, following chemical manufacturer's label instructions
- Agitate into the carpet's fibers.
- Allow pre-spray to dwell as necessary.
- Extract using a SOA-certified deep cleaning system. (In general, CRI-certified water extraction systems achieved the highest rankings in the SOA program.)
- Allow to dry.
  - 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.
  - Limit access to damp carpet until it is completely dry to avoid slip and fall as well as re-soiling of the carpet. Place wet floor signs strategically as necessary.

**NOTE:** When cleaning under chair mats, have a plan for removal and replacement. Chair mats should not be replaced until the carpet is dry.

## 10.0 The Science of Cleaning

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.

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.

Many 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 carpet
- It must not leave excessive residues of cleaning materials
- It follows carpet manufacturer's recommendation

### 10.1 Basic Scientific Principles of Cleaning

The basic scientific principles of effective cleaning can be divided into four major steps: **dry soil removal, soil suspension, soil extraction, and drying.**

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

- Overall vacuuming with a certified SOA commercial vacuum cleaner.
- Concentrated entry area vacuuming (removal of the destructive build-up of abrasive soil).
- Removing dry soil from carpet can be accomplished using different types of vacuum cleaners. Due to the fact that 79% or more of the soil can be removed dry by vacuuming, vacuuming frequency schedules should be developed and added to total carpet care maintenance programs (Reference Figure 2).

**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 time to oxidize or dry out, could be suspended adequately in the few seconds that elapse between detergent application and the removal phases employed in the any 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**, and/or **diluted (per labeled instructions)** and **applied** during preconditioning are essential for full effective cleaning.

**NOTE:** Take precaution not to overspray preconditioners onto furniture, baseboards, and doors. Wipe down the areas immediately after as necessary.

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 to work in pre-conditioner solutions is more effective and time efficient. Counter rotational brush (CRB), a cleaning tool with rotating brushes that spin vertically to lift and agitate the carpet pile while distributing 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. SOA-certified cleaning solutions may 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 the chemical manufacturer’s label instructions in these instances.

**Principle 3: Soil Removal** – 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.

- 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, supply natural or mechanical ventilation during the cleaning and drying phases of deep cleaning.

Fourth, adequate ventilation is recommended to speed up drying time. The use of commercial air movers (drying fans), HVAC handling systems, or dehumidifiers greatly reduce drying time.

**Figure 2**

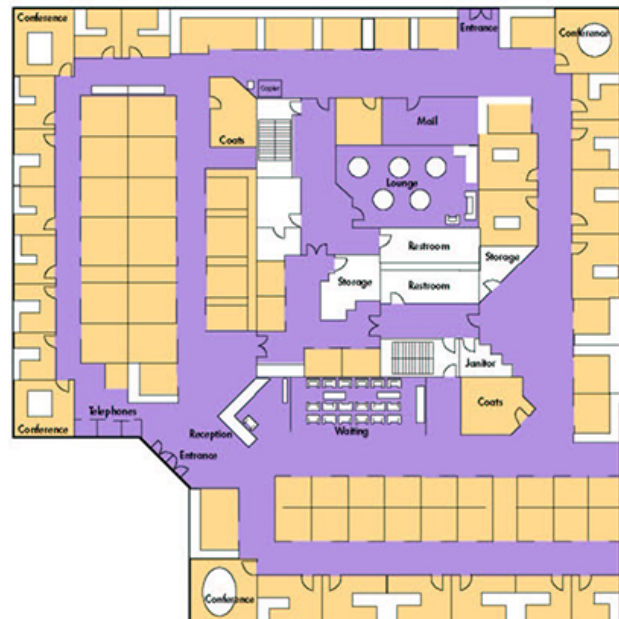
## VACUUMING

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





## 10.2 Summary of Cleaning Principles

**Dry Soil Removal** through vacuuming in three areas: **overall** with a CRI SOA/GL approved vacuum cleaner; in **entries** to remove abrasive particle soils; along **edges** (perimeter of rooms) to remove dust and dirt buildup that can cause soil filtration.

**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; **dwel time** to allow solutions to suspend embedded or oxidized soils.

### **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 are not limited to or may include:

- absorption or adsorption (dry extraction);
- wet vacuuming (dry foam and solution methods);
- rinsing (water extraction);
- flushing (immersion cleaning of rugs); or
- dry residue vacuuming (absorbent compound, dry foam, and encapsulation solution).

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

**Drying** to minimize customer inconvenience, promote safety, and health use adequate ventilation for speeding up drying time. The use of commercial air movers (drying fans), HVAC handling systems, or dehumidifiers, greatly reduce drying time.

Traffic Level	Vacuum and/or power pile brushing entrance level	Vacuum and/or power pile brushing other floors	Spill, spot, and stain removal	Interim Maintenance System cleaning	Deep cleaning
Moderate	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.
Heavy	Daily vacuum and/or power pile brushing.	Daily vacuum and/or power pile brushing.	Daily or as needed.	6-12x annually, soil-prone areas as needed.	2-6x annually. Bi-weekly in soil-prone areas
Severe	Daily vacuum and/or power pile brushing.  2x daily in traffic areas.	Daily vacuum and/or power pile brushing.	Daily or as needed.	12-52x annually, soil-prone areas particularly.	2-26x annually. Weekly in soil-prone areas.

**NOTE:** Carpet deep cleaned using SOA-certified Service Providers and SOA-certified equipment, solutions, and systems may extend the life cycle of the carpet.

## 10.3 Additional Cleaning Considerations

### 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 resilient (LVT/VCT)

tile, ceramic tile, wood, terrazzo, and polished concrete floors, presents a greater challenge to the average maintenance staff than carpeted surfaces.

Hard surface flooring requires constant care because of its inability to hide soil.

To reduce problems, observe a few common-sense rules:

- During maintenance of hard surface floors, whether stripping, finishing, or restoring, keep solutions off the carpet. Many of the cleaning solutions used to maintain hard floors can cause damage to carpet and spills should be rinsed thoroughly with neutralizing agents.
- After damp maintenance of hard surfaces, dry completely before allowing traffic onto carpet to help prevent tracking of any hard surface cleaning solutions onto carpet.
- When using rotary equipment on hard surfaces next to carpet, do not allow pads or brushes to come into contact with the carpet as it may abrade the carpet pile.
- Do not set buckets or equipment used for the maintenance on any surface without proper protection of that surface.

**NOTE:** It is a misperception that carpet maintenance is more costly than hard surfaces. Visit [www.carpet-rug.org](http://www.carpet-rug.org) for more information and research.

## 11.0 Spots, Spills, and Stains

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**Caution:** Read the following information carefully!

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. Contaminants should be rinsed and extracted as quickly as possible to prevent the possibility of a permanent stain and/or color loss to occur. Also, when multiple or inappropriate products are used, a permanent stain or color loss can occur. Some specialty products may be needed to remove difficult spills, spots or stains. It is recommended to contact a CRI SOA-certified Service Provider or follow recommended guidelines from the carpet manufacturer.

Many suppliers that sell cleaning and spot treatment products to professional carpet cleaners are willing to assist you in selecting the right cleaning solutions 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-certified cleaning solutions at [www.carpet-rug.org](http://www.carpet-rug.org).

Spills, spots, and stains are defined as:

- Spills can be liquid or dry substance that are deposited accidentally on the surface of the carpet but can migrate to the base of the carpet. Often a quicker response time can aid in the complete removal of the contaminate.
- Spots can be either organic or inorganic material typically deposited on the top of the face fibers. Spots are often caused by oily, tacky, or sticky substances. They usually can be removed by water based or solvent based cleaning solutions.
- Staining is a local, more permanent discoloration that is not easily removed from carpet by standard cleaning methods. This process can sometimes be reversed and should be performed by a trained professional as permanent staining can occur if not done properly.

## 11.1 Removing Spills, Spots, and Stains

Steps to follow when removing spills, spots and stains include:

1. Inspection identification of the carpet manufacturer, type of carpet fiber, and backing.
2. Identification of spill, spot, or stain (wet, dry, water-based, or oil-based).
3. Vacuum as necessary (dry).
4. Removal of excess material (absorb or blot with a clean white towel, scrape with plastic spoon or spotting spatula).
5. Rinse liquid spills with water.
6. Testing of cleaning agent in inconspicuous area for colorfastness.
7. Apply cleaning techniques (see chart).
8. It may be necessary to repeat due to wicking.

**NOTE:** Wicking is the movement of liquid, soil, and/or residual contaminants from the carpet backing to the tip of the fiber during the drying process. Additional air movement to enhance drying time may assist in reducing wicking.

- **Act Quickly!** Most commercial carpet available has stain and soil resistant properties, which allows many spills, spots, and stains to be removed if proper procedures are followed. The longer the delay, the higher the probability of a spill becoming a permanent stain. ***Remember, most carpet is stain resistant, not stain proof.***
- **Blot, absorb, 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.
- **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 outside of the area of the visible spill** to the center to prevent the spill from spreading. (if a baseball size spill is visible, work an area the size of a basketball from the outside of the center. This is due to the wicking process). 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 solutions or dry extract dry absorbent agents prior to use of another.
- Some cleaning solutions will cause rapid resoiling if not completely removed. Rinse the area thoroughly.
- Complete removal of many common spills may require the repeated use of a single cleaning agent or the use of a combination of cleaning solutions. Follow cleaning agent instructions.

## 11.2 Different Types of Cleaning Solutions

**Dry Absorbent/Adsorbent Compound-** a spot cleaning method consisting of absorbent/adsorbent compound along with dry clean fluids, detergents, and/or other cleaner solutions. The use of dry compounds may be helpful when addressing 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.

**Detergent Solution** – Use SOA-certified Cleaning Solutions. Find them at [www.carpet-rug.org](http://www.carpet-rug.org).

**NOTE:** 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 the contaminate is not totally removed.

**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**

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, or cause separation of the backing. This can be controlled by a combination of proper equipment use and operator training.

## **12.0 Improving Indoor Air Quality**

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."

Carpet has an effective "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 Seal of Approval certification. Refreshing the indoor environment can be as easy as having a regular vacuuming and deep cleaning schedule.

Air movers, HVAC handling systems, and dehumidifiers will assist in the drying when hot water extraction has been utilized.

## 13.0 Safety and Equipment Maintenance

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### **Safety**

Follow OSHA Guidelines. Wet floor signs should be placed in areas when cleaning.

### **Equipment Maintenance**

Every piece of equipment comes with an owner's manual. Equipment needs to be maintained properly. Failure to keep up with scheduled tune-ups, filter, bag replacements, adjustments and/or replacement parts, and leaks or clogs may result in reducing the efficiency of the cleaning system. Equipment needs to be used with its corresponding SOA-certified cleaning solutions.