ESD BROADLOOM / CARPET TILE CARE AND MAINTENANCE

MAINTENANCE GUIDELINES:

Ground Zero Electrostatics, Inc. products are quality engineered to provide a long useful life and enhance the working environment. Broadloom / Modular Carpet tile offers many advantages over the flooring systems, such as sound absorption, reduced fatigue and lower maintenance costs.

From the start, the maintenance program should be considered part of the buying decision. If proper maintenance is neglected, the carpet's appearance and performance 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 hot water extraction

THE IMPORTANCE OF PLANNING:

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 has been shown to be related to a lack of planning and control for the maintenance program.

The most important consideration when planning a maintenance program is the budget. Like other expensive furnishings or equipment, advanced static controlled 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. Other items to consider are the amount of traffic and type of soiling, which will vary by area. Due to the higher traffic level, entrance lobbies, and hallways will need more care than offices. Production line areas and outside entrances will require more effort due to the more difficult soiling conditions.

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RECOMMENDED MAINTENANCE FRQUENCY:

Light traffic = Private Offices & Cubicles, Computer Rooms and Test Areas

Medium Traffic = Shared Offices, Interior Hallways, Conference Rooms and Light Assembly

Heavy Traffic = Entrances, Elevators, Main Hallways, Break Rooms, Work / Copy Rooms, Mailrooms, Light Assembly & Manufacturing, Command Centers, Data Centers and Call Centers

Severe Conditions = Entries to Main Lobby, Areas Surrounding Surface Mount, Wave Solder or Aqueous Cleaners

- ❖ Extra Heavy Traffic & Excessive Soiling Require Frequent Attention. For these areas Ground Zero Electrostatics, Inc. ESD Vinyl or Epoxy Flooring is recommended.

Traffic Level	Vacuum	Pile Lift	Spot Clean	Hot Water Extraction
Light	Every 2 / 3 Days	As Needed	As Needed	Annually
Medium	Daily	Quarterly	As Needed	Annually
Heavy	Daily	Monthly	As Needed	Every 6 Months
Severe	Daily	Monthly	As Needed	Quarterly

REDUCTION OF SOILING:

The use of walk-off mats at transition areas from the outside or hard surface to carpet is important. Walk-off mats can greatly reduce the amount of soil entering a facility by normal traffic.

There are two types of mats which should be used:
Soil Removal Mats
Water Absorbent Mats

1. Soil Removal Mats: Good soil removal mats have a coarse texture and are able to brush soil from shoes and hold large amounts in the pile.

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2. Water Absorbent Mats: The water absorbent mat must be used inside, either full time or at least during the wet weather.

When both types of mats are used in combination, they should always be placed so that incoming traffic passes over the soil removal first, because the absorbent types have very little soil absorbing ability.

For mats to continue to trap soil, they should be cleaned on a regular basis.

REMOVAL OF DRY SOIL:

Vacuuming is the most significant element in the maintenance of carpet and in the overall appearance of the facility. Research has shown that 85% 0f the soil tracked into a building is dry, and the other 15% is oily. Vacuums are designed to control the dry soil. Frequent vacuuming removes particulate soil from the surface before it works down in to the pile where it is more difficult to remove. Walking on the carpet accelerates the rate at which the particles settle deep into the pile. Areas with heavy traffic, such as entrances and major corridors, assembly or manufacturing, should be vacuumed at least once a day. Areas with less traffic, such as offices, computer rooms, engineering labs, should be vacuumed every other day depending on conditions.

Vacuum Cleaner Recommendations:

1. Vacuums should have dual motors – one to drive the source of agitation or vibration, which loosens the soil, and one to drive the vacuum fan, which creates the suction that, picks up the particles. This prevents the vacuum from losing efficiency as the beater bar/ brush becomes slowed by excessive debris or as the bag fills. Dual motor vacuums also survive the demands of a commercial location and last longer than single motor vacuums.

2. Bags that fill from the top are preferred over those that fill from the bottom. As the bag fills, it does not add to the load on the vacuum motor. Bags should be checked frequently and replaced when ½ or 2/3 full. When changing bags, also check the belt and replace if loose or worn.
   Between cleanings, regular use of a pile lifter can remove deeply imbedded dry sand and soil, help stand up the pile and renew the appearance of the carpet in high traffic areas. A pile lifter is an upright two motor vacuum with a large, adjustable, gentle brush with a motor, a high suction vacuum motor, and a sand trap. Using a pile lifter in traffic lanes just prior to cleaning will remove the deeply embedded soil and open up the pile so the hot water extraction can be more effective. Another good use of a pile lifter is for post-construction clean up. Vacuum first to pick up the larger sized chunks of dried mud, dirt and construction debris. Then use a pile lifter to remove the fine particulates, such as dry wall dust, which are deep in the pile. After using a pile lifter, the final step – cleaning by hot water extraction to remove the residual soil – will be less difficult.

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CLEANING:

Even with thorough vacuuming, cleaning is necessary to remove the 15% of soil, which is the oily type material. In order to maintain a good appearance, the carpet must be cleaned on a periodic basis to prevent its becoming so dirty that it can no longer be cleaned satisfactorily. The frequency if 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 a more successful and much easier task. This is especially important in places oily soil is prevalent, such as the areas near streets or asphalt parking lots, and those around certain messy electronic manufacturing operations, SMT lines and Cleaners. Solder and production soil forms a sticky material similar to varnish which traps and holds dry soil and may become nearly impossible to remove as it ages. And remember, damp carpet cleans shoes and collects soil faster. The resulting black discoloration in the traffic lanes will require pre-treatment with a traffic lane cleaner to break down the soiling. It also requires the use of hot, not warm, water to effectively clean the carpet.

The Cleaning System:

When choosing a proper cleaning system, it is necessary to consider how effectively it cleans and how well it enhances the appearance retention of the carpet texture without leaving a heavy residue. GROUND ZERO ELECTROSTATICS, INC. recommends the 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 spraying a solution of water and cleaning agent into the pile and using a powerful vacuum, recovering the used solution and soil into a holding tank. This can be done best from a truck-mounted unit outside the facility. It is important to deliver clean water at a minimum of 200 degrees Fahrenheit to the carpet face.

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, resulting in a carpet that is only damp after cleaning. This feature prevents untrained users from over wetting the carpet to the point that drying time is unacceptable. This type of machine is employed largely by hospitals and schools with in-house maintenance staff. One variation of this equipment continuously recycles the cleaning solution for multiple uses. GROUND ZERO ELECTROSTATICS, INC. does not recommend the use of the equipment because as the recycled solution is reused, the materials dissolved in it are distributed over the whole area.

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To locate a nearby professional carpet cleaner which uses a hot water extraction system call the national referral service listed below:

- Institute of Inspection, Cleaning & Restoration Certification (IICRC) (WA) – 800.835.4624
- Steam away International, 4550 Jackson Street, Denver, CO 80126 – 800.447.8326
  - Must specify hot water extraction cleaner (truck-mounted preferred)
  - Must specify commercial application

Recommendations for In-House Maintance:

If you decide that cleaning by in-house personnel is best, here are some guidelines to follow. For a good reference describing carpet cleaning and hot water extraction method specifically, read the Carpet Cleaning Standard (S001-1991) by the IICRC.

1. Before beginning steam cleaning, thoroughly vacuum the area to be cleaned to remove as much dry soil as possible. Use a pile lifter if necessary in high traffic or heavy soiled areas.

2. Pretreat the heavily soiled areas and traffic lane and wait the recommended time before cleaning. Although it is advisable to minimize the use of solvents, many traffic cleaners do contain some solvent to help remove the stubborn oily dirt often found in traffic areas. A small area should be treated and the liquid extracted before the traffic lane cleaner dries.

3. Use a detergent with a pH of less than 10, preferably near 9, and with a minimum of non-sticky residue. The attraction between the detergent and the particles of soil and oil is critical to the cleaning process. However, the detergent residue continues to attract these particles even after drying. Increasing the amount of detergent beyond the recommended level does not greatly increase cleaning performance, but makes the complete removal of detergent more difficult. Because the build-up of detergent residue is the most common cause of accelerated resoiling complaints, do not use extra. GROUND ZERO ELECTROSTATICS, INC. does not recommend the use of cleaning agents with optical brighteners.

4. Avoid over wetting the carpet. This is controlled by a combination of proper equipment and operator training.

5. Do not use any silicone-based anti-soil treatments on carpet. The only anti-soil products approved for use as needed are formulated with either Dupont's Teflon or 3m's Scotchgard.

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 dry within twelve hours; less is better.

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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.

General Instructions:

Remove as much food spills as possible by scraping 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, as a fuzzy area may result. When blotting, work from the outer edge in toward center of the spot to avoid spreading the spill and enlarging the problem.

Always follow spot removal with a water rinse to remove the sticky residue from the spotter; the residue can cause rapid resoiling. There are spotting extractors that work well for the rinse-and-extract method.

Always draw out the remaining moisture with several layers of white towels weighted down on the spot.

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 ½ teaspoon (no more) of CLEAR, NON-BLEACH liquid hand dish washing detergent to a quart of water in a clean spray bottle OR use a general purpose spotter with a pH less than 10. Spray lightly on to 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 resoiling.
B. As in A, but BEFORE using the detergent, apply a solution of household ammonia (one tablespoon ammonia to one cup water) to a white towel and blot onto spot OR use an alkaline spotter rather than the detergent.
C. GREASE – For oily or greasy spots, blot with white towels to remove excess. Apply a solvent (designed for grease removal) to an absorbent towel and continue blotting. Use sparingly and do not pour or spray on the carpet. DO NOT USE FLAMMABLE SOLVENTS. Follow up with “A” procedure.

QUESTIONS / ASSISTANCE:

If in doubt, call GROUND ZERO ELECTROSTATICS, INC. at 877.463.9376. or visit our website at www.gndzero.com

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