



Floor Maintenance

Key to Controlling Slips and Falls

According to the Bureau of Labor Statistics (BLS), in 2014 there were more than 316,650 nonfatal cases of falls involving days away from work in the United States. And the National Safety Council (NSC) reports that the average cost for a slip and fall injury is \$28,000, when factoring in medical bills, physical therapy and missed wages. While these losses are often perceived to be uncontrollable, employers can do many things to manage these types of claims – they truly are preventable if employers choose to focus their efforts and resources on the causes of these accidents.

While there are many loss drivers which may precipitate a slip/trip/fall accident, employers need to canvass their operation and identify potential loss sources to determine what necessary controls or procedures would be needed to prevent a slip, trip or fall. Often, the floor surface that employees walk across can be a potential source of slip/trip/fall accidents. This document will focus on how employers could effectively control these losses related to the floor surface.

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Workplaces offer a variety of floor surfaces within a work environment. These can range from carpet, vinyl, marble, terrazzo, ceramic, wood, concrete and beyond. Many times, employees are faced with multiple floor surfaces that each present varying slip/fall hazards as the condition of their surface changes. Floor surfaces will wear over time, and their longevity and condition can be directly tied to the care and maintenance they receive on a regular basis.

Floor Maintenance

The implementation of a floor maintenance program is an important aspect in managing the wear and condition of different types of floor surfaces. Keeping floors clean maintains the desirable walking surface features of that surface and can help control the overall wear over time. Almost all commercial flooring manufacturers detail floor care and maintenance guidelines to ensure optimal performance of their product. This information provides direction to companies in selecting floor care products that reduce liability from a floor surface hazard as well as providing a quality floor cover. There are certain floor finishes and detergents that will actually improve the slip resistance of the floor product.

Floor Maintenance Program

The first step in a floor maintenance program would be to follow specific guidelines provided for the floor surfaces that need to be maintained. Again, the manufacturer of most commercial surfaces will provide an outline of the process and products that will clean and maintain their floor product. While each manufacturer may have their own specific guidelines, included here are some examples of processes and frequency:

- **Daily Maintenance** — Dust mopping, wet mopping, auto-scrubbing and spot mopping will keep most hard floor surfaces in good condition. Frequent spot mopping is especially important as it is one of the best ways to control slip/fall hazards by eliminating the exposure when first observed. A floor cleaning schedule should be identified based on floor conditions that present themselves during the workday. Frequency should be dictated by hazards that develop during the day as well as recommendations from the floor manufacturer.

- **Wet Cleaning** — There are many types of floor cleaning products available in the main categories of alkaline, acidic and neutral pH products. These products act upon the contaminants and break them down so they can be removed by simply rinsing the surface.
 - **Alkaline cleaners** react with fats and oils and convert them into soaps and should be thoroughly rinsed with clean hot water. They're good at removing greases and oils and may also be effective in removing some sealers, finishes and waxes. Alkaline cleaners are often used in restaurant floors, kitchen floors, and dining-area tile floors.
 - **Acidic floor cleaners** work to remove scale, rust or oxides from floor surfaces. Acid-based cleaning products work best on ceramic and porcelain tiles and grout floors. When mixed with warm water, these cleaners will remove surface contaminants. Use of mechanical scrubbing or brushing will remove contaminants that gather in the pores and valleys of the floor surface.
 - **Neutral pH cleaners** are traditionally used on resilient flooring, such as marble, terrazzo and granite floors, and won't interfere with the mineral composition of the floor surface. Neutral cleaners will not damage the floor surface as alkaline or acidic treatments may. As with most floor cleaning products, the key aspect of the process is the floor rinse activity. This will remove loosened contaminant and remove any residual floor cleaning product, which can contribute to the floor slipperiness if not thoroughly rinsed with clean water.
 - **Ample drying time** is an important aspect of keeping floors safe during the cleaning process. Remember, when using chemical cleaners to always follow the manufacturer's recommendations for proper use of Personal Protective Equipment (PPE) when handling products.
 - **Whenever wet cleaning a floor**, proper protection and limiting employee traffic in these areas is critical. Until the floor can be properly cleaned, rinsed and dried, the work area should be cordoned off to limit employees from traveling in that area. Additionally, "Wet Floor" signs should be placed at both ends of the cleaning area and in front of the area to be easily visible before arriving to the work area. Consider the use of pylons, cones and warning tape to clearly identify the work area. Reserve major floor cleaning processes during off-peak hours, when there are few employees on site.
 - **Floor Stripping** — Over time, the finish of floors may lose their luster. This dull appearance can be a product of many applications of floor cleaners and floor treatment products. At some point, the best method to improve the floor surface is to strip off all of the old waxes and treatments. However, this process can be a source of many slips and falls, as the stripper tends to make floors extremely slippery until that material is removed and the floor is cleaned and dried. Employees engaged in stripping activities should be cognizant of the slip and fall exposure that exists, wear proper footwear, and focus on taking small steps, keeping their weight over their feet. The area being stripped should be properly cordoned off, appropriate signage provided and work performed during off-peak hours if possible.
 - **Burnishing** — To maintain a floor's luster and cleanliness, the burnishing process can remove loose finish and dirt and replace the floor with a smooth, clean and glossy finish by leveling and filling scratches in the floor surface.
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Documentation

Floor cleaning and conditioning is an important step to reducing slip and fall injuries within any facility. Having a written program in place is essential in outlining roles, responsibilities and processes to be followed within the program. Documenting floor cleaning and conditioning activities is an important key to prevention, as it details when floors were last cleaned or conditioned and highlights recurring issues with a floor surface or unexpected spills. Documentation should include products used, cleaning procedures, frequency, dates, employees involved and dates and times of floor surface inspections.

Many floor manufacturers actually recommend burnishing to increase and maintain a floor's slip-resistant properties. Floor burnishing typically uses a floor buffing solution, various floor scrubbing pads and a high-speed floor buffing machine. Despite the public misconception that equates shine with slipperiness, most manufacturers actually recommend burnishing to increase and maintain slip-resistance. Employees engaged in floor burnishing activities should be cognizant of the slip and fall exposure that exists, wear proper footwear and focus on taking small steps, keeping their weight over their feet. The area being burnished should be properly cordoned off, appropriate signage provided and work should be performed during off-peak hours if possible.

- **Spill Plan** — Nearly every organization is faced with a scenario where some substance, liquid or other material is spilled on a walking surface. The manner in which they react to such spills will directly correlate to the number of instances where employees slip or fall when coming in contact with an unexpected spill. Organizations that have specific processes in place to deal with unexpected spills and who react immediately upon identification of a spill stand a far better chance of preventing injuries. A formal "Spill Plan" should be developed with specific processes and responsibilities for cleaning up unexpected spills — from signage and barriers to tools and equipment that effectively clean up a spill.
- **Inspection** — Routine inspections of all floor surfaces for wear, condition, worker habits, damage and the effectiveness of the floor care program should be done. Inspections should be documented with clear instructions provided on the areas to be addressed within the floor maintenance program. After a floor has been cleaned, stripped or burnished, take time to inspect the floor to ensure it exhibits proper slip-resistance. Use of improper cleaners or compounds can increase the slipperiness of the floor. If these situations arise, check the product to ensure it is compatible for the floor surface.
- **Training** — An effective floor maintenance program should include training and educating those responsible for directing, inspecting and providing service to various floor surfaces. Training should include the floor care surface cleaning requirements, cleaning procedures, safe use of floor cleaning equipment, safe chemical handling procedures and disposal, and proper documentation of floor cleaning activities.
- **Slip and Fall Accidents and Near Misses** — Investigating slip and fall accidents or near misses which may relate to a floor surface can provide useful information that can be incorporated into the floor maintenance program. Maybe a process in an operation creates a floor condition that needs a special cleaning procedure, or maybe floors are not being effectively cleaned with the current cleaning product. These investigations will hopefully identify where modifications to housekeeping efforts can prevent a future accident or near miss.

