

# Floor Mats: A Key Component of Your Slip and Fall Prevention Strategy

*How several new standards could impact your restaurant's floor safety program and what you need to do to protect your business, workers and guests*

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The statistics are staggering. The National Safety Council estimates that more than 25,000 slip and fall accidents occur every day in the U.S. In one month, that equates to approximately the same number of people in Indianapolis. Ranking second to motor vehicle accidents as an accidental cause of fatalities, slips and falls are a leading cause of accidents and injuries – and they are easily preventable.

Two factors usually contribute to a slip and fall accident – unsafe conditions and a general unawareness of potential risks. As a foodservice operator, you can implement a slip and fall risk control policy, but if it's not reinforced by a trained team of workers, that policy means very little and will unlikely hold up in a court situation.

While floor mats can play a key role in your slip and fall prevention strategy, they can also be a potential hazard if mats are not placed in the proper location or are not regularly maintained. This white paper will highlight the risk of not using matting as a part of your floor care program. It will also examine key considerations you should make in the development of your matting program and strategies for engaging employees to help keep your restaurant safe.

### Don't Have a Matting Strategy? That Could Cost You.

In 2012, the American National Standards Institute (ANSI) B101 Committee on slip, trip and fall prevention released its latest update to walkway safety standards. Developed in conjunction with representatives from the National Floor Safety Institute (NFSI), the ANSI/NFSI B101.6-2012 Standard Guide for Commercial Entrance Matting in Reducing Slips, Trips and Falls specifies criteria for the selection, installation, inspection, care and maintenance of entrance mats and floor runners in commercial facilities.

Robert J. Moran, chairman of the ANSI B101.6 sub-committee and chairman and chief executive officer (CEO) of Ludlow Composites, a manufacturer of commercial floor matting, states, "This standard not only covers where and how mats should be deployed, but also identifies the hazards associated with improper mat placement and use. We also believe that the standard will soon be adopted by the insurance industry and will serve as an important tool in preventing their insured's growing mat related trip-and-fall problem."

The Occupational Safety and Health Administration (OSHA) is also set to release a new set of updates related to slips and falls, 29 CFR 1910, subparts D and I “Walking Working Surfaces and Personal Fall Protection Systems (Slips, Trips, and Fall Prevention).” Set for release later this year, it is anticipated that the regulation will closely follow several ANSI standards.

Ultimately, if a slip and fall accident happens in your place of business (by either a worker or patron), you could have a tough time defending your operations if you don’t execute due diligence in providing a safe environment and developing a matting program that complies with B101 or OSHA standards. The costs from a slip and fall incident can quickly add up. A recent NSFI study indicates that the industry spends over \$2 billion on such injuries each year and that these injuries are increasing at a rate of about 10 percent annually.

In addition to potential litigious risks, studies have shown that a slip and fall incident could also cause patrons to second guess dining at your establishment. A national survey of more than 1,000 Americans found that nearly one in three adults – or 60 million Americans – would be unlikely to dine out at a restaurant at which they knew someone had recently experienced a slip-and-fall accident.

Ultimately, not having a matting strategy in place to help reduce the opportunity for a slip and fall accident is risky business.

### Did you know?

The most steps tumbled down in a stunt stair fall is 134 set by Joaquín Ortega at the Hermitage of the Christ of Bielva in Cantabria, Spain, on November 17, 2006.

— Guinness Book of World Records

## Finding the Right Spot for Mats

Once you’ve decided on developing a matting program, the next step is to identify where to place mats. Excess moisture, grease and dirt are three primary contributors to most slip and fall accidents – and every restaurant is different. By identifying potential areas where these materials enter or gather, such as the front door of the restaurant, by a loading dock or beverage stations or around the ice machine or cooking stations, you can start to see logical places where matting should go.

Breaking up your facility into zones can also help you identify the best locations for matting:

- **Entrance Zones**

According to the Institute of Industrial Launderers, 80 percent of dirt is tracked into a building from outside. Therefore, the essential first line of defense is to have maximum coverage at the entrance to absorb contaminants including dirt and water. The Carpet and Rug Institute (CRI) recommends that a minimum of 12 to 15 feet of mat coverage should be provided to remove 90 percent of tracked soil (or moisture). Mats should be placed at the front entrance, back doors, side doors and employee entrances.

- **High-Risk Zones**

High-risk zones are areas with a high probability of attracting contaminants such as dirt, moisture and grease. These areas include transitional walkways such as from the bathroom to the hallway or walkways leading from the kitchen or dishwashing areas. Additional areas to consider include around ice machines and prep sinks in the back of the house. Placing mats in high-risk zones will protect the floors from becoming slick to help eliminate slips and falls.

- **High-Traffic Zones**

High-traffic zones are areas with the most foot traffic. These include hallways and areas in front of time clocks, leading out of the kitchen and check-out stations. Properly protecting these areas with mats will reduce wear and track patterns and will also enhance your organization's image and reduce housekeeping costs.

- **Productivity Zones**

Mats protect floors, but they can also improve productivity. By using the right type of matting such as anti-fatigue mats or massage mats at work stations or customer service areas, you can help reduce fatigue and improve employee morale.

Once you have established the locations for matting, it's also essential to determine the number of steps needed to trap contaminants so they don't enter the building. Figure 1.1 offers a baseline recommendation for the total length of matting based on weather conditions.<sup>i</sup>

Weather Conditions	Number of Walking Steps	# of Feet Based on an Avg. 30-Inch Pace
Snow	10-12	25-30 feet
Rain	8-10	20-25 feet
Dry	6-8	15-20 feet

**Figure  
1.1**

In a September 2013 article for *Cleaning and Maintenance Management Magazine*, Russell Kendzior, NFSI founder, outlines several components of the new ANSI/NFSI standard, which include placement strategies.

The standard states that is important that property owners and managers provide “careful review of measurement results indicates a hazard potential, specifically due to the involuntary presence of grit, moisture or dust, management shall place mats in those areas.”<sup>ii</sup>

Ultimately, it’s important to use every resource at your disposal to help develop a customized program for your business. From the B101.6 standard to expertise offered from your matting provider, gather as much input to identify the best locations for mats in your restaurant.

## Which Mat Works Best?

One of the first considerations in determining the best mat to use is establishing whether or not the mat is certified as “high traction” as rated by the National Floor Safety Institute (NFSI).<sup>iii</sup> Mats without this backing are more prone to movement or “migration,” which can contribute to a slip and fall. They can also buckle, ripple or curl, which can also pose risks to building occupants. When you use a mat that’s been certified as High Traction, you have the assurance that the mat’s backing provides the highest level of slip resistance.

According to Kendzior, mats located outside a building “should either be a recessed mat, a scraper or a wiper-scraper mat which can either be loose laid or permanently installed with a recessed well mat/foot grille.”

Kendzior goes on to note that the interior mat selection will be dictated by the exterior matting used. “When a scraper mat is used outdoors, then the matting in the vestibule shall be a wiper-scraper or wiper only mat,” he advises.

He goes on to note:

- If a scraper mat is not used outdoors, the interior (vestibule) matting should either be a scraper only or a wiper-scraper.
- When a scraper is used outdoors, the matting indoors shall be a wiper-scraper or a wiper mat.
- When no scraper mat is used outdoors, the indoor matting shall both scrape and wiper mats shall be the second mat at the entrance.

In addition to placing mats around building entryways, you should also place carpet mats in other high-risk zones, such as transition areas where there’s a potential for soil to transfer from one to the next. This would include areas leading from the kitchen or expo areas or around restrooms. These mats can help absorb moisture or contaminants.

Kitchen matting, equipped with drainage holes to capture dirt and contaminants, can be effective around cooking areas. This helps keep food and liquids dropped on the floor from becoming a potential slip hazard.

In addition to mats placed to improve safety and reduce wear patterns, you can also use mats to improve worker comfort and productivity, as noted in the placement section. Anti-fatigue mats are designed for comfort and effective around hostess, coat check or checkout stations—anywhere someone may be standing for an extended period of time. This can help boost employee morale and improve the overall image of your restaurant because workers aren’t as compelled to sit down after extended periods.

## How to Maintain Mats

Using the right mats in the right location is only half the battle. You also need to properly clean and maintain them in order to keep them from curling or acquiring so much dirt that they have an “ink pad effect” and spread contaminants across a facility—or worse, become a slip and fall hazard.

In “Controlling Slips and Falls in Restaurants,” ISSA, a worldwide cleaning industry association, and Alliance, an OSHA cooperative, highlight the importance of proper mat maintenance:

## 12 Steps to Safe Floors A Checklist for floor safety

- ✓ Protect entryways
- ✓ Position mops for easy access
- ✓ Assign someone to oversee the effort
- ✓ Clear exterior walkways
- ✓ Consider microfiber
- ✓ Protect high traffic and transitional areas
- ✓ Focus on puddle zones
- ✓ Increase mat rotation frequencies
- ✓ Educate staff
- ✓ Recognize star performers
- ✓ Deep clean

“Ensure that permanently installed features like carpet runners and mats are included in the maintenance and housekeeping program. These materials need to be regularly inspected for the buildup of contaminants and deterioration that could lead to the creation of fall hazards. Keep in mind that while mats reduce the likelihood of producing slips, improperly maintained mats can create trip hazards.”<sup>iv</sup>

Many foodservice operators believe that vacuuming their mats is enough to remove the dirt; however, a study by Georgia State University found that a vacuum cleaner will only remove approximately 10 percent of the dirt in mats.

Most mat maintenance programs include four key components:

- Walk-Around Surveys – Conduct regular visual assessments to identify soil loads or potential wear and tear issues. Travelers Insurance recommends looking for “mats with curled edges, tears or warps.”<sup>v</sup>
- Daily cleaning – Vacuuming mats on a daily basis at minimum to remove surface debris. Encourage staff to clean mats and floors after any high-traffic periods, such as lunch or dinner service. Rinse off rubber mats with water to remove any dirt or organic soils.
- Rotation – Have an adequate supply of mat inventory available so you can replace soiled mats during inclement weather or high-traffic periods.
- Laundering – Establish an ongoing schedule for laundering floor mats based on traffic patterns. While some mats can be rinsed off, carpet mats should be professionally laundered or cleaned with a commercial carpet extractor to protect backing.

To ensure mats are always in peak condition, many restaurants opt for a serviced mat program where professionals visit their facility to replace mats and professionally clean them on a regular basis to maximize performance.

## Engaging Your Staff

While mats will play a significant role in your slip and fall program, restaurant staff must be able to understand why slips and falls occur and able to immediately address hazards. To help identify these hazards, they need to be educated and engaged.

ISSA and Alliance offer the following suggestions for training workers:

- Train employees about established safety procedures, cleaning operations and inspection procedures.
- Train workers to apply floor cleaning and maintenance products in accordance with the manufacturers' recommendations.
- Post written slip and fall prevention and accident handling policies in conspicuous places.
- Keep records of all employee training including individuals trained, subject matter covered, training materials and the date of training.

In addition, keep possible "hot zones" or risk areas top of mind for staff to help them be alert for slip and fall hazards. Make one person responsible for identifying these hazards during peak business periods and have a clear team and protocol for immediately cleaning up and removing spills.

In addition, you should also keep tools for cleanup easily accessible so workers can quickly retrieve them. For example, to clean up spills from hard floor surfaces, you should have cleanup tools such as a microfiber mop available in each area of the restaurant (e.g. lobby, dining room, expo areas).

For employees to be committed, you also need to be engaged. Regularly reinforce the importance of preventing slips and falls during team meetings and recognize key players on your team who assist in keeping restaurant floors clean and safe from risks.

## Time to Define or Refine Your Matting Program

There's no question that too many slips and falls happen. To help reduce the number of incidents, new standards are taking aim at facilities to develop procedures that help prevent their occurrence. Ultimately, these standards can also help protect your business if you follow them correctly.



Your matting program will play a significant role in your slip and fall prevention efforts. By placing matting in the proper areas and ensuring it is properly maintained, you can help protect your business, workers and patrons. Unfortunately, there's no one-size-fits-all approach to matting. For example, a matting program at the Cheesecake Factory in Los Angeles will differ from a matting program at a bagel shop in Boston. In addition, the conditions impacting your mats will also vary based on traffic, seasonal conditions and daily maintenance practices.

Working with a matting service provider helps take the guesswork out of developing and maintaining your program. They will come in and conduct an audit of your facility to identify potential risk areas, wear patterns and other conditions that will impact the placement of your mats. In addition, they will develop an ongoing maintenance program so you always have clean, laundered mats available. Identify vendors who place an emphasis on safety and use NFSI-approved mats for optimal traction.

<sup>i</sup> Wolf, D., "Keep It Clean By Being Up Front," Professional Retail Store Maintenance, Sept. 1998

<sup>ii</sup> <http://www.cmmonline.com/articles/print/231773-explaining-the-new-floor-mat-standard>

<sup>iii</sup> Reference NFSI 101-C Test Method for Measuring Dry TCOF of Floor Mat Backing Materials for more information on backing ratings.

<sup>iv</sup> <http://www.issa.com/data/File/osha/Rest%20Slips%20Checklist.pdf>

<sup>v</sup> "Slip, trip and fall risk management" white paper, updated June 2013, p. 4.