Facility Safety

# 5 Ways the Right Floor Mats Can Help Reduce Workplace Injuries

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## What You Need to Know

A floor matting system can reduce the risk of potentially deadly or injurious slips, trips and falls.
Matting can also provide drainage and dry work surfaces in wet work environments, such as facilities with frequent oil spills or overspray.
Anti-fatigue floor mats can reduce the effects of prolonged standing, reducing absenteeism and increasing productivity.
High-visibility floor mats can designate safe work zones or highlight areas where caution is needed.
Specially designed mats can protect employees from electrocution or protect delicate equipment from electrostatic discharges.

**Get to know the many pivotal ways matting on the manufacturing floor can protect workers from slips, trips, falls and electrical shock, and be a big boost to worker productivity.**

When it comes to improving the safety and productivity of a manufacturing facility, ***matting*** can play a key role. But having an effective matting system means more than just dropping floor mats haphazardly in workspaces. That's because many spaces have unique matting needs, from improved visibility to drainage in spill-prone areas. Those varied needs require mats made from different materials and with different textures.

A few safety standards provide guidance on matting. Most generally, the Occupational Safety and Health Administration ***Standard 1910.22 Subpart D, Walking-Working Surfaces*** states that all places of employment and all walking and working surfaces must be kept in a clean, orderly and sanitary condition. Workroom floors must be clean and, "to the extent possible," dry. When wet processes are used, OSHA says there must be good drainage and dry standing places where possible. These could be platforms, false floors or mats.

How can matting help meet that standard and improve the safety and productivity of a facility? Here are a few important ways:

## 1. The Right Matting Provides a Safer Walking Surface on Slippery Areas

In 2016, there were 849 fatal work injuries and 229,240 nonfatal injuries from slips, trips or falls, according to the ***U.S. Bureau of Labor Statistics***. In manufacturing, 19 percent of lost workdays that year were the result of falls, slips or trips.

"Slips and falls are a major and real concern in the workplace," says John Moughler, vice president of marketing and sales at Wearwell, an industrial flooring and matting manufacturer. "A lot of times people don't think of same-level falls as being particularly dangerous. But they are."

The National Safety Council's "2017 Injury Facts" shows that slips, falls and trips accounted for 27 percent of days away from work, second only to overexertion and bodily reaction. In addition, the cost of injuries from slips, falls and trips averages more than $45,000 per ***workers' compensation claim.***

Mats are one way to manage slip-and-fall risks.

"Matting can play a major role in preventing people from slipping, particularly on concrete floors that have an oily overspray on them or any other kinds of slippery conditions," Moughler says.

### Find the Right Matting for Your Work Environment

Would you like some help finding the right matting for your facility? Use our ***interactive matting selector*** to take out the complexity and narrow down your options. From anti-fatigue to ESD, there is a ***wide variety of matting*** to meet your needs.

The type of floor mat needed will depend on the environment and the materials being used. While natural rubber matting is inexpensive and works well in dry areas or areas wet from just water, it won't fare well with chemicals.

"When you get into chemicals and oils, you're going to have to graduate to a higher-level compound," Moughler says. The most common one of those is nitrile, which is resistant to many common chemicals. More specialized synthetic mats are resistant to cutting fluids.

A mat's slip-resistance is measured by the coefficient of friction, the amount of force that must be applied before an object slips. OSHA ***recommends*** (but does not require) a COF of .5 in dry areas and .25 in wet areas. The Americans with Disabilities Act recommends a COF of .6 on flat surfaces and of .8 on ramps.

Materials like ground-up glass can add grit and grip to the surface of a mat, and textures on the surface can also increase the slip-resistance.

## 2. The Right Matting Can Help Drain Spill-Prone Areas

Wet work areas can contribute to slips and falls, and things get even trickier when oily substances or lubricants are involved. While some mats just improve traction, others can help drain water or other slip-making materials.

Moughler says mats for wet areas are designed not to be absorbent, but to allow fluids to move through them. "We put drainage holes in the mat so the fluid washes through the mat to the floor underneath, so it doesn't lay on the surface and be slippery for people," he explains.

The mats need to be picked up periodically so the area can be cleaned.

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## 3. The Right Matting Can Reduce Absenteeism and Improve Productivity

Moughler says mats do more than provide a nonslip surface: They can also reduce the number of days away from work for employees who spend a lot of time on their feet.

“When you work on concrete day in and day out, it has a deteriorating effect on the muscles, primarily in your legs and your lower back,” he says.

Standing on a hard surface can lead to leg pain, back pain and varicose veins, among other issues. The problems don’t happen suddenly, but accumulate over time. And once employees are suffering, they start calling in, unable to work.

Anti-fatigue mats, typically made with a layer of sponge, help reduce the stress of prolonged standing. Moughler says chemically resistant versions create a similar soft feel underfoot by using solid plastic or rubber with an underside designed to flex.

Studies have confirmed the benefits of anti-fatigue mats. A ***University of Michigan study*** showed the use of mats reduced perceived discomfort during prolonged standing. And one ***Wearwell study*** showed a 23 percent reduction in absenteeism over two years after the installation of mats, and a 2.2 percent net increase in overall worker productivity.

## 4. The Right Matting Can Improve Visibility

“Strategically placed high-visibility floor mats allow people to easily see where it is safe to stand and work,” says Phil Lorcher, a marketing manager for Durable Corp. in an article for ***EHS Today***. Mats can be used to designate safe work zones or highlight areas where caution is needed.

According to the ***United States Access Board***, safety yellow (also known as “federal yellow”) is a highly detectable color, and creating higher contrast between the warning surface and the surface next to it increases that detectability. A high-visibility floor mat is also less of a tripping hazard, notes the ***National Safety Council***. To increase visibility, some mats can be custom printed with words of warning (such as “Caution” or “High-voltage area”) or in custom colors.

## 5. The Right Matting Can Inhibit Static Buildup and Reduce the Risk of Electrocution

Two types of mats provide ***protection from electricity***, says Moughler. Electrostatic dissipative mats and electrically conductive anti-static mats are designed to protect sensitive electronic equipment by drawing potentially damaging static electricity out of the body of a person standing on the mat.

“It completes the current in your body all the way through the mat and it grounds out to a grounding

point in the floor, drawing the electricity out to that ground point," Moughler explains. The mats only work if the person standing on them is using the proper equipment and the mat is grounded appropriately.

The requirements for ESD mats are covered under the standard ***ANSI/ESD S20.20-2014*** Protection of Electrical and Electronic Parts, Assemblies and Equipment (Excluding Electrically Initiated Explosive Devices) [download information ***here***], which states that conductive and dissipative flooring must have a resistance to ground of more than $1x10^9$.

The second type of mat, a nonconductive mat, is often referred to as switchboard matting. These mats prevent machines with high voltage from electrocuting someone standing nearby. They are the exact opposite of ESD mats: ESD mats ground the person standing on them, whereas switchboard mats make sure the person is not grounded. Switchboard mats most often meet the standard described in ***ASTM D178-01-2010***.

Just remember, the right mat in the right place can improve the safety of your workers and even impact your bottom line.

***How do you use protective floor mats in your facility? Share your experiences.***

 