



Facility Safety

A Guide for Prolonged Standing at Work: Anti-Fatigue Mats

Gillian Scott | May 03, 2018

What You Need to Know

Prolonged standing can cause a variety of health issues, including back and leg pain. Injuries caused by prolonged standing can lead to absenteeism and lower productivity. Anti-fatigue mats reduce stress for workers by offering a soft yet supportive surface on which to stand. Studies have shown that the use of anti-fatigue mats can reduce the impact of standing for long periods of time.

Nagging pain and injuries contribute to absenteeism which has a real business cost. Anti-fatigue mats can offer relief to manufacturing workers who spend long periods of time on their feet—and can help reduce work absence.

Being on their feet for hours and hours every day is a fact of life for many manufacturing workers. Even if they're not involved in dangerous processes, these prolonged periods of standing can lead to cumulative injuries—from painful legs to sore backs—and absenteeism. Providing anti-fatigue mats is one way employers can help ease the discomfort of prolonged standing.

The Occupational Safety and Health Administration does not have regulations or standards specifically for anti-fatigue mats, but in its "*Ergonomics*" publication, the government body recommends their use for employees who need to work in uncomfortable positions.

The Human Cost of Standing in the Workplace

Standing for longer periods causes more than simple discomfort—it has measurable health impacts. A *study* published in *Rehabilitation Nursing* reported that prolonged standing at work can lead to "lower back and leg pain, cardiovascular problems, fatigue, discomfort and pregnancy-related health outcomes." Back pain was the most commonly reported issue, followed by neck and shoulder pain.

Similarly, the *Canadian Centre for Occupational Health and Safety* says working in a standing position can cause sore feet, leg swelling, varicose veins, muscle fatigue, low back pain, stiffness in the neck and shoulders, and other health problems.

“Keeping the body in an upright position requires considerable muscular effort,” CCOHS says. “Standing effectively reduces the blood supply to the loaded muscles. Insufficient blood flow accelerates the onset of fatigue and causes pain in the muscles of the legs, back and neck (these are the muscles used to maintain an upright position).”



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Signs You Need to Replace Your Mats

Like most pieces of equipment, anti-fatigue mats don't last forever. As they break down, their effectiveness decreases. If mats develop tears or curling edges, they can actually become tripping hazards and result in employee injuries.

John Moughler, vice president of sales and marketing for Wearwell, says his company provides an average life cycle for each of its mat products, but a mat's actual life span will vary from application to application.

That said, Wearwell recommends that mats be inspected at least once a year.

Look for:

- Surface wear and tear
- Curled or torn edges
- Tears in the surface
- Uneven surface
- Foam that is compressed and doesn't spring back

Moughler says it may be helpful to get a sample piece of the mat product and use it for comparison purposes.

“When you're standing in the same place every day, those tiny little changes are hard to perceive,” he says.

The Business Cost of Prolonged Standing in Manufacturing Jobs

Acute injuries—such as sprains and lacerations—occur suddenly. In contrast, health problems caused by prolonged standing are counted as repetitive stress injuries—those that occur because of cumulative stress—which are a type of musculoskeletal disorder, or MSD. According to the *Bureau of Labor Statistics*, MSDs, including strains and sprains, accounted for 37 percent of cases of on-the-job injuries and illnesses, and required an average of 10 days away from work for recovery in 2015.

Even when the pain from prolonged standing doesn't result in lost workdays, it can cost a company. A ***Safety and Health at Work*** study found that the discomfort and fatigue resulting from prolonged standing was a factor in "the decline of alertness, mental concentration and motivation."

"In a worst-case scenario, the effects of prolonged standing may result in performance decrement, such as low productivity and efficiency, increased medical costs, and demoralized workers," note the study's authors.

An ***older study*** from the Journal of the American Medical Association found that common pain conditions such as headaches and backaches led to lost productive time, costing businesses an estimated \$61.2 billion per year. More than 75 percent of that lost time was due to lower productivity, not work absence.

Want to learn more about the standards and safety uses for matting beyond fatigue? Read "5 Ways the Right Floor Mats Can Help Reduce Workplace Injuries."

Foam to the Rescue: Anti-Fatigue Mats

The CCOHS suggests that workplaces that require workers to stand for long periods of time address the issue in several ways: offering workers an opportunity to change their working/standing position frequently where possible; making sure workers have footwear that offers adequate foot and arch support as well as cushioning; and using, where possible, flooring that has more elasticity, such as wood, cork, carpeting or rubber.

Anti-fatigue mats are typically made with a layer of foam or sponge, providing a soft yet still supportive standing surface. John Moughler, vice president of sales and marketing at Wearwell, an industrial flooring and matting manufacturer, says chemically resistant versions create a similar soft feel underfoot by using solid plastic or rubber with an underside designed to flex.

Writing for OH&S, Allan Shelley, vice president of sales and marketing at SATECH Inc., a manufacturer of cushioning technology, says mats need to balance comfort with support. "There must be enough instability to encourage small postural changes that facilitate increased blood flow to and from working muscles, but not so much that it requires excessive muscular activity that might accelerate fatigue," he says. "Extreme levels of instability, caused by overly soft mats, increase the risk of loss of balance and affect overall body posture."

"Where we saw the reduction in absenteeism was fewer people calling in and saying, 'I can't come in today because my back hurts.' ... Those are the kinds of latent cumulative effects on your body from not having an optimal surface to stand on over a long period of time."

John Moughler

Vice President, Sales and Marketing, Wearwell

The Confirmed Benefits of Anti-Fatigue Mats

Studies have confirmed the benefits of anti-fatigue mats. A ***study by Loughborough University*** showed that subjects reported less discomfort in their lower back and lower legs when using an anti-fatigue mat. Similarly, a ***University of Michigan study*** showed the use of mats reduced perceived discomfort during prolonged standing.

The productivity benefits of mats have been proven, too. A study conducted by ***Wearwell*** showed a 23 percent reduction in absenteeism in the two years after the installation of mats, and a 2.2 percent net

increase in overall worker productivity.

Moughler says that for the study, Wearwell provided matting to a company that had previously had employees standing on concrete. "We measured some key indicators before and after the matting was installed to see if there were any changes in outcomes," Moughler says. The 2.2 percent increase in productivity "doesn't sound like a huge number," he admits, "but when you think about the number of hours that that can equate to in a company that has 200 to 300 employees, it really starts to add up."

These are the kind of injuries that accumulate over time that have latent cumulative effects, Moughler finds: "Where we saw the reduction in absenteeism was fewer people calling in and saying, 'I can't come in today because my back hurts.' Or 'I can't come in today because my legs are sore.'"

Do you experience aches and pains from standing on the job? Does your plant use anti-fatigue mats? Share what works for you.

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