The Role of Anti-Fatigue Matting in Practical Ergonomics

Reduce fatigue and injury claims by improving work conditions

We've all felt it - foot, leg and back pain resulting from long days of standing and working. It is one of the most common causes of physical fatigue in the workplace. In fact, apart from headaches, low back pain is the largest cause of pain and physician contact in the United States. So what's being done to end the suffering?

Physical fatigue occurs when muscles are constricted and blood flow is reduced. Because the heart is forced to work harder to pump blood through these constricted areas, the body runs out of energy. The result is pain, discomfort and fatigue. Anti-fatigue mats work by encouraging subtle movement of leg and calf muscles, which in turn, promotes an easier flow of blood back to the heart. This is called "Dynamic Ergonomics" - the study of ensuring standing worker comfort by means of muscle activity.

In a formal study at the Center of Ergonomics at the University of Michigan, Ergonomist Mark Redfern concluded that different standing surfaces can have dramatic effects on physical fatigue. The study involved fourteen subjects at the Ford Chesterfield Trim Plant who were required to stand throughout their entire shift. A variety of floor conditions were tested, from concrete to a 3/8" rubber anti-fatigue mat. The results were conclusive. Workers who were forced to stand on hard concrete floors for long periods of time suffered significant levels of fatigue and discomfort in the legs, back and throughout the body. On the other hand, workers who stood on anti-fatigue mats were able to reduce the level of fatigue and discomfort by as much as 50%!

How do Anti-fatigue Mats Work?

Standing for long periods of time on hard floor surfaces is very uncomfortable and causes physical fatigue. Leg muscles become totally static and constricted as they work overtime to keep that person in an upright position. Blood flow is greatly reduced causing pain and discomfort.

In this situation the employees' heart is forced to work harder to pump blood through these constricted areas and his body begins to run out of energy. However, if a person is allowed to stand on an anti-fatigue mat, his muscles will subtly contract and expand as they adjust to the flexibility of the mat.

This muscle movement increases blood-flow and increases the amount of oxygen reaching the heart. And fatigue is greatly reduced.
How can anti-fatigue matting save you money?

We refer to the aches and pains of long term standing as Cumulative Standing Trauma (CST) - excessive stress on the spine and back muscles due to stagnant body positions or poor distribution of body weight which may cause pain and injury. Fatigue and pain caused by such long term standing is too often overlooked. Unfortunately, workers are suffering the consequences on a daily basis. Companies are losing literally billions each year in reduced productivity, increased worker compensation costs, higher insurance rates and absenteeism.

Since back injuries accounted for 31% of all compensable workers claims in 1994, it is important to not aggravate an existing problem or cause a new one through Cumulative Standing Trauma. CST may also lead to (1.) pronation - the extensive flattening of the foot, which results in arch and heel pain, and (2.) varicose veins caused by the stagnation of blood in lower extremities. All of these problems can ultimately lead to long term and costly health issues. Anti-fatigue mats are designed to reduce the aggravation and injury associated with CST, thereby reducing costs.

The plight of the standing worker is very real. The National Safety Council, in its publication "Ergonomics", recommends the use of anti-fatigue mats, as do numerous ergonomists, industrial hygienists, occupational nurses, risk managers, and loss control agents, safety engineers and insurance companies. Luckily, millions of workers are now benefiting from these recommendations.

The right anti-fatigue mat for the right application can go a long way towards easing the situation and creating a more productive quality driven environment. Making a conscious effort to place employee comfort and protection as a priority will ensure healthier, happier, and more productive employees.

Source: