



Kneeling Mats

Description:

Kneeling mats are used to relieve the pressure on the knee joints that result from kneeling on hard surfaces. Kneeling pads are meant to distribute body weight in kneeling over a larger surface area and protect the knee from hard surfaces.

Workers who kneel put 89% of their body weight on a small surface area. Prolonged kneeling can often lead to injury. Kneeling mats protect the knees by distributing the weight over a larger surface area and reduce the force on the knee caps. Kneeling mats come in a variety of materials.

IMPACTO Large Kneeling Mat

IMPACTO kneeling mat (figure 1) is made with heavy resilient closed-cell foam and has built-in convenient handle.



Figure 1. A worker kneeling on a kneeling mat. (Photo courtesy of Impacto Protective Products Inc.)

- Designed for severe kneeling conditions such as steel, concrete, gravel, grating, wet surfaces, dirt and mud
- Will not compression set or absorb liquids
- Impervious to petroleum products
- Self-extinguishing; meets the 49 CFR 571.302 flammability standard
- Silicone-free
- Easy to clean with soap and water, pressure wash or steam clean
- Dimensions: 8" x 16", other dimensions available

Risks Addressed:

Prolonged kneeling can cause musculoskeletal disorders (MSDs) such as prepatellar bursitis (housemaid's knee), which is swelling on the front of the kneecap. Kneeling mats help protect the knees during prolonged kneeling by distributing body weight over a larger surface area and reducing the force passed on to the knee cap.

How Risks are Reduced:

Workers, who spend a good deal of time in the kneeling position, put 89% of their body weight on a small surface area. Prolonged kneeling can often lead to injury. The rationale for using kneeling mats is to protect the knee by distributing your weight over a larger surface area and reduce the force passed on to soft tissue.

Independent studies have shown an association between musculoskeletal disorders and awkward postures (e.g. kneeling), and contact stresses (e.g contact pressures are concentrated in a small area). Knee pads are used to protect the knee by distributing your weight over a larger surface area and reducing the force passed on to soft and hard tissue.

There have not been independent published studies measuring the effect of using kneeling mats on reducing knee-related musculoskeletal disorders. Regardless, health and safety experts believe that workers will be more comfortably and less likely to develop musculoskeletal disorders if they use kneeling mats due to reduced exposure to known risk factors.

Effects on Productivity:

Reducing discomfort associated with kneeling on hard surfaces for prolonged periods may increase productivity because workers would presumably be able to work for longer periods without standing up.

Contributors:

Dan Anton, PT, PhD, ATC and Cassie Malecha, DPT – Eastern Washington University

Hazards Addressed:

Roofing

- Install asphalt roofs
 - [Kneeling & Squatting \(/roofing/hazard/581/install-asphalt-roofs-kneeling-squatting.html\)](/roofing/hazard/581/install-asphalt-roofs-kneeling-squatting.html)
- Install flashing, rain gutters and downspouts
 - [Kneeling & Squatting \(/roofing/hazard/755/install-flashing-rain-gutters-and-downspouts-kneeling-squatting.html\)](/roofing/hazard/755/install-flashing-rain-gutters-and-downspouts-kneeling-squatting.html)
- Install membrane roofs
 - [Kneeling & Squatting \(/roofing/hazard/741/install-membrane-roofs-kneeling-squatting.html\)](/roofing/hazard/741/install-membrane-roofs-kneeling-squatting.html)
- Install roof sheathing
 - [Kneeling & Squatting \(/roofing/hazard/746/install-roof-sheathing-kneeling-squatting.html\)](/roofing/hazard/746/install-roof-sheathing-kneeling-squatting.html)
- Install roofing battens and underlayment
 - [Kneeling & Squatting \(/roofing/hazard/751/install-roofing-battens-and-underlayment-kneeling-squatting.html\)](/roofing/hazard/751/install-roofing-battens-and-underlayment-kneeling-squatting.html)
- Install tile or shingle roofs
 - [Kneeling & Squatting \(/roofing/hazard/740/install-tile-or-shingle-roofs-kneeling-squatting.html\)](/roofing/hazard/740/install-tile-or-shingle-roofs-kneeling-squatting.html)
- Remove old roofing materials
 - [Kneeling & Squatting \(/roofing/hazard/753/remove-old-roofing-materials-kneeling-squatting.html\)](/roofing/hazard/753/remove-old-roofing-materials-kneeling-squatting.html)
- Use roofing cement, tar, or caulk

- [Kneeling & Squatting \(/roofing/hazard/756/use-roofing-cement-tar-or-caulk-kneeling-squatting.html\)](/roofing/hazard/756/use-roofing-cement-tar-or-caulk-kneeling-squatting.html)

E-mail this Solution to a Friend (/solution_email.php?id=1050)

Print this Solution

Availability

Impacto Protective Products Inc.

To obtain information, visit Large Kneeling Mat (<https://www.impacto.ca/products/large-kneeling-mat/>) or contact 1-888-232-0031 impacto@impacto.ca (<mailto:impacto@impacto.ca>)

Return on Investment

To calculate the return on investment (ROI) for your specific application, please visit our Return on Investment Calculator. (<http://safecalc.org>) While a specific ROI example has not been developed for this particular solution, the ROI Calculator provides a useful tool and guidance on how to generate your own on investment analysis.

