

Why Mips® Brain Protection System for Industrial Safety Helmets

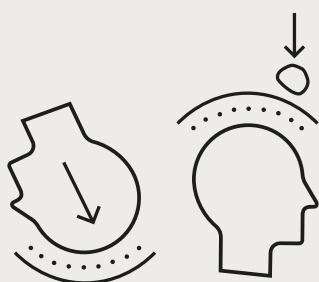


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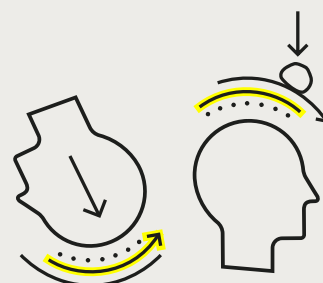
**Also available
in Class E*



Most helmet impacts are off-centered or angled which can cause rotational motion to the head.



Angled or off-centered impacts can cause the head to rotate abruptly. Research has shown that this can lead to concussions and brain trauma.



The Mips® system is designed to help reduce the amount of rotational motion transferred to the head in certain impacts.

5-10ms

The duration of a helmet impact is 5-10ms (for your reference, a blink of an eye takes 100ms) during which time the point load can be as much as 1 ton (2,000lbs), equivalent to the weight of a small car, depending on the impact.

10-15mm

By allowing the helmet to move 10-15mm relative to the head during the initial phase of the impact, the forces generating rotational motion can be reduced.

\$54,571

On a job site, TBIs can have an impact on organization productivity and cost. In fact, according to OSHA, the average direct costs associated with a concussion are \$54,571. (OSHA)

Common Questions and Answers

Q: Does the Mips® safety system have to be replaced?

A: Ergodyne offers replacement suspensions equipped with Mips as well as replacement sweatbands and top pads.

Q: Is the Mips® safety system heavy?

A: The Mips system, consisting of a low-friction layer, weighs between 25-45 grams, which is equivalent to a small bag of chips.

Q: Where is the Mips® safety system located in a helmet?

A: Mips® safety system, also called the Mips® brain protection system for industrial safety helmets, is manufactured and sold already installed into the helmet. It is found inside the helmet and integrated into the Ergodyne suspension system. The Mips system low-friction layer sits between the helmet and the head.

Q: I can already move the hard hat on my head, isn't that enough?

A: Mips technology is designed to allow an omni-directional movement of 10-15mm under immense point load, intended to help reduce the amount of rotational motion transferred to the head in certain impacts. A hard hat may appear to move on your head, but that is generally without any particular load. Under significant point load, which is the case in many accidents impacting the head, most hard hats are not designed to allow movement. Most hard hats and helmets (regardless of if it has a suspension harness or an EPS foam liner) tend to grab onto the head during impacts, with the risk of more energy being transferred to the users head.

Advantages of Mips' low-friction layer technology vs. deforming materials

The Mips® safety system is designed to address rotational motion. Rotational motion is a combination of rotational energy (angular velocity) and rotational forces (from angular acceleration). To predict the risk of brain injury, researchers use Peak Angular Velocity as its considered a good indicator for common helmet impacts. Now, as a reminder, a helmet impact is typically only 5-10ms, so it is crucial that the helmet gives adequate protection under this short duration of time. The sliding motion of the Mips technology is nearly instant, whereas deformation takes time. The disadvantage with technologies that rely on deforming materials is that harmful rotational motion may have already been transferred to the head before the deformation has occurred.

100k+ Helmet tests

Mips is a market leader in rotational protection, backed by science. Mips has performed over 100,000+ helmet tests in its state-of-the-art test lab. On average, over 1,000 helmet tests per month are being performed in the lab.

2021

Ergodyne partnered with Mips to launch the first industrial safety helmet featuring Mips in 2021.



1,000+ Models

Over 1,000 helmet models with integrated Mips technology have been launched across a variety of helmet categories.

