



PROTECT YOUR MELON

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Hard Hat Inspection and Maintenance

The hard hat is one of the oldest, most widely used, and most important pieces of personal protective equipment (PPE) on the job. So, why is it so often misused and abused? There's no question that many workers have been saved from serious injury or even death because they were wearing a hard hat. Even with the best intentions, the effectiveness of any PPE on the job is limited when the product is not properly worn, maintained and replaced when needed. Here are some essential facts you should know about your hard hat.

General Inspection

The hard hat consists of two components: the shell and the suspension. Both require inspection during assembly and before each use. During shell inspection, you should look for cracks, nicks, dents, gouges and any damage caused by impact, penetration, abrasions, or rough treatment. Additionally, if your hard hat is made of thermoplastic (polyethylene, polycarbonate) materials, inspect the shell for the following: stiffness, brittleness, fading, dullness of color, or a chalky appearance. If the shell exhibits any of these conditions or if it is obviously otherwise damaged, it should be removed from service and replaced immediately.

Inspecting for Effects of UV Exposure

Ultraviolet light is the hard hat's worst enemy. Although ultraviolet inhibitors are added to some manufacturers' hard hat shells, all hard hats are susceptible to deterioration from UV exposure over time. This is why it is so important that you never store your hard hat in the rear window of a vehicle, or anywhere that it is exposed to sunlight when not in use. If the work environment exposes the worker and hard hat to high levels of sunlight, the hat should be replaced more frequently.

Many times, outdoor workers wear hard hats in high-visibility colors so they will be more visible to fellow

workers or to oncoming motorists. In these cases, it is especially critical to monitor hard hat color stability during prolonged daylight exposure. Replace hard hats as soon as fading is evident to ensure continued worker visibility and safety.

Field Testing for Degraded Shells

A simple field test can be performed to determine possible degradation of polyethylene shells: compress the shell inward from the sides about 1 inch with both hands, and then release the pressure without dropping the shell. The shell should quickly return to its original shape, exhibiting elasticity. There should be no residual deformation. Compare the elasticity of the sample with that of a new shell. If the sample does not exhibit elasticity similar to that of a new shell, or if it cracks because of brittleness, it should be replaced immediately.

Inspecting Your Suspension

The main purpose of a hard hat's suspension is to absorb the shock of a blow to the top of the hard hat. Considering this, inspection of the hard hat suspension system is equally as important as inspecting the shell but it is all too often overlooked.

The suspension should be inspected closely for cracks or tears, frayed or cut straps, loss of pliability, or other signs of wear. Whether your hard hat has a 4-point or 6-point suspension (the number of keys that are engaged in the hard hat's shell), all keys should fit tightly and securely into their respective key slots. Refer to the manufacturer's instructions on assembling. Any suspension that shows signs of damage should be removed from service and replaced immediately to ensure ongoing protection of the wearer.

Replacement Program

Hard hats have a reasonable service life when used in normal work environments and properly maintained.

However, useful life is not indefinite, and there are some recommended guidelines for hard hat replacement.

Many employers replace all employees' hats every five years, regardless of outward appearance. If the user environment is known to include higher exposure to temperature extremes, sunlight, or chemicals, hard hats should be replaced routinely after two years of use. Most hard hats have manufacture date codes molded on the underside brim of the hat so you can easily determine the age of the hat.

Regardless of length of use, if a hard hat has been struck by a forcible blow of any magnitude, the shell and suspension should be replaced immediately, even if no damage is visible. Dropping a hard hat more than eight to ten feet warrants a replacement. Don't take a chance that it "might" be OK, because it's not worth the risk. Hard hats are designed to provide optimal protection under normal conditions. Any impact can substantially reduce the protection offered.

Warnings and Precautions

- Never alter or modify the hard hat shell or suspension. This can drastically reduce the amount of protection provided.
- Drilling holes in the hard hat shell for ventilation purposes must be prohibited at all times.
- Always avoid contact of the hard hat with electrical wires.
- Never use a suspension that is not intended for use with a particular shell or one that is made by a different manufacturer.
- Never carry or wear anything inside of your hard hat between the suspension and the shell. A clearance must be maintained between the hard hat shell and the wearer's head for the protection system to work properly. A ball hat or other object may limit this clearance. An object placed under the hat may also contain metal parts that may diminish the dielectric protection provided by the hat. There are some products, such as winter liners and sunshades that are designed specifically to work in conjunction with hard hats. Be sure to follow manufacturer's recommendations for the use of these products.

Use of Adhesive Stickers

It has become a common practice for hard hat users to apply self-adhesive stickers to "personalize" their hard hats or for other marking or identification purposes. Considering the type of adhesive used in typical pressure-sensitive stickers, there is very little potential for chemical interaction between the adhesive and the helmet shell. As a result, the use of stickers would not be expected to negatively affect the performance of the helmet under normal conditions.

There are a couple of rules to follow related to stickers. First, adhesive stickers should be placed at least 3/4 inch away from the edge of the helmet. This prevents the possibility of the sticker's acting as a conductor between the outside and inside of the shell if it were to wrap around the brim. Second, the area of the helmet covered by stickers should be kept to a practical minimum to permit regular inspection of the helmet shell for signs of damage.

Hard Hats Worn Backward

There is considerable confusion and misinterpretation about whether hard hats may be worn backward. ANSI/CSA only tests and certifies hard hats to be worn with the bill forward; hard hats worn with the bill to the rear would not be considered reliable protection and would not meet standards unless the hard hat manufacturer certifies that this practice meets ANSI/CSA requirements.

Prior to allowing employees to wear their hats backward, always get written verification from the hard hat manufacturer on whether your hard hat model has been tested and found to be compliant to the requirements of ANSI/CSA when worn with the bill turned to the rear. The manufacturer may specify that proper performance requires the suspension to be reversed in the helmet, so that the headband is oriented normally to the wearer's head (i.e., with the brow pad against the forehead and the extended nape strap at the base of the skull). In this manner, only the shell of the helmet is positioned backward on the head.

Conclusion

If you are ever in doubt about the use or maintenance of your hard hat, contact the manufacturer directly for instructions and recommendations. The cost of maintaining and replacing your hard hat is well worth the benefits.

If the hard hat you put on every day is 10 years old and brittle from age, yet comfortable and familiar, do yourself and your family a favor by retiring it. Set it on your shelf as a keepsake and replace it with a hard hat that can provide the intended protection. ●



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