



Removing PPE from Service

Don't pinch pennies by using PPE that should be discarded.

By Mark Lamendola

How long do you hang onto your personal protective equipment (PPE)? It might be longer than you should. Let's look at various types of PPE and some discard criteria.

Hardhats

Hardhats serve two purposes:

Protect your noggin from impact. Replace the suspension if it's damaged in any way. Replace the entire hat if it is chipped, cracked, or gouged. Employees with long

hair should not wear it in a bun under the suspension, as there's not room for the suspension to work. Either cut the hair or tie it such that it can securely be tucked into the shirt. Replace the hat if it has sustained a significant impact. If you sustain a significant impact while wearing the hat, you could still be injured even if there are no outward signs; it is best to see a medical professional for an evaluation.

Prevent contact with electricity. Supervisors should keep an eye out for overly decorated hard hats. Excess stickers can create a conductive path, and solvent in



paint can make the shell brittle. Dry transfer lettering and spray acrylic will not adversely affect most hard hats, but consult the manufacturer's instructions for your particular hat. Always wear your hard hat when poking your head into a cabinet. The bill provides distance between your face and energized conductors or contacts; never wear the hat backwards.

Safety glasses

These are not expensive. If yours are scratched, replace them even if the company does not pay for that. To prevent scratches, clean them with a microfiber cloth rather than your shirt sleeve or pant leg. A great way to prevent scratches is to keep them on while in the plant or on the construction site. If you invest in a glasses case for them, that will also help them last longer.

Hearing protection

Foam rollups are great if they can expand after being inserted into your ear and they are not dirty. If they do not expand to their original size after being given a few hours to relax, discard them. If they are dirty, don't put them in your ear.

Respirators

Dust masks are not nearly as cheap as they once were, but they still are not a bank-breaker to replace. Keep a pack of them handy so you can replace a dirty one. When a dust mask gets dirty, the wearer will usually "open" it around the nose clip so as to be able to breathe. That defeats the mask. Replace it instead. Cartridge masks usually use activated charcoal. Once the charcoal absorbs the solvent or other toxin, it can't provide further protection. Read the instructions to understand how frequently to replace cartridges, and note this will vary by factors such as the concentration and time of exposure.

Shirt and pants

These are also PPE, but not if they are made of polyester. Microfiber material has many advantages, but this term can include material made with or of polyester. Button the sleeves of long sleeve shirts; if you are working around rotating equipment roll those sleeves up. If the buttonhole is stretched out of shape or a button is broken or missing, either repair the shirt or stop wearing it to work. Discard shirts or pants that look like they are past their service life. The protection they provide from abrasion and other dangers will be minimal at best and

by wearing them you project the wrong image to your employer.

Insulated sleeves

Check for pinholes, and discard sleeves that can no longer protect you.

Insulated gloves

Use the rollup test, and discard gloves that fail.

Arc flash suit

Give it a good visual inspection. First, make sure it has the correct rating for the work per NFPA 70E. Look for any visible damage or a shard of metal. If you see anything wrong, refuse to use that arc flash suit, and report what's wrong. OSHA requires the employer to provide, inspect, and maintain this particular PPE. There is electrical testing involved, and it's a process that's done on a scheduled basis. But in between those tests, a suit can be torn, punctured, or damaged in some other way that you can see. Look for it.

Work shoes/work boots

The boots and shoes available today with both crush protection and electrical protection are a far cry from what they were a generation ago. Advances in materials and construction have made them lighter, stronger, more comfortable, easier to walk in, and even better looking. In addition to protecting your feet from those dangers, the better models help protect your feet from fatigue.

This footwear requires daily rotation from service (never wear the same pair two days in a row), and some basic maintenance. You can clean the interiors with baking soda or use a sprayer to mist some white vinegar inside and then wipe with a clean cloth. Before putting them on and after taking them off, inspect the tops for cuts or punctures, and inspect the bottoms for nails or other objects. And just like car tires, the treads on these wear out. If you have "bald tires" for shoes, have them resoled or replace them.

Harness and lanyard

After each fall, these must be taken out of service and inspected by a qualified person before being put back into service. The employer is responsible for providing and maintaining this gear. It deteriorates with time, so



a record of its age should be kept. Old gear (10 years if never used, three years if used moderately) should be discarded. Always inspect before use; if you see fraying, stitches coming out, or other signs of wear, discard the gear.

Rubber blanket

Check for pinholes, and discard any blankets that fail inspection. Make sure these are never used as rubber mats; that is, they are to be laid over energized equipment rather than be used to stand on. If a blanket is used as a mat by someone, it should probably be discarded.

For any PPE, the most important thing to ensure is that it can still provide to you the protection it was designed to provide. If in doubt, throw it out.

Mark is an expert in maintenance management, having racked up an impressive track record during his time working in the field. He also has extensive knowledge of, and practical expertise with, the National Electrical Code (NEC). Through his consulting business, he provides articles and training materials on electrical topics,

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Prior to starting his own business, Mark served as the Technical Editor on EC&M for six years, worked three years in nuclear maintenance, six years as a contract project engineer/project manager, three years as a systems engineer, and three years in plant maintenance management.

Mark earned an AAS degree from Rock Valley College, a BSEET from Columbia Pacific University, and an MBA from Lake Erie College. He's also completed several related certifications over the years and even was formerly licensed as a Master Electrician. He is a Senior Member of the IEEE and past Chairman of the Kansas City Chapters of both the IEEE and the IEEE Computer Society. Mark also served as the program director for, a board member of, and webmaster of, the Midwest Chapter of the 7x24 Exchange. He has also held memberships with the following organizations: NETA, NFPA, International Association of Webmasters, and Institute of Certified Professional Managers.