



Useful Service Life Of Personal Protective Equipment (PPE)



TOPICS

- HARD HATS
 - SAFETY GLASSES/GOGGLES
 - VOLTAGE DETECTORS
 - RUBBER GLOVES
- 

HARD HATS



- **USEFUL SERVICE LIFE GUIDELINES**

- Manufacturers generally recommend replacement of the shell every two to five years.
- However, recommendations exist for annual replacement of the interior suspension.
- Replacement should always occur immediately if a blow to the head occurs.

There is currently no official standard or regulatory requirement for replacing a hard hat or suspension – only recommendations

HARD HATS



- **USEFUL SERVICE LIFE GUIDELINES**

- Workers in environments with higher levels of exposure to sunlight, heat, cold or chemicals should replace their hard hats more frequently than workers in other environments.
- If the hard hat shell becomes faded in color, exhibits a chalky appearance, or feels stiff and brittle, degradation of the shell may be occurring. A hard hat should be replaced immediately at the first sign of any of these conditions.

HARD HATS



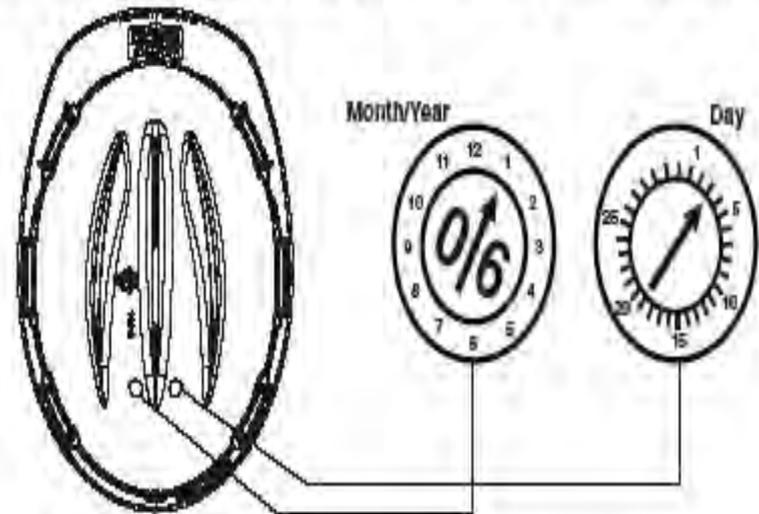
- **Date Codes**

- The date code indicates when the hat was molded. Date codes are molded into the hat shell and they specify the following:
 - Day;
 - Month; and
 - Year the hat or cap was molded.

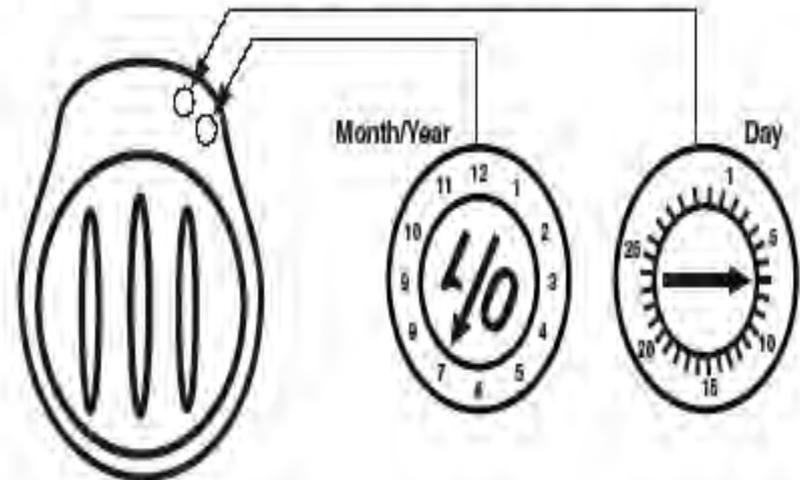
HARD HATS

- The large arrow inside the “Month / Year” circle points to the month, and the two digits inside that inner circle indicate the year.
- The arrow inside of the “Day” circle points to day of month.
- Depending on what model hard hat / cap you have you may find the date code in one of two locations on the hat, on the inside of the shell or the underside front brim of the hat / cap.

Location #1: This example shows a cap that was molded on January 3, 2006.



Location #2: This example shows a cap that was molded on July 7, 2001.



HARD HATS



- **WARRANTY**

- Hard hats generally have a two year warranty from date of manufacture.
- As long as the product is stored properly, according to manufacturer's recommendations, the actual "useful life" of the hard hat does not begin until the helmet is placed in service.

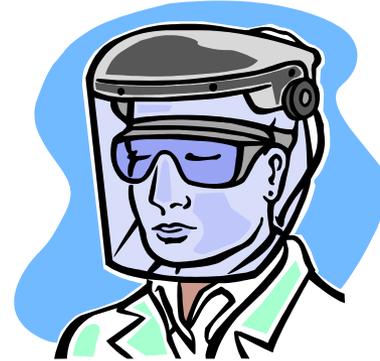
HARD HATS



○ RECYCLING

- Most Hard Hats are made from high-density polyethylene (HDPE), which is a Type 2 plastic for recycling (see marking on the inside of the hat).
- That means the hard hats are recyclable like many other Type 2 plastics such as milk containers, laundry detergent bottles and Tupperware.
- Type 2 plastics are widely accepted at recycling facilities.
- Many High-Heat Hard Hats are made of polycarbonate, which is a Type 7 plastic, which is harder to recycle. Contact your preferred recycling facility to find out if they can accommodate Type 7 plastic recycling.

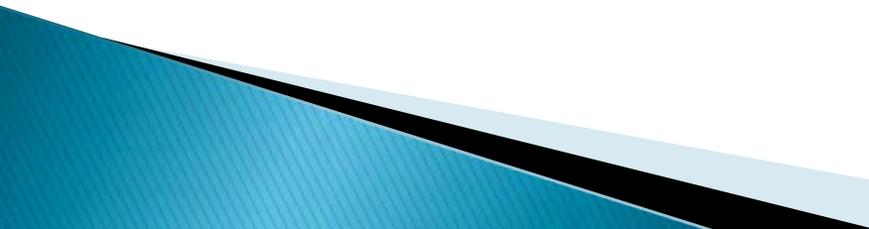
SAFETY GLASSES/GOGGLES



Safety Glasses – Standards

- ▶ United States ANSI Z87.1–2010
(prior 2003, 1997 editions)
- ▶ Canada CSA Z94.3–2002
- ▶ Europe CE (Conforming European)

Safety glasses approvals are stamped/marked on products.



Perforated Goggles – Impact

- ▶ Perforated Goggles are designed for maximum ventilation to help prevent fogging. They work for protection from large flying debris, such as saw dust or grinding.



Splash Goggles

- ▶ Splash goggles are designed for protection from liquid chemical splash hazards. Design includes a solid mask with indirect vents.



SAFETY GLASSES / GOGGLES



- ▶ **Safety Eyewear** must be worn when the task involves potential hazards from dust, flying objects, chemicals or particles that may strike the eyes. Safety glasses/goggles (ANSI Z87) protect the eyes from frontal and side impact. Plano or prescription safety glasses without side impact protection may only be worn when small hand tools are being used. Only protective eyewear marked "ANSI Z87.1-2010" by the manufacturer on the glasses should be used. Select the appropriate type of eye protection for the work function being performed and the fit is snug.

SAFETY GLASSES / GOGGLES



Care / Maintenance

- ▶ It is important that all eye and face protection be kept clean and properly maintained.
 - Cleaning is particularly important where dirty or fogged lenses could impair vision.
- ▶ Eye and face protection should be inspected, cleaned, and maintained at regular intervals so that equipment provides the requisite protection.
- ▶ Disinfect shared protective eyewear after each use when it is shared by employees.

SAFETY GLASSES / GOGGLES



Care / Maintenance, Cont'd

- ▶ After disinfecting eyewear, the dry parts or items should be placed in a clean, dust-proof container, such as a box, bag, or plastic envelope, to protect them until reissue.
- ▶ It is also important to ensure that contaminated equipment which cannot be decontaminated is disposed of in a manner that protects employees from exposure to hazards.

SAFETY GLASSES / GOGGLES



Care / Maintenance, Cont'd

- ▶ Goggles should be kept in a case when not in use.
- ▶ Spectacles, in particular, should be given the same care as one's own glasses, since the frame, nose pads, and temples can be damaged by rough usage.

SAFETY GLASSES / GOGGLES



Useful Life

- ▶ Pitted and scratched lenses can be a source of reduced vision and compromised protection.
 - Replace excessively pitted, scratched or otherwise damaged eye and face protection.
- ▶ Discard and replace any defective parts including head straps. Check for tears or loss of elasticity.

SAFETY GLASSES / GOGGLES



Useful Life, Cont'd

- ▶ Check the goggles for a recycle symbol. If you see the three arrows moving in a triangle, the universal symbol for recyclable material, you may place the item in a recycle bin. They will be taken to a recycling plant.
- ▶ Contact the manufacturer to see if it offers a recycling program.
- ▶ Contact a non-profit organization or a business that recycles eyewear to see if safety glasses and goggles are acceptable items for recycling.

SAFETY GLASSES / GOGGLES

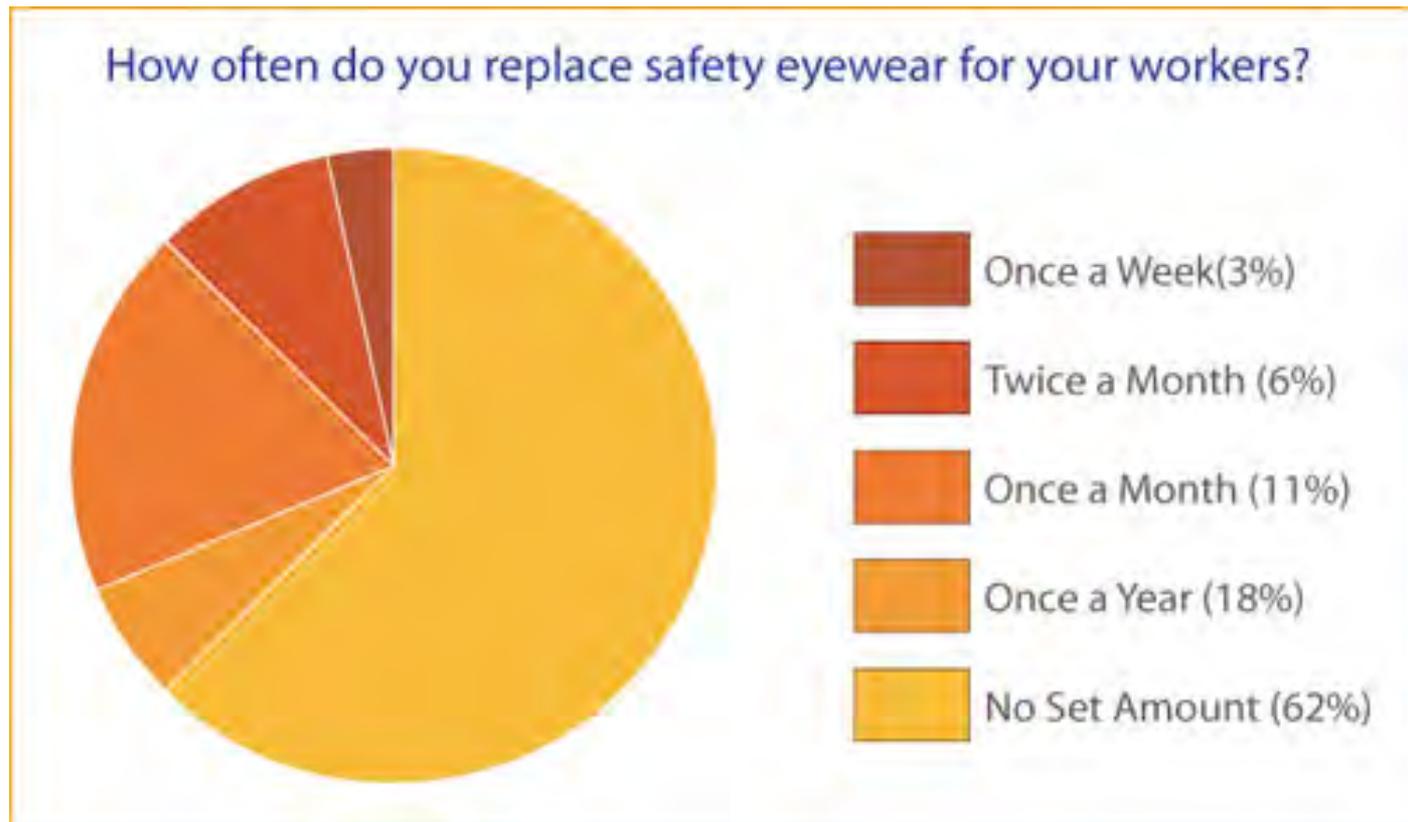


Useful Life, Cont'd

- ▶ Check the goggles for a recycle symbol. If you see the three arrows moving in a triangle, the universal symbol for recyclable material, you may place the item in a recycle bin. They will be taken to a recycling plant.
- ▶ Contact the manufacturer to see if it offers a recycling program.
- ▶ Contact a non-profit organization or a business that recycles eyewear to see if safety glasses and goggles are acceptable items for recycling.

Safety Glasses – Useful Life

▶ UVEX by Honeywell Eye Safety Survey Results:



SAFETY GLASSES / GOGGLES

You can walk with a wooden leg.

You can eat with false teeth.

But you cannot see with a glass eye.

Wear your safety glasses!



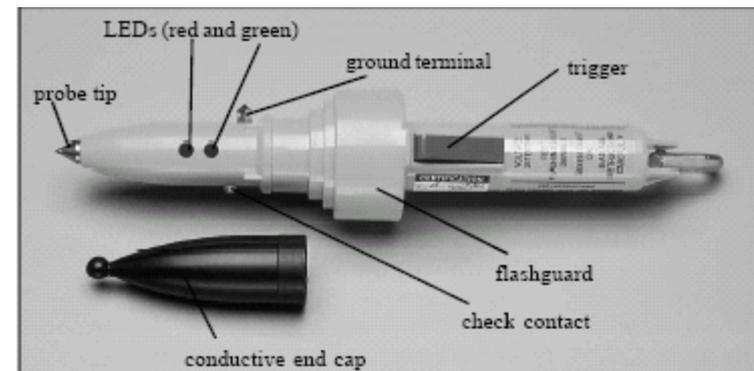
VOLTAGE DETECTORS

Voltage detectors are used to indicate that a voltage is above or below a specific value. The voltage detector is a high-voltage detection device that is intended for use in testing various conductive objects, such as power ground wires, mobile homes, street light fixtures, metal frameworks, metal conduit, pedestals, newly-driven ground rods, homes covered with metallic siding, electrical machinery, and similar items.

- Voltage detectors shall be inspected upon receipt, daily before each use and whenever dropped.
- Verify annual recertification/calibration sticker is in place and current
- Perform visual inspection; if any part is broken or missing DO NOT USE

VOLTAGE DETECTORS

- Perform a self test to ensure voltage detector is working
 1. Depress “trigger” with thumb. GREEN LED should light.
 - (If not replace battery and retry) Note: Always replace the battery with a 9–V, alkaline, battery. Some imported 9–V batteries are slightly oversized. If an oversized battery is tried, the metal shield may be torn from the circuit board.
 2. Placing thumb on “check contact” and forefinger on “carbide tip”. RED LED should light.
 3. Test 188A/C9970 on 193A test plug. Depress “trigger” touch “probe tip” to screw on 193A.
 - If RED LED appears= Set is OK to use.
 - If GREEN LED appears= Do not use set. Set not detecting voltage!!!



VOLTAGE DETECTORS

Conductive Probe Cap

Effects of Conductive Cap

- ❑ Plastic cap is conductive.
- ❑ Plastic cap is impregnated with carbon so that it won't wear off.

Three uses of Cap

1. Protects the carbide tip
2. Protects you from the tip
3. Used in conjunction with the W1BU cord to bleed off induced voltage.

To Test Cap:

- ❑ Check cap for cracks.
- ❑ To check cap continuity, place forefinger into cap & thumb on "check contact", hold cap with forefinger onto "carbide tip", depress "trigger": RED LED should light.

VOLTAGE DETECTORS

- ▶ **The Foreign Voltage Detector (FVD)**
 - handheld test set used to detect the existence of AC voltages.
 - The FVD is a remote measurement device. This means that electrical contact with the object being tested is not required.
 - The outside of the FVD is all dielectric, electrical contact by the user is not possible.
 - The FVD provides visual indication of the amount of AC voltage being detected on a 10 step bar graph. An audible alarm will sound if the detected AC voltage exceeds 50 volts.



VOLTAGE DETECTORS

- ▶ Voltage detectors should be well maintained, free from oil, grease, dirt or any foreign matter that would otherwise compromise their electrical integrity
 - ▶ Wash with warm soapy water and dry thoroughly
 - ▶ Do not store the Voltage Detector near strong magnets (C9970)
 - ▶ Keep the conductive cap over the probe end of the Voltage Detector when it is not in use to avoid damage
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VOLTAGE DETECTORS

- ▶ Do not drill, punch, engrave, or otherwise modify the housing of the Voltage Detector.
- ▶ Do not use adhesives, adhesive labels, inks, solvents, or expose to chemicals which may alter the housing
- ▶ Do not expose the C9970 Voltage Detector to extreme temperatures (below -40°C or above $+60^{\circ}\text{C}$)
- ▶ Any Voltage Detector with confirmed or suspected damage to the plastic housing (deep scratches, cracks, holes, etc.) or internal circuitry should never be used.

RUBBER INSULATING GLOVES

- ▶ **Rubber Insulating Gloves** are used to protect employees from electrical contact while working.
- ▶ Employees shall at all times assume the responsibility for determining that their insulating gloves are in good condition. The appearance of the gloves should indicate neither, deterioration from an electrical nor a mechanical standpoint.
- ▶ Employees shall verify that they are being used within the specified electrical test period as indicated by the "Return for Test" date stamped on the back side of the gauntlet.



RUBBER INSULATING GLOVES

- ▶ Employees must see that insulating gloves are returned for periodic electrical tests in accordance with OSHA requirements. This periodic testing is required by OSHA every 9 months except Cal/OSHA requires this at 6 month intervals.
- ▶ A visual inspection of insulating gloves shall be made to determine their condition. If any one of the following conditions is found to exist or if the condition of the gloves is such that there is any doubt as to their safety, they shall be exchanged at once for a pair in good condition in accordance with the locally established routine.



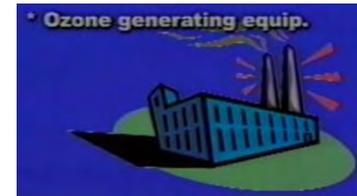
RUBBER INSULATING GLOVES

Useful Life

- ▶ Insulating gloves deteriorate even when not in use. Proper testing and care can add to the life of the tool.
- ▶ This deterioration is caused by ozone in the atmosphere reacting with the glove material to produce fine surface cracks.
- ▶ Ozone deterioration will be materially reduced if the gloves are stored as outlined without bends or folds and protected from light, edged tools, and from pressure due to heavy objects.



RUBBER INSULATING GLOVES



Useful Life, Cont'd

- ▶ Do not store insulating gloves in unventilated rooms containing ozone-producing apparatus or equipment such as commutator-type electric motors and generators.
- ▶ Never place insulating gloves near steam pipes, radiators, or in places where they will be subject to heat, as heat will impair the strength of the glove material.

RUBBER INSULATING GLOVES

Useful Life, Cont'd

- ▶ Insulating gloves and associated leather protector and fabric liner gloves Should be kept in a glove bag, tightly zippered and stored in locations suitable for that purpose.
- ▶ Gloves with obvious defects shall be junked with the front cut open from the fingers to the top of the gauntlet and should be disposed of as junk in accordance with the locally established waste routines.



Questions?

