

# Beyond Blocks and Bricks

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## Hard Hats Are Not Forever!

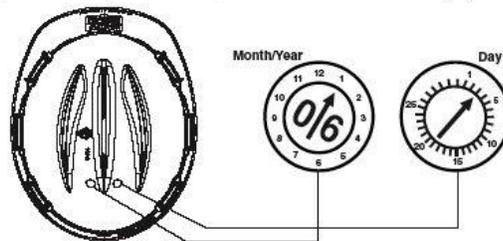
Matt Boggs and Ron Hunsicker

Two years ago, Ron attended "*Job Site Safety Fundamentals for Architects and Engineers*" at the headquarters of the Eastern Pennsylvania Chapter of the Associated Builders and Contractors (ABC). In fall 2018, seeing all the hard hats on the classroom tables at the start of the tour of the Reading wastewater plant, he was reminded that, barring damage, the ABC recommends discarding hard hats when they become five years old. A date code, usually on the underside of the brim, indicates when the hat was manufactured. A second date, often written on the ANSI stamp, which is usually on the underside of the crown, is the date the hat was placed in service. Hoping to rile the wastewater plant tour attenders, Ron asked, "How old is your hard hat?" Matt's 1993-vintage hard hat (since replaced) was not the winner; one from 1987 took the "prize."

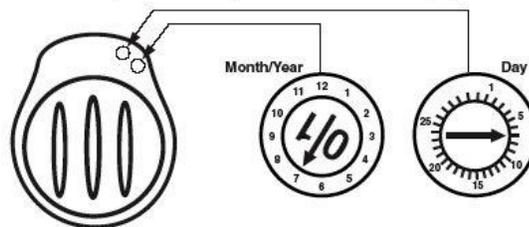


Ron's heirloom 1971 hard hat. Only the year is marked.

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.



Examples of date code markers

Neither the American National Standards Institute (ANSI), which promulgated the physical requirements for the several types of hard hats (ANSI Z89.1-2014 (R2019)), nor OSHA, which mandates when a hardhat must be worn (29 CFR 1926.100\*), have regulations or suggestions about when to discard them. For that, we have to rely on recommendations from labor and contractor organizations and vendors—those who sell hard hats. Answer “yes” to any **one** of the following questions compiled from a number of sources and it is time to replace your hard hat:

1. Has your hard hat been in service for more than five years? Not when it was made, when it was placed in service. This date should be marked by the user or issuer on the ANSI label or a similar label, (A black Sharpie® works well.) As a practical matter, few likely record the in-service date, so rely on the date of manufacture. (In industrial occupations, hard hats should be replaced after three years of use.)
2. Is your hard hat fading, chalky, or brittle? Grasping a hard hat in both hands and squeezing the hat is a crude physical test. If you hear creaking or other odd sounds, it is time to replace your hard hat
3. Is your hard hat dented, cut, or deeply scuffed?
4. Does your job involve exposure to harsh chemicals? Chemicals, even vapors, can degrade a hard hat. Replace it more frequently.
5. Has your hard had suffered an impact (Have you "used" it)?
6. Do you leave your hard hat in the car? Heat and sun degrade the plastic.
7. Is the suspension damaged or deteriorated? Even if pristine, the suspension should be replaced every 12 months.

Remember that five years and 12 months are maximums!

Hard hats have looked like hard hats for 70 years. That may change. Current United States testing procedures only have requirements for resisting linear motion. Real impacts and real brain damage often result from rotational forces. A European firm, Guardio Safety, has developed a suspension system that accommodates some of the rotational movement associated with real impacts, absorbing from 10 to 15 cm (0.4 to 0.6 inch) of rotational movement. Absorbing the rotational movements partially insulates the brain from them, limiting rotational injuries. According to An article in the January 20/27, 2020 issue of Engineering News Record, hard hats using this suspension system will be available in the United States this year.

(Visit: <https://guardiosafety.com/guardio-armet.html> and scroll down for the video.)

\* 29 CFR 1926.100 regulates the use of hard hats by construction, demolition, and renovation workers. Hard had use in other industries is regulated by 29 CFR 1910.135.

### Background

When to wear hardhats and when to discard hard hats are discussed in these articles:

<https://www.graphicproducts.com/articles/osha-ansi-hard-hat-requirements/>

<https://www.coopersafety.com/hard-hat-faq>

<https://oshatraining.com/osha-hard-hat-questions-blog.php>

There is an interesting discussion of hardhats in the July 2014 issue of Occupational Health and Safety magazine. Go to the following link to read it.

<https://ohsonline.com/Articles/2014/07/01/Twelve-Frequent-Hard-Hat-Questions.aspx?Page=1&p=1>

In its October 1, 2019 edition, The New York Times ran a story about the evolution of hard hats:

<https://www.nytimes.com/2019/10/01/business/hard-hat-history.html>

LinkedIn wades in, too with an excellent article:

<https://www.linkedin.com/pulse/hard-hat-life-based-upon-recommendations-law-terry-penney/>

Finally, strange persons do strange (but illuminating) things to hard hats:

<https://www.youtube.com/watch?v=RPq53jVTHSc>

<https://www.youtube.com/watch?v=60YHaWiEMeM>