

# BLUE - Mislabeled Laser Protective Eyewear

**Lesson ID:** LL-2008-LLNL-08 (LLNL-AR-408676) (*Source: User Submitted*)

**Originating Organization or Contracting Company:** Lawrence Livermore National Security, LLC

**Date:** 12/3/2008

**Statement:** It is important to verify the accuracy of labels on laser protective eyewear to ensure that it provides the expected level of protection. In this particular case, when the Laser Safety Officer compared information on the label with a spectral curve, he noticed a discrepancy in the optical densities shown for the range of wavelengths closest to the wavelength of interest. The label indicated a higher level of protection than the spectral curve showed. Fortunately, the Laser Safety Officer determined that this laser protective eyewear provided adequate protection for its intended use.

**Discussion:** Users of laser protective eyewear (LPE) are required to verify that it has optical densities (OD) appropriate for the specific wavelengths and intensities of laser light for which it is being worn. Encore Model 31-21006H LPE was being used for protection against 1053 nm (1w) laser light. When the Laser Safety Officer (LSO) was asked to verify the adequacy of that LPE for this use, it was found to be mislabeled. Although the LSO determined that it provided adequate protection for this particular use, the LPE was labeled as OD 7+ for 1000-1050 nm while the spectral curve showed a range of OD from <6 to >7 for these wavelengths. Onsite users and the manufacturer were notified of this discrepancy.

**Analysis:** The LSO was asked to verify the adequacy of that LPE for this use. He referred to the manufacturer's spectral curve to make the determination because the label on the LPE did not list the specific wavelength of interest (1053 nm). It is common practice for manufacturers to list only the most commonly used wavelengths. As shown in the spectral curve (Figure 1), although this LPE has OD >7 at 1053 nm, there is a steep rise in OD from <6 to >7 for wavelengths between 1000 and 1050 nm.



**Figure 1. Spectral Curve for Encore Model 31-21006H Laser Protective Eyewear**

This is inconsistent with the title description for the curve and the label on the LPE (Figure 2), both indicating OD "7+ @ 1000-1050 nm."



**Figure 2. Encore Model 31-21006H Laser Protective Eyewear**

The curve shows that this description and the label were incorrect.

The manufacturer was contacted to confirm this finding and concurred that the LPE was incorrectly labeled. Subsequently, the manufacturer revised the information on its Web site to show that this LPE has OD >6 @ 1000-1050 nm.

**Actions:** 1) All of the affected eyewear should be relabeled with the correct OD information.

2) In the procurement of new LPE, the OD and wavelength markings should be verified against the manufacturer's spectral curve for accuracy in labeling

**Savings:** N/A

**Keywords:** LASER PROTECTIVE EYEWEAR, MISLABELING

**Hazard(s):** Lasers

**ISM Code(s):** Feedback and Improvement

**Work Function(s):** Inspection & Testing, Occupational Safety & Health - Personnel Protective Equipment

**References:**

**Priority Descriptor:** Blue / Information

**Attachments:**