

November 2012

The Remaining Eye

*Monthly newsletter
on laser safety*

*Written by Robert
Fairchild, Deputy LSO*



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Search for LSO

Interviews have completed and an offer should be made soon to the top candidate.

LASER Safety Web Page

If you have not visited the Laser Safety Web page, check L in the LBNL A-Z Index. You are missing out on a great deal of information

LANL ORPS

On October 18, 2012, LANL reported that a worker wearing a pair of Kentek KRZ-C505C laser safety glasses was able to see a diffuse reflection from the 527 nm beam. These glasses are glass lenses with baked on ceramic coatings that provide an optical density (OD) of 7+ at 532 nm. When the worker changed glasses to a similar pair with the same model lenses,

he was no longer able to see the diffuse reflection. A closer look at the incident reveals that the C505C lens provides an OD of only 3.09 at 527 nm. Why then, did the second pair block the diffuse reflection? Although they were the same model lens, they were a different shape. It is possible that the difference in shape provided a better solid angle to the reflection. (more on Page 2)

SEARCH FOR LSO

The search for Ken Barat's replacement continues. The search committee has performed several onsite interviews. The committee used the list of "Top 3 qualities" in an LSO gathered from users' feedback as a guide to select the top candidate. Radiation Protection Group (RPG) management is working with HR to put together an offer package.

The plan moving forward is that the LSO will manage the laser program and non-ionizing radiation program with strong support from the Deputy LSO. This shared-duty arrangement was vetted with the users/stakeholders interviewed and will provide better depth and breadth of coverage for laser safety.

I hope by the next newsletter, I will be able to announce the new LSO and provide some details of his or her laser experience.

LANL ORPS CONTINUED

Although the investigation is still underway, I was able to speak with personnel at Kentek regarding this event. I understand Kentek tests 100% of all lenses after coating. Based on the hardness rating of 9 (diamonds are a 10), I doubt that wear is the cause. Kentek is attempting to obtain the pair of glasses for retesting and further evaluation.

In reality, it will likely turn out to be that a different set of glasses would have been better choice for the 527 nm. Many glasses have very specific bands for which they offer protection and the protection can be substantially less to either side of the band. For this reason, it is important to specify the wavelengths that one may be working with and to ensure the glasses offer the correct protection.

There can be unexpected notches in protection. Don't assume that a close wavelength will offer the same protection.

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 Filter Number: C50C
 Filter Color: Clear
 VLT (%) : 75
 OD @ 405nm OD 5 @ 480-1100nm OD 5 @ 2100-2200nm OD 5 @ 2500-3000nm OD 7 @ 1900nm OD 7 @ 532nm OD 7 @ 795-810nm OD 7 @

Part No.	OD	Wavelength (nm)	Protection Level
290 7*	255	74	370 1.42
291 7*	250	74	311 1.25
292 7*	257	74	312 1.25
293 7*	269	74	313 1.10
294 7*	269	74	314 1.11
295 7*	269	74	315 1.00
296 7*	281	74	316 1.00
297 7*	282	74	317 0.85
298 7*	283	74	318 0.84
299 7*	285	74	319 0.80
300 7*	285	74	320 0.75
301 7*	285	74	321 0.75
302 7*	285	74	322 0.70
303 7*	287	74	323 0.68
304 7*	287	74	324 0.62
305 7*	287	74	325 0.62
306 7*	287	74	326 0.58
307 7*	287	74	327 0.58
308 7*	287	74	328 0.58
309 7*	287	74	329 0.58
310 7*	287	74	330 0.58
311 7*	287	74	331 0.58
312 7*	287	74	332 0.58
313 7*	287	74	333 0.58
314 7*	287	74	334 0.58
315 7*	287	74	335 0.58
316 7*	287	74	336 0.58
317 7*	287	74	337 0.58
318 7*	287	74	338 0.58
319 7*	287	74	339 0.58
320 7*	287	74	340 0.58
321 7*	287	74	341 0.58
322 7*	287	74	342 0.58
323 7*	287	74	343 0.58
324 7*	287	74	344 0.58
325 7*	287	74	345 0.58
326 7*	287	74	346 0.58
327 7*	287	74	347 0.58
328 7*	287	74	348 0.58
329 7*	287	74	349 0.58
330 7*	287	74	350 0.58
331 7*	287	74	351 0.58
332 7*	287	74	352 0.58
333 7*	287	74	353 0.58
334 7*	287	74	354 0.58
335 7*	287	74	355 0.58
336 7*	287	74	356 0.58
337 7*	287	74	357 0.58
338 7*	287	74	358 0.58
339 7*	287	74	359 0.58
340 7*	287	74	360 0.58
341 7*	287	74	361 0.58
342 7*	287	74	362 0.58
343 7*	287	74	363 0.58
344 7*	287	74	364 0.58
345 7*	287	74	365 0.58
346 7*	287	74	366 0.58
347 7*	287	74	367 0.58
348 7*	287	74	368 0.58
349 7*	287	74	369 0.58
350 7*	287	74	370 0.58
351 7*	287	74	371 0.58
352 7*	287	74	372 0.58
353 7*	287	74	373 0.58
354 7*	287	74	374 0.58

EYEWEAR PROVIDERS

I have been asked many times recently about where one may be able to purchase eyewear. Below is a list of several vendors who manufacture or provide eyewear and our regional representative.

Honeywell
 Cathi Scogin (800) 500-4739, x3
www.honeywellsafety.com

Kentek
 Tom Hakala (800) 432-2323, x4970
www.kenteklaserstore.com

Laservision
 Abdalla Sammaneh (800) 393-5565
www.lasersafety.com

NoIR
 Mary Klinke (800) 521-9746
www.lasershields.com

There are of course a multitude of companies on the web that offer the above brands. The contacts above are the representatives who routinely visit LBNL.

As always, I am available as a resource to help you select and obtain the proper eyewear. Note that there is only so much space to list ODs on the glasses as required by ANSI. This does not necessarily mean that the glasses were not tested at other wavelengths. Many manufacturers will test glasses across a broad range of wavelengths, and then publish the data in specification sheets. As long as the data is available and in possession within the laser lab and a sufficient OD is provided, one may be able to use glasses for wavelengths not directly labeled on the glasses. Check with the LSO or DLSO for verification.

INVENTORY UPDATE

During several recent AHD reviews, I have run into difficulty verifying lasers attached to the AHDs. This is partly due to missing information in the laser management system (LMS), such as DOE #s or Serial #s. I also note that some lasers have been entered multiple times (e.g. once for each AHD that uses a single portable laser).

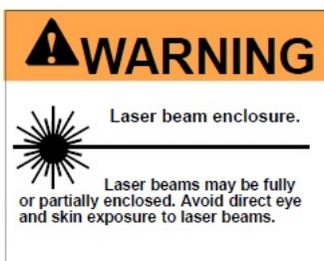
Please take a few minutes to review your inventory and complete missing information. This will make it simpler to perform reviews in the future. Also note that one may assign a single laser to multiple AHDs. There should never be multiple entries in the LMS for the same laser. If you know of such, please let me know, so the duplicates can be removed. While you're reviewing your inventory, please double check the stated parameters as well and correct as necessary. Please bring corrections of parameters to my attention, so I can update eyewear calculations as needed.

If you need assistance, please contact me at x2278 or on my cell phone at (510) 926-2051.



LABELS

Do you have a laser system where safety could be improved by the addition of labeling? If so, please let me know and I will gladly meet with you to discuss what and where labels should be applied. Common labels include warnings about enclosures, both interlocked and non-interlocked and the presence of vertical beams.



Introducing **Robert Fairchild**

Robert (Bob) Fairchild was born in the mountains of North Carolina, where he spent the summers of his childhood on his grandparent's cattle farm. During the school year he lived with his parents on Navy bases around the U.S., mostly Charleston, South Carolina. All of his High School Years were spent at West Wilkes High School in North Wilkesboro, North Carolina. (As a side note, 3 people from this same small mountain high school have come to work at LBNL. What are the odds of that?)

Shortly after high school, Bob met his wife (Pam) and they married in 1987 when Pam graduated high school. He was 19, she 17 and they have been married for 25 wonderful years. In 1988, both Bob and Pam began working as health physics technicians in commercial nuclear power plants. They traveled around the country working refueling outages and short term positions at various nuclear power plants and other DOE facilities until 1997, when Bob was asked to join the Radiation Protection Group at LBNL. At the time they had a 3 year daughter and a 18 month old son, so knowing they needed to settle down, Bob accepted the position.

In 1999, Bob and Pam had their 3rd daughter and two years later adopted 3 children from Karaganda, Kazakhstan. As one can imagine, their house is a very busy place. The oldest is 19, then 18, 16, 13, and the youngest two are 11.

This year has brought many changes to their family. Their 18 year old daughter is getting married on December 29, 2012. In May of this year, they also learned that their 16 year old son, Seth has osteosarcoma, a form of bone cancer. Seth will be undergoing chemotherapy almost weekly until August 2013. For this reason, Bob may be out one or two days a week, but always has his cell phone and always willing to do what he can from the hospital room. He does keep his calendar up to date, so plan early.

Favorite hobbies include hunting, fishing, backpacking, hiking and any outdoor activity that can be performed with his family. He has served as a Scout Master (Seth is an Eagle Scout) and adult Sunday school teacher in his church.

Bob is currently pursuing an AS in Biology, AS in Chemistry, and an AS in Viticulture and Enology at Las Positas Community College in Livermore. Bob hopes to return to North Carolina when he retires and start a 5-acre estate winery specializing in Rioja style wines and Albarino.



Bob Fairchild, Deputy LSO

"If I have to tell someone that they cannot do what they are planning to do, I always try to provide at least three ways they can accomplish their goal safely and compliantly."

