

Subject: [Fwd: Re: [Fwd: Optics cleaning Waiver]]
From: Dennis Coyne <coyne@ligo.caltech.edu>
Date: 10/7/2008 4:23 PM
To: Sam Waldman <waldman_s@ligo.caltech.edu>

here's your answer Sam

----- Original Message -----

Subject: Re: [Fwd: Optics cleaning Waiver]
Date: Tue, 07 Oct 2008 15:43:56 -0700
From: John Worden <worden_j@ligo-wa.caltech.edu>
To: Dennis Coyne <coyne@ligo.caltech.edu>
References: <48EBC76B.4030403@ligo.caltech.edu>
<48EBCCA4.2000101@ligo-wa.caltech.edu>
<48EBDB6A.5070006@ligo.caltech.edu>

Thanks - Lets ask Sam to air bake.

John

Dennis Coyne wrote:

John Worden wrote:

sounds fine to me - A question though;
Have these optics been annealed at some time in their fabrication?

Yes. However, unlike our larger optics (which are polished on all surfaces) these optics have ground sides. I just spoke to Sam and he is OK with air baking the optics if you/we think this is prudent. Vacuum baking might deposit crap on the optical coatings.

I remember that this has been used as an argument for not baking or cleaning some optics. Even without this, any optics I've seen certainly seem to be pristine as they come from the vendor - Is this

always the case?

Yes, except for the ground surfaces which have a pencil mark indicating the coated face. Sam removes the pencil mark.

by the way - it is not clear to me if Helena is still waiting for something from the VRB

I think so.

- If so, I am not sure I know how to respond.

I think only Mike replied to the question. I think we should insist that they bake the vacseal to 100C (not 80C) using either heat lamps or an air bake oven. In this way the procedure is effectively the same as the procedure used in Initial LIGO:

<http://www.ligo.caltech.edu/docs/E/E970037-F.pdf>

(and as described by Betsy in your 8/28 email on "LASTI test masses"). To be fair the last step is an 80C vacuum bake, for the last standoff bond, but 100C would be far better and most of the bonds were air baked to 100C prior to the vacuum bake.

I'll speak with Mike (I'm at MIT) and see if he agrees.

john

Dennis Coyne wrote:

John,
As Vacuum Review Board chairman what do you say to Sam's waiver request below?
Dennis

----- Original Message -----

Subject:Optics cleaning Waiver

Date:Tue, 7 Oct 2008 15:29:57 -0400

From: Sam Waldman <waldman@MIT.EDU>
To: Dennis Coyne <coyne@ligo.caltech.edu>
CC: Landry Mike <landry_m@ligo-wa.caltech.edu>

Hi Dennis,

We are installing a new set of optics at LHO for HAM6. They are 2 inch optics from CVI. Previously, we had gotten a waiver (Nov. 13, 2007) to deviate from E00007-00 which calls for Liquinox. Instead, we use only the iso-propyl alcohol steps. Should we consider ourselves still operating under the previous waiver, M070383-00, or should we get a new waiver.

- As a reminder, the previous procedure was:
- 1) soak in isopropyl alcohol for 10 minutes
 - 2) blow off with filter nitrogen
 - 3) rinse under DI water
 - 4) Dry with filtered nitrogen
 - 5) Drag wipe as necessary.

I note that in practice, we began this procedure by first wiping off visible marks with isopropyl and lens tissue before the soaking step. I also point out that there is no air-bake or vacuum bake in this procedure. Finally, these 6 optics are only for use in HAM6.

sam

=====
LIGO MIT
NW22-270
Cambridge, MA 02139
617.452.3158
waldman@mit.edu

--

John Worden
Observatory Manager
LIGO Hanford Observatory
P.O. Box 159
Richland, WA 99352

Office: (509) 372-8136
Fax: (509) 372-8137
worden_j@ligo-wa.caltech.edu
www.ligo-wa.caltech.edu

Shipping address:

LIGO Hanford Observatory
127124 N Rt 10
Richland, WA 99354

--

John Worden
Observatory Manager
LIGO Hanford Observatory
P.O. Box 159
Richland, WA 99352

Office: (509) 372-8136
Fax: (509) 372-8137
worden_j@ligo-wa.caltech.edu
www.ligo-wa.caltech.edu

Shipping address:

LIGO Hanford Observatory
127124 N Rt 10
Richland, WA 99354