

From: [Jones, Gregory](#)
To: [Katanic, Janine](#)
Subject: [External_Sender] RE: NRC inspection/ CVI Laser Optics
Date: Friday, October 29, 2021 10:49:53 AM
Attachments: [image001.png](#)
[image002.png](#)
[image003.png](#)
[image004.png](#)
[image005.png](#)
[image007.png](#)
[Thorium Usage by Weight-template.xlsx](#)

Hi Janine,

Just wanted to provide you with an update on our inspection items.

- Update the usage report to ensure all future reports include a column for the optics model number
 - The usage calculation template Excel spreadsheet is attached and a column has been added to ensure all future usage reports include this information
 - See also Picture 1 below
- The additional labeling inclusion on outgoing product with the terminology “[Optical components are coated with thorium fluoride. Subsequent use is exempt from further regulation by the NRC pursuant to 10 CFR 40.13\(c\)\(7\).](#)”
 - The labeling template is updated to include this additional label on all future outgoing product
 - See Picture 2 for an image of these labels that I took yesterday while in QC to verify
- Vacuum cleaner radioactive warning labels applied, see picture 3
- Electrical vendor/engineer onsite early next week to review the electrical panel access code compliance.
 - Will adjust location of panel and/or other hardware as needed
- Raised platform safety
 - Identify and purchase new chair without wheels (in progress)
 - Secure top aluminum plate to the raised platform to seal any potential holes in the platform to ensure no debris can get into this area
- Perform Annual Survey during 4th quarter of every year,
 - To be scheduled with Curie Services by EOY
 - Add to Fiix CMMS System as a repetitive and automatic work order generated annually every 4th quarter

Thanks and please let me know if questions or concerns.

Best regards,
Greg

Picture 1

2020 CVI Laser Optics Thorium Usage								
Item Number	Qty	Shape	Dimension (mm)	Thickness (mm)	Part Description	Unit Thorium Weight (mg)	Total Thorium Weight (mg)	Optics Model Number
1163064	823	Square	38.1	10	100301-RE	5.64	4644.07	ARF Series
1238965	440	Round	25.4	6.35	Y5-1025-45	2.17	956.49	Y5 Series
1242953	328	Round	25.4	3	3700-1124 REV E	2.17	711.76	ARF Series
1163065	322	Square	38.1	10	100300-RE	5.39	1734.41	ARF Series
1117572	159	Square	30	6.35	ARF-SQM-1225-45S	3.50	556.27	ARF Series
1E+06	139	Round	25.4	3.05	0003-0323-RD	2.17	302.16	Y5 Series
1E+06	100	Round	12.7	3.175	0002-0298-RB	0.52	52.00	Y5 Series
1260565	55	Round	25.4	3.048	256937 REV A	2.10	115.50	Y5 Series
1246385	54	Round	50.8	9.525	Y5-2037-45	8.70	469.80	Y5 Series

Picture 2

Picture 3

Picture 3



Greg Jones

Facilities and EH&S Manager

CVI Laser Optics
200 Dorado Place SE, Albuquerque, NM 87123
Direct: +1 (505) 296 9541 ext. 1191
Mobile: +1 (505) 259 7204

Focused on the Future of Controlled Light™

From: Jones, Gregory
Sent: Tuesday, October 26, 2021 3:31 PM
To: Katanic, Janine <Janine.Katanic@nrc.gov>
Subject: RE: RE: RE: NRC inspection/ CVI Laser Optics

Hi Janine,

It was a pleasure meeting with you last week and working through the inspection process.

I will be providing updates regarding the topics we discussed as they are completed. Primary items were 1) updating of the usage report to ensure all future reports include the column for the optics model numbers and 2) the additional labeling inclusion on outgoing product. Both of these are already in process. The other improvement items discussed are also in various stages of action (such as radioactive stickers and labeling already applied to the vacuum – picture included below, etc).

If there is anything in particular that you require urgently, please let me know.

Best regards,
Greg



Greg Jones

Facilities and EH&S Manager

CVI Laser Optics

200 Dorado Place SE, Albuquerque, NM 87123

Direct: +1 (505) 296 9541 ext. 1191

Mobile: +1 (505) 259 7204

Focused on the Future of Controlled Light™

CVI Laser Optics Thorium Usage Calculator

Item Number	Shape	Dimension (mm)	Thickness (mm)	Part Description	Unit Thorium Weight (mg)
1046262	Round	50.8	9.525	ARF-2037-45UNP	7.88
1046265	Round	38.1	9.525	ARF-1537-45UNP	4.43
1046275	Round	76.2	12.7	ARF-3050-45UNP	17.73
1047616	Round	25.4	6.35	Y5-1025-0	1.98
1047622	Round	25.4	6.35	Y5-1025-45P	2.17
1047627	Round	50.8	9.525	Y5-2037-45P	8.70
1057129	Round	25.4	1.6	ARF-1006-45P	1.97
1082590	Round	25.4	6.35	Y5-1025-22.5-UNP	2.08
1113312	Round	25.4	6.35	TLM1-200-45P-1025	2.04
1117572	Square	30	6.35	ARF-SQM-1225-45S	3.50
1163064	Square	38.1	10	100301-RE	5.64
1163065	Square	38.1	10	100300-RE	5.39
1186164	Round	50.8	9.525	TLM1-226-45P-2037	9.23
1205122	Square	40	1.6	BS1-193-50-SQW-1606-UV-45UNP	3.11
1208967	Round	50.8	9.525	TLM1-200-45P-2037	8.16
1223071	Square	40	1.6	BS1-193-10-SQW-1606-UV-45UNP	1.04
1223072	Square	40	1.6	BS1-193-20-SQW-1606-UV-45UNP	1.30
1223073	Square	40	1.6	BPO BS1-193-40-SQW-1606-UV-45UNP	1.55
1235498	Round	12.7	3.175	0002-0298-RB	0.52
1236709	Round	25.4	3.175	0003-0325-RC	2.17
1236721	Round	25.4	3.175	0003-0323-RD	2.17
1238911	Round	25.4	6.35	ARF-1025-45	1.97
1238912	Round	50.8	9.525	ARF-2037-45	7.88
1238965	Round	25.4	6.35	Y5-1025-45	2.17
1242953	Round	25.4	3.175	3700-1124 REV E	2.17
1246385	Round	50.8	9.525	Y5-2037-45	8.70

232 Total ThF4 Molecule Weight										Th	19	308	Th %
F													0.753247
Wavelength	AOI	Layers	AOI factor	Density (g/cm³)	Total ThF4 Weight (mg)	Th %	Total Th (mg)						
193	45	24	1.1	6.3	10.46	0.753247	7.88						
193	45	24	1.1	6.3	5.88	0.753247	4.43						
193	45	24	1.1	6.3	23.53	0.753247	17.73						
213	0	24	1	6.3	2.62	0.753247	1.98						
213	45	24	1.1	6.3	2.89	0.753247	2.17						
213	45	24	1.1	6.3	11.54	0.753247	8.70						
193	45	24	1.1	6.3	2.61	0.753247	1.97						
213	30	24	1.05	6.3	2.75	0.753247	2.08						
200	45	24	1.1	6.3	2.71	0.753247	2.04						
193	45	24	1.1	6.3	4.64	0.753247	3.50						
193	45	24	1.1	6.3	7.49	0.753247	5.64						
193	30	24	1.05	6.3	7.15	0.753247	5.39						
226	45	24	1.1	6.3	12.25	0.753247	9.23						
193	45	12	1.1	6.3	4.13	0.753247	3.11						
200	45	24	1.1	6.3	10.84	0.753247	8.16						
193	45	4	1.1	6.3	1.38	0.753247	1.04						
193	45	5	1.1	6.3	1.72	0.753247	1.30						
193	45	6	1.1	6.3	2.06	0.753247	1.55						
213	30	24	1.05	6.3	0.69	0.753247	0.52						
213	45	24	1.1	6.3	2.89	0.753247	2.17						
213	45	24	1.1	6.3	2.89	0.753247	2.17						
193	45	24	1.1	6.3	2.61	0.753247	1.97						
193	45	24	1.1	6.3	10.46	0.753247	7.88						
213	45	24	1.1	6.3	2.89	0.753247	2.17						
213	45	24	1.1	6.3	2.89	0.753247	2.17						
213	45	24	1.1	6.3	11.54	0.753247	8.70						

2020 CVI Laser Optics Thorium Usage

Item Number	Qty	Shape	Dimension (mm)	Thickness (mm)	Part Description	Unit Thorium Weight (mg)	Total Thorium Weight (mg)	Optics Model Number
1163064	823	Square	38.1	10	100301-RE	5.64	4644.07	ARF Series
1238965	440	Round	25.4	6.35	Y5-1025-45	2.17	956.49	Y5 Series
1242953	328	Round	25.4	3	3700-1124 REV E	2.17	711.76	ARF Series
1163065	322	Square	38.1	10	100300-RE	5.39	1734.41	ARF Series
1117572	159	Square	30	6.35	ARF-SQM-1225-45S	3.50	556.27	ARF Series
1236721	139	Round	25.4	3.05	0003-0323-RD	2.17	302.16	Y5 Series
1235498	100	Round	12.7	3.175	0002-0298-RB	0.52	52.00	Y5 Series
1260565	55	Round	25.4	3.048	256937 REV A	2.10	115.50	Y5 Series
1246385	54	Round	50.8	9.525	Y5-2037-45	8.70	469.80	Y5 Series
1047616	44	Round	25.4	6.35	Y5-1025-0	1.97	86.68	Y5 Series
1271525	40	Rectangle	40x30		52017 REV D	1.17	46.80	ARF Series
1238911	36	Round	25.4	6.35	ARF-1025-45	2.17	78.12	ARF Series
1236709	35	Round	25.4	3.05	0003-0325-RC	2.17	75.95	Y5 Series
1257310	31	Round	38.1	9.525	ARF-1537-45	4.43	137.39	ARF Series
1249687	30	Round	38.1	5	247091 REV A	4.43	132.96	PR1 Series
1258038	25	Round	25.4	6.35	TLM1-200-45-1025	2.04	51.00	TLM1 Series
1274090	23	Round	25.4	6.35	300621 REV 01	2.17	50.00	Y5 Series
1258033	23	Round	25.4	6.35	TLM1-200-0-1025	1.85	42.55	TLM1 Series
1236708	22	Round	25.4	1.59	0003-0319-RC	2.17	47.82	Y5 Series
1089793	20	Round	25.4	3.175	ARF-1012-0	1.79	35.80	ARF Series
1260564	15	Round	25.4	1.6	256936 REV A	2.10	31.50	Y5 Series
1035105	13	Round	50.8	9.525	PR1-193-10-IF-2037-UV	1.67	21.71	PR1 Series
1152317	12	Round	50.8	9.525	PR1-193-20-IF-2037-UV	2.09	25.08	PR1 Series
1057129	10	Round	25.4	1.5	ARF-1006-45P	2.17	21.70	ARF Series
1035103	10	Round	50.8	9.525	PR1-193-70-IF-2037-UV	6.26	62.60	PR1 Series
1274368	6	Round	25.4	6.35	LWP-45-RP200-TP266-PW1-1025-UV	2.04	12.25	LWP Series
1046299	5	Rectangle	40x30	5	05-06147-RA-193	1.16	5.80	ARF Series
1223072	5	Square	40	1.6	BS1-193-20-SQW-1606-UV-45UNP	1.29	6.45	BS1 Series
1042463	5	Round	25.4	3.175	BS1-193-50-1012-45UNP	1.08	5.40	BS1 Series
1274298	5	Round	25.4	6.35	SPEC-ARF-1025-25	2.17	10.85	ARF Series
1274297	5	Round	38.1	9.525	SPEC-ARF-1537-25	2.17	10.85	ARF Series
1271834	5	Round	25.4	3.175	TLM1-200-45-1012	2.04	10.20	TLM1 Series
1103699	4	Round	76.2	12.7	ARF-3050-45P	17.73	70.91	ARF Series
1251800	4	Square	40	1.6	BS1-193-30-SQW-1606-UV-45UNP	1.78	7.12	BS1 Series
1223073	4	Square	40	1.6	BS1-193-40-SQW-1606-UV-45UNP	1.55	6.20	BS1 Series
1274304	4	Round	75	12	SPEC-ARF-SMCC-7512M-1.00-UV	17.73	70.92	ARF Series
1274366	3	Round	25.4	6.35	SPEC-LWP-45-RP-200-TP266-PW1-1025-UV	2.04	6.12	LWP Series
1233921	2	Square	40	1.6	BS1-193-60-SQW-1606-UV-45UNP	2.07	4.14	BS1 Series

Total ThF14 Weight

10717.33

- 1 Obtain production data for all optics made with ThF4 coating material from Sales.
- 2 Input optics size and coating description info into left side of pane in "Optics Unit Th Calculator" tab
- 3 Input wavelength, AOI, Layers in right side of pane in "Optics Unit Th Calculator" tab
Optics Unit Th Weight will be updated in column F or Q.
- 4 Copy Optics unit Th Weight data from column F or Q from "Optics Unit Th Calculator" tab based on product number in Usage Template. Template will calculate total Th weight automatically.
- 5 Update Optics Model Number based on item product code.