

Progress

- End of spring semester, we decided the final material amounts of
- Chromium: 4kA
- Aluminum: 16kA
- SiO₂: 1.4kA
- Along with sending a full-scale Purdue mirror to CERN for the beam line test.
- Mahmood is currently at BNL so Aiden and Kyle are now producing the mirrors.

Summer Plans

- Full-scale lexan mirror.
- Pyramid mirror.
- Wire coating.
- Potentially Winston cone for DIRC.

Test Coatings

- Two batches: 4 Lexan, 2 Purdue.
- First batch had film on Purdue samples, so reflectivity was reduced. Lexan reflectivity was .83 with 4, 16, 1.4 ratio of Cr,Al, SiO₂.
- Crystal life is at 40% so with expected low reflectivity caused by inaccurate measurements, second batch was 5, 20 Cr, Al.
- Awaiting reflectivity results for second batch.

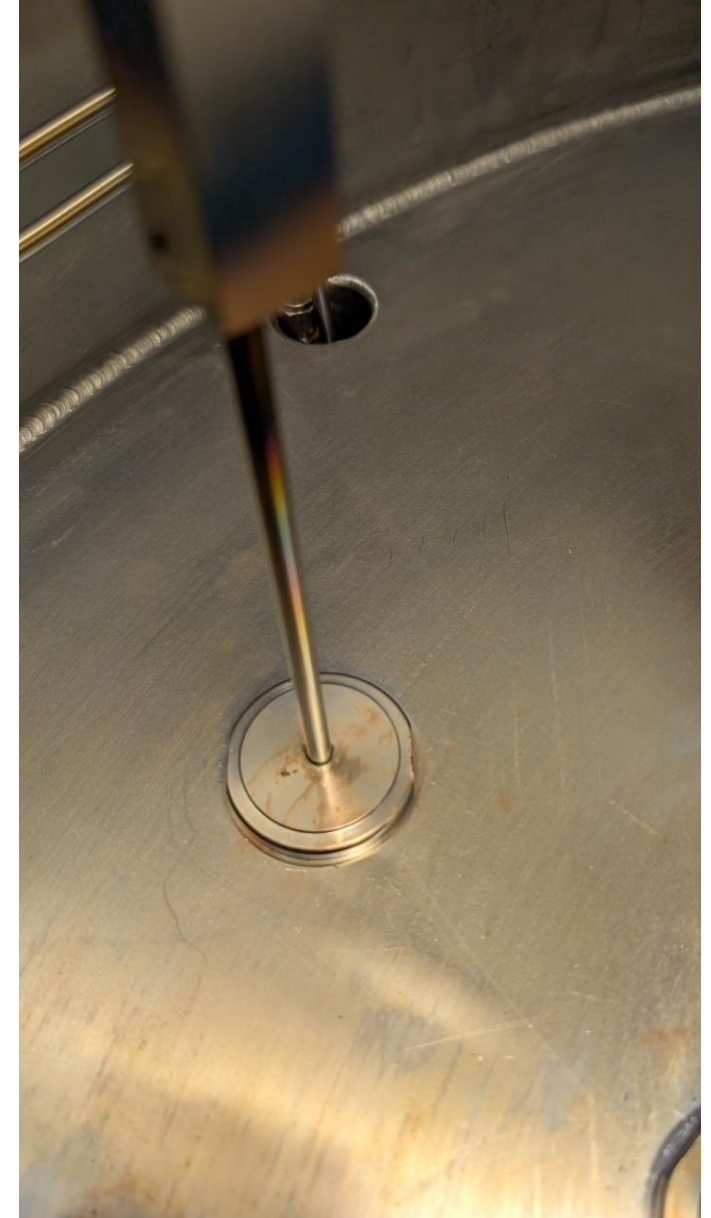
Full Scale Mirror

- The track where the lexan is supposed to fit is either too small or has too tight of a tolerance, and so we can't fit the lexan in the holder.
- Both are under 1mm.
- To do a full scale coating we need either a reprint of the holder or thinner lexan.



Shutter

- Shutter had some inconsistencies with not closing at the end of Aluminum for the first coating. It began working again after pump up.
- Between first and second coating, we went in the chamber to inspect what might be the issue along with applying a small quantity of WD-40 to the base. Only minor observable potential issue was a light orange color on the base, potentially rust.
- Shutter worked normally during the entire second coating.

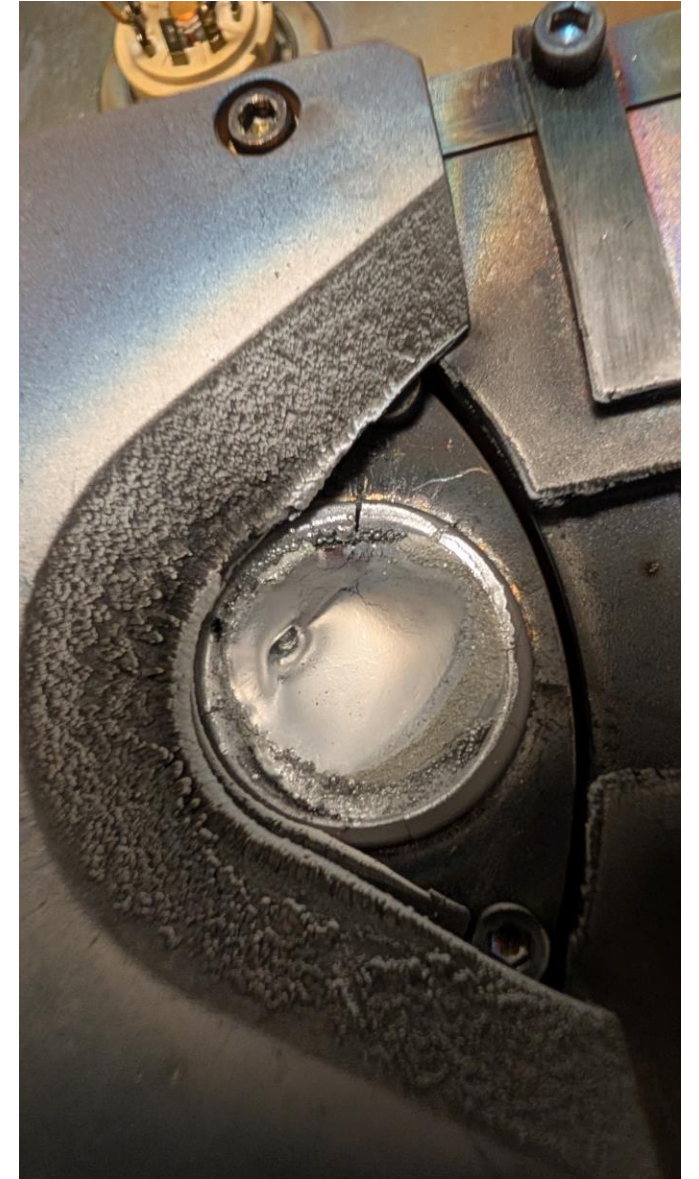


Other Observations

- Bolt #2 lightly pops out after being tightened with ratchet and can therefore not be fully tightened.
- The morning of the second coating the Dynaflux chiller was leaking water from the top of the reservoir. Bobber was at the right height showing no overflow both before and after starting the coating. This leak did not occur during the first coating.

6/15 Observations

- Crack is forming in aluminum crucible.
- Dynaflux chiller water level was low so it was refilled, but then after being turned on it leaked from the top again. Having the chiller be full seems to cause leakage.
- Shutter was operational today without issue



Work for the Week

- Reflectivity is still down from normal, so another test coating is being done with Cr: 6 Al: 24.
- Rotary Vein for the replacement chiller was replaced.
- Full scale holder was reprinted and Lexan can now fit, another Lexan sheet is going to be cut to better fill the frame before the actual coating.
- Designing of the wire coating holder.

