

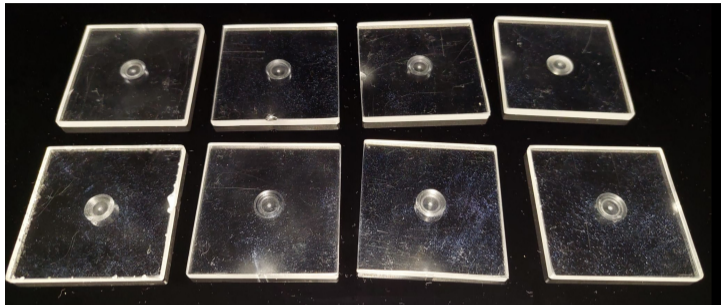
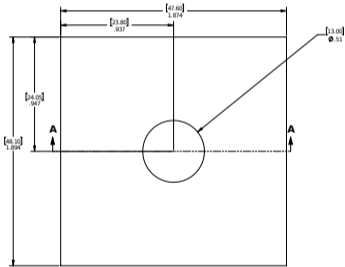
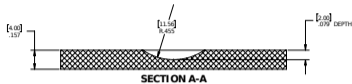
LFHCaI tile machining

June 21, 2023

Friederike Bock, Oskar Hartbrich, Norbert Novitzky (ORNL)

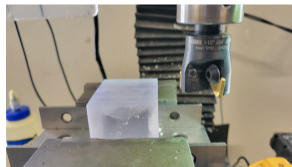
F. Bock (ORNL), O. Hartbrich (ORNL), N. Novitzky (ORNL), K. Read (ORNL), N. Schmidt (ORNL)

Machining tiles

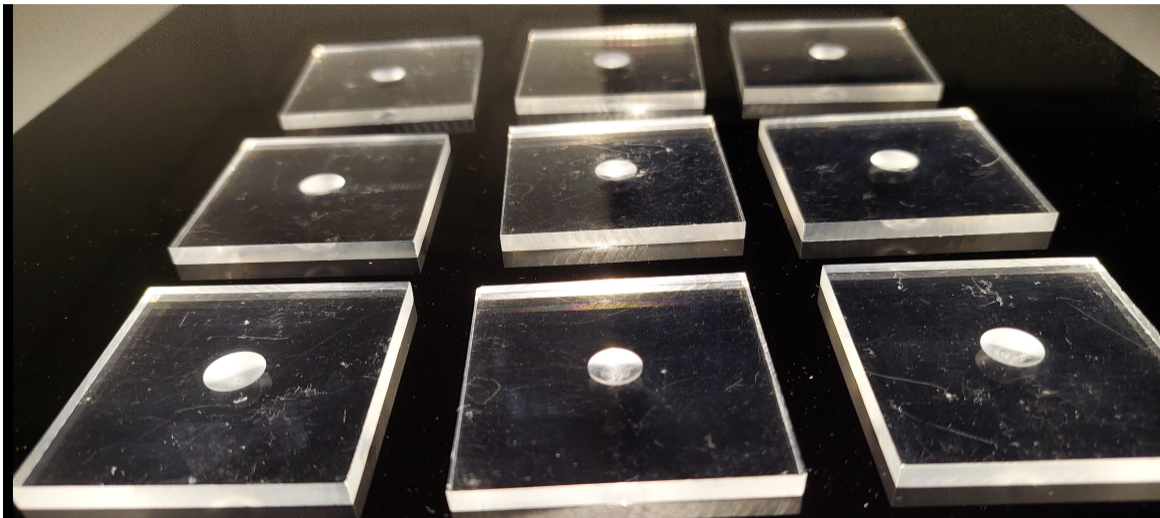


- Rather simple geometry
- Still many things that can go wrong
- EJ-200 very soft plastic, very sensitive to chemical, easy to "burn" accidentally
- Trying to avoid (micro-) cracks, crazing
- Open questions:
 - ▶ How well do we need it polished edges, dimple & faces ?
 - ▶ How much are micro cracks/crazing deminishing the LY?

- a) Use modified wet tile saw (i.e. RIDGID 9) to cut tiles, leave protective foil on
 - ▶ Run off variac to decrease speed to 10-30% of normal
 - ▶ Exchange water pump to increase cooling
 - ▶ Current precision \approx 1-2 mm, could be increased with improved setup
 - ▶ Only water, no soap
- b) Use fly cutter to get to exact dimensions (multiple tiles at once), leave protective foil on
- c) Add dimple using ball nose end mill, running it very slow
 - ▶ No cooling currently (could be added)
- d) Polishing: 0.3 Alumina powder + water + tiny drop of "Dawn" soap + polishing buff on faces & edges



Latest tiles (1)



Latest tiles (2)

