

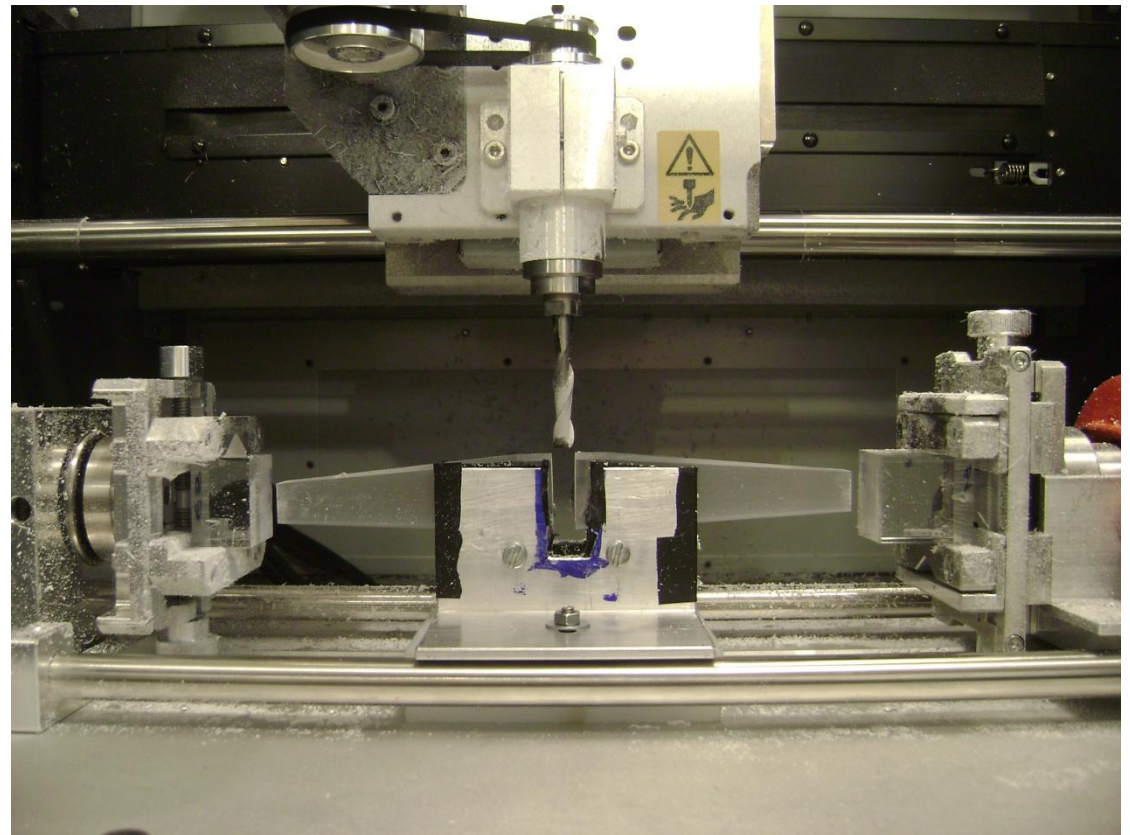
Trapezoidal Light Guides production
status.

30/05/2011

Prototyping

Clamp of centre.

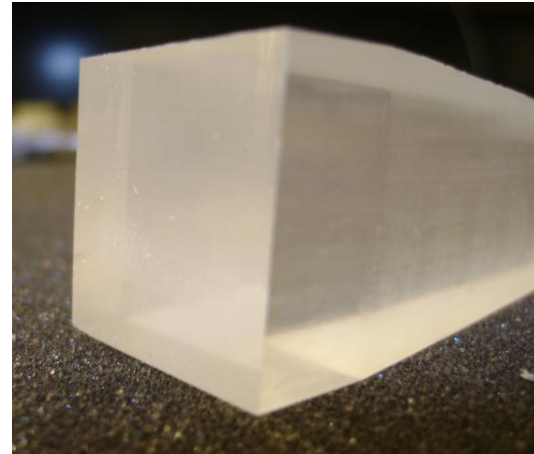
- Around 2 h to separate the LG.
- 6 LG have been separated.



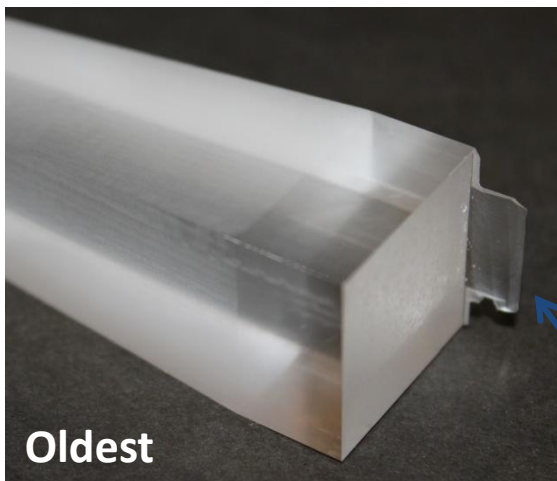
Prototyping

Result of cut.

- **No** tab or residual material on extreme of LG.



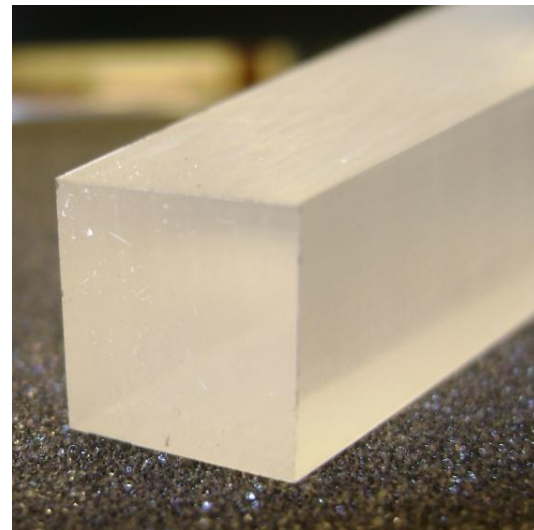
Fiber side



Oldest

Fiber side

Tab

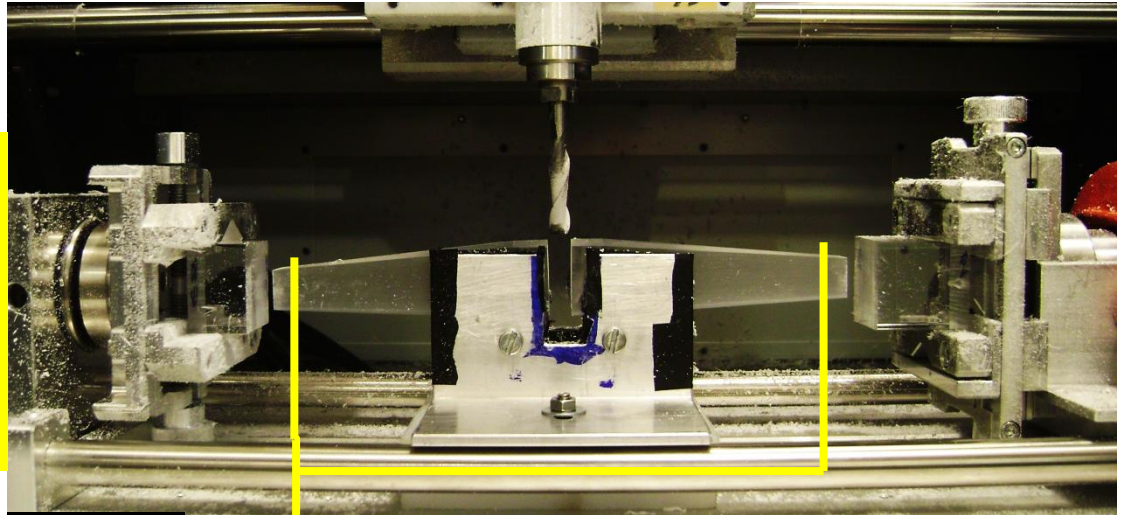


MPPC side

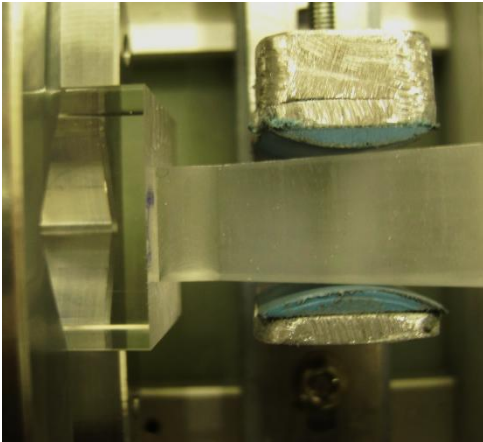
Prototyping

Clamping System

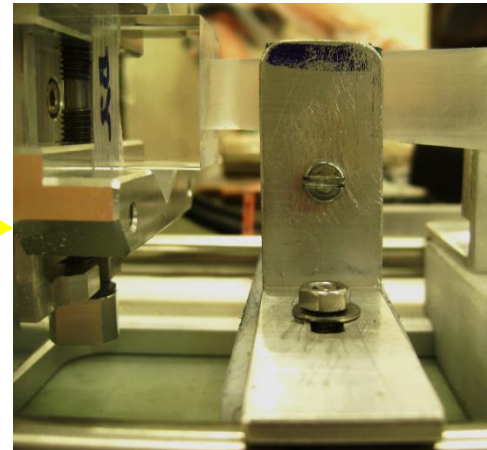
- Now, we finishing the second clamp to fix the ends of pieces and to ensure parallelism between faces.



Front view



Detail, Top view



Detail, Front view

Prototyping

LG stock material

- Just now in Chile, only one company can certify the sale of acrylic rods with optical properties but only sections of $25 \times 25 \text{ mm}^2$.

Sabic Polymershapes, Chile

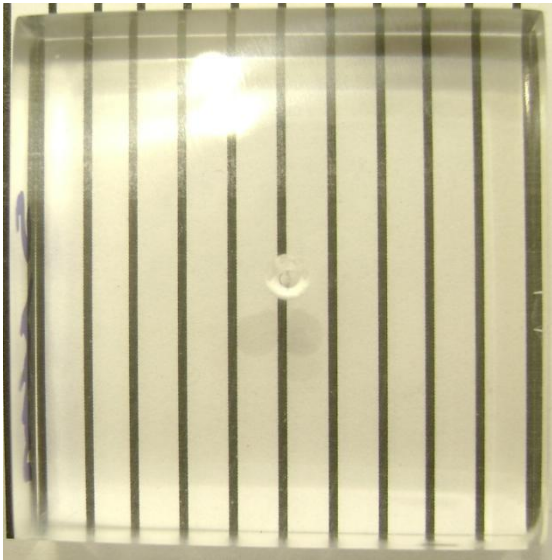
http://www.cpchile.com/contenido.php?id_articulo=169&id_categoria=1



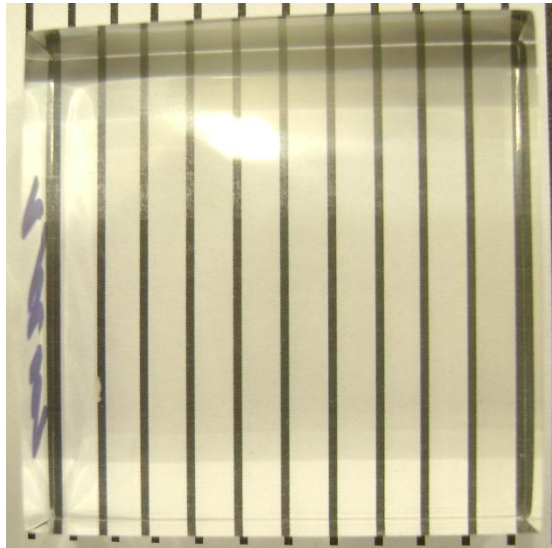
Polishing

Test on acrylic pieces.

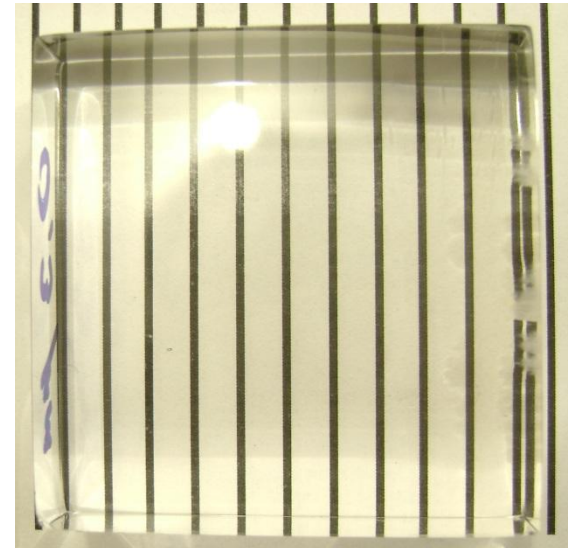
5 μm



1 μm



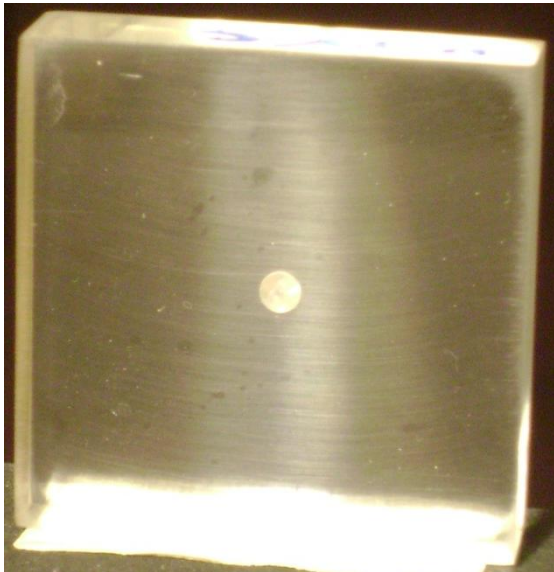
0,3 μm (Very good
eye view quality)



Polishing

Test on acrylic pieces

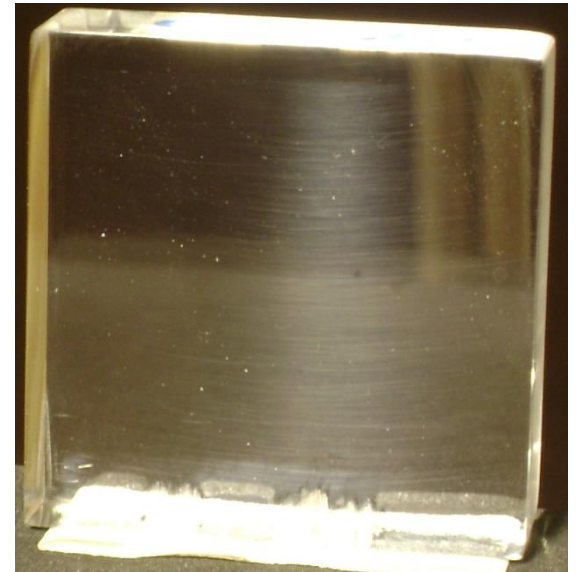
5 μm



1 μm



0,3 μm (Very good
eye view quality)



Polishing

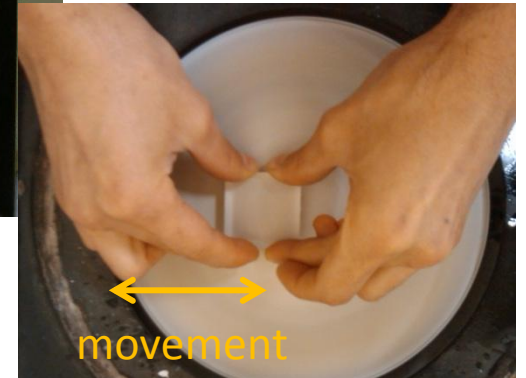
Test

Two main process.

- Roughing
- Polishing



Three different sandpaper.

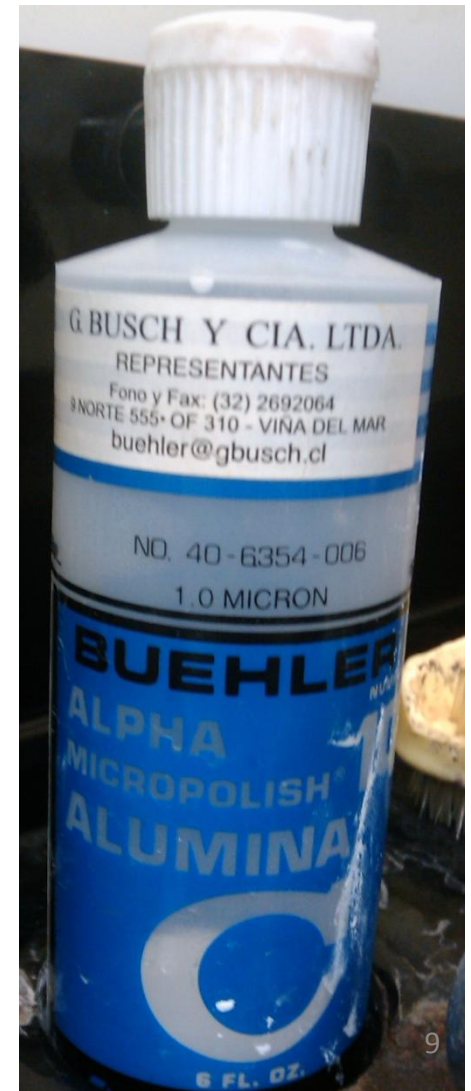


Polishing

Aluminum Oxide

Two weeks ago we have sent the memo bought:

- 180 ml, liquid solution of aluminum oxide n°1, **5 μm** .
- 180 ml, liquid solution of aluminum oxide n°1C, **1 μm** .
- 180 ml, liquid solution of aluminum oxide n°2A, **0.3 μm** .



Polishing

USM Labs

We have obtained permission to use a USM lab for:

- Polishing
- Testing surface quality (Optical instrument).

The major constraint is that only can be used it in free hours.

Next Steps

- Finish the second clamp, separate all LG and send to Athens and Regina.
- Milling two module to JLab.
- Testing surface quality for polishing pieces.
- Testing surface quality that the machine delivery and compare it with roughing of polishing.
- Polishing a LG and send it to JLab to test.

END