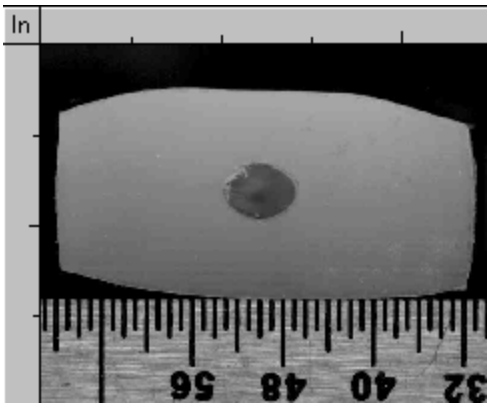
The Sample Photo During Setting Up the Extrusion
Done by Dan Wu with the supervision and guidance under Prof. M. Kostic
(11/25/03)

Significant Extrusion Parameters
V- Puller Speed (cm/sec)
P_V - Vacuum Pressure (inch of water)
P_{N2} – N2 Pressure (inch of water)

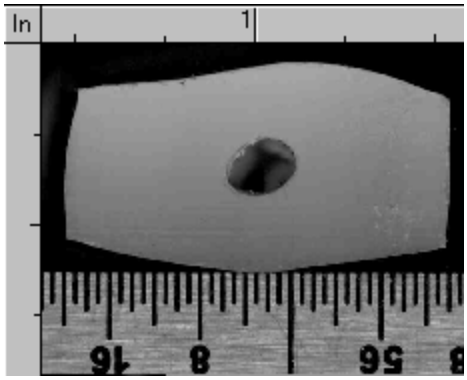
In this extrusion, V = 6.089, P_V = 7.9, P_{N2} = 5

Photos of the Samples in the Transition

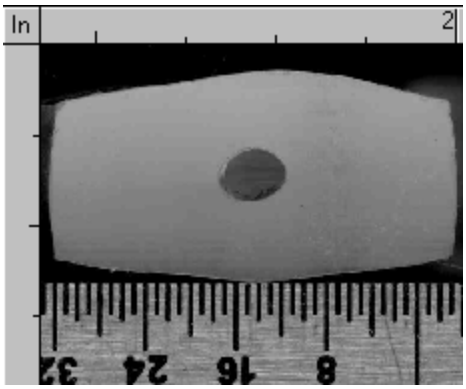
Unit: inch



1S: Taken at 11:08AM, 11/13/03
The cross section of the sample 1 is very small because of a big pulling force at the beginning of setting up the extrusion, which leads the polymer flow to go through all the extrusion instrument.

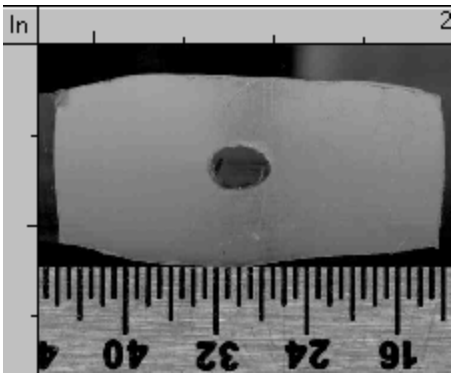


2S: Taken at 11:09AM, 11/13/03
Sample 2 was taken just one minute after sample 1 was taken. The cross section of the sample 2 did not change a lot, which is also very small. The big pulling force still existed.



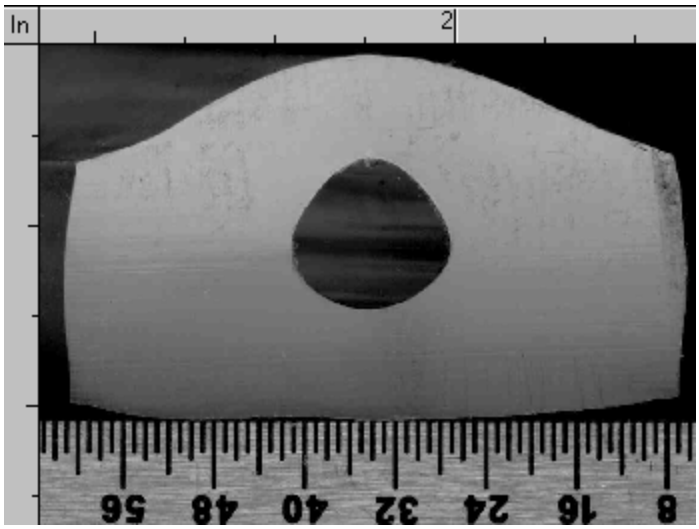
3S: Taken at 11:10AM, 11/13/03

Sample 3 was taken just one minute after sample 2 was taken. The cross section of the sample 3 did not change a lot, which is also very small. The big pulling force still existed.



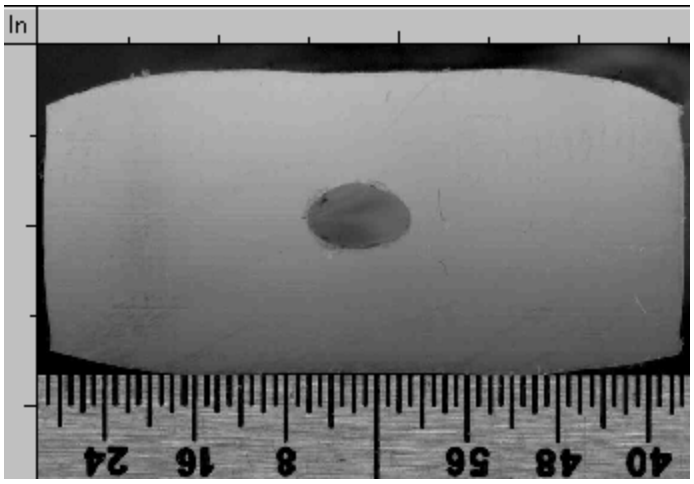
4S: Taken at 11:10AM, 11/13/03

Sample 4 was taken just one minute after sample 3 was taken. The cross section of the sample 4 did not change a lot, which is also very small. The big pulling force still existed.



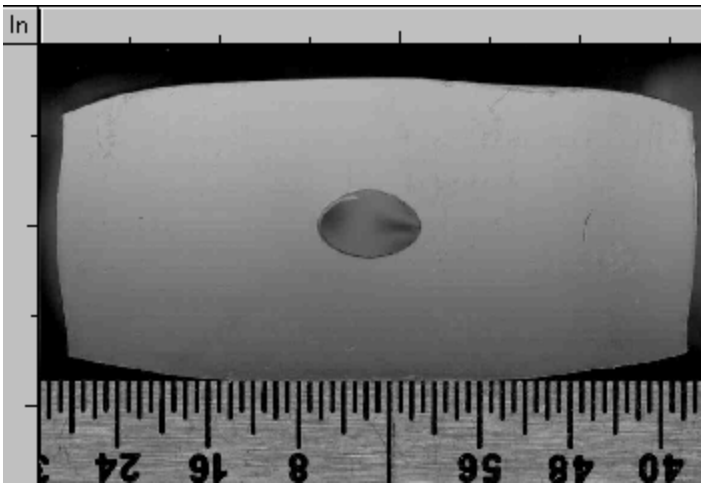
5S: Taken at 11:10AM, 11/13/03

Sample 5 was taken about 30 seconds after sample 4 was taken. The cross section of the sample 5 became much bigger than that of sample 4 and the diameter of the hole is also much bigger than all the previous samples. At this time, the big pulling force did not exist. But the shape of the cross section of the sample 5 is twisted very much, because the sample came out during a sudden decreased pulling force.



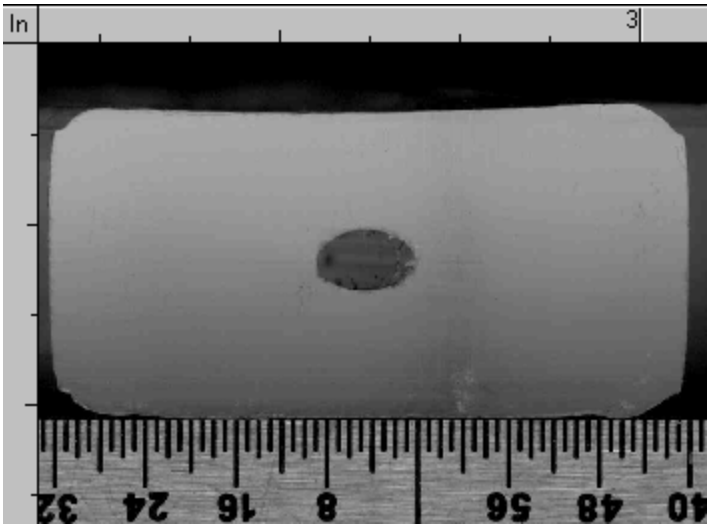
6S: Taken at 11:11AM, 11/13/03

Sample 6 is taken about 30 seconds after sample 5 was taken. The cross section of the sample 6 became regular.



7S: Taken at 11:11AM, 11/13/03

Sample 7 is taken about 30 seconds after sample 6 was taken. During this time, the sample did not change a lot. The extrusion was still in the transition.



8S: Taken at 11:12AM, 11/13/03

Sample 8 is taken about 30 seconds after sample 7 was taken. The cross section of the sample 8 is more regular than that of sample 7. The extrusion became stable during this time. After this time, the extrusion was stable.

Conclusion

For this regular extrusion, it took about 5 minutes (11:08 AM-11:12 AM) to get stable. At the beginning of setting up the extrusion, the big pulling force affected the shape of the cross section of the sample. The bigger pulling forced, the smaller cross section.