

Scanning and Measurement of the Samples

Done by Dan Wu with guidance and supervision under Prof. M. Kostic
(11/24/2003)

Samples collected on 11/13/2003

V- Puller Speed (cm/sec)

V_{ref} – Reference Puller Speed at which the radius of the hole become biggest

P_V - Vacuum Pressure (inch of water)

P_{N2} – N2 Pressure (inch of water)

R1 – Bigger Radius of the Central Hole (mm)

R2 – Smaller Radius of the Central Hole (mm)

H_{smin} – The minimum side height of the sample (mm)

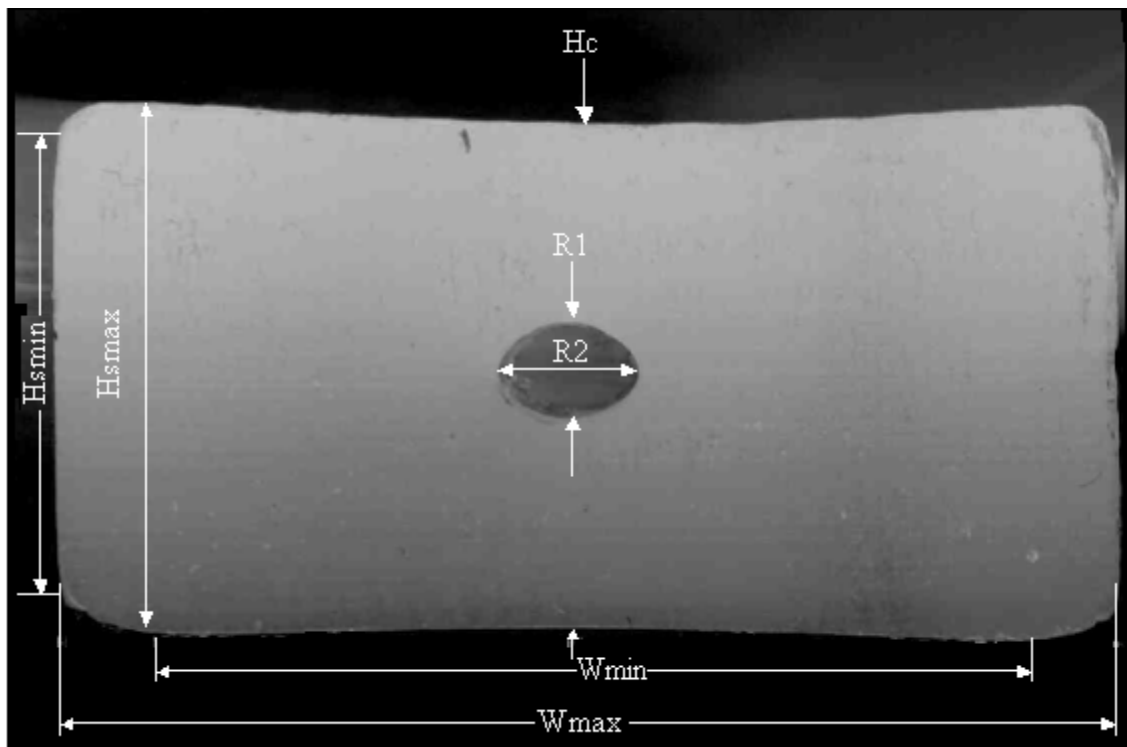
H_{smax} – The maximum side height of the sample (mm)

H_c – The central height of the sample (mm)

W_{min} – The minimum width of the sample (mm)

W_{max} – The maximum width of the sample (mm)

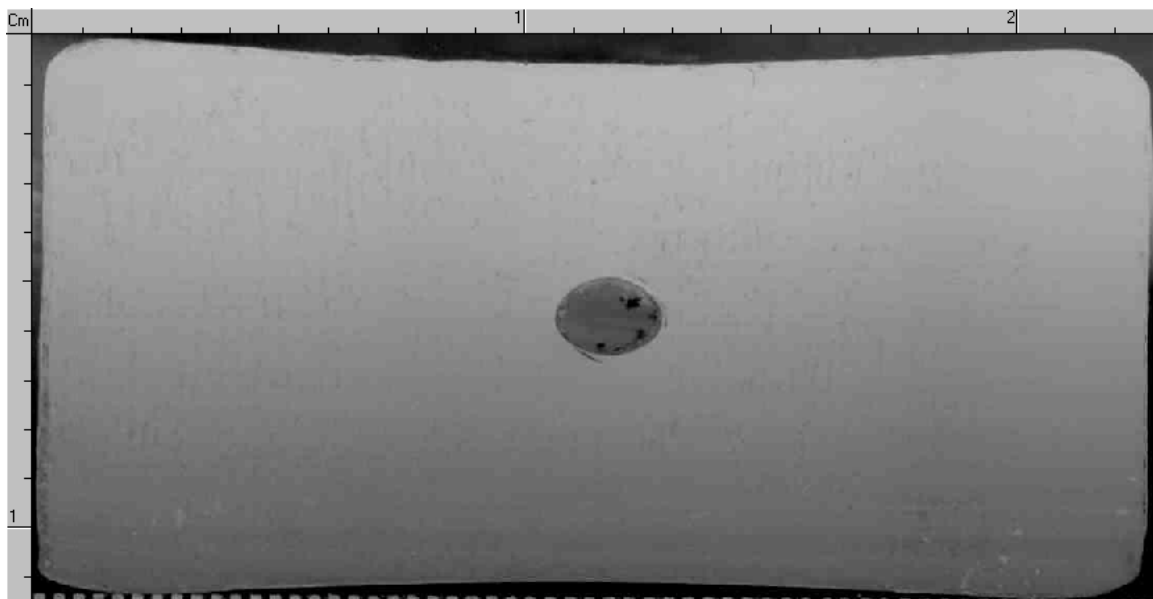
Measured Dimension of the Sample



Photos of Experimental Samples



S1: $V = 6.00$, $P_V = 2.5$, and $P_{N_2} = 7.9$ (At this time no hole in the center)



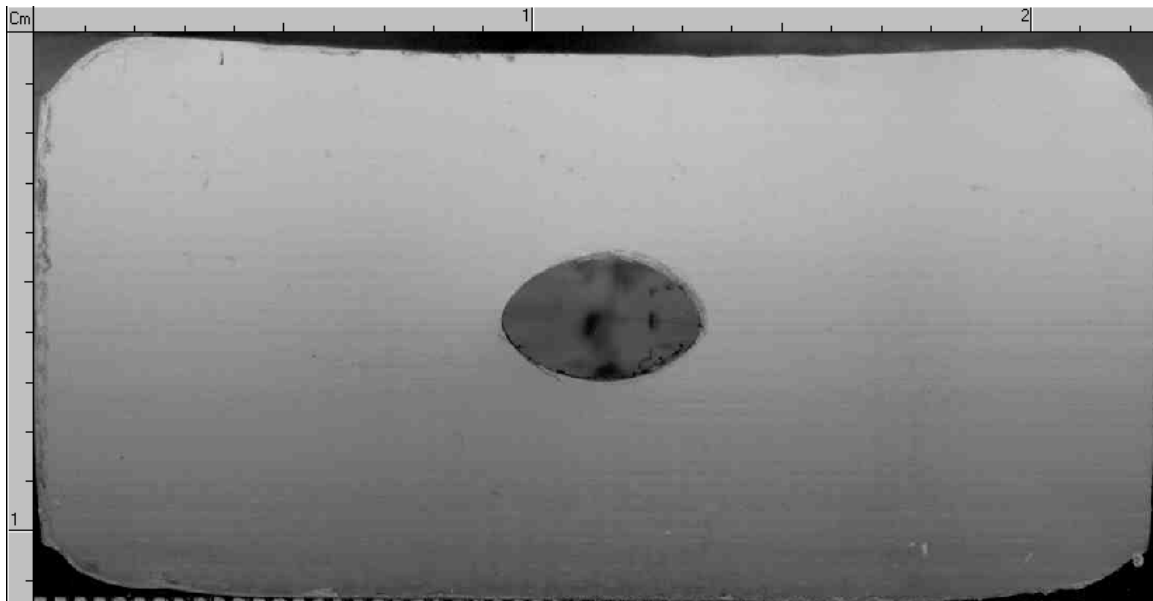
S2: $V = 6.02$, $P_V = 2.5$, and $P_{N_2} = 7.9$

V (Puller Speed) is changed from 6.00 to 6.02, at which time the hole appeared. The dimension of the central hole is $R_1 = 1.03$ and $R_2 = 0.80$.



S3: $V = 6.07$, $P_V = 2.5$, and $P_{N_2} = 7.9$

V (Puller Speed) is changed from 6.02 to 6.07, at which time the hole became bigger that of S2. The dimension of the central hole is $R1 = 1.389$ and $R2 = 0.926$.



S4: $V = 6.089$, $P_V = 5$, and $P_{N_2} = 7.9$

V (Puller Speed) was changed from 6.07 to 6.089, and P_V (Vacuum Pressure) was changed from 2.5 to 5, at which time the hole became bigger again. The dimension of the central hole is $R1 = 2.021$ and $R2 = 1.368$.



S5: $V = 6.565$, $P_V = 5$, and $P_{N2} = 7.9$

V (Puller Speed) was changed from 6.089 to 6.565, at which time the hole became smaller than that of S4. The dimension of the central hole is $R1 = 1.432$ and $R2 = 1.116$.



S6: $V = 6.089$, $P_V = 5$, and $P_{N2} = 3.9$

P_{N2} (N_2 Pressure) was changed from 7.9 to 3.9 (S6-S4), at which time the hole became smaller than that of S4. The dimension of the central hole is $R1 = 1.453$ and $R2 = 0.926$