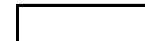


Cathode #	Pre- #1	Pre- #2	Pre- #3	Post- #1
Date	May 2011	May 2011	May 2011	June 2011
Comments	Before magnet change	Before magnet change	Before magnet change	after magnet change
Wafer Size (in.)	4	4	4	4
Flexus pre-deflection:	1.64	-3.69	1.52	0.53
Flexus post-deflection:	-20.03	-17.34	-10.93	-21.58
Deflection change:	-21.67	-13.65	-12.45	-22.11
Material:	Cr	Cr	Cr	Cr
Approx. Material Thickness (nm):	245	230	210	240
Stress (Mpa):	940.2	631	620.9	942.4
Cathode:	1	2	3	1
Gas:	Ar	Ar	Ar	Ar
Flow rate (%):	28.5	29.5	29.6	199.7
Base Pressure (μ Torr):	1.9	1.9	1.9	1.9
Pressure (mT):	4.13	3.87	4.07	3.84
Power (W):	199	198	198	200
Time (min.):	6	6	6	6
Time Chamber Open (min.):	1	1	3	10
Pump-down Time(min.):	15	20	40	62
Tencor Thickness (nm):				
Measurement Tool:	Tencor			
Site 1:	237.00	218.80	202.90	238.60
Site 2:	260.04	223.40	199.73	239.87
Site 3:	246.50	215.10	185.63	233.33
Site 4:	269.53	207.80	201.23	242.50
Site 5:	266.68	216.00	197.70	248.20
Average (nm):	255.95	216.22	197.44	240.50
% Uniformity	6.35	3.61	4.37	3.09
Sheet Resistance (Ω /square):				
Site 1:	2.27	2.99	4.16	3.09
Site 2:	2.31	3.15	4.42666667	2.19
Site 3:	3.12	4.36	5.64333333	2.91
Site 4:	2.37	3.10	4.13333333	2.10
Site 5:	2.31	3.11	4.12333333	1.71
Average (nm):	2.47	3.34	4.50	2.40
% Uniformity	17.11	20.46	16.90	28.76
Resistivity ($\mu\Omega$ -cm)				
Site 1:	53.799	65.4212	84.4064	73.73
Site 2:	60.0686625	70.2593	88.4116	52.45
Site 3:	76.8258333	93.7119	104.754375	67.82
Site 4:	63.7875833	64.3141	83.173	51.01
Site 5:	61.601925	67.176	81.5183	42.44
Average (nm):	63.22	72.18	88.45	57.49
% Uniformity	18.21	20.37	13.13	27.21

Deposition Rate (nm/min)				
Site 1:	39.5	36.4666667	33.8166667	39.76666667
Site 2:	43.3395833	37.2333333	33.2875	39.97777778
Site 3:	41.0833333	35.85	30.9375	38.88888889
Site 4:	44.9208333	34.6333333	33.5375	40.41666667
Site 5:	44.4458333	36	32.95	41.36666667
Average (nm/min):	42.66	36.04	32.91	40.08
% Uniformity	6.35	3.61	4.37	3.09

Post- #2	Post- #3	#1	#1 Run 2	#2	#3
June 2011	June 2011	7/18/2012	8/11/2012	7/18/2012	7/18/2012
after magnet change	after magnet change	magnet wasn't changed	magnet wasn't changed	after magnet change	after magnet change
4	4	4	4	4	4
3.98	-1.22	10.49	26.71	9.35	3.28
-10.5	-13.4	-9.82	7.21	-0.61	-11.27
-14.48	-12.18	-20.31	-19.5	-9.96	-14.55
Cr	Cr	Cr	Cr	Cr	Cr
250	250		268.1	276.71	291.5
577	563.3	847.4	775	380.3	516.1
2	3	1	1	2	3
Ar	Ar	Ar	Ar	Ar	Ar
196	197.2	40	40	40	40
1.5	1.8	2	2	1.7	2
4.54	4.33	2.4	2.38	2.15	2.3
200	200	250	250	250	250
6	6	6	6	6	6
10	10	10	2	15	18
46	40	54	70	65	65
235.67	233.37	296.6	285.9	250.6	257
226.08	226.77	295	284.6	244.6	241.8
225.83	222.20	280	282.4	258.9	258.5
251.43	237.53	286.3	298.5	266.3	274.7
242.30	246.40	299	302	275.4	264.1
236.26	233.25	291.38	290.68	259.16	259.22
5.42	5.19	3.2603473	3.371405	5.942275	6.345961
3.75	3.28	2.0989	2.2988	4.0978	1.899
3.64	3.89	1.799	2.3987	3.9979	1.799
4.65	4.26	2.1988	2.49	4.0978	2.6986
3.31	2.85	2.3987	1.799	3.1983	3.1983
3.27	3.21	1.5992	1.799	2.8985	2.5986
3.72	3.50	2.01892	2.1571	3.65806	2.4387
18.58	20.21	19.80019	16.016875	16.392569	28.689466
88.30	76.47	62.253374	65.722692	102.69087	48.8043
82.22	88.14	53.0705	68.267002	97.788634	43.49982
105.01	94.73	61.5664	70.3176	106.09204	69.75881
83.22	67.69	68.674781	53.70015	85.170729	87.857301
79.15	79.01	47.81608	54.3298	79.82469	68.629026
87.58	81.21	58.676227	62.467449	94.313393	63.709851
14.76	16.65	17.774405	13.300887	13.925568	34.812105



39.27777778	38.89444444	49.4333333	47.65	41.766667	42.833333
37.67916667	37.79444444	49.166667	47.433333	40.766667	40.3
37.63888889	37.03333333	46.666667	47.066667	43.15	43.083333
41.90555556	39.5875	47.716667	49.75	44.383333	45.783333
40.38333333	41.06666667	49.833333	50.333333	45.9	44.016667
39.38	38.88	48.563333	48.446667	43.193333	43.203333
5.42	5.19	3.2603473	3.371405	5.942275	6.345961