

Water sorptivity results of the concrete mixes

28-32 days water sorptivity results after 3-days initial moist curing period



University of Cape Town and University of Witswatersrand Departments of Civil Engineering Sorptivity Test Analysis

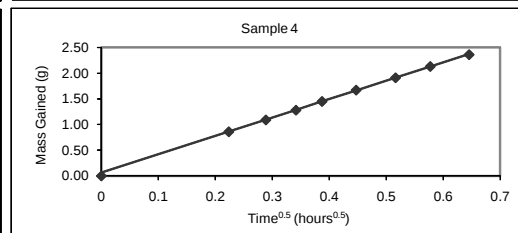
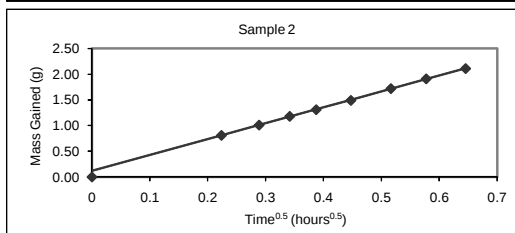
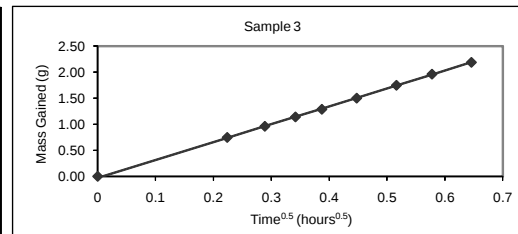
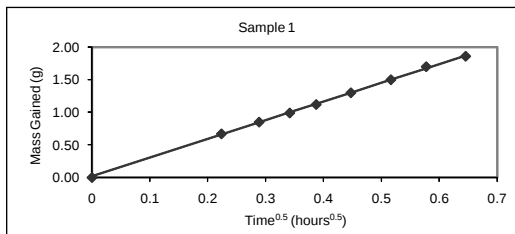
Sample ID: PC-40-3
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 8.2 COV: 9.6
Av. Porosity: 10.9 COV: 16.1

Sample ID	1	2	3	4
Diameter (mm)	68.63	68.28	68.42	68.15
Thickness (mm)	30.62	29.99	30.76	28.47
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	259.42	249.13	254.13	231.49
3	260.09	249.94	254.8	232.31
5	260.27	250.14	254.97	232.52
7	260.41	250.31	255.13	232.7
9	260.54	250.44	255.25	232.84
12	260.72	250.62	255.4	233.03
16	260.92	250.85	255.59	233.28
20	261.12	251.04	255.74	233.45
25	261.28	251.24	255.91	233.66
Saturated Mass (g)	270.17	260.68	265.75	243.04
R ² (Must be >0.98)	0.9992	0.9992	0.9998	0.9998
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	8.2	8.0	9.2	7.3
Porosity (%)	9.5	10.5	10.2	13.5

C



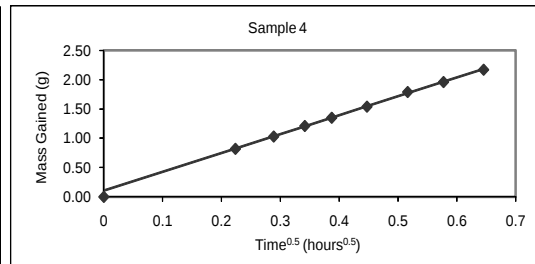
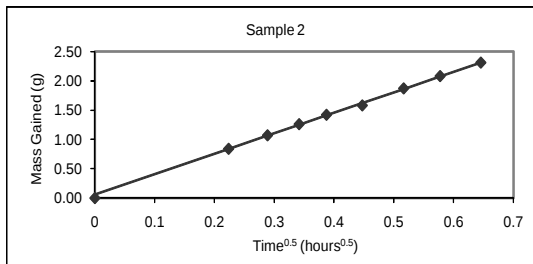
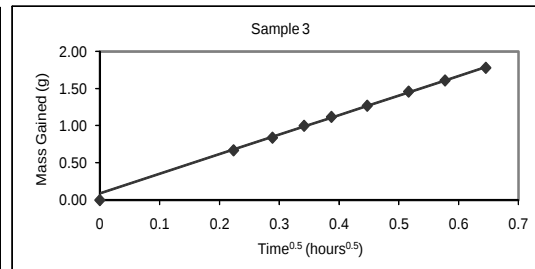
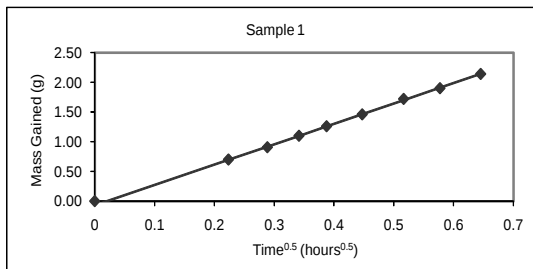
**University of Cape Town and University of Witswatersrand
Departments of Civil Engineering
Sorptivity Test Analysis**

Sample ID: PC-50-3
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 8.5 COV: 13.5
Av. Porosity: 10.3 COV: 3.7

Sample ID	42A	42B	44A	44B
Diameter (mm)	68.33	68.15	68.24	68.12
Thickness (mm)	29.23	31.61	30.01	32.67
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	243.92	265.04	244.84	267.43
3	244.62	265.88	245.59	268.29
5	244.83	266.11	245.8	268.52
7	245.02	266.3	245.98	268.71
9	245.18	266.46	246.13	268.88
12	245.38	266.62	246.34	269.1
16	245.64	266.91	246.59	269.34
20	245.82	267.12	246.8	269.56
25	246.06	267.35	247.03	269.79
Saturated Mass (g)	255.02	276.99	256.35	281.41
R ² (Must be >0.98)	0.9997	0.9997	0.9990	0.9990
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	9.0	9.2	6.8	9.1
Porosity (%)	10.4	10.4	10.6	9.7



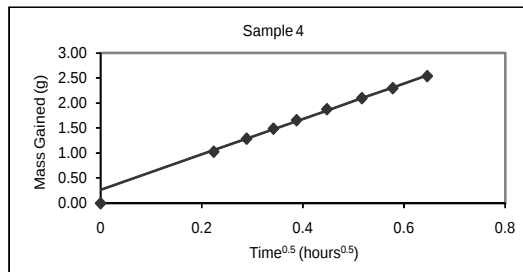
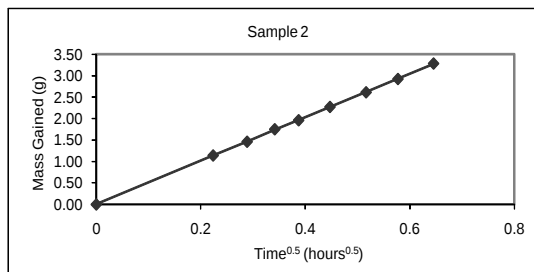
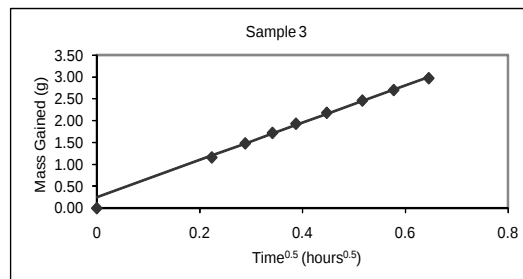
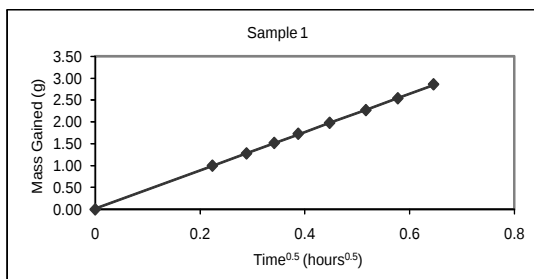
University of Cape Town and University of Witswatersrand
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: PC-60-3
 Date: 9/3/2012

Operator: AY

Av. Sorptivity: 10.6 COV: 10.4
 Av. Porosity: 11.0 COV: 7.3

Sample ID	42A	42B	44A	44B
Diameter (mm)	68.67	68.67	68.21	68.09
Thickness (mm)	30.67	30.67	33.17	30.32
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	254.27	255.52	276.37	252.28
3	255.27	256.66	277.53	253.31
5	255.55	256.98	277.85	253.57
7	255.79	257.27	278.09	253.77
9	256	257.48	278.3	253.94
12	256.25	257.79	278.55	254.16
16	256.54	258.13	278.83	254.38
20	256.81	258.44	279.07	254.58
25	257.13	258.8	279.34	254.82
Saturated Mass (g)	266.8	269.3	288.73	264.21
R ² (Must be >0.98)	0.9998	0.9998	0.9999	0.9999
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	10.7	11.2	11.4	9.0
Porosity (%)	11.0	12.1	10.2	10.8



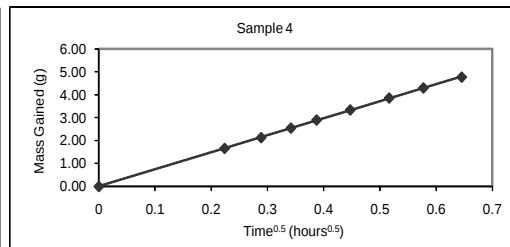
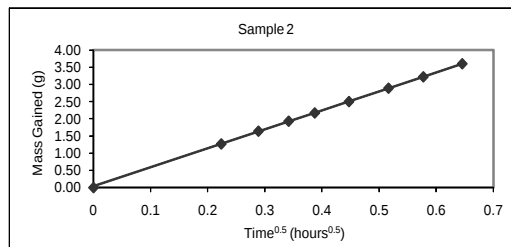
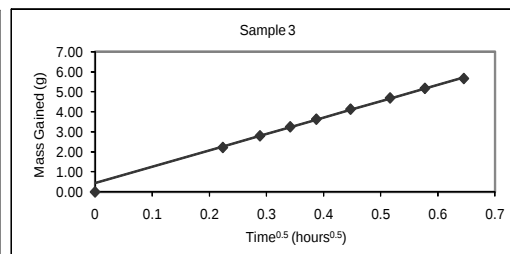
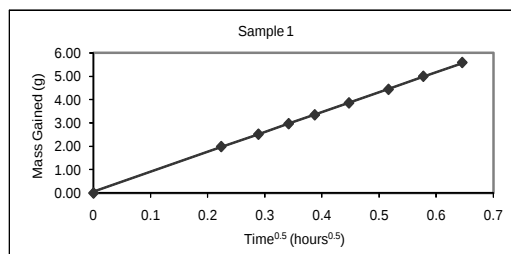
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: PC-75-3
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 15.5 COV: 14.1
Av. Porosity: 12.2 COV: 7.2

Sample ID	42A	42B	44A	44B
Diameter (mm)	70.58	70.58	70.58	70.47
Thickness (mm)	29.85	28.15	31.18	29.5
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	253.73	246.11	270.23	259.45
3	255.72	247.38	272.45	261.11
5	256.25	247.75	273.03	261.58
7	256.7	248.04	273.48	262
9	257.08	248.28	273.86	262.35
12	257.59	248.61	274.36	262.79
16	258.17	249	274.92	263.31
20	258.73	249.33	275.4	263.75
25	259.32	249.71	275.89	264.22
Saturated Mass (g)	269.31	258.77	285.31	272.69
R ² (Must be >0.98)	0.9998	0.9998	1.0000	1.0000
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	16.4	12.2	16.9	16.5
Porosity (%)	13.3	11.5	12.4	11.5



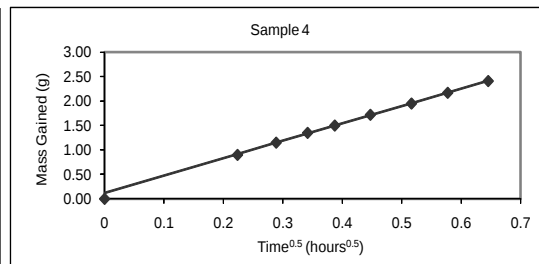
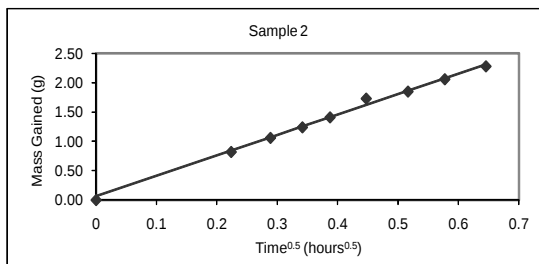
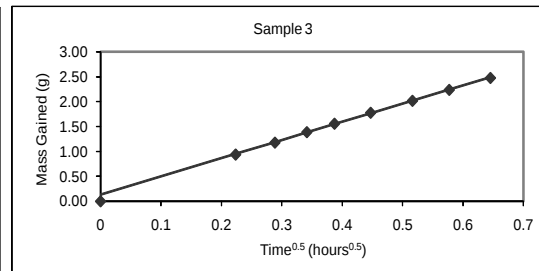
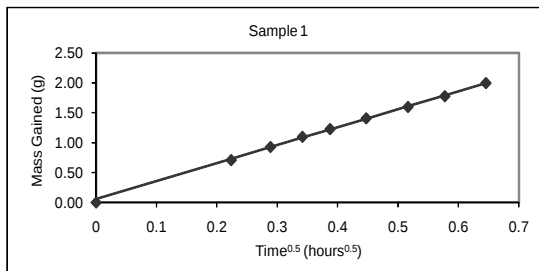
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: FA-40-3
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 8.3 COV: 10.0
Av. Porosity: 10.7 COV: 3.9

Sample ID	42A	42B	44A	44B
Diameter (mm)	70.53	70.24	70.42	70.29
Thickness (mm)	29.89	32.56	31.32	31.03
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	256.85	279.82	271.32	271.45
3	257.56	280.64	272.26	272.35
5	257.78	280.88	272.5	272.6
7	257.95	281.06	272.71	272.8
9	258.08	281.23	272.88	272.95
12	258.26	281.55	273.1	273.17
16	258.45	281.67	273.34	273.4
20	258.63	281.88	273.56	273.62
25	258.85	282.1	273.8	273.86
Saturated Mass (g)	269.29	294.01	284.04	283.88
R ² (Must be >0.98)	0.9992	0.9992	0.9923	0.9923
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	7.2	8.0	9.0	8.9
Porosity (%)	10.7	11.2	10.4	10.3



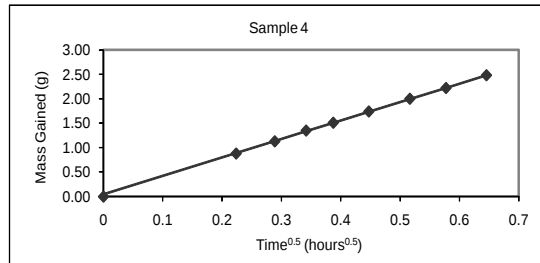
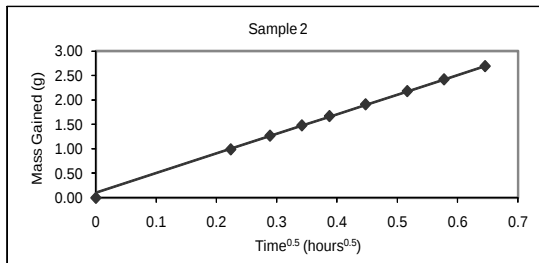
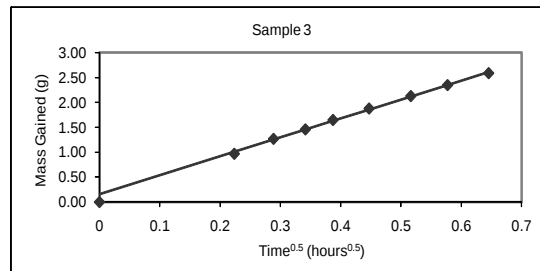
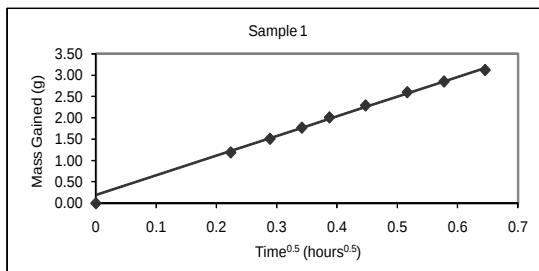
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: FA-50-3
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 9.3 COV: 7.6
Av. Porosity: 11.3 COV: 2.9

Sample ID	1	2	3	4
Diameter (mm)	70.24	70.11	70.28	69.6
Thickness (mm)	29.87	31.24	30.08	32.97
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	258.89	260.83	260.92	257.1
3	260.08	261.82	261.89	257.98
5	260.4	262.1	262.19	258.23
7	260.66	262.31	262.38	258.45
9	260.9	262.5	262.57	258.61
12	261.18	262.74	262.8	258.84
16	261.49	263.01	263.05	259.1
20	261.74	263.25	263.27	259.32
25	262.01	263.52	263.51	259.58
Saturated Mass (g)	272.19	274.88	273.69	271.07
R ² (Must be >0.98)	0.9979	0.9979	0.9998	0.9998
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	10.3	8.9	9.0	8.9
Porosity (%)	11.5	11.6	10.9	11.1



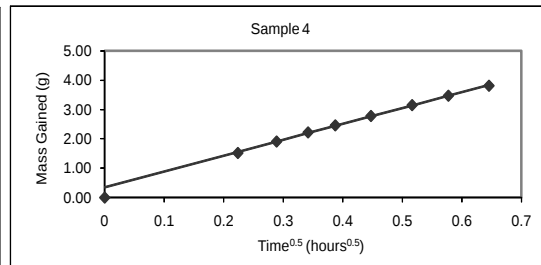
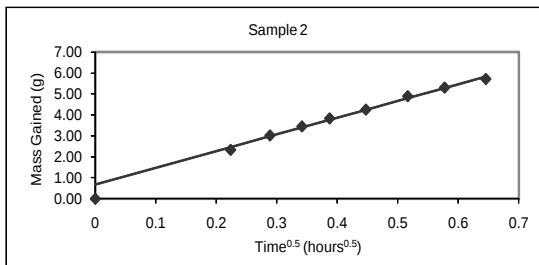
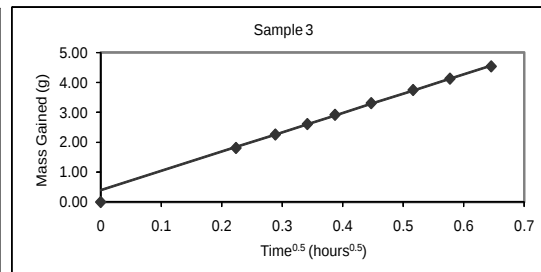
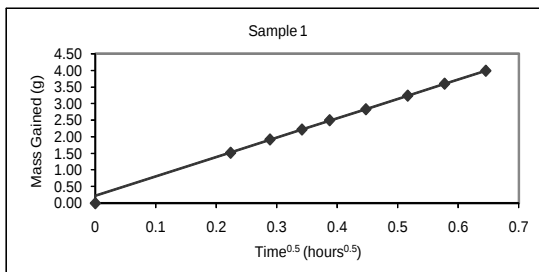
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: FA-60-3
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 14.1 COV: 17.6
Av. Porosity: 11.7 COV: 7.0

Sample ID	1	2	3	4
Diameter (mm)	70.05	70.18	70.39	70.33
Thickness (mm)	30.33	31.63	30.71	31.36
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	259.09	274.36	262.98	275.79
3	260.61	276.69	264.79	277.31
5	261.01	277.38	265.24	277.7
7	261.31	277.81	265.59	278.01
9	261.59	278.19	265.9	278.25
12	261.92	278.61	266.29	278.57
16	262.33	279.25	266.73	278.94
20	262.69	279.66	267.11	279.26
25	263.08	280.07	267.52	279.6
Saturated Mass (g)	272.55	288.48	278.39	289.16
R ² (Must be >0.98)	0.9999	0.9999	0.9950	0.9950
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	13.2	17.9	12.9	12.7
Porosity (%)	11.5	11.5	12.9	11.0



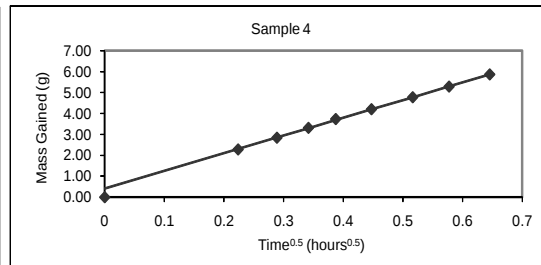
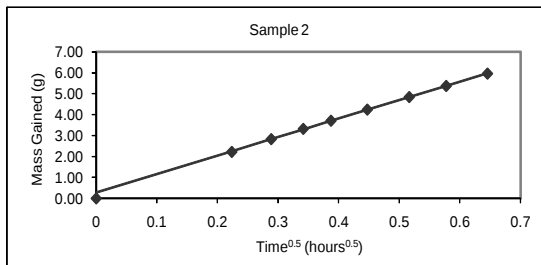
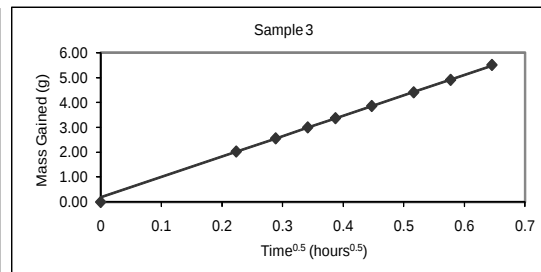
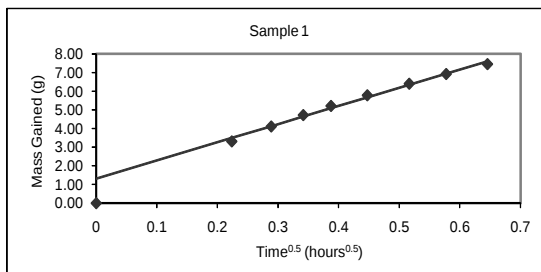
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: FA-75-3
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 18.5 COV: 4.3
Av. Porosity: 12.9 COV: 4.2

Sample ID	1	2	3	4
Diameter (mm)	69.09	68.03	68.4	68.65
Thickness (mm)	30.17	30.21	29.5	31.4
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	240.43	241.87	234.21	241.64
3	243.74	244.09	236.24	243.92
5	244.54	244.7	236.77	244.48
7	245.15	245.19	237.21	244.95
9	245.64	245.58	237.58	245.37
12	246.21	246.11	238.07	245.84
16	246.83	246.71	238.62	246.41
20	247.35	247.24	239.12	246.92
25	247.88	247.83	239.72	247.5
Saturated Mass (g)	255.9	255.61	247.86	256.39
R ² (Must be >0.98)	0.9934	0.9934	0.9998	0.9998
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	19.0	19.4	17.7	18.0
Porosity (%)	13.7	12.5	12.6	12.7



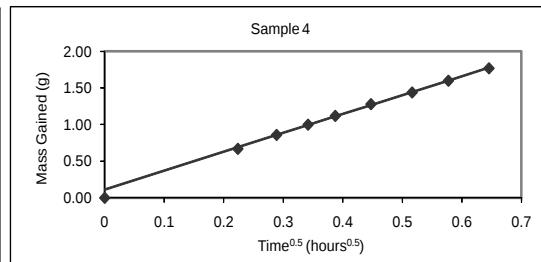
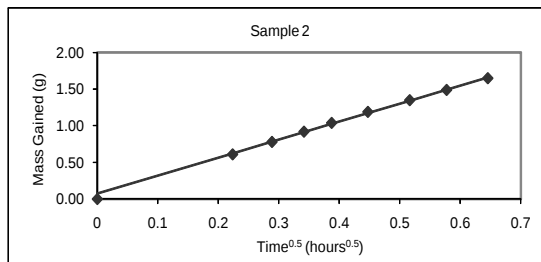
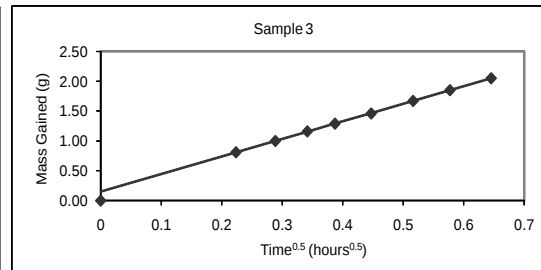
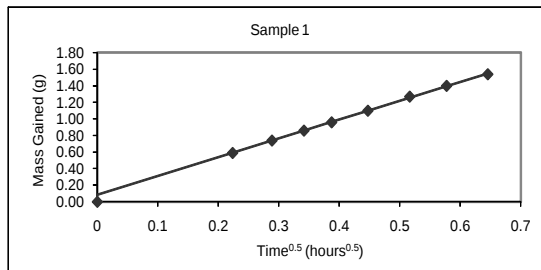
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: SL-40-3
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 6.4 COV: 11.5
Av. Porosity: 10.3 COV: 3.1

Sample ID	1	2	3	4
Diameter (mm)	70.41	70.14	70.29	70.11
Thickness (mm)	28.7	30.84	30.25	30.6
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	253.12	271.84	260.66	272.9
3	253.71	272.45	261.47	273.57
5	253.86	272.62	261.66	273.76
7	253.98	272.76	261.82	273.9
9	254.08	272.88	261.95	274.02
12	254.22	273.03	262.12	274.18
16	254.39	273.19	262.33	274.34
20	254.52	273.33	262.51	274.5
25	254.66	273.49	262.71	274.67
Saturated Mass (g)	265.05	284.04	273.02	284.66
R ² (Must be >0.98)	0.9996	0.9996	0.9990	0.9990
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	5.5	6.2	7.2	6.7
Porosity (%)	10.7	10.2	10.5	10.0



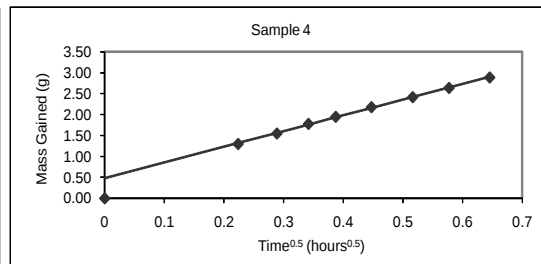
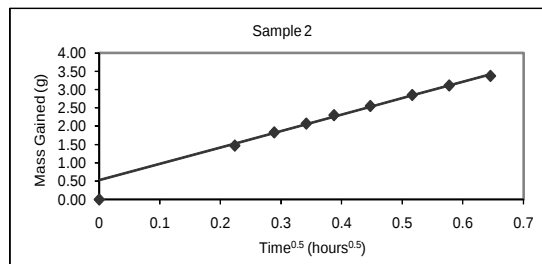
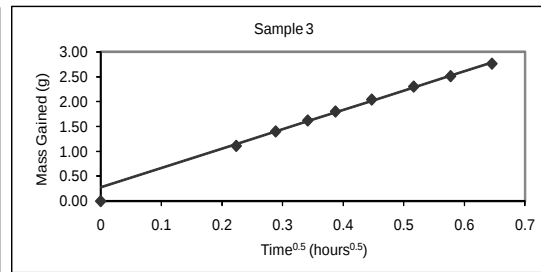
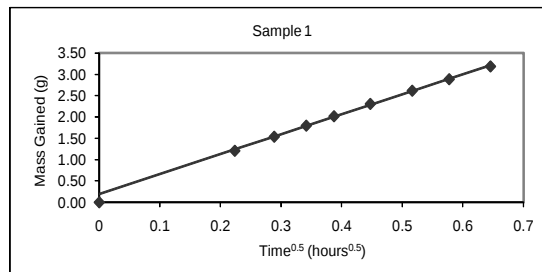
**University of Cape Town and University of
Witwatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: SL-50-3
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 9.2 COV: 14.2
Av. Porosity: 11.8 COV: 11.4

Sample ID	1	2	3	4
Diameter (mm)	70.4	70.34	70.54	70.41
Thickness (mm)	32.41	30.87	31.28	33.91
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	284.24	271.19	266.02	292.1
3	285.45	272.66	267.13	293.4
5	285.78	273.02	267.42	293.65
7	286.04	273.26	267.64	293.88
9	286.26	273.49	267.82	294.05
12	286.55	273.74	268.06	294.28
16	286.86	274.04	268.32	294.52
20	287.13	274.3	268.53	294.74
25	287.43	274.56	268.78	294.99
Saturated Mass (g)	297.9	287.61	280.56	306.42
R ² (Must be >0.98)	0.9992	0.9992	0.9973	0.9973
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	11.1	8.4	8.4	8.9
Porosity (%)	10.8	13.7	11.9	10.8



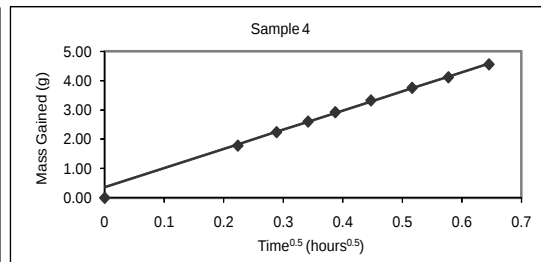
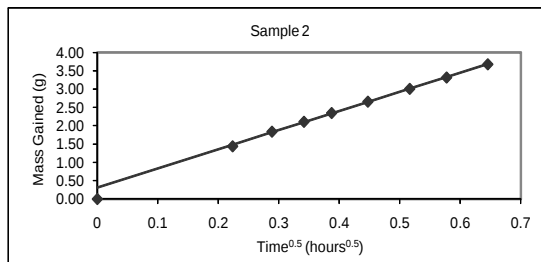
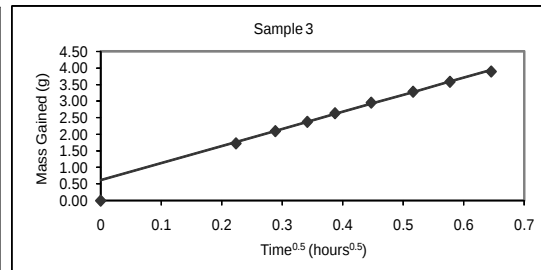
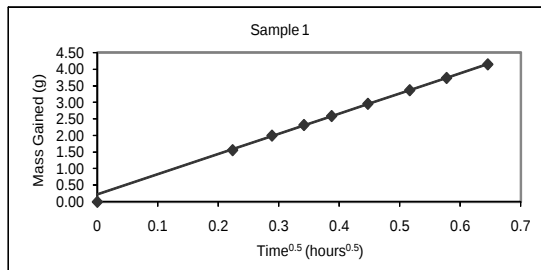
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: SL-60-3
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 11.9 COV: 9.8
Av. Porosity: 12.6 COV: 16.8

Sample ID	1	2	3	4
Diameter (mm)	70.28	70.33	70.47	70.34
Thickness (mm)	28.62	31.91	29.83	30.39
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	242.65	272.1	250.52	250.96
3	244.21	273.54	252.25	252.74
5	244.65	273.94	252.62	253.2
7	244.97	274.21	252.9	253.56
9	245.24	274.45	253.16	253.88
12	245.61	274.76	253.48	254.28
16	246.02	275.11	253.81	254.71
20	246.39	275.42	254.11	255.07
25	246.8	275.78	254.42	255.51
Saturated Mass (g)	256.82	284.62	264.67	268.96
R ² (Must be >0.98)	0.9997	0.9997	0.9994	0.9994
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	12.3	13.3	10.9	11.0
Porosity (%)	12.8	10.1	12.2	15.2



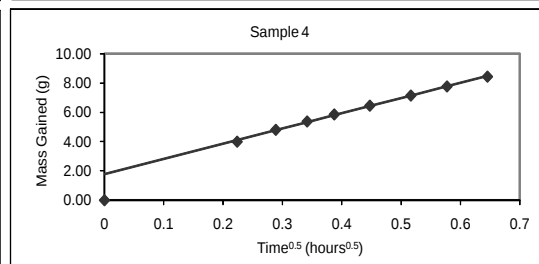
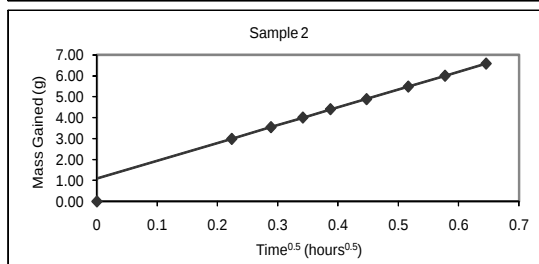
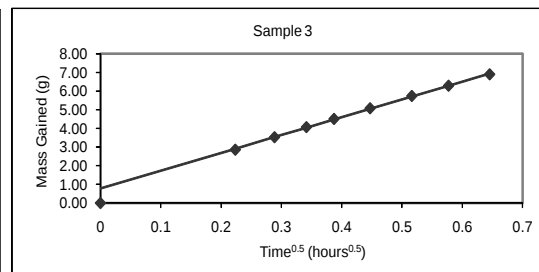
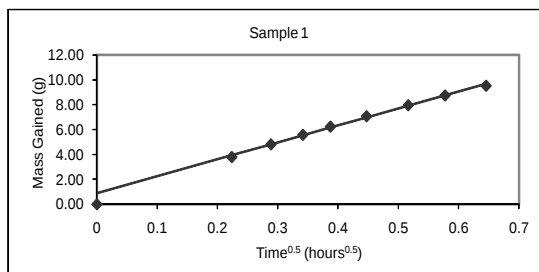
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: SL-75-3
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 19.5 COV: 10.5
Av. Porosity: 13.7 COV: 10.8

Sample ID	1	2	3	4
Diameter (mm)	70.78	70.48	70.52	70.37
Thickness (mm)	29.61	31.04	32.67	35.24
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	239.68	247.2	274.54	286.49
3	243.48	250.19	277.4	290.49
5	244.5	250.75	278.07	291.3
7	245.27	251.21	278.61	291.87
9	245.93	251.61	279.05	292.35
12	246.77	252.09	279.62	292.95
16	247.65	252.69	280.28	293.64
20	248.44	253.21	280.83	294.26
25	249.22	253.79	281.44	294.93
Saturated Mass (g)	258.15	262.38	291.74	304.29
R ² (Must be >0.98)	0.9977	0.9977	0.9999	0.9999
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	21.8	17.4	18.2	20.6
Porosity (%)	15.9	12.5	13.5	13.0



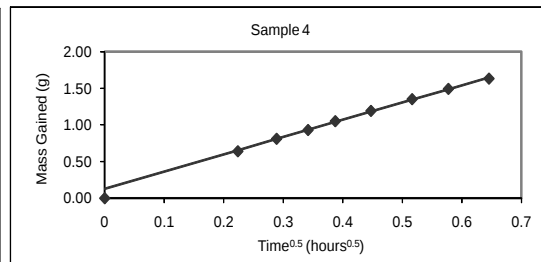
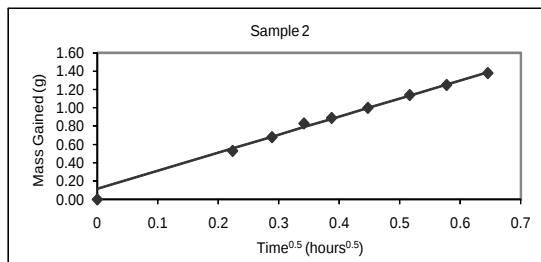
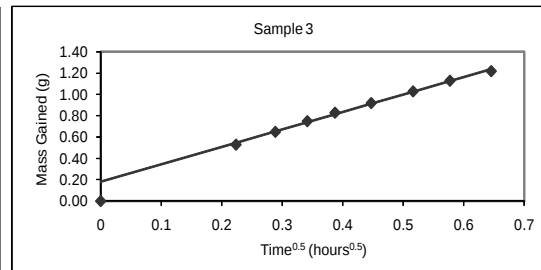
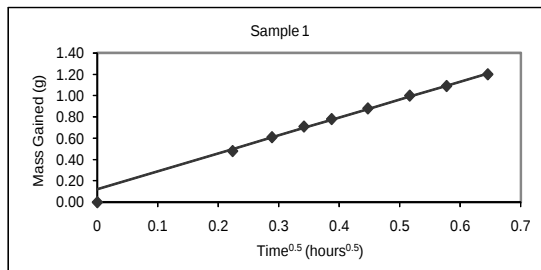
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: SF-40-3
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 5.3 COV: 19.9
Av. Porosity: 9.3 COV: 5.0

Sample ID	42A	42B	44A	44B
Diameter (mm)	70.18	70.21	70.34	70.05
Thickness (mm)	31.17	29.29	29.29	31.42
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	277.98	264.98	258.53	282.36
3	278.46	265.51	259.06	283
5	278.59	265.66	259.18	283.17
7	278.69	265.81	259.28	283.29
9	278.76	265.87	259.36	283.41
12	278.86	265.98	259.45	283.55
16	278.98	266.12	259.56	283.71
20	279.07	266.23	259.66	283.85
25	279.18	266.36	259.75	283.99
Saturated Mass (g)	289.18	274.92	269.79	293.58
R ² (Must be >0.98)	0.9983	0.9983	0.9955	0.9955
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	4.7	5.8	4.3	6.6
Porosity (%)	9.3	8.8	9.9	9.3



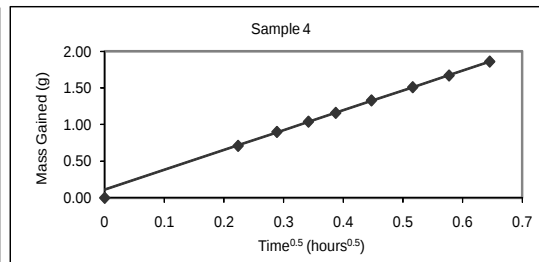
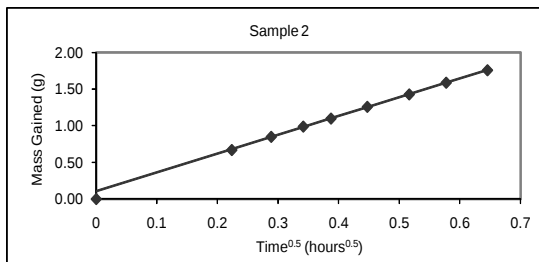
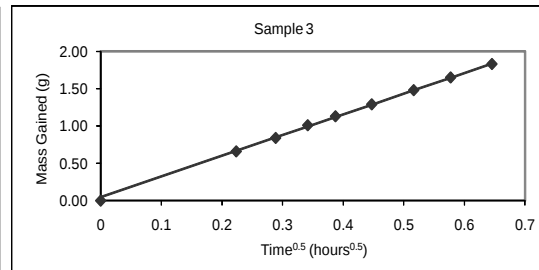
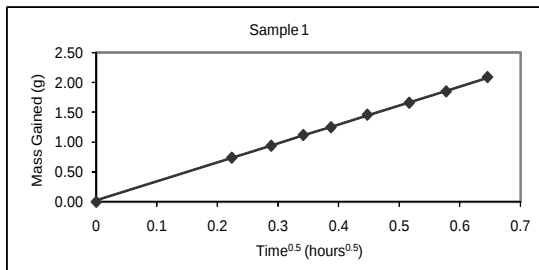
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: SF-50-3
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 6.7 COV: 3.1
Av. Porosity: 10.8 COV: 6.9

Sample ID	42A	42B	44A	44B
Diameter (mm)	70.04	70.12	70.51	70.05
Thickness (mm)	29.47	30.21	29.67	30.05
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	253.05	265.19	258.74	262.2
3	253.79	265.86	259.4	262.91
5	253.99	266.04	259.58	263.1
7	254.17	266.18	259.75	263.24
9	254.3	266.29	259.87	263.36
12	254.51	266.45	260.03	263.53
16	254.71	266.62	260.22	263.71
20	254.9	266.78	260.39	263.87
25	255.14	266.95	260.57	264.06
Saturated Mass (g)	266.53	277.06	270.82	274.68
R ² (Must be >0.98)	0.9996	0.9996	0.9998	0.9998
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	6.9	6.5	6.8	6.5
Porosity (%)	11.9	10.2	10.4	10.8



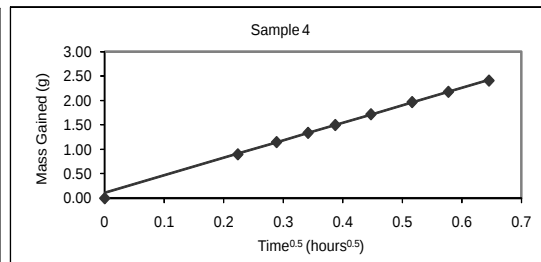
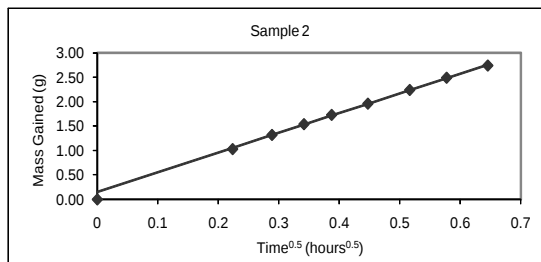
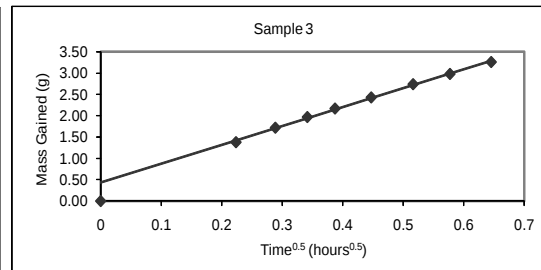
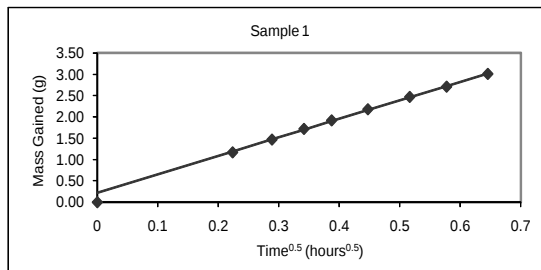
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: SF-60-3
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 8.5 COV: 14.8
Av. Porosity: 12.6 COV: 11.0

Sample ID	42A	42B	44A	44B
Diameter (mm)	70.35	70.44	70.36	70.15
Thickness (mm)	28.8	30.76	29.71	30.55
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	245.35	268.29	251.38	255.64
3	246.52	269.32	252.76	256.54
5	246.82	269.61	253.1	256.79
7	247.07	269.83	253.35	256.98
9	247.27	270.02	253.55	257.14
12	247.53	270.25	253.81	257.36
16	247.82	270.53	254.12	257.61
20	248.06	270.78	254.36	257.82
25	248.36	271.03	254.64	258.05
Saturated Mass (g)	259.68	280.94	266.75	271.73
R ² (Must be >0.98)	0.9993	0.9993	0.9995	0.9995
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	8.7	9.8	8.5	6.8
Porosity (%)	12.8	10.6	13.3	13.6



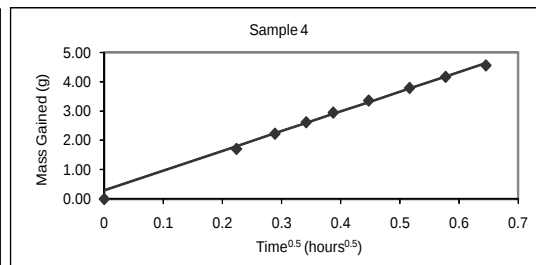
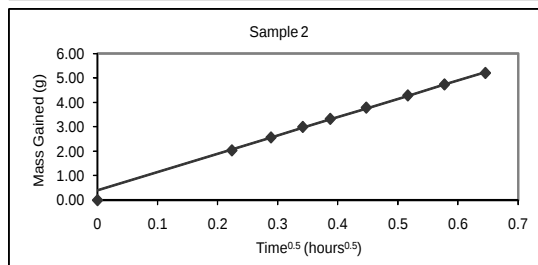
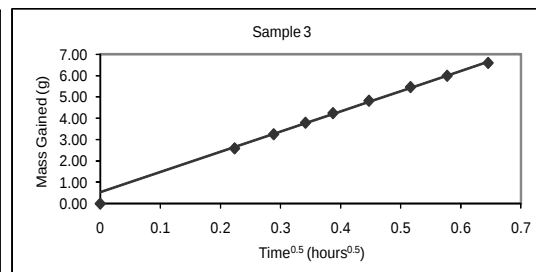
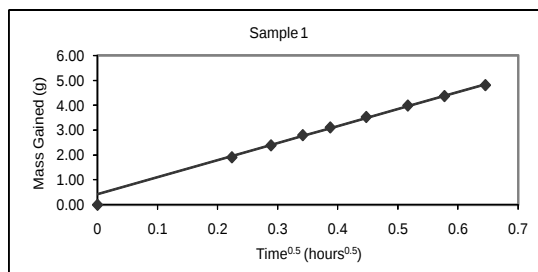
University of Cape Town and University of Witswatersrand
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: SF-75-3
 Date: 9/3/2012

Operator: AY

Av. Sorptivity: 12.7 COV: 13.1
 Av. Porosity: 15.4 COV: 3.3

Sample ID	42A	42B	44A	44B
Diameter (mm)	70.55	70.67	70.5	70.18
Thickness (mm)	30.86	29.44	29.82	29.87
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	256.3	240.53	242.65	251.07
3	258.21	242.57	245.24	252.78
5	258.69	243.1	245.9	253.3
7	259.1	243.53	246.44	253.69
9	259.41	243.86	246.89	254.02
12	259.83	244.32	247.47	254.43
16	260.29	244.82	248.11	254.86
20	260.67	245.27	248.64	255.24
25	261.11	245.74	249.24	255.63
Saturated Mass (g)	274.71	258.18	261.39	268.29
R ² (Must be >0.98)	0.9988	0.9988	0.9993	0.9993
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	11.5	12.5	15.1	11.7
Porosity (%)	15.3	15.3	16.1	14.9



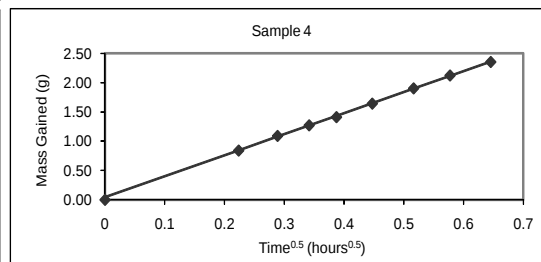
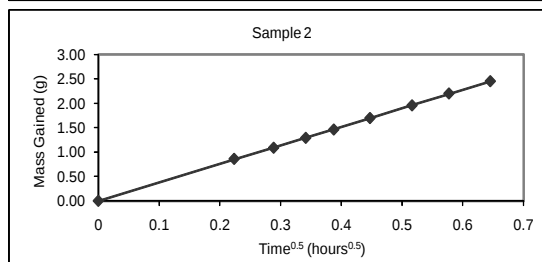
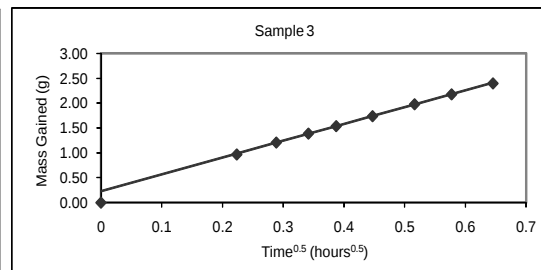
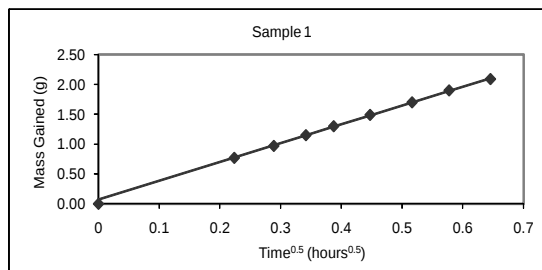
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: CC-40-3
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 8.5 COV: 11.3
Av. Porosity: 11.2 COV: 12.1

Sample ID	1	2	3	4
Diameter (mm)	68.41	68.33	68.41	68.13
Thickness (mm)	32.02	31.68	29.41	31.77
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	261.53	254.02	246.39	264.29
3	262.3	254.88	247.36	265.13
5	262.5	255.11	247.6	265.38
7	262.68	255.31	247.78	265.56
9	262.83	255.48	247.93	265.7
12	263.02	255.72	248.13	265.93
16	263.23	255.98	248.37	266.19
20	263.43	256.22	248.57	266.41
25	263.62	256.47	248.79	266.64
Saturated Mass (g)	275.03	269.13	257.16	276.3
R ² (Must be >0.98)	0.9996	0.9996	0.9998	0.9998
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	7.5	8.0	9.2	9.5
Porosity (%)	11.5	13.0	10.0	10.4



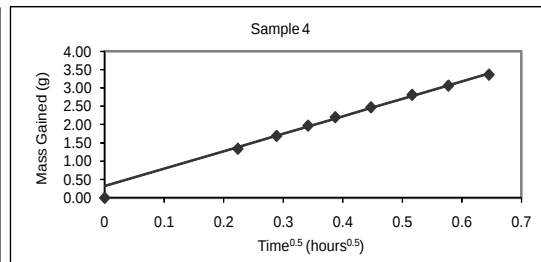
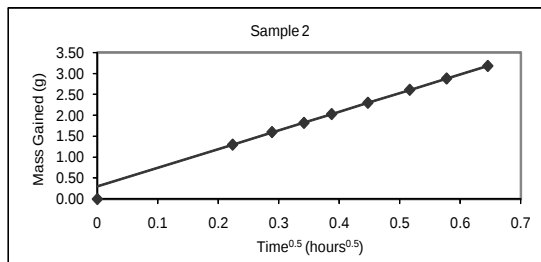
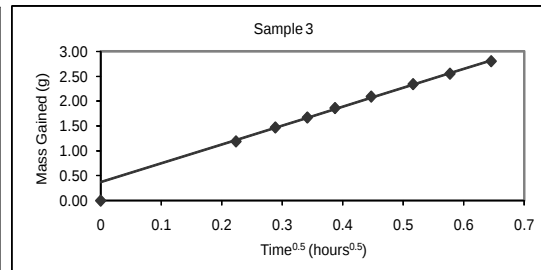
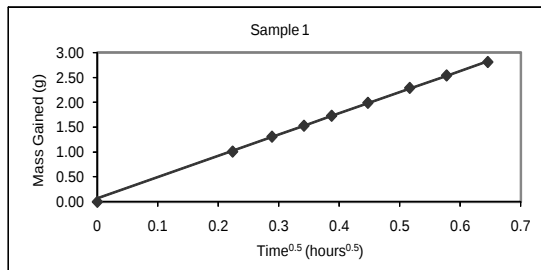
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: CC-50-3
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 10.0 COV: 8.7
Av. Porosity: 11.9 COV: 2.9

Sample ID	1	2	3	4
Diameter (mm)	68.36	68.2	68.11	68.2
Thickness (mm)	29.46	32.26	34.56	32.76
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	238.94	264.73	277.6	263.86
3	239.95	266.03	278.79	265.2
5	240.25	266.33	279.07	265.55
7	240.47	266.55	279.27	265.83
9	240.67	266.76	279.46	266.06
12	240.93	267.03	279.69	266.33
16	241.23	267.34	279.94	266.67
20	241.48	267.61	280.15	266.92
25	241.75	267.91	280.4	267.22
Saturated Mass (g)	251.29	278.72	292.68	278.52
R ² (Must be >0.98)	0.9997	0.9997	0.9999	0.9999
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	10.2	10.3	8.7	10.7
Porosity (%)	11.4	11.9	12.0	12.2



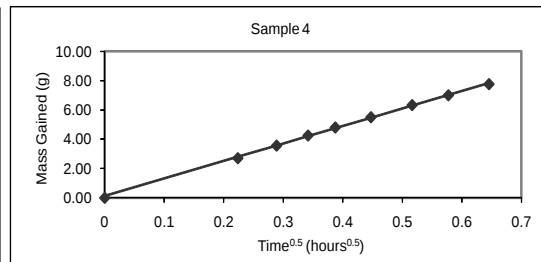
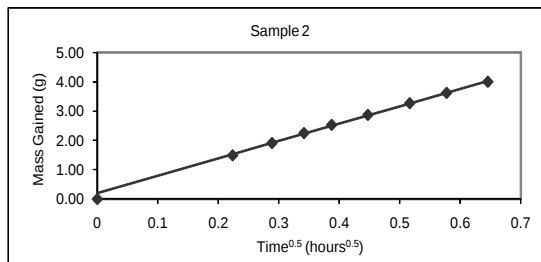
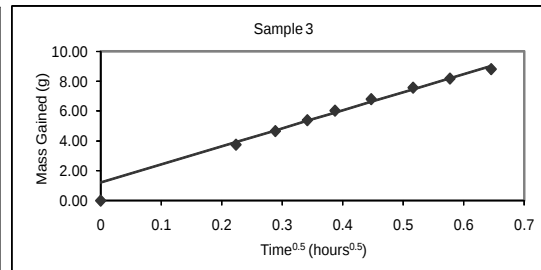
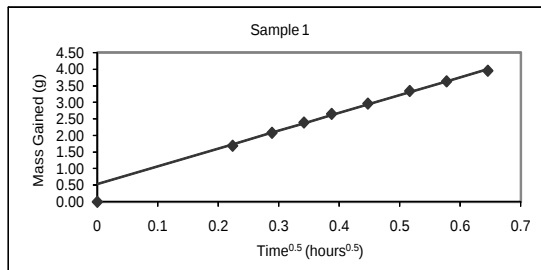
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: CC-60-3
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 19.9 COV: 38.3
Av. Porosity: 12.0 COV: 7.0

Sample ID	1	2	3	4
Diameter (mm)	68.22	68.03	68.07	68.11
Thickness (mm)	33.76	33.08	31.03	31.39
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	272.45	266.39	219.73	238.79
3	274.14	267.88	223.48	241.5
5	274.53	268.3	224.39	242.36
7	274.84	268.64	225.12	243.05
9	275.1	268.92	225.76	243.6
12	275.41	269.26	226.53	244.3
16	275.79	269.66	227.3	245.13
20	276.08	270.01	227.91	245.8
25	276.4	270.39	228.54	246.56
Saturated Mass (g)	286.27	280.69	234.63	252.26
R ² (Must be >0.98)	0.9981	0.9981	0.9992	0.9992
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	13.1	13.7	25.1	27.8
Porosity (%)	11.2	11.9	13.2	11.8



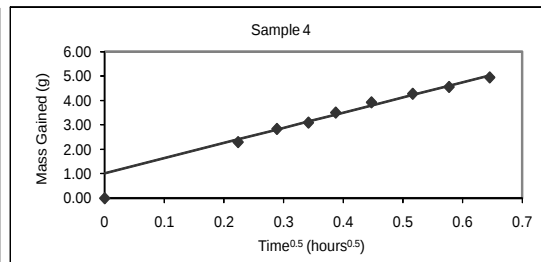
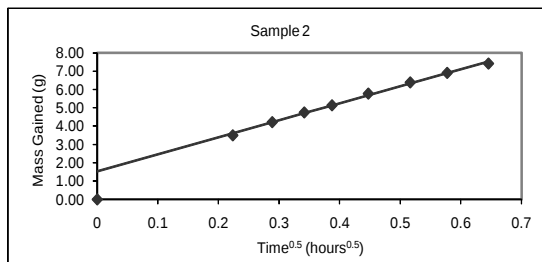
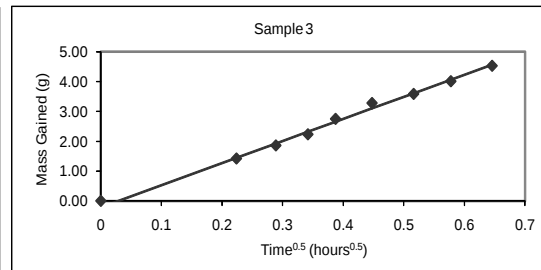
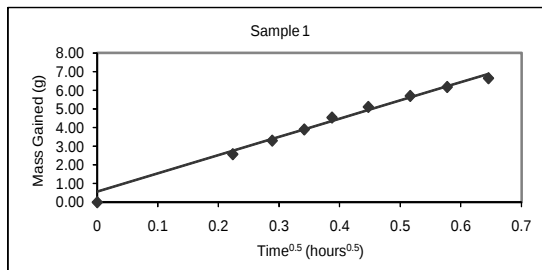
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: CC-75-3
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 20.0 COV: 18.1
Av. Porosity: 11.2 COV: 5.1

Sample ID	1	2	3	4
Diameter (mm)	68.09	68.04	68.04	68.58
Thickness (mm)	34.85	33.77	28.85	30.24
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	276.79	270.47	257.75	257.4
3	279.37	273.97	259.17	259.7
5	280.1	274.69	259.61	260.24
7	280.7	275.22	259.99	260.5
9	281.34	275.61	260.5	260.91
12	281.91	276.25	261.04	261.33
16	282.5	276.86	261.34	261.68
20	282.98	277.38	261.76	261.96
25	283.45	277.89	262.28	262.35
Saturated Mass (g)	292.04	283.84	269.15	269.54
R ² (Must be >0.98)	0.9885	0.9885	0.9970	0.9970
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	22.3	23.5	18.8	15.5
Porosity (%)	12.0	10.9	10.9	10.9



28-32 days water sorptivity results after 7-days initial moist curing period

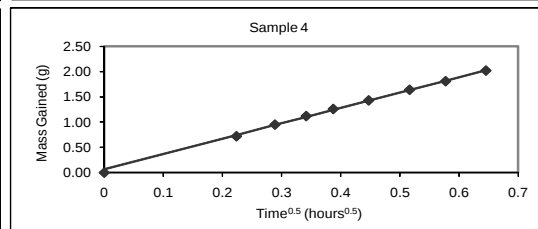
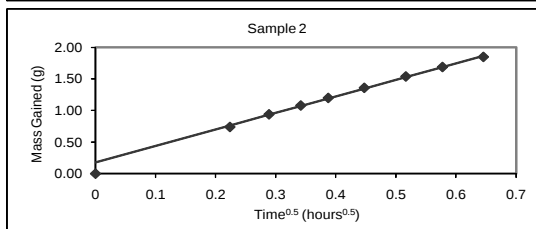
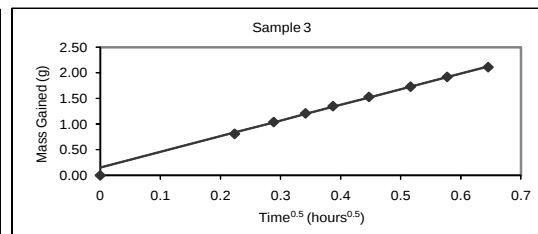
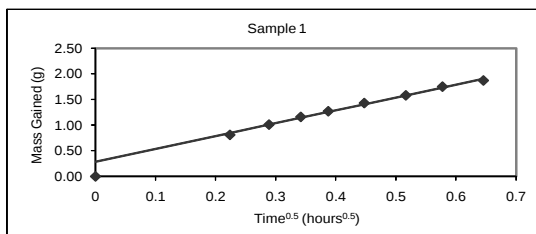
**University of Cape Town and University of
Witswatersrand
Departments of Civil Engineering
Sorptivity Test Analysis**

Sample ID: PC-40-7
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 7.8 COV: 3.7
Av. Porosity: 9.8 COV: 11.3

Sample ID	42A	42B	44A	44B
Diameter (mm)	68.59	68.31	68.37	68.16
Thickness (mm)	31.58	31.48	29.71	31.57
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	269.62	266.72	246.55	257.95
3	270.43	267.46	247.36	258.67
5	270.63	267.66	247.59	258.9
7	270.78	267.8	247.76	259.07
9	270.89	267.92	247.9	259.21
12	271.05	268.08	248.08	259.38
16	271.2	268.26	248.28	259.59
20	271.37	268.41	248.47	259.76
25	271.49	268.57	248.66	259.97
Saturated Mass (g)	279.59	277.44	257.68	270.73
R ² (Must be >0.98)	0.9960	0.9960	0.9988	0.9988
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	8.0	7.7	8.2	7.5
Porosity (%)	8.5	9.3	10.2	11.1



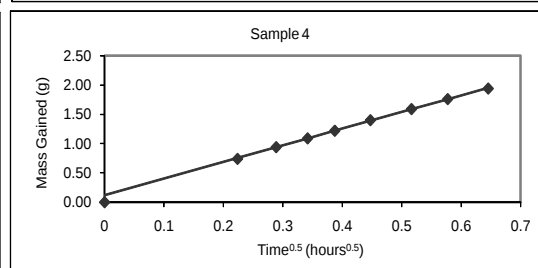
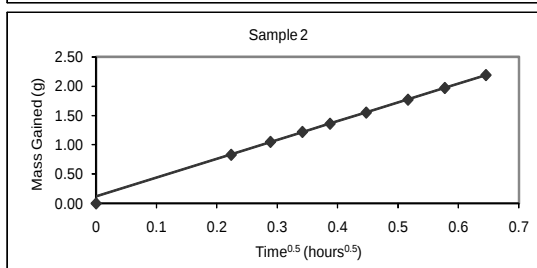
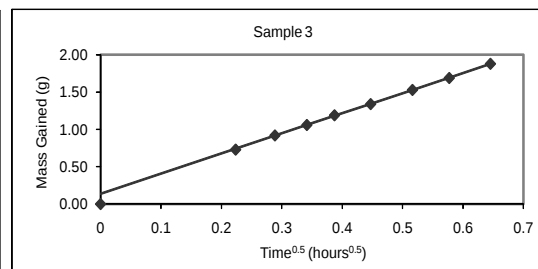
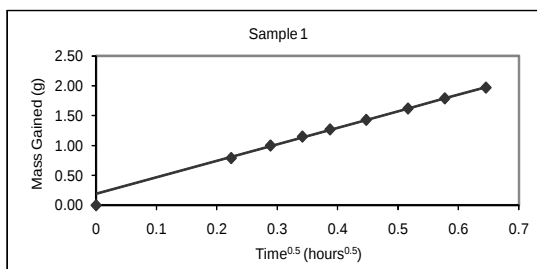
University of Cape Town and University of Witswatersrand
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: PC-50-7
 Date: 9/3/2012

Operator: AY

Av. Sorptivity: 8.1 COV: 4.8
 Av. Porosity: 9.7 COV: 13.2

Sample ID	42A	42B	44A	44B
Diameter (mm)	68.38	68	69.51	68.16
Thickness (mm)	32.11	31.01	31.88	32.56
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	271.24	248.73	270.8	267.21
3	272.03	249.56	271.53	267.95
5	272.24	249.78	271.72	268.15
7	272.39	249.95	271.86	268.3
9	272.51	250.09	271.99	268.43
12	272.67	250.28	272.14	268.61
16	272.86	250.5	272.33	268.8
20	273.03	250.7	272.49	268.97
25	273.21	250.92	272.68	269.15
Saturated Mass (g)	282.18	261.43	280.75	279.03
R ² (Must be >0.98)	0.9993	0.9993	0.9999	0.9999
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	8.1	7.8	8.7	7.8
Porosity (%)	9.3	11.3	8.2	9.9



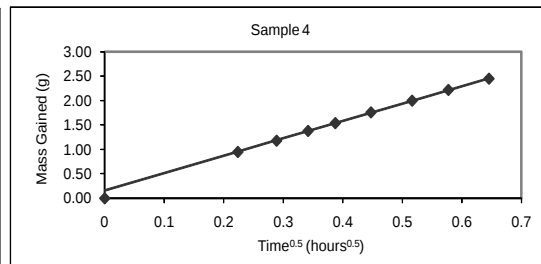
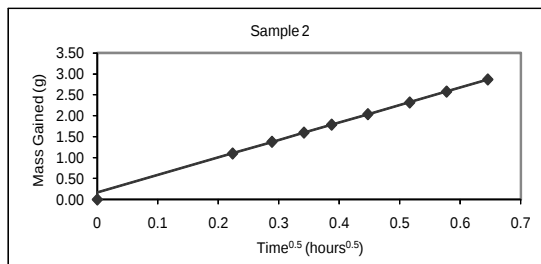
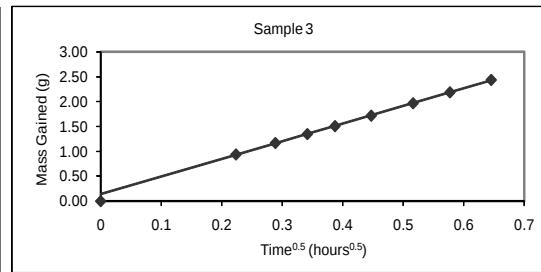
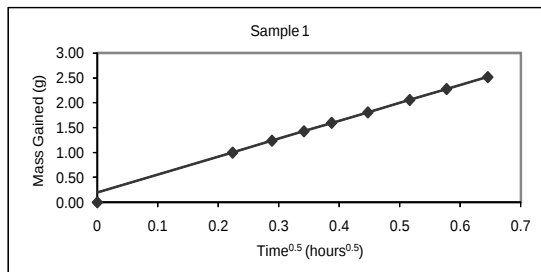
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: PC-60-7
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 9.9 COV: 6.1
Av. Porosity: 10.3 COV: 6.5

Sample ID	42A	42B	44A	44B
Diameter (mm)	68.51	68.2	68.5	68.09
Thickness (mm)	31.91	31.11	30.15	33.12
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	264.55	254.56	252.94	272.67
3	265.55	255.66	253.88	273.62
5	265.79	255.94	254.11	273.85
7	265.98	256.16	254.29	274.05
9	266.15	256.35	254.45	274.21
12	266.36	256.6	254.66	274.43
16	266.61	256.88	254.91	274.67
20	266.83	257.14	255.13	274.89
25	267.07	257.43	255.38	275.12
Saturated Mass (g)	276.42	266.93	263.41	285.61
R ² (Must be >0.98)	1.0000	1.0000	1.0000	1.0000
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	9.7	10.5	10.2	9.1
Porosity (%)	10.1	10.9	9.4	10.7



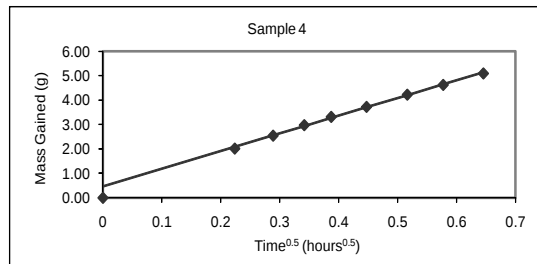
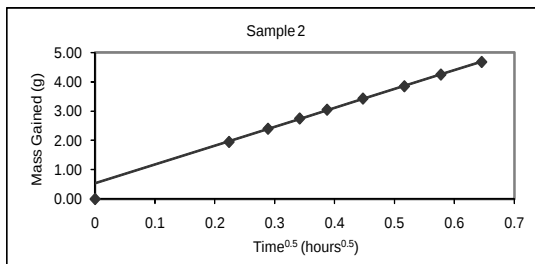
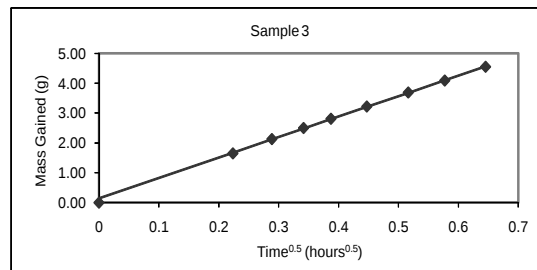
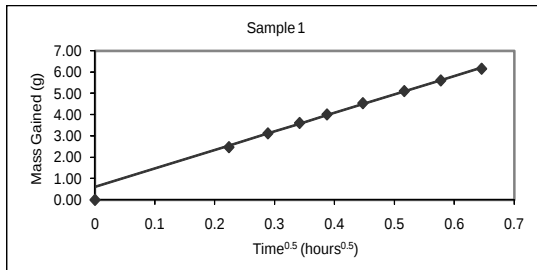
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: PC-75-7
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 13.8 COV: 13.0
Av. Porosity: 13.6 COV: 12.6

Sample ID	42A	42B	44A	44B
Diameter (mm)	70.54	70.34	70.56	70.68
Thickness (mm)	30.14	30.04	31.66	29.81
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	254.27	262.79	262.24	258.45
3	256.75	264.74	263.89	260.47
5	257.4	265.19	264.37	261
7	257.89	265.54	264.74	261.43
9	258.29	265.84	265.05	261.77
12	258.82	266.22	265.46	262.18
16	259.39	266.64	265.93	262.68
20	259.89	267.04	266.33	263.08
25	260.44	267.47	266.79	263.55
Saturated Mass (g)	271.44	276.75	281.48	272.97
R ² (Must be >0.98)	0.9987	0.9987	0.9997	0.9997
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	15.2	13.8	11.3	14.9
Porosity (%)	14.6	12.0	15.5	12.4



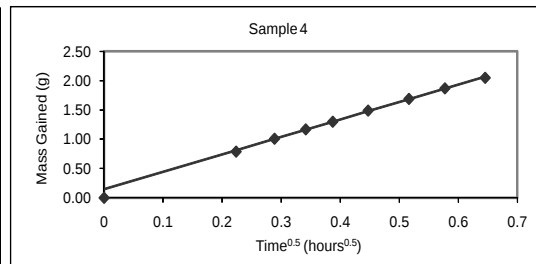
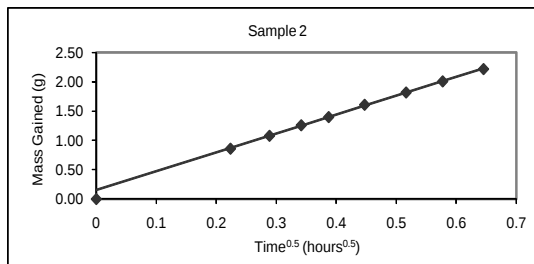
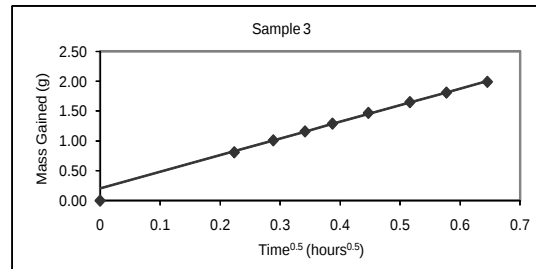
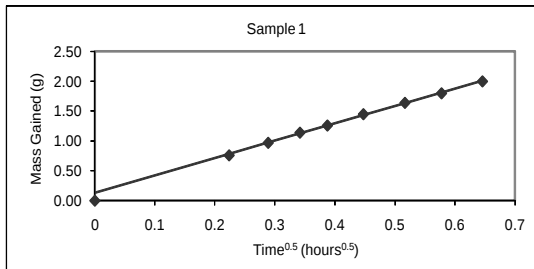
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: FA-40-7
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 7.7 COV: 4.4
Av. Porosity: 10.0 COV: 2.6

Sample ID	42A	42B	44A	44B
Diameter (mm)	70.36	70.13	70.55	70.27
Thickness (mm)	30.48	31.5	30.26	32.5
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	268.02	275.35	263.95	285.89
3	268.78	276.21	264.76	286.68
5	268.99	276.43	264.96	286.9
7	269.16	276.61	265.11	287.06
9	269.28	276.75	265.24	287.19
12	269.47	276.96	265.42	287.38
16	269.66	277.17	265.6	287.58
20	269.82	277.36	265.76	287.76
25	270.02	277.57	265.94	287.94
Saturated Mass (g)	279.63	287.79	275.43	298.68
R ² (Must be >0.98)	0.9990	0.9990	0.9996	0.9996
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	7.6	8.2	7.4	7.6
Porosity (%)	9.8	10.2	9.7	10.1



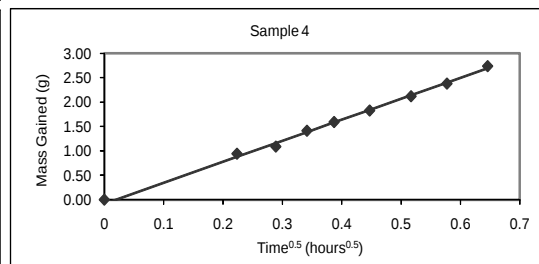
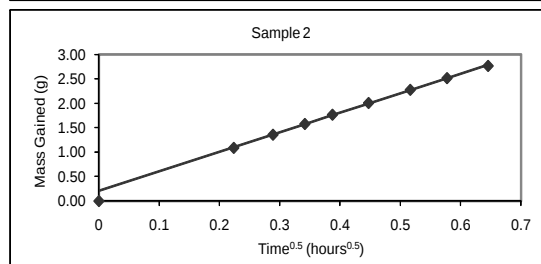
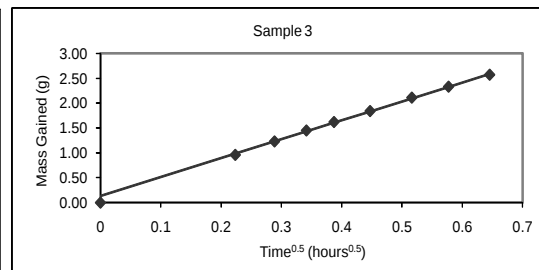
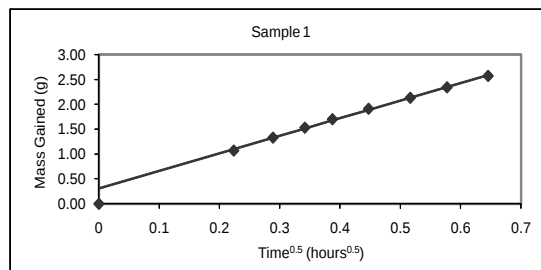
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: FA-50-7
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 9.0 COV: 4.6
Av. Porosity: 11.3 COV: 5.2

Sample ID	1	2	3	4
Diameter (mm)	70.23	69.93	69.88	70.01
Thickness (mm)	29.9	28.62	29.37	32.85
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	251.84	244.66	253.36	277.14
3	252.91	245.75	254.32	278.08
5	253.17	246.02	254.59	278.23
7	253.37	246.24	254.81	278.55
9	253.54	246.43	254.98	278.73
12	253.75	246.67	255.2	278.97
16	253.97	246.94	255.47	279.26
20	254.18	247.18	255.69	279.52
25	254.41	247.43	255.93	279.88
Saturated Mass (g)	263.93	257.39	266.34	291.96
R ² (Must be >0.98)	0.9987	0.9987	0.9996	0.9996
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	8.7	9.0	8.6	9.5
Porosity (%)	10.4	11.6	11.5	11.7



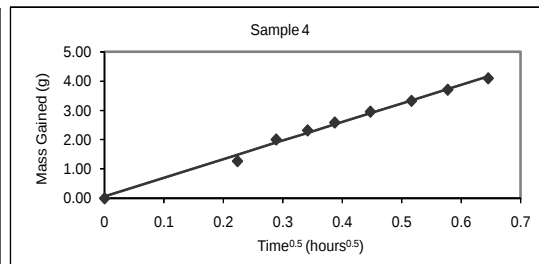
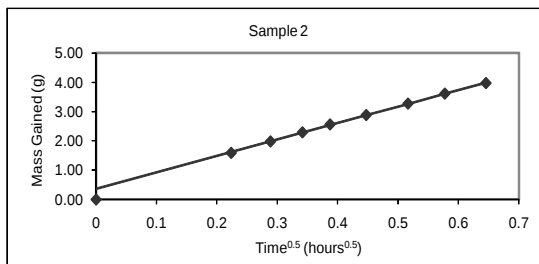
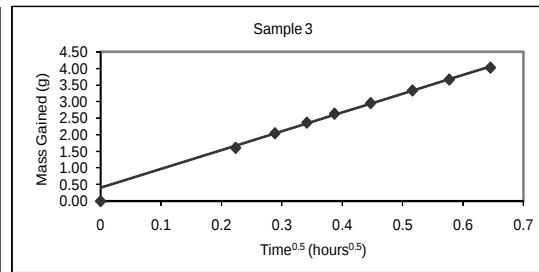
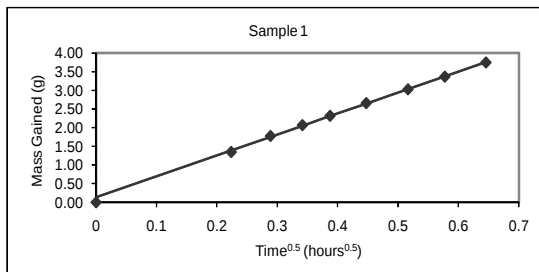
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: FA-60-7
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 12.3 COV: 9.3
Av. Porosity: 12.3 COV: 5.4

Sample ID	1	2	3	4
Diameter (mm)	70.22	70.22	69.98	69.98
Thickness (mm)	32.08	32.08	30.11	30.11
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	275.19	270.27	260.53	278.07
3	276.54	271.86	262.14	279.34
5	276.97	272.25	262.58	280.08
7	277.26	272.56	262.9	280.39
9	277.51	272.83	263.17	280.66
12	277.85	273.15	263.49	281.03
16	278.22	273.54	263.87	281.4
20	278.56	273.88	264.2	281.78
25	278.94	274.24	264.56	282.17
Saturated Mass (g)	291.34	285.99	273.82	292.16
R ² (Must be >0.98)	0.9994	0.9994	0.9996	0.9996
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	11.2	11.5	12.8	13.6
Porosity (%)	13.0	12.7	11.5	12.2



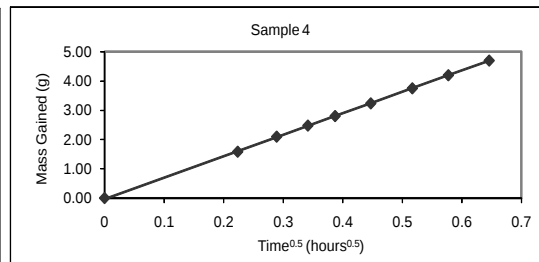
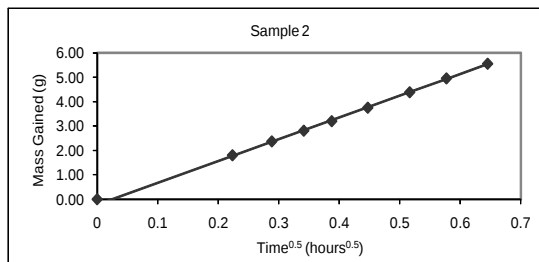
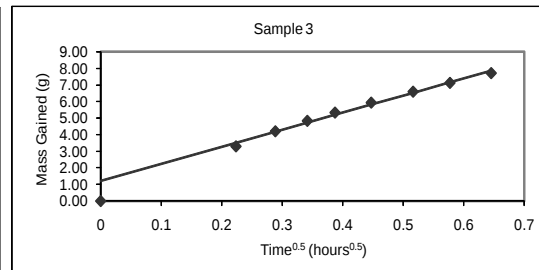
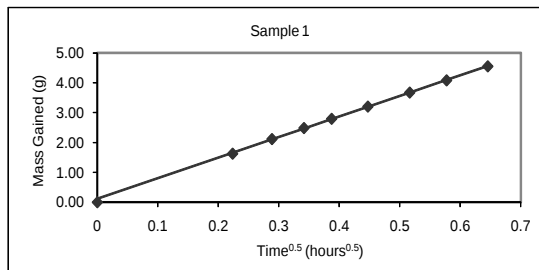
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: FA-75-7
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 17.1 COV: 12.3
Av. Porosity: 13.3 COV: 9.4

Sample ID	1	2	3	4
Diameter (mm)	68.19	68.22	68.54	68.26
Thickness (mm)	30.18	31.66	28.65	30.57
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	239.81	251.73	223.3	243.35
3	241.44	253.54	226.6	244.94
5	241.93	254.11	227.51	245.45
7	242.3	254.55	228.14	245.83
9	242.61	254.94	228.64	246.15
12	243.02	255.48	229.24	246.59
16	243.49	256.12	229.9	247.1
20	243.9	256.68	230.43	247.54
25	244.37	257.29	231.02	248.05
Saturated Mass (g)	252.49	267.27	238.51	258.74
R ² (Must be >0.98)	0.9998	0.9998	0.9997	0.9997
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	16.4	18.2	19.4	14.5
Porosity (%)	11.5	13.4	14.4	13.8



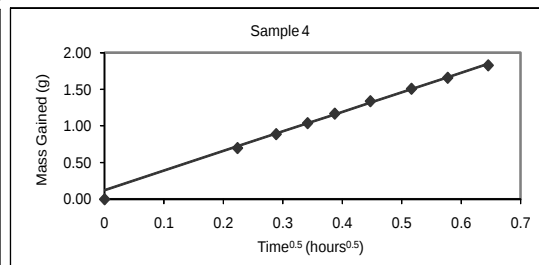
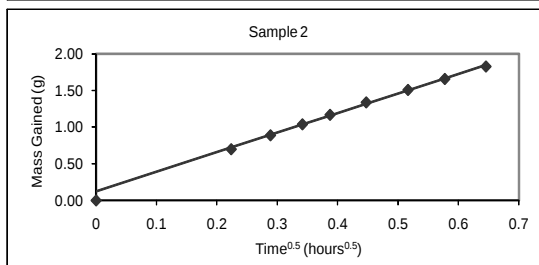
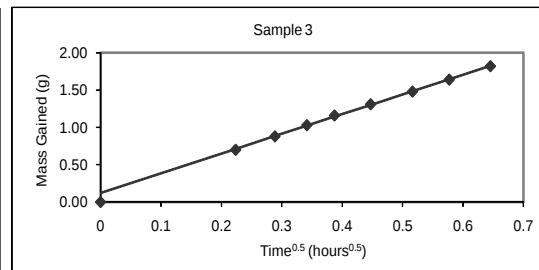
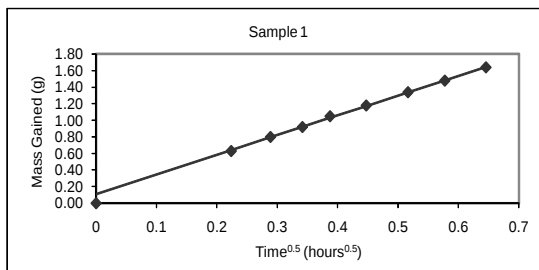
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: SL-40-7
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 5.9 COV: 7.6
Av. Porosity: 11.3 COV: 4.9

Sample ID	1	2	3	4
Diameter (mm)	70.81	70.48	70.04	70.32
Thickness (mm)	29.81	30.05	30.56	32.55
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	259.53	260.86	264.63	260.86
3	260.16	261.56	265.33	261.56
5	260.33	261.75	265.51	261.75
7	260.45	261.9	265.66	261.9
9	260.58	262.03	265.79	262.03
12	260.71	262.2	265.94	262.2
16	260.87	262.37	266.11	262.37
20	261.01	262.52	266.27	262.52
25	261.17	262.69	266.45	262.69
Saturated Mass (g)	272.66	274.34	278.73	274.34
R ² (Must be >0.98)	0.9993	0.9993	0.9986	0.9986
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	5.4	6.0	5.7	6.5
Porosity (%)	11.2	11.5	12.0	10.7



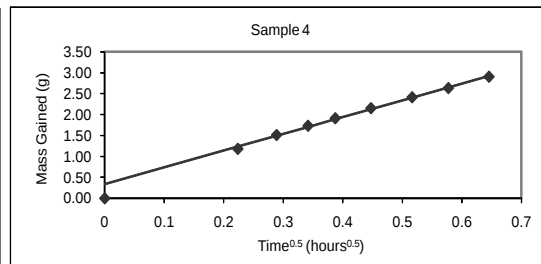
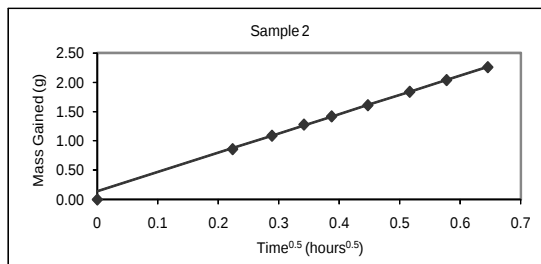
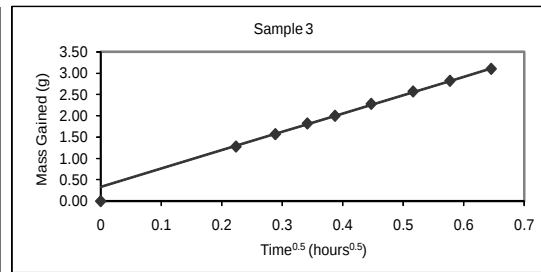
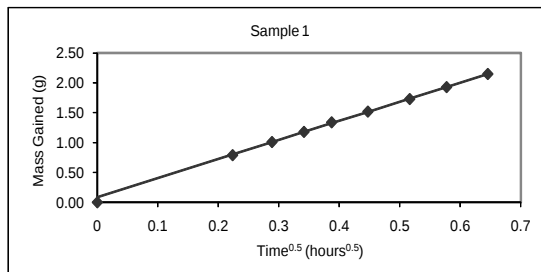
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: SL-50-7
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 8.3 COV: 13.9
Av. Porosity: 11.4 COV: 2.9

Sample ID	1	2	3	4
Diameter (mm)	70.37	70.32	70.19	70.59
Thickness (mm)	31.56	32.62	31.04	30.08
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	275.74	285.25	272.28	264.93
3	276.53	286.11	273.56	266.11
5	276.75	286.34	273.85	266.44
7	276.92	286.53	274.1	266.66
9	277.08	286.67	274.28	266.84
12	277.26	286.86	274.56	267.08
16	277.47	287.09	274.85	267.34
20	277.67	287.29	275.1	267.56
25	277.89	287.51	275.38	267.83
Saturated Mass (g)	290	299.12	286.05	278.68
R ² (Must be >0.98)	0.9997	0.9997	0.9997	0.9997
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	7.1	7.8	9.7	8.7
Porosity (%)	11.6	10.9	11.5	11.7



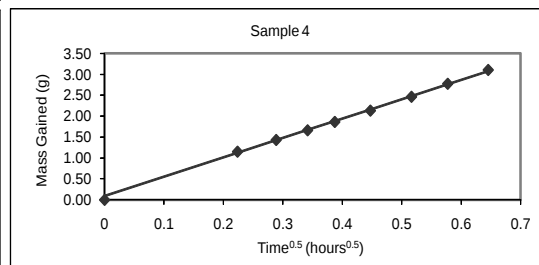
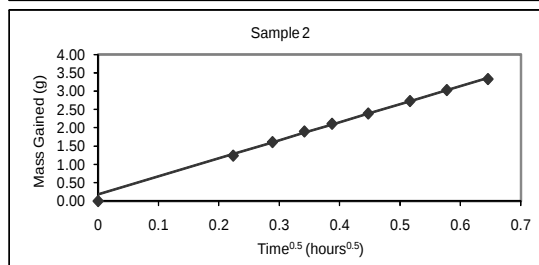
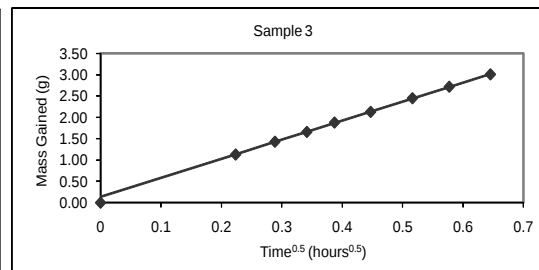
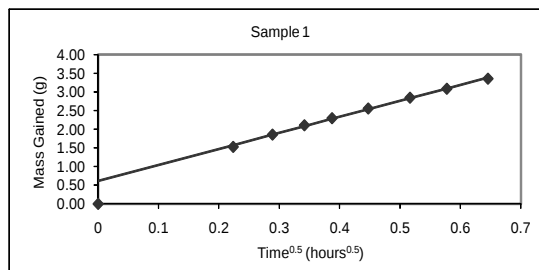
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: SL-60-7
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 9.2 COV: 13.1
Av. Porosity: 12.8 COV: 9.4

Sample ID	1	2	3	4
Diameter (mm)	70.43	70.38	70.13	70.43
Thickness (mm)	30.07	29.95	32.66	28.93
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	262.97	264.17	279	245.79
3	264.5	265.41	280.13	246.94
5	264.83	265.78	280.43	247.22
7	265.08	266.07	280.66	247.45
9	265.27	266.28	280.88	247.65
12	265.53	266.56	281.13	247.92
16	265.82	266.9	281.45	248.25
20	266.06	267.2	281.72	248.56
25	266.33	267.5	282.01	248.89
Saturated Mass (g)	277.32	277.52	296.04	261.71
R ² (Must be >0.98)	0.9982	0.9982	0.9987	0.9987
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	9.0	11.0	8.6	8.4
Porosity (%)	12.2	11.5	13.5	14.1



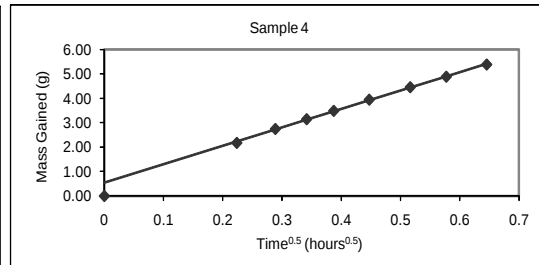
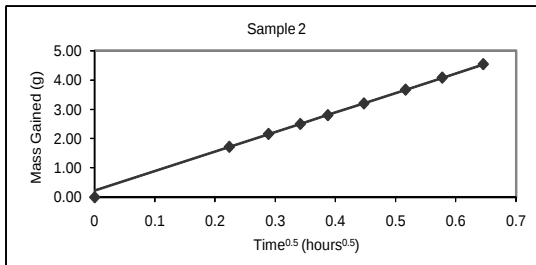
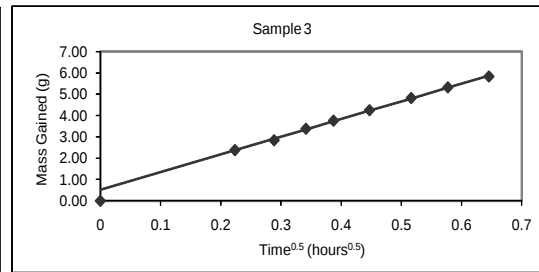
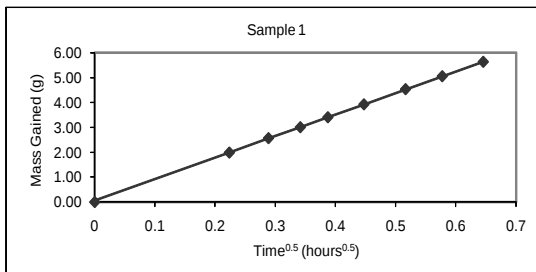
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: SL-75-7
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 13.3 COV: 12.3
Av. Porosity: 15.1 COV: 13.6

Sample ID	1	2	3	4
Diameter (mm)	70.66	70.54	70.52	70.69
Thickness (mm)	30.99	30.69	30.86	32.25
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	250.77	255.64	257.71	278.8
3	252.76	257.36	260.09	280.98
5	253.34	257.8	260.55	281.55
7	253.78	258.14	261.09	281.95
9	254.18	258.44	261.47	282.29
12	254.7	258.84	261.96	282.75
16	255.31	259.31	262.53	283.26
20	255.83	259.72	263.03	283.69
25	256.41	260.18	263.54	284.19
Saturated Mass (g)	271.97	273.48	276.65	294.63
R ² (Must be >0.98)	1.0000	1.0000	0.9999	0.9999
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	12.7	11.5	13.5	15.4
Porosity (%)	17.4	14.9	15.7	12.5



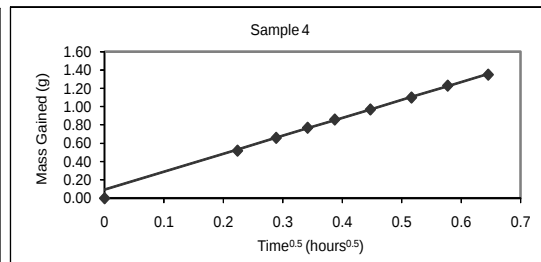
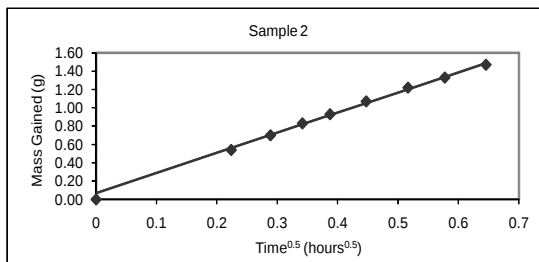
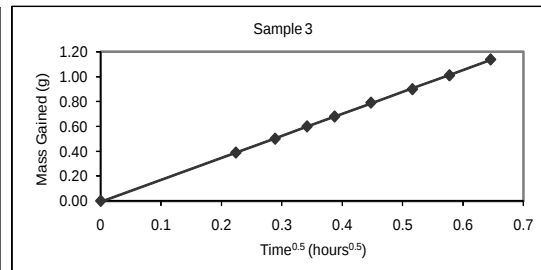
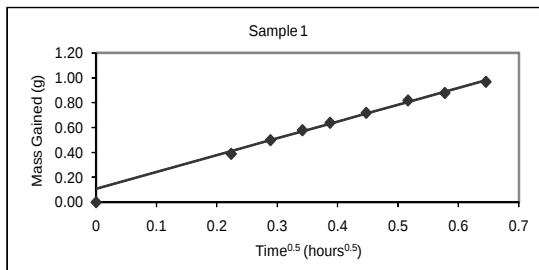
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: SF-40-7
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 4.5 COV: 17.5
Av. Porosity: 10.4 COV: 7.0

Sample ID	42A	42B	44A	44B
Diameter (mm)	70.09	70.24	70.13	70.11
Thickness (mm)	29.7	29.4	30.32	29.13
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	260.92	251.98	264.83	256.38
3	261.31	252.52	265.22	256.9
5	261.42	252.68	265.33	257.04
7	261.5	252.81	265.43	257.15
9	261.56	252.91	265.51	257.24
12	261.64	253.05	265.62	257.35
16	261.74	253.2	265.73	257.48
20	261.8	253.31	265.84	257.61
25	261.89	253.45	265.97	257.73
Saturated Mass (g)	272.33	264.78	277.59	267.3
R ² (Must be >0.98)	0.9963	0.9963	0.9978	0.9978
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	3.5	5.0	4.2	5.2
Porosity (%)	10.0	11.2	10.9	9.7



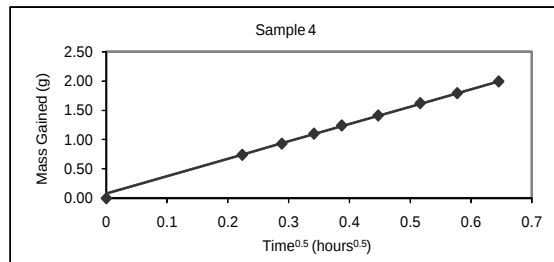
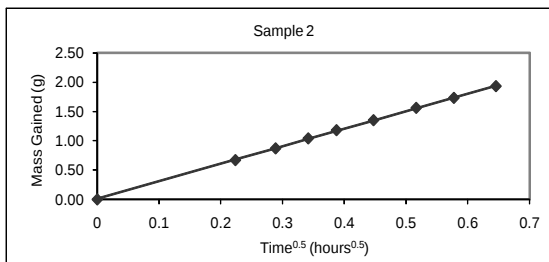
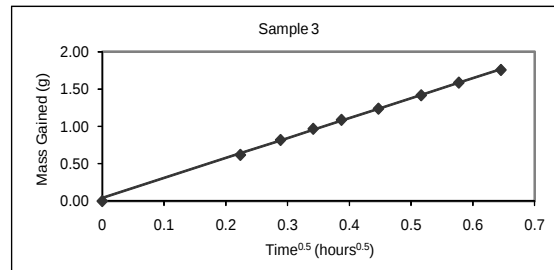
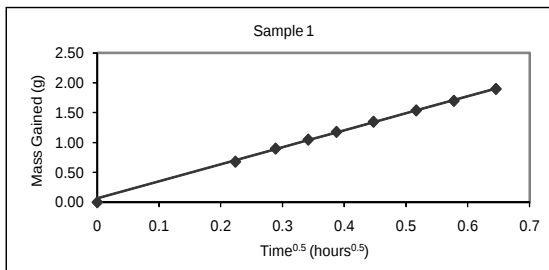
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: SF-50-7
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 6.6 COV: 7.7
Av. Porosity: 11.3 COV: 4.4

Sample ID	42A	42B	44A	44B
Diameter (mm)	70.23	70.01	70.2	70.15
Thickness (mm)	32.01	30.83	29.59	30.71
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	274.2	260.55	254.44	265.92
3	274.88	261.22	255.06	266.66
5	275.1	261.42	255.26	266.85
7	275.25	261.59	255.41	267.02
9	275.38	261.73	255.53	267.16
12	275.55	261.9	255.68	267.33
16	275.74	262.11	255.86	267.54
20	275.9	262.28	256.03	267.71
25	276.1	262.48	256.2	267.91
Saturated Mass (g)	289.13	273.48	267.29	279.15
R ² (Must be >0.98)	0.9991	0.9991	0.9996	0.9996
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	6.1	7.1	6.2	6.9
Porosity (%)	12.0	10.9	11.2	11.1



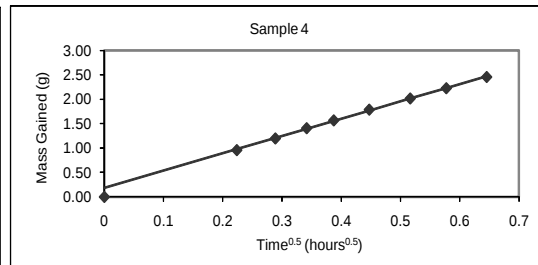
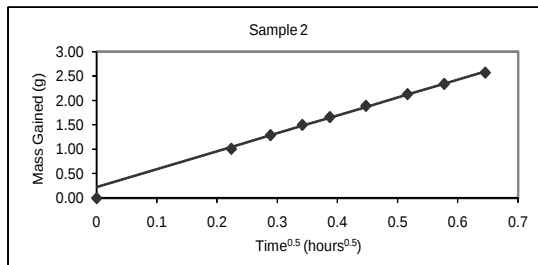
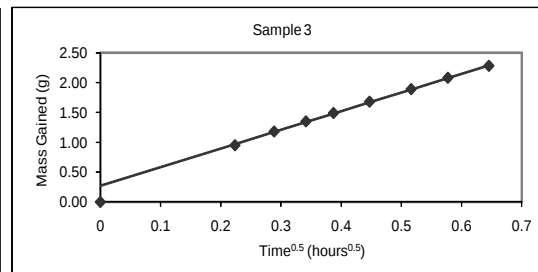
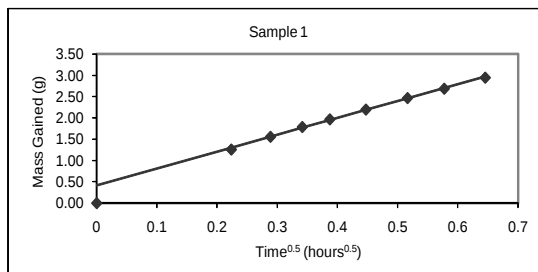
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: SF-60-7
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 7.5 COV: 10.4
Av. Porosity: 12.3 COV: 4.4

Sample ID	42A	42B	44A	44B
Diameter (mm)	70.28	70.33	70.19	70.19
Thickness (mm)	28.38	31.62	28.94	29.62
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	238.69	271.33	245.87	249.82
3	239.95	272.34	246.82	250.78
5	240.25	272.62	247.05	251.02
7	240.48	272.83	247.22	251.23
9	240.66	272.99	247.36	251.39
12	240.89	273.22	247.55	251.61
16	241.16	273.46	247.76	251.84
20	241.38	273.67	247.95	252.05
25	241.64	273.9	248.15	252.28
Saturated Mass (g)	251.87	286.48	259.21	264.83
R ² (Must be >0.98)	0.9985	0.9985	0.9984	0.9984
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	8.5	7.7	6.8	7.0
Porosity (%)	12.0	12.3	11.9	13.1



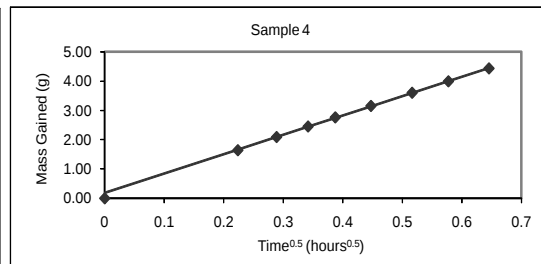
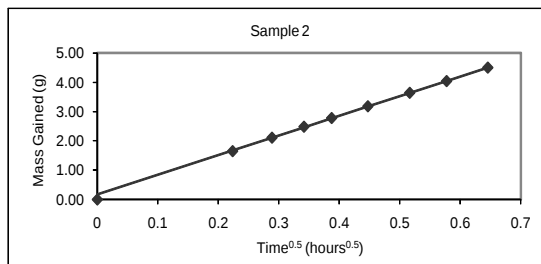
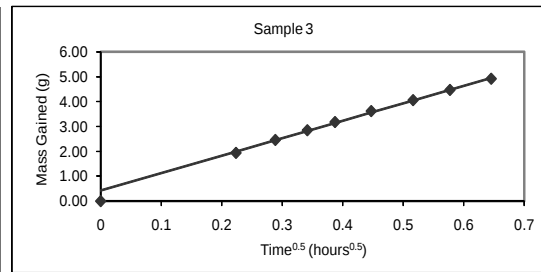
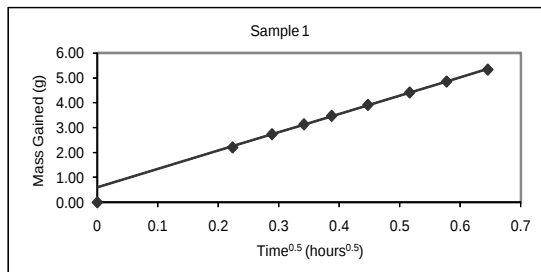
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: SF-75-7
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 12.1 COV: 7.8
Av. Porosity: 14.7 COV: 5.9

Sample ID	42A	42B	44A	44B
Diameter (mm)	70.28	70.56	70.58	70.33
Thickness (mm)	30.67	31.36	30.79	30.25
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	253.82	265.53	256.53	245.91
3	256.03	267.18	258.47	247.55
5	256.56	267.64	258.99	248
7	256.96	268.014	259.38	248.36
9	257.3	268.31	259.71	248.67
12	257.74	268.71	260.15	249.06
16	258.24	269.17	260.59	249.51
20	258.68	269.57	261	249.9
25	259.16	270.03	261.45	250.34
Saturated Mass (g)	271.47	282.37	274.09	264.52
R ² (Must be >0.98)	0.9996	0.9996	0.9998	0.9998
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	12.8	12.5	12.3	10.7
Porosity (%)	14.8	13.7	14.6	15.8



**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

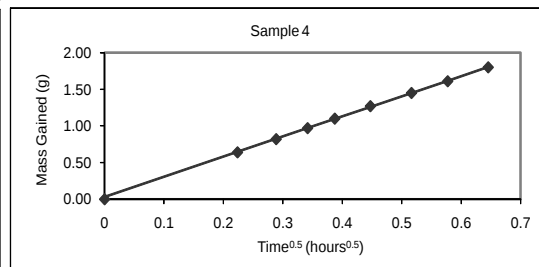
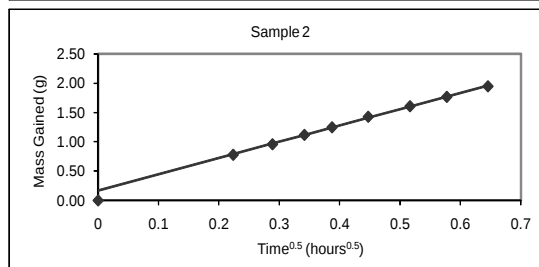
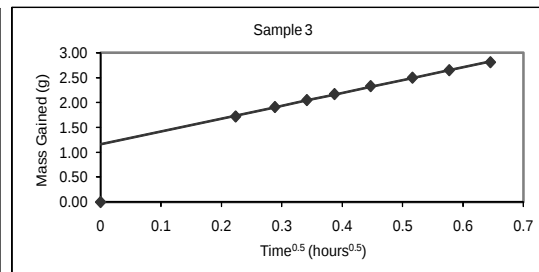
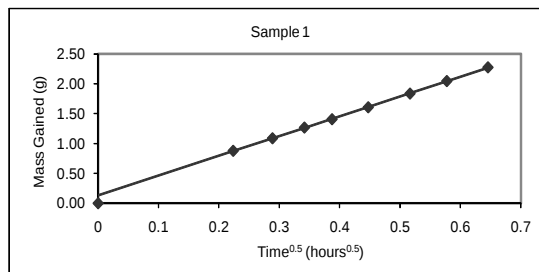
Sample ID:
Date:

CC-40-7
9/3/2012

Operator: AY

Av. Sorptivity: 7.2 COV: 10.9
Av. Porosity: 10.8 COV: 2.0

Sample ID	1	2	3	4
Diameter (mm)	68.02	68.29	68.57	68.18
Thickness (mm)	30.17	31.94	30.26	32.18
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	247.55	264.55	247.24	267.06
3	248.43	265.33	248.96	267.7
5	248.64	265.51	249.15	267.88
7	248.82	265.67	249.29	268.03
9	248.96	265.8	249.41	268.16
12	249.16	265.98	249.57	268.33
16	249.39	266.16	249.74	268.51
20	249.6	266.32	249.89	268.67
25	249.83	266.5	250.05	268.86
Saturated Mass (g)	259.64	276.86	259.42	279.7
R ² (Must be >0.98)	0.9999	0.9999	0.9993	0.9993
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	8.3	7.2	6.4	7.0
Porosity (%)	11.0	10.5	10.9	10.8



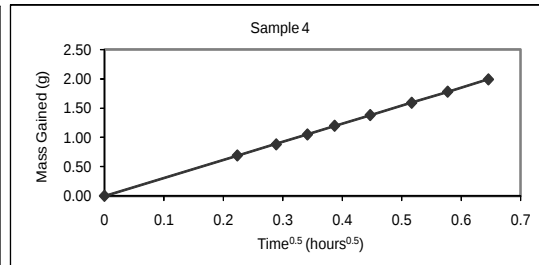
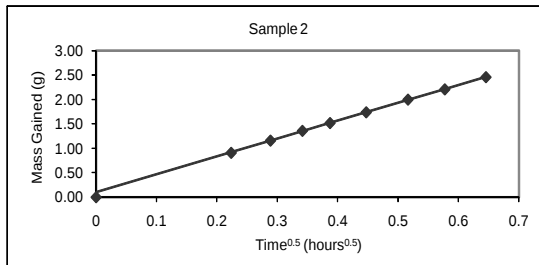
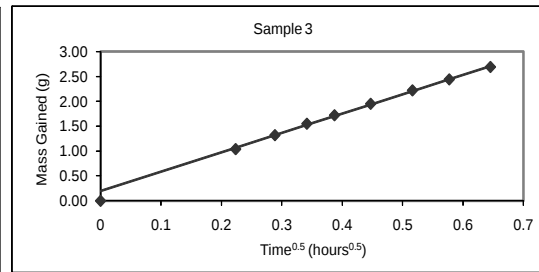
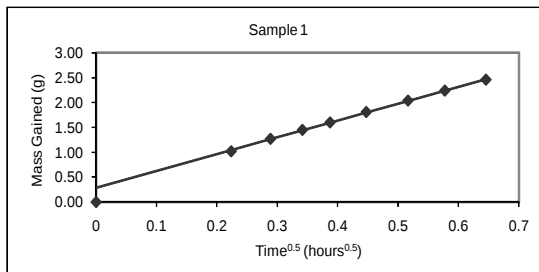
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: CC-50-7
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 8.8 COV: 9.3
Av. Porosity: 10.8 COV: 5.6

Sample ID	1	2	3	4
Diameter (mm)	68.83	68.13	68.17	68.32
Thickness (mm)	29.2	32.03	31.23	32.79
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	241.45	258.77	257.52	269.07
3	242.47	259.68	258.56	269.76
5	242.72	259.93	258.84	269.95
7	242.9	260.13	259.07	270.12
9	243.05	260.29	259.24	270.27
12	243.26	260.51	259.47	270.45
16	243.49	260.77	259.74	270.66
20	243.69	260.98	259.96	270.85
25	243.91	261.23	260.21	271.06
Saturated Mass (g)	252.47	272.34	269.86	281.97
R ² (Must be >0.98)	0.9995	0.9995	0.9999	0.9999
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	9.0	8.6	9.8	7.9
Porosity (%)	10.1	11.6	10.8	10.7



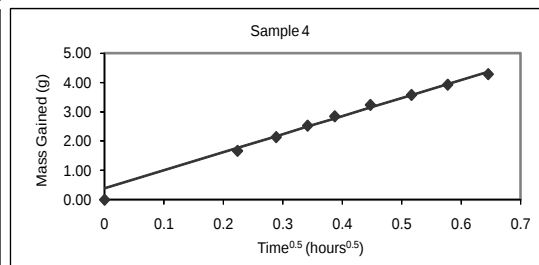
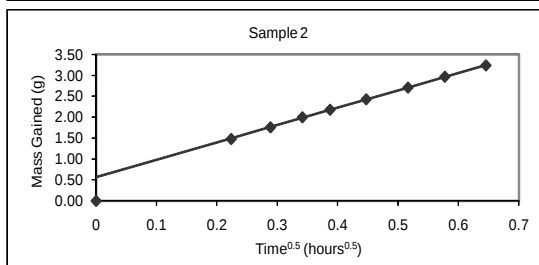
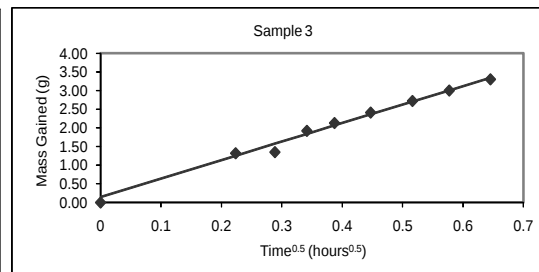
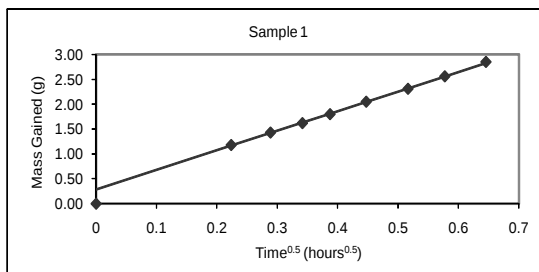
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: CC-60-7
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 12.3 COV: 17.4
Av. Porosity: 10.7 COV: 5.3

Sample ID	1	2	3	4
Diameter (mm)	68.15	68.25	68.07	68.08
Thickness (mm)	32.12	32.64	31.26	31.44
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	267.74	268.38	256.03	252.69
3	268.92	269.86	257.35	254.36
5	269.17	270.14	257.38	254.83
7	269.36	270.38	257.95	255.22
9	269.54	270.56	258.16	255.54
12	269.79	270.81	258.44	255.93
16	270.05	271.09	258.75	256.27
20	270.3	271.35	259.03	256.62
25	270.59	271.62	259.33	256.98
Saturated Mass (g)	279.33	281.26	268.65	265.4
R ² (Must be >0.98)	0.9996	0.9996	0.9998	0.9998
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	10.9	10.6	12.3	15.3
Porosity (%)	9.9	10.8	11.1	11.1



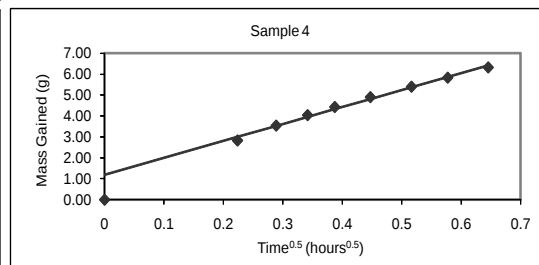
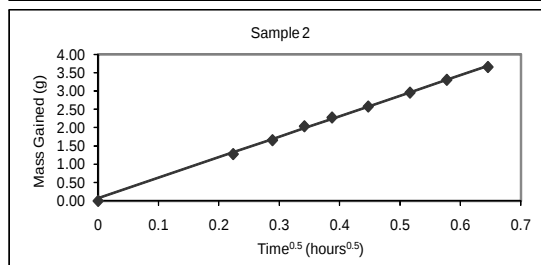
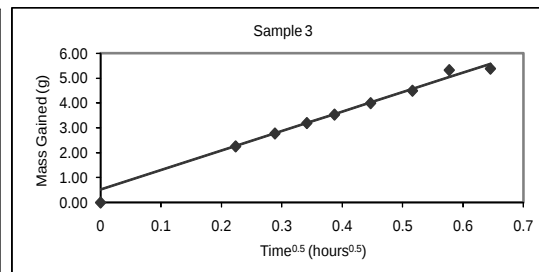
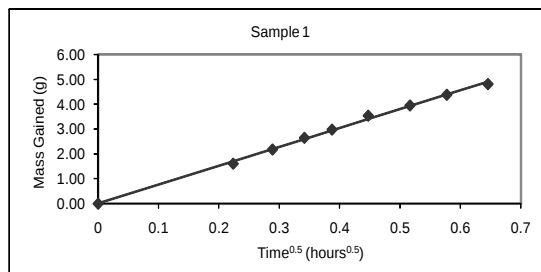
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: CC-75-7
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 17.4 COV: 16.2
Av. Porosity: 11.4 COV: 5.1

Sample ID	1	2	3	4
Diameter (mm)	68.34	68.16	68.35	68.13
Thickness (mm)	33.29	32.81	33.35	32.97
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	268.92	264	268.16	266.84
3	270.53	265.28	270.42	269.67
5	271.1	265.66	270.94	270.38
7	271.57	266.04	271.36	270.88
9	271.9	266.28	271.7	271.27
12	272.46	266.58	272.16	271.74
16	272.87	266.96	272.66	272.24
20	273.3	267.31	273.49	272.67
25	273.73	267.66	273.55	273.16
Saturated Mass (g)	282.14	277.7	283.13	280.37
R ² (Must be >0.98)	0.9951	0.9951	0.9983	0.9983
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	19.1	13.4	17.4	19.7
Porosity (%)	10.8	11.4	12.2	11.3



28-32 days water sorptivity results after 28-days initial moist curing period

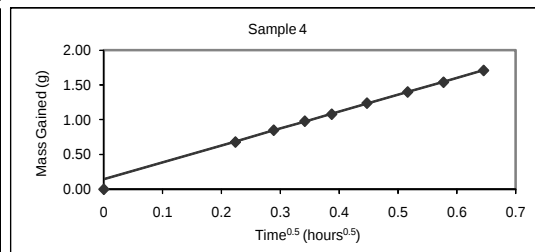
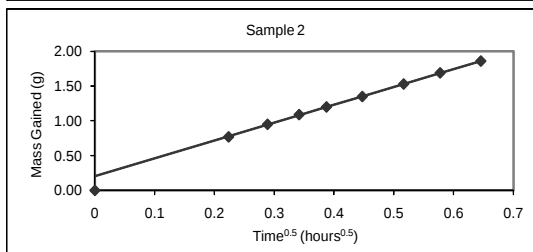
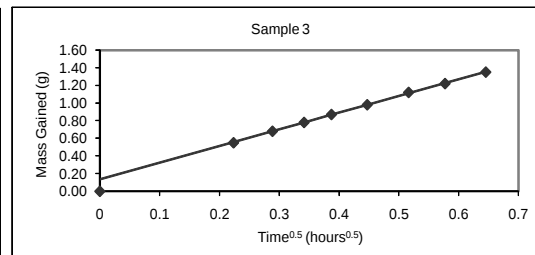
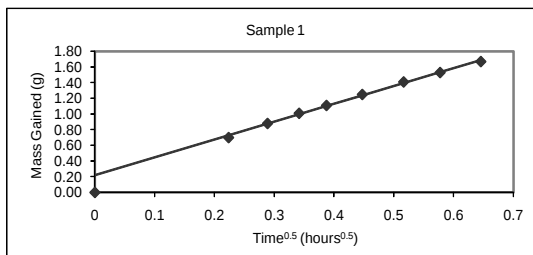
**University of Cape Town and University of
Witswatersrand
Departments of Civil Engineering
Sorptivity Test Analysis**

Sample ID: PC-40-28
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 6.8 COV: 7.5
Av. Porosity: 9.2 COV: 7.6

Sample ID	42A	42B	44A	44B
Diameter (mm)	68.76	68.09	68.24	68.12
Thickness (mm)	31.58	32.57	30.06	31.09
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	264.5	268.33	255.78	264.4
3	265.2	269.1	256.33	265.08
5	265.38	269.28	256.46	265.25
7	265.51	269.42	256.56	265.38
9	265.61	269.53	256.65	265.48
12	265.75	269.68	256.76	265.64
16	265.91	269.86	256.9	265.8
20	266.03	270.02	257	265.94
25	266.17	270.19	257.13	266.11
Saturated Mass (g)	275.37	280.22	264.94	274.6
R ² (Must be >0.98)	0.9976	0.9976	0.9998	0.9998
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	6.6	7.0	6.2	7.4
Porosity (%)	9.3	10.0	8.3	9.0



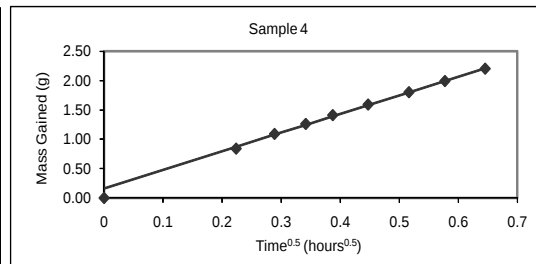
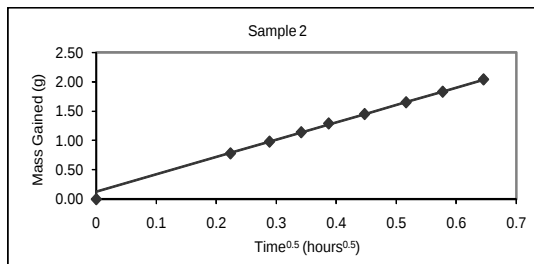
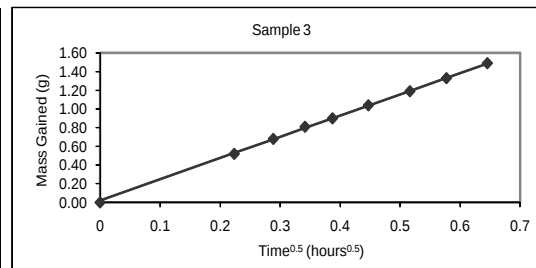
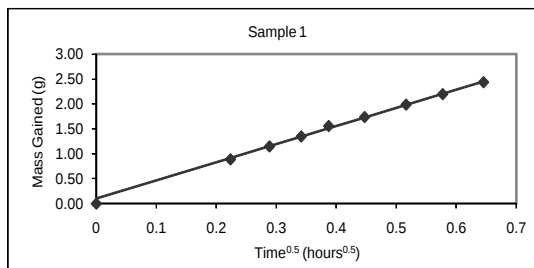
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: PC-50-28
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 8.0 COV: 17.4
Av. Porosity: 10.3 COV: 3.6

Sample ID	42A	42B	44A	44B
Diameter (mm)	68.11	68.2	68.53	68.38
Thickness (mm)	29.58	29.88	29.11	31.21
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	244.98	247.58	242.99	258.54
3	245.87	248.36	243.51	259.38
5	246.13	248.56	243.67	259.63
7	246.33	248.72	243.8	259.8
9	246.54	248.87	243.89	259.95
12	246.72	249.03	244.03	260.13
16	246.97	249.23	244.18	260.34
20	247.18	249.41	244.32	260.53
25	247.42	249.62	244.48	260.74
Saturated Mass (g)	256.09	258.97	253.45	270.69
R ² (Must be >0.98)	0.9984	0.9984	0.9997	0.9997
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	9.7	7.8	6.3	8.2
Porosity (%)	10.3	10.4	9.7	10.6



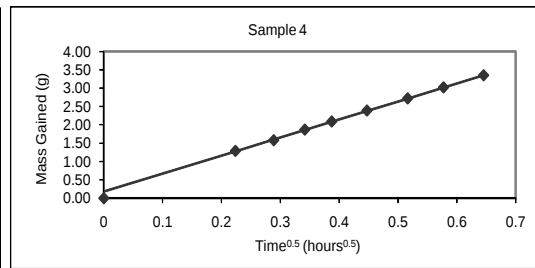
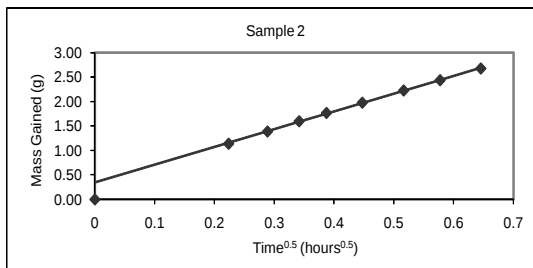
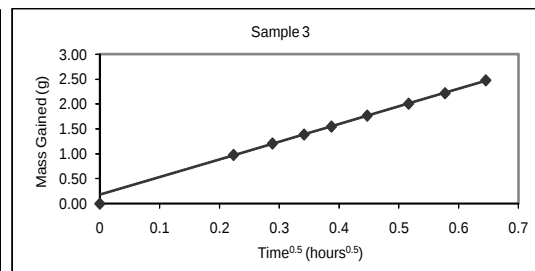
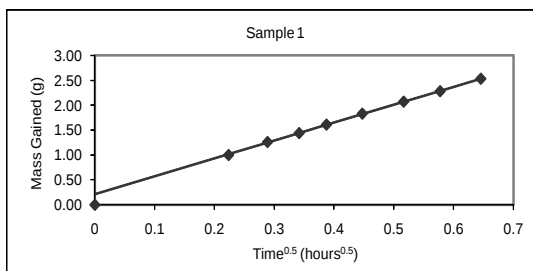
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: PC-60-28
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 9.7 COV: 6.7
Av. Porosity: 11.1 COV: 9.9

Sample ID	42A	42B	44A	44B
Diameter (mm)	68.18	68.12	68.28	68.12
Thickness (mm)	30.72	30.5	30.64	29.17
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	255.04	255.61	253.53	236.29
3	256.04	256.75	254.51	237.58
5	256.3	257	254.74	237.87
7	256.48	257.21	254.92	238.16
9	256.65	257.38	255.08	238.38
12	256.87	257.59	255.3	238.68
16	257.11	257.84	255.54	239.01
20	257.32	258.05	255.75	239.31
25	257.57	258.29	256.01	239.64
Saturated Mass (g)	266.79	267.25	265.42	249.79
R ² (Must be >0.98)	0.9997	0.9997	0.9994	0.9994
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	9.4	9.5	9.1	10.6
Porosity (%)	10.5	10.5	10.6	12.7



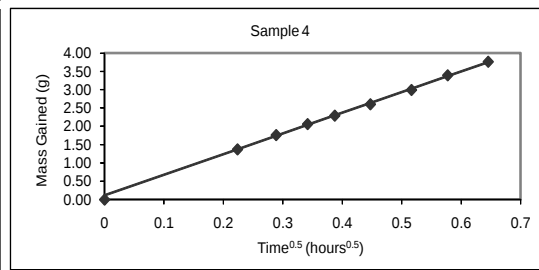
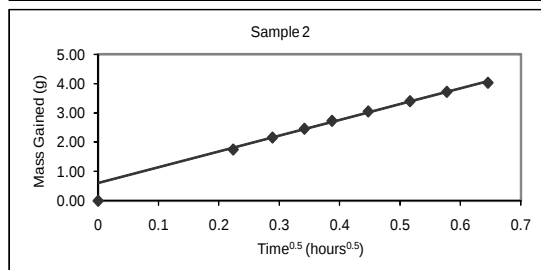
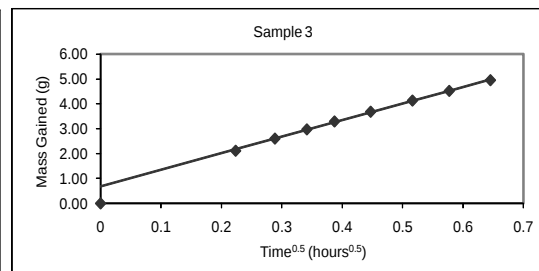
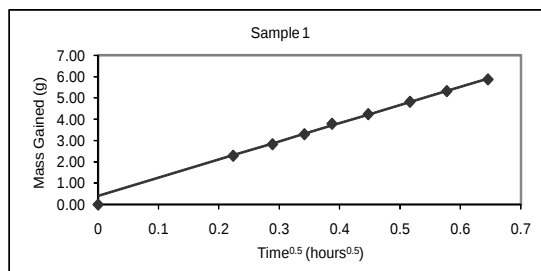
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: PC-75-28
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 13.6 COV: 15.2
Av. Porosity: 12.3 COV: 6.2

Sample ID	42A	42B	44A	44B
Diameter (mm)	70.78	70.43	70.61	70.35
Thickness (mm)	30.79	32.05	29.85	29.93
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	263.28	281.98	250.38	261.91
3	265.57	283.73	252.5	263.28
5	266.11	284.14	252.99	263.67
7	266.58	284.44	253.36	263.97
9	267.07	284.71	253.68	264.2
12	267.52	285.03	254.07	264.51
16	268.1	285.38	254.52	264.9
20	268.6	285.7	254.91	265.3
25	269.15	286.01	255.34	265.67
Saturated Mass (g)	279.26	296.17	264.98	275.98
R ² (Must be >0.98)	0.9990	0.9990	0.9978	0.9978
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	16.4	12.2	13.7	12.0
Porosity (%)	13.2	11.4	12.5	12.1



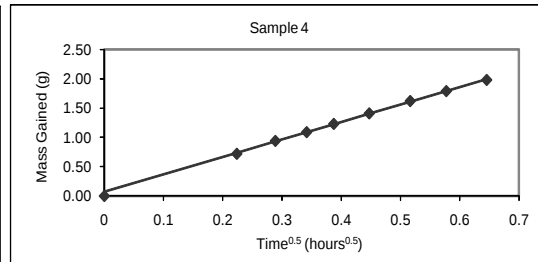
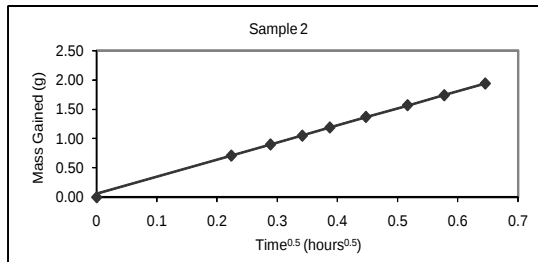
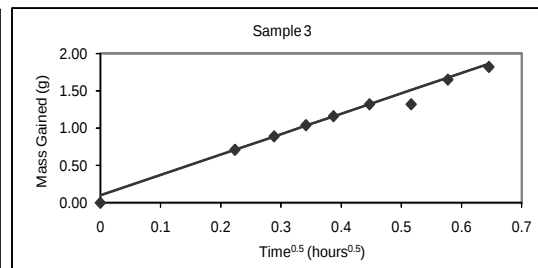
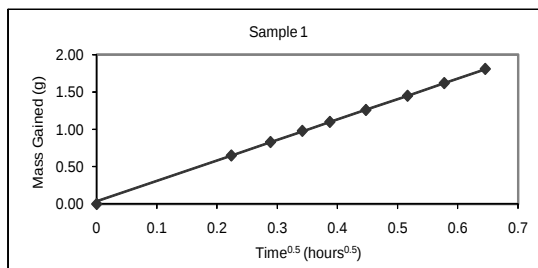
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: FA-40-28
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 7.5 COV: 4.9
Av. Porosity: 9.8 COV: 2.3

Sample ID	42A	42B	44A	44B
Diameter (mm)	70.4	70.01	70.5	70.36
Thickness (mm)	28.37	31.72	30.93	30.75
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	246.9	276.78	273.14	270.55
3	247.55	277.49	273.85	271.27
5	247.73	277.68	274.03	271.49
7	247.88	277.83	274.18	271.64
9	248	277.97	274.3	271.78
12	248.16	278.15	274.46	271.96
16	248.35	278.35	274.46	272.17
20	248.52	278.52	274.79	272.34
25	248.71	278.72	274.96	272.53
Saturated Mass (g)	257.39	288.75	285.27	282.37
R ² (Must be >0.98)	0.9999	0.9999	0.9999	0.9999
Range	3-25 min	3-25 min	3-25 min	3-12 min
Sorptivity (mm/hr ^{0.5})	7.4	7.7	7.0	7.7
Porosity (%)	9.5	9.8	10.0	9.9



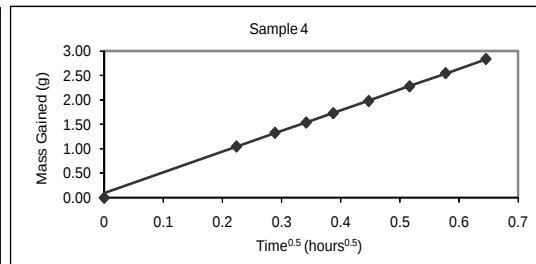
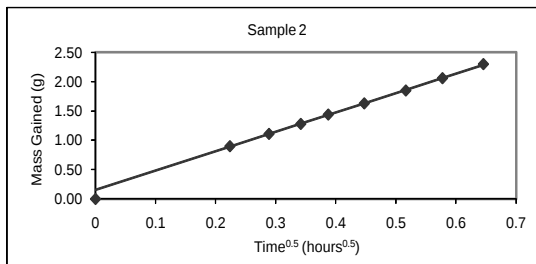
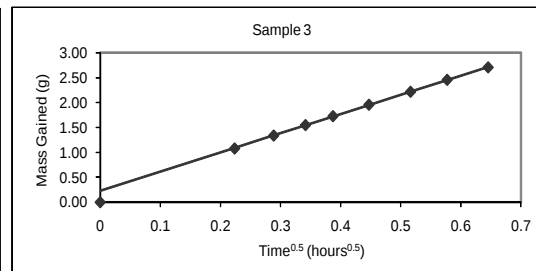
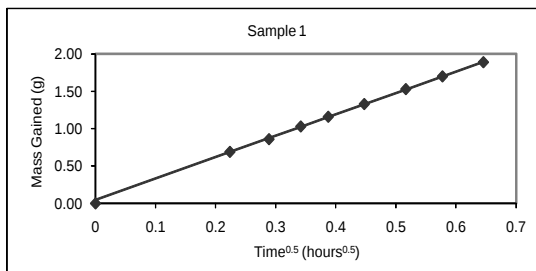
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: FA-50-28
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 9.0 COV: 12.9
Av. Porosity: 10.2 COV: 7.2

Sample ID	1	2	3	4
Diameter (mm)	70.32	70.23	70.11	69.95
Thickness (mm)	28.02	33.41	27.15	32.32
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	247.61	290.75	234.49	277.06
3	248.3	291.65	235.57	278.11
5	248.47	291.86	235.83	278.39
7	248.64	292.03	236.04	278.6
9	248.77	292.19	236.22	278.79
12	248.94	292.38	236.45	279.04
16	249.14	292.6	236.71	279.34
20	249.31	292.81	236.95	279.61
25	249.5	293.05	237.2	279.9
Saturated Mass (g)	257.8	303.76	246.16	290
R ² (Must be >0.98)	0.9998	0.9998	0.9998	0.9998
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	7.9	8.5	9.0	10.6
Porosity (%)	9.4	10.1	11.1	10.4



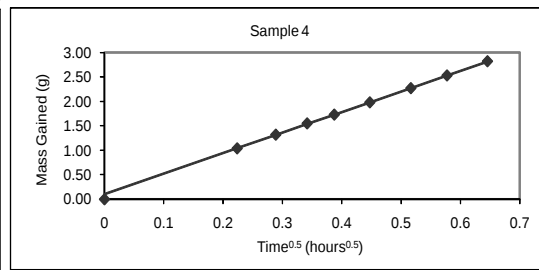
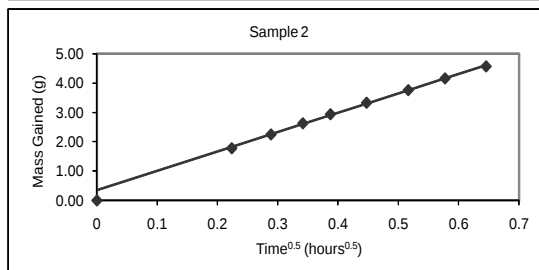
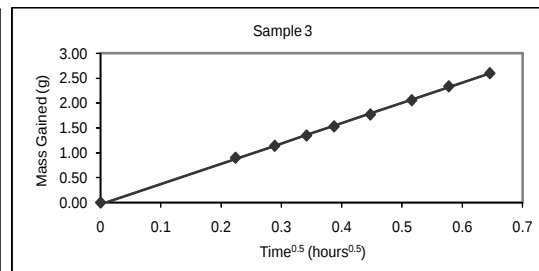
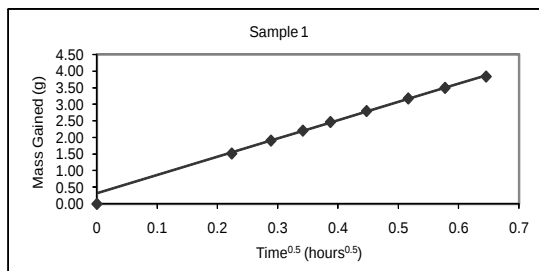
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: FA-60-28
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 11.7 COV: 17.5
Av. Porosity: 11.2 COV: 8.2

Sample ID	1	2	3	4
Diameter (mm)	70.25	69.85	70.5	70.1
Thickness (mm)	28.9	32.08	31.1	30.15
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	250.27	278.32	275.55	264.17
3	251.79	280.1	276.45	265.21
5	252.18	280.57	276.69	265.49
7	252.48	280.95	276.9	265.72
9	252.74	281.26	277.08	265.9
12	253.07	281.65	277.32	266.15
16	253.45	282.08	277.61	266.44
20	253.77	282.48	277.89	266.7
25	254.11	282.89	278.15	266.99
Saturated Mass (g)	263.7	292.89	287.7	276.88
R ² (Must be >0.98)	0.9993	0.9993	0.9990	0.9990
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	11.8	14.5	10.4	10.0
Porosity (%)	12.0	11.9	10.0	10.9



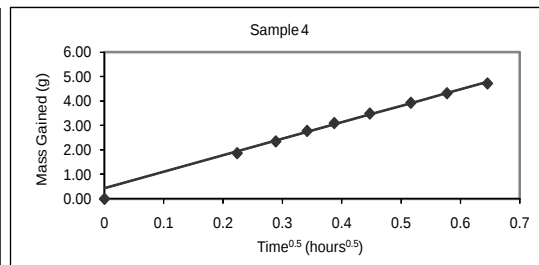
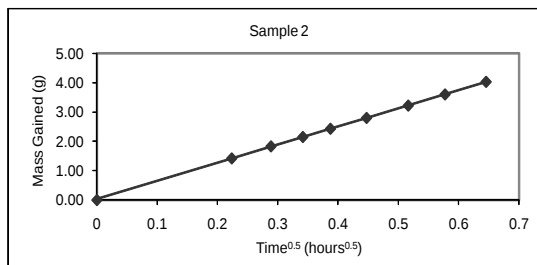
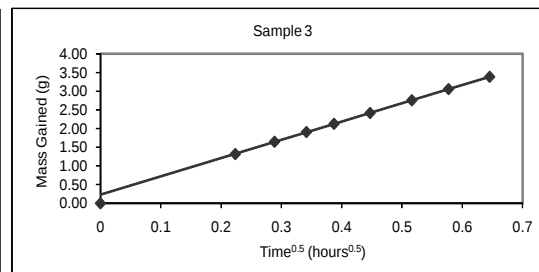
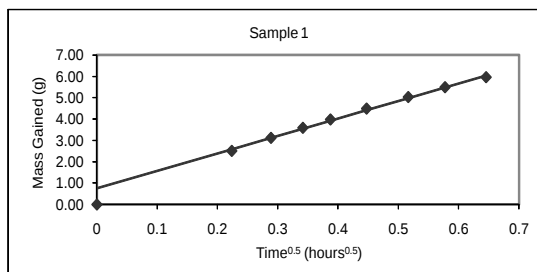
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: FA-75-28
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 13.5 COV: 18.2
Av. Porosity: 13.1 COV: 4.1

Sample ID	1	2	3	4
Diameter (mm)	68.43	68.16	68.5	68.04
Thickness (mm)	29.23	31.22	29.85	31.44
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	232.6	247.92	236.41	250.25
3	235.11	249.34	237.73	252.12
5	235.72	249.75	238.06	252.6
7	236.19	250.07	238.32	253.03
9	236.58	250.35	238.54	253.35
12	237.09	250.72	238.83	253.74
16	237.63	251.14	239.17	254.18
20	238.09	251.52	239.47	254.57
25	238.56	251.95	239.8	254.97
Saturated Mass (g)	247.06	263.34	249.99	265.3
R ² (Must be >0.98)	0.9976	0.9976	1.0000	1.0000
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	16.5	12.5	10.8	14.1
Porosity (%)	13.5	13.5	12.3	13.2



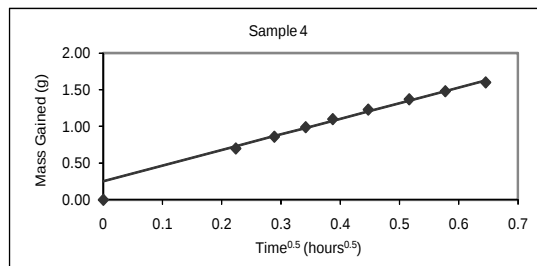
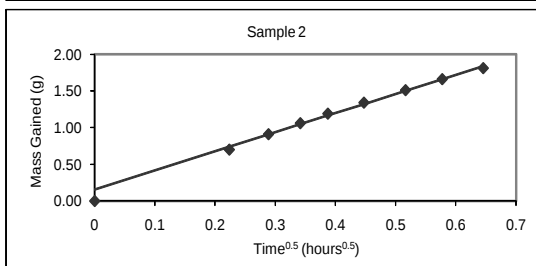
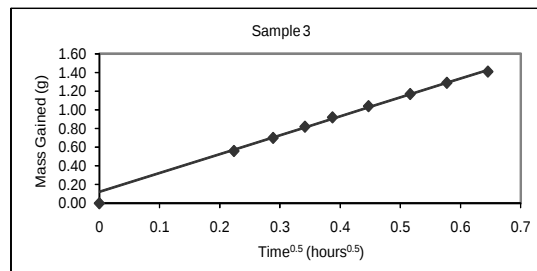
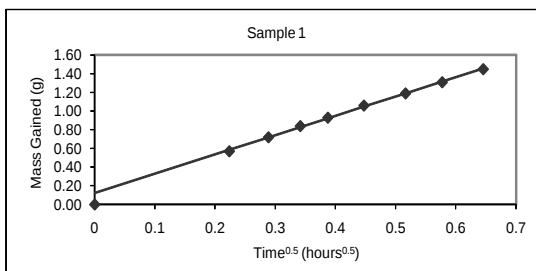
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: SL-40-28
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 5.9 COV: 16.1
Av. Porosity: 9.8 COV: 7.1

Sample ID	1	2	3	4
Diameter (mm)	70.46	70.13	70.17	70.09
Thickness (mm)	29.79	30.61	30.24	29.54
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	257.56	272.72	268.22	266.35
3	258.13	273.42	268.78	267.05
5	258.28	273.63	268.92	267.21
7	258.4	273.78	269.04	267.34
9	258.49	273.91	269.14	267.45
12	258.62	274.06	269.26	267.58
16	258.75	274.23	269.39	267.72
20	258.87	274.38	269.51	267.83
25	259.01	274.53	269.63	267.95
Saturated Mass (g)	270.11	283.98	279.49	276.86
R ² (Must be >0.98)	0.9990	0.9990	0.9965	0.9965
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	4.9	7.1	5.4	6.0
Porosity (%)	10.8	9.5	9.6	9.2



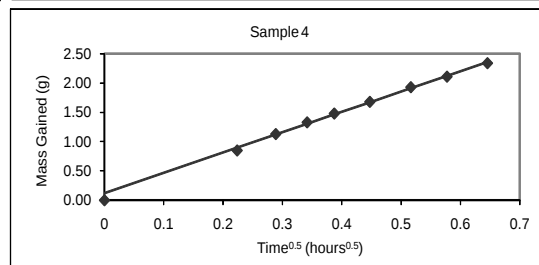
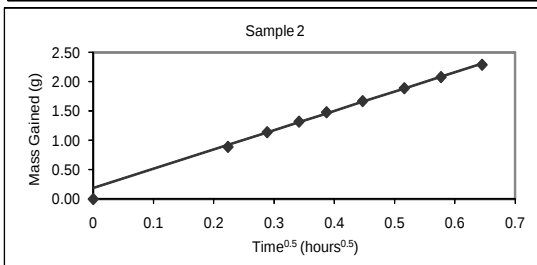
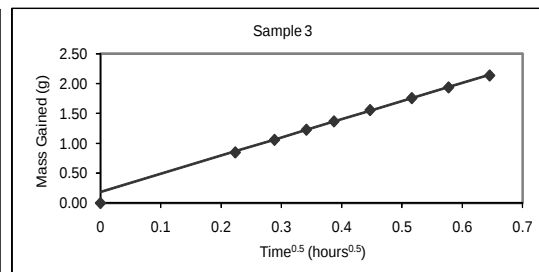
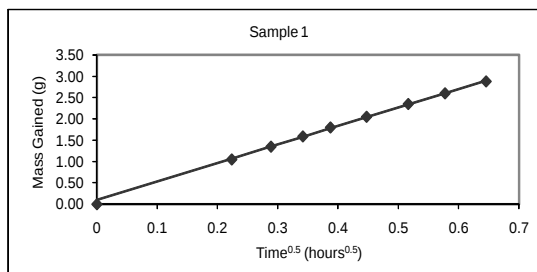
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: SL-50-28
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 8.0 COV: 7.4
Av. Porosity: 11.4 COV: 8.7

Sample ID	1	2	3	4
Diameter (mm)	70.39	70.31	70.48	70.11
Thickness (mm)	30.94	31.8	30.62	35.34
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	267.7	277.58	271.06	305.36
3	268.75	278.47	271.91	306.21
5	269.05	278.72	272.12	306.49
7	269.29	278.9	272.29	306.69
9	269.5	279.06	272.43	306.84
12	269.75	279.25	272.62	307.04
16	270.05	279.47	272.82	307.29
20	270.3	279.66	273	307.47
25	270.58	279.87	273.2	307.7
Saturated Mass (g)	283.09	291.47	283.58	320.37
R ² (Must be >0.98)	0.9995	0.9995	0.9987	0.9987
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	8.7	7.5	7.5	8.2
Porosity (%)	12.8	11.2	10.5	11.0



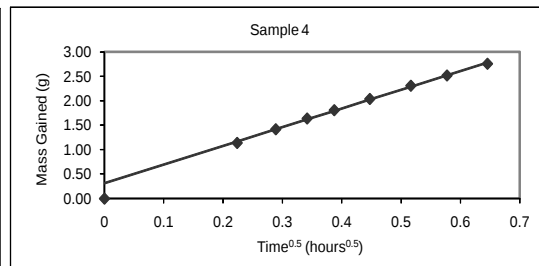
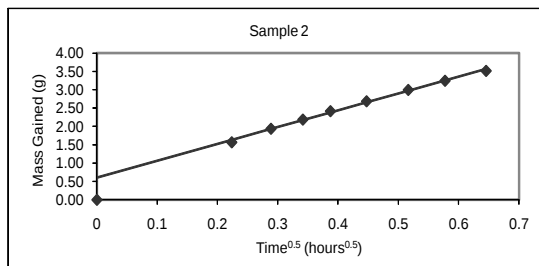
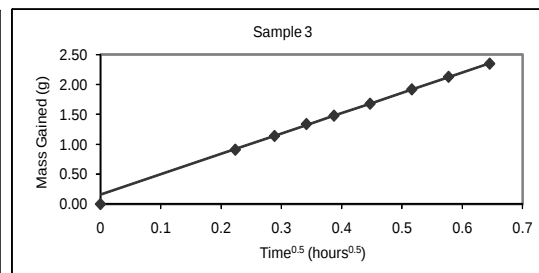
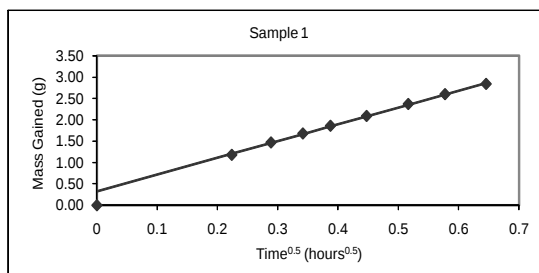
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: SL-60-28
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 8.9 COV: 8.5
Av. Porosity: 11.4 COV: 4.6

Sample ID	1	2	3	4
Diameter (mm)	70.53	70.28	70.48	70.25
Thickness (mm)	31.29	29.96	29.56	31.67
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	275.66	250.95	261.69	276.4
3	276.84	252.52	262.6	277.54
5	277.13	252.89	262.83	277.82
7	277.34	253.14	263.03	278.04
9	277.52	253.37	263.17	278.21
12	277.75	253.64	263.37	278.44
16	278.03	253.95	263.61	278.71
20	278.26	254.2	263.82	278.92
25	278.5	254.47	264.04	279.16
Saturated Mass (g)	289.58	265.07	274.44	289.95
R ² (Must be >0.98)	0.9992	0.9992	0.9970	0.9970
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	8.8	9.7	7.9	8.9
Porosity (%)	11.4	12.1	11.1	11.0



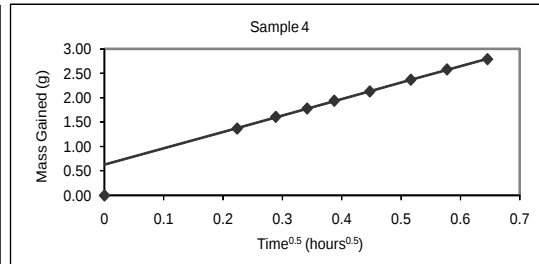
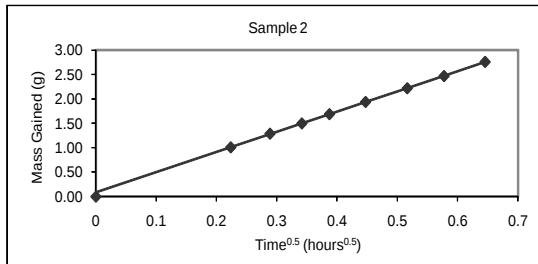
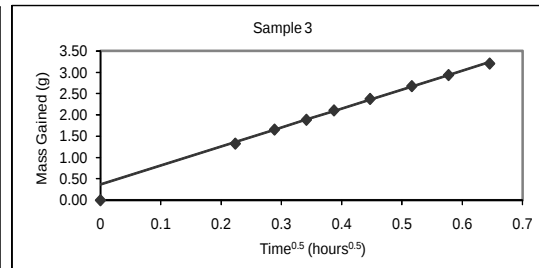
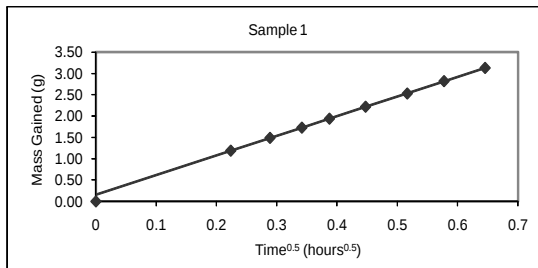
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: SL-75-28
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 8.0 COV: 8.2
Av. Porosity: 13.2 COV: 7.5

Sample ID	1	2	3	4
Diameter (mm)	70.48	70.35	70.66	70.25
Thickness (mm)	31.61	30.34	30.69	30.55
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	266.67	256.59	266.28	267.96
3	267.86	257.6	267.61	269.33
5	268.16	257.88	267.94	269.57
7	268.4	258.09	268.17	269.74
9	268.61	258.28	268.39	269.9
12	268.89	258.53	268.66	270.09
16	269.2	258.81	268.96	270.33
20	269.49	259.06	269.22	270.54
25	269.8	259.35	269.49	270.75
Saturated Mass (g)	284.67	272.03	282.02	282.41
R ² (Must be >0.98)	1.0000	1.0000	1.0000	1.0000
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	8.1	8.1	8.7	7.1
Porosity (%)	14.6	13.1	13.1	12.2



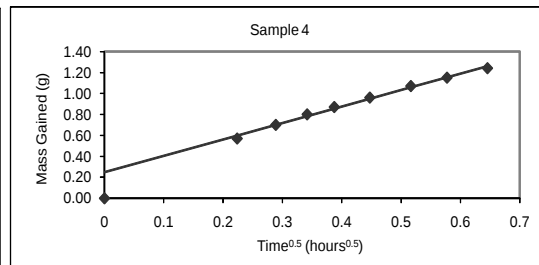
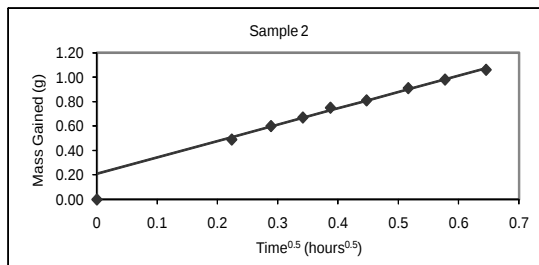
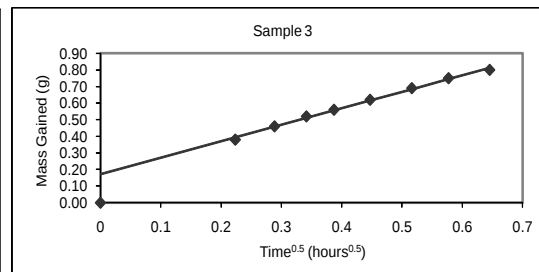
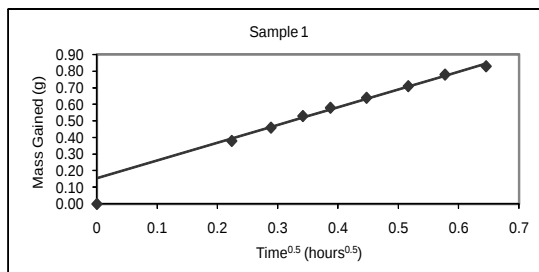
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: SF-40-28
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 3.4 COV: 18.6
Av. Porosity: 9.5 COV: 5.3

Sample ID	42A	42B	44A	44B
Diameter (mm)	70.4	70.17	70.09	70.09
Thickness (mm)	28.95	30.72	30.2	29.42
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	258.2	271.47	268.81	257.91
3	258.58	271.96	269.19	258.48
5	258.66	272.07	269.27	258.61
7	258.73	272.14	269.33	258.71
9	258.78	272.22	269.37	258.78
12	258.84	272.28	269.43	258.87
16	258.91	272.38	269.5	258.98
20	258.98	272.45	269.56	259.06
25	259.03	272.53	269.61	259.15
Saturated Mass (g)	268.79	282.12	279.65	269.44
R ² (Must be >0.98)	0.9955	0.9955	0.9957	0.9957
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	2.9	3.9	2.8	4.0
Porosity (%)	9.4	9.0	9.3	10.2



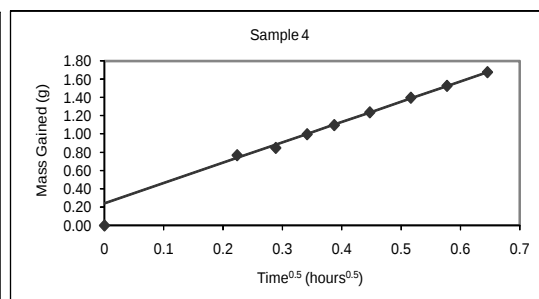
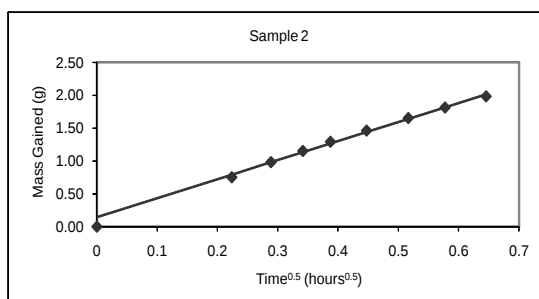
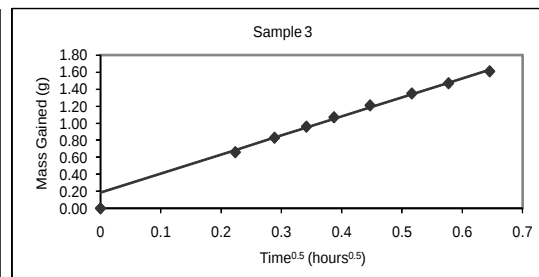
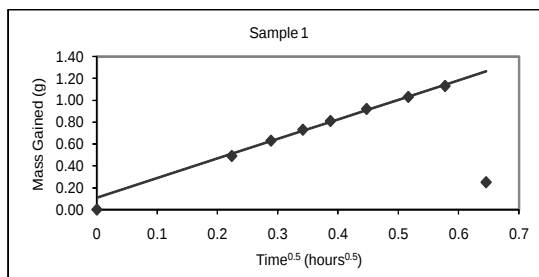
University of Cape Town and University of Witswatersrand
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: SF-50-28
 Date: 9/3/2012

Operator: AY

Av. Sorptivity: 5.3 COV: 11.2
 Av. Porosity: 11.1 COV: 9.5

Sample ID	42A	42B	44A	44B
Diameter (mm)	70.38	70.15	70.56	70.06
Thickness (mm)	31.04	30.07	29.69	31.65
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	274.85	258	256.31	273.6
3	275.34	258.75	256.97	274.37
5	275.48	258.98	257.14	274.45
7	275.58	259.15	257.27	274.6
9	275.66	259.29	257.38	274.7
12	275.77	259.46	257.52	274.84
16	275.88	259.65	257.66	275
20	275.98	259.81	257.78	275.13
25	275.1	259.98	257.92	275.28
Saturated Mass (g)	286.6	272.26	269.52	287.17
R ² (Must be >0.98)	0.9973	0.9973	0.9965	0.9965
Range	3-20 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	4.7	6.1	5.0	5.2
Porosity (%)	9.7	12.3	11.4	11.1



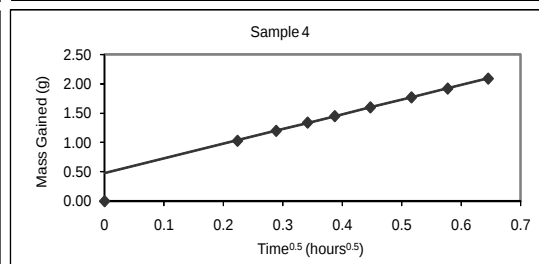
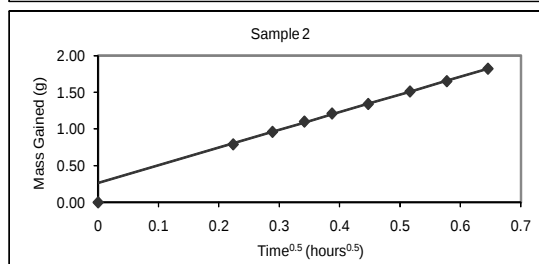
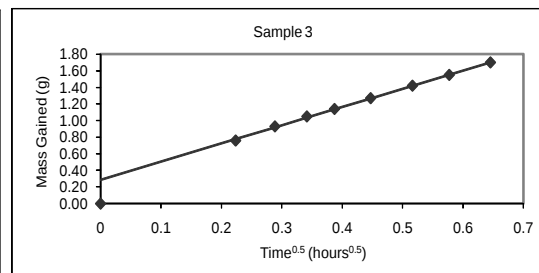
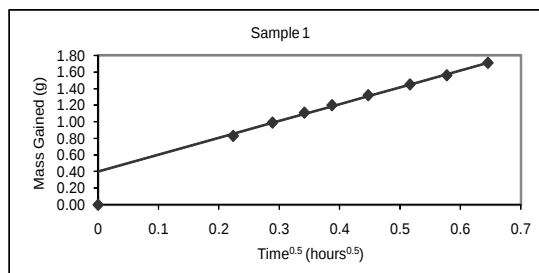
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: SF-60-28
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 5.5 COV: 12.3
Av. Porosity: 10.8 COV: 5.4

Sample ID	42A	42B	44A	44B
Diameter (mm)	70.11	70.03	70.31	70.24
Thickness (mm)	29.22	31.44	29.76	29.05
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	249.9	271.57	258.67	254.47
3	250.73	272.36	259.43	255.5
5	250.89	272.53	259.6	255.67
7	251.01	272.67	259.72	255.81
9	251.1	272.78	259.81	255.92
12	251.22	272.91	259.94	256.07
16	251.35	273.08	260.09	256.24
20	251.46	273.22	260.22	256.39
25	251.61	273.39	260.37	256.56
Saturated Mass (g)	262.97	284.47	270.45	266.43
R ² (Must be >0.98)	0.9978	0.9978	0.9994	0.9994
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	4.6	5.9	5.5	6.1
Porosity (%)	11.6	10.7	10.2	10.6



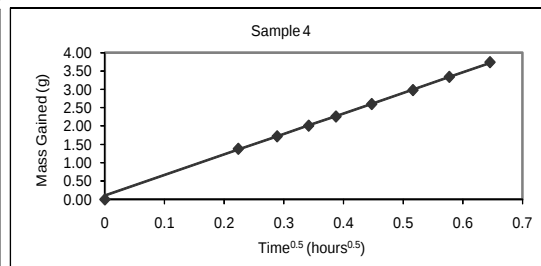
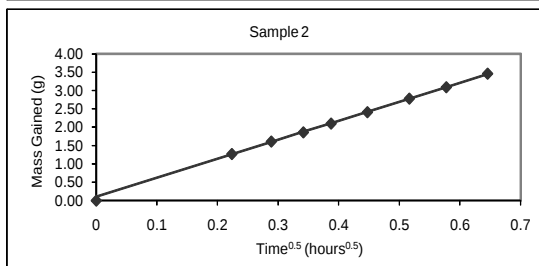
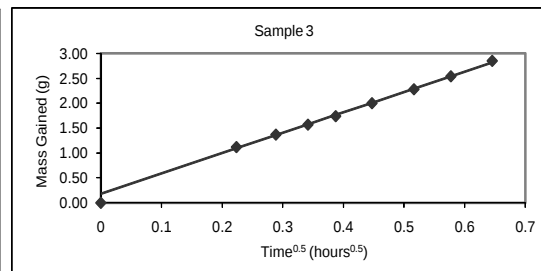
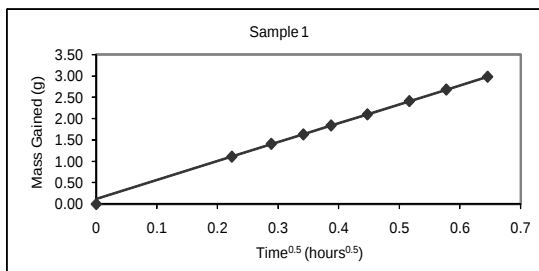
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: SF-75-28
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 8.4 COV: 14.6
Av. Porosity: 14.6 COV: 3.6

Sample ID	42A	42B	44A	44B
Diameter (mm)	70.6	70.79	70.64	70.44
Thickness (mm)	30	30.6	29.8	31.31
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	244.03	251.87	250.31	262.53
3	245.14	253.14	251.43	263.91
5	245.44	253.48	251.68	264.25
7	245.66	253.73	251.88	264.54
9	245.87	253.97	252.05	264.79
12	246.13	254.28	252.31	265.13
16	246.44	254.65	252.59	265.51
20	246.71	254.96	252.85	265.87
25	247.01	255.33	253.16	266.27
Saturated Mass (g)	261.7	270	266.69	279.95
R ² (Must be >0.98)	1.0000	1.0000	0.9998	0.9998
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	7.5	8.7	7.4	10.1
Porosity (%)	15.0	15.1	14.0	14.3



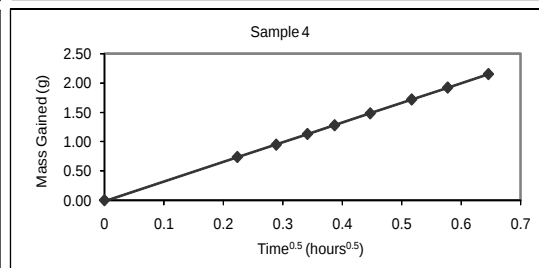
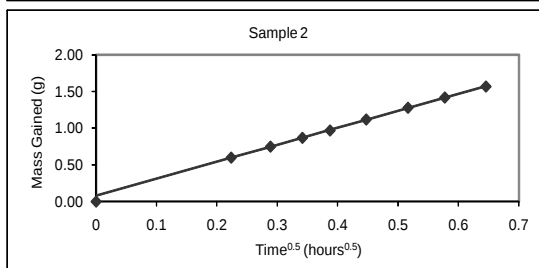
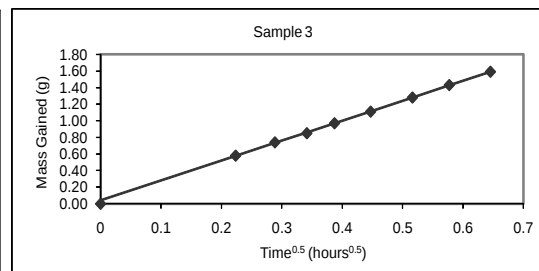
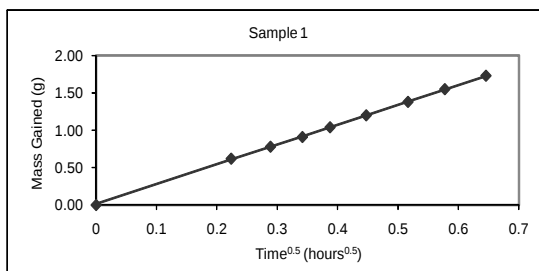
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: CC-40-28
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 6.7 COV: 11.7
Av. Porosity: 10.8 COV: 7.0

Sample ID	1	2	3	4
Diameter (mm)	67.91	68.51	69.04	68.17
Thickness (mm)	31.31	32.73	32.24	30.71
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	256.59	268.27	262.63	249.29
3	257.21	268.87	263.21	250.03
5	257.37	269.02	263.37	250.24
7	257.5	269.14	263.48	250.42
9	257.63	269.24	263.6	250.57
12	257.79	269.39	263.74	250.77
16	257.97	269.55	263.91	251.01
20	258.14	269.69	264.06	251.21
25	258.32	269.84	264.22	251.44
Saturated Mass (g)	268.96	280.95	274.63	262.44
R ² (Must be >0.98)	0.9997	0.9997	0.9998	0.9998
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	6.7	6.0	6.4	7.8
Porosity (%)	10.9	10.5	9.9	11.7



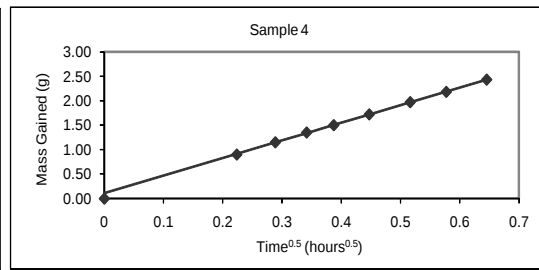
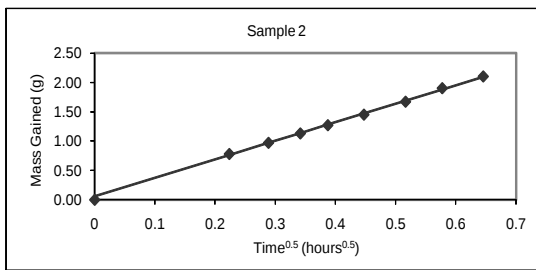
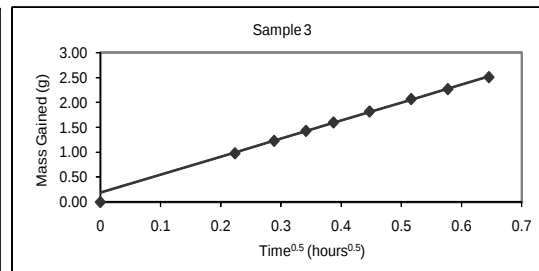
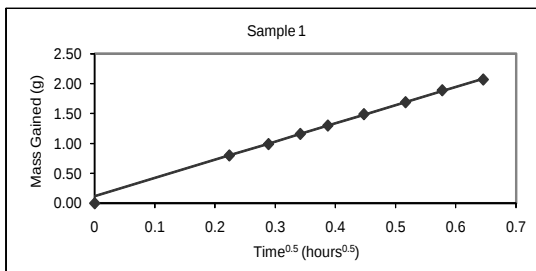
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: CC-50-28
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 8.6 COV: 3.7
Av. Porosity: 10.7 COV: 8.1

Sample ID	1	2	3	4
Diameter (mm)	68.15	68.18	68.3	68.22
Thickness (mm)	32.61	31	30.17	31.62
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	271.77	259.12	248.7	257.64
3	272.57	259.9	249.68	258.54
5	272.76	260.09	249.93	258.79
7	272.93	260.25	250.13	258.99
9	273.07	260.39	250.3	259.14
12	273.26	260.57	250.52	259.36
16	273.46	260.79	250.77	259.61
20	273.66	261.02	250.97	259.82
25	273.84	261.22	251.21	260.07
Saturated Mass (g)	283.14	271.13	261.02	271.03
R ² (Must be >0.98)	0.9996	0.9996	0.9990	0.9990
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	8.7	8.1	8.9	8.5
Porosity (%)	9.6	10.6	11.1	11.6



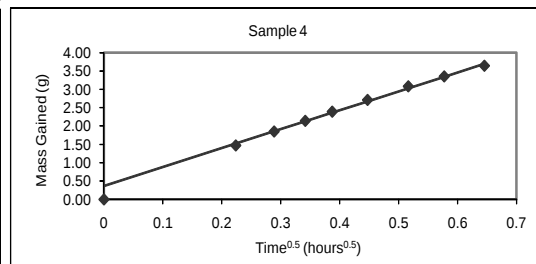
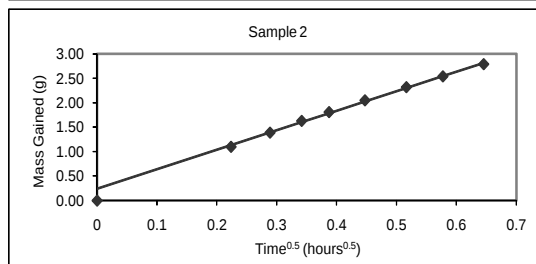
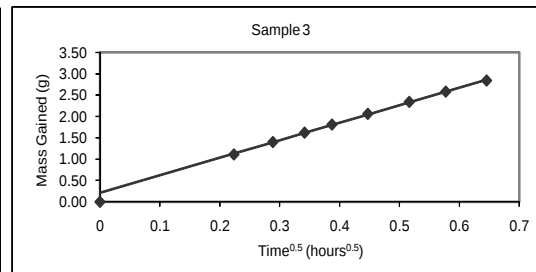
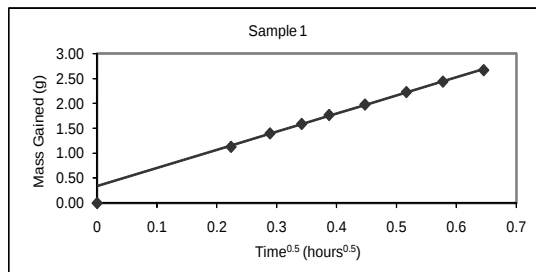
**University of Cape Town and University of
Witswatersrand**
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: CC-60-28
Date: 9/3/2012

Operator: AY

Av. Sorptivity: 10.7 COV: 9.5
Av. Porosity: 10.8 COV: 8.1

Sample ID	1	2	3	4
Diameter (mm)	68.38	68.07	68.07	68.04
Thickness (mm)	32.05	31.23	30.35	30.27
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	260.32	255.9	246.29	247.09
3	261.45	257	247.4	248.56
5	261.72	257.29	247.69	248.94
7	261.91	257.53	247.91	249.23
9	262.09	257.71	248.1	249.48
12	262.3	257.95	248.35	249.8
16	262.55	258.22	248.63	250.17
20	262.76	258.44	248.87	250.44
25	262.99	258.69	249.13	250.73
Saturated Mass (g)	272.17	268.49	257.5	260.22
R ² (Must be >0.98)	0.9991	0.9991	0.9983	0.9983
Range	3-25 min	3-25 min	3-25 min	3-25 min
Sorptivity (mm/hr ^{0.5})	9.8	9.9	11.1	11.9
Porosity (%)	10.1	11.1	10.1	11.9



University of Cape Town and University of Witswatersrand
Departments of Civil Engineering
Sorptivity Test Analysis

Sample ID: CC-75-28
 Date: 9/3/2012

Operator: AY

Av. Sorptivity: 16.2 COV: 15.6
 Av. Porosity: 11.0 COV: 2.7

Sample ID	1	2	3	4
Diameter (mm)	68.18	68.13	68.45	68.19
Thickness (mm)	30.94	30.7	33.68	33.39
Time (min)	Mass (g)	Mass (g)	Mass (g)	Mass (g)
0	253.64	245.64	264.81	265.52
3	254.78	247.99	267.04	268.01
5	255.1	248.5	267.56	268.54
7	255.35	248.91	267.96	268.96
9	255.57	249.23	268.29	269.29
12	255.94	249.61	268.72	269.72
16	256.27	250.04	268.21	270.17
20	256.58	250.34	269.62	270.58
25	256.89	250.74	270.08	271.03
Saturated Mass (g)	265.98	258.1	278.9	278.53
R ² (Must be >0.98)	0.9991	0.9991	0.9942	0.9942
Range	3-25 min	3-25 min	3-25 min	3-12 min
Sorptivity (mm/hr ^{0.5})	12.7	15.9	17.9	18.2
Porosity (%)	10.9	11.1	11.4	10.7

