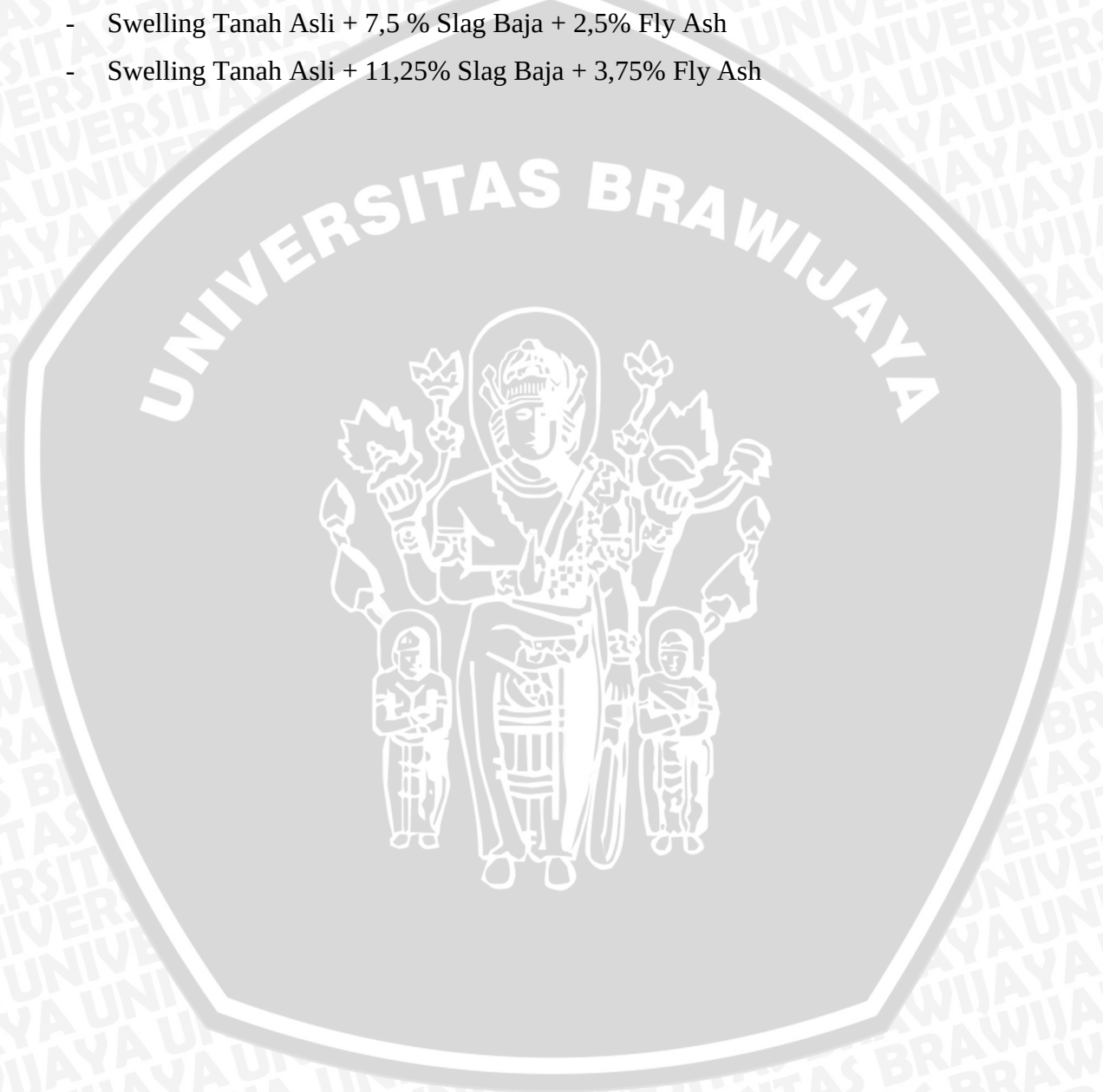


LAMPIRAN IV

UJI PENGEMBANGAN (SWELLING)

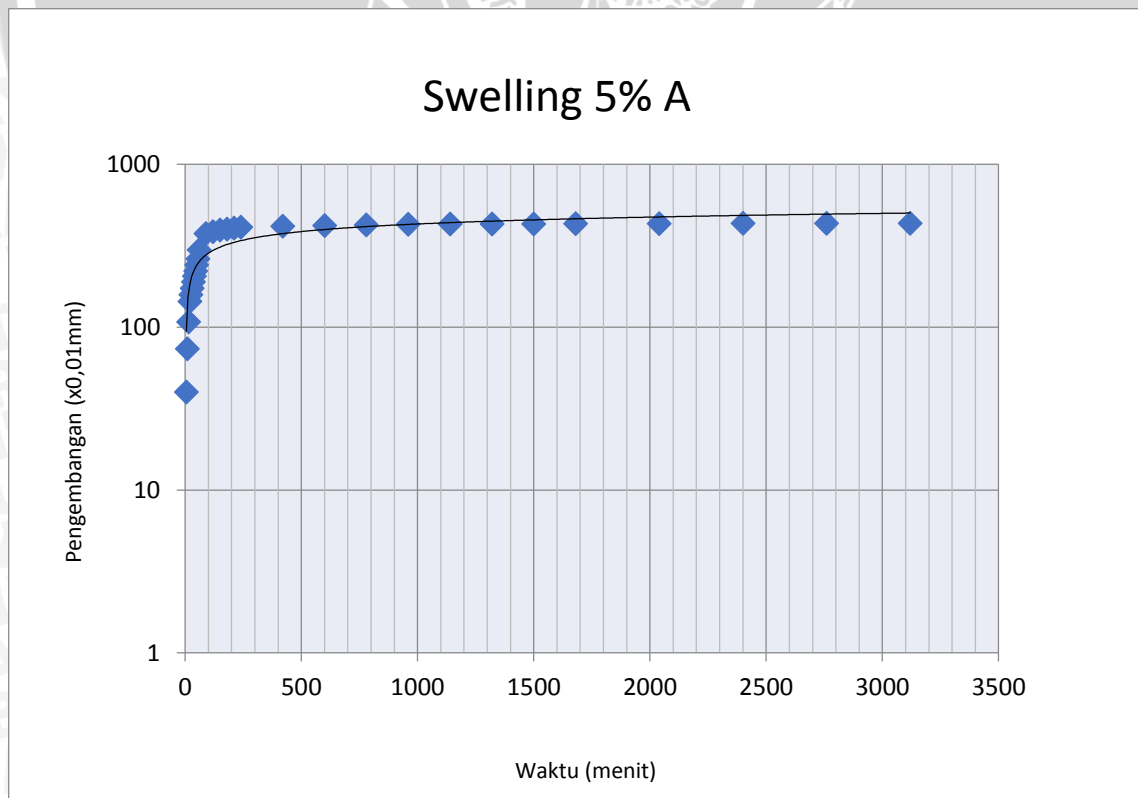
- Swelling Tanah Asli
- Swelling Tanah Asli + 3,75% Slag Baja + 1,25% Fly Ash
- Swelling Tanah Asli + 7,5 % Slag Baja + 2,5% Fly Ash
- Swelling Tanah Asli + 11,25% Slag Baja + 3,75% Fly Ash



Swelling Tanah Asli + 5% Campuran

Ht 116 mm

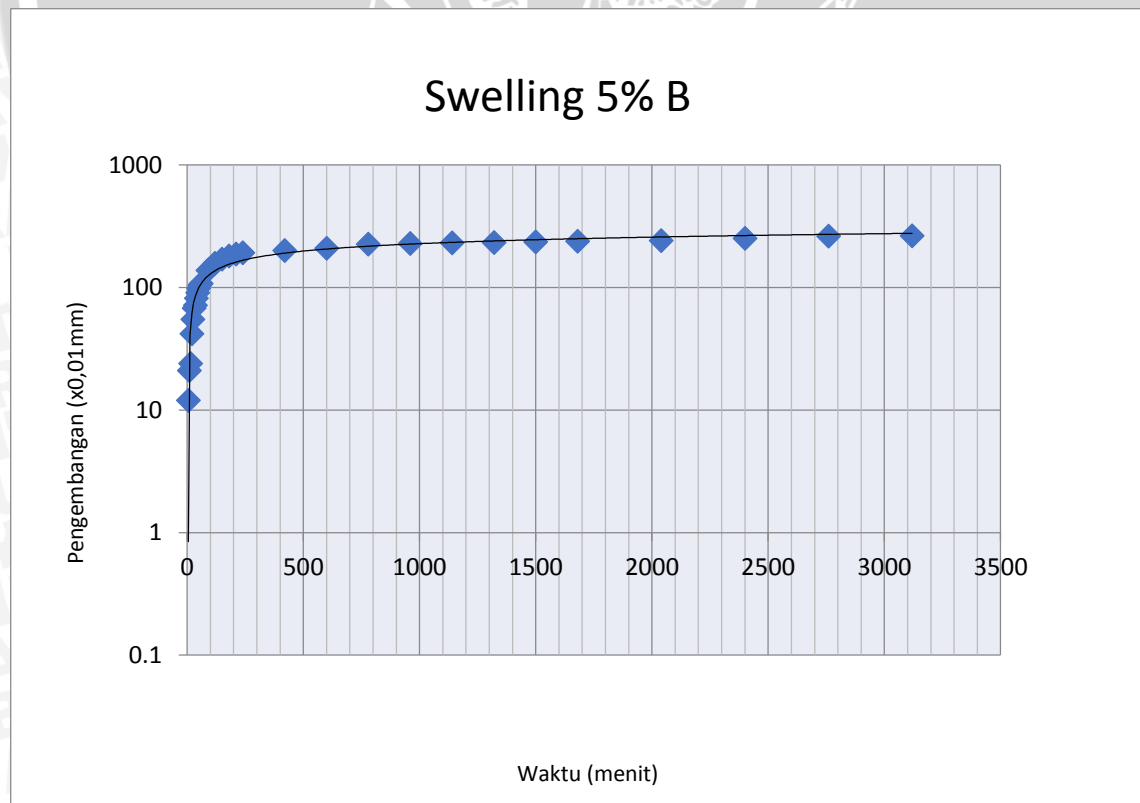
21.458					
Waktu	Pengembangan	Proses Pengembangan	Waktu	Pengembangan	Proses Pengembangan
(menit)	(x0,01mm)	(%)	(menit)	(x0,01mm)	(%)
5	40	0.345	180	402	3.466
10	74	0.638	210	407	3.509
15	108	0.931	240	412	3.552
20	144	1.241	420	419	3.612
25	159	1.371	600	422	3.638
30	174	1.500	780	426	3.672
35	190	1.638	960	429.5	3.703
40	206	1.776	1140	431	3.716
45	222	1.914	1320	431	3.716
50	242	2.086	1500	432	3.724
55	263	2.267	1680	433	3.733
60	299	2.578	2040	433	3.733
90	376	3.241	2400	435	3.750
120	388	3.345	2760	435	3.750
150	396	3.414	3120	435	3.750



Swelling Tanah Asli + 5% Campuran

Ht 116 mm

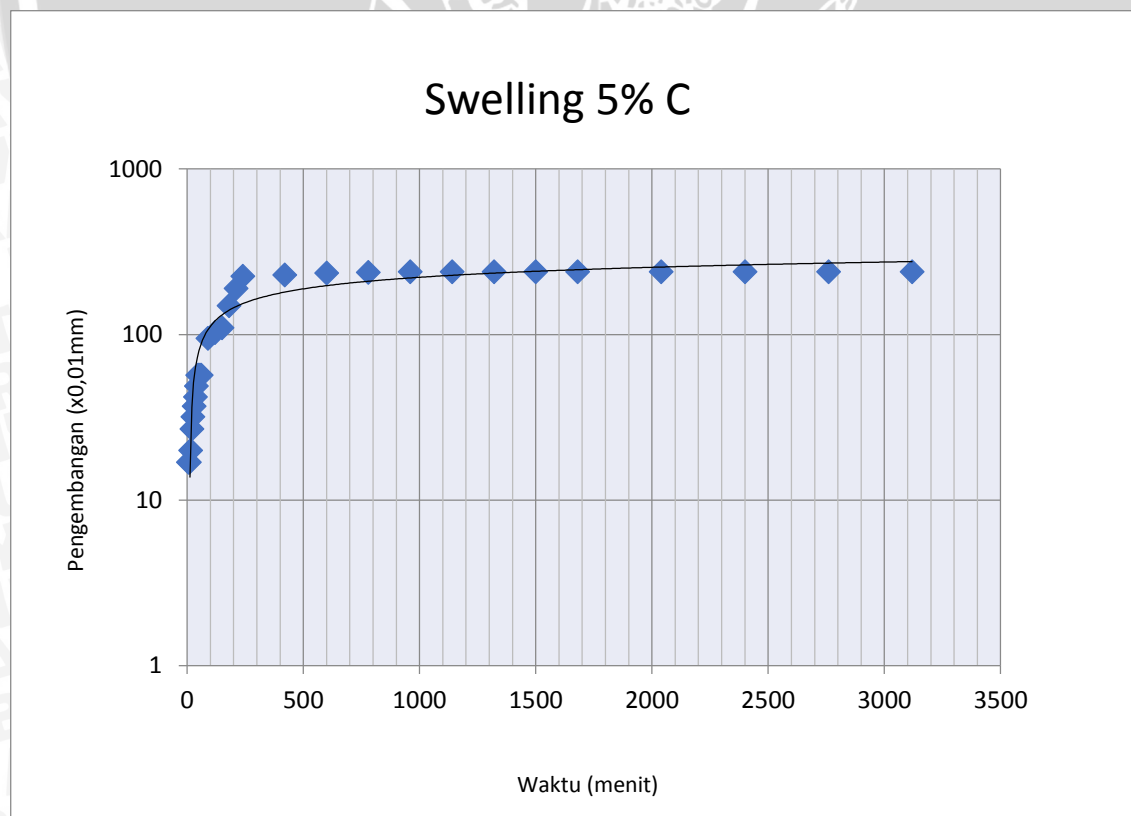
26.431					
Waktu	Pengembangan	Proses Pengembangan	Waktu	Pengembangan	Proses Pengembangan
(menit)	(x0,01mm)	(%)	(menit)	(x0,01mm)	(%)
5	12	0.103	180	181	1.560
10	21	0.181	210	188	1.621
15	24	0.207	240	193	1.664
20	42	0.362	420	201	1.733
25	55	0.474	600	210	1.810
30	68	0.586	780	227	1.957
35	72	0.621	960	229	1.974
40	82	0.707	1140	232	2.000
45	91	0.784	1320	234	2.017
50	99	0.853	1500	236	2.034
55	105	0.905	1680	238.5	2.056
60	108	0.931	2040	242.5	2.091
90	138	1.190	2400	252	2.172
120	158	1.362	2760	263	2.267
150	171	1.474	3120	264	2.276



Swelling Tanah Asli + 5% Campuran

Ht 116 mm

32.001					
Waktu	Pengembangan	Proses Pengembangan	Waktu	Pengembangan	Proses Pengembangan
(menit)	(x0,01mm)	(%)	(menit)	(x0,01mm)	(%)
5	17	0.147	180	150	1.293
10	17	0.147	210	190	1.638
15	20	0.172	240	225	1.940
20	27	0.233	420	230	1.983
25	32	0.276	600	235.5	2.030
30	37	0.319	780	238	2.052
35	42	0.362	960	240	2.069
40	49	0.422	1140	240	2.069
45	57	0.491	1320	240	2.069
50	57	0.491	1500	240.5	2.073
55	57	0.491	1680	240.5	2.073
60	57	0.491	2040	240.5	2.073
90	95	0.819	2400	240.5	2.073
120	103	0.888	2760	240.5	2.073
150	110	0.948	3120	240.5	2.073

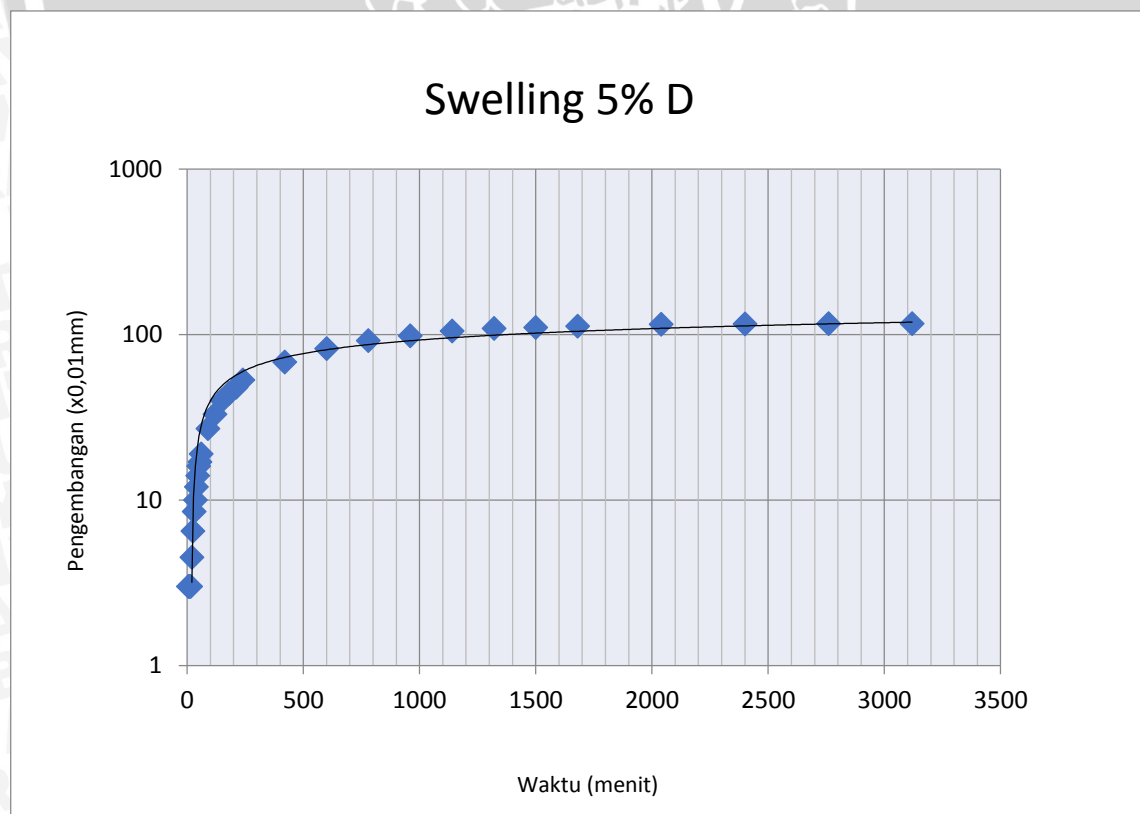


Swelling Tanah Asli + 5% Campuran

Ht

116 mm

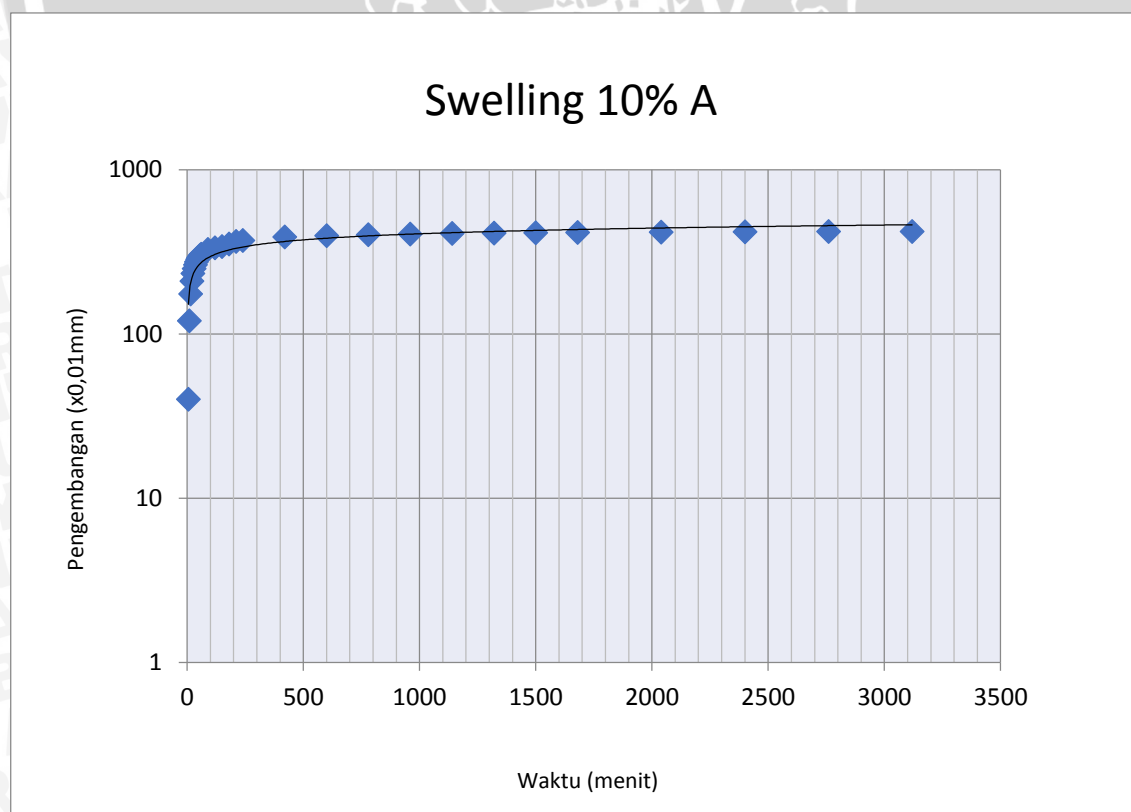
33.45410628					
Waktu	Pengembangan	Proses Pengembangan	Waktu	Pengembangan	Proses Pengembangan
(menit)	(x0,01mm)	(%)	(menit)	(x0,01mm)	(%)
5	3	0.026	180	44	0.379
10	3	0.026	210	48	0.414
15	3	0.026	240	53	0.457
20	4.5	0.039	420	68	0.586
25	6.5	0.056	600	82	0.707
30	8.5	0.073	780	92	0.793
35	10	0.086	960	98	0.845
40	12	0.103	1140	105	0.905
45	14	0.121	1320	109	0.940
50	16	0.138	1500	110	0.948
55	17	0.147	1680	112	0.966
60	19	0.164	2040	115	0.991
90	27	0.233	2400	116	1.000
120	33	0.284	2760	116.5	1.004
150	40	0.345	3120	116.5	1.004



Swelling Tanah Asli + 10% Campuran

Ht 116 mm

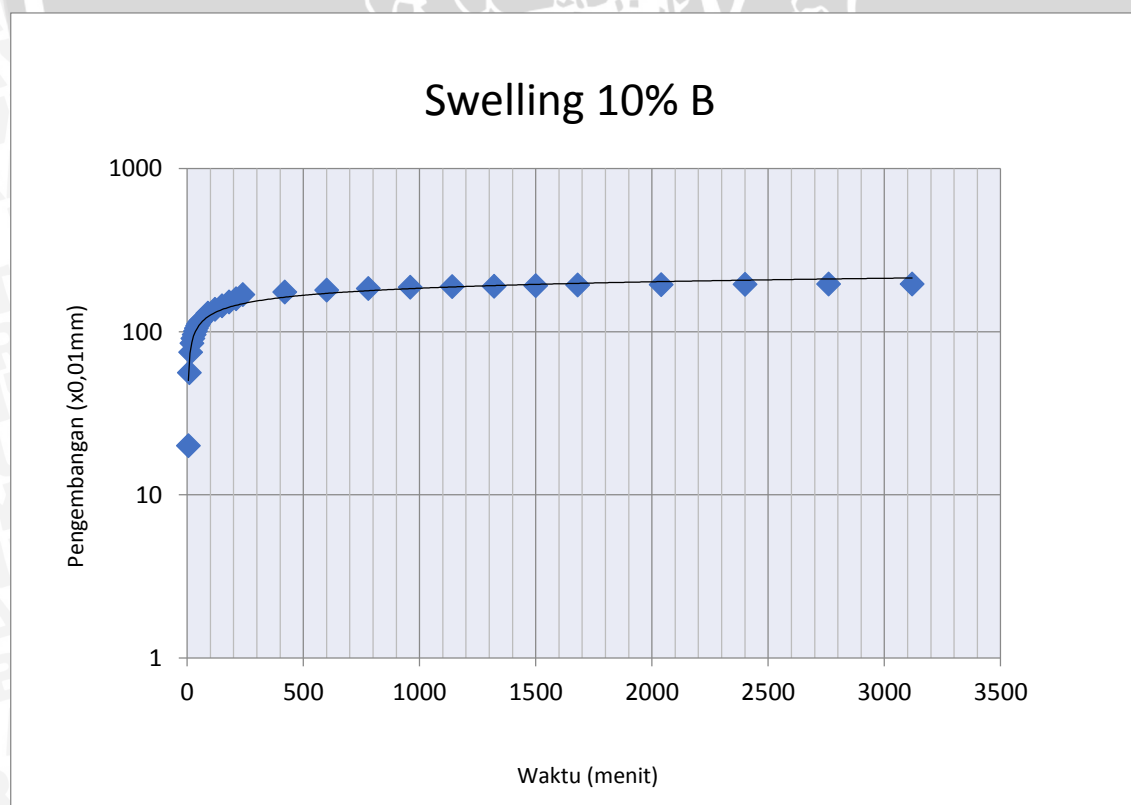
15.932					
Waktu	Pengembangan	Proses Pengembangan	Waktu	Pengembangan	Proses Pengembangan
(menit)	(x0,01mm)	(%)	(menit)	(x0,01mm)	(%)
5	40	0.345	180	352	3.034
10	120	1.034	210	365	3.147
15	175	1.509	240	370	3.190
20	210	1.810	420	389	3.353
25	233	2.009	600	396	3.414
30	250	2.155	780	402	3.466
35	263	2.267	960	406	3.500
40	274	2.362	1140	409	3.526
45	284	2.448	1320	411	3.543
50	292	2.517	1500	413	3.560
55	300	2.586	1680	414	3.569
60	305	2.629	2040	417	3.595
90	327	2.819	2400	419	3.612
120	334	2.879	2760	420	3.621
150	341	2.940	3120	420	3.621



Swelling Tanah Asli + 10% Campuran

Ht 116 mm

22.746					
Waktu	Pengembangan	Proses Pengembangan	Waktu	Pengembangan	Proses Pengembangan
(menit)	(x0,01mm)	(%)	(menit)	(x0,01mm)	(%)
5	20	0.172	180	152	1.310
10	56	0.483	210	159	1.371
15	75	0.647	240	169	1.457
20	85	0.733	420	175	1.509
25	91	0.784	600	180	1.552
30	96	0.828	780	184	1.586
35	101	0.871	960	187	1.612
40	105	0.905	1140	189	1.629
45	109	0.940	1320	190	1.638
50	112	0.966	1500	192	1.655
55	115	0.991	1680	193	1.664
60	117	1.009	2040	194	1.672
90	130	1.121	2400	195	1.681
120	137	1.181	2760	196	1.690
150	144	1.241	3120	196	1.690

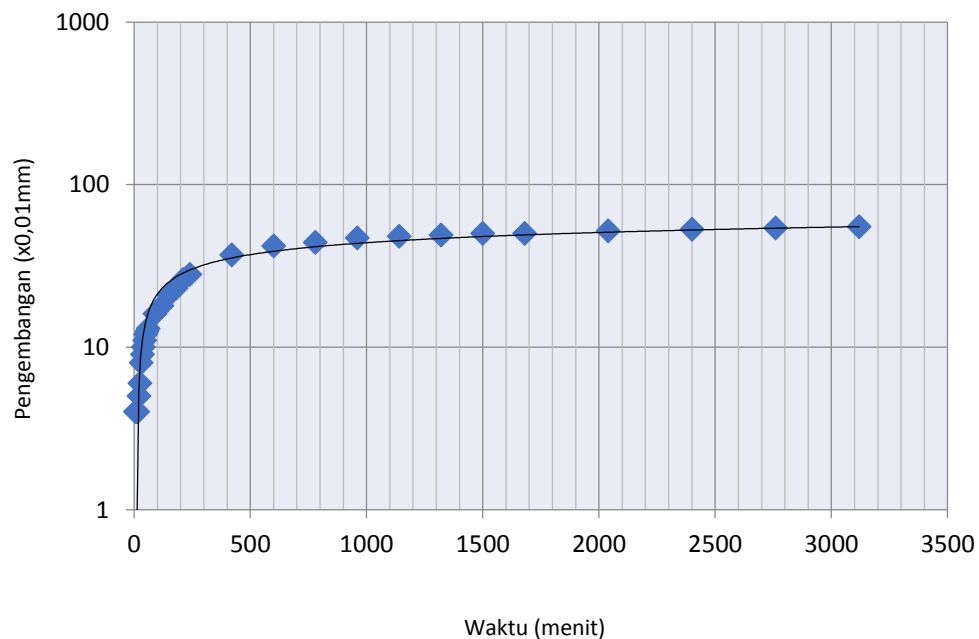


Swelling Tanah Asli + 10% Campuran

Ht 116 mm

27.547					
Waktu	Pengembangan	Proses Pengembangan	Waktu	Pengembangan	Proses Pengembangan
(menit)	(x0,01mm)	(%)	(menit)	(x0,01mm)	(%)
5	4	0.034	180	23	0.198
10	4	0.034	210	26	0.224
15	4	0.034	240	28	0.241
20	5	0.043	420	37	0.319
25	6	0.052	600	42	0.362
30	8	0.069	780	44	0.379
35	9	0.078	960	47	0.405
40	10	0.086	1140	48	0.414
45	11	0.095	1320	49	0.422
50	12	0.103	1500	50	0.431
55	12.5	0.108	1680	50	0.431
60	13	0.112	2040	52	0.448
90	16	0.138	2400	53	0.457
120	18	0.155	2760	54	0.466
150	21	0.181	3120	55	0.474

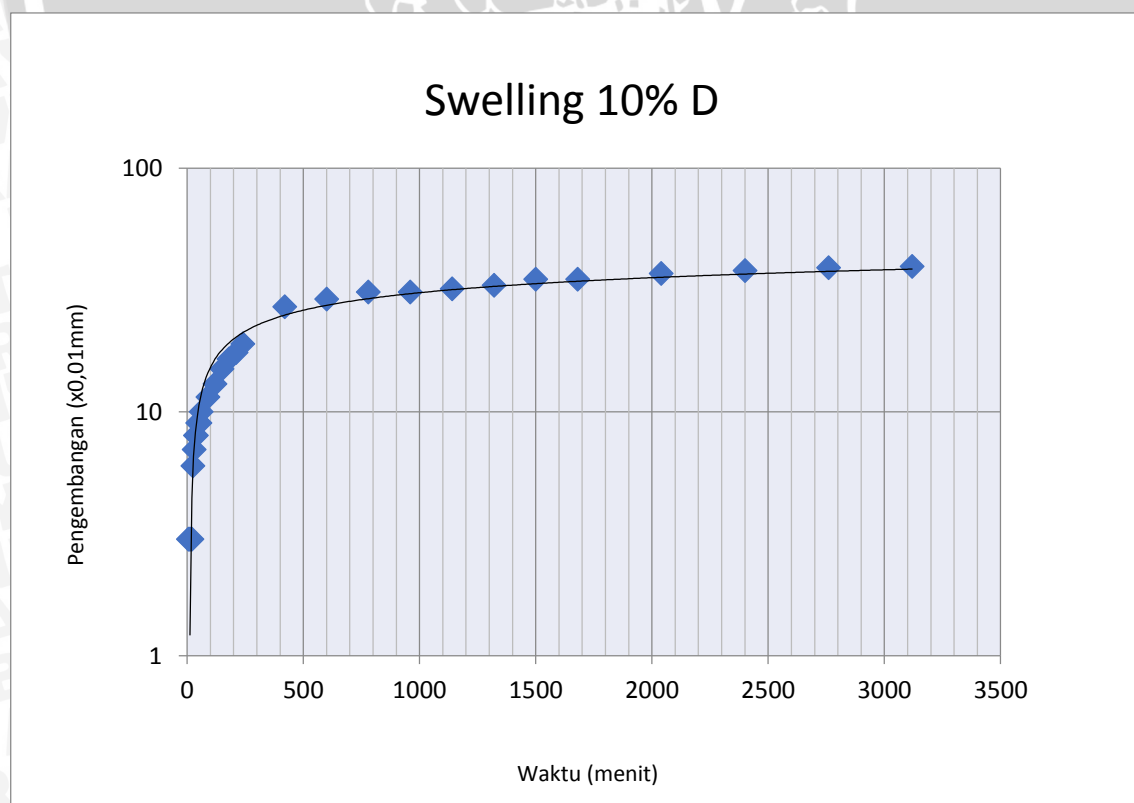
Swelling 10% C



Swelling Tanah Asli + 10% Campuran

Ht 116 mm

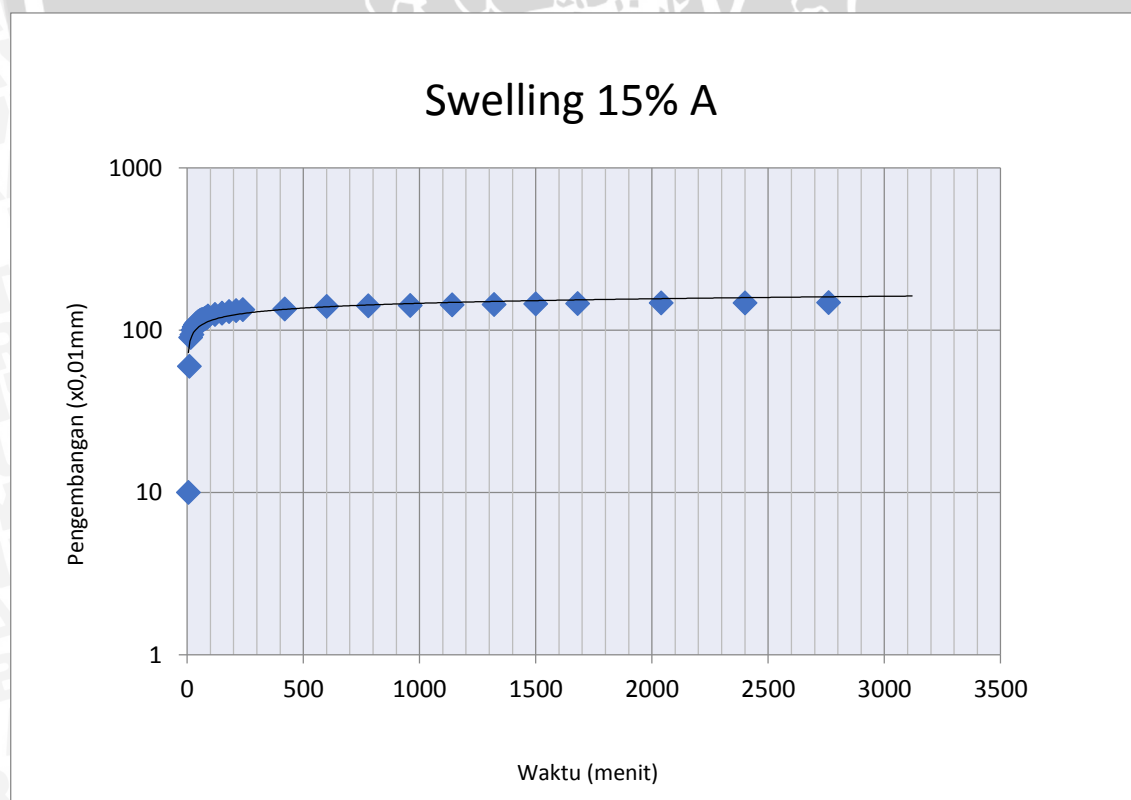
29.29532525					
Waktu	Pengembangan	Proses Pengembangan	Waktu	Pengembangan	Proses Pengembangan
(menit)	(x0,01mm)	(%)	(menit)	(x0,01mm)	(%)
5	3	0.026	180	16.5	0.142
10	3	0.026	210	17.5	0.151
15	3	0.026	240	19	0.164
20	3	0.026	420	27	0.233
25	6	0.052	600	29	0.250
30	7	0.060	780	31	0.267
35	8	0.069	960	31	0.267
40	8	0.069	1140	32	0.276
45	9	0.078	1320	33	0.284
50	9	0.078	1500	35	0.302
55	9	0.078	1680	35	0.302
60	10	0.086	2040	37	0.319
90	11.5	0.099	2400	38	0.328
120	13	0.112	2760	39	0.336
150	15	0.129	3120	39.5	0.341



Swelling Tanah Asli + 15% Campuran

Ht 116 mm

12.534					
Waktu	Pengembangan	Proses Pengembangan	Waktu	Pengembangan	Proses Pengembangan
(menit)	(x0,01mm)	(%)	(menit)	(x0,01mm)	(%)
5	10	0.086	180	130	1.121
10	60	0.517	210	132	1.138
15	90	0.776	240	134	1.155
20	94	0.810	420	135	1.164
25	100	0.862	600	140	1.207
30	104.5	0.901	780	141.5	1.220
35	108	0.931	960	142	1.224
40	110	0.948	1140	143	1.233
45	112	0.966	1320	144	1.241
50	113	0.974	1500	145.5	1.254
55	114.5	0.987	1680	146	1.259
60	115.5	0.996	2040	147	1.267
90	122	1.052	2400	147	1.267
120	125	1.078	2760	148	1.276
150	127.5	1.099	3120	148	1.276

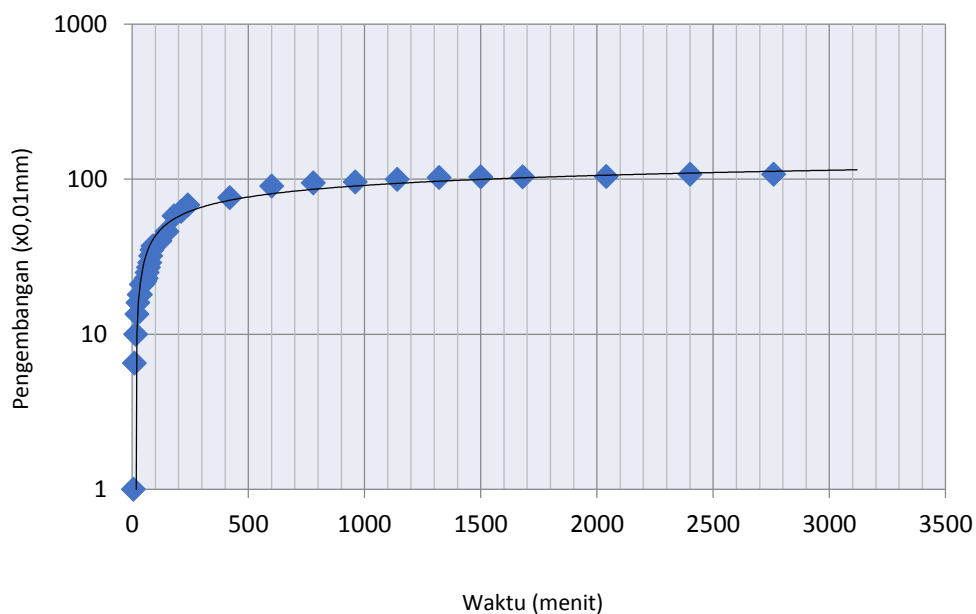


Swelling Tanah Asli + 15% Campuran

Ht 116 mm

15.211					
Waktu	Pengembangan	Proses Pengembangan	Waktu	Pengembangan	Proses Pengembangan
(menit)	(x0,01mm)	(%)	(menit)	(x0,01mm)	(%)
5	1	0.009	180	58	0.500
10	6.5	0.056	210	62	0.534
15	10	0.086	240	68	0.586
20	13.5	0.116	420	76	0.655
25	16	0.138	600	90	0.776
30	18	0.155	780	94.5	0.815
35	18	0.155	960	96	0.828
40	21	0.181	1140	99.5	0.858
45	21	0.181	1320	102.5	0.884
50	21.5	0.185	1500	103.5	0.892
55	22	0.190	1680	103.5	0.892
60	23	0.198	2040	104	0.897
90	37	0.319	2400	107.5	0.927
120	40	0.345	2760	107.5	0.927
150	46	0.397	3120	107.5	0.927

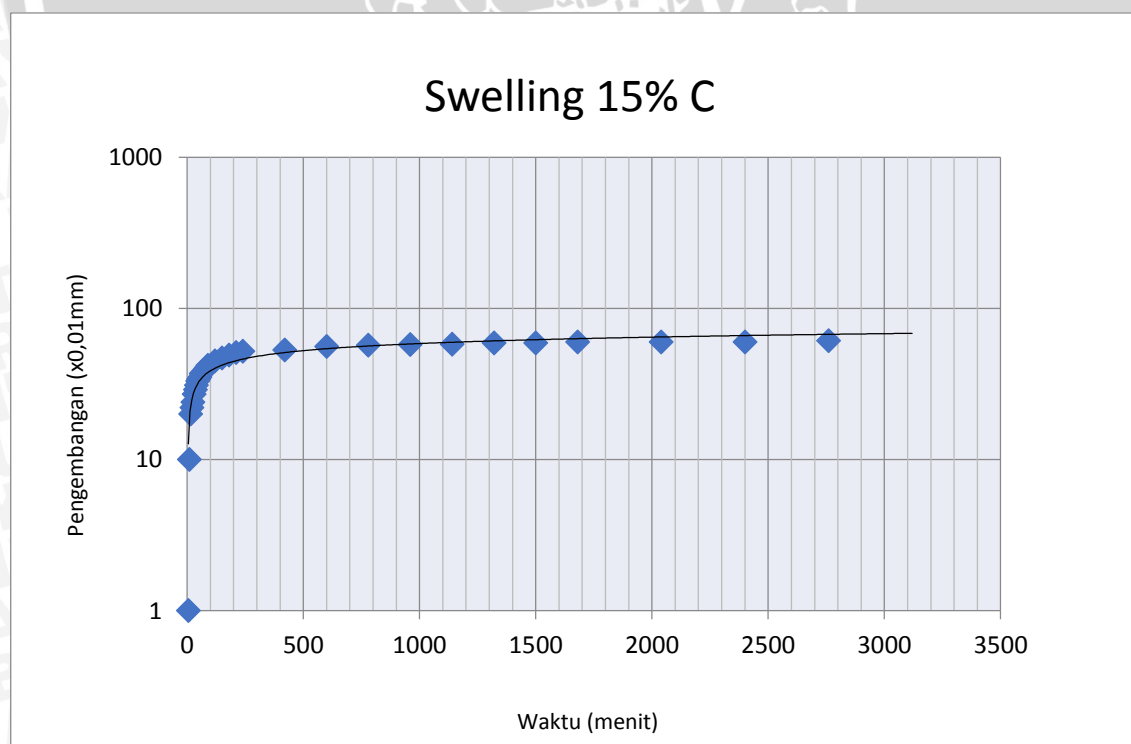
Swelling 15% B



Swelling Tanah Asli + 15% Campuran

Ht 116 mm

21.410					
Waktu	Pengembangan	Proses Pengembangan	Waktu	Pengembangan	Proses Pengembangan
(menit)	(x0,01mm)	(%)	(menit)	(x0,01mm)	(%)
5	1	0.009	180	49	0.422
10	10	0.086	210	51	0.440
15	20	0.172	240	52	0.448
20	22	0.190	420	53	0.457
25	24	0.207	600	56	0.483
30	27	0.233	780	57	0.491
35	29	0.250	960	57.5	0.496
40	31	0.267	1140	58	0.500
45	33	0.284	1320	59	0.509
50	34	0.293	1500	59	0.509
55	35	0.302	1680	60	0.517
60	37	0.319	2040	60	0.517
90	42	0.362	2400	60	0.517
120	45	0.388	2760	61	0.526
150	47	0.405	3120	61	0.526



Swelling Tanah Asli + 15% Campuran

Ht 116 mm

27.08516242					
Waktu	Pengembangan	Proses Pengembangan	Waktu	Pengembangan	Proses Pengembangan
(menit)	(x0,01mm)	(%)	(menit)	(x0,01mm)	(%)
5	1	0.009	180	20	0.172
10	5	0.043	210	20	0.172
15	8	0.069	240	21	0.181
20	10	0.086	420	21.5	0.185
25	11.5	0.099	600	22.5	0.194
30	13	0.112	780	22.5	0.194
35	14	0.121	960	22.5	0.194
40	14.5	0.125	1140	22.5	0.194
45	15	0.129	1320	22.5	0.194
50	16	0.138	1500	23	0.198
55	16	0.138	1680	23	0.198
60	16.5	0.142	2040	23	0.198
90	18.5	0.159	2400	23	0.198
120	19	0.164	2760	23	0.198
150	19.5	0.168	3120	23	0.198

