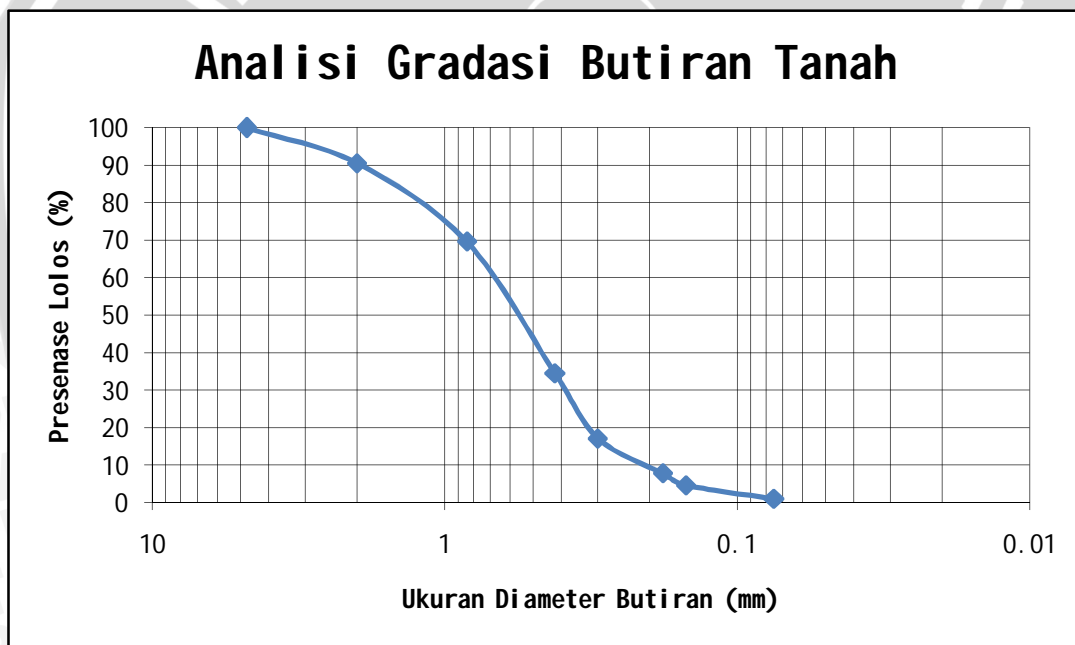


LAMPIRAN

Lampiran 1

Hasil Analisis Ayakan

Diameter ayakan	Berat tanah (gr)	Berat kumulatif (gr)	Persen tertahan (%)	Persen lolos (%)
4,75 mm (no. 4)	0	0	0.00	100.00
2,00 mm (no. 10)	47.4	47.4	9.48	90.52
0,84 mm (no. 20)	104.5	151.9	30.38	69.62
0,42 mm (no. 40)	175.9	327.8	65.56	34.44
0,30 mm (no. 50)	86.6	414.4	82.88	17.12
0,18 mm (no. 80)	46.4	460.8	92.16	7.84
0,15 mm (no. 100)	15.9	476.7	95.34	4.66
0,075 mm (no.200)	18.2	494.9	98.98	1.02
PAN	5.1	500	100.00	0.00



Dari grafik analisis ayakan:

$$D_{10} = 0,21 \text{ mm}$$

$$D_{30} = 0,37 \text{ mm}$$

$$D_{60} = 0,69 \text{ mm}$$

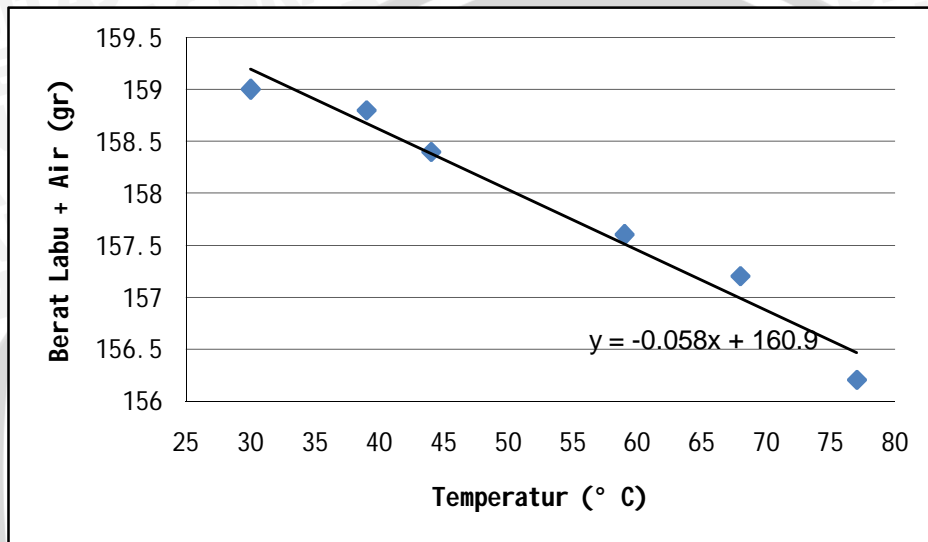
$$\text{Koefisien keseragaman (Cu)} = \frac{D_{60}}{D_{10}} = \frac{0,69}{0,21} = 3,29 \quad (\text{Cu} < 6)$$

$$\text{Koefisien gradasi (Cc)} = \frac{D_{30} \times D_{30}}{D_{10} \times D_{60}} = \frac{0,37 \times 0,37}{0,21 \times 0,69} = 0,94 \quad (\text{Cc} < 1)$$

Lampiran 2

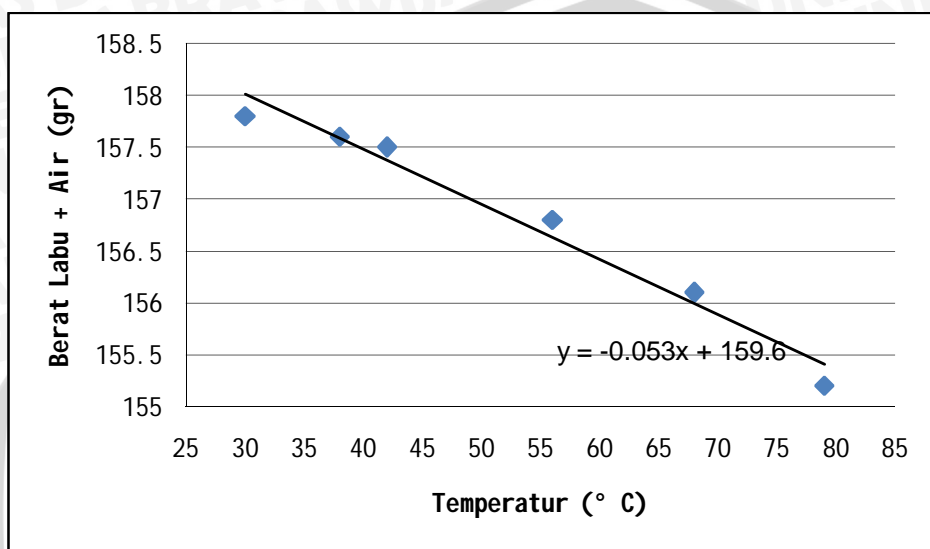
Hasil Analisis Pemeriksaan *Specific Gravity* Tanah

Labu ukur	A					
No.	1	2	3	4	5	6
Berat Labu + Air (gr)	156.2	157.2	157.6	158.4	158.8	159
Temperatur (°C)	77	68	59	44	39	30



LabuUkur	A						
BeratLabuUkur	gr	55,8					
BeratTanahKering (WS)	gr	20					
BeratLabuukur+Air+Tanah (W1)	gr	170,0	170,6	171,2	171,7	172,0	171,8
Suhu	°C	72	60	48	39	33	30
BeratLabuUkur + Air (W2)	gr	156,7	157,4	158,1	158,7	150,0	159,2
<i>Specific Gravity</i> Air (Gt)	-	0,973	0,978	0,983	0,993	0,994	0,995
$G_s = (W_s * G_t) / (W_s - (W_1 - W_2))$	-	2,885	2,858	2,832	2,842	2,828	2,693
Gs Rata - Rata	-	2.823					

Labu ukur	B					
No.	1	2	3	4	5	6
Berat Labu + Air (gr)	155.2	156.1	156.8	157.5	157.6	157.8
Temperatur (°C)	79	68	56	42	38	30



LabuUkur		B					
BeratLabuUkur	gr	59.3					
BeratTanahKering (WS)	gr	20					
BeratLabuukur+ Air+Tanah (W1)	gr	168.8	169.5	170.3	170.7	171	170.9
Suhu	°C	72	57	47	38	32	30
BeratLabuUkur + Air (W2)	gr	155.78	156.58	157.11	157.592	157.911	158.017
Spesific Gravity Air (Gt)	-	0.972	0.978	0.985	0.991	0.993	0.995
Gs = (Ws*Gt)/(Ws-(W1-W2))	-	2.783	2.764	2.891	2.877	2.873	2.798
Gs Rata - Rata	-	2.831					

Lampiran 3

Hasil Uji Pemadatan Standar

Data:

Berat cetakan = 4260 gr

Diameter sampel = 10.16 cm

Tinggi sampel = 11.63 cm

Kadar Air

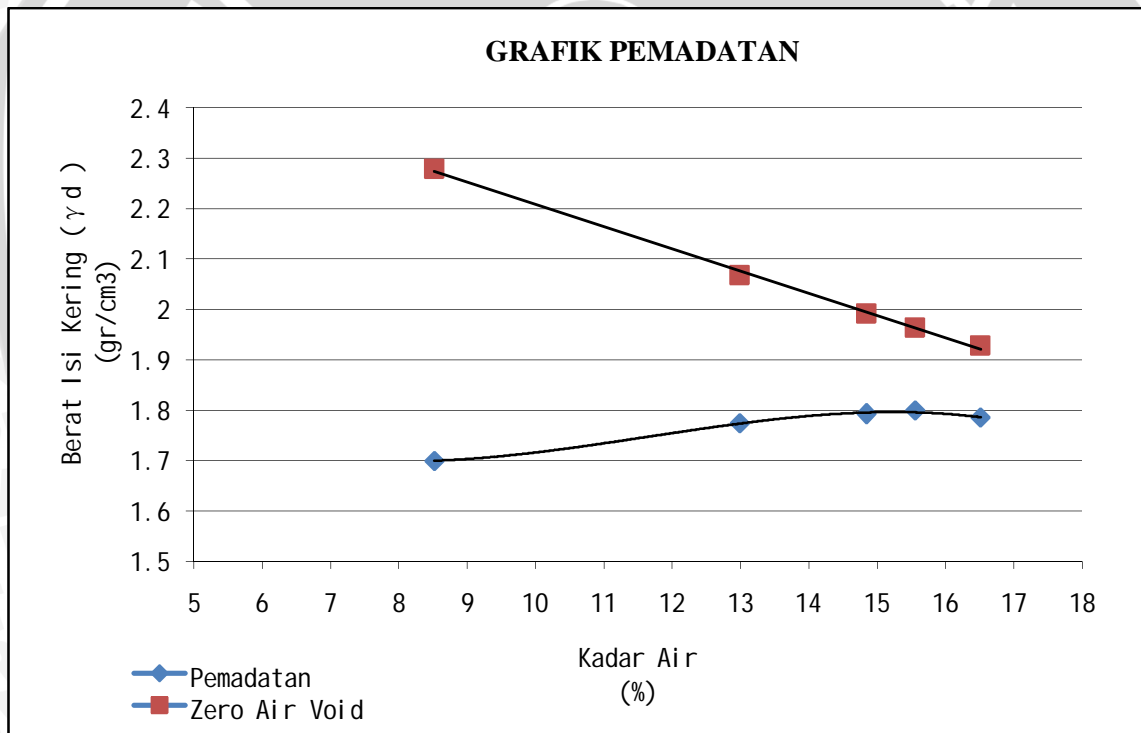
Penambahan air	ml	200			300			400			500			600		
		atas	tengah	bawah	atas	tengah	bawah	atas	tengah	bawah	atas	tengah	bawah	atas	tengah	bawah
No. Cawan																
Berat Cawan	gr	5.6	5.7	4.2	5.7	6	5.9	5.7	5.8	5.6	4.2	4.3	5.7	5.7	5.6	4.2
Berat Tanah basah + Cawan	gr	23.9	29	22.6	30.7	35.7	33	31.2	36	29.3	28.9	30.1	28	32.5	29.2	25.7
Berat Tanah Kering + Cawan	gr	22.6	27.2	21	28.5	32.4	29.1	27.9	31.9	26.4	25.6	26.6	25	28.7	25.7	22.8
Berat air (Ww)	gr	1.3	1.8	1.6	2.2	3.3	3.9	3.3	4.1	2.9	3.3	3.5	3	3.8	3.5	2.9
Berat Tanah Kering (Ws)	gr	17	21.5	16.8	22.8	26.4	23.2	22.2	26.1	20.8	21.4	22.3	19.3	23	20.1	18.6
Kadar Air	%	7.65	8.37	9.52	9.65	12.50	16.81	14.86	15.71	13.94	15.42	15.70	15.54	16.52	17.41	15.59
Kadar Air rata-rata	%	8.51			12.99			14.84			15.55			16.51		

Berat Isi

Berat Cetakan	gr	4260	4260	4260	4260	4260
Berat Tanah Basah + Cetakan	gr	5980	6130	6180	6200	6200
Berat Tanah Basah	gr	1720	1870	1920	1940	1940
Isi Cetakan	cm ³	932.717	932.717	932.717	932.717	932.717
Berat Isi Basah (gw)	gr/cm ³	1.844	2.005	2.059	2.080	2.080
Berat Isi Kering (gd)	gr/cm ³	1.699	1.774	1.793	1.800	1.785

Zero Air Void

Kadar air (w)	%	8.514	12.986	14.839	15.553	16.509
Gs		2.827	2.827	2.827	2.827	2.827
berat Jenis Air (gw)	gr/cm ³	1	1	1	1	1
Berat Jenis Air zero air void (gzav)	gr/cm ³	2.279	2.068	1.992	1.964	1.927



Lampiran 4

Uji Kepadatan Tanah dan Control Volume

1. UJI KEPADATAN TANAH

Penentuan kepadatan rencana menggunakan kontrol volume. Kepadatan yang direncanakan adalah sebesar 76%. Dari uji pemadatan didapatkan γ_d laboratorium sebesar 1,79. Untuk mendapatkan R_c 76 %, γ_d lapangan harus bernilai kurang lebih 1,3604. Untuk mendapatkan γ_d lapangan 1,3604 maka direncanakan γ_w sebesar 1,476, sehingga berat tanah yang harus dimasukkan ke dalam box dengan dimensi 120 x 72 untuk tiap layer-nya 10 cm adalah sebanyak kurang lebih 129, 3 Kg didapatkan dari rumus $\gamma = W/V$. Dimana setiap layer-nya diuji atau dikontrol dengan *density test*.

Ditentukan :

$$R_c = 76 \%$$

$$\gamma_d \text{ laboratorium} = 1,79$$

$$R_c = \frac{\gamma_d \text{ lapangan}}{\gamma_d \text{ laboratorium}}$$

$$0,76 = \frac{\gamma_d \text{ lapangan}}{1,79}$$

$$\gamma_d \text{ lapangan} = 1,3604$$

2. CONTROL VOLUME

$$l \text{ (box)} = 120 \text{ cm}$$

$$t \text{ (box)} = 10 \text{ cm}$$

$$b \text{ (box)} = 72 \text{ cm}$$

$$V \text{ (box)} = 120 \times 10 \times 72 = 87600 \text{ cm}^3$$

$$WC = 8,5$$

$$\gamma_d \text{ lapangan} = \frac{W/V}{\left(1 + \frac{WC}{100}\right)}$$

$$1,3604 = \frac{W/87600}{\left(1 + \frac{8,5}{100}\right)}$$

$$1,3604 = \frac{W/87600}{1,085}$$

$$W = 129300 \text{ gr}$$

$$W = 129,3 \text{ kg}$$

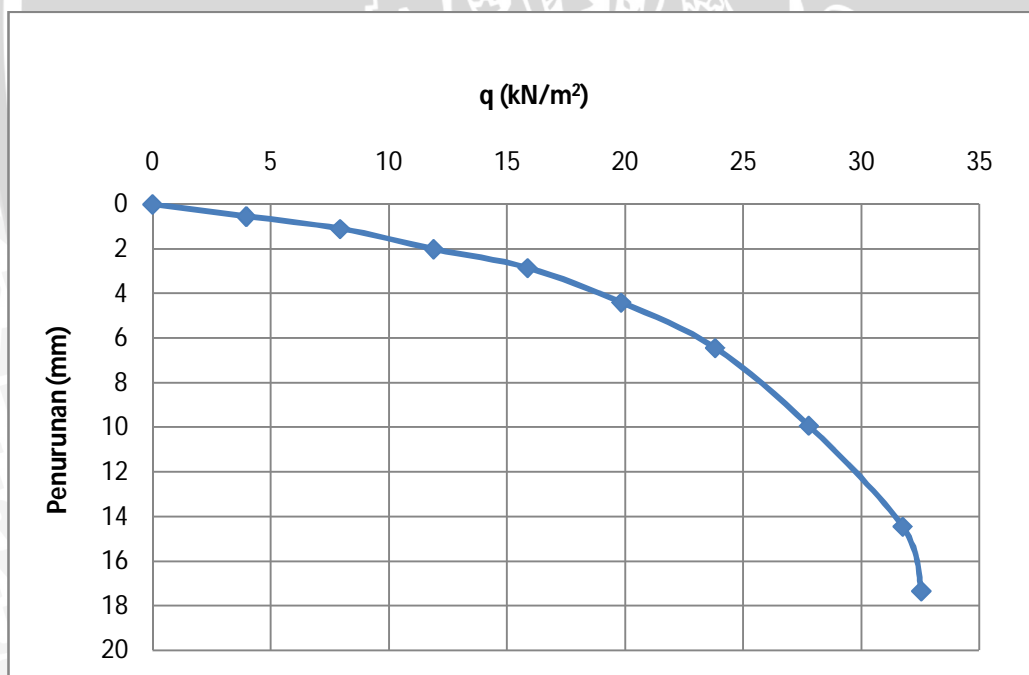


Lampiran 5

Hasil Uji Pembebanan

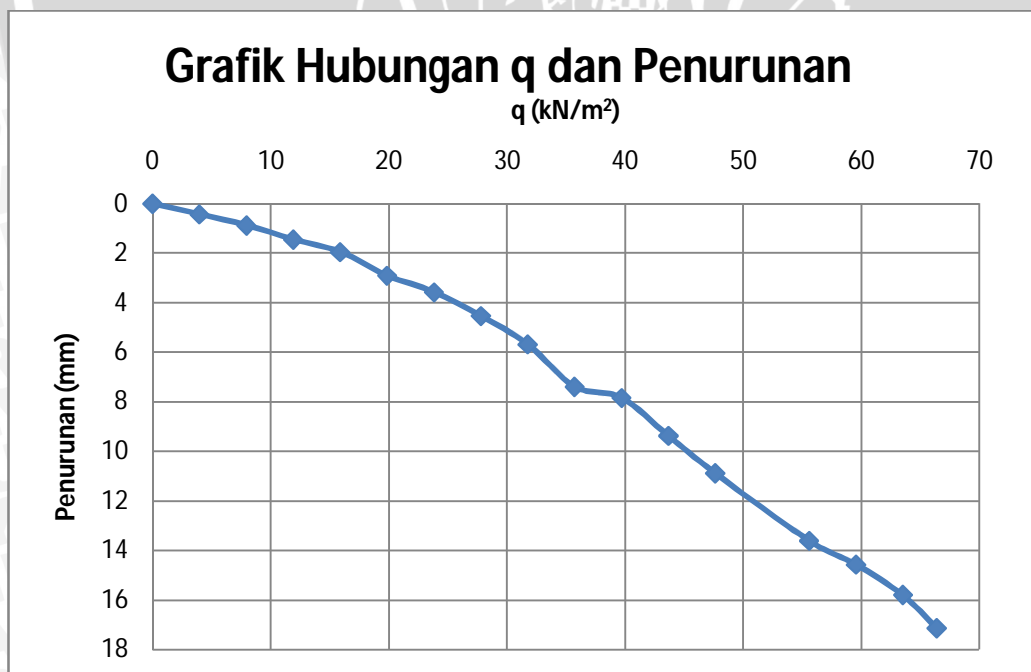
1. Tanpa Perkuatan

Beban (Kg)	Pembacaan LVDT		penurunan	penurunan	Rata-rata penurunan (mm)	q (kN/m ²)	S/B %
	CH 1	CH 8	CH 1(mm)	CH 8(mm)			
	45.775	44.733	0	0	0	0	0
25	45.127	44.299	0.648	0.434	0.541	3.968	0.601
50	44.585	43.733	1.19	1	1.095	7.937	1.217
75	43.565	42.928	2.21	1.805	2.008	11.905	2.231
100	42.943	41.858	2.832	2.875	2.854	15.873	3.171
125	41.391	40.306	4.384	4.427	4.406	19.841	4.895
150	39.375	38.242	6.4	6.491	6.446	23.810	7.162
175	36.708	33.922	9.067	10.811	9.939	27.778	11.043
200	32.232	29.346	13.543	15.387	14.465	31.746	16.072
205	29.454	26.333	16.321	18.4	17.361	32.540	19.289



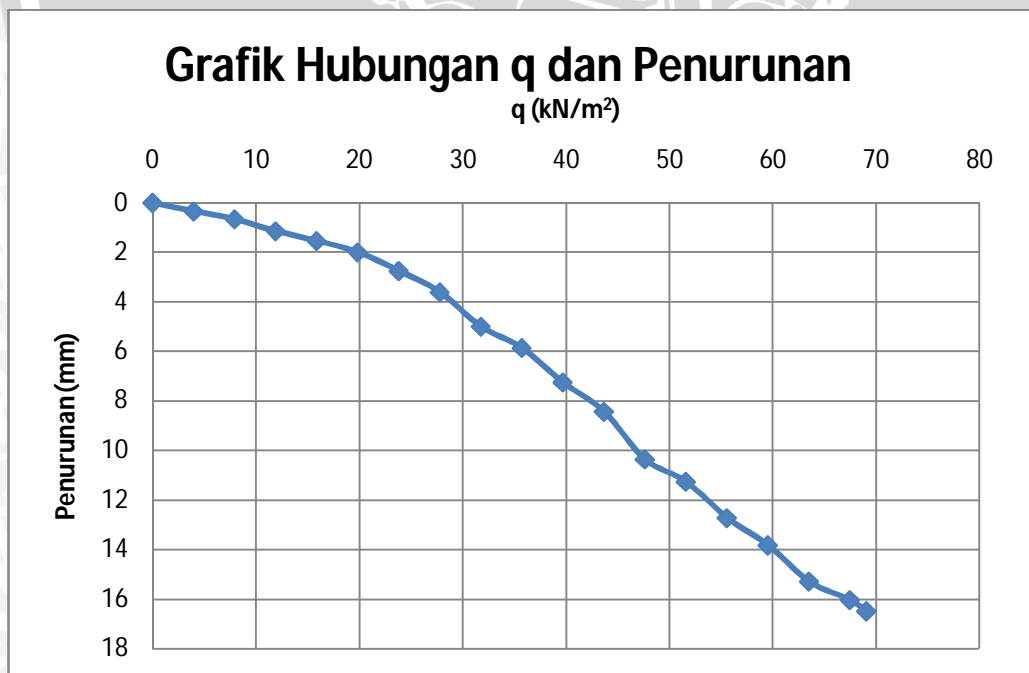
2. Geotekstil-anyaman bambu (n =2 ; r =1,8 cm)

Beban (Kg)	Pembacaan LVDT		penurunan CH 1(mm)	penurunan CH 8(mm)	Rata-rata penurunan (mm)	q (kN/m ²)	S/B %
	CH 1	CH 8					
0	49.126	30.372	0	0	0	0	0
25	48.612	30.028	0.514	0.344	0.429	3.968	0.477
50	48.292	29.459	0.834	0.913	0.873	7.937	0.971
75	47.611	29.002	1.515	1.370	1.443	11.905	1.603
100	47.144	28.45	1.982	1.922	1.952	15.873	2.169
125	46.101	27.591	3.025	2.781	2.903	19.841	3.226
150	45.286	27.075	3.840	3.297	3.569	23.810	3.965
175	44.356	26.089	4.770	4.283	4.527	27.778	5.029
200	43.311	24.829	5.815	5.543	5.679	31.746	6.310
225	43.113	21.61	6.013	8.762	7.388	35.714	8.208
250	44.074	19.748	5.052	10.624	7.838	39.683	8.709
275	42.838	17.928	6.288	12.444	9.366	43.651	10.407
300	41.167	16.572	7.959	13.800	10.880	47.619	12.088
350	39.03	13.262	10.096	17.110	13.603	55.556	15.114
375	38.23	12.139	10.896	18.233	14.565	59.524	16.183
400	36.892	11.026	12.234	19.346	15.790	63.492	17.544
418	34.359	10.882	14.767	19.490	17.129	66.349	19.032



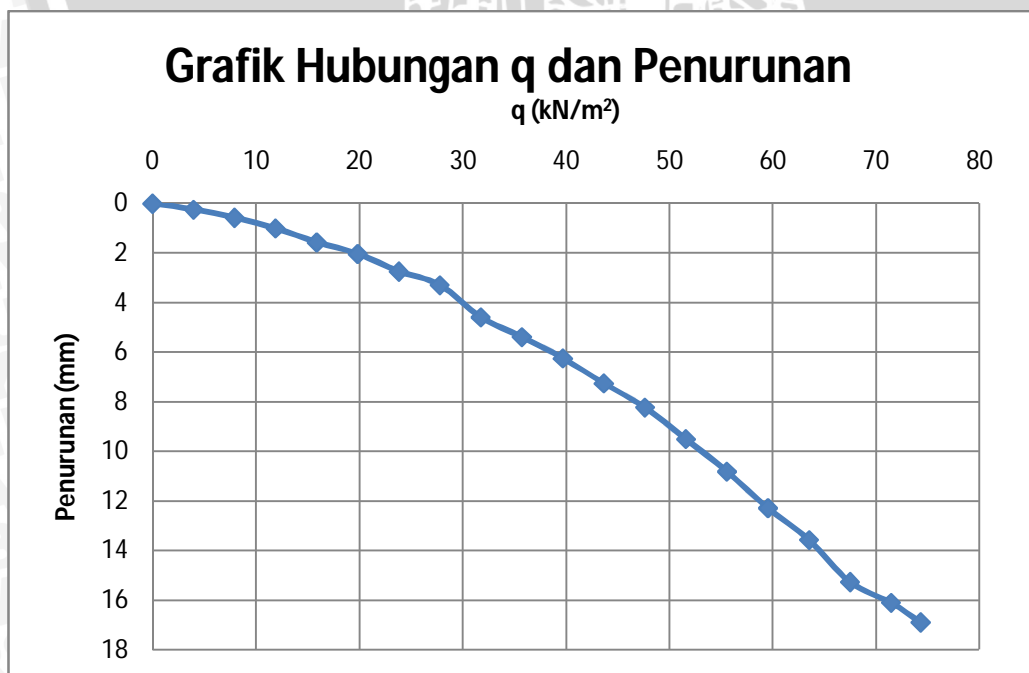
3. Anyaman-Bambu (n =2 ; r =1,8 cm)

Beban (Kg)	Pembacaan LVDT		penurunan	penurunan	Rata-rata penurunan (mm)	q (kN/m ²)	S/B %
	CH 1	CH 8	CH 1(mm)	CH 8(mm)			
0	48.927	50.709	0.000	0.000	0.000	0.000	0.000
25	48.427	50.516	0.500	0.193	0.347	3.968	0.385
50	48.090	50.216	0.837	0.493	0.665	7.937	0.739
75	47.537	49.811	1.390	0.898	1.144	11.905	1.271
100	47.091	49.465	1.836	1.244	1.540	15.873	1.711
125	46.691	48.947	2.236	1.762	1.999	19.841	2.221
150	46.149	47.985	2.778	2.724	2.751	23.810	3.057
175	46.501	45.923	2.426	4.786	3.606	27.778	4.007
200	45.758	43.887	3.169	6.822	4.996	31.746	5.551
225	44.932	42.989	3.995	7.720	5.858	35.714	6.508
250	44.105	41.031	4.822	9.678	7.250	39.683	8.056
275	42.816	39.957	6.111	10.752	8.432	43.651	9.368
300	41.197	37.723	7.730	12.986	10.358	47.619	11.509
325	40.224	36.888	8.703	13.821	11.262	51.587	12.513
350	38.992	35.202	9.935	15.507	12.721	55.556	14.134
375	38.083	33.901	10.844	16.808	13.826	59.524	15.362
400	37.526	31.535	11.401	19.174	15.288	63.492	16.986
425	37.026	30.535	11.901	20.174	16.038	67.460	17.819
435	36.526	30.135	12.401	20.574	16.488	69.048	18.319



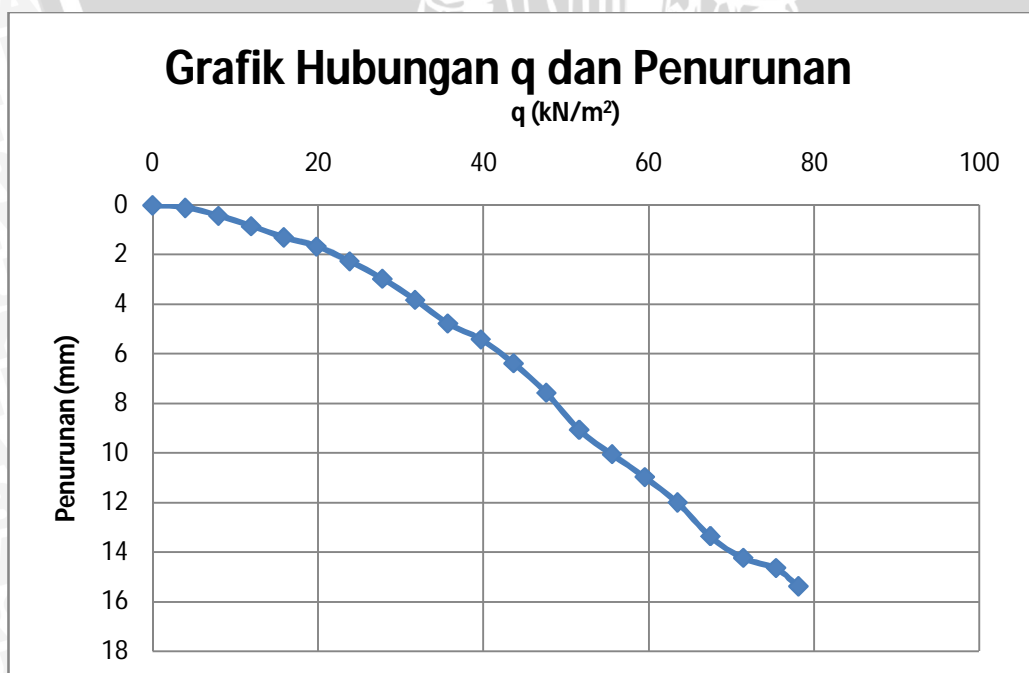
4. Geotekstil-Anyaman bambu (n =2 ; r =2,7 cm)

Beban (Kg)	Pembacaan LVDT		penurunan	penurunan	Rata-rata	q (kN/m ²)	S/B %
	CH 1	CH 8	CH 1(mm)	CH 8(mm)	penurunan (mm)		
0	49.548	48.408	0.000	0.000	0.000	0.000	0.000
25	49.508	47.972	0.040	0.436	0.238	3.968	0.264
50	49.279	47.548	0.269	0.860	0.564	7.937	0.627
75	48.973	46.978	0.575	1.430	1.003	11.905	1.114
100	48.624	46.205	0.924	2.203	1.564	15.873	1.737
125	48.163	45.735	1.385	2.673	2.029	19.841	2.254
150	47.829	44.642	1.719	3.766	2.743	23.810	3.047
175	47.370	44.002	2.178	4.406	3.292	27.778	3.658
200	46.949	41.833	2.599	6.575	4.587	31.746	5.097
225	46.409	40.776	3.139	7.632	5.386	35.714	5.984
250	45.826	39.631	3.722	8.777	6.250	39.683	6.944
275	45.149	38.290	4.399	10.118	7.259	43.651	8.065
300	44.478	37.015	5.070	11.393	8.232	47.619	9.146
325	43.530	35.420	6.018	12.988	9.503	51.587	10.559
350	42.368	33.953	7.180	14.455	10.818	55.556	12.019
375	40.211	33.159	9.337	15.249	12.293	59.524	13.659
400	38.520	32.276	11.028	16.132	13.580	63.492	15.089
425	36.517	30.886	13.031	17.522	15.277	67.460	16.974
450	35.812	29.917	13.736	18.491	16.114	71.429	17.904
468	35.002	29.142	14.546	19.266	16.906	74.286	18.784



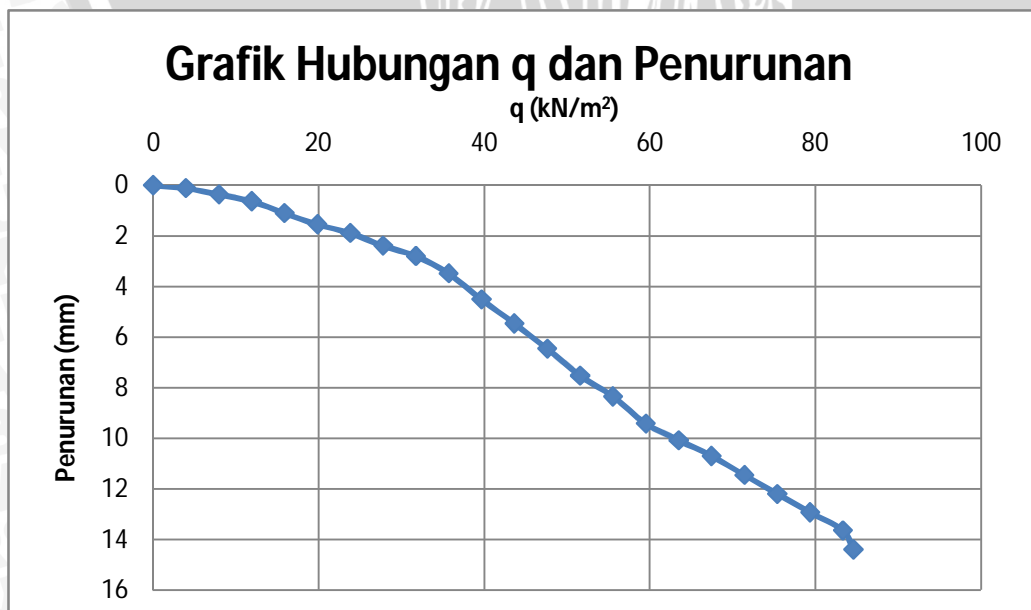
5. Anyaman bambu - Geotekstil (n =2 ; r =2,7 cm)

Beban (Kg)	Pembacaan LVDT		penurunan	penurunan	Rata-rata	q (kN/m ²)	S/B %
	CH 1	CH 8	CH 1(mm)	CH 8(mm)	penurunan (mm)		
0	46.123	43.581	0.000	0.000	0.000	0.000	0.000
25	46.112	43.388	0.011	0.193	0.102	3.968	0.113
50	45.987	42.885	0.136	0.696	0.416	7.937	0.462
75	45.740	42.278	0.383	1.303	0.843	11.905	0.937
100	45.452	41.664	0.671	1.917	1.294	15.873	1.438
125	45.101	41.276	1.022	2.305	1.664	19.841	1.848
150	44.470	40.723	1.653	2.858	2.256	23.810	2.506
175	43.868	39.901	2.255	3.680	2.968	27.778	3.297
200	43.082	38.984	3.041	4.597	3.819	31.746	4.243
225	42.621	37.538	3.502	6.043	4.773	35.714	5.303
250	42.049	36.826	4.074	6.755	5.415	39.683	6.016
275	40.922	36.017	5.201	7.564	6.383	43.651	7.092
300	39.573	34.988	6.550	8.593	7.572	47.619	8.413
325	38.194	33.371	7.929	10.210	9.070	51.587	10.077
350	37.173	32.412	8.950	11.169	10.060	55.556	11.177
375	36.224	31.524	9.899	12.057	10.978	59.524	12.198
400	35.232	30.456	10.891	13.125	12.008	63.492	13.342
425	34.406	28.552	11.717	15.029	13.373	67.460	14.859
450	34.053	27.163	12.070	16.418	14.244	71.429	15.827
475	33.510	26.881	12.613	16.700	14.657	75.397	16.285
492	33.253	25.663	12.870	17.918	15.394	78.095	17.104



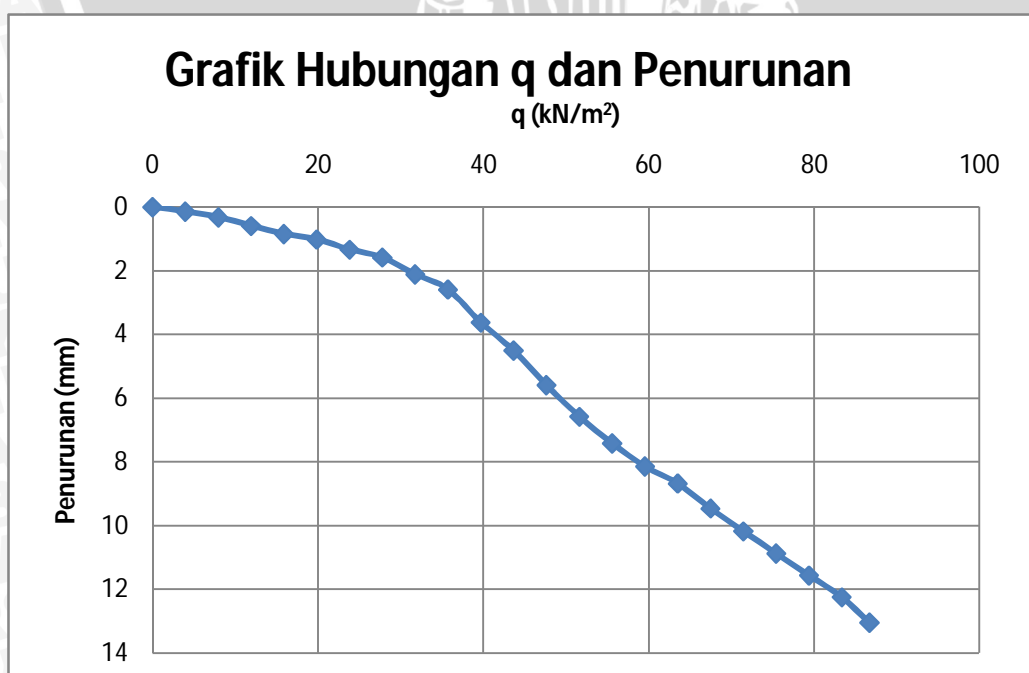
6. Geotekstil-Anyaman bambu (n =2 ; r =3,6 cm)

Beban (Kg)	Pembacaan LVDT		penurunan CH 1(mm)	penurunan CH 8(mm)	Rata-rata penurunan (mm)	q (kN/m ²)	S/B %
	CH 1	CH 8					
0	44.390	44.683	0.000	0.000	0.000	0.000	0.000
25	44.327	44.520	0.063	0.163	0.113	3.968	0.126
50	44.076	44.277	0.314	0.406	0.360	7.937	0.400
75	43.857	43.959	0.533	0.724	0.628	11.905	0.698
100	43.357	43.522	1.033	1.161	1.097	15.873	1.219
125	42.963	43.025	1.427	1.658	1.543	19.841	1.714
150	42.551	42.753	1.839	1.930	1.885	23.810	2.094
175	42.009	42.291	2.381	2.392	2.387	27.778	2.652
200	41.683	41.798	2.707	2.885	2.796	31.746	3.107
225	41.291	40.812	3.099	3.871	3.485	35.714	3.872
250	40.115	39.937	4.275	4.746	4.511	39.683	5.012
275	39.234	38.919	5.156	5.764	5.460	43.651	6.067
300	38.141	38.024	6.249	6.659	6.454	47.619	7.171
325	37.062	36.961	7.328	7.722	7.525	51.587	8.361
350	36.365	36.019	8.025	8.664	8.345	55.556	9.272
375	35.243	34.993	9.147	9.690	9.419	59.524	10.465
400	34.218	34.697	10.172	9.986	10.079	63.492	11.199
425	33.779	33.891	10.611	10.792	10.702	67.460	11.891
450	32.978	33.188	11.412	11.495	11.454	71.429	12.726
475	32.281	32.392	12.109	12.291	12.200	75.397	13.556
500	31.671	31.552	12.719	13.131	12.925	79.365	14.361
525	30.927	30.864	13.463	13.819	13.641	83.333	15.157
533	30.281	30.012	14.109	14.671	14.390	84.603	15.989



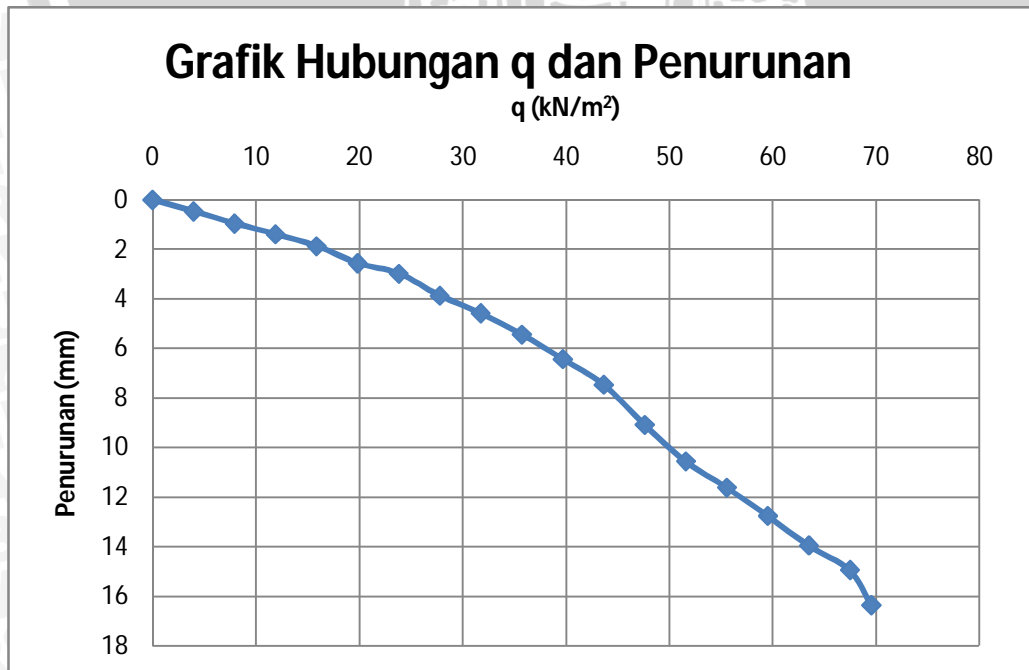
7. Anyaman bambu - Geotekstil (n =2 ; r =3,6 cm)

Beban (Kg)	Pembacaan LVDT		penurunan	penurunan	Rata-rata penurunan (mm)	q (kN/m ²)	S/B %
	CH 1	CH 8	CH 1(mm)	CH 8(mm)			
0	42.560	41.331	0.000	0.000	0.000	0.000	0.000
25	42.330	41.279	0.230	0.052	0.141	3.968	0.157
50	42.179	41.073	0.381	0.258	0.320	7.937	0.355
75	41.908	40.812	0.652	0.519	0.586	11.905	0.651
100	41.661	40.543	0.899	0.788	0.844	15.873	0.937
125	41.489	40.369	1.071	0.962	1.017	19.841	1.129
150	41.125	40.104	1.435	1.227	1.331	23.810	1.479
175	40.906	39.825	1.654	1.506	1.580	27.778	1.756
200	40.318	39.354	2.242	1.977	2.110	31.746	2.344
225	39.804	38.912	2.756	2.419	2.588	35.714	2.875
250	38.591	38.052	3.969	3.279	3.624	39.683	4.027
275	37.929	36.951	4.631	4.380	4.506	43.651	5.006
300	36.828	35.879	5.732	5.452	5.592	47.619	6.213
325	35.991	34.739	6.569	6.592	6.581	51.587	7.312
350	35.595	33.463	6.965	7.868	7.417	55.556	8.241
375	34.961	32.639	7.599	8.692	8.146	59.524	9.051
400	34.577	31.951	7.983	9.380	8.682	63.492	9.646
425	33.997	30.965	8.563	10.366	9.465	67.460	10.516
450	33.312	30.215	9.248	11.116	10.182	71.429	11.313
475	32.704	29.436	9.856	11.895	10.876	75.397	12.084
500	32.065	28.689	10.495	12.642	11.569	79.365	12.854
525	31.591	27.801	10.969	13.530	12.250	83.333	13.611
546	30.912	26.882	11.648	14.449	13.049	86.667	14.498



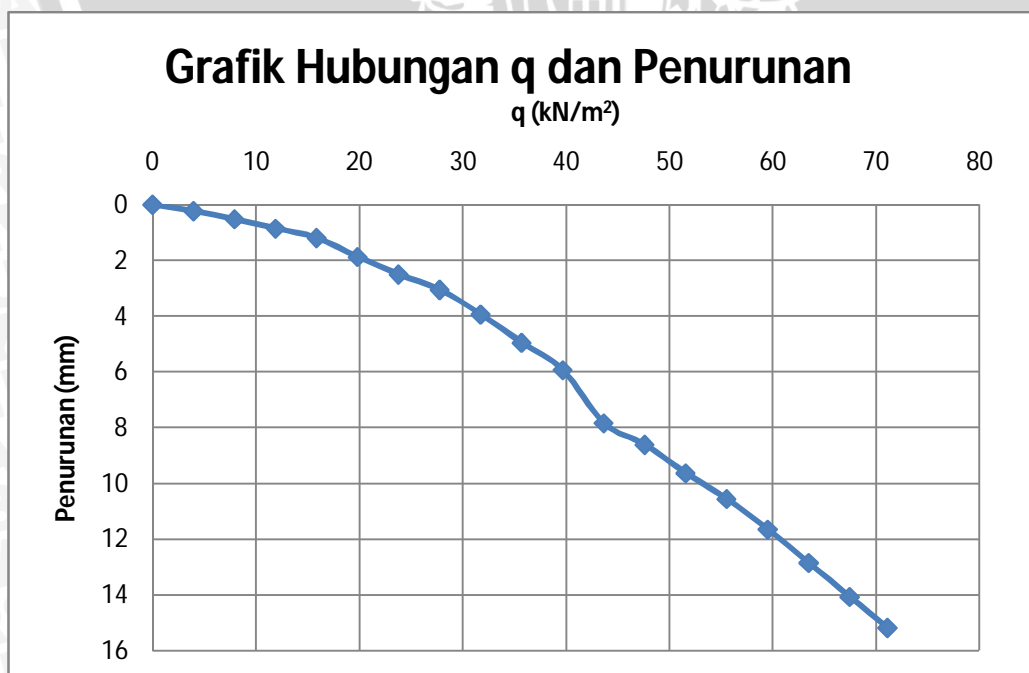
8. Geotekstil-Anyaman bambu-Geotekstil (n =3 ; r =1,8 cm)

Beban (Kg)	Pembacaan LVDT		penurunan CH 1(mm)	penurunan CH 8(mm)	Rata-rata penurunan (mm)	q (kN/m ²)	S/B %
	CH 1	CH 8					
0	45.989	45.539	0.000	0.000	0.000	0.000	0.000
25	45.595	45.011	0.394	0.528	0.461	3.968	0.512
50	45.028	44.587	0.961	0.952	0.956	7.937	1.063
75	44.755	44.002	1.234	1.537	1.386	11.905	1.539
100	44.363	43.425	1.626	2.114	1.870	15.873	2.078
125	43.629	42.779	2.360	2.760	2.560	19.841	2.844
150	43.092	42.482	2.897	3.057	2.977	23.810	3.308
175	42.156	41.636	3.833	3.903	3.868	27.778	4.298
200	41.244	41.125	4.745	4.414	4.580	31.746	5.088
225	40.301	40.355	5.688	5.184	5.436	35.714	6.040
250	39.182	39.487	6.807	6.052	6.430	39.683	7.144
275	39.101	37.495	6.888	8.044	7.466	43.651	8.296
300	38.063	35.296	7.926	10.243	9.085	47.619	10.094
325	37.105	33.307	8.884	12.232	10.558	51.587	11.731
350	36.062	32.235	9.927	13.304	11.616	55.556	12.906
375	34.989	31.017	11.000	14.522	12.761	59.524	14.179
400	33.812	29.803	12.177	15.736	13.957	63.492	15.507
425	32.936	28.692	13.053	16.847	14.950	67.460	16.611
438	31.090	27.703	14.899	17.836	16.368	69.524	18.186



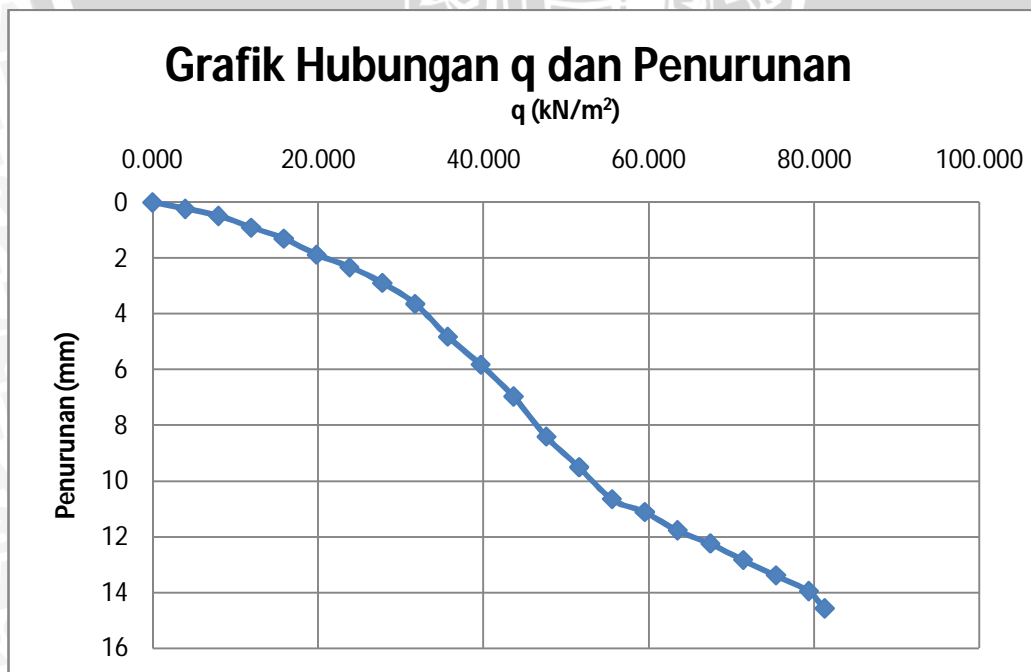
9. Anyaman bambu - Geotekstil –Anyaman bambu (n =3 ; r =1,8 cm)

Beban (Kg)	Pembacaan LVDT		penurunan	penurunan	Rata-rata penurunan (mm)	q (kN/m ²)	S/B %
	CH 1	CH 8	CH 1(mm)	CH 8(mm)			
0	46.145	48.207	0.000	0.000	0.000	0.000	0.000
25	45.989	47.908	0.156	0.299	0.228	3.968	0.253
50	45.622	47.683	0.523	0.524	0.524	7.937	0.582
75	45.325	47.315	0.820	0.892	0.856	11.905	0.951
100	44.983	46.982	1.162	1.225	1.194	15.873	1.326
125	44.357	46.239	1.788	1.968	1.878	19.841	2.087
150	43.835	45.511	2.310	2.696	2.503	23.810	2.781
175	43.294	44.947	2.851	3.260	3.056	27.778	3.395
200	42.594	43.879	3.551	4.328	3.940	31.746	4.377
225	41.727	42.716	4.418	5.491	4.955	35.714	5.505
250	40.503	41.973	5.642	6.234	5.938	39.683	6.598
275	39.052	39.615	7.093	8.592	7.843	43.651	8.714
300	38.443	38.669	7.702	9.538	8.620	47.619	9.578
325	37.552	37.521	8.593	10.686	9.640	51.587	10.711
350	36.866	36.356	9.279	11.851	10.565	55.556	11.739
375	35.788	35.247	10.357	12.960	11.659	59.524	12.954
400	34.922	33.712	11.223	14.495	12.859	63.492	14.288
425	34.267	31.927	11.878	16.280	14.079	67.460	15.643
448	33.852	30.121	12.293	18.086	15.190	71.111	16.877



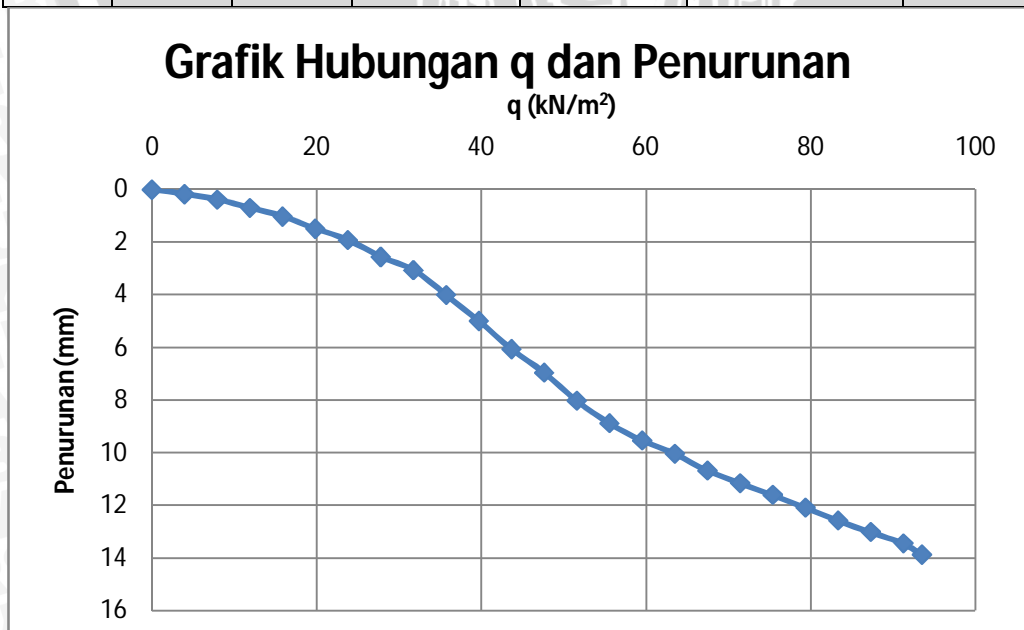
10. Geotekstil-Anyaman bambu-Geotekstil (n =3 ; r =2,7 cm)

Beban (Kg)	Pembacaan LVDT		penurunan	penurunan	Rata-rata	q (kN/m ²)	S/B %
	CH 1	CH 8	CH 1(mm)	CH 8(mm)	penurunan (mm)		
0	43.705	41.346	0.000	0.000	0.000	0.000	0.000
25	43.539	41.055	0.166	0.291	0.228	3.968	0.254
50	43.226	40.858	0.479	0.488	0.483	7.937	0.537
75	42.931	40.322	0.774	1.024	0.899	11.905	0.999
100	42.523	39.935	1.182	1.411	1.296	15.873	1.441
125	42.085	39.205	1.620	2.141	1.881	19.841	2.089
150	41.616	38.786	2.089	2.560	2.325	23.810	2.583
175	41.105	38.166	2.600	3.180	2.890	27.778	3.211
200	40.291	37.477	3.414	3.869	3.642	31.746	4.046
225	39.108	36.304	4.597	5.042	4.820	35.714	5.355
250	38.117	35.287	5.588	6.059	5.824	39.683	6.471
275	36.953	34.170	6.752	7.176	6.964	43.651	7.738
300	35.559	32.684	8.146	8.662	8.404	47.619	9.338
325	34.645	31.398	9.060	9.948	9.504	51.587	10.560
350	34.155	29.598	9.550	11.748	10.649	55.556	11.832
375	33.796	29.028	9.909	12.318	11.114	59.524	12.348
400	33.004	28.502	10.701	12.844	11.773	63.492	13.081
425	32.633	27.926	11.072	13.420	12.246	67.460	13.607
450	32.115	27.268	11.590	14.078	12.834	71.429	14.260
475	31.504	26.772	12.201	14.574	13.388	75.397	14.875
500	30.821	26.321	12.884	15.025	13.955	79.365	15.505
512	30.004	25.902	13.701	15.444	14.573	81.270	16.192



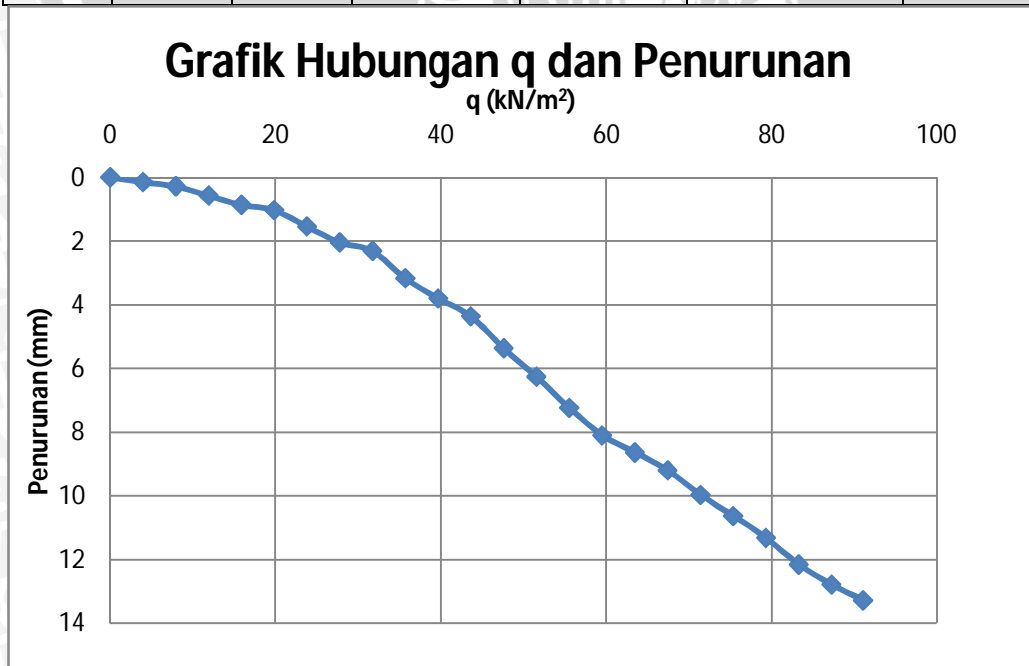
11. Anyaman bambu - Geotekstil –Anyaman bambu (n =3 ; r =2,7 cm)

Beban (Kg)	Pembacaan LVDT		penurunan	penurunan	Rata-rata	q (kN/m ²)	S/B %
	CH 1	CH 8	CH 1(mm)	CH 8(mm)	penurunan (mm)		
0	47.425	35.835	0.000	0.000	0.000	0.000	0.000
25	47.315	35.608	0.110	0.227	0.169	3.968	0.187
50	47.119	35.388	0.306	0.447	0.377	7.937	0.418
75	46.903	34.976	0.522	0.859	0.691	11.905	0.767
100	46.636	34.585	0.789	1.250	1.020	15.873	1.133
125	46.295	33.997	1.130	1.838	1.484	19.841	1.649
150	45.977	33.449	1.448	2.386	1.917	23.810	2.130
175	45.620	32.523	1.805	3.312	2.559	27.778	2.843
200	45.247	31.894	2.178	3.941	3.060	31.746	3.399
225	44.834	30.422	2.591	5.413	4.002	35.714	4.447
250	44.323	28.952	3.102	6.883	4.993	39.683	5.547
275	43.857	27.281	3.568	8.554	6.061	43.651	6.734
300	43.174	26.171	4.251	9.664	6.958	47.619	7.731
325	42.173	25.036	5.252	10.799	8.026	51.587	8.917
350	41.584	23.904	5.841	11.931	8.886	55.556	9.873
375	41.074	23.112	6.351	12.723	9.537	59.524	10.597
400	40.686	22.494	6.739	13.341	10.040	63.492	11.156
425	40.104	21.792	7.321	14.043	10.682	67.460	11.869
450	39.786	21.151	7.639	14.684	11.162	71.429	12.402
475	39.415	20.632	8.010	15.203	11.607	75.397	12.896
500	39.014	20.057	8.411	15.778	12.095	79.365	13.438
525	38.534	19.553	8.891	16.282	12.587	83.333	13.985
550	38.116	19.106	9.309	16.729	13.019	87.302	14.466
575	37.628	18.727	9.797	17.108	13.453	91.270	14.947
589	37.204	18.293	10.221	17.542	13.882	93.492	15.424



12. Geotekstil-Anyaman bambu-Geotekstil (n =3 ; r =3,6 cm)

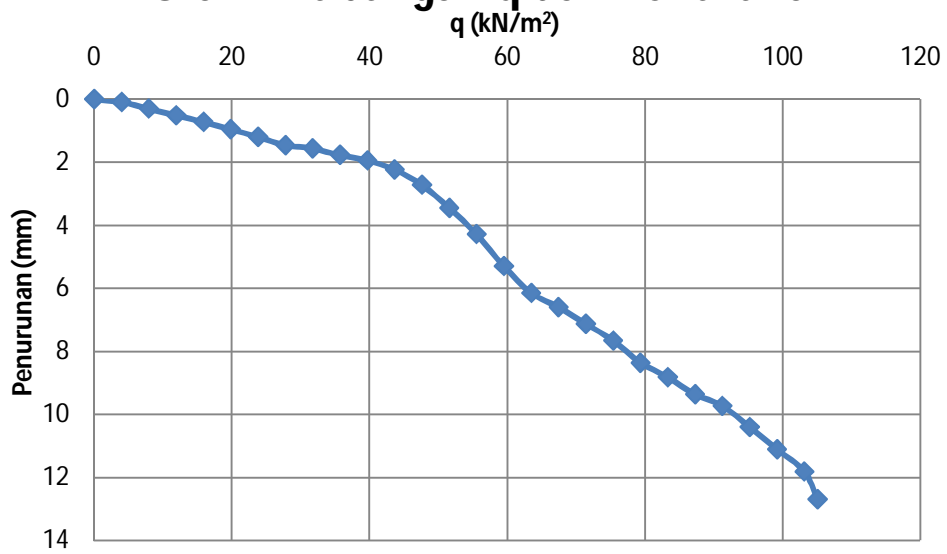
Beban (Kg)	Pembacaan LVDT		penurunan	penurunan	Rata-rata	q (kN/m ²)	S/B %
	CH 1	CH 8	CH 1(mm)	CH 8(mm)	penurunan (mm)		
0	36.459	49.390	0.000	0.000	0.000	0.000	0.000
25	36.277	49.276	0.182	0.114	0.148	3.968	0.164
50	36.195	49.091	0.264	0.299	0.282	7.937	0.313
75	35.833	48.876	0.626	0.514	0.570	11.905	0.633
100	35.611	48.517	0.848	0.873	0.861	15.873	0.956
125	35.499	48.294	0.960	1.096	1.028	19.841	1.142
150	35.087	47.683	1.372	1.707	1.540	23.810	1.711
175	34.442	47.322	2.017	2.068	2.043	27.778	2.269
200	34.149	47.082	2.310	2.308	2.309	31.746	2.566
225	33.314	46.205	3.145	3.185	3.165	35.714	3.517
250	32.647	45.598	3.812	3.792	3.802	39.683	4.224
275	32.107	45.018	4.352	4.372	4.362	43.651	4.847
300	31.005	44.119	5.454	5.271	5.363	47.619	5.958
325	29.981	43.351	6.478	6.039	6.259	51.587	6.954
350	28.755	42.622	7.704	6.768	7.236	55.556	8.040
375	28.138	41.512	8.321	7.878	8.100	59.524	8.999
400	27.485	41.088	8.974	8.302	8.638	63.492	9.598
425	27.024	40.434	9.435	8.956	9.196	67.460	10.217
450	26.702	39.206	9.757	10.184	9.971	71.429	11.078
475	26.132	38.451	10.327	10.939	10.633	75.397	11.814
500	25.796	37.414	10.663	11.976	11.320	79.365	12.577
525	25.161	36.374	11.298	13.016	12.157	83.333	13.508
550	24.612	35.667	11.847	13.723	12.785	87.302	14.206
574	24.380	34.912	12.079	14.478	13.279	91.111	14.754



13. Anyaman bambu - Geotekstil –Anyaman bambu (n =3 ; r =3,6 cm)

Beban (Kg)	Pembacaan LVDT		penurunan	penurunan	Rata-rata penurunan (mm)	q (kN/m ²)	S/B %
	CH 1	CH 8	CH 1(mm)	CH 8(mm)			
0	42.936	42.575	0.000	0.000	0.000	0.000	0.000
25	42.854	42.477	0.082	0.098	0.090	3.968	0.100
50	42.646	42.268	0.290	0.307	0.299	7.937	0.332
75	42.445	42.043	0.491	0.532	0.512	11.905	0.568
100	42.214	41.857	0.722	0.718	0.720	15.873	0.800
125	41.917	41.692	1.019	0.883	0.951	19.841	1.057
150	41.715	41.407	1.221	1.168	1.195	23.810	1.327
175	41.539	41.052	1.397	1.523	1.460	27.778	1.622
200	41.427	40.962	1.509	1.613	1.561	31.746	1.734
225	41.307	40.666	1.629	1.909	1.769	35.714	1.966
250	41.198	40.426	1.738	2.149	1.944	39.683	2.159
275	40.941	40.108	1.995	2.467	2.231	43.651	2.479
300	40.274	39.808	2.662	2.767	2.715	47.619	3.016
325	39.655	38.955	3.281	3.620	3.451	51.587	3.834
350	38.983	37.966	3.953	4.609	4.281	55.556	4.757
375	37.859	37.061	5.077	5.514	5.296	59.524	5.884
400	36.552	36.658	6.384	5.917	6.151	63.492	6.834
425	36.192	36.121	6.744	6.454	6.599	67.460	7.332
450	35.651	35.594	7.285	6.981	7.133	71.429	7.926
475	35.002	35.183	7.934	7.392	7.663	75.397	8.514
500	34.325	34.452	8.611	8.123	8.367	79.365	9.297
525	33.783	34.078	9.153	8.497	8.825	83.333	9.806
550	33.073	33.702	9.863	8.873	9.368	87.302	10.409
575	32.746	33.287	10.190	9.288	9.739	91.270	10.821
600	32.062	32.632	10.874	9.943	10.409	95.238	11.565
625	31.225	32.055	11.711	10.520	11.116	99.206	12.351
650	30.549	31.325	12.387	11.250	11.819	103.175	13.132
662	29.659	30.461	13.277	12.114	12.696	105.079	14.106

Grafik Hubungan q dan Penurunan



Lampiran 6

UJI DENSITY DAN KADAR AIR

GEO-BAMBU

n=2 r=1,8

sabtu, 21 juni

Lapisan		1		2				3			4			5			6		
Berat cawan + tanah basah	gram	21.6	20.1	21.0	21.0	22.3	20.5	18.1	18.5	18.1	18.5	18.2	16.9	18.2	17.9	18.5	17.9	18.3	17.9
Berat cawan + tanah kering	gram	20.4	18.9	19.8	19.8	21.0	19.3	16.9	17.2	16.9	17.3	17.0	15.8	17.0	16.7	17.3	16.7	17.1	16.7
Berat cawan	gram	5.8	4.2	5.7	6.0	5.8	5.7	2.9	2.7	2.7	2.9	2.9	3.0	3.0	2.8	2.9	3.0	2.9	2.9
Berat tanah kering	gram	14.6	14.7	14.1	13.8	15.2	13.6	14.0	14.5	14.2	14.4	14.1	12.8	14.0	13.9	14.4	13.7	14.2	13.8
Berat air	gram	1.2	1.2	1.2	1.2	1.3	1.2	1.2	1.3	1.2	1.2	1.2	1.1	1.2	1.2	1.2	1.2	1.2	1.2
Kadar air	%	8.22	8.16	8.51	8.70	8.55	8.82	8.57	8.97	8.45	8.33	8.51	8.59	8.57	8.63	8.33	8.76	8.45	8.70
Kadar air rata-rata (%)		8.55																	

Lapisan		1		2				3			4			5			6		
Berat ring + tanah	gram	34.2	33.9	33.7	33.4	34.5	33.2	33.6	33.8	33.8	34.0	33.3	32.3	33.6	33.1	34.0	33.3	33.4	33.4
Berat ring	gram	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4
Diameter ring	cm	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Tinggi ring	cm	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Volume ring	cm ³	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38
Berat tanah	gram	15.8	15.9	15.3	15.0	16.5	14.8	15.2	15.8	15.4	15.6	15.3	13.9	15.2	15.1	15.6	14.9	15.4	15.0
?t	gr/cm ³	1.522	1.532	1.474	1.445	1.589	1.426	1.464	1.522	1.483	1.503	1.474	1.339	1.464	1.454	1.503	1.435	1.483	1.445
Kadar air	%	8.22	8.16	8.51	8.70	8.55	8.82	8.57	8.97	8.45	8.33	8.51	8.59	8.57	8.63	8.33	8.76	8.45	8.70
?d	gr/cm ³	1.406	1.416	1.358	1.329	1.464	1.310	1.349	1.397	1.368	1.387	1.358	1.233	1.349	1.339	1.387	1.320	1.368	1.329
?t rata-rata	gr/cm ³	1.475																	
?d rata-rata	gr/cm ³	1.359																	

gama t 1.475

Rc= 75.935

BAMBU 2 - GEO

n=2 r=1.8 cm

Minggu, 22 juni

Lapisan		1		2				3			4			5			6		
Berat cawan + tanah basah	gram	20.1	19.4	20.2	20.2	20.2	20.1	19.4	19.0	19.1	17.9	19.1	19.7	18.0	18.5	18.6	20.1	19.7	19.3
Berat cawan + tanah kering	gram	18.8	18.2	18.9	18.9	18.9	18.8	18.2	17.8	17.9	16.8	17.9	18.5	16.9	17.4	17.4	18.8	18.5	18.1
Berat cawan	gram	4.0	4.0	4.0	4.0	4.0	3.9	4.0	4.0	4.0	3.9	4.0	4.0	4.0	4.0	4.0	4.0	4.1	4.0
Berat tanah kering	gram	14.8	14.2	14.9	14.9	14.9	14.9	14.2	13.8	13.9	12.9	13.9	14.5	12.9	13.4	13.4	14.8	14.4	14.1
Berat air	gram	1.3	1.2	1.3	1.3	1.3	1.3	1.2	1.2	1.2	1.1	1.2	1.2	1.1	1.1	1.2	1.3	1.2	1.2
Kadar air	%	8.78	8.45	8.72	8.72	8.72	8.72	8.45	8.70	8.63	8.53	8.63	8.28	8.53	8.21	8.96	8.78	8.33	8.51
Kadar air rata-rata (%)		8.59																	

Lapisan		1		2				3			4			5			6		
Berat ring + tanah	gram	34.5	33.4	34.6	34.6	34.2	34.6	33.8	33.0	33.5	32.4	33.1	34.1	32.4	32.5	33.0	34.5	33.6	33.7
Berat ring	gram	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4
Diameter ring	cm	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Tinggi ring	cm	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Volume ring	cm ³	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38
Berat tanah	gram	16.1	15.4	16.2	16.2	16.2	16.2	15.4	15.0	15.1	14.0	15.1	15.7	14.0	14.5	14.6	16.1	15.6	15.3
?t	gr/cm ³	1.551	1.483	1.560	1.560	1.560	1.560	1.483	1.445	1.454	1.349	1.454	1.512	1.349	1.397	1.406	1.551	1.503	1.474
Kadar air	%	8.78	8.45	8.72	8.72	8.72	8.72	8.45	8.70	8.63	8.53	8.63	8.28	8.53	8.21	8.96	8.78	8.33	8.51
?d	gr/cm ³	1.426	1.368	1.435	1.435	1.435	1.435	1.368	1.329	1.339	1.243	1.339	1.397	1.243	1.291	1.291	1.426	1.387	1.358
?t rata-rata	gr/cm ³	1.481																	
?d rata-rata	gr/cm ³	1.364																	

gamma t 1.481
Rc= 76.174

GEO-BAMBU 2

n=2 r=2.7 cm

Minggu, 22 juni

Lapisan		1		2			3			4			5			6			
Berat cawan + tanah basah	gram	19.8	19.3	19.2	17.7	20.1	19.2	19.4	19.3	19.4	19.1	19.2	19.6	19.9	18.8	19.8	20.5	19.9	19.9
Berat cawan + tanah kering	gram	18.5	18.1	18.0	16.6	18.8	18.0	18.2	18.1	18.2	17.9	18.0	18.4	18.6	17.6	18.5	19.2	18.6	18.6
Berat cawan	gram	4.0	4.0	4.2	4.0	4.0	4.0	4.1	4.6	4.0	4.0	4.0	4.0	4.0	4.0	3.9	4.0	3.9	4.1
Berat tanah kering	gram	14.5	14.1	13.8	12.6	14.8	14.0	14.1	13.5	14.2	13.9	14.0	14.4	14.6	13.6	14.6	15.2	14.7	14.5
Berat air	gram	1.3	1.2	1.2	1.1	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.2	1.3	1.3	1.3	1.3
Kadar air	%	8.97	8.51	8.70	8.73	8.78	8.57	8.51	8.89	8.45	8.63	8.57	8.33	8.90	8.82	8.90	8.55	8.84	8.97
Kadar air rata-rata (%)		8.70																	

Lapisan		1		2			3			4			5			6			
Berat ring + tanah	gram	34.2	33.3	33.4	32.1	34.1	33.6	33.7	32.7	33.8	33.5	33.2	34.0	34.3	32.8	34.3	34.9	34.0	34.2
Berat ring	gram	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4
Diameter ring	cm	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Tinggi ring	cm	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Volume ring	cm ³	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38
Berat tanah	gram	15.8	15.3	15.0	13.7	16.1	15.2	15.3	14.7	15.4	15.1	15.2	15.6	15.9	14.8	15.9	16.5	16.0	15.8
?t	gr/cm ³	1.522	1.474	1.445	1.320	1.551	1.464	1.474	1.416	1.483	1.454	1.464	1.503	1.532	1.426	1.532	1.589	1.541	1.522
Kadar air	%	8.97	8.51	8.70	8.73	8.78	8.57	8.51	8.89	8.45	8.63	8.57	8.33	8.90	8.82	8.90	8.55	8.84	8.97
?d	gr/cm ³	1.397	1.358	1.329	1.214	1.426	1.349	1.358	1.300	1.368	1.339	1.349	1.387	1.406	1.310	1.406	1.464	1.416	1.397
?t rata-rata	gr/cm ³	1.484																	
?d rata-rata	gr/cm ³	1.365																	

gama t 1.484

Rc= 76.264

BAMBU 2 - GEO
senin, 23 JUNI

n=2 r=2,7 cm

Lapisan		1			2			3			4			5			6		
Berat cawan + tanah basah	gram	19.5	18.3	19.9	19.2	19.6	19.7	19.8	19.0	18.4	19.0	19.3	19.8	19.0	19.0	19.5	19.7	20.1	19.8
Berat cawan + tanah kering	gram	18.3	17.2	18.7	18.0	18.4	18.4	18.5	17.8	17.3	17.8	18.1	18.5	17.8	17.8	18.3	18.5	18.8	18.6
Berat cawan	gram	4.0	4.0	4.0	4.0	4.0	3.9	4.0	4.0	4.0	3.9	4.0	4.0	4.0	4.0	4.0	4.0	4.1	4.0
Berat tanah kering	gram	14.3	13.2	14.7	14.0	14.4	14.5	14.5	13.8	13.3	13.9	14.1	14.5	13.8	13.8	14.3	14.5	14.7	14.6
Berat air	gram	1.2	1.1	1.2	1.2	1.2	1.3	1.3	1.2	1.1	1.2	1.2	1.3	1.2	1.2	1.2	1.2	1.3	1.2
Kadar air	%	8.39	8.33	8.16	8.57	8.33	8.97	8.97	8.70	8.27	8.63	8.51	8.97	8.70	8.70	8.39	8.28	8.84	8.22
Kadar air rata-rata (%)		8.55																	

Lapisan		1			2			3			4			5			6		
Berat ring + tanah	gram	33.9	32.3	34.3	33.6	33.6	34.2	34.2	33.0	32.8	33.5	33.3	34.2	33.4	33.0	33.9	34.1	34.0	34.2
Berat ring	gram	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4
Diameter ring	cm	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Tinggi ring	cm	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Volume ring	cm ³	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38
Berat tanah	gram	15.5	14.3	15.9	15.2	15.6	15.8	15.8	15.0	14.4	15.1	15.3	15.8	15.0	15.0	15.5	15.7	16.0	15.8
?t	gr/cm ³	1.493	1.377	1.532	1.464	1.503	1.522	1.522	1.445	1.387	1.454	1.474	1.522	1.445	1.445	1.493	1.512	1.541	1.522
Kadar air	%	8.39	8.33	8.16	8.57	8.33	8.97	8.97	8.70	8.27	8.63	8.51	8.97	8.70	8.70	8.39	8.28	8.84	8.22
?d	gr/cm ³	1.377	1.271	1.416	1.349	1.387	1.397	1.397	1.329	1.281	1.339	1.358	1.397	1.329	1.329	1.377	1.397	1.416	1.406
?t rata-rata	gr/cm ³	1.481																	
?d rata-rata	gr/cm ³	1.364																	

gamma t 1.481
Rc= 76.204

GEO-BAMBU 2

n=2 r=3.6 cm

Senin, 23 juni

Lapisan		1			2			3			4			5			6		
Berat cawan + tanah basah	gram	19.8	19.8	19.0	19.1	19.4	19.5	20.2	19.3	18.6	19.3	18.3	18.7	20.2	20.6	19.7	19.3	19.3	20.3
Berat cawan + tanah kering	gram	18.5	18.6	17.8	17.9	18.2	18.2	18.9	18.1	17.5	18.1	17.2	17.5	18.9	19.3	18.5	18.1	18.1	19.0
Berat cawan	gram	4.0	4.6	4.0	4.0	4.2	4.0	4.0	4.1	4.0	4.0	4.2	4.0	3.9	4.0	4.1	4.0	4.0	4.1
Berat tanah kering	gram	14.5	14.0	13.8	13.9	14.0	14.2	14.9	14.0	13.5	14.1	13.0	13.5	15.0	15.3	14.4	14.1	14.1	14.9
Berat air	gram	1.3	1.2	1.2	1.2	1.2	1.3	1.3	1.2	1.1	1.2	1.1	1.2	1.3	1.3	1.2	1.2	1.2	1.3
Kadar air	%	8.97	8.57	8.70	8.63	8.57	9.15	8.72	8.57	8.15	8.51	8.46	8.89	8.67	8.50	8.33	8.51	8.51	8.72
Kadar air rata-rata (%)		8.62																	

Lapisan		1			2			3			4			5			6		
Berat ring + tanah	gram	34.2	33.2	33.4	33.5	33.2	33.9	34.6	33.2	33.0	33.7	32.1	33.1	34.7	34.6	34.0	33.7	33.3	34.6
Berat ring	gram	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4
Diameter ring	cm	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Tinggi ring	cm	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Volume ring	cm ³	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38
Berat tanah	gram	15.8	15.2	15.0	15.1	15.2	15.5	16.2	15.2	14.6	15.3	14.1	14.7	16.3	16.6	15.6	15.3	15.3	16.2
?t	gr/cm ³	1.522	1.464	1.445	1.454	1.464	1.493	1.560	1.464	1.406	1.474	1.358	1.416	1.570	1.599	1.503	1.474	1.474	1.560
Kadar air	%	8.97	8.57	8.70	8.63	8.57	9.15	8.72	8.57	8.15	8.51	8.46	8.89	8.67	8.50	8.33	8.51	8.51	8.72
?d	gr/cm ³	1.397	1.349	1.329	1.339	1.349	1.368	1.435	1.349	1.300	1.358	1.252	1.300	1.445	1.474	1.387	1.358	1.358	1.435
?t rata-rata	gr/cm ³	1.483																	
?d rata-rata	gr/cm ³	1.366																	

gamma t 1.483

Rc= 76.294

Bambu2- Geo
selasa, 24 juni 2014

n=2 r=3.6 cm

Lapisan		1			2			3			4			5			6		
Berat cawan + tanah basah	gram	17.9	17.9	17.5	18.1	18.4	18.4	17.8	18.0	18.0	18.6	18.1	18.6	21.3	19.9	21.3	22.5	20.3	21.1
Berat cawan + tanah kering	gram	16.7	16.7	16.4	16.9	17.2	17.2	16.7	16.8	16.8	17.4	16.9	17.4	20.1	18.7	20.1	21.2	19.2	19.9
Berat cawan	gram	2.9	3.0	2.7	3.0	2.9	3.0	3.0	2.8	2.9	3.0	3.0	2.9	5.8	4.3	5.6	6.1	5.6	5.7
Berat tanah kering	gram	13.8	13.7	13.7	13.9	14.3	14.2	13.7	14.0	13.9	14.4	13.9	14.5	14.3	14.4	14.5	15.1	13.6	14.2
Berat air	gram	1.2	1.2	1.1	1.2	1.2	1.2	1.1	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.3	1.1	1.2
Kadar air	%	8.70	8.76	8.03	8.63	8.39	8.45	8.03	8.57	8.63	8.33	8.63	8.28	8.39	8.33	8.28	8.61	8.09	8.45
Kadar air rata-rata (%)		8.42																	

Lapisan		1			2			3			4			5			6		
Berat ring + tanah	gram	33.4	32.9	33.2	33.5	33.5	33.8	33.2	33.2	33.5	34.0	33.1	34.1	33.9	33.6	34.1	34.8	32.7	33.8
Berat ring	gram	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4
Diameter ring	cm	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Tinggi ring	cm	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Volume ring	cm ³	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38
Berat tanah	gram	15.0	14.9	14.8	15.1	15.5	15.4	14.8	15.2	15.1	15.6	15.1	15.7	15.5	15.6	15.7	16.4	14.7	15.4
?t	gr/cm ³	1.445	1.435	1.426	1.454	1.493	1.483	1.426	1.464	1.454	1.503	1.454	1.512	1.493	1.503	1.512	1.580	1.416	1.483
Kadar air	%	8.70	8.76	8.03	8.63	8.39	8.45	8.03	8.57	8.63	8.33	8.63	8.28	8.39	8.33	8.28	8.61	8.09	8.45
?d	gr/cm ³	1.329	1.320	1.320	1.339	1.377	1.368	1.320	1.349	1.339	1.387	1.339	1.397	1.377	1.387	1.397	1.454	1.310	1.368
?t rata-rata	gr/cm ³	1.474																	
?d rata-rata	gr/cm ³	1.360																	

gama t 1.474

Rc= 75.965

GEO - B2 - GEO
 Selasa, 24 juni 14

n=3 r=1.8 cm

Lapisan		1			2			3			4			5			6		
Berat cawan + tanah basah	gram	19.2	18.6	17.9	20.9	20.1	19.3	20.0	19.4	21.1	18.6	18.7	20.2	18.9	18.0	19.2	19.3	19.7	18.8
Berat cawan + tanah kering	gram	18.0	17.5	16.8	19.6	18.8	18.1	18.8	18.2	19.8	17.5	17.6	18.9	17.7	16.9	18.0	18.1	18.5	17.6
Berat cawan	gram	4.0	4.1	4.0	4.0	4.0	4.0	4.1	4.0	4.1	4.0	4.0	3.9	4.0	4.0	4.3	3.9	4.1	4.1
Berat tanah kering	gram	14.0	13.4	12.8	15.6	14.8	14.1	14.7	14.2	15.7	13.5	13.6	15.0	13.7	12.9	13.7	14.2	14.4	13.5
Berat air	gram	1.2	1.1	1.1	1.3	1.3	1.2	1.2	1.2	1.3	1.1	1.1	1.3	1.2	1.1	1.2	1.2	1.2	1.2
Kadar air	%	8.57	8.21	8.59	8.33	8.78	8.51	8.16	8.45	8.28	8.15	8.09	8.67	8.76	8.53	8.76	8.45	8.33	8.89
Kadar air rata-rata (%)		8.47																	

Lapisan		1			2			3			4			5			6		
Berat ring + tanah	gram	33.6	32.5	32.3	35.3	34.1	33.7	34.3	33.4	35.4	33.0	32.7	34.7	33.3	32.0	33.3	33.8	33.6	33.1
Berat ring	gram	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4
Diameter ring	cm	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Tinggi ring	cm	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Volume ring	cm ³	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38
Berat tanah	gram	15.2	14.5	13.9	16.9	16.1	15.3	15.9	15.4	17.0	14.6	14.7	16.3	14.9	14.0	14.9	15.4	15.6	14.7
?t	gr/cm ³	1.464	1.397	1.339	1.628	1.551	1.474	1.532	1.483	1.638	1.406	1.416	1.570	1.435	1.349	1.435	1.483	1.503	1.416
Kadar air	%	8.57	8.21	8.59	8.33	8.78	8.51	8.16	8.45	8.28	8.15	8.09	8.67	8.76	8.53	8.76	8.45	8.33	8.89
?d	gr/cm ³	1.349	1.291	1.233	1.503	1.426	1.358	1.416	1.368	1.512	1.300	1.310	1.445	1.320	1.243	1.320	1.368	1.387	1.300
?t rata-rata	gr/cm ³	1.473																	
?d rata-rata	gr/cm ³	1.358																	

gama t 1.473
 Rc= 75.875

B2 - GEO - B2
 Selasa, 24 juni

n=3 r=1.8 cm

Lapisan		1			2			3			4			5			6		
Berat cawan + tanah basah	gram	19.2	19.8	18.4	20.2	20.0	19.2	19.5	18.6	19.3	19.2	19.7	19.2	18.7	19.6	19.9	20.1	20.1	19.4
Berat cawan + tanah kering	gram	18.0	18.6	17.3	18.9	18.8	18.0	18.3	17.4	18.1	18.0	18.5	18.0	17.6	18.4	18.7	18.9	18.9	18.2
Berat cawan	gram	4.6	4.2	4.0	4.3	4.1	4.0	4.2	4.0	3.8	4.1	4.0	4.1	4.0	4.0	4.0	4.0	4.0	4.1
Berat tanah kering	gram	13.4	14.4	13.3	14.6	14.7	14.0	14.1	13.4	14.3	13.9	14.5	13.9	13.6	14.4	14.7	14.9	14.9	14.1
Berat air	gram	1.2	1.2	1.1	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.2	1.2	1.2	1.2	1.2
Kadar air	%	8.96	8.33	8.27	8.90	8.16	8.57	8.51	8.96	8.39	8.63	8.28	8.63	8.09	8.33	8.16	8.05	8.05	8.51
Kadar air rata-rata (%)		8.43																	

Lapisan		1			2			3			4			5			6		
Berat ring + tanah	gram	33.0	33.6	32.8	34.3	33.9	33.6	33.7	32.6	33.9	33.5	33.7	33.5	33.1	33.6	34.3	34.5	34.1	33.7
Berat ring	gram	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4
Diameter ring	cm	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Tinggi ring	cm	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Volume ring	cm ³	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38
Berat tanah	gram	14.6	15.6	14.4	15.9	15.9	15.2	15.3	14.6	15.5	15.1	15.7	15.1	14.7	15.6	15.9	16.1	16.1	15.3
?t	gr/cm ³	1.406	1.503	1.387	1.532	1.532	1.464	1.474	1.406	1.493	1.454	1.512	1.454	1.416	1.503	1.532	1.551	1.551	1.474
Kadar air	%	8.96	8.33	8.27	8.90	8.16	8.57	8.51	8.96	8.39	8.63	8.28	8.63	8.09	8.33	8.16	8.05	8.05	8.51
?d	gr/cm ³	1.291	1.387	1.281	1.406	1.416	1.349	1.358	1.291	1.377	1.339	1.397	1.339	1.310	1.387	1.416	1.435	1.435	1.358
?t rata-rata	gr/cm ³	1.480																	
?d rata-rata	gr/cm ³	1.365																	

gama t 1.480
 Rc= 76.264

GEO - B2 -GEO

n=3 r=2.7 cm

Rabu, 25 juni

Lapisan		1			2			3			4			5			6		
Berat cawan + tanah basah	gram	19.2	19.9	19.8	20.2	20.6	19.2	20.3	19.0	19.0	18.2	19.4	19.5	19.1	18.4	18.1	19.8	19.0	19.6
Berat cawan + tanah kering	gram	18.0	18.6	18.5	18.9	19.3	18.0	19.0	17.8	17.8	17.1	18.2	18.3	17.9	17.3	17.0	18.6	17.8	18.4
Berat cawan	gram	4.1	4.0	4.0	4.0	4.2	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.1	4.0	4.1	4.1	3.9	4.1
Berat tanah kering	gram	13.9	14.6	14.5	14.9	15.1	14.0	15.0	13.8	13.8	13.1	14.2	14.3	13.8	13.3	12.9	14.5	13.9	14.3
Berat air	gram	1.2	1.3	1.3	1.3	1.3	1.2	1.3	1.2	1.2	1.1	1.2	1.2	1.2	1.1	1.1	1.2	1.2	1.2
Kadar air	%	8.63	8.90	8.97	8.72	8.61	8.57	8.67	8.70	8.70	8.40	8.45	8.39	8.70	8.27	8.53	8.28	8.63	8.39
Kadar air rata-rata (%)												8.58							

Lapisan		1			2			3			4			5			6		
Berat ring + tanah	gram	33.5	33.9	34.2	34.6	34.4	33.6	34.7	33.0	33.4	32.6	33.4	33.9	33.4	32.4	32.4	34.1	33.1	33.9
Berat ring	gram	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4
Diameter ring	cm	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Tinggi ring	cm	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Volume ring	cm ³	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38
Berat tanah	gram	15.1	15.9	15.8	16.2	16.4	15.2	16.3	15.0	15.0	14.2	15.4	15.5	15.0	14.4	14.0	15.7	15.1	15.5
?t	gr/cm ³	1.454	1.532	1.522	1.560	1.580	1.464	1.570	1.445	1.445	1.368	1.483	1.493	1.445	1.387	1.349	1.512	1.454	1.493
Kadar air	%	8.63	8.90	8.97	8.72	8.61	8.57	8.67	8.70	8.70	8.40	8.45	8.39	8.70	8.27	8.53	8.28	8.63	8.39
?d	gr/cm ³	1.339	1.406	1.397	1.435	1.454	1.349	1.445	1.329	1.329	1.262	1.368	1.377	1.329	1.281	1.243	1.397	1.339	1.377
?t rata-rata	gr/cm ³											1.475							
?d rata-rata	gr/cm ³											1.359							

gamma t 1.475

Rc= 75.905

B2 - GEO -B2
 rabu, 25 juni 2014

n=3 r=2.7 cm

Lapisan		1			2			3			4			5			6		
Berat cawan + tanah basah	gram	19.8	20.5	19.2	19.7	20.3	19.4	18.2	19.3	18.8	20.0	19.6	18.8	18.9	20.0	18.1	19.4	20.0	19.6
Berat cawan + tanah kering	gram	18.6	19.2	18.0	18.5	19.1	18.2	17.1	18.1	17.7	18.7	18.4	17.7	17.7	18.7	17.0	18.2	18.8	18.4
Berat cawan	gram	4.1	4.0	4.1	4.0	4.6	4.0	4.0	4.0	4.0	4.0	3.9	4.0	4.2	4.0	4.0	4.0	4.0	4.0
Berat tanah kering	gram	14.5	15.2	13.9	14.5	14.5	14.2	13.1	14.1	13.7	14.7	14.5	13.7	13.5	14.7	13.0	14.2	14.8	14.4
Berat air	gram	1.2	1.3	1.2	1.2	1.2	1.2	1.1	1.2	1.1	1.3	1.2	1.1	1.2	1.3	1.1	1.2	1.2	1.2
Kadar air	%	8.28	8.55	8.63	8.28	8.28	8.45	8.40	8.51	8.03	8.84	8.28	8.03	8.89	8.84	8.46	8.45	8.11	8.33
Kadar air rata-rata (%)		8.42																	

Lapisan		1			2			3			4			5			6		
Berat ring + tanah	gram	34.1	34.5	33.5	34.1	33.7	33.8	32.6	33.3	33.2	34.4	33.7	33.2	33.1	34.0	32.5	33.8	34.0	34.0
Berat ring	gram	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4
Diameter ring	cm	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Tinggi ring	cm	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Volume ring	cm ³	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38
Berat tanah	gram	15.7	16.5	15.1	15.7	15.7	15.4	14.2	15.3	14.8	16.0	15.7	14.8	14.7	16.0	14.1	15.4	16.0	15.6
?t	gr/cm ³	1.512	1.589	1.454	1.512	1.512	1.483	1.368	1.474	1.426	1.541	1.512	1.426	1.416	1.541	1.358	1.483	1.541	1.503
Kadar air	%	8.28	8.55	8.63	8.28	8.28	8.45	8.40	8.51	8.03	8.84	8.28	8.03	8.89	8.84	8.46	8.45	8.11	8.33
?d	gr/cm ³	1.397	1.464	1.339	1.397	1.397	1.368	1.262	1.358	1.320	1.416	1.397	1.320	1.300	1.416	1.252	1.368	1.426	1.387
?t rata-rata	gr/cm ³	1.481																	
?d rata-rata	gr/cm ³	1.366																	

gama t 1.481
 Rc= 76.294

GEO - B2 - GEO
 rabu, 25 juni 2014

n=3 r=3.6 cm

Lapisan		1			2			3			4			5			6		
Berat cawan + tanah basah	gram	20.8	20.6	21.9	21.4	20.6	19.7	19.2	18.1	18.7	18.7	17.6	17.6	17.9	18.1	17.8	18.1	17.7	18.7
Berat cawan + tanah kering	gram	19.6	19.4	20.6	20.2	19.4	18.5	17.9	16.9	17.5	17.4	16.4	16.4	16.7	16.9	16.6	16.9	16.6	17.5
Berat cawan	gram	5.7	5.8	5.7	5.6	6.0	4.2	2.7	2.8	3.0	2.9	2.9	2.8	3.0	2.8	2.9	2.9	2.9	2.9
Berat tanah kering	gram	13.9	13.6	14.9	14.6	13.4	14.3	15.2	14.1	14.5	14.5	13.5	13.6	13.7	14.1	13.7	14.0	13.7	14.6
Berat air	gram	1.2	1.2	1.3	1.2	1.2	1.2	1.3	1.2	1.2	1.3	1.2	1.2	1.2	1.2	1.2	1.2	1.1	1.2
Kadar air	%	8.63	8.82	8.72	8.22	8.96	8.39	8.55	8.51	8.28	8.97	8.89	8.82	8.76	8.51	8.76	8.57	8.03	8.22
Kadar air rata-rata (%)		8.59																	

Lapisan		1			2			3			4			5			6		
Berat ring + tanah	gram	33.5	32.8	34.6	34.2	32.6	33.9	34.9	33.3	34.1	34.2	32.7	33.2	33.3	33.3	33.3	33.6	32.8	34.2
Berat ring	gram	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4
Diameter ring	cm	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Tinggi ring	cm	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Volume ring	cm ³	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38
Berat tanah	gram	15.1	14.8	16.2	15.8	14.6	15.5	16.5	15.3	15.7	15.8	14.7	14.8	14.9	15.3	14.9	15.2	14.8	15.8
?t	gr/cm ³	1.454	1.426	1.560	1.522	1.406	1.493	1.589	1.474	1.512	1.522	1.416	1.426	1.435	1.474	1.435	1.464	1.426	1.522
Kadar air	%	8.63	8.82	8.72	8.22	8.96	8.39	8.55	8.51	8.28	8.97	8.89	8.82	8.76	8.51	8.76	8.57	8.03	8.22
?d	gr/cm ³	1.339	1.310	1.435	1.406	1.291	1.377	1.464	1.358	1.397	1.397	1.300	1.310	1.320	1.358	1.320	1.349	1.320	1.406
?t rata-rata	gr/cm ³	1.475																	
?d rata-rata	gr/cm ³	1.359																	

gama t 1.475
 Rc= 75.905

B2 - GEO - B2

n=3 r=3.6 cm

Kamis, 26 juni 2014

Lapisan		1			2			3			4			5			6		
Berat cawan + tanah basah	gram	20.0	19.8	18.9	19.8	19.2	19.9	19.0	20.3	18.7	19.1	19.0	19.8	18.9	20.0	20.1	19.0	18.9	19.4
Berat cawan + tanah kering	gram	18.7	18.6	17.7	18.6	18.0	18.6	17.8	19.0	17.5	17.9	17.8	18.5	17.7	18.7	18.8	17.8	17.7	18.2
Berat cawan	gram	4.1	4.0	4.0	4.0	4.2	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.1	4.0	4.1	4.1	3.9	4.1
Berat tanah kering	gram	14.6	14.6	13.7	14.6	13.8	14.6	13.8	15.0	13.5	13.9	13.8	14.5	13.6	14.7	14.7	13.7	13.8	14.1
Berat air	gram	1.3	1.2	1.2	1.2	1.2	1.3	1.2	1.3	1.2	1.2	1.2	1.3	1.2	1.3	1.3	1.2	1.2	1.2
Kadar air	%	8.90	8.22	8.76	8.22	8.70	8.90	8.70	8.67	8.89	8.63	8.70	8.97	8.82	8.84	8.84	8.76	8.70	8.51
Kadar air rata-rata (%)		8.71																	

Lapisan		1			2			3			4			5			6		
Berat ring + tanah	gram	34.3	33.8	33.3	34.2	33.0	34.3	33.4	34.3	33.1	33.5	33.0	34.2	33.2	34.0	34.4	33.3	33.0	33.7
Berat ring	gram	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4	18.4	18	18.4
Diameter ring	cm	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3	2.3
Tinggi ring	cm	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
Volume ring	cm ³	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38	10.38
Berat tanah	gram	15.9	15.8	14.9	15.8	15.0	15.9	15.0	16.3	14.7	15.1	15.0	15.8	14.8	16.0	16.0	14.9	15.0	15.3
?t	gr/cm ³	1.532	1.522	1.435	1.522	1.445	1.532	1.445	1.570	1.416	1.454	1.445	1.522	1.426	1.541	1.541	1.435	1.445	1.474
Kadar air	%	8.90	8.22	8.76	8.22	8.70	8.90	8.70	8.67	8.89	8.63	8.70	8.97	8.82	8.84	8.84	8.76	8.70	8.51
?d	gr/cm ³	1.406	1.406	1.320	1.406	1.329	1.406	1.329	1.445	1.300	1.339	1.329	1.397	1.310	1.416	1.416	1.320	1.329	1.358
?t rata-rata	gr/cm ³	1.483																	
?d rata-rata	gr/cm ³	1.365																	

gamma t 1.483

Rc= 76.234

TABEL PENELITIAN DENSITY DAN KADAR AIR

No	Variasi	Kadar Air	Rc
1	Geo-Bambu; n=2 ; r = 1,8 cm	8.55	75.9351
2	Bambu-Geo; n=2 ; r = 1,8 cm	8.59	76.1743
3	Geo-Bambu; n=2 ; r = 2,7 cm	8.70	76.264
4	Bambu-Geo; n=2 ; r = 2,7 cm	8.55	76.2042
5	Geo-Bambu; n=2 ; r = 3,6 cm	8.62	76.2939
6	Bambu-Geo; n=2 ; r = 3,6 cm	8.42	75.965
7	Geo-Bambu-Geo; n=3 ; r = 1,8 cm	8.47	75.8754
8	Bambu-Geo-Bambu; n=3 ; r = 1,8 cm	8.43	76.264
9	Geo-Bambu-Geo; n=3 ; r = 2,7 cm	8.58	75.9053
10	Bambu-Geo-Bambu; n=3 ; r = 2,7 cm	8.42	76.2939
11	Geo-Bambu-Geo; n=3 ; r = 3,6 cm	8.59	75.9053
12	Bambu-Geo-Bambu; n=3 ; r = 3,6 cm	8.71	76.2341

Lampiran 7

Hasil Analisis Uji Geser Langsung (Direct Shear)

(Geotekstil-Anyaman Bambu ; $r = 1,8 \text{ cm}$) Lapisan 1

Kalibrasi alat = 0,358

Diameter sampel = 6 cm

Tinggi sampel = 1,7 cm

Luas sampel = 28,274 cm²

Faktor lengan(*level ratio*) = 14,14

NORMAL FORCE	P ₁ = 0.4 kg			P ₂ = 0.8 kg			P ₃ = 1.2 kg		
NORMAL STRESS	$\sigma_1 = 0.20 \text{ kg/cm}^2$			$\sigma_2 = 0.40 \text{ kg/cm}^2$			$\sigma_3 = 0.60 \text{ kg/cm}^2$		
STRAIN	DIAL READING	SHEAR FORCE	SHEAR STRESS	DIAL READING	SHEAR FORCE	SHEAR STRESS	DIAL READING	SHEAR FORCE	SHEAR STRESS
0	0	0	0	0	0	0	0	0	0
25	6	2.1480	0.0760	7	2.5060	0.0886	1.5	0.5370	0.0190
50	6	2.1480	0.0760	12	4.2960	0.1519	19.5	6.9810	0.2469
75	7	2.5060	0.0886	15.5	5.5490	0.1963	28.5	10.2030	0.3609
100	12	4.2960	0.1519	19	6.8020	0.2406	32	11.4560	0.4052
125	13	4.6540	0.1646	22	7.8760	0.2786	33	11.8140	0.4178
150	13.5	4.8330	0.1709	25.5	9.1290	0.3229	36	12.8880	0.4558
175	15	5.3700	0.1899	27	9.6660	0.3419	38	13.6040	0.4811
200	16	5.7280	0.2026	29	10.3820	0.3672	38	13.6040	0.4811
225	16	5.7280	0.2026	30	10.7400	0.3799	39.5	14.1410	0.5001
250	16	5.7280	0.2026	30.5	10.9190	0.3862	40	14.3200	0.5065
275	17	6.0860	0.2153	30.5	10.9190	0.3862	41	14.6780	0.5191
300							41	14.6780	0.5191
325							41	14.6780	0.5191
350							41	14.6780	0.5191
375									

C = 0,0807 kg/cm²

$\emptyset = 35.255^\circ$

(Geotekstil-Anyaman Bambu ; r = 1,8 cm) Lapisan 3

- Kalibrasi alat = 0,358
- Diameter sampel = 6 cm
- Tinggi sampel = 1,7 cm
- Luas sampel = 28,274 cm²
- Faktor lengan(*level ratio*) = 14,14

NORMAL FORCE	P ₁ = 0.4 kg			P ₂ = 0.8 kg			P ₃ = 1.2 kg		
NORMAL STRESS	σ ₁ = 0.20 kg/cm ²			σ ₂ = 0.40 kg/cm ²			σ ₃ = 0.60 kg/cm ²		
STRAIN	DIAL READING	SHEAR FORCE	SHEAR STRESS	DIAL READING	SHEAR FORCE	SHEAR STRESS	DIAL READING	SHEAR FORCE	SHEAR STRESS
0	0	0	0	0	0	0	0	0	0
25	12	4.2960	0.1519	21	7.5180	0.2659	33	11.8140	0.4178
50	15	5.3700	0.1899	22.5	8.0550	0.2849	38.5	13.7830	0.4875
75	16	5.7280	0.2026	23.5	8.4130	0.2976	41	14.6780	0.5191
100	17	6.0860	0.2153	24	8.5920	0.3039	41.5	14.8570	0.5255
125	19	6.8020	0.2406	24.5	8.7710	0.3102	43.5	15.5730	0.5508
150	19	6.8020	0.2406	25	8.9500	0.3165	43.5	15.5730	0.5508
175	19	6.8020	0.2406	27.5	9.8450	0.3482	44.5	15.9310	0.5635
200	19	6.8020	0.2406	29	10.3820	0.3672	44.5	15.9310	0.5635
250	19	6.8020	0.2406	29	10.3820	0.3672	44.5	15.9310	0.5635
300	19	6.8020	0.2406	32	11.4560	0.4052			
350				33	11.8140	0.4178			
400				33	11.8140	0.4178			
450				33	11.8140	0.4178			
500									

C = 0,0901 kg/cm²

Ø = 35.937°

(Geotekstil-Anyaman Bambu ; r = 1,8 cm) Lapisan 5

- Kalibrasi alat = 0,358
- Diameter sampel = 6 cm
- Tinggi sampel = 1,7 cm
- Luas sampel = 28,274 cm²
- Faktor lengan(*level ratio*) = 14,14

NORMAL FORCE	P ₁ = 0.4 kg			P ₂ = 0.8 kg			P ₃ = 1.2 kg		
NORMAL STRESS	σ ₁ = 0.20 kg/cm ²			σ ₂ = 0.40 kg/cm ²			σ ₃ = 0.60 kg/cm ²		
STRAIN	DIAL READING	SHEAR FORCE	SHEAR STRESS	DIAL READING	SHEAR FORCE	SHEAR STRESS	DIAL READING	SHEAR FORCE	SHEAR STRESS
0	0	0	0	0	0	0	0	0	0
25	10	3.5800	0.1266	10	0.0000	0.0000	18	6.4440	0.2279
50	16	5.7280	0.2026	15	0.0000	0.0000	32	11.4560	0.4052
75	18	6.4440	0.2279	25	0.0000	0.0000	40	14.3200	0.5065
100	18	6.4440	0.2279	28	0.0000	0.0000	41.5	14.8570	0.5255
125	18	6.4440	0.2279	31	0.0000	0.0000	41.5	14.8570	0.5255
150	18	6.4440	0.2279	31	0.0000	0.0000	42	15.0360	0.5318
175	18	6.4440	0.2279	32.5	0.0000	0.0000	43.5	15.5730	0.5508
200				32.5	0.0000	0.0000	43.5	15.5730	0.5508
250				32.5	11.6350	0.4115	45	16.1100	0.5698
300							45	16.1100	0.5698
350							45	16.1100	0.5698
400							45	16.1100	0.5698
450									

C = 0,0726 kg/cm²

Ø = 36,587°

Rata-Rata C = 0,0811 kg/cm²

Ø = 35.926°

Lampiran 8

Tabel Interpolasi

Variabel Jarak Antar Lapis (S/B=8%)

Jumlah Lapis	Urutan perkuatan	Jarak antar lapis	s/B(%)	s/B (%)		q (kN/m ²)		B ₁	B ₂	q
			(x)	(x ₀ ,x ₁ ,x ₂)	[f(x ₀),f(x ₁),f(x ₂)]		f(x)			
2	Geo-Bambu	1.8	8	x ₀	6.310	f(x ₀)	31.746	2.090	2.433	34.422
				x ₁	8.208	f(x ₁)	35.714			
				x ₂	8.709	f(x ₂)	39.683			
		2.7		x ₀	6.944	f(x ₀)	39.683	3.540	0.059	43.417
				x ₁	8.065	f(x ₁)	43.651			
				x ₂	9.146	f(x ₂)	47.619			
		3.6		x ₀	7.171	f(x ₀)	47.619	3.335	0.487	50.237
				x ₁	8.361	f(x ₁)	51.587			
				x ₂	9.272	f(x ₂)	55.556			
	Bambu-Geo	1.8	8	x ₀	6.508	f(x ₀)	35.714	2.565	0.160	39.527
				x ₁	8.056	f(x ₁)	39.683			
				x ₂	9.368	f(x ₂)	43.651			
2.7		x ₀		6.016	f(x ₀)	39.683	3.689	-0.286	46.486	
		x ₁		7.092	f(x ₁)	43.651				
		x ₂		8.413	f(x ₂)	47.619				

3	Geo-Bambu-Geo	3.6	x_0	6.213	$f(x_0)$	47.619	3.613	0.325	54.474
			x_1	7.312	$f(x_1)$	51.587			
			x_2	8.241	$f(x_2)$	55.556			
	Geo-Bambu-Geo	1.8	x_0	6.040	$f(x_0)$	35.714	3.595	-0.066	42.649
			x_1	7.144	$f(x_1)$	39.683			
			x_2	8.296	$f(x_2)$	43.651			
	Geo-Bambu-Geo	2.7	x_0	6.471	$f(x_0)$	39.683	3.131	-0.227	44.381
			x_1	7.738	$f(x_1)$	43.651			
			x_2	9.338	$f(x_2)$	47.619			
	Geo-Bambu-Geo	3.6	x_0	6.954	$f(x_0)$	51.587	3.654	0.236	55.400
			x_1	8.040	$f(x_1)$	55.556			
			x_2	8.999	$f(x_2)$	59.524			
Bambu-Geo-Bambu	1.8	x_0	5.505	$f(x_0)$	35.714	3.631	-0.547	42.860	
		x_1	6.598	$f(x_1)$	39.683				
		x_2	8.714	$f(x_2)$	43.651				
	Bambu-Geo-Bambu	2.7	x_0	6.734	$f(x_0)$	43.651	3.984	-0.293	48.593
			x_1	7.731	$f(x_1)$	47.619			
			x_2	8.917	$f(x_2)$	51.587			
	Bambu-Geo-Bambu	3.6	x_0	7.332	$f(x_0)$	67.460	6.688	0.043	71.929
			x_1	7.926	$f(x_1)$	71.429			
			x_2	8.514	$f(x_2)$	75.397			

Variabel Jarak Antar Lapis (S/B=4%)

Jumlah Lapis	Urutan perkuatan	Jarak antar lapis	s/B(%)	s/B (%)		q (kN/m ²)		B ₁	B ₂	q (kN/m ²)
			(x)	(x ₀ ,x ₁ ,x ₂)	[f(x ₀),f(x ₁),f(x ₂)]	f(x)				
2	Geo-Bambu	1.8	4	x ₀	3.965	f(x ₀)	23.810	3.728	-0.268	23.950
				x ₁	5.029	f(x ₁)	27.778			
				x ₂	6.310	f(x ₂)	31.746			
		2.7		x ₀	3.047	f(x ₀)	23.810	6.499	-1.826	29.407
				x ₁	3.658	f(x ₁)	27.778			
				x ₂	5.097	f(x ₂)	31.746			
	3.6	x ₀		3.107	f(x ₀)	31.746	5.183	-0.893	36.275	
		x ₁		3.872	f(x ₁)	35.714				
		x ₂		5.012	f(x ₂)	39.683				
	Bambu-Geo	1.8		x ₀	2.221	f(x ₀)	19.841	4.749	-0.320	27.752
				x ₁	3.057	f(x ₁)	23.810			
				x ₂	4.007	f(x ₂)	27.778			
2.7		x ₀	2.506	f(x ₀)	23.810	5.016	-0.473	30.806		
		x ₁	3.297	f(x ₁)	27.778					
		x ₂	4.243	f(x ₂)	31.746					
3.6	x ₀	2.875	f(x ₀)	35.714	3.446	0.284	39.582			
	x ₁	4.027	f(x ₁)	39.683						
	x ₂	5.006	f(x ₂)	43.651						

3	Geo-Bambu-Geo	1.8	x_0	2.844	$f(x_0)$	19.841	8.565	-3.135	27.230
			x_1	3.308	$f(x_1)$	23.810			
			x_2	4.298	$f(x_2)$	27.778			
		2.7	x_0	3.211	$f(x_0)$	27.778	4.752	-0.803	31.556
			x_1	4.046	$f(x_1)$	31.746			
			x_2	5.355	$f(x_2)$	35.714			
		3.6	x_0	3.517	$f(x_0)$	35.714	5.607	0.580	38.361
			x_1	4.224	$f(x_1)$	39.683			
			x_2	4.847	$f(x_2)$	43.651			
	Bambu-Geo-Bambu	1.8	x_0	3.395	$f(x_0)$	27.778	4.040	-0.247	30.278
			x_1	4.377	$f(x_1)$	31.746			
			x_2	5.505	$f(x_2)$	35.714			
		2.7	x_0	3.399	$f(x_0)$	31.746	3.789	-0.085	34.045
			x_1	4.447	$f(x_1)$	35.714			
			x_2	5.547	$f(x_2)$	39.683			
		3.6	x_0	3.016	$f(x_0)$	47.619	4.852	-0.317	47.256
			x_1	3.834	$f(x_1)$	51.587			
			x_2	4.757	$f(x_2)$	55.556			

Variabel Jarak Antar Lapis (s/B=6%)

Jumlah Lapis	Urutan perkuatan	Jarak antar lapis	s/B(%)	s/B (%)		q (kN/m ²)		B ₁	B ₂	q (kN/m ²)
			(x)	(x ₀ ,x ₁ ,x ₂)	[f(x ₀),f(x ₁),f(x ₂)]	f(x)				
2	Geo-Bambu	1.8	6	x ₀	5.029	f(x ₀)	27.778	3.099	-0.317	30.881
				x ₁	6.310	f(x ₁)	31.746			
				x ₂	8.208	f(x ₂)	35.714			
		2.7		x ₀	5.097	f(x ₀)	31.746	4.473	-0.184	35.784
				x ₁	5.984	f(x ₁)	35.714			
				x ₂	6.944	f(x ₂)	39.683			
		3.6		x ₀	5.012	f(x ₀)	39.683	3.761	-0.078	43.405
				x ₁	6.067	f(x ₁)	43.651			
				x ₂	7.171	f(x ₂)	47.619			
	Bambu-Geo	1.8	6	x ₀	4.007	f(x ₀)	27.778	2.570	0.629	33.465
				x ₁	5.551	f(x ₁)	31.746			
				x ₂	6.508	f(x ₂)	35.714			
		2.7		x ₀	4.243	f(x ₀)	31.746	3.746	1.025	39.581
				x ₁	5.303	f(x ₁)	35.714			
				x ₂	6.016	f(x ₂)	39.683			
		3.6		x ₀	4.027	f(x ₀)	39.683	4.052	-0.350	46.992
				x ₁	5.006	f(x ₁)	43.651			
				x ₂	6.213	f(x ₂)	47.619			

3	Geo-Bambu-Geo	1.8	x_0	4.298	$f(x_0)$	27.778	5.020	-0.488	35.565
			x_1	5.088	$f(x_1)$	31.746			
			x_2	6.040	$f(x_2)$	35.714			
		2.7	x_0	4.046	$f(x_0)$	31.746	3.032	0.217	37.943
			x_1	5.355	$f(x_1)$	35.714			
			x_2	6.471	$f(x_2)$	39.683			
		3.6	x_0	4.847	$f(x_0)$	43.651	3.570	0.198	47.777
			x_1	5.958	$f(x_1)$	47.619			
			x_2	6.954	$f(x_2)$	51.587			
	Bambu-Geo-Bambu	1.8	x_0	4.377	$f(x_0)$	31.746	3.519	0.051	37.497
			x_1	5.505	$f(x_1)$	35.714			
			x_2	6.598	$f(x_2)$	39.683			
		2.7	x_0	4.447	$f(x_0)$	35.714	3.606	-0.115	41.234
			x_1	5.547	$f(x_1)$	39.683			
			x_2	6.734	$f(x_2)$	43.651			
		3.6	x_0	4.757	$f(x_0)$	55.556	3.520	-0.316	59.978
			x_1	5.884	$f(x_1)$	59.524			
			x_2	6.834	$f(x_2)$	63.492			

Variabel Jarak Antar Lapis (s/B=10%)

Jumlah Lapis	Urutan perkuatan	Jarak antar lapis	s/B(%)	s/B (%)	q (kN/m ²)		B ₁	B ₂	q (kN/m ²)	
			(x)	(x ₀ ,x ₁ ,x ₂)	[f(x ₀),f(x ₁),f(x ₂)]	f(x)				
2	Geo-Bambu	1.8	10.0	x ₀	8.709	f(x ₀)	39.683	2.337	0.007	42.697
				x ₁	10.407	f(x ₁)	43.651			
				x ₂	12.088	f(x ₂)	47.619			
		2.7		x ₀	8.065	f(x ₀)	43.651	3.671	-0.346	50.182
				x ₁	9.146	f(x ₁)	47.619			
				x ₂	10.559	f(x ₂)	51.587			
	3.6	x ₀		9.272	f(x ₀)	55.556	3.325	1.080	57.612	
		x ₁		10.465	f(x ₁)	59.524				
		x ₂		11.199	f(x ₂)	63.492				
	Bambu-Geo	1.8		x ₀	8.056	f(x ₀)	39.683	3.023	-0.338	45.144
				x ₁	9.368	f(x ₁)	43.651			
				x ₂	11.509	f(x ₂)	47.619			
2.7		x ₀	8.413	f(x ₀)	47.619	2.384	0.443	51.349		
		x ₁	10.077	f(x ₁)	51.587					
		x ₂	11.177	f(x ₂)	55.556					
3.6	x ₀	9.051	f(x ₀)	59.524	6.663	-1.434	65.368			
	x ₁	9.646	f(x ₁)	63.492						
	x ₂	10.516	f(x ₂)	67.460						

3	Geo-Bambu-Geo	1.8	x_0	8.296	$f(x_0)$	43.651	2.207	0.063	47.402
			x_1	10.094	$f(x_1)$	47.619			
			x_2	11.731	$f(x_2)$	51.587			
		2.7	x_0	9.338	$f(x_0)$	47.619	3.247	-0.051	49.788
			x_1	10.560	$f(x_1)$	51.587			
			x_2	11.832	$f(x_2)$	55.556			
		3.6	x_0	8.999	$f(x_0)$	59.524	6.632	-0.186	66.085
			x_1	9.598	$f(x_1)$	63.492			
			x_2	10.217	$f(x_2)$	67.460			
	Bambu-Geo-Bambu	1.8	x_0	8.714	$f(x_0)$	43.651	4.593	-0.546	49.262
			x_1	9.578	$f(x_1)$	47.619			
			x_2	10.711	$f(x_2)$	51.587			
		2.7	x_0	8.917	$f(x_0)$	51.587	4.150	0.795	56.190
			x_1	9.873	$f(x_1)$	55.556			
			x_2	10.597	$f(x_2)$	59.524			
		3.6	x_0	9.297	$f(x_0)$	79.365	7.798	-1.097	84.699
			x_1	9.806	$f(x_1)$	83.333			
			x_2	10.409	$f(x_2)$	87.302			

Variabel Jumlah Lapis (S/B=8%)

Jarak Antar Lapis	Urutan Perkuatan	Jumlah Lapis	s/B(%)		q (kN/m ²)		B ₁	B ₂	q	
			(x)	(x ₀ ,x ₁ ,x ₂)	[f(x ₀),f(x ₁),f(x ₂)]	(kN/m ²)				
1.8	Geo-Bambu	2	8	x ₀	6.310	f(x ₀)	31.746	2.090	2.433	34.422
				x ₁	8.208	f(x ₁)	35.714			
				x ₂	8.709	f(x ₂)	39.683			
	Geo-Bambu-Geo	3		x ₀	6.040	f(x ₀)	35.714	3.595	-0.066	42.649
				x ₁	7.144	f(x ₁)	39.683			
				x ₂	8.296	f(x ₂)	43.651			
	Bambu-Geo	2		x ₀	6.508	f(x ₀)	35.714	2.565	0.160	39.527
				x ₁	8.056	f(x ₁)	39.683			
				x ₂	9.368	f(x ₂)	43.651			
Bambu-Geo-Bambu	3	x ₀	5.505	f(x ₀)	35.714	3.631	-0.547	42.860		
		x ₁	6.598	f(x ₁)	39.683					
		x ₂	8.714	f(x ₂)	43.651					
2.7	Geo-Bambu	2	x ₀	6.944	f(x ₀)	39.683	3.540	0.059	43.417	
			x ₁	8.065	f(x ₁)	43.651				
			x ₂	9.146	f(x ₂)	47.619				
	Geo-Bambu-Geo	3	x ₀	6.471	f(x ₀)	39.683	3.131	-0.227	44.381	
			x ₁	7.738	f(x ₁)	43.651				
			x ₂	9.338	f(x ₂)	47.619				

	Bambu-Geo	2	x_0	6.016	$f(x_0)$	39.683	3.689	-0.286	46.486
			x_1	7.092	$f(x_1)$	43.651			
			x_2	8.413	$f(x_2)$	47.619			
	Bambu-Geo-Bambu	3	x_0	6.734	$f(x_0)$	43.651	3.984	-0.293	48.593
			x_1	7.731	$f(x_1)$	47.619			
			x_2	8.917	$f(x_2)$	51.587			
3.6	Geo-Bambu	2	x_0	7.171	$f(x_0)$	47.619	3.335	0.487	50.237
			x_1	8.361	$f(x_1)$	51.587			
			x_2	9.272	$f(x_2)$	55.556			
	Geo-Bambu-Geo	3	x_0	6.954	$f(x_0)$	51.587	3.654	0.236	55.400
			x_1	8.040	$f(x_1)$	55.556			
			x_2	8.999	$f(x_2)$	59.524			
	Bambu-Geo	2	x_0	6.213	$f(x_0)$	47.619	3.613	0.325	54.474
			x_1	7.312	$f(x_1)$	51.587			
			x_2	8.241	$f(x_2)$	55.556			
	Bambu-Geo-Bambu	3	x_0	7.332	$f(x_0)$	67.460	6.688	0.043	71.929
			x_1	7.926	$f(x_1)$	71.429			
			x_2	8.514	$f(x_2)$	75.397			

Variabel Jumlah Lapis (S/B=4%)

Jarak Antar Lapis	Urutan Perkuatan	Jumlah Lapis	s/B(%)		q (kN/m ²)		B ₁	B ₂	q (kN/m ²)	
			(x)	(x ₀ ,x ₁ ,x ₂)	[f(x ₀),f(x ₁),f(x ₂)]	f(x)				
1.8	Geo-Bambu	2	4	x ₀	3.965	f(x ₀)	23.810	3.728	-0.268	23.950
				x ₁	5.029	f(x ₁)	27.778			
				x ₂	6.310	f(x ₂)	31.746			
	Geo-Bambu-Geo	3		x ₀	2.844	f(x ₀)	19.841	8.565	-3.135	27.230
				x ₁	3.308	f(x ₁)	23.810			
				x ₂	4.298	f(x ₂)	27.778			
	Bambu-Geo	2		x ₀	2.221	f(x ₀)	19.841	4.749	-0.320	27.752
				x ₁	3.057	f(x ₁)	23.810			
				x ₂	4.007	f(x ₂)	27.778			
	Bambu-Geo-Bambu	3		x ₀	3.395	f(x ₀)	27.778	4.040	-0.247	30.278
				x ₁	4.377	f(x ₁)	31.746			
				x ₂	5.505	f(x ₂)	35.714			
2.7	Geo-Bambu	2	x ₀	3.047	f(x ₀)	23.810	6.499	-1.826	29.407	
			x ₁	3.658	f(x ₁)	27.778				
			x ₂	5.097	f(x ₂)	31.746				
	Geo-Bambu-Geo	3	x ₀	3.211	f(x ₀)	27.778	4.752	-0.803	31.556	
			x ₁	4.046	f(x ₁)	31.746				
			x ₂	5.355	f(x ₂)	35.714				

3.6	Bambu-Geo	2	x_0	2.506	$f(x_0)$	23.810	5.016	-0.473	30.806
			x_1	3.297	$f(x_1)$	27.778			
			x_2	4.243	$f(x_2)$	31.746			
	Bambu-Geo-Bambu	3	x_0	3.399	$f(x_0)$	31.746	3.789	-0.085	34.045
			x_1	4.447	$f(x_1)$	35.714			
			x_2	5.547	$f(x_2)$	39.683			
	Geo-Bambu	2	x_0	3.107	$f(x_0)$	31.746	5.183	-0.893	36.275
			x_1	3.872	$f(x_1)$	35.714			
			x_2	5.012	$f(x_2)$	39.683			
	Geo-Bambu-Geo	3	x_0	3.517	$f(x_0)$	35.714	5.607	0.580	38.361
			x_1	4.224	$f(x_1)$	39.683			
			x_2	4.847	$f(x_2)$	43.651			
Bambu-Geo	2	x_0	2.875	$f(x_0)$	35.714	3.446	0.284	39.582	
		x_1	4.027	$f(x_1)$	39.683				
		x_2	5.006	$f(x_2)$	43.651				
Bambu-Geo-Bambu	3	x_0	3.016	$f(x_0)$	47.619	4.852	-0.317	47.256	
		x_1	3.834	$f(x_1)$	51.587				
		x_2	4.757	$f(x_2)$	55.556				

Variabel Jumlah Lapis (S/B=6%)

Jarak Antar Lapis	Urutan Perkuatan	Jumlah Lapis	s/B(%)	s/B (%)	q (kN/m ²)		B ₁	B ₂	q (kN/m ²)	
			(x)	(x ₀ ,x ₁ ,x ₂)	[f(x ₀),f(x ₁),f(x ₂)]	f(x)				
1.8	Geo-Bambu	2	6	x ₀	5.029	f(x ₀)	27.778	3.099	-0.317	30.881
				x ₁	6.310	f(x ₁)	31.746			
				x ₂	8.208	f(x ₂)	35.714			
	Geo-Bambu-Geo	3		x ₀	4.298	f(x ₀)	27.778	5.020	-0.488	35.565
				x ₁	5.088	f(x ₁)	31.746			
				x ₂	6.040	f(x ₂)	35.714			
	Bambu-Geo	2		x ₀	4.007	f(x ₀)	27.778	2.570	0.629	33.465
				x ₁	5.551	f(x ₁)	31.746			
				x ₂	6.508	f(x ₂)	35.714			
	Bambu-Geo-Bambu	3		x ₀	4.377	f(x ₀)	31.746	3.519	0.051	37.497
				x ₁	5.505	f(x ₁)	35.714			
				x ₂	6.598	f(x ₂)	39.683			
2.7	Geo-Bambu	2	x ₀	5.097	f(x ₀)	31.746	4.473	-0.184	35.784	
			x ₁	5.984	f(x ₁)	35.714				
			x ₂	6.944	f(x ₂)	39.683				
	Geo-Bambu-Geo	3	x ₀	4.046	f(x ₀)	31.746	3.032	0.217	37.943	
			x ₁	5.355	f(x ₁)	35.714				
			x ₂	6.471	f(x ₂)	39.683				

3.6	Bambu-Geo	2	x_0	4.243	$f(x_0)$	31.746	3.746	1.025	39.581
			x_1	5.303	$f(x_1)$	35.714			
			x_2	6.016	$f(x_2)$	39.683			
	Bambu-Geo-Bambu	3	x_0	4.447	$f(x_0)$	35.714	3.606	-0.115	41.234
			x_1	5.547	$f(x_1)$	39.683			
			x_2	6.734	$f(x_2)$	43.651			
	Geo-Bambu	2	x_0	5.012	$f(x_0)$	39.683	3.761	-0.078	43.405
			x_1	6.067	$f(x_1)$	43.651			
			x_2	7.171	$f(x_2)$	47.619			
	Geo-Bambu-Geo	3	x_0	4.847	$f(x_0)$	43.651	3.570	0.198	47.777
			x_1	5.958	$f(x_1)$	47.619			
			x_2	6.954	$f(x_2)$	51.587			
Bambu-Geo	2	x_0	4.027	$f(x_0)$	39.683	4.052	-0.350	46.992	
		x_1	5.006	$f(x_1)$	43.651				
		x_2	6.213	$f(x_2)$	47.619				
Bambu-Geo-Bambu	3	x_0	4.757	$f(x_0)$	55.556	3.520	0.316	59.978	
		x_1	5.884	$f(x_1)$	59.524				
		x_2	6.834	$f(x_2)$	63.492				

Variabel Jumlah Lapis (S/B=10%)

Jarak Antar Lapis	Urutan Perkuatan	Jumlah Lapis	s/B(%)	s/B (%)		q (kN/m ²)		B ₁	B ₂	q (kN/m ²)
			(x)	(x ₀ ,x ₁ ,x ₂)	[f(x ₀),f(x ₁),f(x ₂)]		f(x)			
1.8	Geo-Bambu	2	10	x ₀	8.709	f(x ₀)	39.683	2.337	0.007	42.697
				x ₁	10.407	f(x ₁)	43.651			
				x ₂	12.088	f(x ₂)	47.619			
	Geo-Bambu-Geo	3		x ₀	8.296	f(x ₀)	43.651	2.207	0.063	47.402
				x ₁	10.094	f(x ₁)	47.619			
				x ₂	11.731	f(x ₂)	51.587			
	Bambu-Geo	2		x ₀	8.056	f(x ₀)	39.683	3.023	-0.338	45.144
				x ₁	9.368	f(x ₁)	43.651			
				x ₂	11.509	f(x ₂)	47.619			
Bambu-Geo-Bambu	3	x ₀	8.714	f(x ₀)	43.651	4.593	-0.546	49.262		
		x ₁	9.578	f(x ₁)	47.619					
		x ₂	10.711	f(x ₂)	51.587					
2.7	Geo-Bambu	2	x ₀	8.065	f(x ₀)	43.651	3.671	-0.346	50.182	
			x ₁	9.146	f(x ₁)	47.619				
			x ₂	10.559	f(x ₂)	51.587				
	Geo-Bambu-Geo	3	x ₀	9.338	f(x ₀)	47.619	3.247	-0.051	49.788	
			x ₁	10.560	f(x ₁)	51.587				
			x ₂	11.832	f(x ₂)	55.556				

	Bambu-Geo	2	x_0	8.413	$f(x_0)$	47.619	2.384	0.443	51.349
			x_1	10.077	$f(x_1)$	51.587			
			x_2	11.177	$f(x_2)$	55.556			
	Bambu-Geo-Bambu	3	x_0	8.917	$f(x_0)$	51.587	4.150	0.795	56.190
			x_1	9.873	$f(x_1)$	55.556			
			x_2	10.597	$f(x_2)$	59.524			
3.6	Geo-Bambu	2	x_0	9.272	$f(x_0)$	55.556	3.325	1.080	57.612
			x_1	10.465	$f(x_1)$	59.524			
			x_2	11.199	$f(x_2)$	63.492			
	Geo-Bambu-Geo	3	x_0	8.999	$f(x_0)$	59.524	6.632	-0.186	66.085
			x_1	9.598	$f(x_1)$	63.492			
			x_2	10.217	$f(x_2)$	67.460			
	Bambu-Geo	2	x_0	9.051	$f(x_0)$	59.524	6.663	-1.434	65.368
			x_1	9.646	$f(x_1)$	63.492			
			x_2	10.516	$f(x_2)$	67.460			
	Bambu-Geo-Bambu	3	x_0	9.297	$f(x_0)$	79.365	7.798	-1.097	84.699
			x_1	9.806	$f(x_1)$	83.333			
			x_2	10.409	$f(x_2)$	87.302			

Variabel Urutan Perkuatan (S/B=8%)

Jarak Antar Lapis	Jumlah Lapis	Urutan Perkuatan	s/B(%)	s/B (%)		q (kN/m ²)		B ₁	B ₂	q (kN/m ²)			
			(x)	(x ₀ ,x ₁ ,x ₂)	[f(x ₀),f(x ₁),f(x ₂)]		f(x)						
1.8	2	Geo-Bambu	8	x ₀	6.310	f(x ₀)	31.746	2.090	2.433	34.422			
				x ₁	8.208	f(x ₁)	35.714						
				x ₂	8.709	f(x ₂)	39.683						
		Bambu-Geo		x ₀	6.508	f(x ₀)	35.714				2.565	0.160	39.527
				x ₁	8.056	f(x ₁)	39.683						
				x ₂	9.368	f(x ₂)	43.651						
	3	Geo-Bambu-Geo		x ₀	6.040	f(x ₀)	35.714	3.595	-0.066	42.649			
				x ₁	7.144	f(x ₁)	39.683						
				x ₂	8.296	f(x ₂)	43.651						
		Bambu-Geo-Bambu		x ₀	5.505	f(x ₀)	35.714				3.631	-0.547	42.860
				x ₁	6.598	f(x ₁)	39.683						
				x ₂	8.714	f(x ₂)	43.651						
2.7	2	Geo-Bambu	x ₀	6.944	f(x ₀)	39.683	3.540	0.059	43.417				
			x ₁	8.065	f(x ₁)	43.651							
			x ₂	9.146	f(x ₂)	47.619							
		Bambu-Geo	x ₀	6.016	f(x ₀)	39.683				3.689	-0.286	46.486	
			x ₁	7.092	f(x ₁)	43.651							
			x ₂	8.413	f(x ₂)	47.619							

	3	Geo-Bambu-Geo	x_0	6.471	$f(x_0)$	39.683	3.131	-0.227	44.381
			x_1	7.738	$f(x_1)$	43.651			
			x_2	9.338	$f(x_2)$	47.619			
		Bambu-Geo-Bambu	x_0	6.734	$f(x_0)$	43.651	3.984	-0.293	48.593
			x_1	7.731	$f(x_1)$	47.619			
			x_2	8.917	$f(x_2)$	51.587			
3.6	2	Geo-Bambu	x_0	7.171	$f(x_0)$	47.619	3.335	0.487	50.237
			x_1	8.361	$f(x_1)$	51.587			
			x_2	9.272	$f(x_2)$	55.556			
		Bambu-Geo	x_0	6.213	$f(x_0)$	47.619	3.613	0.325	54.474
			x_1	7.312	$f(x_1)$	51.587			
			x_2	8.241	$f(x_2)$	55.556			
	3	Geo-Bambu-Geo	x_0	6.954	$f(x_0)$	51.587	3.654	0.236	55.400
			x_1	8.040	$f(x_1)$	55.556			
			x_2	8.999	$f(x_2)$	59.524			
		Bambu-Geo-Bambu	x_0	7.332	$f(x_0)$	67.460	6.688	0.043	71.929
			x_1	7.926	$f(x_1)$	71.429			
			x_2	8.514	$f(x_2)$	75.397			

Variabel Urutan Perkuatan (S/B=4%)

Jarak Antar Lapis	Jumlah Lapis	Urutan Perkuatan	s/B(%)	s/B (%)		q (kN/m ²)		B ₁	B ₂	q (kN/m ²)			
			(x)	(x ₀ ,x ₁ ,x ₂)	[f(x ₀),f(x ₁),f(x ₂)]		f(x)						
1.8	2	Geo-Bambu	4	x ₀	3.965	f(x ₀)	23.810	3.728	-0.268	23.950			
				x ₁	5.029	f(x ₁)	27.778						
				x ₂	6.310	f(x ₂)	31.746						
		Bambu-Geo		x ₀	2.221	f(x ₀)	19.841				4.749	-0.320	27.752
				x ₁	3.057	f(x ₁)	23.810						
				x ₂	4.007	f(x ₂)	27.778						
	Geo-Bambu-Geo	x ₀		2.844	f(x ₀)	19.841	8.565	-3.135	27.230				
		x ₁		3.308	f(x ₁)	23.810							
		x ₂		4.298	f(x ₂)	27.778							
		Bambu-Geo-Bambu		x ₀	3.395	f(x ₀)				27.778	4.040	-0.247	30.278
				x ₁	4.377	f(x ₁)				31.746			
				x ₂	5.505	f(x ₂)				35.714			
2.7	2	Geo-Bambu	x ₀	3.047	f(x ₀)	23.810	6.499	-1.826	29.407				
			x ₁	3.658	f(x ₁)	27.778							
			x ₂	5.097	f(x ₂)	31.746							
		Bambu-Geo	x ₀	2.506	f(x ₀)	23.810				5.016	-0.473	30.806	
			x ₁	3.297	f(x ₁)	27.778							
			x ₂	4.243	f(x ₂)	31.746							

	3	Geo-Bambu-Geo	x_0	3.211	$f(x_0)$	27.778	4.752	-0.803	31.556
			x_1	4.046	$f(x_1)$	31.746			
			x_2	5.355	$f(x_2)$	35.714			
		Bambu-Geo-Bambu	x_0	3.399	$f(x_0)$	31.746	3.789	-0.085	34.045
			x_1	4.447	$f(x_1)$	35.714			
			x_2	5.547	$f(x_2)$	39.683			
3.6	2	Geo-Bambu	x_0	3.107	$f(x_0)$	31.746	5.183	-0.893	36.275
			x_1	3.872	$f(x_1)$	35.714			
			x_2	5.012	$f(x_2)$	39.683			
		Bambu-Geo	x_0	2.875	$f(x_0)$	35.714	3.446	0.284	39.582
			x_1	4.027	$f(x_1)$	39.683			
			x_2	5.006	$f(x_2)$	43.651			
	3	Geo-Bambu-Geo	x_0	3.517	$f(x_0)$	35.714	5.607	0.580	38.361
			x_1	4.224	$f(x_1)$	39.683			
			x_2	4.847	$f(x_2)$	43.651			
		Bambu-Geo-Bambu	x_0	3.016	$f(x_0)$	47.619	4.852	-0.317	47.256
			x_1	3.834	$f(x_1)$	51.587			
			x_2	4.757	$f(x_2)$	55.556			

Variabel Urutan Perkuatan (S/B=6%)

Jarak Antar Lapis	Jumlah Lapis	Urutan Perkuatan	s/B(%)	s/B (%)		q (kN/m ²)		B ₁	B ₂	q (kN/m ²)			
			(x)	(x ₀ ,x ₁ ,x ₂)	[f(x ₀),f(x ₁),f(x ₂)]	f(x)							
1.8	2	Geo-Bambu	6	x ₀	5.029	f(x ₀)	27.778	3.099	-0.317	30.881			
				x ₁	6.310	f(x ₁)	31.746						
				x ₂	8.208	f(x ₂)	35.714						
		Bambu-Geo		x ₀	4.007	f(x ₀)	27.778				2.570	0.629	33.465
				x ₁	5.551	f(x ₁)	31.746						
				x ₂	6.508	f(x ₂)	35.714						
	3	Geo-Bambu-Geo		x ₀	4.298	f(x ₀)	27.778	5.020	-0.488	35.565			
				x ₁	5.088	f(x ₁)	31.746						
				x ₂	6.040	f(x ₂)	35.714						
		Bambu-Geo-Bambu		x ₀	4.377	f(x ₀)	31.746				3.519	0.051	37.497
				x ₁	5.505	f(x ₁)	35.714						
				x ₂	6.598	f(x ₂)	39.683						
2.7	2	Geo-Bambu	x ₀	5.097	f(x ₀)	31.746	4.473	-0.184	35.784				
			x ₁	5.984	f(x ₁)	35.714							
			x ₂	6.944	f(x ₂)	39.683							
		Bambu-Geo	x ₀	4.243	f(x ₀)	31.746				3.746	1.025	39.581	
			x ₁	5.303	f(x ₁)	35.714							
			x ₂	6.016	f(x ₂)	39.683							

	3	Geo-Bambu-Geo	x_0	4.046	$f(x_0)$	31.746	3.032	0.217	37.943
			x_1	5.355	$f(x_1)$	35.714			
			x_2	6.471	$f(x_2)$	39.683			
		Bambu-Geo-Bambu	x_0	4.447	$f(x_0)$	35.714	3.606	-0.115	41.234
			x_1	5.547	$f(x_1)$	39.683			
			x_2	6.734	$f(x_2)$	43.651			
3.6	2	Geo-Bambu	x_0	5.012	$f(x_0)$	39.683	3.761	-0.078	43.405
			x_1	6.067	$f(x_1)$	43.651			
			x_2	7.171	$f(x_2)$	47.619			
		Bambu-Geo	x_0	4.027	$f(x_0)$	39.683	4.052	-0.350	46.992
			x_1	5.006	$f(x_1)$	43.651			
			x_2	6.213	$f(x_2)$	47.619			
	3	Geo-Bambu-Geo	x_0	4.847	$f(x_0)$	43.651	3.570	0.198	47.777
			x_1	5.958	$f(x_1)$	47.619			
			x_2	6.954	$f(x_2)$	51.587			
		Bambu-Geo-Bambu	x_0	4.757	$f(x_0)$	55.556	3.520	0.316	59.978
			x_1	5.884	$f(x_1)$	59.524			
			x_2	6.834	$f(x_2)$	63.492			

Variabel Urutan Perkuatan (S/B=10%)

Jarak Antar Lapis	Jumlah Lapis	Urutan Perkuatan	s/B(%)	s/B (%)		q (kN/m ²)		B ₁	B ₂	q (kN/m ²)			
			(x)	(x ₀ ,x ₁ ,x ₂)	[f(x ₀),f(x ₁),f(x ₂)]	f(x)							
1.8	2	Geo-Bambu	10	x ₀	8.709	f(x ₀)	39.683	2.337	0.007	42.697			
				x ₁	10.407	f(x ₁)	43.651						
				x ₂	12.088	f(x ₂)	47.619						
		Bambu-Geo		x ₀	8.056	f(x ₀)	39.683				3.023	-0.338	45.144
				x ₁	9.368	f(x ₁)	43.651						
				x ₂	11.509	f(x ₂)	47.619						
	3	Geo-Bambu-Geo		x ₀	8.296	f(x ₀)	43.651	2.207	0.063	47.402			
				x ₁	10.094	f(x ₁)	47.619						
				x ₂	11.731	f(x ₂)	51.587						
		Bambu-Geo-Bambu		x ₀	8.714	f(x ₀)	43.651	4.593	-0.546		49.262		
				x ₁	9.578	f(x ₁)	47.619						
				x ₂	10.711	f(x ₂)	51.587						
2.7	2	Geo-Bambu	x ₀	8.065	f(x ₀)	43.651	3.671	-0.346	50.182				
			x ₁	9.146	f(x ₁)	47.619							
			x ₂	10.559	f(x ₂)	51.587							
		Bambu-Geo	x ₀	8.413	f(x ₀)	47.619	2.384	0.443		51.349			
			x ₁	10.077	f(x ₁)	51.587							
			x ₂	11.177	f(x ₂)	55.556							

	3	Geo-Bambu-Geo	x_0	9.338	$f(x_0)$	47.619	3.247	-0.051	49.788
			x_1	10.560	$f(x_1)$	51.587			
			x_2	11.832	$f(x_2)$	55.556			
		Bambu-Geo-Bambu	x_0	8.917	$f(x_0)$	51.587	4.150	0.795	56.190
			x_1	9.873	$f(x_1)$	55.556			
			x_2	10.597	$f(x_2)$	59.524			
3.6	2	Geo-Bambu	x_0	9.272	$f(x_0)$	55.556	3.325	1.080	57.612
			x_1	10.465	$f(x_1)$	59.524			
			x_2	11.199	$f(x_2)$	63.492			
		Bambu-Geo	x_0	9.051	$f(x_0)$	59.524	6.663	-1.434	65.368
			x_1	9.646	$f(x_1)$	63.492			
			x_2	10.516	$f(x_2)$	67.460			
	3	Geo-Bambu-Geo	x_0	8.999	$f(x_0)$	59.524	6.632	-0.186	66.085
			x_1	9.598	$f(x_1)$	63.492			
			x_2	10.217	$f(x_2)$	67.460			
		Bambu-Geo-Bambu	x_0	9.297	$f(x_0)$	79.365	7.798	-1.097	84.699
			x_1	9.806	$f(x_1)$	83.333			
			x_2	10.409	$f(x_2)$	87.302			

Tanpa Perkuatan

s/B(%)	s/B (%)		q (kN/m ²)		B ₁	B ₂	q (kN/m ²)
(x)	(x ₀ ,x ₁ ,x ₂)		[f(x ₀),f(x ₁),f(x ₂)]				f(x)
4	x ₀	2.231	f(x ₀)	11.905	4.222	-0.721	18.317
	x ₁	3.171	f(x ₁)	15.873			
	x ₂	4.895	f(x ₂)	19.841			
6	x ₀	3.171	f(x ₀)	15.873	2.301	-0.138	21.953
	x ₁	4.895	f(x ₁)	19.841			
	x ₂	7.162	f(x ₂)	23.810			
8	x ₀	4.895	f(x ₀)	19.841	1.751	-0.118	24.969
	x ₁	7.162	f(x ₁)	23.810			
	x ₂	11.043	f(x ₂)	27.778			
10	x ₀	7.162	f(x ₀)	23.810	1.022	-0.026	26.789
	x ₁	11.043	f(x ₁)	27.778			
	x ₂	16.072	f(x ₂)	31.746			

LAMPIRAN 9

DAYA DUKUNG ULTIMATE HASIL TEORITIS

Perhitungan daya dukung ultimate tanah tanpa perkuatan dapat dihitung dengan persamaan daya dukung menurut beberapa ahli yaitu Terzaghi, Meyerhof, Hansen dan Vesic. Parameter fisik tanah pasir yaitu sudut geser tanah (ϕ) = 36° , kohesi tanah (c) = 0 dan berat volume tanah (γ) = $1,476 \text{ gr/cm}^3$. $K_p = (\tan 45 + \phi/2)^2 =$

1. Terzaghi

Persamaan daya dukung ultmit menurut Terzaghi :

$$q_{ult} = c N_c + q N_q + 0,5 B \gamma N_\gamma$$

dimana : $c = 0$

$$q = D_f \cdot \gamma = 0$$

$$B = 9 \text{ cm}$$

$$\gamma = 1,476 \text{ g/cm}^3 = 0,001476 \text{ kg/cm}^3$$

$$N_\gamma = 51,7$$

$$q_{ult} = 0,5 \times 9 \times 0,001476 \times 51,7$$

$$= 0,3433 \text{ kg/cm}^2$$

$$= 34,339 \text{ Kn/m}^2$$

2. Meyerhoff

Persamaan daya dukung ultimit menurut Meyerhoff :

$$q_{ult} = c N_q s_q d_q i_q + q N_q s_q d_q i_q + 0,5 \gamma B N_\gamma s_\gamma d_\gamma i_\gamma$$

Dimana : $c = 0$

$$q = D_f \cdot \gamma = 0$$

$$B = 9 \text{ cm}$$

$$\gamma = 1,476 \text{ g/cm}^3 = 0,001476 \text{ kg/cm}^3$$

$$N_\gamma = 44,43$$

$$s_\gamma = 1 + 0,1 \times K_p \times (B/L) = 1 + 0,1 \times 3,851 \times (9/70) = 1,049$$

$$d_\gamma = 1$$

$$i_\gamma = 1$$

$$q_{ult} = 0,5 \times 0,001476 \times 9 \times 44,43 \times 1,049 \times 1 \times 1$$

$$= 0,30971 \text{ kg/cm}^2$$

$$= 30,971 \text{ Kn/m}^2$$

3. Hansen

Persamaan daya dukung ultimit menurut Meyerhoff :

$$q_{ult} = q N_q s_q d_q i_q g_q + 0,5 \gamma B N_\gamma s_\gamma d_\gamma i_\gamma g_\gamma$$

Dimana :

$$c = 0$$

$$q = Df \cdot \gamma = 0$$

$$B = 9 \text{ cm}$$

$$\gamma = 1,476 \text{ g/cm}^2 = 0,001476 \text{ kg/cm}^2$$

$$N_\gamma = 54,12$$

$$s_\gamma = 1-0,4 \times (B/L) = 1-0,4 \times (9/70) = 0,948$$

$$d_\gamma = 1$$

$$i_\gamma = 1$$

$$g_\gamma = 1$$

$$q_{ult} = 0,5 \times 0,001476 \times 9 \times 54,12 \times 0,948 \times 1 \times 1 \times 1$$

$$= 0,34097 \text{ kg/cm}^2$$

$$= 34,097 \text{ Kn/m}^2$$

4. Vesic

Persamaan daya dukung ultimit menurut Meyerhoff :

$$q_{ult} = q N_q s_q d_q i_q g_q + 0,5 \gamma B N_\gamma s_\gamma d_\gamma i_\gamma g_\gamma$$

Dimana :

$$c = 0$$

$$q = Df \cdot \gamma = 0$$

$$B = 9 \text{ cm}$$

$$\gamma = 1,476 \text{ g/cm}^2 = 0,001476 \text{ kg/cm}^2$$

$$N_\gamma = 2(N_q+1)\tan\phi = 2(37,75+1)\tan 36 = 56,307$$

$$s_\gamma = 1-0,4 \times (B/L) = 1-0,4 \times (9/70) = 0,948$$

$$d_\gamma = 1$$

$$i_\gamma = 1$$

$$g_\gamma = 1$$

$$q_{ult} = 0,5 \times 0,001476 \times 9 \times 56,307 \times 0,948 \times 1 \times 1 \times 1$$

$$= 0,3547 \text{ kg/cm}^2$$

$$= 35,475 \text{ Kn/m}^2$$

Lampiran 10

Dokumentasi



