



LABORATORIUM MEKANIKA TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN UII

Jln. Kaliurang KM 14,4 Telp. (0274) 895042 Yogyakarta 55584

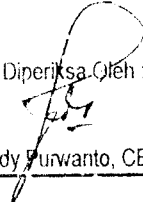
PENGUJIAN KADAR AIR

Froyek : Tugas Akhir
 Asal Sampel : Ngablak, Bantul, (DIY)

Dikerjakan : Syaiful Anwar
 Tanggal : 22 Maret 2007

1	No Pengujian	1		2		3	
		a	b	a	b	a	b
2	Berat Container (W1)	21.67	21.56	21.39	22.26	21.66	21.85
3	Berat Container + Tanah Basah (W2)	28.02	28.71	27.33	27.55	28.52	29.04
4	Berat Container + Tanah Kering (W3)	25.81	26.28	25.36	25.82	26.17	26.64
5	Berat Air (Wa)	2.21	2.43	2.02	1.73	2.35	2.4
6	Berat Tanah Kering (Wt)	4.14	4.72	3.97	3.56	4.51	4.79
7	Kadar Air (Wa/Wt) x 100%	53.38	51.48	50.88	48.90	52.11	50.10
8	Kadar Air rata-rata (%)	51.00					

Diperiksa Oleh :


 Dr. Ir. Edy Purwanto, CES, DEA.



LAMPIRAN 2

Lampiran 2



LABORATORIUM MEKANIKA TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN UII

Jl. Kaliurang KM. 14,4 Telp. (0274) 895042 Yogyakarta 55584.

PENGUJIAN BERAT VOLUME

PROYEK : Tugas Akhir
 ASAL : Ngablak, Bantul, (DIY)
 No Sampel : 1

DIKERJAKAN : Syaiful Anwar
 TANGGAL : Maret 2006

No	No Pengujian	1	2	3	4
1	Diameter Ring (d) (cm)	3.9	3.9	3.9	3.90
2	Tinggi Ring (t) (cm)	7.6	7.6	7.6	7.6
3	Volume Ring (V) (cm)	90.74	90.74	90.74	90.74
4	Berat Ring (W1) (gr)	135.33	135.33	135.33	135.33
5	Berat Ring + Tanah (W2) (gr)	277.64	273.61	275.11	267.54
6	Berat Tanah (W2 - W1) (gr)	142.31	138.28	139.07	131.37
7	Berat Volume tanah = $(W2 - W1) / V$	1.568	1.524	1.540	1.457
8	Berat Volume rata - rata	1.522			

Diperiksa Oleh:

Dr. Ir. Edy Purwanto, CES,DEA



LAMPIRAN 3



LABORATORIUM MEKANIKA TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN UII
 Jl. Kaliurang KM. 14,4 Telp. (0274) 895042 Yogyakarta 55584.

PENGUJIAN BERAT JENIS

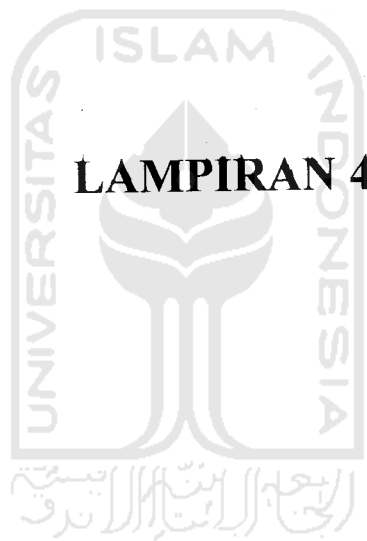
PROYEK : Tugas Akhir
 ASAL : Ngablak, Bantul, (DIY)
 No Sampel : 1

DIKERJAKAN : Syaiful Anwar
 TANGGAL : 22 MARET 2007

1	No. Pengujian		I	II	III
2	Berat piknometer kosong	(W ₁) gram	22.48	24.56	20.35
3	Berat piknometer + tanah kering	(W ₂) gram	47.83	35.48	33.77
4	Berat piknometer + tanah + air	(W ₃) gram	84.57	81.37	85.65
5	Berat piknometer + air	(W ₄) gram	70.23	74.89	76.43
6	Temperatur	(t°)	26.5	25	26
7	BJ pada temperatur (t°)		0.99668	0.99682	0.99682
8	BJ pada temperatur (27,5°)		0.99641	0.99641	0.99641
9	Berat jenis tanah G _s (t°) =	$\frac{W_2 - W_1}{(W_4 - W_1) - (W_3 - W_2)}$	2.30	2.46	2.28
10	Berat jenis tanah pada 27,5° =	$G_s(t^\circ) = \frac{B_j \text{ air } t^\circ}{B_j \text{ air } 27,5^\circ}$	2.30	2.46	2.28
11	Berat jenis rata-rata	G _s rt		2.348	

Diperiksa Oleh :

Dr. Ir. Edy Purwanto, CES,DEA



LAMPIRAN 4



LABORATORIUM MEKANIKA TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN UH
Jl. Kaliurang KM. 14,4 Telp. (0274) 895042 Yogyakarta 55584.

PEMADATAN TANAH
Proctor test

PROYEK : Tugas Akhir
 Asal Sampel : Ngablak, Bantul, (DIY)
 NO Sampel :
 Komposisi : Tanah

DIKERJAKAN : Syaiful Anwar
 TANGGAL : 28 Maret 2007

DATA SILINDER		
1	Diameter (ϕ) cm	10.16
2	Tinggi (H) cm	11.6
3	Volume (V) cm ³	940.45
4	Berat gram	1875

DATA PENUMBUK	
Berat (kg)	2.530
Jumlah lapis	3
Jumlah tumbukan /lapis	25
Tinggi jatuh	30.48

Berat jenis Gs : 2.348

PENAMBAHAN AIR

		2000	2000	2000	2000	2000
1	Berat tanah basah gram	2000	2000	2000	2000	2000
2	Kadar air mula-mula %	19.930	19.93	19.93	19.93	19.93
3	Penambahan air %	5	10	15	20	25
4	Penambahan air ml	100	200	300	400	500

PENGUJIAN PEMADATAN SILINDER

		1	2	3	4	5
1	Nomor pengujian	1	2	3	4	5
2	Berat silinder + tanah padat gram	3117	3340	3479	3456	3420
3	Berat tanah padat gram	1242	1465	1504	1581	1545
4	Berat volume tanah gr/cm ³	1.321	1.558	1.705	1.681	1.643

PENGUJIAN KADAR AIR

		1		2		3		4		5	
1	NOMOR PERCOBAAN										
2	Nomor cawan	a	b	a	b	a	b	a	b	a	b
3	Berat cawan kosong gram	20.98	21.76	20.13	22.04	23.34	21.82	22.03	21.85	21.92	21.92
4	Berat cawan + tanah basah gram	39.29	36.23	37.44	35.32	34.08	33.19	35.01	37.39	38.77	39.12
5	Berat cawan + tanah kering gram	35.22	32.98	33.54	32.58	30.92	34.47	31.02	32.61	33.17	33.38
8	Kadar air = w %	28.58	28.97	29.08	35.48	41.53	37.31	44.33	44.42	49.78	50.35
9	Kadar air rata-rata	28.77		32.23		33.50		44.53		50.06	
10	Berat volume tanah kering gr/cm ³	1.026		1.178		1.223		1.153		1.095	

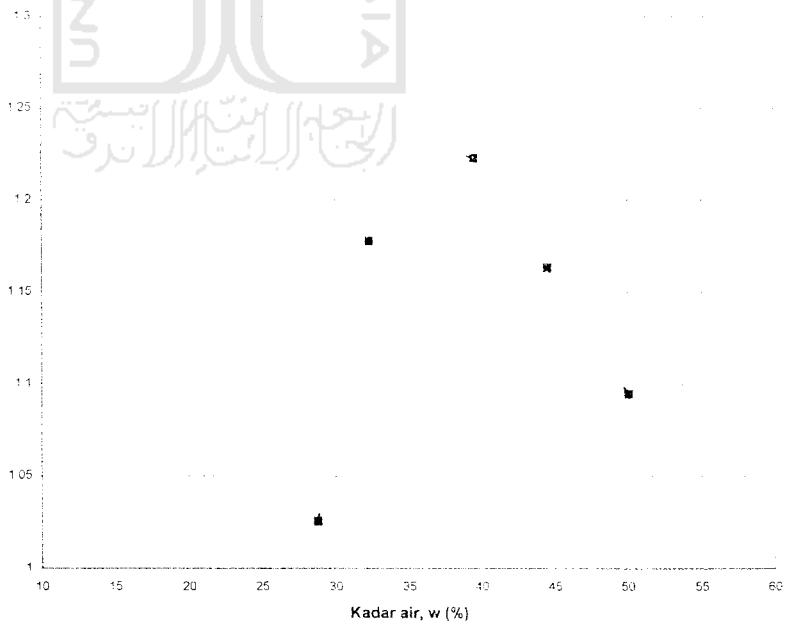
**BERAT VOLUME KERING
 MAKSIMUM (gr/cm³)**

1.22592

KADAR AIR OPTIMUM (%)

38.01

Berat Volume Kering, gk (gr/cm³)



Diperiksa

Dr. Ir. Edy Purwanto, CES, DEA.



LAMPIRAN 5



LABORATORIUM MEKANIKA TANAH
JURUSAN TEKNIK SIPIL FTSP
UNIVERSITAS ISLAM INDONESIA

Jl. Kaliurang Km 14,4 Telp. (0274) 895042, 895707, Fax (0274) 895330. Jogjakarta.

PENGUJIAN BATAS CAIR

PROYEK : Tugas Akhir
 LOKASI : Ngablak, Bantul, Jawa Tengah
 Sampel 1

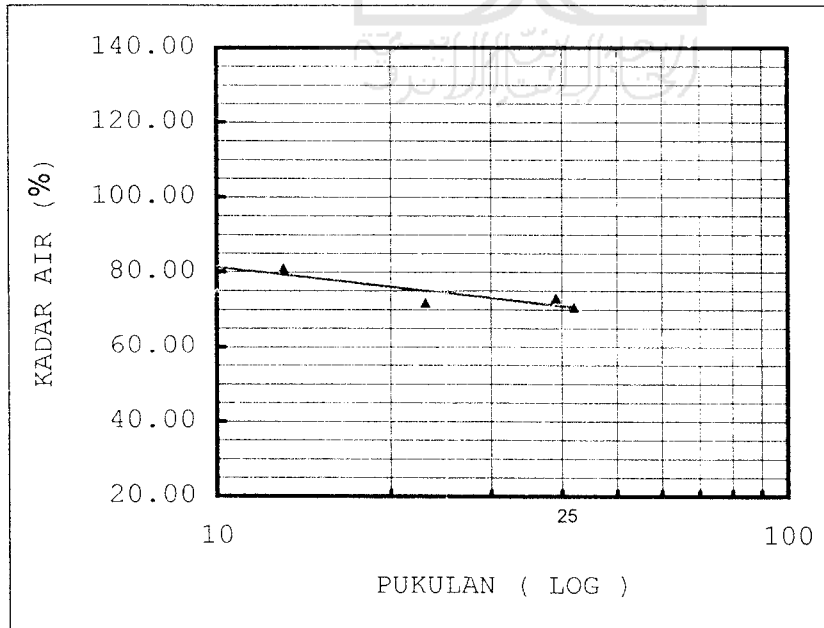
Tanggal : 29 Maret 2007
 Dikerjakan : Syaiful Anwar

NO	NO. PENGUJIAN	I		II		III		IV	
1	NO CAWAN	1	2	3	4	5	6	7	8
2	Berat cawan kosong	21.95	22.04	22.05	21.4	21.96	22.18	22.11	21.89
3	Berat cawan + tanah basah (gr)	44.51	42.64	46.45	42.03	33.93	37.38	37.89	40.99
4	Berat cawan + tanah kering (gr)	34.4	33.44	36.24	33.43	28.87	30.97	31.34	33.12
5	Berat air (3) - (4)	10.11	9.20	10.21	8.60	5.06	6.41	6.55	7.87
6	Berat tanah kering (4) - (2)	12.45	11.40	14.19	12.03	6.91	8.79	9.23	11.23
7	KADAR AIR = $\frac{(5)}{(6)} \times 100\% =$	81.20	80.70	71.95	71.43	73.23	72.92	70.96	70.08
8	KADAR AIR RATA-RATA =		80.95		71.72		73.08		70.52
9	PUKULAN		13		23		39		42

PENGUJIAN BATAS PLASTIS

NO		1	2
1	NO CAWAN		
2	BERAT CAWAN KOSONG	21.67	21.67
3	BERAT CAWAN + TANAH BASAH	27.47	28.57
4	BERAT CAWAN + TANAH KERING	25.39	26.01
5	BERAT AIR (3)-(4)	2.08	2.56
6	BERAT TANAH KERING (4)-(2)	3.72	4.34
7	KADAR AIR = $\frac{(5)}{(6)} \times 100\% =$	55.91	58.99
8	KADAR AIR RATA-RATA BATAS PL	57.45	

KESIMPULAN
 FLOW INDEX : 7.068
 BATAS CAIR : 74.49
 BATAS PLASTIS : 57.45
 INDEX PLASTISITAS : 17.04



Diperiksa Oleh :

Dr. Ir. Edy Purwanto, CES, DEA



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UNIVERSITAS ISLAM INDONESIA

Jl. Kaliurang Km 14,4 Telp. (0274) 895042, 895707, Fax (0274) 895330. Jogjakarta.

PENGUJIAN BATAS CAIR

PROYEK : Tugas Akhir
 LOKASI : Ngablak, Bantul, Jawa Tengah
 Sampel 2

Tanggal : 29 Maret 2007
 Dikerjakan : Syaiful Anwar

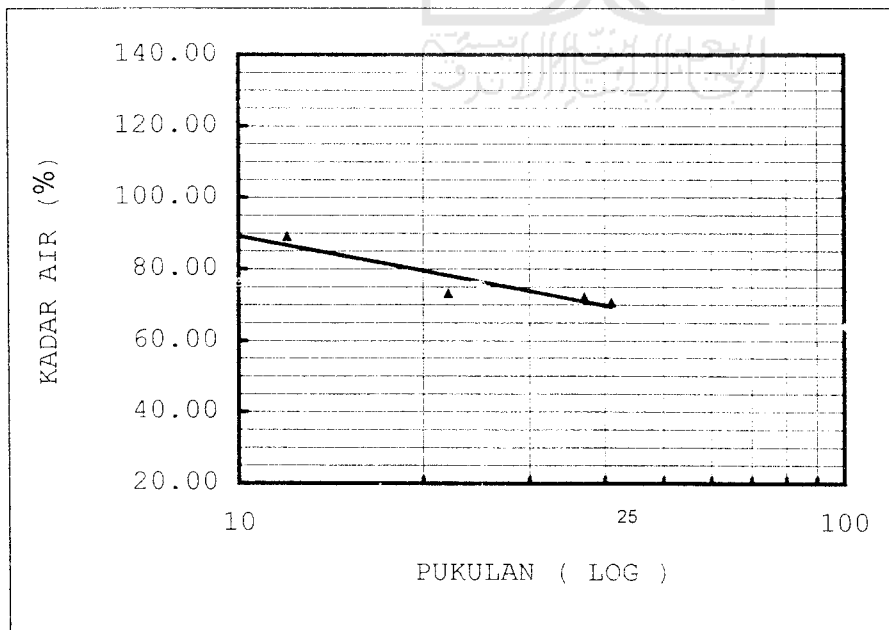
NO	NO. PENGUJIAN	I		II		III		IV	
		1	2	3	4	5	6	7	8
1	NO CAWAN								
2	Berat cawan kosong	21.93	21.94	22.04	21.2	21.84	22.14	21.99	21.85
3	Berat cawan + tanah basah (gr)	43.76	44.55	46.32	41.66	33.74	36.5	37.72	40.63
4	Berat cawan + tanah kering (gr)	34.2	33.23	35.85	33.2	28.6	30.66	31.2	32.89
5	Berat air (3) - (4)	9.56	11.32	10.47	8.46	5.14	5.84	6.52	7.79
6	Berat tanah kering (4) - (2)	12.27	11.29	13.81	12.00	6.76	8.52	9.21	11.03
7	KADAR AIR = $\frac{\text{(5)}}{\text{(6)}} \times 100\% =$	77.91	100.27	75.81	70.50	76.04	68.54	70.79	70.63
8	KADAR AIR RATA-RATA =		85.09		73.18		72.29		70.71
9	PUKULAN		12		22		37		41

PENGUJIAN BATAS PLASTIS

NO		1	2
1	NO CAWAN		
2	BERAT CAWAN KOSONG	21.64	21.68
3	BERAT CAWAN + TANAH BASAH	27.5	23.43
4	BERAT CAWAN + TANAH KERING	25.23	25.97
5	BERAT AIR (3)-(4)	2.27	2.46
6	BERAT TANAH KERING (4)-(2)	3.59	4.29
7	KADAR AIR = $\frac{\text{(5)}}{\text{(6)}} \times 100\% =$	63.23	57.64
8	KADAR AIR RATA-RATA BATAS PL	60.29	

KESIMPULAN

FLOW INDEX : 13.223
 BATAS CAIR : 76.46
 BATAS PLASTIS : 60.29
 INDEX PLASTISITAS : 16.11



Diperiksa Oleh :

Dr. Ir. Eddy Purwanto, CES, DEA



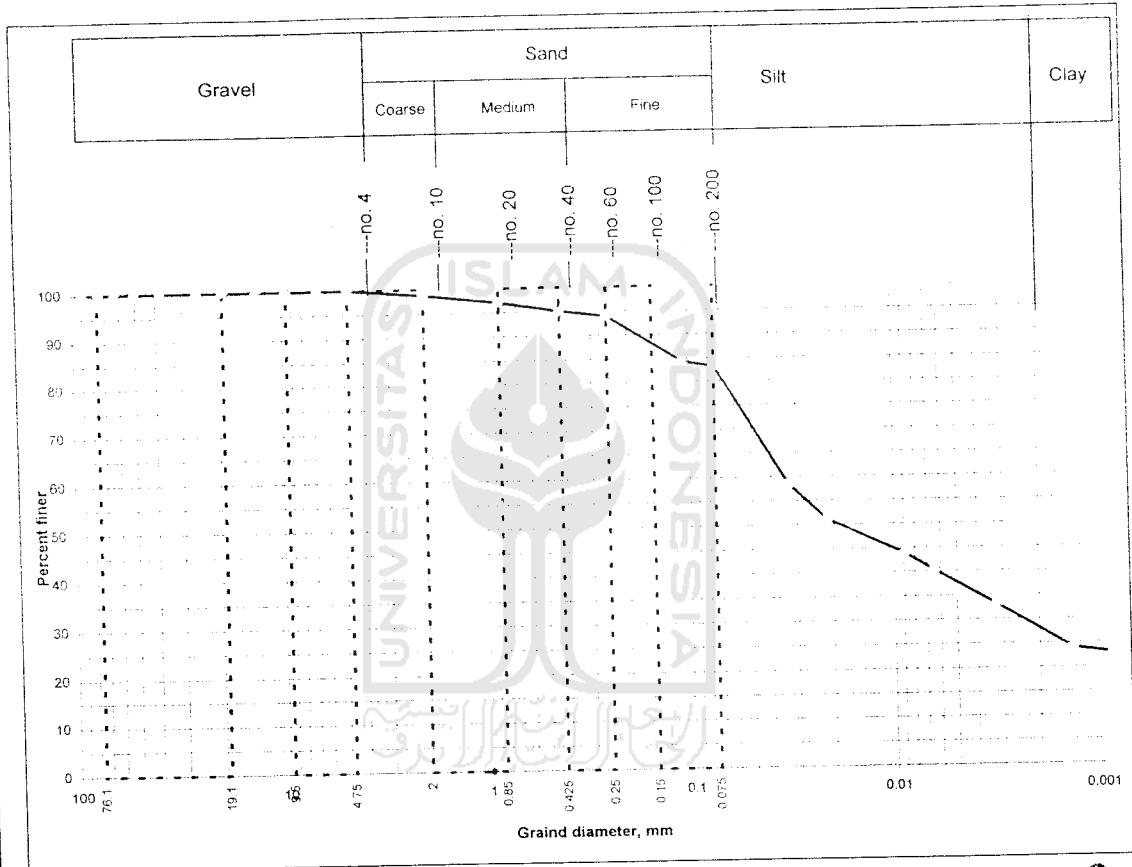
LAMPIRAN 6



SOIL MECHANIC LABORATORY
FACULTY OF ENGINEERING AND PLANNING
INDONESIAN ISLAMIC UNIVERSITY

GRAIN SIZE ANALYSIS
ASTM D1140 - 54

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Sample no. : 1
 Depth : -
 Kode : 1
 Tested by : Syaiful Anwar
 Date : 24 April 2007
 Berat jenis : 2.348



Finer # 200	83.25 %	D10 (mm)	0.000005
		D30 (mm)	0.00241
Gravel	0.00 %	D60 (mm)	0.03466
Sand	16.75 %	Cu = D60/D10	6570.584
Silt	55.34 %	Cc = D30 ² / (D10xD60)	457.599
Clay	27.91 %	D50(mm)	0.019

Yogyakarta : 24 April 2007

[Signature]
 Dr. Ir. Eddy Purwanto, DEA

GRAIN SIZE ANALYSIS

Project : Tugas Akhir
 Sample no : 1
 Depth : 1.25 m
 Kode : 1

Tested by : Syaiful Anwar
 Date : 24 April 2007
 Location : Ngablak, Bantul. (DIY)

Soil sample (disturbed/undisturbed)

Mass of soil = 60 gr
 Specific Gravity, $G_s = 2.348$
 $K_2 = a/W \times 100 = 1.80757$

Hydrometer type = 152 H
 Hydr. Correction, $a = 1.065$
 Meniscus correction, $m = 1$

Sieve Analysis

Sieve No	Opening (mm)	Mass retained (gr)	Mass passed (gr)	% finer by mass $e/W \times 100\%$	Remarks
	90	0	60.00	100.00	
	75	0	60.00	100.00	
	63	0	60.00	100.00	
	50.8	0	60.00	100.00	
	38.1	0	60.00	100.00	
1	25.4	0	60.00	100.00	
3/4	19	0	$e_1 = 60.00$	100.00	
	13.2	0	$e_2 = 60.00$	100.00	
3/8	9.5	0	$e_3 = 60.00$	100.00	
1/4	6.7	0	$e_4 = 60.00$	100.00	
4	4.750	$d_1 = 0.00$	$e_5 = 60.00$	100.00	$e_7 = W - S_d$
10	2.000	$d_2 = 0.77$	$e_6 = 59.23$	98.72	$e_8 = d_7 + e_7$
20	0.850	$d_3 = 1.03$	$e_7 = 58.20$	97.00	$e_8 = d_6 + e_6$
40	0.425	$d_4 = 1.14$	$e_9 = 57.06$	95.10	$e_4 = d_5 + e_3$
60	0.250	$d_5 = 0.73$	$e_{10} = 56.33$	93.88	$e_3 = d_4 + e_4$
140	0.106	$d_6 = 5.77$	$e_{11} = 50.56$	84.27	$e_2 = d_3 + e_3$
200	0.075	$d_7 = 0.61$	$e_{12} = 49.95$	83.25	$e_1 = d_2 + e_2$
		$S_d = 10.05$			

Hidrometer Analysis

Time	elapsed time min T	R1	R2	t	R' $R_1 + m$	L	K	D (mm)	Rc= $R_1 - R_2 + Cr$	P $K_2 \times R$ (%)
10.56										
10.58	2	29	-2.0	27	30	11.383	0.0138	0.032849	32.3	58.38
11.01	5	25	-2.0	27	26	12.038	0.0138	0.021365	28.3	51.15
11.26	30	21	-2.0	27	22	12.693	0.0138	0.008956	24.3	43.92
11.56	60	19	-2.0	27	20	13.020	0.0138	0.006414	22.3	40.31
15.06	250	15	-2.0	27	16	13.675	0.0138	0.00322	18.3	33.08
10.56	1440	10	-2.0	26	11	14.494	0.0138	0.001381	13.3	24.04

Remarks :

$R_c = R_1 - R_2 + Cr$ (Cr = Temperatur correction factors)

$R' = R_1 + m$ (m correctoin for meniscus)

SOIL MECHANICS LABORATORY
CIVIL ENGINEERING DEPARTEMENT
ISLAMIC UNIVERSITY OF INDONESIA



GRAIN SIZE ANALYSIS

Project : Tugas Akhir Tested by : Syaiful Anwar
 Sample no : 2 Date : 24 April 2007
 Depth : 1.25 m Location : Ngablak, Bantul. (DIY)
 Kode : 1

Soil sample (disturbed/undisturbed)

Mass of soil = 60 gr Hydrometer type = 152 H
 Specific Gravity, G_s = 2.348 Hydr. Correction, a = 1.085
 $K_2 = a/W \times 100$ = 1.80757 Meniscus correction, m = 1

Sieve Analysis

Sieve No	Opening (mm)	Mass retained (gr)	Mass passed (gr)	% finer by mass $e/W \times 100\%$	Remarks
	90	0	60.00	100.00	
	75	0	60.00	100.00	
	63	0	60.00	100.00	
	50.8	0	60.00	100.00	
	38.1	0	60.00	100.00	
1	25.4	0	60.00	100.00	
3/4	19	0	$e_1 = 60.00$	100.00	
	13.2	0	$e_2 = 60.00$	100.00	
3/8	9.5	0	$e_3 = 60.00$	100.00	
1/4	6.7	0	$e_4 = 60.00$	100.00	
4	4.750	$d_1 = 0.00$	$e_5 = 60.00$	100.00	$e_7 = W - S_d$
10	2.000	$d_2 = 0.76$	$e_6 = 59.24$	98.73	$e_6 = d_7 + e_7$
20	0.850	$d_3 = 1.23$	$e_7 = 58.01$	96.68	$e_5 = d_6 + e_6$
40	0.425	$d_4 = 1.68$	$e_9 = 56.33$	93.88	$e_4 = d_5 + e_5$
60	0.250	$d_5 = 1.21$	$e_{10} = 55.12$	91.87	$e_3 = d_4 + e_4$
140	0.106	$d_6 = 6.60$	$e_{11} = 48.52$	80.87	$e_2 = d_3 + e_3$
200	0.075	$d_7 = 2.75$	$e_{12} = 45.77$	76.28	$e_1 = d_2 + e_2$
		$S_d = 14.23$			

Hidrometer Analysis

Time	elapsed time min. T	R1	R2	t	R' $R_1 + m$	L	K	D (mm)	Rc= $R_1 - R_2 + Cr$	P $K_2 \times R$ (%)
10.58										
11.00	2	26	-2.0	27	27	11.874	0.0138	0.033551	29.3	52.96
11.03	5	24	-2.0	27	25	12.202	0.0138	0.02151	27.3	49.35
11.28	30	21	-2.0	27	22	12.693	0.0138	0.008956	24.3	43.92
11.58	60	18	-2.0	27	19	13.184	0.0138	0.006454	21.3	38.50
15.05	250	15	-2.0	27	16	13.675	0.0138	0.00322	18.3	33.08
10.58	1440	10	-2.0	26	11	14.494	0.0138	0.001381	13.3	24.04

Remarks :

$R_c = R_1 - R_2 + Cr$ (Cr = Temperatur correction factors)

$R' = R_1 + m$ (m correctoin for meniscus)

SOIL MECHANICS LABORATORY
CIVIL ENGINEERING DEPARTEMENT
ISLAMIC UNIVERSITY OF INDONESIA

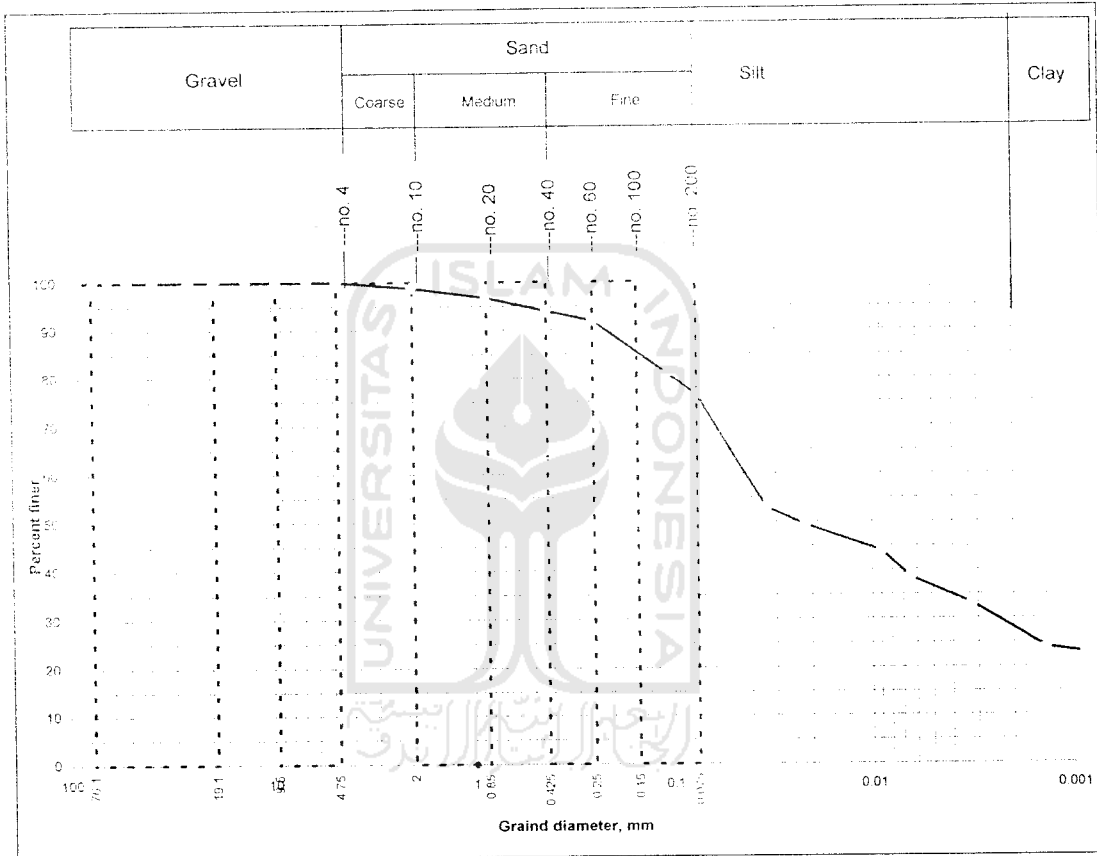




SOIL MECHANIC LABORATORY
FACULTY OF ENGINEERING AND PLANNING
INDONESIAN ISLAMIC UNIVERSITY

GRAIN SIZE ANALYSIS
ASTM D1140 - 54

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Sample no. : 2
 Depth : -
 Kode : 1
 Tested by : Syaiful Anwar
 Date : 24 April 2007
 Berat jenis : 2.348



Finer # 200	76.28 %	D10 (mm)	0.000005
		D30 (mm)	0.00241
Gravel	0.00 %	D60 (mm)	0.04277
Sand	23.72 %	$C_u = D_{60}/D_{10}$	8108.071
Silt	48.42 %	$C_c = D_{30}^2 / (D_{10} \times D_{60})$	457.599
Clay	27.86 %	D50 (mm)	0.023

Yogyakarta : 24 April 2007


 Dr. Ir. Eddy Purwanto, DEA



LAMPIRAN 7



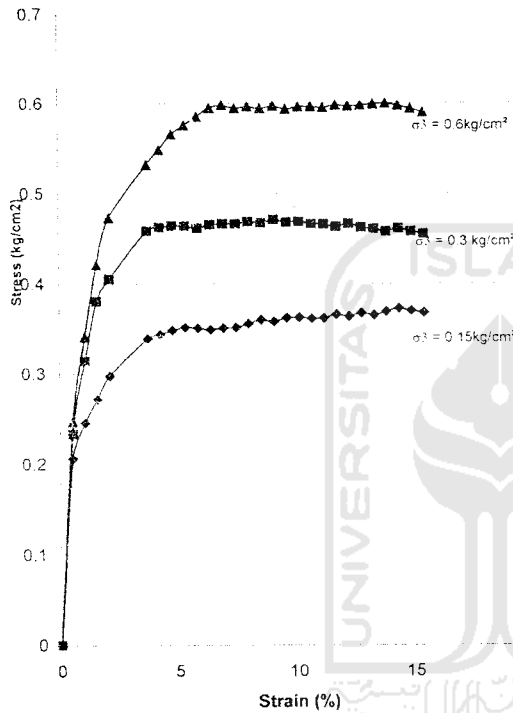
LABORATORIUM MEKANIKA TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN
UNIVERSITAS ISLAM INDONESIA

Jl. Kaliurang KM. 14,4 Telp. (0274) 695042, 895707 fax 895330 Yogyakarta 55584.

TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt

Sample No. : Undisturbed
 Date : 5 April 2007
 Tested by : Syaiful Anwar

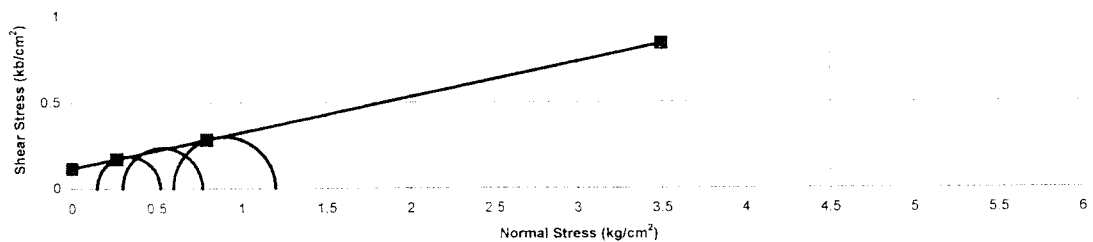


Piece No :	1	2	3
H cm	7.5	7.5	7.5
D cm	3.9	3.9	3.9
A cm ²	11.95	11.95	11.95
V cm ³	89.59	89.59	89.59
Wt gram	140.35	139.07	131.37

Water Content		
Wt Container (cup), gr	22.06	22.26
Wt of Cup + Wet soil, gr	28.90	32.67
Wt of Cup + Dry soil, gr	26.63	29.59
Water Content %	49.67	42.02
Average water content %	45.85	

γ_d gram/cm ³	1.566506	1.5522194	1.4662764
γ_{sat} gram/cm ³	1.0740864	1.0642907	1.0053632

σ_3	0.15	0.3	0.6
$\Delta\sigma = P/A$	0.3724339	0.4709982	0.5996069
$\sigma_1 = \Delta\sigma + \sigma_3$	0.5224339	0.7709982	1.1996069
$(\sigma_1 + \sigma_3)/2$	0.3362169	0.5354991	0.8998035
$(\sigma_1 - \sigma_3)/2$	0.1862169	0.2354991	0.2998035
Angle of shearing resistance (o)	11.611081		
Apperen cohesion (kg/cm ²)	0.1179075		



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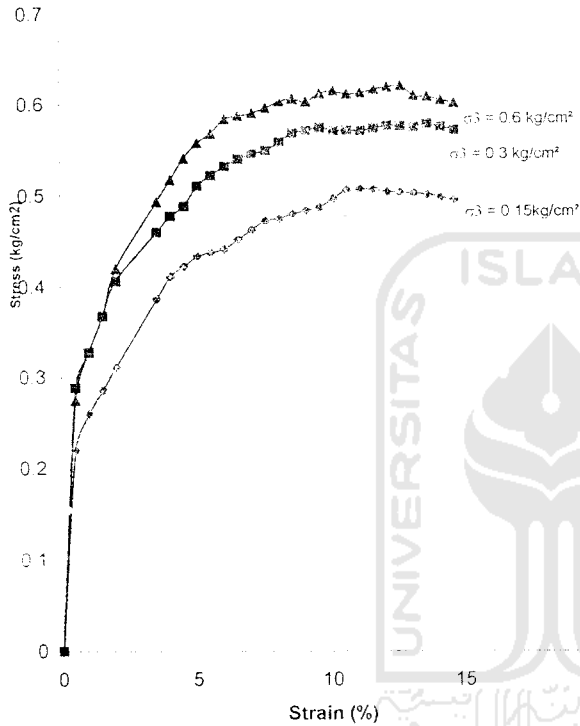
LABORATORIUM MEKANIKA TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN
UNIVERSITAS ISLAM INDONESIA

Jl. Kaliurang KM. 14,4 Telp. (0274) 895042, 895707 fax 895330 Yogyakarta 55584.

TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt

Sample No. : Undisturbed
 Date : 5 April 2007
 Tested by : Syaiful Anwar

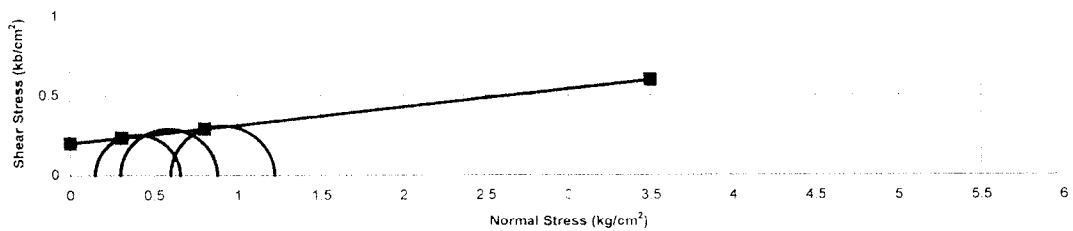


Piece No :	1	2	3
H cm	7.9	7.9	7.9
D cm	3.9	3.9	3.9
A cm ²	11.95	11.95	11.95
V cm ³	94.37	94.37	94.37
Wt gram	142.70	141.90	140.00

Water Content		
Wt Container (cup), gr	22.05	22.26
Wt of Cup + Wet soil, gr	28.90	32.67
Wt of Cup + Dry soil, gr	26.63	29.59
Water Content %	49.67	42.02
Average water content %	45.85	

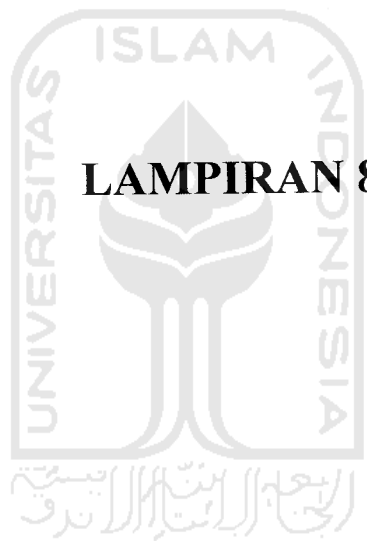
γ _d gram/cm ³	1.5120905	1.5036135	1.4834805
γ _w gram/cm ³	1.036776	1.0309637	1.0171594

σ ₃	0.15	0.3	0.6
Δσ = P/A	0.5069031	0.5783142	0.6200832
σ ₁ = Δσ + σ ₃	0.6569031	0.8783142	1.2200832
(σ ₁ + σ ₃)/2	0.4034515	0.5891571	0.9100416
(σ ₁ - σ ₃)/2	0.2534515	0.2891571	0.3100416
Angle of shearing resistance (φ)	6.4878083		
Apperen cohesion (kg/cm ²)	0.1999127		



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LAMPIRAN 8



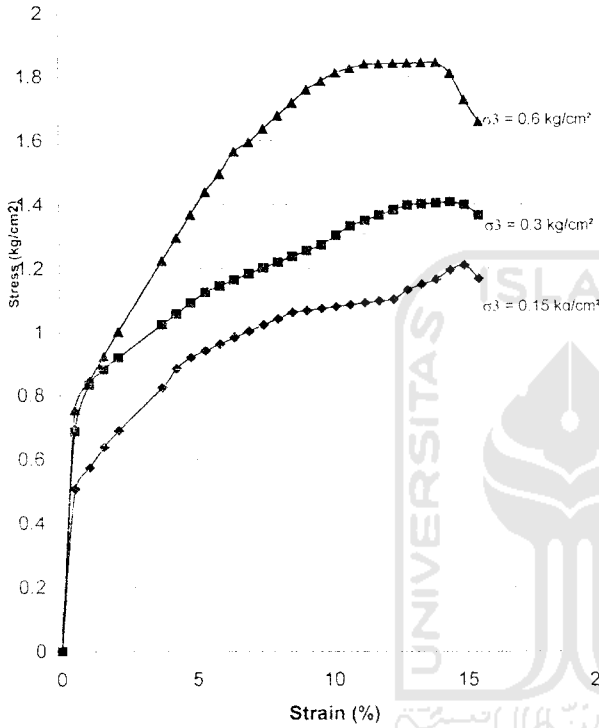
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UNIVERSITAS ISLAM INDONESIA

Jl. Kaliurang KM. 14,4 Telp. (0274) 895042, 895707 fax 895330 Yogyakarta 55584.

TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 No. Sampel : 1

Sample No. : Campuran 1.5 % Semen
 Date : 5 April 2007
 Tested by : Syaiful Anwar
 Pemeraman : 3 Hari

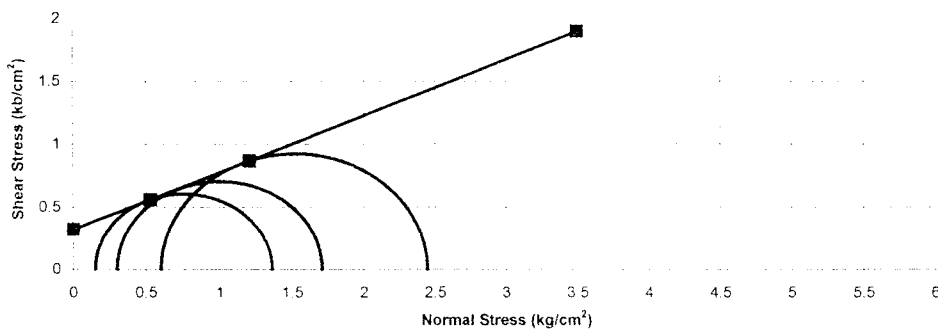


Piece No :	1	2	3
H cm	7.5	7.5	7.5
D cm	3.9	3.9	3.9
A cm²	11.95	11.95	11.95
V cm³	89.59	89.59	89.59
Wt gram	148.80	148.61	149.25

Water Content		
Wt Container (cup), gr	21.56	20.34
Wt of Cup + Wet soil, gr	32.21	32.80
Wt of Cup + Dry soil, gr	29.46	29.94
Water Content %	34.81	29.79
Average water content %	32.30	

γ_d gram/cm³	1.66082	1.6586994	1.6658427
γ gram/cm³	1.2553354	1.2537325	1.2591318

σ_3	0.15	0.3	0.6
$\Delta\sigma = P/A$	1.2102121	1.4069724	1.8440292
$\sigma_1 = \Delta\sigma + \sigma_3$	1.3602121	1.7069724	2.4440292
$(\sigma_1 + \sigma_3)/2$	0.755106	1.0034862	1.5220146
$(\sigma_1 - \sigma_3)/2$	0.605106	0.7034862	0.9220146
Angle of shearing resistance (ϕ)	24.238901		
Apperen cohesion (kg/cm²)	0.3231276		



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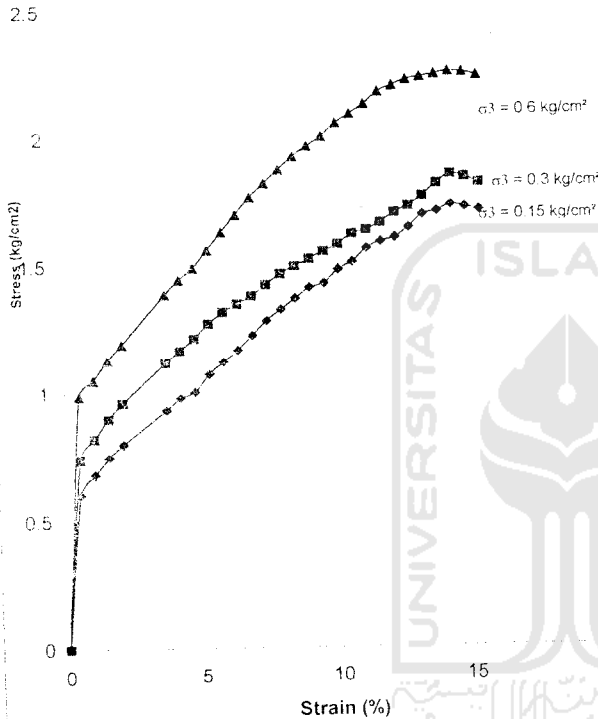
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TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 No. Sampel : 1

Sample No. : Campurar 3% Semen
 Date : 5 April 2007
 Tested by : Syaiful Anwar
 Pemeraman : 3 Hari

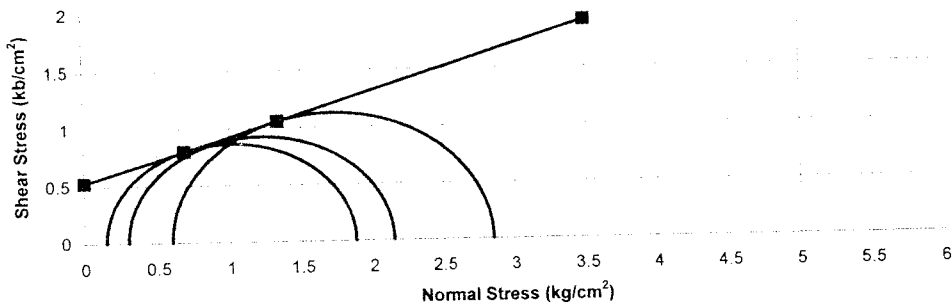


Piece No :	1	2	3
H cm	7.5	7.5	7.5
D cm	3.9	3.9	3.9
A cm ²	11.95	11.95	11.95
V cm ³	89.59	89.59	89.59
Wt gram	148.31	148.55	148.44

Water Content		
Wt Container (cup), gr	22.05	18.56
Wt of Cup + Wet soil, gr	31.06	27.50
Wt of Cup + Dry soil, gr	28.68	25.28
Water Content %	35.90	33.04
Average water content %	34.47	

γ _d gram/cm ³	1.6553509	1.6580297	1.6568019
γ _d gram/cm ³	1.2310501	1.2330422	1.2321292

σ ₃	0.15	0.3	0.6
Δσ = P/A	1.7262014	1.8444344	2.2464265
σ ₁ = Δσ + σ ₃	1.8762014	2.1444344	2.8464265
(σ ₁ + σ ₃)/2	1.0131007	1.2222172	1.7232133
(σ ₁ - σ ₃)/2	0.8631007	0.9222172	1.1232133
Angle of shearing resistance (φ)	21.459214		
Apperen cohesion (kg/cm ²)	0.5291095		



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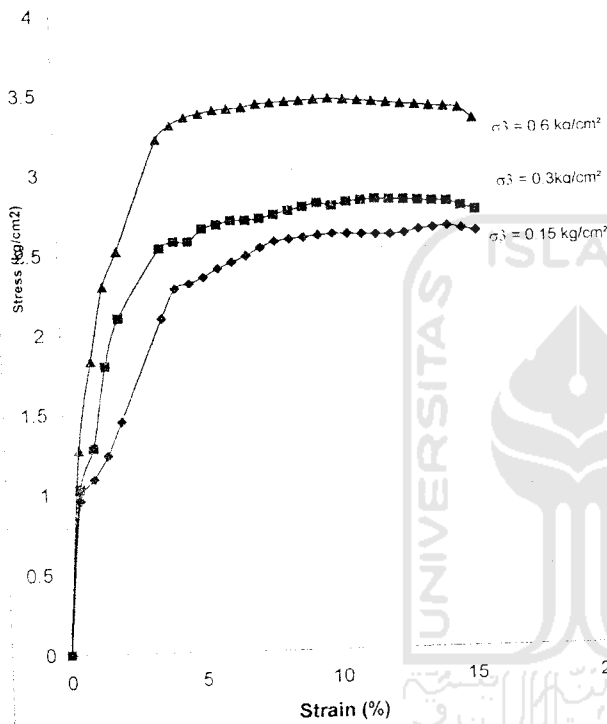
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TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 No. Sampel : 1

Sample No. : Campurar 4.5% Semen
 Date : 5 April 2007
 Tested by : Syaiful Anwar
 Pemeraman : 3 Hari

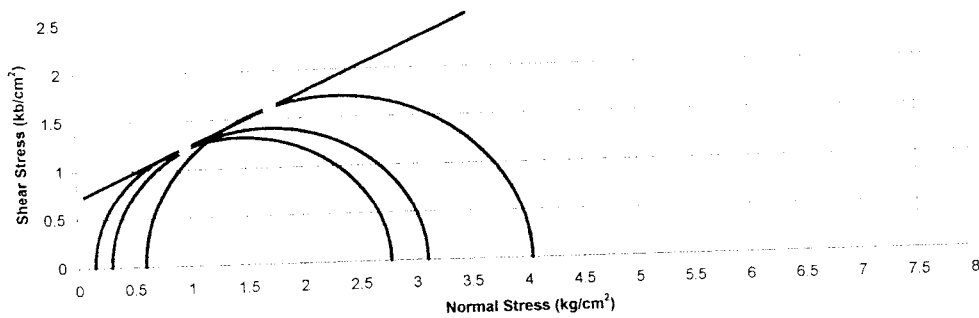


Piece No :	1	2	3
H cm	7.5	7.5	7.5
D cm	3.9	3.9	3.9
A cm ²	11.95	11.95	11.95
V cm ³	89.59	89.59	89.59
Wt gram	147.71	147.31	147.46

Water Content		
Wt Container (cup), gr	22.28	21.59
Wt of Cup + Wet soil, gr	35.25	33.54
Wt of Cup + Dry soil, gr	32.04	30.59
Water Content %	32.89	32.78
Average water content %	32.83	

γ _d gram/cm ³	1.6486541	1.6441895	1.6458637
γ _w gram/cm ³	1.2411427	1.2377817	1.2390421

σ ₃	0.15	0.3	0.6
Δσ = P/A	2.624772	2.8040736	3.4382959
σ ₁ = Δσ + σ ₃	2.774772	3.1040736	4.0382959
(σ ₁ + σ ₃)/2	1.462386	1.7020368	2.319148
(σ ₁ - σ ₃)/2	1.312386	1.4020368	1.719148
Angle of shearing resistance (φ)	27.666016		
Apperen cohesion (kg/cm ²)	0.7078983		



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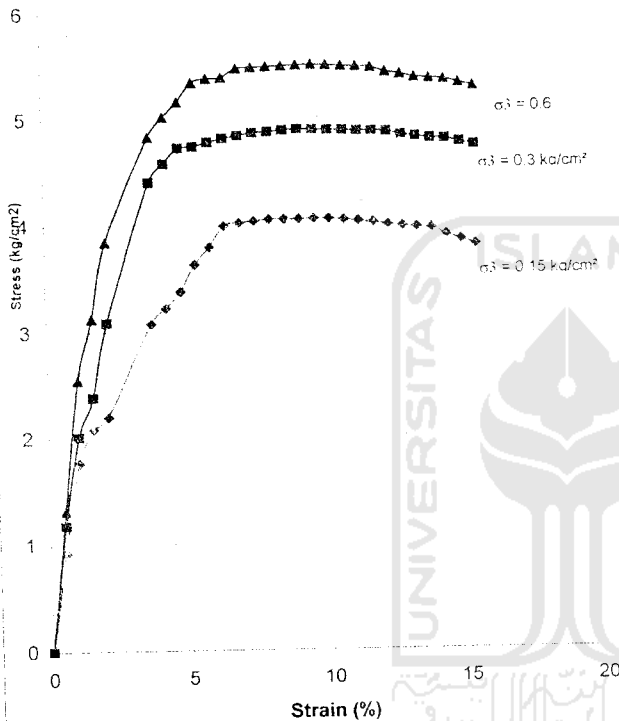
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TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 No. Sampel : 1

Sample No. : Campuran 6 % Semen
 Date : 5 April 2007
 Tested by : Syaiful Anwar
 Pemeraman : 3 Hari

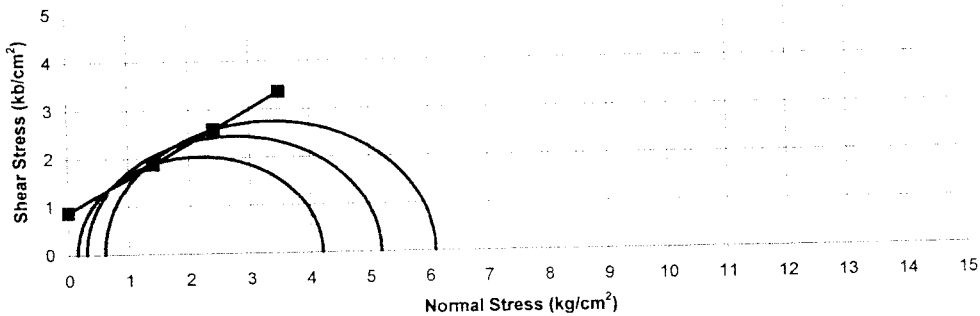


Piece No :	1	2	3
H cm	7.5	7.5	7.5
D cm	3.9	3.9	3.9
A cm ²	11.95	11.95	11.95
V cm ³	89.59	89.59	89.59
Wt gram	147.97	147.69	147.93

Water Content		
Wt Container (cup), gr	21.56	22.00
Wt of Cup + Wet soil, gr	32.87	33.25
Wt of Cup + Dry soil, gr	30.09	30.49
Water Content %	32.59	32.51
Average water content %	32.55	

γ_d gram/cm ³	1.651556	1.6484308	1.6511096
γ gram/cm ³	1.2459887	1.2436309	1.2455518

σ_3	0.15	0.3	0.6
$\Delta\sigma = P/A$	4.0465143	4.8858211	5.4939659
$\sigma_1 = \Delta\sigma + \sigma_3$	4.1965143	5.1858211	6.0939659
$(\sigma_1 + \sigma_3)/2$	2.1732572	2.7429106	3.3469829
$(\sigma_1 - \sigma_3)/2$	2.0232572	2.4429106	2.7469829
Angle of shearing resistance (ϕ)	35.412266		
Apperen cohesion (kg/cm ²)	0.8696514		



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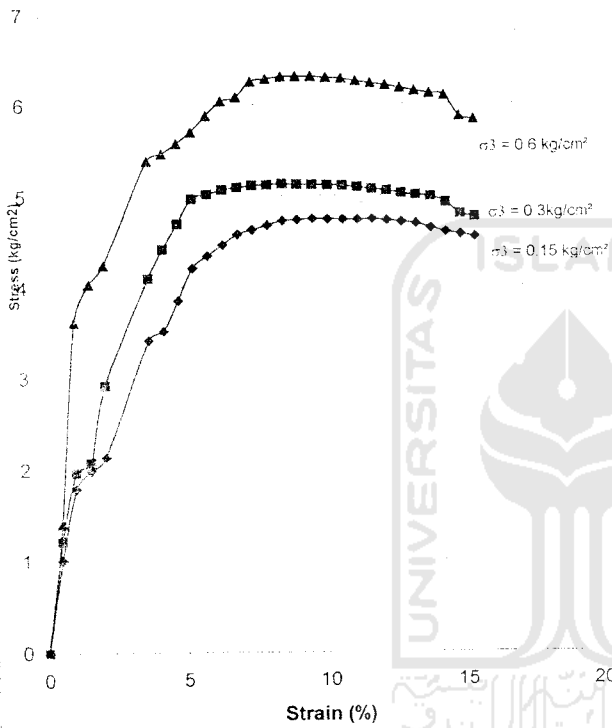
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UNIVERSITAS ISLAM INDONESIA

Jl. Kaliurang KM. 14,4 Telp. (0274) 895042, 896707 fax 895330 Yogyakarta 55584.

TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 No. Sampel : 1

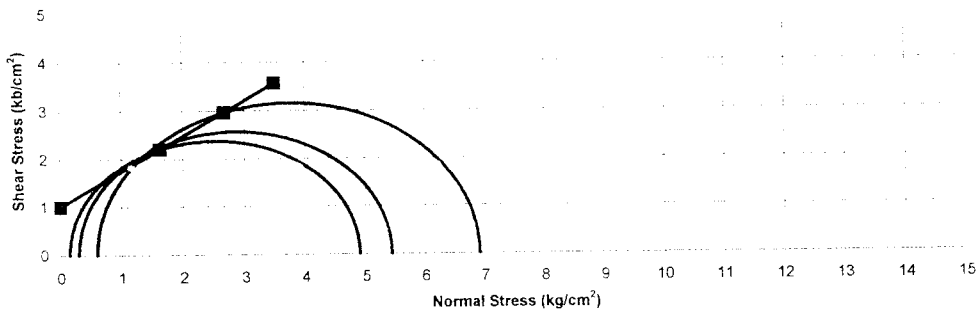
Sample No. : Campuran 7.5 % Semen
 Date : 5 April 2007
 Tested by : Syaiful Anwar
 Pemeraman : 3 Hari



Piece No :	1	2	3
H cm	7.5	7.5	7.5
D cm	3.9	3.9	3.9
A cm ²	11.95	11.95	11.95
V cm ³	89.59	89.59	89.59
Wt gram	149.84	148.95	147.27
Water Content			
Wt Container (cup), gr	22.28	20.34	
Wt of Cup + Wet soil, gr	33.81	32.36	
Wt of Cup + Dry soil, gr	31.11	30.85	
Water Content %	30.58	14.37	
Average water content %	22.47		

γ _d gram/cm ³	1.6724279	1.6624942	1.643743
γ _w gram/cm ³	1.3655547	1.3574437	1.3421332

σ ₃	0.15	0.3	0.6
Δσ = P/A	4.7447887	5.1292484	6.3055744
σ ₁ = Δσ + σ ₃	4.8947887	5.4292484	6.9055744
(σ ₁ + σ ₃)/2	2.5223943	2.8646242	3.7527872
(σ ₁ - σ ₃)/2	2.3723943	2.5646242	3.1527872
Angle of shearing resistance (φ)			36.245196
Apperent cohesion (kg/cm ²)			1.0019927



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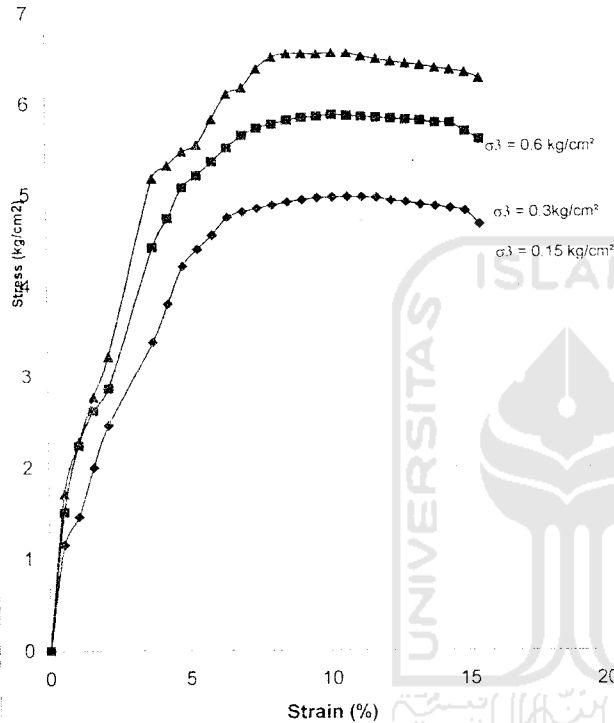
LABORATORIUM MEKANIKA TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN
UNIVERSITAS ISLAM INDONESIA

Jl. Kaliurang KM. 14,4 Telp. (0274) 895042, 895707 fax 895330 Yogyakarta 55584.

TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 No. Sampel : 1

Sample No. : Campuran 9 % Semen
 Date : 5 April 2007
 Tested by : Syaiful Anwar
 Pemeraman : 3 Hari

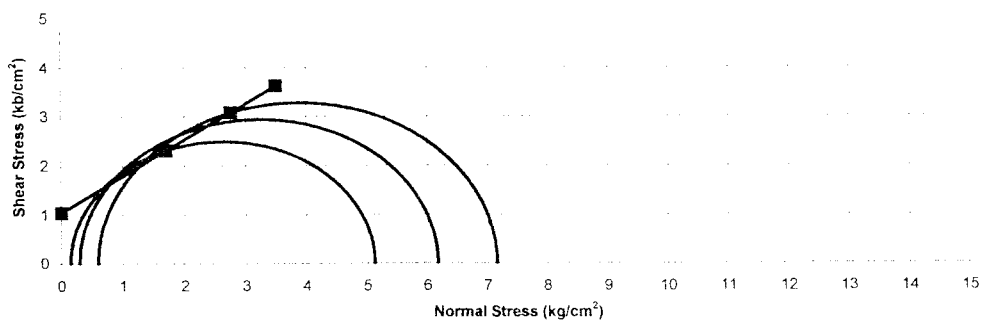


Piece No :	1	2	3
H cm	7.5	7.5	7.5
D cm	3.9	3.9	3.9
A cm²	11.95	11.95	11.95
V cm³	89.59	89.59	89.59
Wt gram	147.86	149.96	148.15

Water Content		
Wt Container (cup), gr	22.17	21.56
Wt of Cup + Wet soil, gr	31.83	31.54
Wt of Cup + Dry soil, gr	29.66	29.24
Water Content %	28.97	29.95
Average water content %	29.46	

γd gram/cm³	1.6503283	1.6737673	1.6535651
γd gram/cm³	1.2747791	1.2928843	1.2772794

σ₃	0.15	0.3	0.6
Δσ = P/A	4.972599	5.8711696	6.5538637
σ₁ = Δσ + σ₃	5.122599	6.1711696	7.1538637
(σ₁ + σ₃)/2	2.6362995	3.2355848	3.8769318
(σ₁ - σ₃)/2	2.4862995	2.9355848	3.2769318
Angle of shearing resistance (φ)	36.365066		
Apperen cohesion (kg/cm²)	1.0498886		



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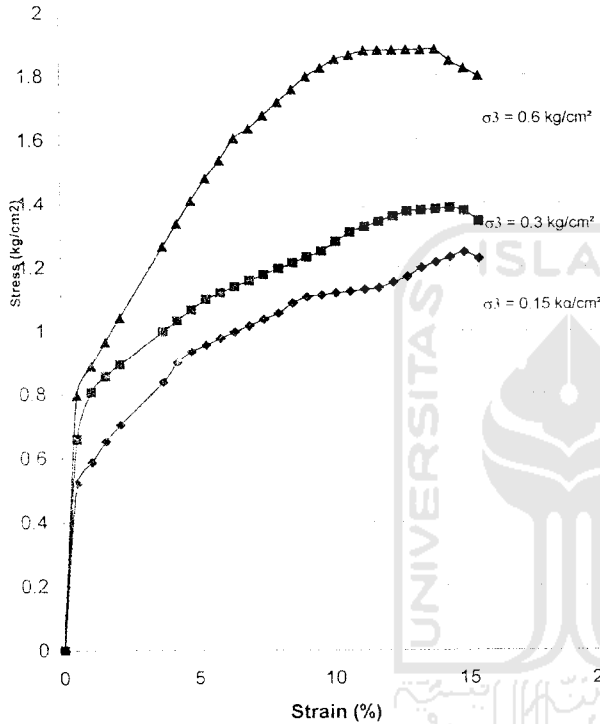
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TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 No. Sampel : 2

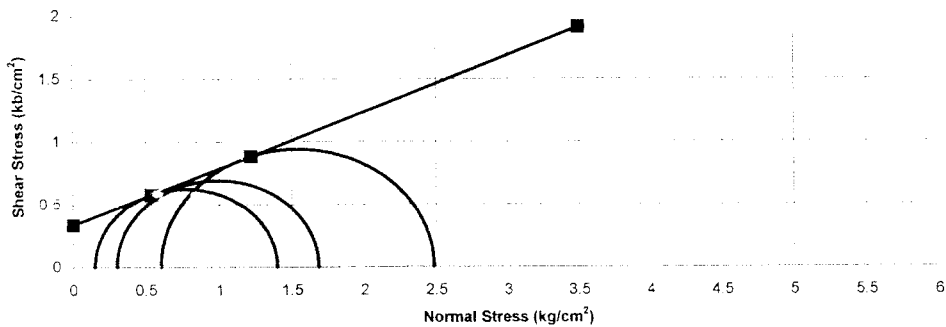
Sample No. : Campuran 1.5 % Semen
 Date : 6 April 2007
 Tested by : Syaiful Anwar
 Pemeraman : 3 Hari



Piece No :	1	2	3
H cm	7.5	7.5	7.5
D cm	3.9	3.9	3.9
A cm²	11.95	11.95	11.95
V cm³	89.59	89.59	89.59
Wt gram	148.80	148.61	149.25
Water Content			
Wt Container (cup), gr	21.56	20.34	
Wt of Cup + Wet soil, gr	32.21	32.80	
Wt of Cup + Dry soil, gr	29.46	29.94	
Water Content %	34.81	29.79	
Average water content %	32.30		

γ_d gram/cm³	1.66082	1.6586994	1.6658427
γ gram/cm³	1.2553354	1.2537325	1.2591318

σ_3	0.15	0.3	0.6
$\Delta\sigma = P/A$	1.245461	1.3833258	1.8797201
$\sigma_1 = \Delta\sigma + \sigma_3$	1.395461	1.6833258	2.4797201
$(\sigma_1 + \sigma_3)/2$	0.7727305	0.9916629	1.5398601
$(\sigma_1 - \sigma_3)/2$	0.6227305	0.6916629	0.9398601
Angle of shearing resistance (ϕ)	24.246203		
Apperen cohesion (c kg/cm²)	0.3344235		



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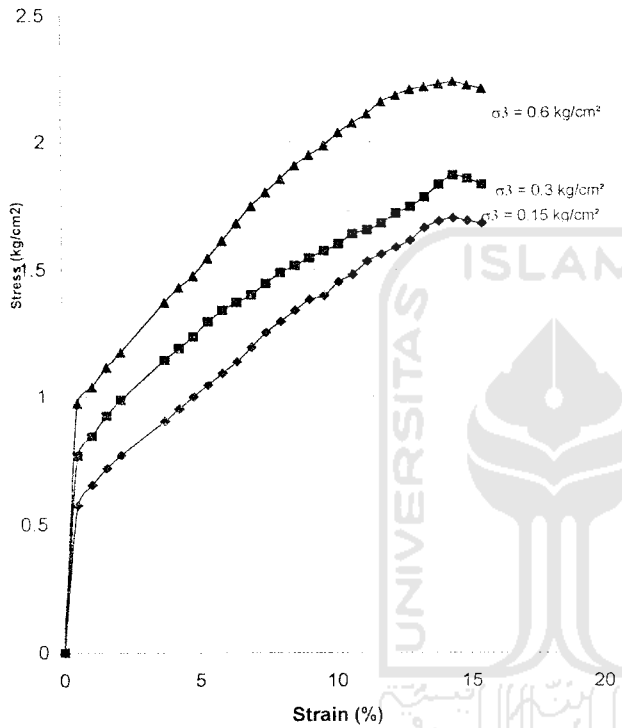
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TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 No. Sampel : 2

Sample No. : Campur 3% Semen
 Date : 6 April 2007
 Tested by : Syaiful Anwar
 Pemeraman : 3 Hari

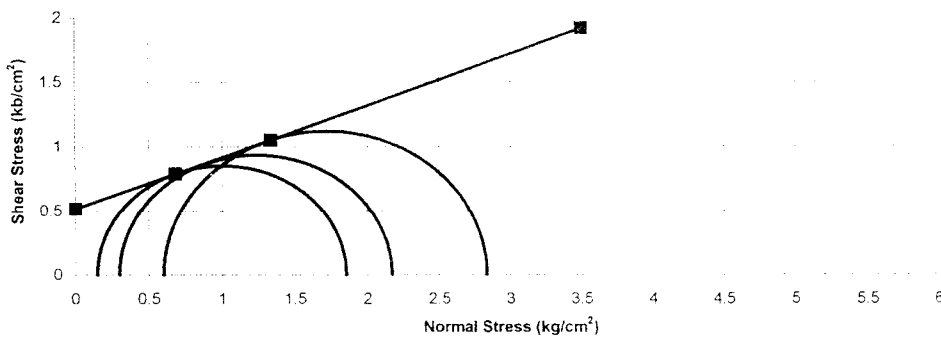


Piece No :	1	2	3
H cm	7.5	7.5	7.5
D cm	3.9	3.9	3.9
A cm²	11.95	11.95	11.95
V cm³	89.59	89.59	89.59
Wt gram	148.31	148.55	148.44

Water Content		
Wt Container (cup), gr	22.05	18.56
Wt of Cup + Wet soil, gr	31.06	27.50
Wt of Cup + Dry soil, gr	28.68	25.28
Water Content %	35.90	33.04
Average water content %	34.47	

γ _d gram/cm³	1.6553509	1.6580297	1.6568019
γ _w gram/cm³	1.2310501	1.2330422	1.2321292

σ ₃	0.15	0.3	0.6
Δσ = P/A	1.7025548	1.8668081	2.2346032
σ ₁ = Δσ + σ ₃	1.8525548	2.168081	2.8346032
(σ ₁ + σ ₃)/2	1.0012774	1.2340405	1.7173016
(σ ₁ - σ ₃)/2	0.8512774	0.9340405	1.1173016
Angle of shearing resistance (φ)	21.764924		
Apperen cohesion (kg/cm²)	0.5168413		



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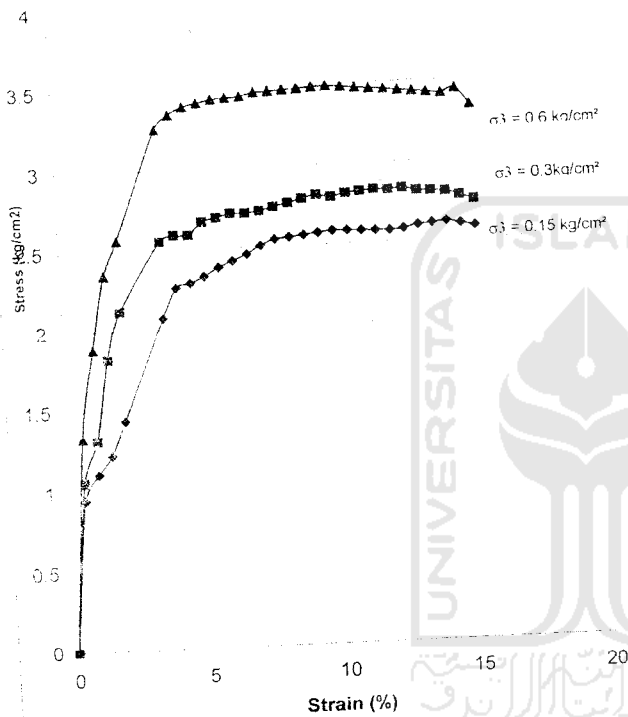
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TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 No. Sampel : 2

Sample No. : Campur 4.5% Semen
 Date : 6 April 2007
 Tested by : Syaiful Anwar
 Pemeraman : 3 Hari

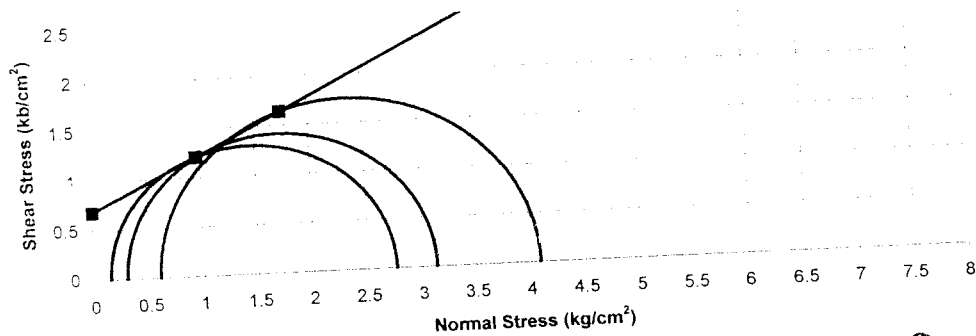


Piece No :	1	2	3
H cm	7.5	7.5	7.5
D cm	3.9	3.9	3.9
A cm ²	11.95	11.95	11.95
V cm ³	89.59	89.59	89.59
Wt gram	147.71	147.31	147.46

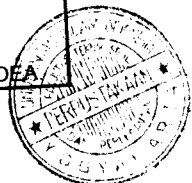
Water Content		
Wt Container (cup), gr	22.28	21.59
Wt of Cup + Wet soil, gr	35.25	33.54
Wt of Cup + Dry soil, gr	32.04	30.59
Water Content %	32.89	32.78
Average water content %	32.83	

γ_d gram/cm ³	1.6486541	1.6441895	1.6458637
γ_d gram/cm ³	1.2411427	1.2377817	1.2390421

σ_3	0.15	0.3	0.6
$\Delta\sigma = P/A$	2.6129487	2.830409	3.4879464
$\sigma_1 = \Delta\sigma + \sigma_3$	2.7629487	3.130409	4.0879464
$(\sigma_1 + \sigma_3)/2$	1.4564744	1.7152045	2.3439732
$(\sigma_1 - \sigma_3)/2$	1.3064744	1.4152045	1.7439732
Angle of shearing resistance (ϕ)	28.710113		
Apperen cohesion (kg/cm ²)	0.6816699		



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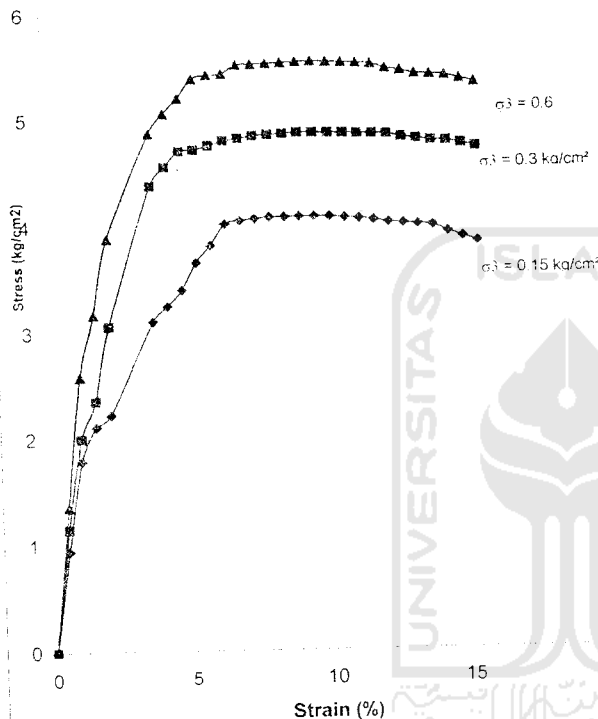
LABORATORIUM MEKANIKA TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN
UNIVERSITAS ISLAM INDONESIA

Jl. Kaliurang KM. 14,4 Telp. (0274) 895042, 895707 fax 895330 Yogyakarta 55584.

TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 No. Sampel : 2

Sample No. : Campuran 6 % Semen
 Date : 6 April 2007
 Tested by : Syaiful Anwar
 Pemeraman : 3 Hari

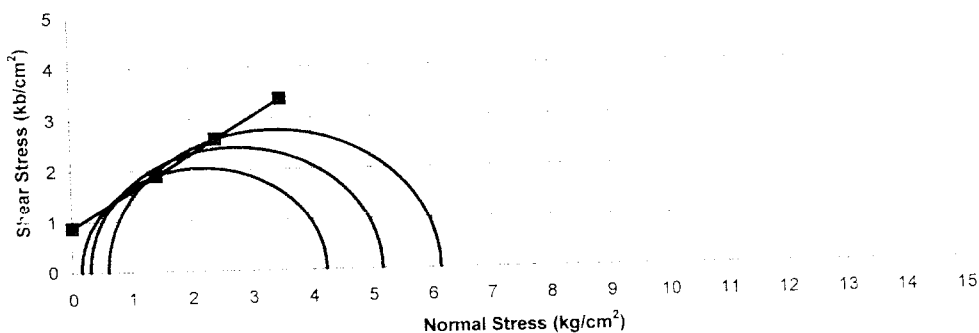


Piece No :	1	2	3
H cm	7.5	7.5	7.5
D cm	3.9	3.9	3.9
A cm ²	11.95	11.95	11.95
V cm ³	89.59	89.59	89.59
Wt gram	147.97	147.69	147.93

Water Content		
Wt Container (cup), gr	21.56	22.00
Wt of Cup + Wet soil, gr	32.87	33.25
Wt of Cup + Dry soil, gr	30.09	30.49
Water Content %	32.59	32.51
Average water content %	32.55	

γ _d gram/cm ³	1.651556	1.6484308	1.6511096
γ _d gram/cm ³	1.2459887	1.2436309	1.2456518

σ ₃	0.15	0.3	0.6
Δσ = P/A	4.0713396	4.3607012	5.5314247
σ ₁ = Δσ + σ ₃	4.2213396	5.1607012	6.1314247
(σ ₁ + σ ₃)/2	2.1856698	2.7303506	3.3657124
(σ ₁ - σ ₃)/2	2.0356698	2.4303506	2.7657124
Angle of shearing resistance (φ)	35.520885		
Apperen cohesion (kg/cm ²)	0.8715739		



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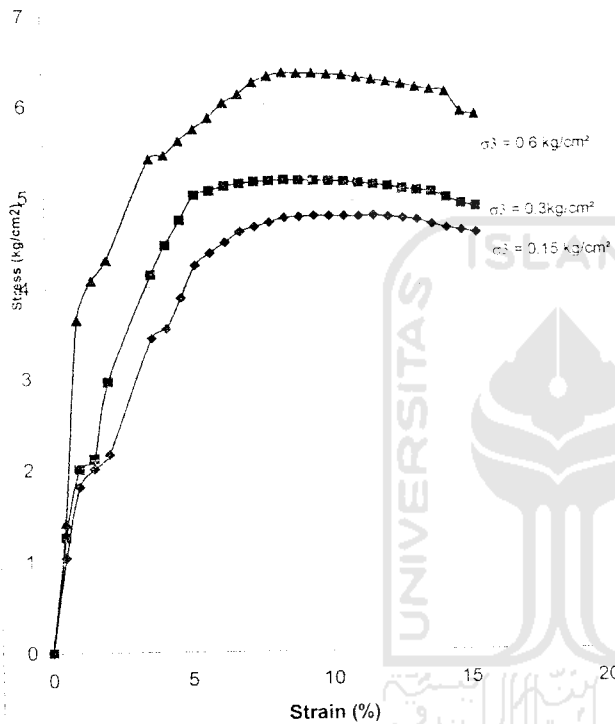
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UNIVERSITAS ISLAM INDONESIA

Jl. Kaliurang KM. 14,4 Telp. (0274) 895042, 895707 fax 895330 Yogyakarta 55584.

TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 No. Sampel : 2

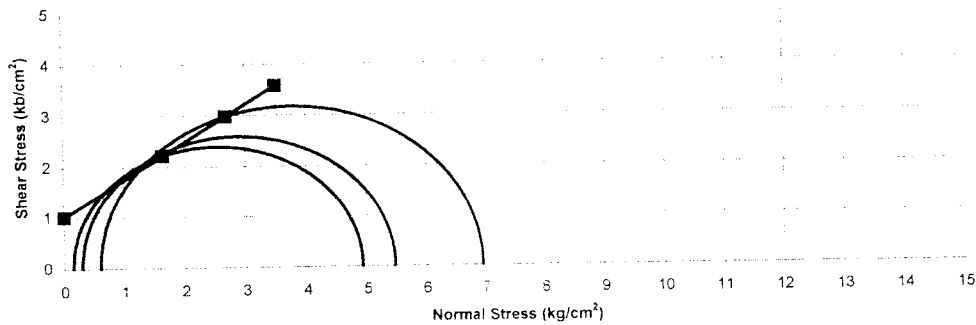
Sample No. : Campuran 7.5 % Semen
 Date : 6 April 2007
 Tested by : Syaiful Anwar
 Pemeraman : 3 Hari



Piece No :	1	2	3
H cm	7.5	7.5	7.5
D cm	3.9	3.9	3.9
A cm²	11.95	11.95	11.95
V cm³	89.59	89.59	89.59
Wt gram	149.84	148.95	147.27
Water Content			
Wt Container (cup), gr	22.28	20.34	
Wt of Cup + Wet soil, gr	33.81	32.36	
Wt of Cup + Dry soil, gr	31.11	30.85	
Water Content %	30.58	14.37	
Average water content %	22.47		

γ_d gram/cm³	1.6724279	1.6624942	1.643743
γ_{sat} gram/cm³	1.3655547	1.3574437	1.3421332

σ_3	0.15	0.3	0.6
$\Delta\sigma = P/A$	4.7697613	5.1671493	6.3420757
$\sigma_1 = \Delta\sigma + \sigma_3$	4.9197613	5.4671493	6.9420757
$(\sigma_1 + \sigma_3)/2$	2.5348806	2.8835746	3.7710378
$(\sigma_1 - \sigma_3)/2$	2.3848806	2.5835746	3.1710378
Angle of shearing resistance (o)	36.33404		
Apperen cohesion (kg/cm²)	1.0039274		



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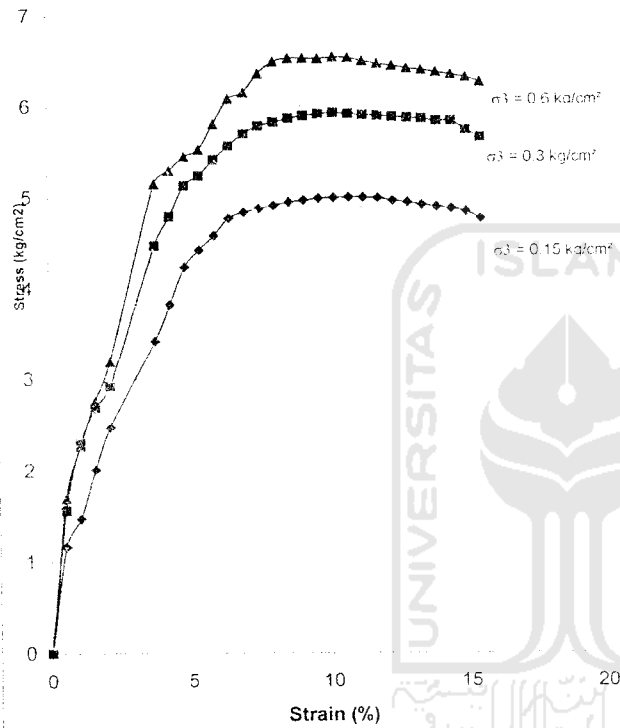
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TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Ngablak, Bantul, Jawa Tengah
 Description of soil : Clay Silt
 No. Sampel : 2

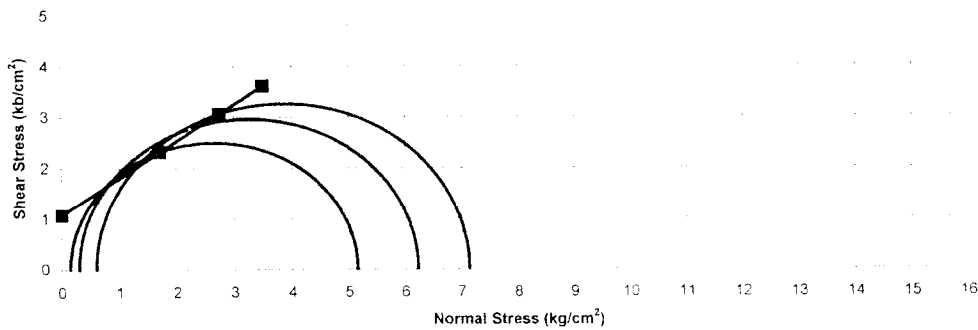
Sample No. : Campurar 9% Semen
 Date : 6 April 2007
 Tested by : Syaiful Anwar
 Pemeraman : 3 Hari



Piece No :	1	2	3
H cm	7.5	7.5	7.5
D cm	3.9	3.9	3.9
A cm ²	11.95	11.95	11.95
V cm ³	89.59	89.59	89.59
Wt gram	147.86	149.96	148.15
Water Content			
Wt Container (cup), gr	22.17	21.56	
Wt of Cup + Wet soil, gr	31.83	31.54	
Wt of Cup + Dry soil, gr	29.66	29.24	
Water Content %	28.97	29.95	
Average water content %	29.46		

γ_d gram/cm ³	1.6503283	1.6737673	1.6535651
γ gram/cm ³	1.2747791	1.2928843	1.2772794

σ_3	0.15	0.3	0.6
$\Delta\sigma = P/A$	4.9972769	5.92082	6.5290384
$\sigma_1 = \Delta\sigma + \sigma_3$	5.1472769	6.22082	7.1290384
$(\sigma_1 + \sigma_3)/2$	2.6486384	3.26041	3.8645192
$(\sigma_1 - \sigma_3)/2$	2.4986384	2.96041	3.2645192
Angle of shearing resistance (ϕ)	35.953514		
Apperen cohesion (kg/cm ²)	1.074519		



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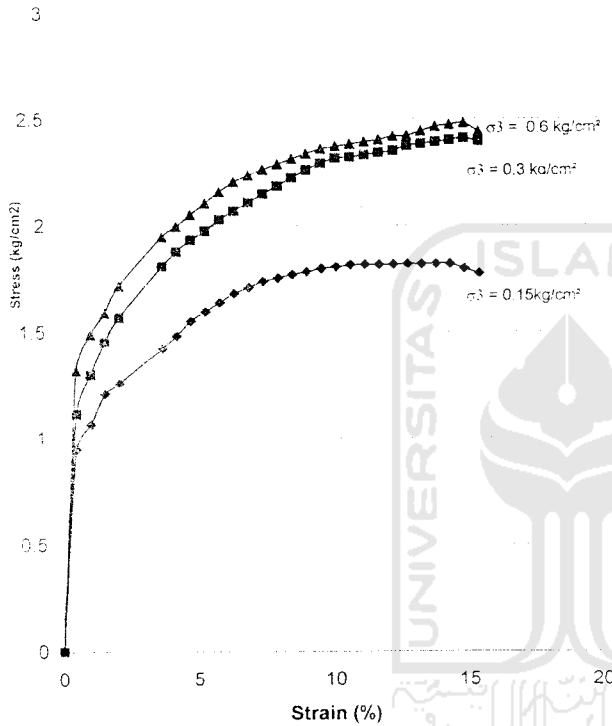
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TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 No. Sampel : 1

Sample No. : Campuran 1.5 % Semen
 Date : 6 April 2007
 Tested by : Syaiful Anwar
 Pemeraman : 7 Hari

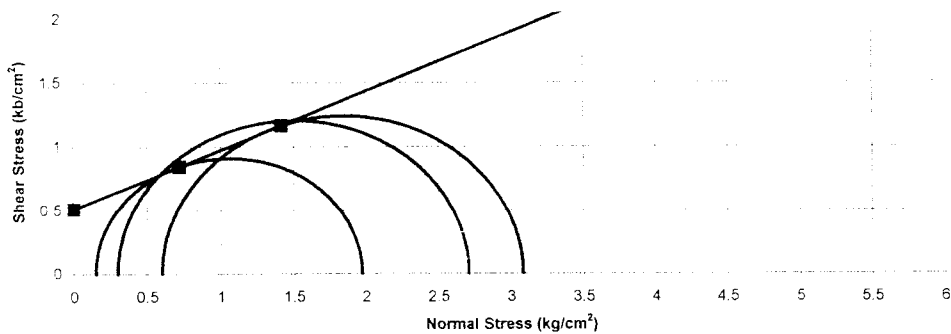


Piece No :	1	2	3
H cm	7.5	7.5	7.5
D cm	3.9	3.9	3.9
A cm ²	11.95	11.95	11.95
V cm ³	89.59	89.59	89.59
Wt gram	149.26	149.27	149.20

Water Content		
Wt Container (cup), gr	21.56	20.34
Wt of Cup + Wet soil, gr	32.21	32.80
Wt of Cup + Dry soil, gr	29.46	29.94
Water Content %	34.81	29.79
Average water content %	32.30	

γ_d gram/cm ³	1.6659543	1.6660659	1.6652846
γ gram/cm ³	1.2592162	1.2593005	1.25871

σ_3	0.15	0.3	0.6
$\Delta\sigma = P/A$	1.8207878	2.4086746	2.4791723
$\sigma_1 = \Delta\sigma + \sigma_3$	1.9707878	2.7086746	3.0791723
$(\sigma_1 + \sigma_3)/2$	1.0603939	1.5043373	1.8395862
$(\sigma_1 - \sigma_3)/2$	0.9103939	1.2043373	1.2395862
Angle of shearing resistance (ϕ)	24.732578		
Apperen cohesion (kg/cm ²)	0.5127408		



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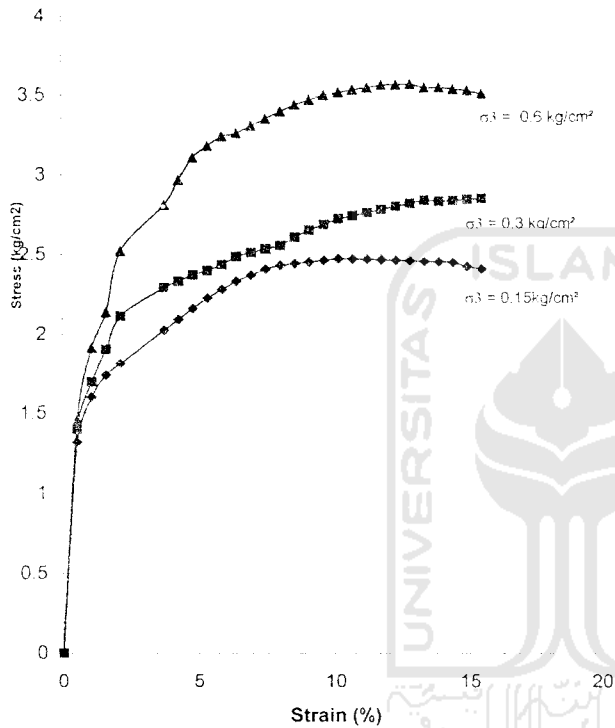
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TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 No. Sampel : 1

Sample No. : Campuran 3 % Semen
 Date : 6 April 2007
 Tested by : Syaiful Anwar
 Pemeraman : 7 Hari

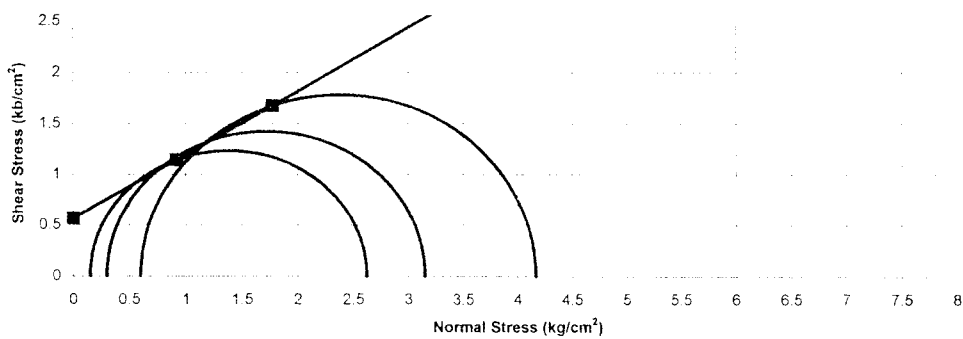


Piece No :	1	2	3
H cm	7.5	7.5	7.5
D cm	3.9	3.9	3.9
A cm ²	11.95	11.95	11.95
V cm ³	89.59	89.59	89.59
Wt gram	148.04	148.38	147.63

Water Content		
Wt Container (cup), gr	22.05	18.56
Wt of Cup + Wet soil, gr	31.06	27.50
Wt of Cup + Dry soil, gr	28.68	25.28
Water Content %	35.90	33.04
Average water content %	34.47	

γ _d gram/cm ³	1.6523373	1.6561322	1.6477612
γ _d gram/cm ³	1.228809	1.2316312	1.2254058

σ ₃	0.15	0.3	0.6
Δσ = P/A	2.4701115	2.8489358	3.5551109
σ ₁ = Δσ + σ ₃	2.6201115	3.1489358	4.1651109
(σ ₁ + σ ₃)/2	1.3850558	1.7244679	2.3825555
(σ ₁ - σ ₃)/2	1.2350558	1.4244679	1.7825555
Angle of shearing resistance (φ)	31.926559		
Apperent cohesion (kg/cm ²)	0.5703896		



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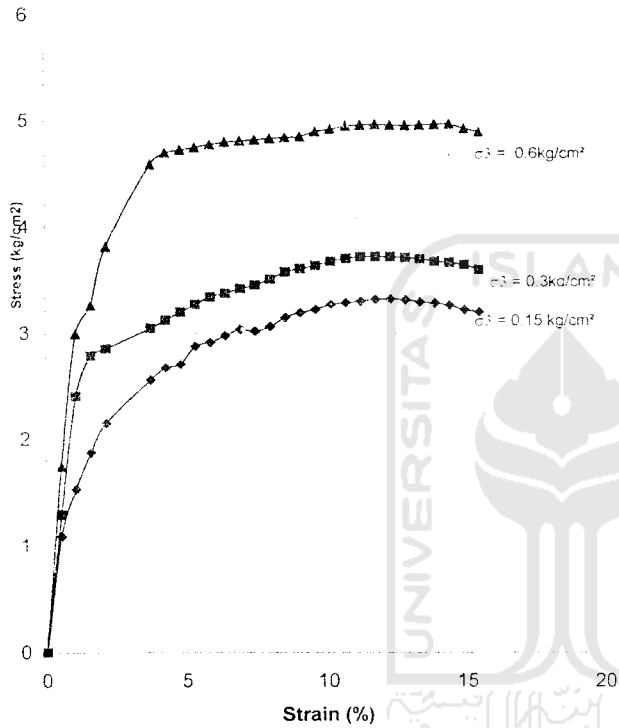
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TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 No. Sampel : 1

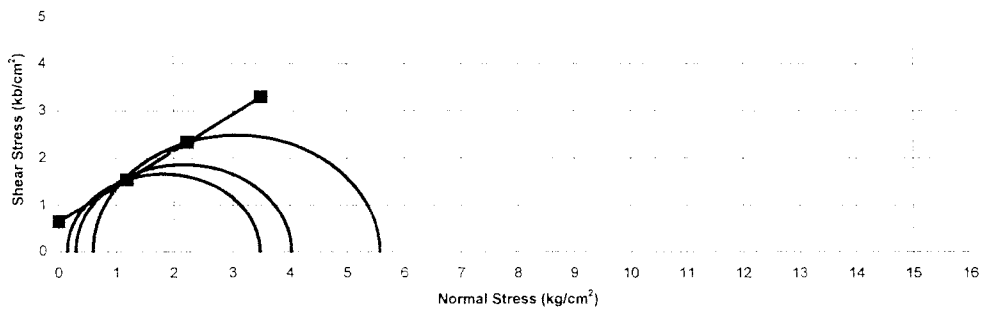
Sample No. : Campuran 4.5 % Semen
 Date : 6 April 2007
 Tested by : Syaiful Anwar
 Pemeraman : 7 Hari



Piece No :	1	2	3
H cm	7.5	7.5	7.5
D cm	3.9	3.9	3.9
A cm ²	11.95	11.95	11.95
V cm ³	89.59	89.59	89.59
Wt gram	147.87	147.96	147.60
Water Content			
Wt Container (cup), gr	22.28	21.59	
Wt of Cup + Wet soil, gr	35.25	33.54	
Wt of Cup + Dry soil, gr	32.04	30.59	
Water Content %	32.89	32.78	
Average water content %	32.83		

γ _d gram/cm ³	1.6504399	1.6514444	1.6474263
γ _d gram/cm ³	1.2424871	1.2432434	1.2402184

σ_3	0.15	0.3	0.6
$\Delta\sigma = P/A$	3.3203208	3.7202134	4.9657849
$\sigma_1 = \Delta\sigma + \sigma_3$	3.4703208	4.0202134	5.5657849
$(\sigma_1 + \sigma_3)/2$	1.8101604	2.1601067	3.0828925
$(\sigma_1 - \sigma_3)/2$	1.6601604	1.8601067	2.4828925
Angle of shearing resistance (ϕ)			37.21216
Apperen cohesion (kg/cm ²)			0.636943



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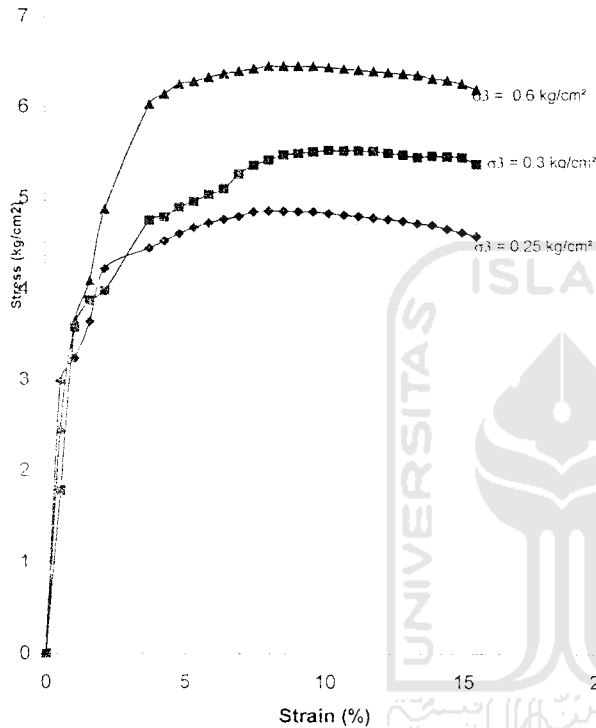
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UNIVERSITAS ISLAM INDONESIA

Jl. Kaliurang KM. 14,4 Telp. (0274) 895042, 895707 fax 895330 Yogyakarta 55584.

TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

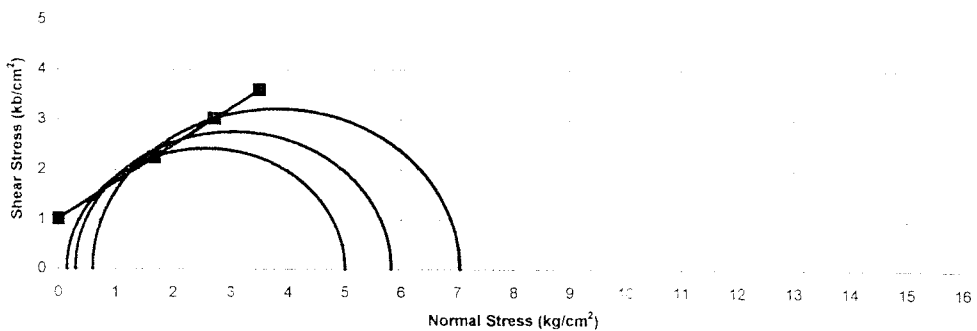
Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 No. Sampel : 1

Sample No. : Campuran 6 % Semen
 Date : 6 april 2007
 Tested by : Syaiful Anwar
 Pemeraman : 7 Hari



Piece No :	1	2	3
H cm	7.5	7.5	7.5
D cm	3.9	3.9	3.9
A cm²	11.95	11.95	11.95
V cm³	89.59	89.59	89.59
Wt gram	147.90	147.74	148.14
Water Content			
Wt Container (cup), gr	21.56	22.00	
Wt of Cup + Wet soil, gr	32.87	33.25	
Wt of Cup + Dry soil, gr	30.09	30.49	
Water Content %	32.59	32.51	
Average water content %	32.55		
γd gram/cm³	1.6507747	1.6489889	1.6534535
γd gram/cm³	1.2453992	1.2440519	1.2474202

σ_3	0.15	0.3	0.6
$\Delta\sigma = P/A$	4.8541818	5.5236162	6.4432551
$\sigma_1 = \Delta\sigma + \sigma_3$	5.0041818	5.8236162	7.0432551
$(\sigma_1 + \sigma_3)/2$	2.5770909	3.0618081	3.8216275
$(\sigma_1 - \sigma_3)/2$	2.4270909	2.7618081	3.2216275
Angle of shearing resistance (o)			36.451761
Apperen cohesion (kg/cm²)			1.0183601



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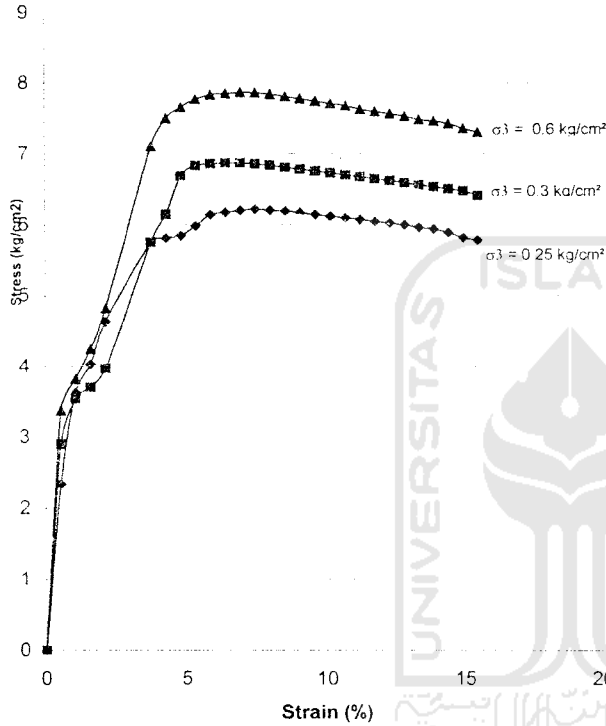
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Jl. Kaliurang KM. 14,4 Telp. (0274) 895042, 895707 fax 895330 Yogyakarta 55584.

TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 No. Sampel : 1

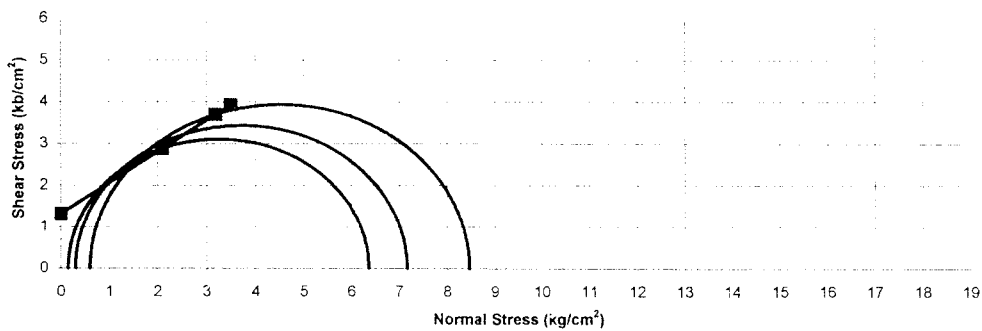
Sample No. : Campuran 7.5 % Semen
 Date : 6 April 2007
 Tested by : Syaiful Anwar
 Pemeraman : 7 Hari



Piece No :	1	2	3
H cm	7.5	7.5	7.5
D cm	3.9	3.9	3.9
A cm²	11.95	11.95	11.95
V cm³	89.59	89.59	89.59
Wt gram	147.46	148.01	147.97
Water Content			
Wt Container (cup), gr	22.28	20.34	
Wt of Cup + Wet soil, gr	33.81	32.36	
Wt of Cup + Dry soil, gr	31.11	30.85	
Water Content %	30.58	14.37	
Average water content %	22.47		

γ_d gram/cm³	1.6458637	1.6520025	1.651556
γ gram/cm³	1.3438647	1.3488771	1.3485126

σ_3	0.15	0.3	0.6
$\Delta\sigma = P/A$	6.2115406	6.8649159	7.8670232
$\sigma_1 = \Delta\sigma + \sigma_3$	6.3615406	7.1649159	8.4670232
$(\sigma_1 + \sigma_3)/2$	3.2557703	3.7324579	4.5335116
$(\sigma_1 - \sigma_3)/2$	3.1057703	3.4324579	3.9335116
Angle of shearing resistance (o)	36.695141		
Apperen cohesion (kg/cm²)	1.3203226		



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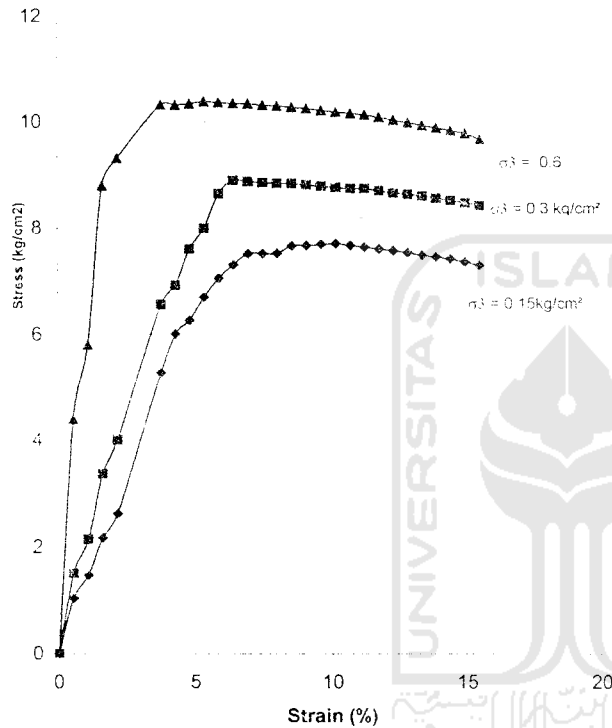
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TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 No. Sampel : 1

Sample No. : Campuran 9 % Semen
 Date : 6 April 2007
 Tested by : Syaiful Anwar
 Pemeraman : 7 Hari



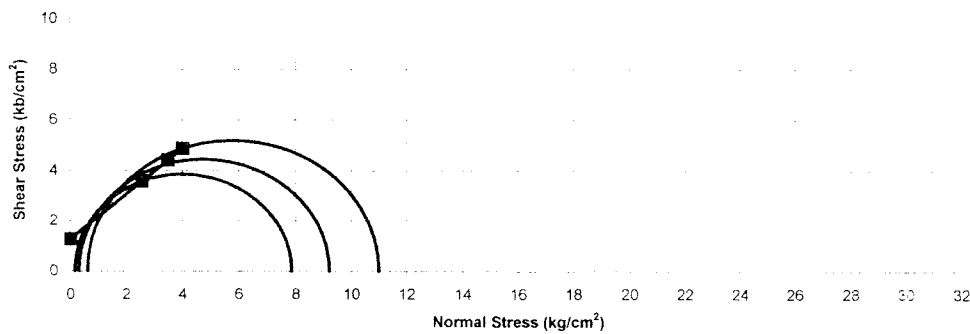
Piece No :	1	2	3
H cm	7.5	7.5	7.5
D cm	3.9	3.9	3.9
A cm²	11.95	11.95	11.95
V cm³	89.59	89.59	89.59
Wt gram	149.74	147.57	147.96

Water Content		
Wt Container (cup), gr	22.17	21.56
Wt of Cup + Wet soil, gr	31.83	31.54
Wt of Cup + Dry soil, gr	29.66	29.24
Water Content %	28.97	29.95
Average water content %	29.46	

γ _d gram/cm³	1.6601503	1.6470915	1.6514444
γ _d gram/cm³	1.2823661	1.2722789	1.2756413

σ ₃	0.15	0.3	0.6
Δσ = P/A	7.7082374	8.8946556	10.382034
σ ₁ = Δσ + σ ₃	7.8582374	9.1946556	10.982034
(σ ₁ + σ ₃)/2	4.0041187	4.7473278	5.7910169
(σ ₁ - σ ₃)/2	3.8541187	4.4473278	5.1910169

Angle of shearing resistance (φ)	41.873111
Apperen cohesion (kg/cm²)	1.2783826



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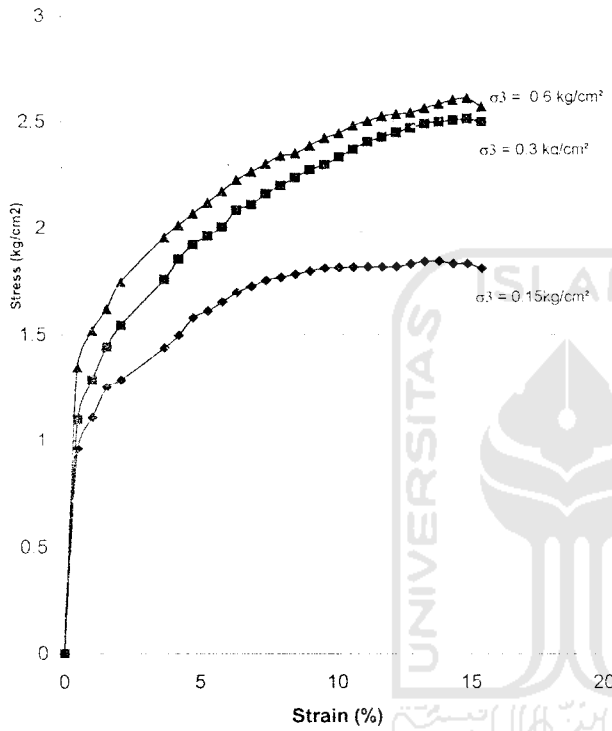
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TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 No. Sampel : 2

Sample No. : Campuran 1.5 % Semen
 Date : 6 April 2007
 Tested by : Syaiful Anwar
 Pemeraman : 7 Hari

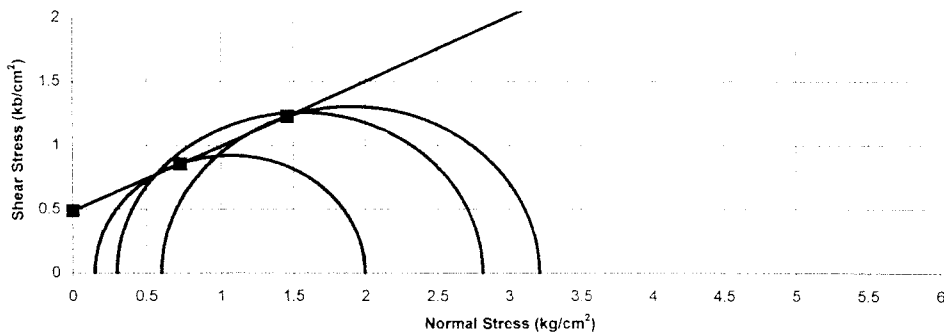


Piece No :	1	2	3
H cm	7.5	7.5	7.5
D cm	3.9	3.9	3.9
A cm²	11.95	11.95	11.95
V cm³	89.59	89.59	89.59
Wt gram	149.26	149.27	149.20

Water Content		
Wt Container (cup), gr	21.56	20.34
Wt of Cup + Wet soil, gr	32.21	32.80
Wt of Cup + Dry soil, gr	29.46	29.94
Water Content %	34.81	29.79
Average water content %	32.30	

γ _d gram/cm³	1.6659543	1.6660659	1.6652846
γ _w gram/cm³	1.2592162	1.2593005	1.25871

σ ₃	0.15	0.3	0.6
Δσ = P/A	1.8440292	2.5144212	2.6084183
σ ₁ = Δσ + σ ₃	1.9940292	2.8144212	3.2084183
(σ ₁ + σ ₃)/2	1.0720146	1.5572106	1.9042092
(σ ₁ - σ ₃)/2	0.9220146	1.2572106	1.3042092
Angle of shearing resistance (φ)	26.872374		
Apperent cohesion (kg/cm²)	0.4866812		



Kepala laboratorium.

Dr. Ir. Edy Purwanto, CES, DEA.



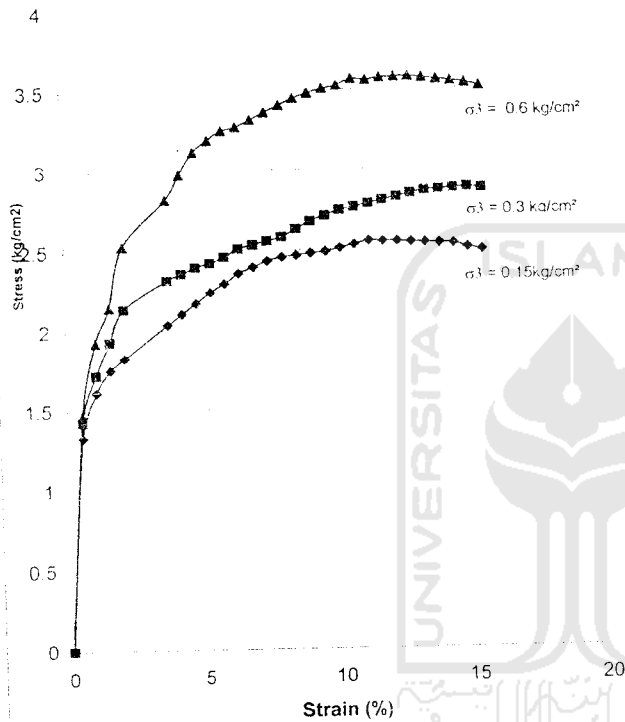
LABORATORIUM MEKANIKA TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN
UNIVERSITAS ISLAM INDONESIA

Jl. Kaliurang KM. 14,4 Telp. (0274) 895042, 895707 fax 895330 Yogyakarta 55584.

TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 No. Sampel : 2

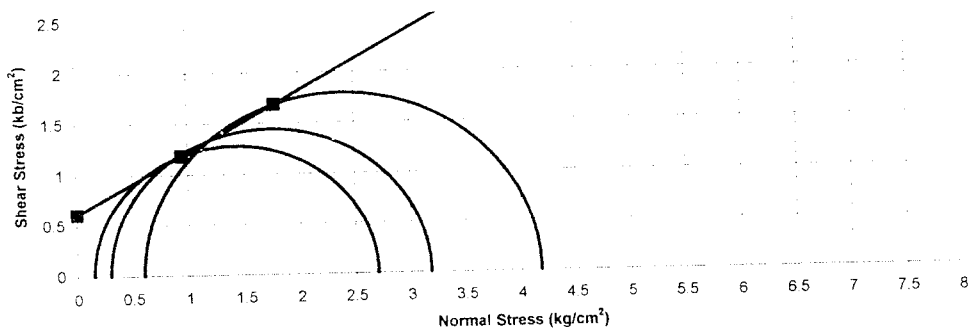
Sample No. : Campuran 3 % Semen
 Date : 6 April 2007
 Tested by : Syaiful Anwar
 Pemeraman : 7 Hari



Piece No :	1	2	3
H cm	7.5	7.5	7.5
D cm	3.9	3.9	3.9
A cm²	11.95	11.95	11.95
V cm³	89.59	89.59	89.59
Wt gram	148.04	148.38	147.63
Water Content			
Wt Container (cup), gr		22.05	18.56
Wt of Cup + Wet soil, gr		31.06	27.50
Wt of Cup + Dry soil, gr		28.68	25.28
Water Content %		35.90	33.04
Average water content %		34.47	

γ_d gram/cm³	1.6523373	1.6561322	1.6477612
γ gram/cm³	1.228809	1.2316312	1.2254058

σ_3	0.15	0.3	0.6
$\Delta\sigma = P/A$	2.5511803	2.8786598	3.5771552
$\sigma_1 = \Delta\sigma + \sigma_3$	2.7011803	3.1786598	4.1771552
$(\sigma_1 + \sigma_3)/2$	1.4255901	1.7393299	2.3885776
$(\sigma_1 - \sigma_3)/2$	1.2755901	1.4393299	1.7885776
Angle of shearing resistance (ϕ)			30.99145
Apperen cohesion (kg/cm²)			0.613436



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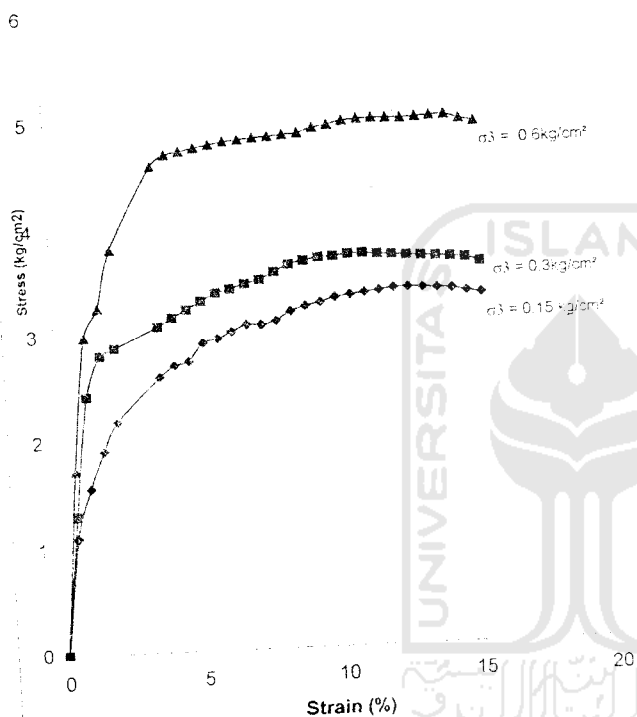
LABORATORIUM MEKANIKA TANAH
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UNIVERSITAS ISLAM INDONESIA

Jl. Kaliurang KM. 14,4 Telp. (0274) 895042, 895707 fax 895330 Yogyakarta 55584.

TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 No. Sampel : 2

Sample No. : Campuran 4.5 % Semen
 Date : 6 April 2007
 Tested by : Syaiful Anwar
 Pemeraman : 7 Hari

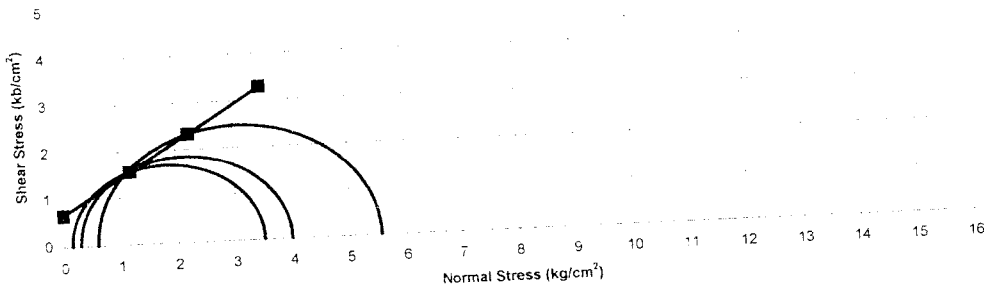


Piece No :	1	2	3
H cm	7.5	7.5	7.5
D cm	3.9	3.9	3.9
A cm²	11.95	11.95	11.95
V cm³	89.59	89.59	89.59
Wt gram	147.87	147.96	147.60

Water Content		
Wt Container (cup), gr	22.28	21.59
Wt of Cup + Wet soil, gr	35.25	33.54
Wt of Cup + Dry soil, gr	32.04	30.59
Water Content %	32.89	32.78
Average water content %	32.83	

γ _d gram/cm³	1.6504399	1.6514444	1.6474263
γ _w gram/cm³	1.2424871	1.2432434	1.2402184

σ ₃	0.15	0.3	0.6
Δσ = P _A	3.3483136	3.6795859	4.9539616
σ ₁ = Δσ + σ ₃	3.4983136	3.9795869	5.5539616
(σ ₁ + σ ₃)/2	1.8241568	2.1397935	3.0769808
(σ ₁ - σ ₃)/2	1.6741568	1.8397935	2.4769808
Angle of shearing resistance (φ)	36.89658		
Apperen cohesion (kg/cm²)	0.6536249		



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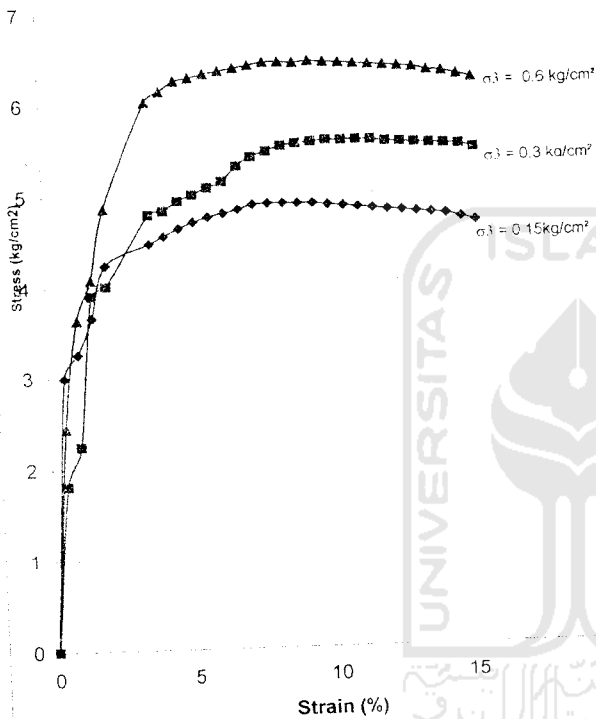
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UNIVERSITAS ISLAM INDONESIA

Jl. Kaliurang KM. 14,4 Telp. (0274) 895042, 895707 fax 895330 Yogyakarta 55584.

TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 No. Sampel : 2

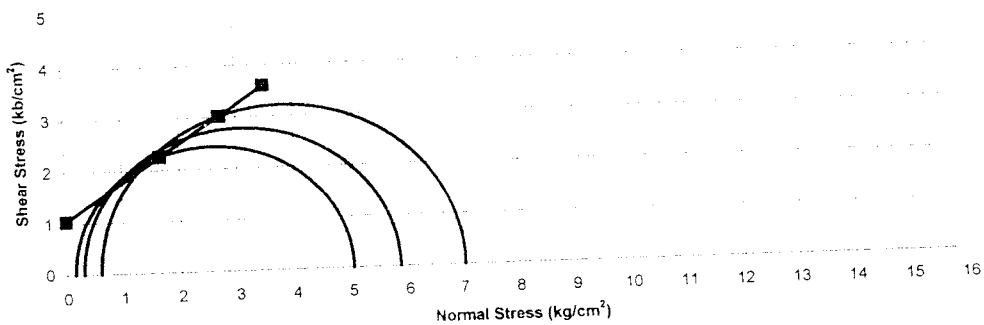
Sample No. : Campuran 6 % Semen
 Date : 6 April 2007
 Tested by : Syaiful Anwar
 Pemeraman : 7 Hari



Piece No :	1	2	3
H cm	7.5	7.5	7.5
D cm	3.9	3.9	3.9
A cm²	11.95	11.95	11.95
V cm³	89.59	89.59	89.59
Wt gram	147.90	147.74	148.14
Water Content			
Wt Container (cup), gr	21.56	22.00	
Wt of Cup + Wet soil, gr	32.87	33.25	
Wt of Cup + Dry soil, gr	30.09	30.49	
Water Content %	32.59	32.51	
Average water content %	32.55		

γ_d gram/cm³	1.6507747	1.6489889	1.6534535
γ gram/cm³	1.2453992	1.2440519	1.2474202

σ_3	0.15	0.3	0.6
$\Delta\sigma = P/A$	4.8668891	5.5484414	6.417951
$\sigma_1 = \Delta\sigma + \sigma_3$	5.0168891	5.8484414	7.017951
$(\sigma_1 + \sigma_3)/2$	2.5834445	3.0742207	3.8089755
$(\sigma_1 - \sigma_3)/2$	2.4334445	2.7742207	3.2089755
Angle of shearing resistance (ϕ)			36.140442
Apparent cohesion (c) (kg/cm²)			1.0353006



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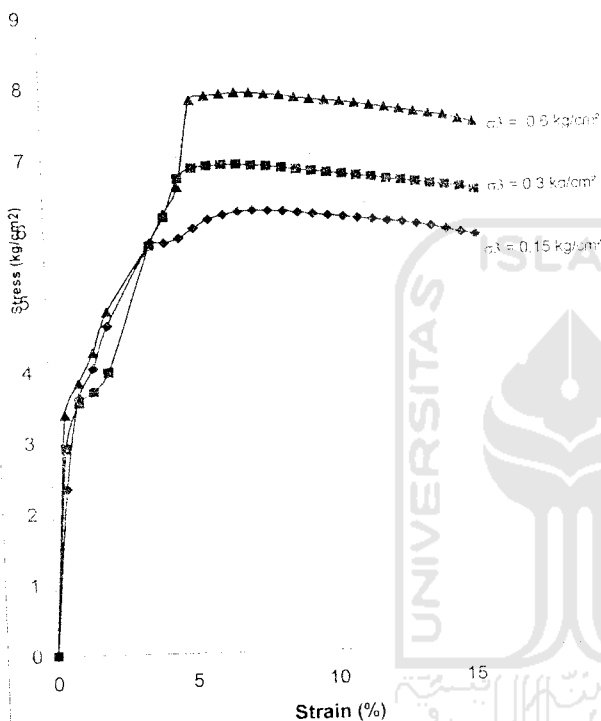
LABORATORIUM MEKANIKA TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN
UNIVERSITAS ISLAM INDONESIA

Jl. Kaliurang KM. 14.4 Telp. (0274) 895042, 895707 fax 895330 Yogyakarta 55584.

TRIAXIAL COMPRESION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 No. Sampel : 2

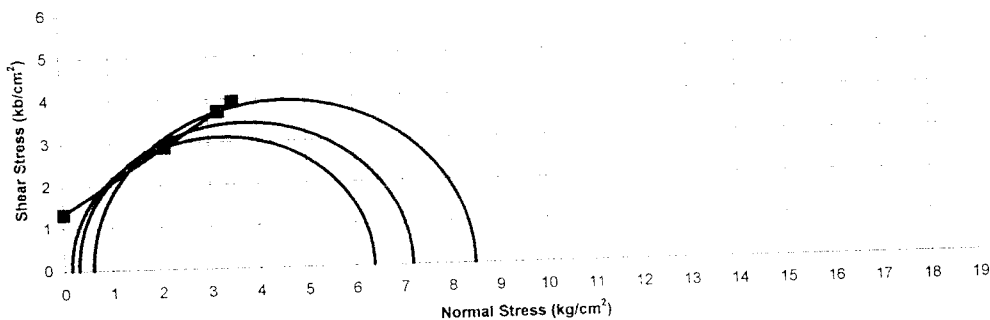
Sample No. : Campuran 7.5 % Semen
 Date : 6 April 2007
 Tested by : Syaiful anwar
 Pemeraman : 7 Hari



Piece No :	1	2	3
H cm	7.5	7.5	7.5
D cm	3.9	3.9	3.9
A cm ²	11.95	11.95	11.95
V cm ³	89.59	89.59	89.59
Wt gram	147.45	148.01	147.97
Water Content			
Wt Container (cup), gr		22.28	20.34
Wt of Cup + Wet soil, gr		33.81	32.36
Wt of Cup + Dry soil, gr		31.11	30.85
Water Content %		30.58	14.37
Average water content %		22.47	

γ _d gram/cm ³	1.6458637	1.6520025	1.651556
γ _w gram/cm ³	1.3438647	1.3488771	1.3485126

σ ₃	0.15	0.3	0.6
Δσ = P/A	6.2243215	6.8778441	7.8927324
σ ₁ = Δσ + σ ₃	6.3743215	7.1778441	8.4927324
(σ ₁ + σ ₃)/2	3.2621608	3.7389221	4.5463662
(σ ₁ - σ ₃)/2	3.1121608	3.4389221	3.9463662
Angle of shearing resistance (φ)			36.789747
Apperen cohesion (kg/cm ²)			1.3178789



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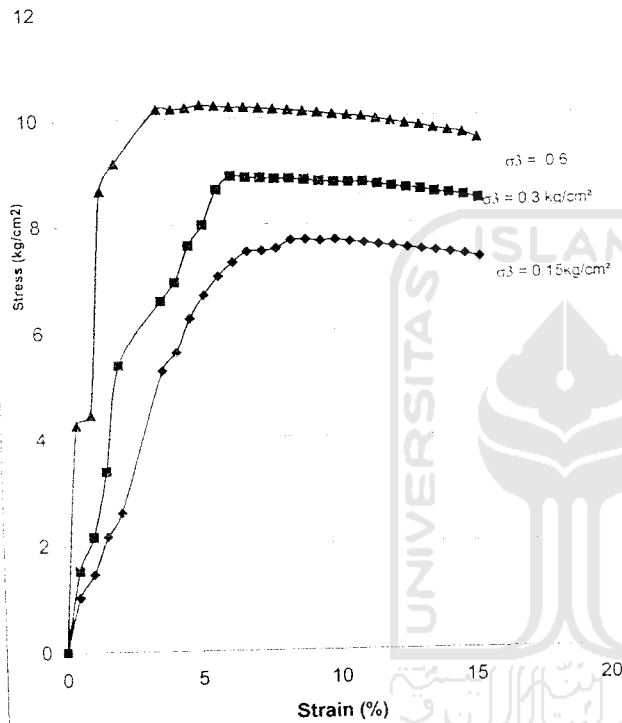
LABORATORIUM MEKANIKA TANAH
FAKULTAS TEKNIK SIPIL DAN PERENCANAAN
UNIVERSITAS ISLAM INDONESIA

Jl. Kaliurang KM. 14,4 Telp. (0274) 895042, 895707 fax 895330 Yogyakarta 55584.

TRIAXIAL COMPRESSION TEST RESULT
UNCONSOLIDATED UNDRAINED (TXUU)

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 No. Sampel : 2

Sample No. : Campuran 9 % Semen
 Date : 6 April 2007
 Tested by : Syaiful Anwar
 Pemeraman : 7 Hari

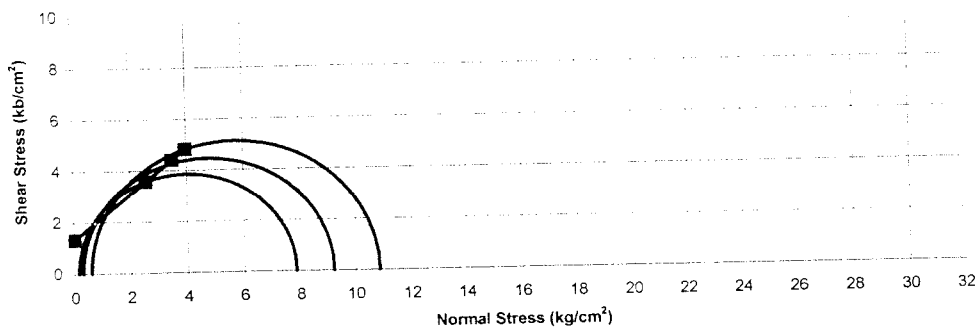


Piece No :	1	2	3
H cm	7.5	7.5	7.5
D cm	3.9	3.9	3.9
A cm ²	11.95	11.95	11.95
V cm ³	89.59	89.59	89.59
Wt gram	148.74	147.57	147.96

Water Content		
Wt Container (cup), gr	22.17	21.56
Wt of Cup + Wet soil, gr	31.83	31.54
Wt of Cup + Dry soil, gr	29.66	29.24
Water Content %	28.97	29.95
Average water content %	29.46	

γ_d gram/cm ³	1.6601503	1.6470915	1.6514444
γ_s gram/cm ³	1.2823661	1.2722789	1.2756413

σ_3	0.15	0.3	0.6
$\Delta\sigma = P/A$	7.6992502	8.9075839	10.251273
$\sigma_1 = \Delta\sigma + \sigma_3$	7.8492502	9.2075839	10.851278
$(\sigma_1 + \sigma_3)/2$	3.9996251	4.7537919	5.7256388
$(\sigma_1 - \sigma_3)/2$	3.8496251	4.4537919	5.1256388
Angle of shearing resistance (o)	41.392979		
Apperen cohesion (kg/cm ²)	1.315101		



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LAMPIRAN 9



LABORATORIUM MEKANIKA TANAH
JURUSAN TEKNIK SIPIL-FTSP
UNIVERSITAS ISLAM INDONESIA

DIRECT SHEAR TEST

Project : Tugas Akhir
 Location : Ngablak, Bantul. (DIY)
 Description of soil : Clay Silt
 Kedalaman : 1,5 m
 No Sampel : 1

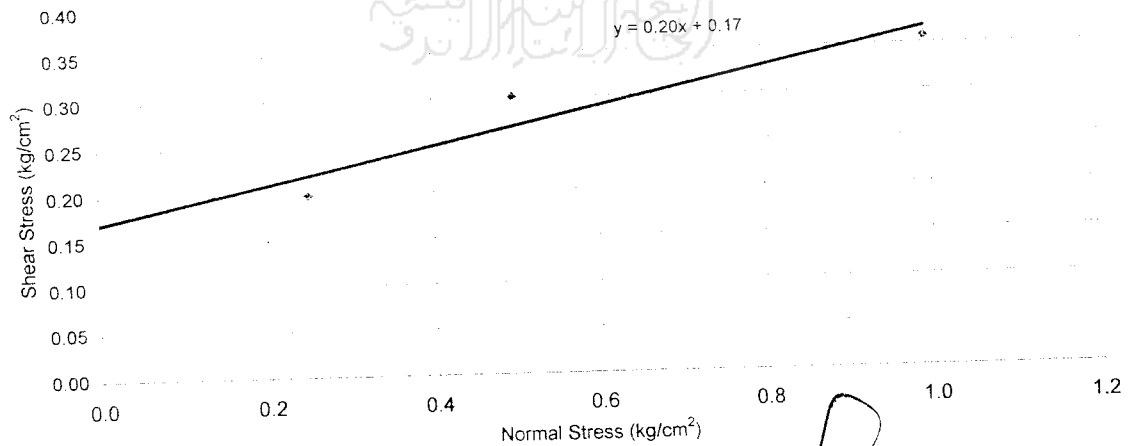
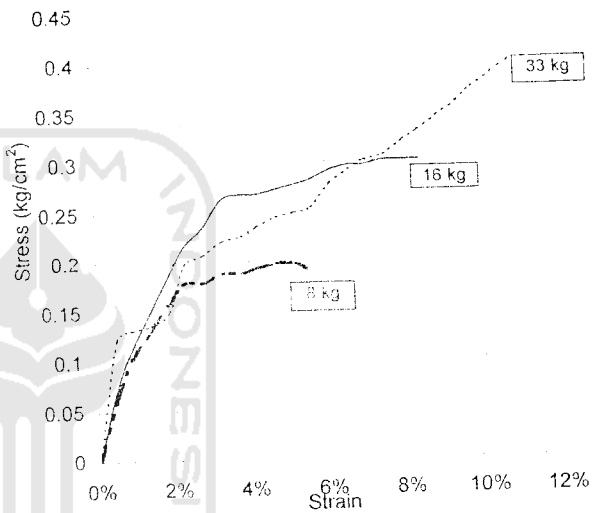
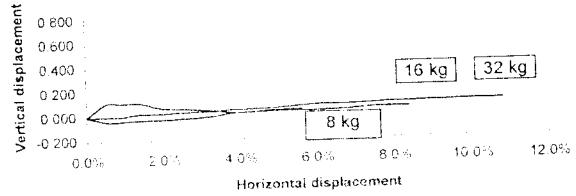
Date : 7 April 2007
 Tested by : Syaiful Anwar
 Pengujian : Undisturb

Sample data	
diameter (cm)	6.40
Area (cm ²)	32.17
Ht.Lo (cm)	2.30
Vol (cm ³)	73.99
Wt ring (gr)	59.06

LRC = 0.3026 kg/div

Water Content			
Wt Container (cup), gr	22.14	22.02	21.89
Wt of Cup + Wet soil, gr	36.11	38.86	37.45
Wt of Cup + Dry soil, gr	31.27	32.9	31.42
Water Content %	53.01	54.78	53.90
Average water content %	53.90		
Wt Soil + ring (gr)	175.21	173.30	179.87
Wet Unit wt (gr/cm ³)	1.435	1.409	1.498
Dry Unit wt (gr/cm ³)	0.932	0.916	0.973
Normal Stress σ_n (kg/cm ²)	0.249	0.437	0.995
Shear stress at failure τ (kg/cm ²)	0.198	0.301	0.357

Angle Of internal friction, ϕ =	11.3 °
Cohesion =	0.17 kg/cm ²



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LABORATORIUM MEKANIKA TANAH
JURUSAN TEKNIK SIPIL-FTSP
UNIVERSITAS ISLAM INDONESIA

DIRECT SHEAR TEST

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 Kedalaman : 1,5 m
 No Sampel : 2

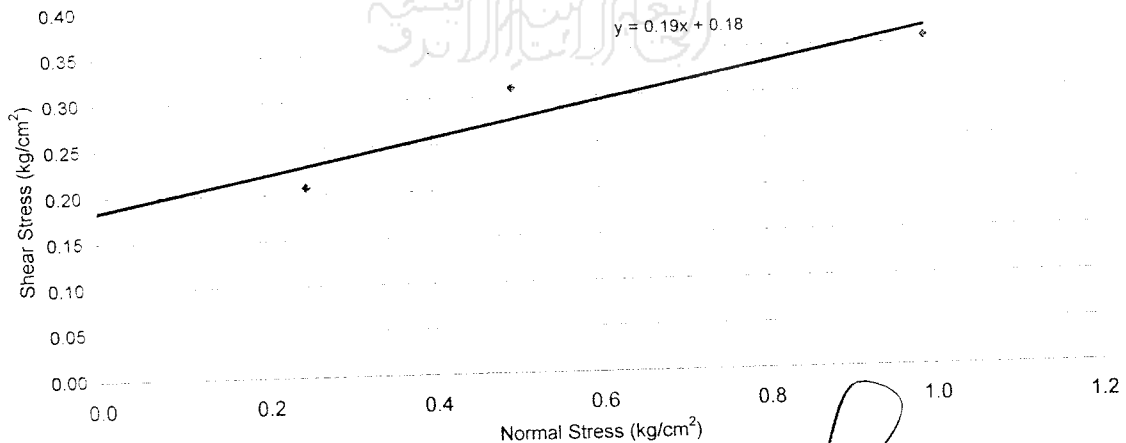
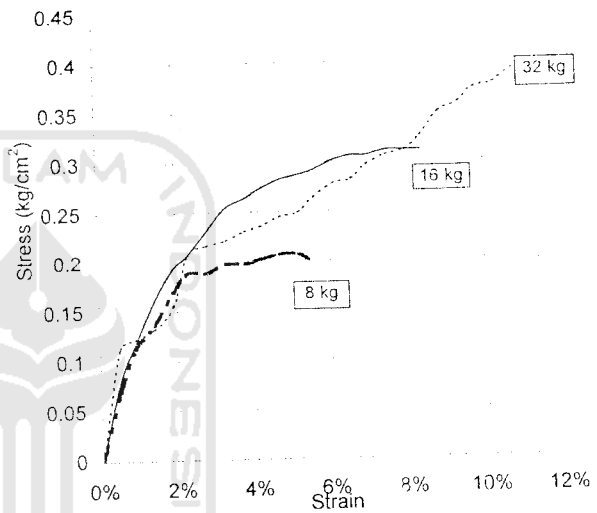
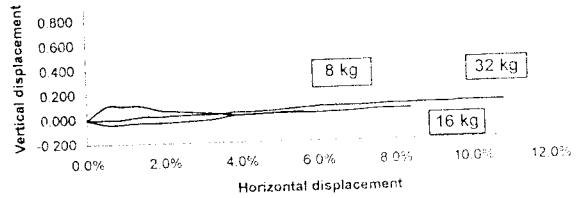
Date : 7 April 2007
 Tested by : Syaiful Anwar
 Pengujian : Undisturb

Sample data	
diameter (cm)	6.40
Area (cm ²)	32.17
Ht,Lo (cm)	2.30
Vol (cm ³)	73.99
Wt ring (gr)	69.06

LRC = 0.3026 kg/div

Water Content			
Wt Container (cup), gr	22.14	22.02	21.89
Wt of Cup + Wet soil, gr	36.11	38.86	37.45
Wt of Cup + Dry soil, gr	31.27	32.9	31.42
Water Content %	53.01	54.78	53.90
Average water content %	53.90		
Wt Soil + ring (gr)	175.21	173.30	179.87
Wet Unit wt (gr/cm ³)	1.435	1.409	1.498
Dry Unit wt (gr/cm ³)	0.932	0.916	0.973
Normal Stress σ_n (kg/cm ²)	0.249	0.497	0.995
Shear stress at failure τ (kg/cm ²)	0.207	0.310	0.357

Angle Of Internal friction, ϕ =	10.8 °
Cohesion =	0.18 kg/cm ²



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LAMPIRAN 10

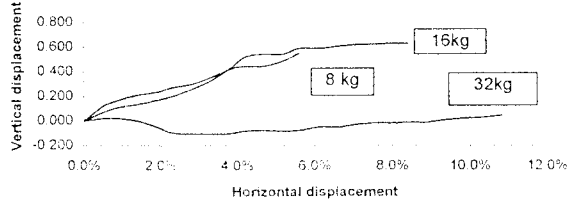


DIRECT SHEAR TEST

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 Kedalaman : 1,5 m
 No Sampel : 1

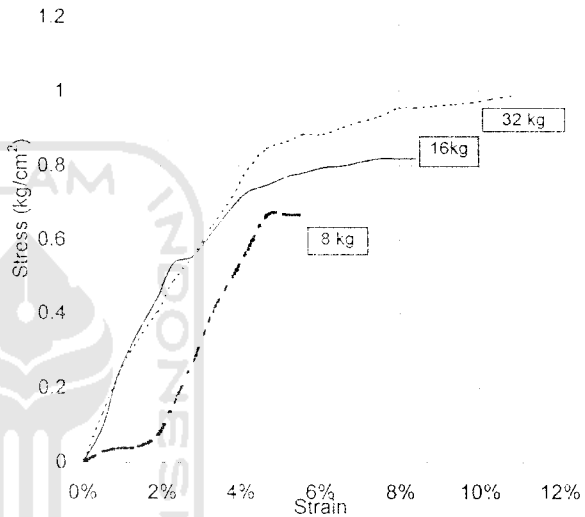
Date : 10 Maret 2007
 Tested by : Syaiful Anwar
 Aditif : Semen 1.5 %
 Pemeraman : 3 Hari

Sample data	
diameter (cm)	6.40
Area (cm ²)	32.17
Ht, Lo (cm)	2.30
Vol (cm ³)	73.99
Wt ring (gr)	69.06

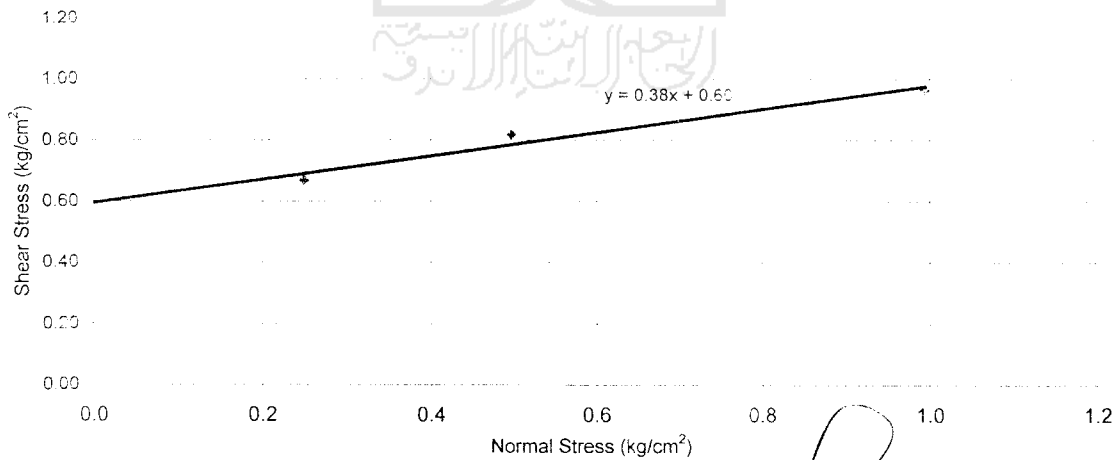


LRC = 0.3026 kg/div

Water Content			
Wt Container (cup), gr	22.28	22.17	22.26
Wt of Cup + Wet soil, gr	32.13	31.06	31.40
Wt of Cup + Dry soil, gr	29.72	28.92	29.12
Water Content %	32.39	31.70	32.05
Average water content %	32.05		
Wt Soil + ring (gr)	191.31	191.23	191.45
Wet Unit wt (gr/cm ³)	1.652	1.651	1.654
Dry Unit wt (gr/cm ³)	1.251	1.250	1.253
Normal Stress (T _n) (kg/cm ²)	0.249	0.497	0.995
Shear stress at failure τ (kg/cm ²)	0.868	0.818	0.954



Angle Of Internal friction, ϕ	20.8 °
Cohesion =	0.60 kg/cm ²



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DIRECT SHEAR TEST

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 Kedalaman : 1,5 m
 No Sampel : 1

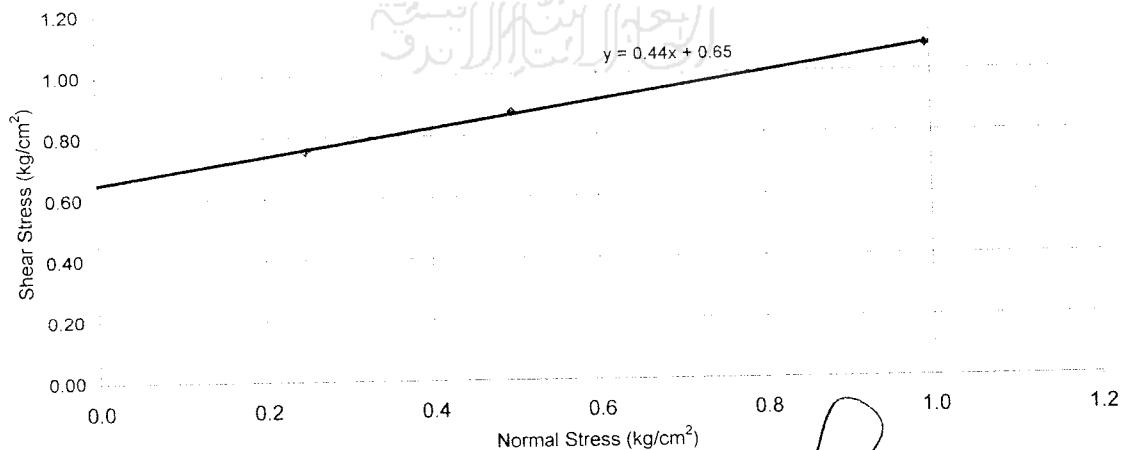
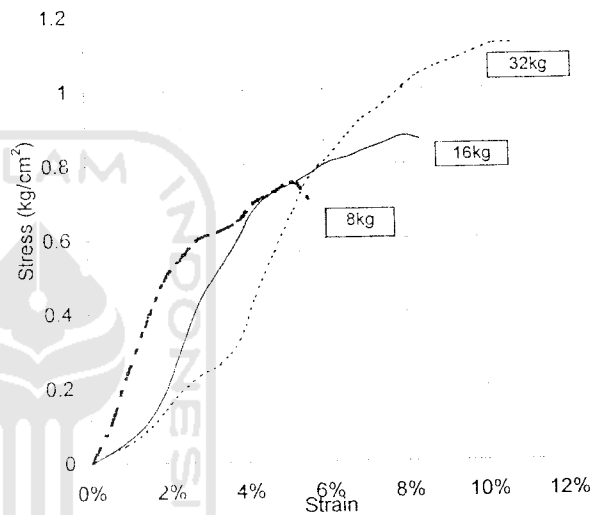
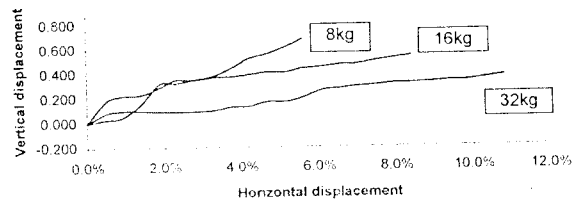
Date : 10 Maret 2007
 Tested by : Syaiful Anwar
 Aditif : Semen 3 %
 Pemeraman : 3 Hari

Sample data	
diameter (cm)	6.40
Area (cm ²)	32.17
Ht, Lo (cm)	2.30
Vol (cm ³)	73.99
Wt ring (gr)	69.06

LRC = 0.3026 kg/div

Water Content			
Wt Container (cup), gr	21.99	22.05	21.61
Wt of Cup + Wet soil, gr	32.61	34.45	33.19
Wt of Cup + Dry soil, gr	30.14	31.34	30.44
Water Content %	30.31	33.48	31.90
Average water content %	31.90		
Wt Soil + ring (gr)	191.18	191.05	191.04
Wet Unit wt (gr/cm ³)	1.650	1.649	1.649
Dry Unit wt (gr/cm ³)	1.251	1.250	1.250
Normal Stress σ_n (kg/cm ²)	0.249	0.497	0.995
Shear stress at failure τ (kg/cm ²)	0.753	0.875	1.082

Angle Of Internal friction, ϕ	=	23.7 °
Cohesion =		0.65 kg/cm ²



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Dr. Ir. Edy Purwanto, CES, DEA.



DIRECT SHEAR TEST

Project : Tugas Akhir
 Location : Ngablak, Bantul. (DIY)
 Description of soil : Clay Silt
 Kedalaman : 1,5 m
 No Sampel : 1

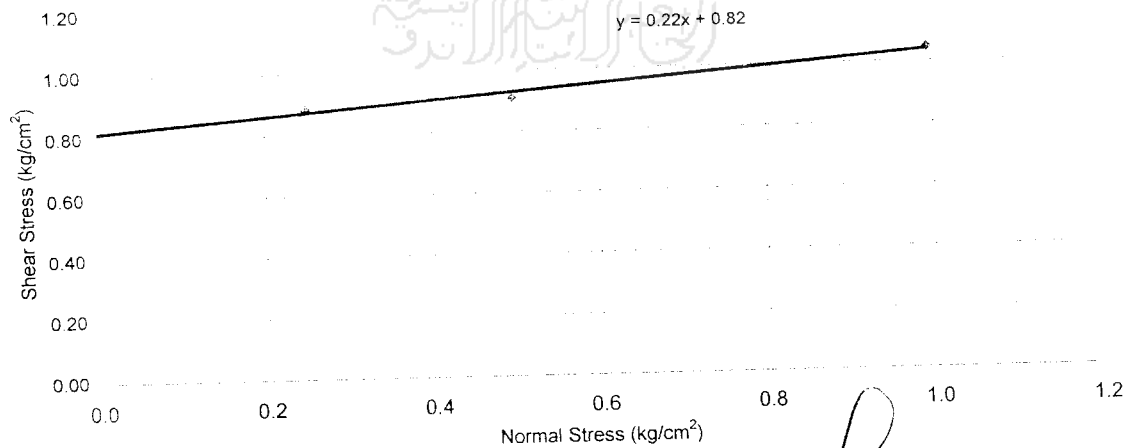
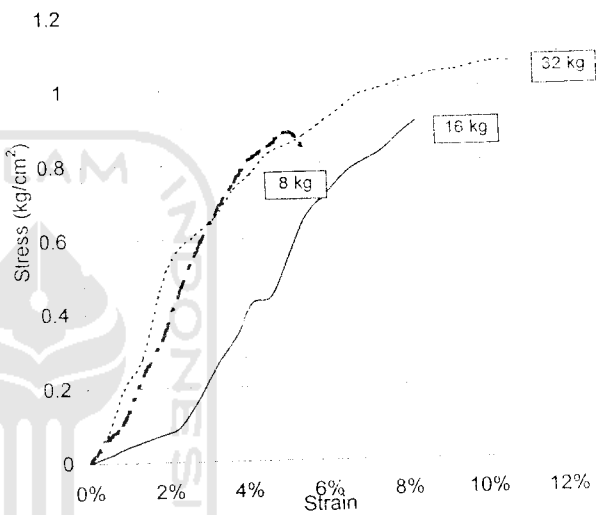
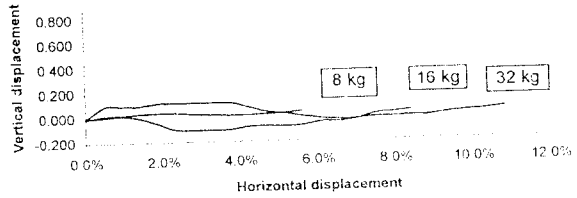
Date : 10 Maret 2007
 Tested by : Syaiful Anwar
 Aditif : Semen 4.5 %
 Pemeraman : 3 Hari

Sample data	
diameter (cm)	6.40
Area (cm ²)	32.17
Ht,Lo (cm)	2.30
Vol (cm ³)	73.99
Wt ring (gr)	69.06

LRC = 0.3027 kg/div

Water Content			
Wt Container (cup), gr	22.05	20.34	18.89
Wt of Cup + Wet soil, gr	33.03	32.80	31.12
Wt of Cup + Dry soil, gr	30.2	29.92	28.34
Water Content %	35.34	30.27	32.81
Average water content %	32.81		
Wt Soil + ring (gr)	191.41	190.74	191.45
Wet Unit wt (gr/cm ³)	1.864	1.845	1.654
Dry Unit wt (gr/cm ³)	1.245	1.239	1.245
Normal Stress G _n (kg/cm ²)	0.249	0.407	0.995
Shear stress at failure T (kg/cm ²)	0.884	0.803	1.044

Angle Of Internal friction, ϕ =	12.4 °
Cohesion =	0.82 kg/cm ²



Kepala laboratorium.

Dr. Ir. Edy Priwanto, CES, DEA.



DIRECT SHEAR TEST

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 Kedalaman : 1,5 m
 No Sampel : 1

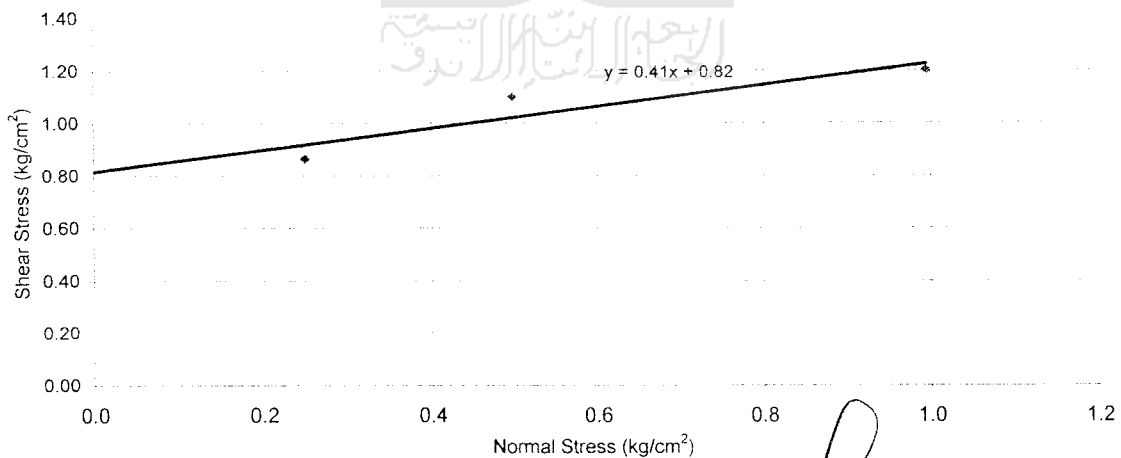
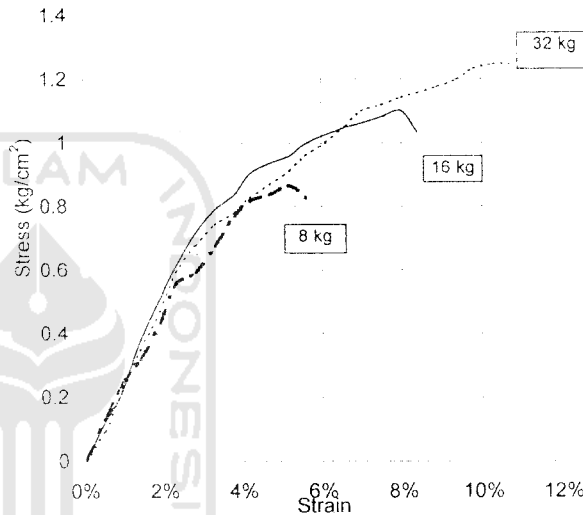
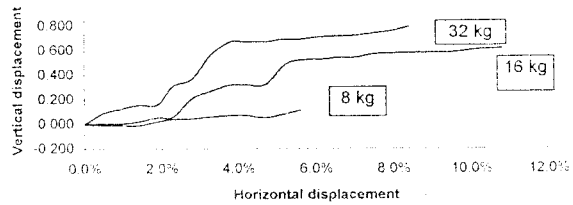
Date : 10 Maret 2007
 Tested by : Syaiful Anwar
 Aditif : Semen 6 %
 Pemeraman : 3 Hari

Sample data	
diameter (cm)	6.40
Area (cm ²)	32.17
Ht.Lo (cm)	2.30
Vol (cm ³)	73.99
Wt ring (gr)	69.06

LRC = 0.3026 kg/div

Water Content			
Wt Container (cup), gr	18.54	22.15	22.28
Wt of Cup + Wet soil, gr	29.49	32.64	33.25
Wt of Cup + Dry soil, gr	26.57	29.85	30.49
Water Content %	36.36	36.23	36.30
Average water content %	36.30		
Wt Soil + ring (gr)	191.05	190.97	190.43
Wet Unit wt (gr/cm ³)	1.649	1.648	1.640
Dry Unit wt (gr/cm ³)	1.210	1.209	1.203
Normal Stress σ_n (kg/cm ²)	0.249	0.497	0.995
Shear stress at failure τ (kg/cm ²)	0.865	1.101	1.199

Angle Of Internal friction, ϕ =	22.3 °
Cohesion =	0.82 kg/cm²



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DIRECT SHEAR TEST

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 Kedalaman : 1,5 m
 No Sampel : 1

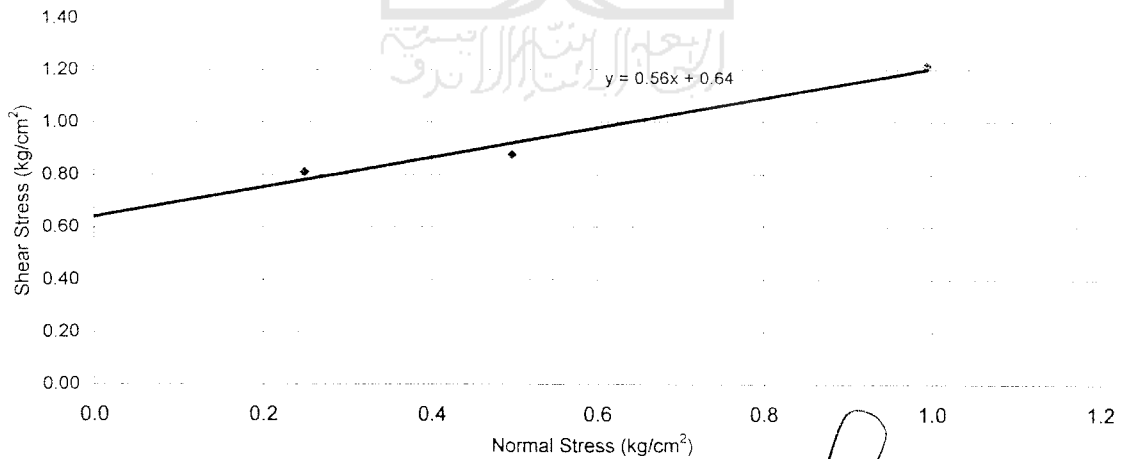
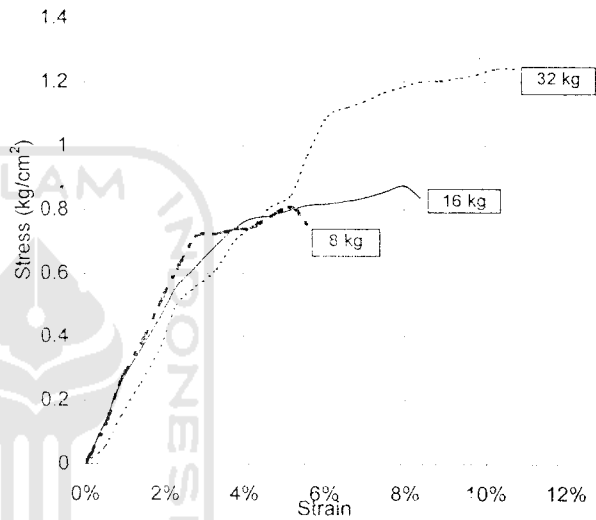
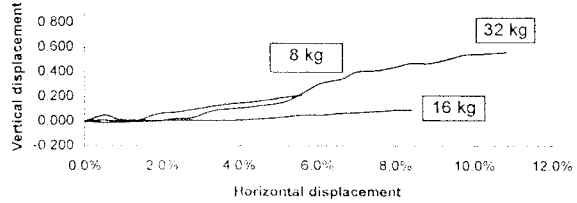
Date : 10 Maret 2007
 Tested by : Syaiful Anwar
 Aditif : Semen 7.5 %
 Pemeraman : 3 Hari

Sample data	
diameter (cm)	6.40
Area (cm ²)	32.17
Ht.Lo (cm)	2.30
Vol (cm ³)	73.99
Wt ring (gr)	69.06

LRC = 0.3026 kg/div

Water Content			
Wt Container (cup), gr	22.28	22.05	21.61
Wt of Cup + Wet soil, gr	33.81	32.65	32.43
Wt of Cup + Dry soil, gr	31.11	30.19	29.90
Water Content %	30.58	30.22	30.40
Average water content %	30.40		
Wt Soil + ring (gr)	191.31	191.23	191.45
Wat Unit wt (gr/cm ³)	1.652	1.651	1.654
Dry Unit wt (gr/cm ³)	1.267	1.266	1.268
Normal Stress (Tn (kg/cm ²))	0.249	0.497	0.995
Shear stress at failure τ (kg/cm ²)	0.809	0.875	1.213

Angle Of Internal friction, ϕ	29.2 °
Cohesion =	0.64 kg/cm ²



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DIRECT SHEAR TEST

Project : Tugas Akhir
 Location : Ngablak, Bantul. (DIY)
 Description of soil : Clay Silt
 Kedalaman : 1,5 m
 No Sampel : 1

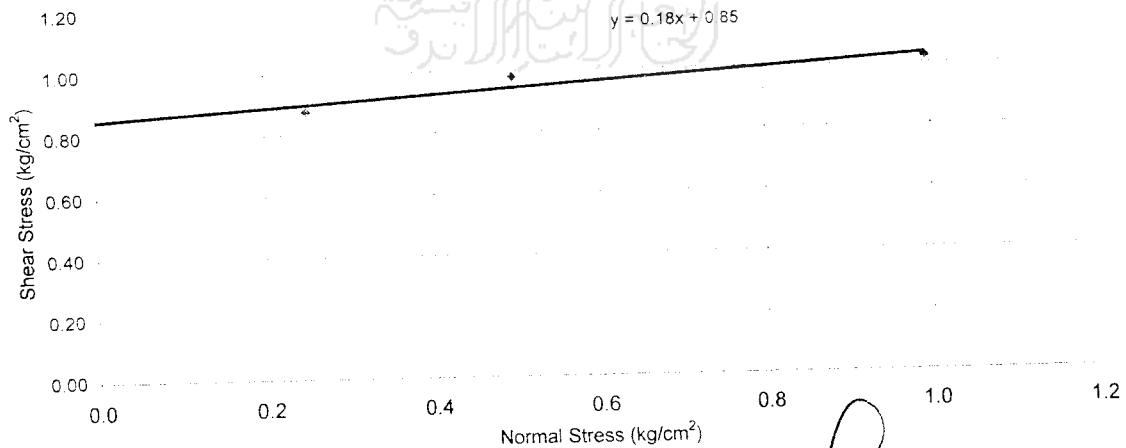
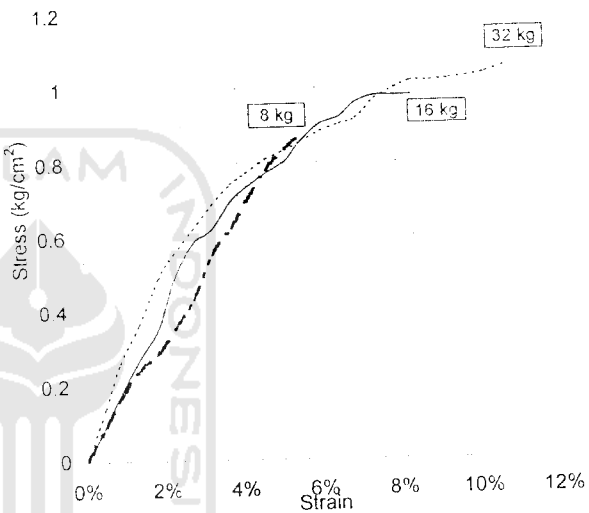
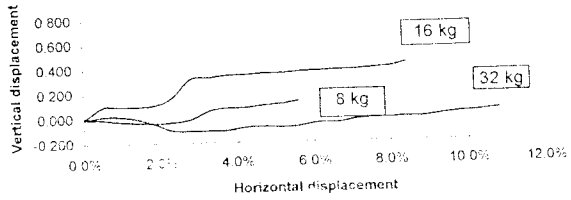
Date : 10 Maret 2007
 Tested by : Syaiful Anwar
 Aditif : Semen 9 %
 Pemeraman : 3 Hari

Sample data	
diameter (cm)	6.40
Area (cm ²)	32.17
Ht,Lo (cm)	2.30
Vol (cm ³)	73.99
Wt ring (gr)	69.06

LRC = 0.3025 kg/div

Water Content			
Wt Container (cup), gr	21.99	18.56	21.56
Wt of Cup + Wet soil, gr	32.45	30.08	31.54
Wt of Cup + Dry soil, gr	30.07	27.38	29.24
Water Content %	29.46	30.61	30.04
Average water content %	30.04		
Wt Soil + ring (gr)	190.72	190.52	190.12
Wet Unit wt (gr/cm ³)	1.644	1.642	1.636
Dry Unit wt (gr/cm ³)	1.264	1.263	1.258
Normal Stress σ_n (kg/cm ²)	0.240	0.497	0.995
Shear stress at failur τ (kg/cm ²)	0.875	0.978	1.021

Angle Of Internal friction, ϕ =	10.2 °
Cohesion =	0.85 kg/cm ²



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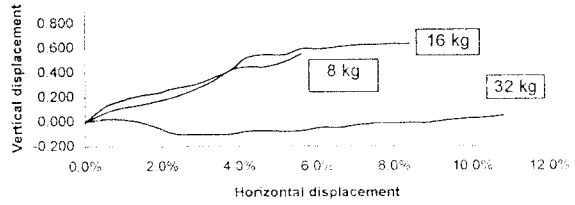


DIRECT SHEAR TEST

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 Kedalaman : 1.5 m
 No Sampel : 2

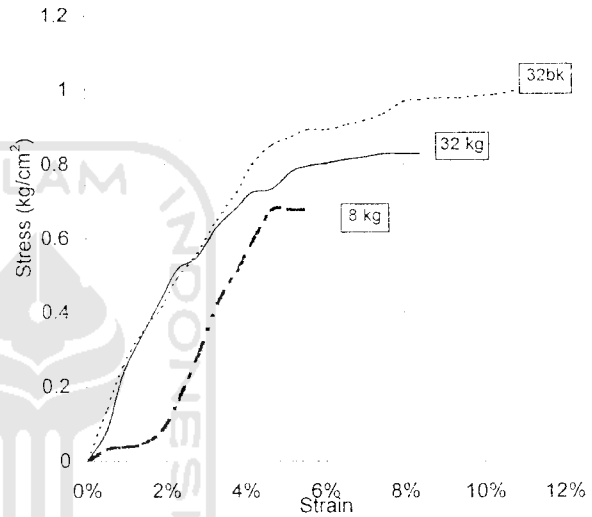
Date : 7 April 2007
 Tested by : Syaiful Anwar
 Aditif : Semen 1.5 %
 Pemeraman : 3 Hari

Sample data	
diameter (cm)	6.40
Area (cm ²)	32.17
Ht.Lo (cm)	2.30
Vol (cm ³)	73.99
Wt ring (gr)	69.06

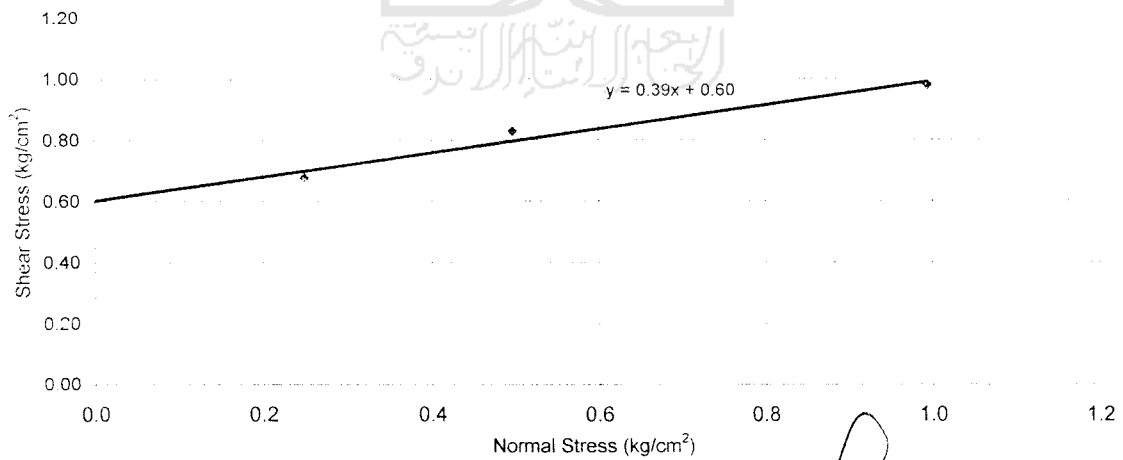


LRC = 0.3025 kg/div

Water Content			
Wt Container (cup). gr	22.28	22.17	22.26
Wt of Cup + Wet soil. gr	32.13	31.06	31.40
Wt of Cup + Dry soil. gr	29.72	28.92	29.12
Water Content %	32.39	31.70	32.05
Average water content %	32.05		
Wt Soil + ring (gr)	191.31	191.23	191.45
Wet Unit wt (gr/cm ³)	1.652	1.651	1.654
Dry Unit wt (gr/cm ³)	1.251	1.250	1.253
Normal Stress σ_n (kg/cm ²)	0.249	0.497	0.995
Shear stress at failure τ (kg/cm ²)	0.677	0.826	0.978



Angle Of Internal friction ϕ =	21.3 °
Cohesion =	0.60 kg/cm ²



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LABORATORIUM MEKANIKA TANAH
JURUSAN TEKNIK SIPIL-FTSP
UNIVERSITAS ISLAM INDONESIA

DIRECT SHEAR TEST

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silty
 Kedalaman : 1,5 m
 No Sampel : 2

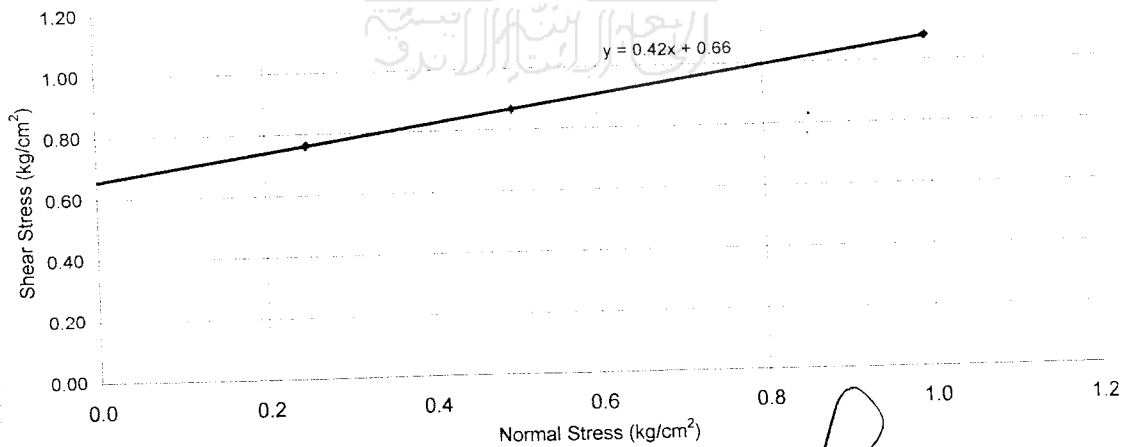
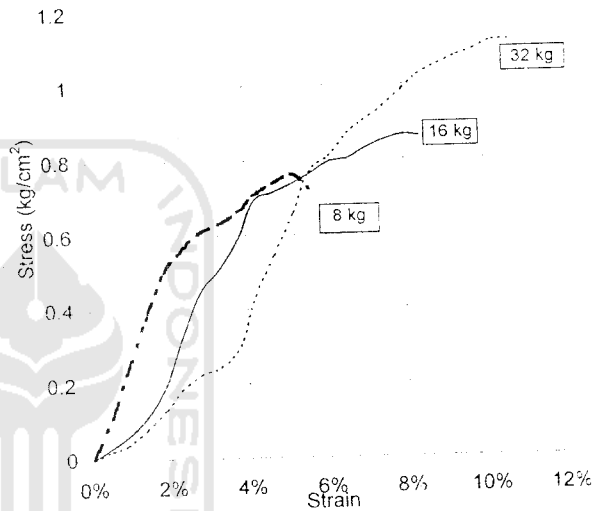
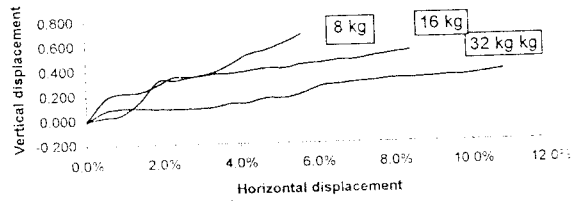
Date : 7 April 2007
 Tested by : Syaiful Anwar
 Aditif : Semen 3 %
 Pemeraman : 3 Hari

Sample data	
diameter (cm)	6.40
Area (cm ²)	32.17
Ht, Lo (cm)	2.30
Vol (cm ³)	73.99
Wt ring (gr)	69.06

LRC = 0.3026 kg/div

Water Content			
Wt Container (cup), gr	21.99	22.05	21.61
Wt of Cup + Wet soil, gr	32.61	34.45	33.19
Wt of Cup + Dry soil, gr	30.14	31.34	30.44
Water Content %	30.31	33.48	31.90
Average water content %	31.90		
Wt Soil + ring (gr)	191.18	191.05	191.04
Wet Unit wt (gr/cm ³)	1.650	1.649	1.649
Dry Unit wt (gr/cm ³)	1.251	1.250	1.250
Normal Stress σ_n (kg/cm ²)	0.249	0.497	0.995
Shear stress at failure τ (kg/cm ²)	0.762	0.865	1.077

Angle Of Internal friction, ϕ =	22.8 °
Cohesion =	0.66 kg/cm ²



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JURUSAN TEKNIK SIPIL-FTSP
UNIVERSITAS ISLAM INDONESIA

DIRECT SHEAR TEST

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 Kedalaman : 1,5 m
 No Sampel : 2

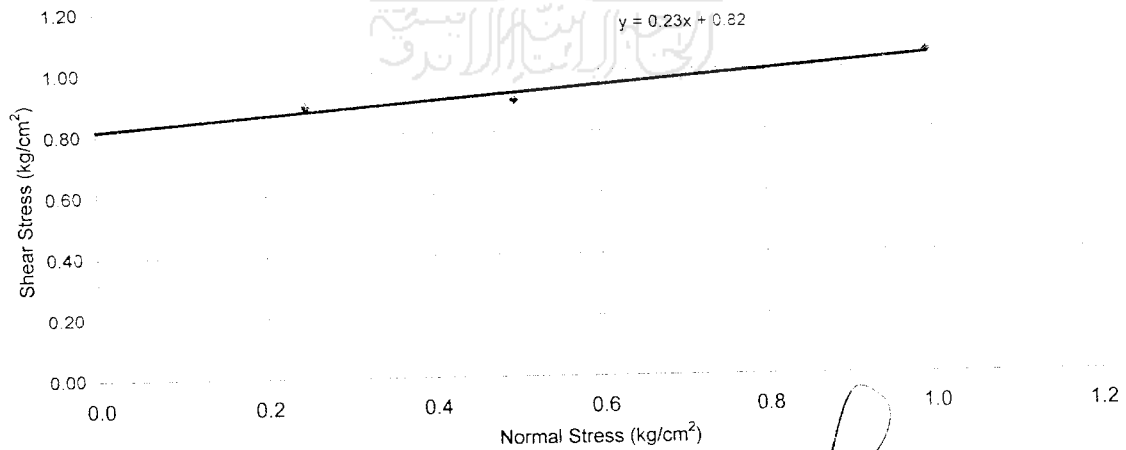
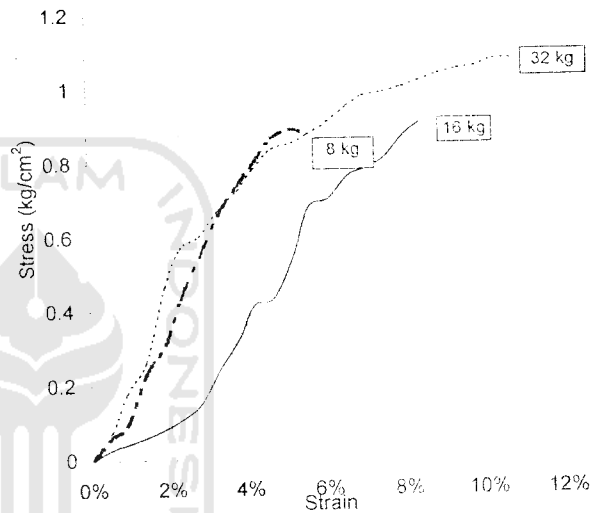
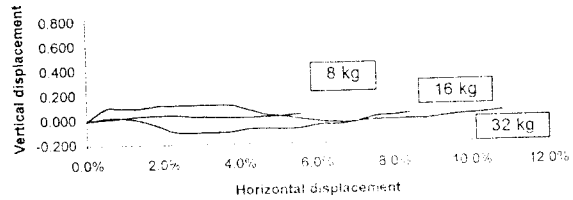
Date : 7 April 2007
 Tested by : Syaiful Anwar
 Aditif : Semen 4.5 %
 Pemeraman : 3 Hari

Sample data	
diameter (cm)	6.40
Area (cm ²)	32.17
Ht.Lo (cm)	2.30
Vol (cm ³)	73.99
Wt.ring (gr)	69.06

LRC = 0.3026 kg/div

Water Content			
Wt Container (cup). gr	22.05	20.34	18.89
Wt of Cup + Wet soil. gr	33.08	32.82	31.12
Wt of Cup + Dry soil. gr	30.2	29.92	28.34
Water Content %	35.34	30.27	32.81
Average water content %	32.81		
Wt Soil + ring (gr)	191.41	190.74	191.45
Wet Unit wt (gr/cm ³)	1.654	1.645	1.654
Dry Unit wt (gr/cm ³)	1.245	1.239	1.245
Normal Stress σ_n (kg/cm ²)	0.249	0.497	0.995
Shear stress at failur τ (kg/cm ²)	0.889	0.903	1.049

Angle Of Internal friction, ϕ	13.0 °
Cohesion =	0.82 kg/cm ²



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DIRECT SHEAR TEST

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 Kedalaman : 1,5 m
 No Sampel : 2

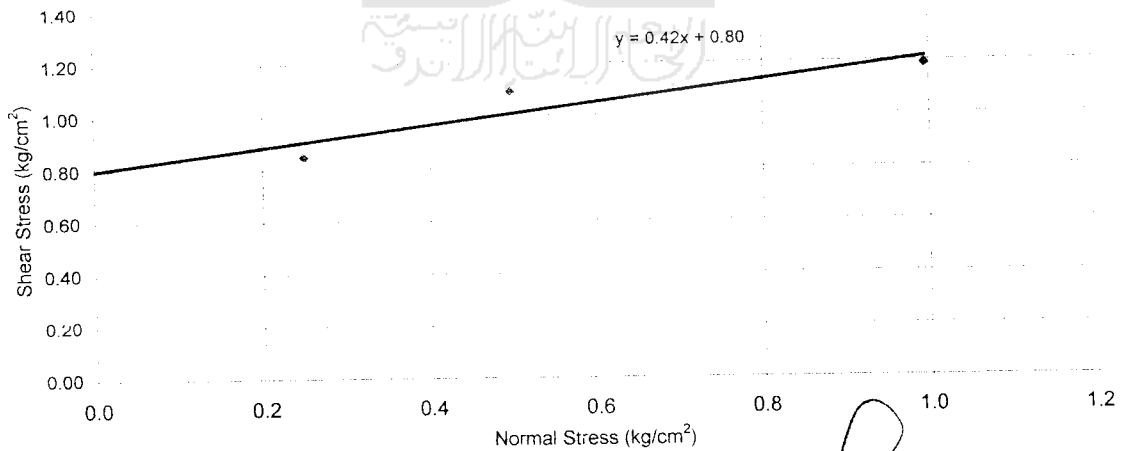
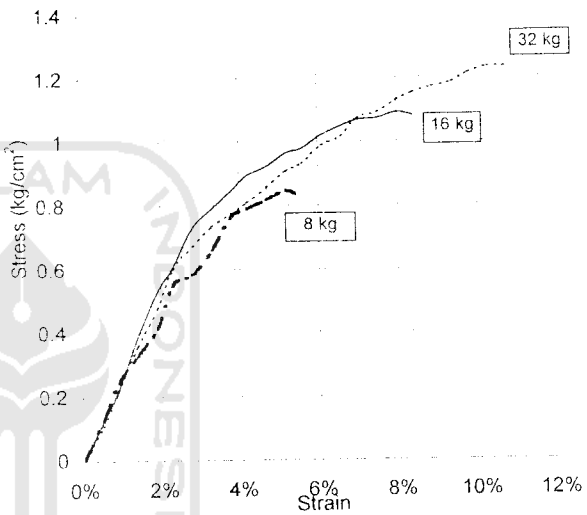
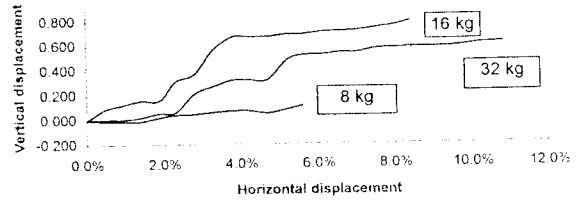
Date : 7 April 2007
 Tested by : Syaiful Anwar
 Aditif : Semen 6 %
 Pemeraman : 3 Hari

Sample data	
diameter (cm)	6.40
Area (cm ²)	32.17
Ht,Lo (cm)	2.30
Vol (cm ³)	73.99
Wt ring (gr)	69.06

LRC = 0.3026 kg /iv

Water Content			
Wt Container (cup), gr	18.54	22.15	22.28
Wt of Cup + Wet soil, gr	29.49	32.64	33.25
Wt of Cup + Dry soil, gr	26.57	29.85	30.49
Water Content %	36.36	36.23	36.30
Average water content %	36.30		
Wt Soil + ring (gr)	191.05	190.97	190.43
Wet Unit wt (gr/cm ³)	1.649	1.648	1.640
Dry Unit wt (gr/cm ³)	1.210	1.209	1.203
Normal Stress σ_n (kg/cm ²)	0.249	0.497	0.995
Shear stress at failure: τ (kg/cm ²)	0.847	1.091	1.185

Angle Of Internal friction, ϕ =	22.8 °
Cohesion =	0.80 kg/cm ²



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LABORATORIUM MEKANIK TANAH
JURUSAN TEKNIK SIPIL-FTSP
UNIVERSITAS ISLAM INDONESIA

DIRECT SHEAR TEST

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 Kedalaman : 1,5 m
 No Sampel : 2

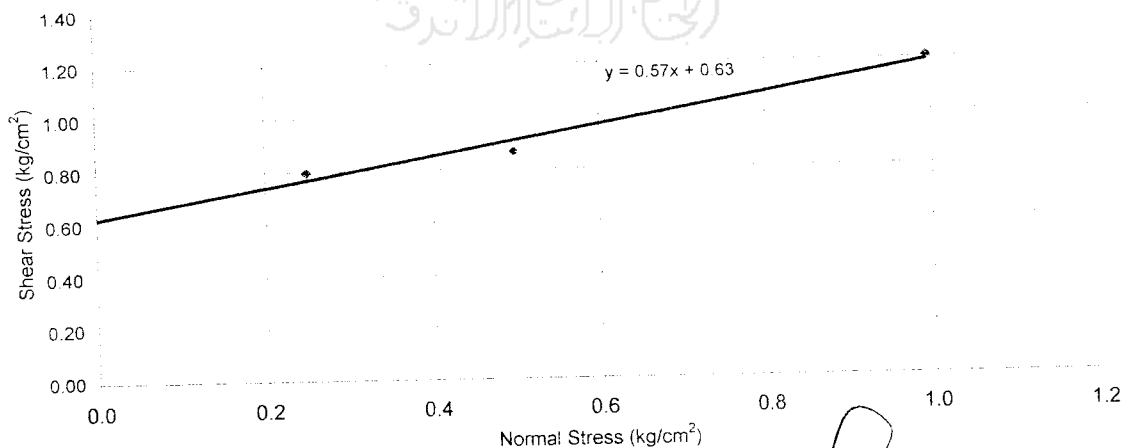
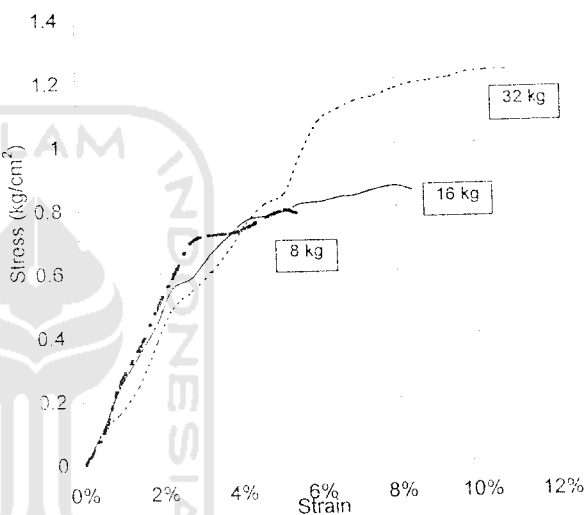
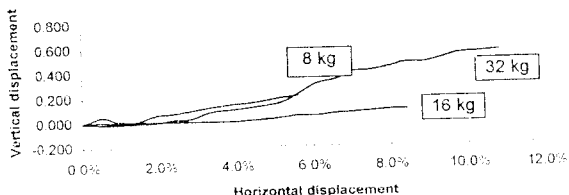
Date : 7 April 2007
 Tested by : Syaiful Anwar
 Aditif : Semen 7.5 %
 Pemeraman : 3 Hari

Sample data	
diameter (cm)	6.40
Area (cm ²)	32.17
Ht,Lo (cm)	2.30
Vol (cm ³)	73.99
Wt ring (gr)	69.06

LRC = 0.3026 kg/div

Water Content			
Wt Container (cup), gr	22.28	22.05	21.61
Wt of Cup + Wet soil, gr	33.81	32.65	32.43
Wt of Cup + Dry soil, gr	31.11	30.19	29.90
Water Content %	30.58	30.22	30.40
Average water content %	30.40		
Wt Soil + ring (gr)	191.31	191.23	191.45
Wet Unit wt (gr/cm ³)	1.652	1.651	1.654
Dry Unit wt (gr/cm ³)	1.267	1.266	1.262
Normal Stress σ_n (kg/cm ²)	0.249	0.497	0.995
Shear stress at failure τ (kg/cm ²)	0.795	0.865	1.204

Angle Of Internal friction, ϕ =	29.7 °
Cohesion =	0.63 kg/cm ²



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LABORATORIUM MEKANIKA TANAH
JURUSAN TEKNIK SIPIL-FTSP
UNIVERSITAS ISLAM INDONESIA

DIRECT SHEAR TEST

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 Kedalaman : 1.5 m
 No Sampel : 2

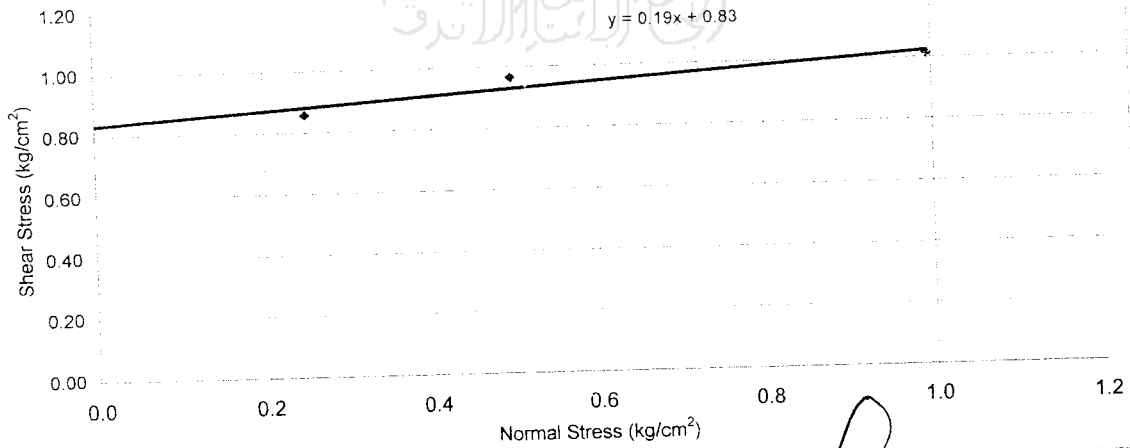
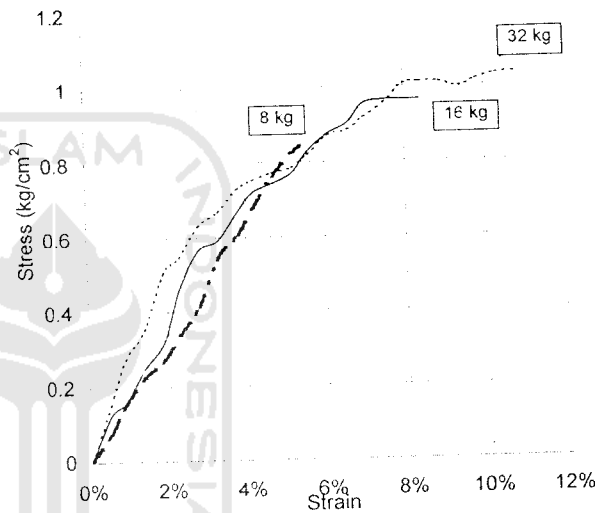
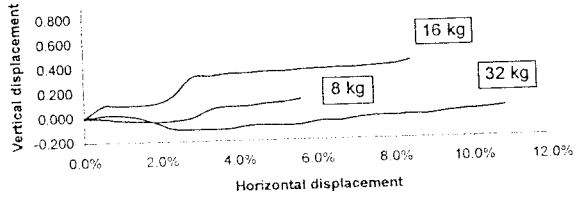
Date : 7 April 2007
 Tested by : Syaiful Anwar
 Aditif : Semen 9 %
 Pemeraman : 3 Hari

Sample data	
diameter (cm)	6.40
Area (cm ²)	32.17
Ht.Lo (cm)	2.30
Vol (cm ³)	73.99
Wt ring (gr)	69.06

LRC = 0.3026 kg/divc

Water Content			
Wt Container (cup). gr	21.99	18.56	21.56
Wt of Cup + Wet soil. gr	32.45	30.08	31.54
Wt of Cup + Dry soil. gr	30.07	27.38	29.24
Water Content %	29.46	30.61	30.04
Average water content %	30.04		
Wt Soil + ring (gr)	190.72	190.52	190.12
Wet Unit wt (gr/cm ³)	1.644	1.642	1.636
Dry Unit wt (gr/cm ³)	1.264	1.263	1.258
Normal Stress σ_n (kg/cm ²)	0.249	0.497	0.995
Shear stress at failur τ (kg/cm ²)	0.856	0.964	1.011

Angle Of Internal friction, ϕ	=	10.8 °
Cohesion	=	0.83 kg/cm ²



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LABORATORIUM MEKANIK TANAH
JURUSAN TEKNIK SIPIL-FTSP
UNIVERSITAS ISLAM INDONESIA

DIRECT SHEAR TEST

Project : Tugas Akhir
 Location : Ngablak, Bantul. (DIY)
 Description of soil : Clay Silt
 Kedalaman : 1,5 m
 No Sampel : 1

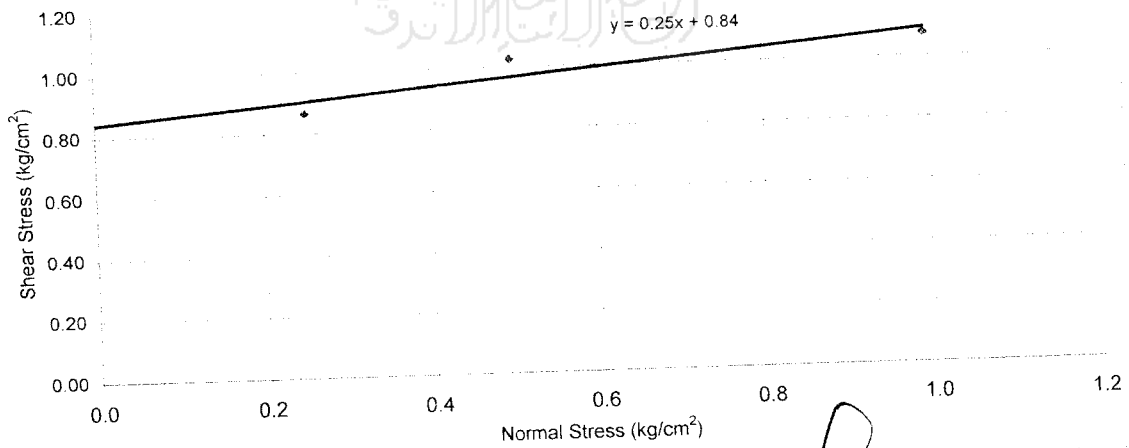
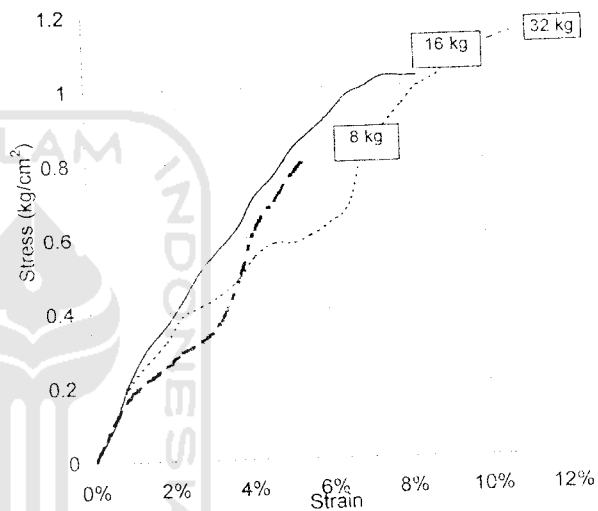
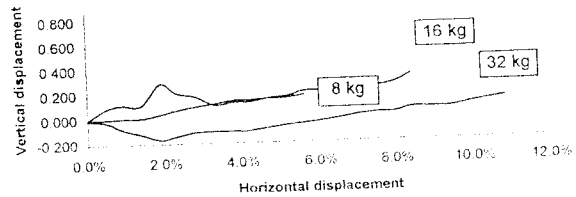
Date : 7 April 2007
 Tested by : Syaiful Anwar
 Aditif : Semen 1.5 %
 Pemeraman : 7 Hari

Sample data	
diameter (cm)	6.40
Area (cm ²)	32.17
Ht. Lo (cm)	2.30
Vol (cm ³)	73.99
Wt ring (gr)	69.06

LRC = 0.3026 kg/div

Water Content			
Wt Container (cup), gr	22.28	22.17	22.26
Wt of Cup + Wet soil, gr	32.13	31.06	31.40
Wt of Cup + Dry soil, gr	29.72	28.92	29.12
Water Content %	32.39	31.70	32.05
Average water content %	32.05		
Wt Soil + ring (gr)	190.51	190.88	190.38
Wet Unit wt (gr/cm ³)	1.641	1.643	1.640
Dry Unit wt (gr/cm ³)	1.243	1.246	1.242
Normal Stress σ_n (kg/cm ²)	0.249	0.407	0.995
Shear stress at failur τ (kg/cm ²)	0.665	1.025	1.072

Angle Of Internal friction, ϕ =	14.0 °
Cohesion =	0.84 kg/cm ²



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JURUSAN TEKNIK SIPIL-FTSP
UNIVERSITAS ISLAM INDONESIA

DIRECT SHEAR TEST

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 Kedalaman : 1,5 m
 No Sampel : 1

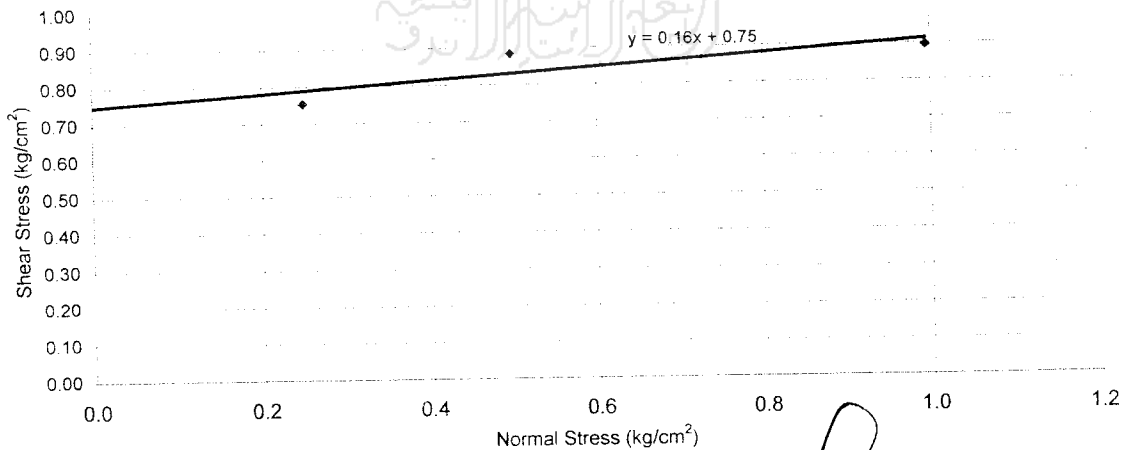
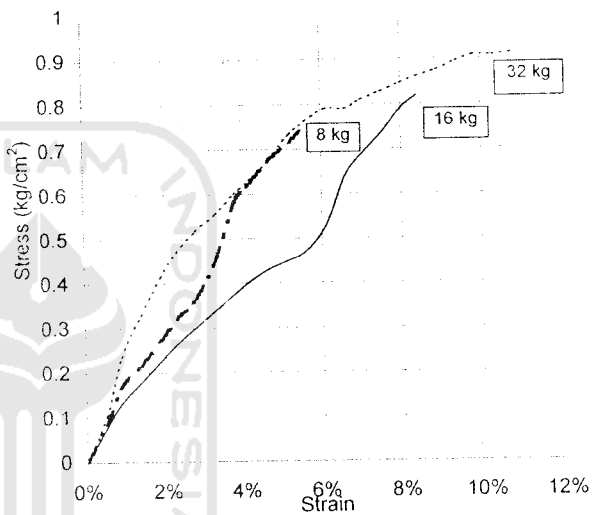
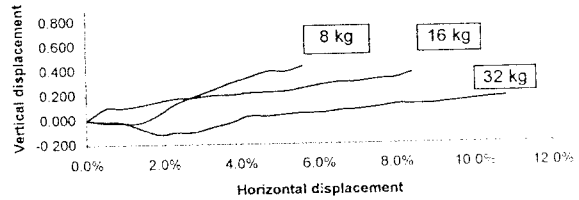
Date : 7 April 2007
 Tested by : Syaiful Anwar
 Aditif : Semen 3 %
 Pemeraman : 7 Hari

Sample data	
diameter (cm)	6.40
Area (cm ²)	32.17
Ht,Lo (cm)	2.30
Vol (cm ³)	73.99
Wt ring (gr)	69.06

LRC = 0.3026 kg/div

Water Content			
Wt Container (cup), gr	21.99	22.05	21.61
Wt of Cup + Wet soil, gr	32.61	34.45	33.19
Wt of Cup + Dry soil, gr	30.14	31.34	30.44
Water Content %	30.31	33.48	31.90
Average water content %	31.90		
Wt Soil + ring (gr)	190.95	190.03	191.05
Wet Unit wt (gr/cm ³)	1.647	1.635	1.649
Dry Unit wt (gr/cm ³)	1.249	1.240	1.250
Normal Stress σ_n (kg/cm ²)	0.249	0.497	0.995
Shear stress at failur τ (kg/cm ²)	0.753	0.884	0.894

Angle Of Internal friction, ϕ =	9.1 °
Cohesion =	0.75 kg/cm²



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JURUSAN TEKNIK SIPIL-FTSP
UNIVERSITAS ISLAM INDONESIA

DIRECT SHEAR TEST

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 Kedalaman : 1.5 m
 No Sampel : 1

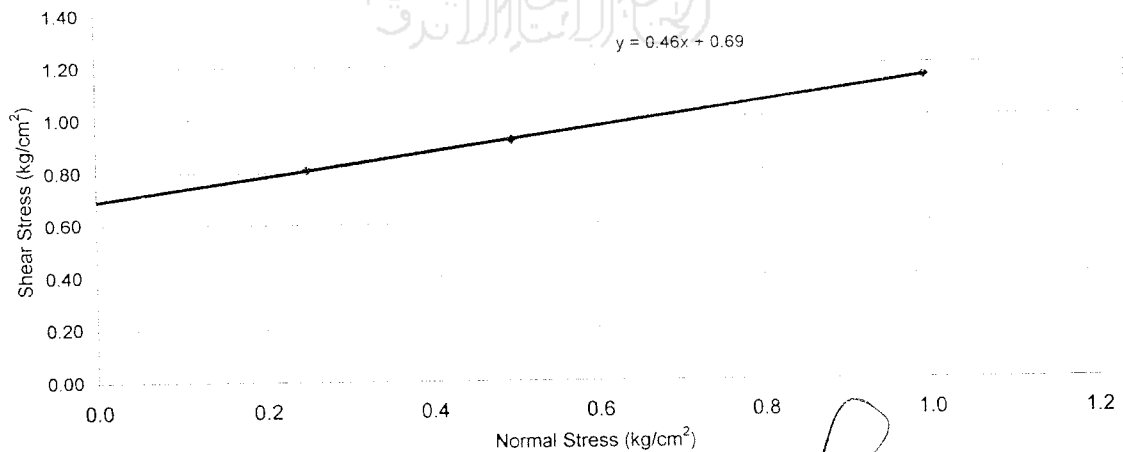
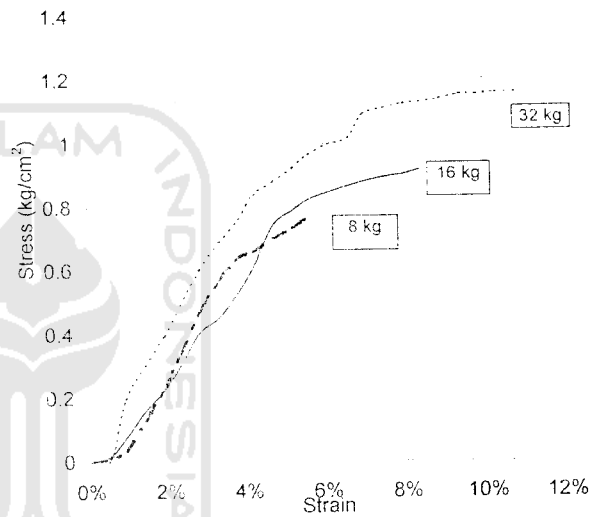
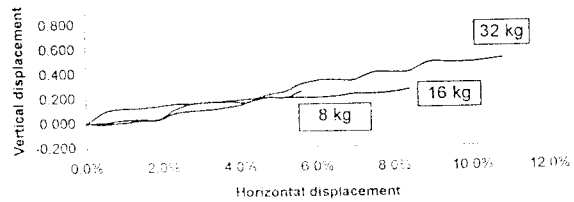
Date : 7 April 2007
 Tested by : Syaiful Anwar
 Aditif : Semen 4.5 %
 Pemeraman : 7 Hari

Sample data	
diameter (cm)	6.40
Area (cm ²)	32.17
Ht,Lo (cm)	2.30
Vol (cm ³)	73.99
Wt ring (gr)	69.06

LRC = 0.3026 kg/div

Water Content			
Wt Container (cup), gr	22.05	20.34	18.89
Wt of Cup + Wet soil, gr	33.08	32.82	31.12
Wt of Cup + Dry soil, gr	30.2	29.92	28.34
Water Content %	35.34	30.27	32.81
Average water content %	32.81		
Wt Soil + ring (gr)	188.90	190.61	190.39
Wet Unit wt (gr/cm ³)	1.620	1.643	1.640
Dry Unit wt (gr/cm ³)	1.220	1.237	1.235
Normal Stress σ_n (kg/cm ²)	0.249	0.497	0.995
Shear stress at failure τ (kg/cm ²)	0.809	0.917	1.152

Angle Of Internal friction, ϕ	=	24.7 °
Cohesion =		0.69 kg/cm ²



Kepala laboratorium.

Dr. Ir. Edy Purwanto, CES, DEA.



DIRECT SHEAR TEST

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 Kedalaman : 1,5 m
 No Sampel : 1

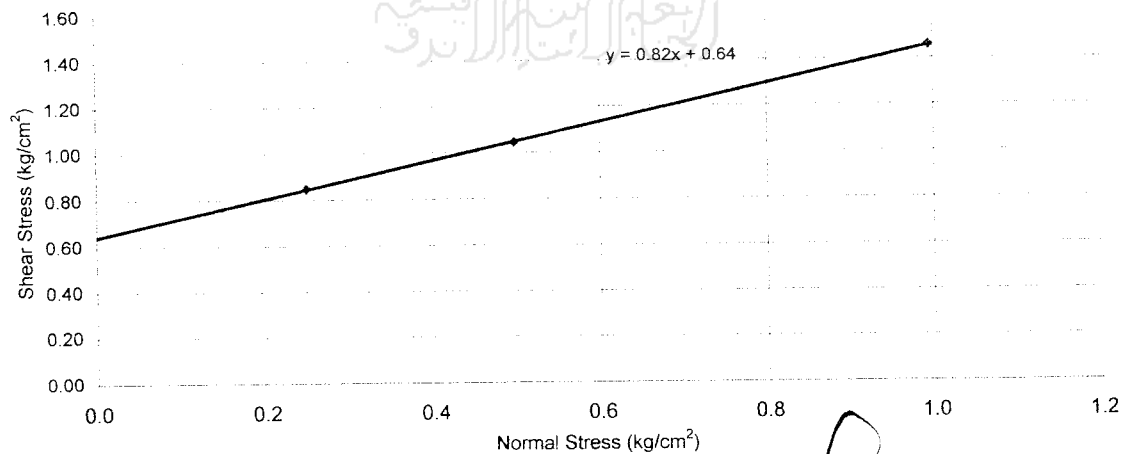
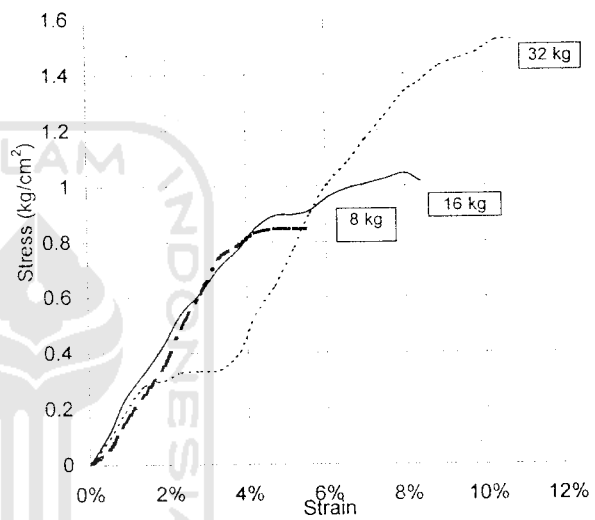
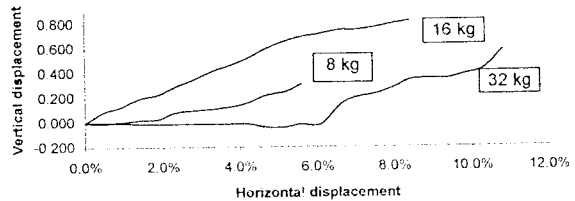
Date : 7 April 2007
 Tested by : Syaiful Anwar
 Aditif : Semen 6 %
 Pemeraman : 7 Hari

Sample data	
diameter (cm)	6.40
Area (cm ²)	32.17
Ht.Lo (cm)	2.30
Vol (cm ³)	73.99
Wt ring (gr)	69.06

LRC = 0.3026 kg/div

Water Content			
Wt Container (cup), gr	18.54	22.15	22.28
Wt of Cup + Wet soil, gr	29.49	32.64	33.25
Wt of Cup + Dry soil, gr	26.57	29.85	30.49
Water Content %	36.36	36.23	36.30
Average water content %	36.30		
Wt Soil + ring (gr)	190.79	190.83	191.18
Wet Unit wt (gr/cm ³)	1.645	1.646	1.650
Dry Unit wt (gr/cm ³)	1.207	1.208	1.211
Normal Stress σ_n (kg/cm ²)	0.249	0.497	0.995
Shear stress at failur τ (kg/cm ²)	0.847	1.044	1.458

Angle Of Internal friction, ϕ =	39.4 °
Cohesion =	0.64 kg/cm ²



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DIRECT SHEAR TEST

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 Kedalaman : 1,5 m
 No Sampei : 1

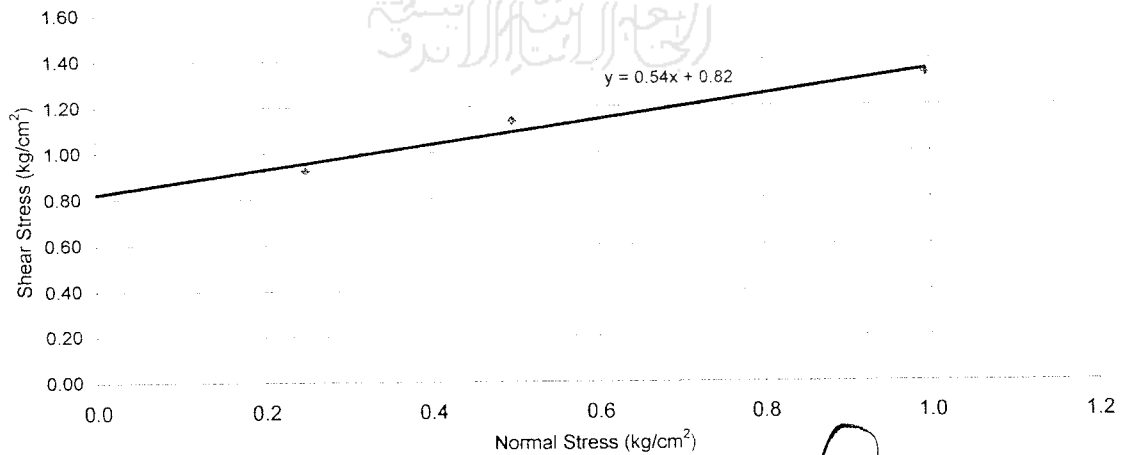
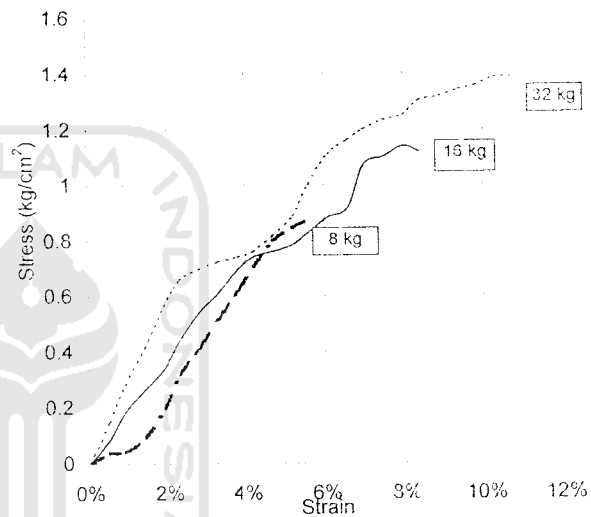
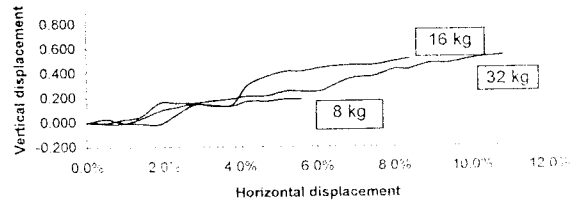
Date : 7 April 2007
 Tested by : Syaiful Anwar
 Aditif : Semen 7.5 %
 Pemeraman : 7 Hari

Sample data	
diameter (cm)	6.40
Area (cm ²)	32.17
Ht,Lo (cm)	2.30
Vol (cm ³)	73.99
Wt ring (gr)	69.06

LRC = 0.3026 kg/div

Water Content			
Wt Container (cup), gr	22.28	22.05	21.61
Wt of Cup + Wet soil, gr	33.81	32.65	32.43
Wt of Cup + Dry soil, gr	31.11	30.19	29.90
Water Content %	30.58	30.22	30.40
Average water content %	30.40		
Wt Soil + ring (gr)	190.94	190.22	190.69
Wet Unit wt (gr/cm ³)	1.647	1.638	1.644
Dry Unit wt (gr/cm ³)	1.253	1.256	1.281
Normal Stress σ_n (kg/cm ²)	0.249	0.497	0.995
Shear stress at failur τ (kg/cm ²)	0.922	1.138	1.340

Angle Of Internal friction, ϕ	=	28.4 °
Cohesion =		0.82 kg/cm ²



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LABORATORIUM MEKANIKA TANAH
JURUSAN TEKNIK SIPIL-FTSP
UNIVERSITAS ISLAM INDONESIA

DIRECT SHEAR TEST

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 Kedalaman : 1,5 m
 No Sampel : 1

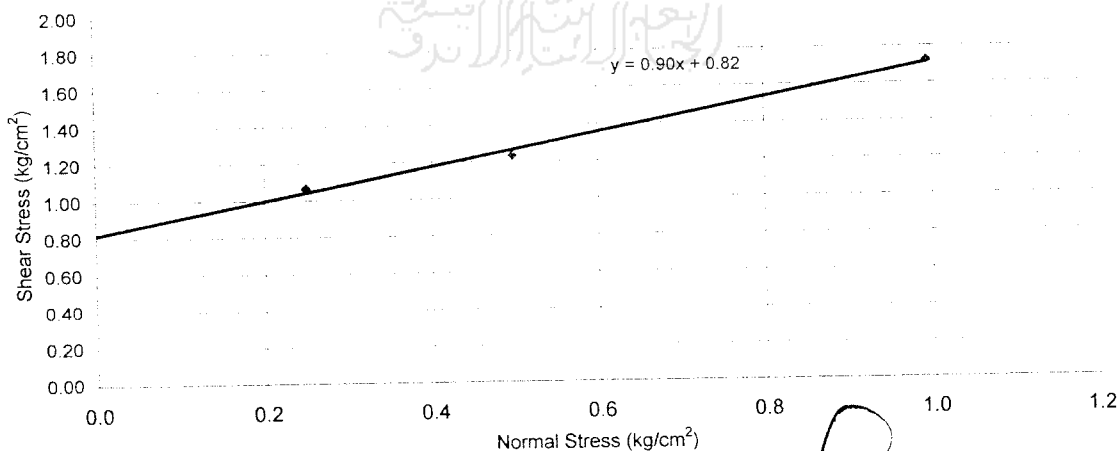
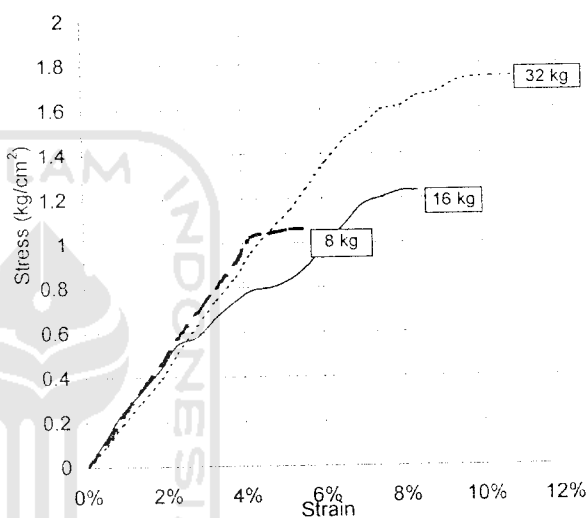
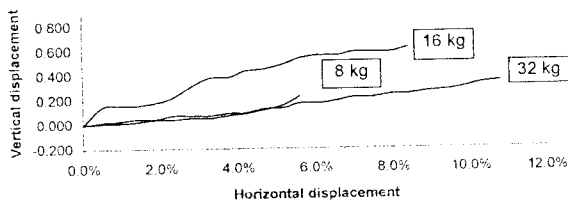
Date : 7 April 2007
 Tested by : Syaiful Anwar
 Aditif : Semen 9 %
 Pemeraman : 7 Hari

Sample data	
diameter (cm)	6.40
Area (cm ²)	32.17
Ht, Lo (cm)	2.30
Vol (cm ³)	73.99
Wt ring (gr)	69.06

LRC = 0.3026 kg/div

Water Content			
Wt Container (cup), gr	21.99	18.56	21.56
Wt of Cup + Wet soil, gr	32.45	30.08	31.54
Wt of Cup + Dry soil, gr	30.07	27.35	29.24
Water Content %	29.46	30.61	30.04
Average water content %	30.04		
Wt Soil + ring (gr)	190.33	189.36	190.69
Wet Unit wt (gr/cm ³)	1.639	1.626	1.644
Dry Unit wt (gr/cm ³)	1.260	1.250	1.264
Normal Stress σ_n (kg/cm ²)	0.249	0.497	0.995
Shear stress at failure τ (kg/cm ²)	1.063	1.232	1.721

Angle Of Internal friction, ϕ =	42.0 °
Cohesion =	0.82 kg/cm ²



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DIRECT SHEAR TEST

Project : Tugas Akhir
 Location : Ngablak, Bantul. (DIY)
 Description of soil : Clay Silt
 Kedalaman : 1,5 m
 No Sampel : 2

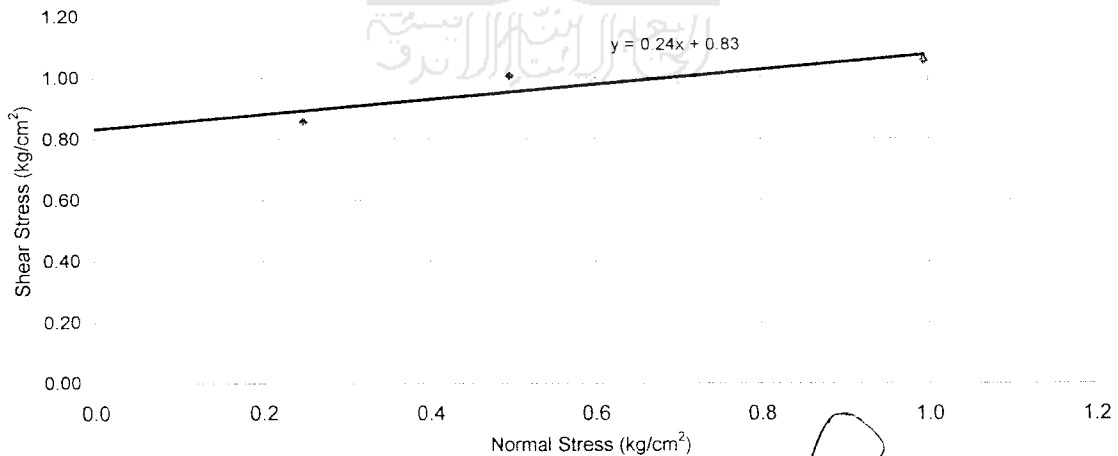
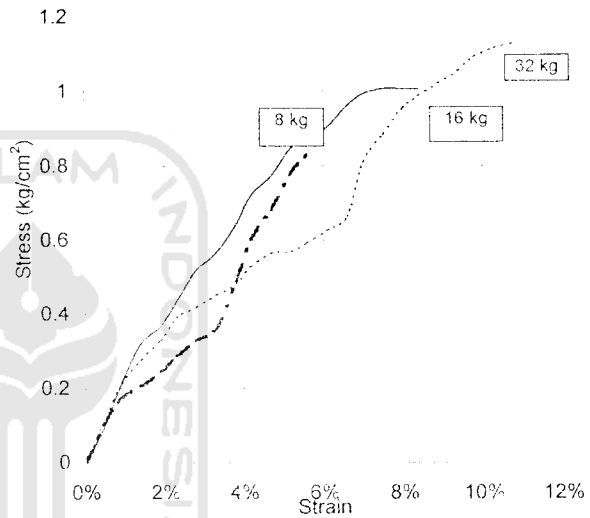
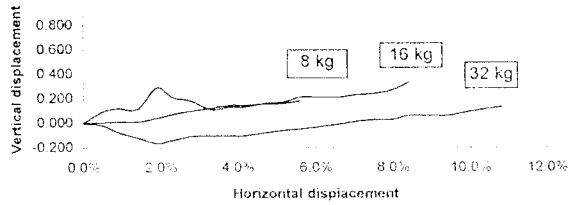
Date : 7 April 2007
 Tested by : Syaiful Anwar
 Aditif : Semen 1.5 %
 Pemeraman : 7 Hari

Sample data	
diameter (cm)	6.40
Area (cm ²)	32.17
Ht.Lo (cm)	2.30
Vol (cm ³)	73.99
Wt ring (gr)	69.06

LRC = 0.3026 kg/div

Water Content			
Wt Container (cup), gr	22.28	22.17	22.26
Wt of Cup + Wet soil, gr	32.13	31.06	31.40
Wt of Cup + Dry soil, gr	29.72	28.92	29.12
Water Content %	32.39	31.70	32.05
Average water content %	32.05		
Wt Soil + ring (gr)	190.51	190.88	190.38
Wet Unit wt (gr/cm ³)	1.641	1.646	1.640
Dry Unit wt (gr/cm ³)	1.243	1.243	1.242
Normal Stress σ_n (kg/cm ²)	0.249	0.497	0.995
Shear stress at failure τ (kg/cm ²)	0.856	1.066	1.054

Angle Of Internal friction, ϕ	=	13.5 °
Cohesion =		0.83 kg/cm ²



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JURUSAN TEKNIK SIPIL-FTSP
UNIVERSITAS ISLAM INDONESIA

DIRECT SHEAR TEST

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 Kedalaman : 1.5 m
 No Sampel : 2

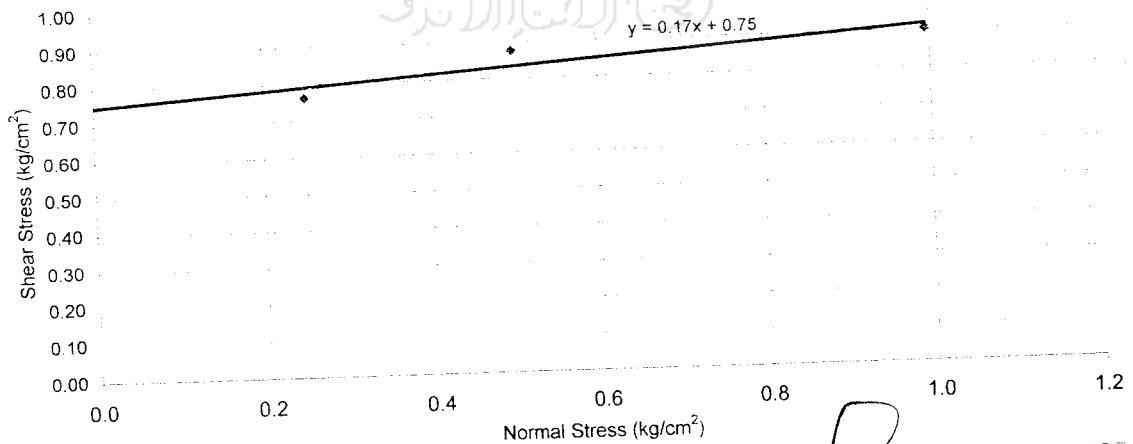
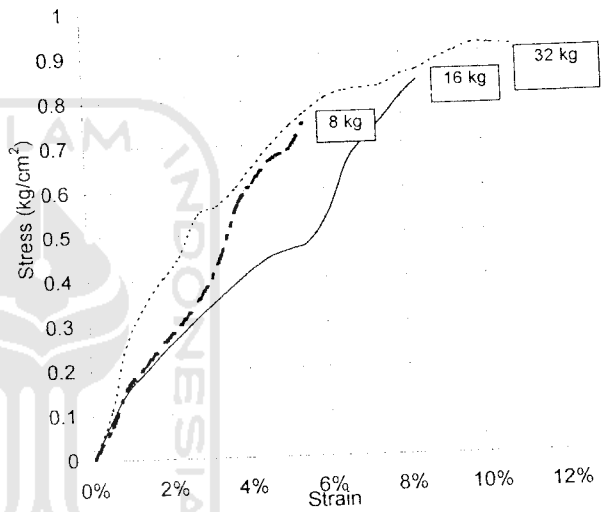
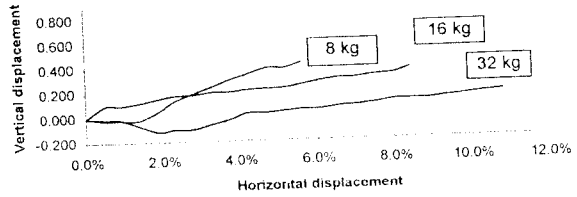
Date : 7 April 2007
 Tested by : Syaiful Anwar
 Aditif : Semen 3 %
 Pemeraman : 7 Hari

Sample data	
diameter (cm)	6.40
Area (cm ²)	32.17
Ht.Lo (cm)	2.30
Vol (cm ³)	73.99
Wt ring (gr)	69.06

LRC = 0.3026 kg/div

Water Content			
Wt Container (cup), gr	21.99	22.05	21.61
Wt of Cup + Wet soil, gr	32.61	34.45	33.19
Wt of Cup + Dry soil, gr	30.14	31.34	30.44
Water Content %	30.31	33.48	31.90
Average water content %	31.90		
Wt Soil + ring (gr)	190.95	190.03	191.05
Wet Unit wt (gr/cm ³)	1.647	1.635	1.649
Dry Unit wt (gr/cm ³)	1.249	1.240	1.250
Normal Stress σ_n (kg/cm ²)	0.249	0.497	0.995
Shear stress at failur τ (kg/cm ²)	0.762	0.875	0.903

Angle Of Internal friction, ϕ =	9.6 °
Cohesion =	0.75 kg/cm ²



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LABORATORIUM MEKANIKA TANAH
JURUSAN TEKNIK SIPIL-FTSP
UNIVERSITAS ISLAM INDONESIA

DIRECT SHEAR TEST

Project : Tugas Akhir
 Location : Ngablak, Bantul. (DIY)
 Description of soil : Clay Silt
 Kedalaman : 1,5 m
 No Sampel : 2

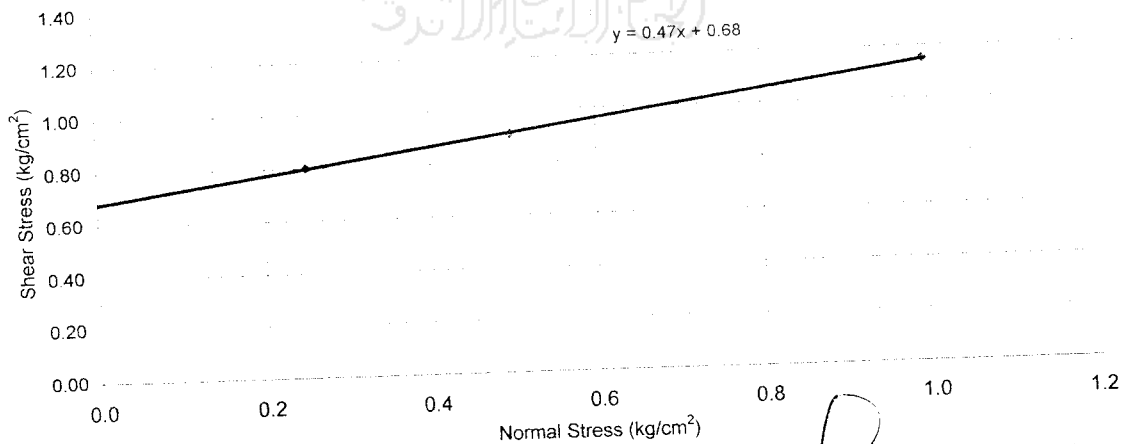
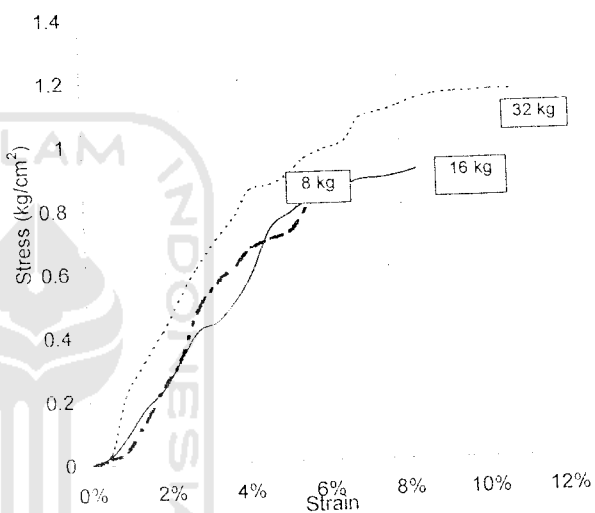
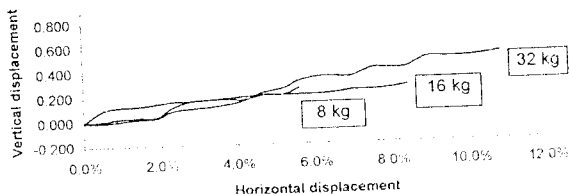
Date : 7 April 2007
 Tested by : Syaiful Anwar
 Aditif : Semen 4.5 %
 Pemeraman : 7 Hari

Sample data	
diameter (cm)	6.40
Area (cm ²)	32.17
Ht, Lo (cm)	2.30
Vol (cm ³)	73.99
Wt ring (gr)	69.06

LRC = 0.3026 kg/div

Water Content			
Wt Container (cup), gr	22.05	20.34	18.89
Wt of Cup + Wet soil, gr	33.08	32.82	31.12
Wt of Cup + Dry soil, gr	30.2	29.92	28.34
Water Content %	35.34	30.27	32.81
Average water content %	32.81		
Wt Soil + ring (gr)	188.90	190.61	190.39
Wet Unit wt (gr/cm ³)	1.620	1.643	1.640
Dry Unit wt (gr/cm ³)	1.220	1.237	1.235
Normal Stress σ_n (kg/cm ²)	0.249	0.497	0.995
Shear stress at failur τ (kg/cm ²)	0.800	0.908	1.148

Angle Of Internal friction, ϕ	=	25.2 °
Cohesion =		0.68 kg/cm ²



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DIRECT SHEAR TEST

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 Kedalaman : 1,5 m
 No Sampel : 2

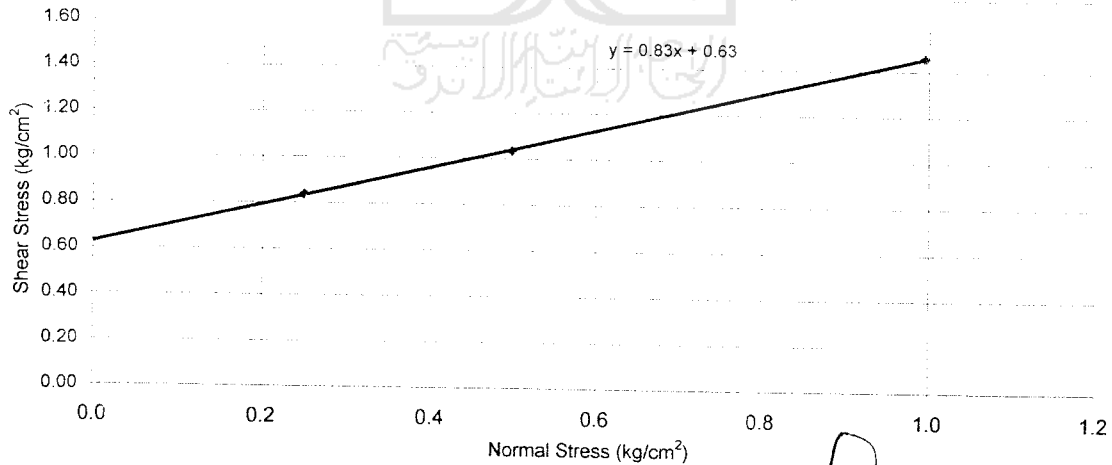
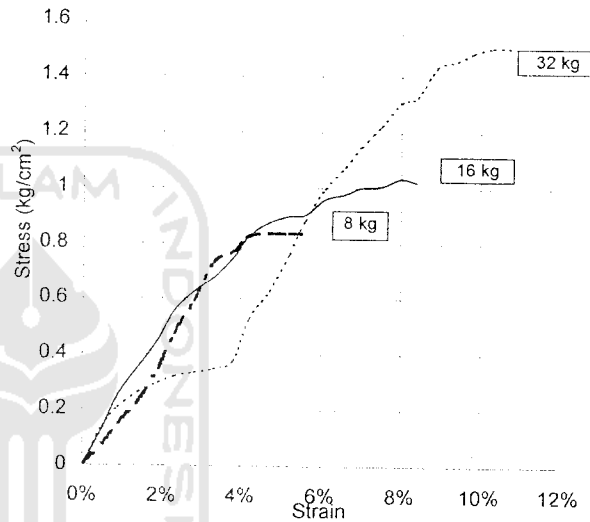
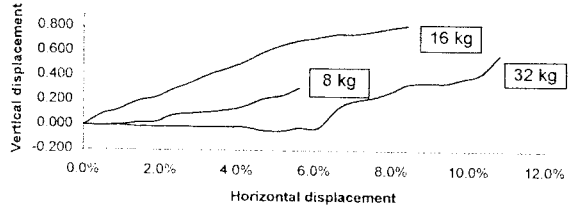
Date : 7 April 2007
 Tested by : Syaiful Anwar
 Aditif : Semen 6 %
 Pemeraman : 7 Hari

Sample data	
diameter (cm)	6.40
Area (cm ²)	32.17
Ht, Lo (cm)	2.30
Vol (cm ³)	73.99
Wt ring (gr)	69.06

LRC = 0.3026 kg/div

Water Content			
Wt Container (cup), gr	18.54	22.15	22.28
Wt of Cup + Wet soil, gr	29.49	32.64	33.25
Wt of Cup + Dry soil, gr	26.57	29.85	30.49
Water Content %	36.36	36.23	36.30
Average water content %	36.30		
Wt Soil + ring (gr)	190.79	190.83	191.18
Wet Unit wt (gr/cm ³)	1.645	1.646	1.650
Dry Unit wt (gr/cm ³)	1.207	1.208	1.211
Normal Stress $\bar{\sigma}_n$ (kg/cm ²)	0.249	0.497	0.995
Shear stress at failur τ (kg/cm ²)	0.837	1.035	1.458

Angle Of internal friction, ϕ =	39.7 °
Cohesion =	0.63 kg/cm ²



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LABORATORIUM MEKANIKA TANAH
JURUSAN TEKNIK SIPIL-FTSP
UNIVERSITAS ISLAM INDONESIA

DIRECT SHEAR TEST

Project : Tugas Akhir
 Location : Ngablak, Bantul, (DIY)
 Description of soil : Clay Silt
 Kedalaman : 1,5 m
 No Sampel : 2

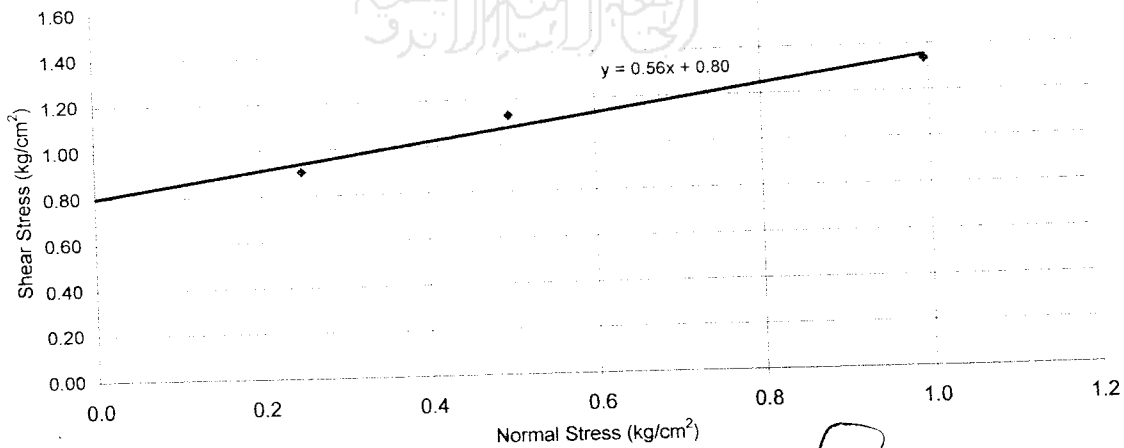
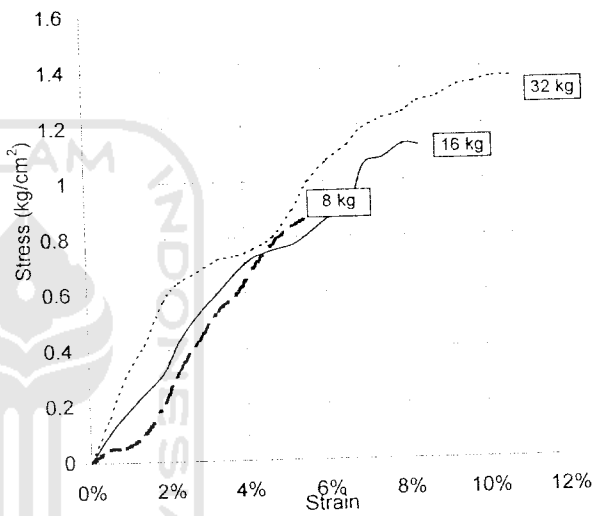
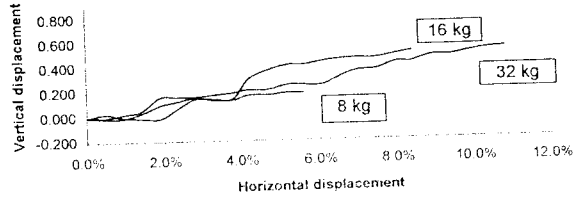
Date : 7 April 2007
 Tested by : Syaiful Anwar
 Aditif : Semen 7.5 %
 Pemeraman : 7 Hari

Sample data	
diameter (cm)	6.40
Area (cm ²)	32.17
Ht.Lo (cm)	2.30
Vol (cm ³)	73.99
Wt ring (gr)	69.06

LRC = 0.3026 kg/div

Water Content			
Wt Container (cup), gr	22.28	22.05	21.61
Wt of Cup + Wet soil, gr	33.81	32.65	32.43
Wt of Cup + Dry soil, gr	31.11	30.19	29.90
Water Content %	30.58	30.22	30.40
Average water content %	30.40		
Wt Soil + ring (gr)	190.94	190.22	190.69
Wet Unit wt (gr/cm ³)	1.647	1.638	1.644
Dry Unit wt (gr/cm ³)	1.263	1.256	1.261
Normal Stress σ_n (kg/cm ²)	0.249	0.497	0.995
Shear stress at failure τ (kg/cm ²)	0.903	1.129	1.336

Angle Of Internal friction, ϕ = 29.2 °
 Cohesion = 0.80 kg/cm²



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LAMPIRAN 11

PERNYATAAN BEBAS PLAGIATISME

Dengan ini saya menyatakan bahwa dalam Tugas Akhir ini tidak terdapat karya yang pernah diajukan orang lain untuk memperoleh gelar kesarjanaan di Jurusan Teknik Sipil, Fakultas Teknik Sipil dan Perencanaan, Universitas Islam Indonesia, dan sepanjang pengetahuan saya juga tidak terdapat karya atau pendapat yang pernah ditulis atau diterbitkan oleh orang lain, kecuali yang secara tertulis diacu dalam naskah ini dan disebutkan dalam referensi.

Apabila dikemudian hari terbukti bahwa pernyataan ini tidak benar, saya sanggup menerima hukuman atau sanksi sesuai dengan peraturan yang berlaku.



Yogyakarta, 24 Mei 2007

Penyusun,

A handwritten signature in black ink, appearing to read 'Syaiful Anwar', is written over the printed name.

(Syaiful Anwar)