

## BAB 6

### KESIMPULAN DAN SARAN

#### 6.1. Kesimpulan

Dari hasil penelitian di laboratorium dan perhitungan dapat disimpulkan sebagai berikut :

1. Dari hasil pengujian sampel tanah lempung berkapur , tanah memiliki kadar CaO sebesar 46,09% dan  $Ca(OH)_2$  sebesar 0,24%.
2. Berdasarkan klasifikasi AASHTO, tanah lempung berkapur yang diuji memiliki nilai batas cair (*LL*) sebesar 55,3550% dan plastisitas (*IP*) sebesar 32,55% , maka tanah digolongkan dalam kelompok A-7 dan diklasifikasikan kedalam sub-grup A-7-6.
3. Berdasarkan klasifikasi USCS tanah lempung berkapur termaksud jenis tanah CH (Lempung anorganik dengan plastisitas tinggi, lempung gemuk "*fat clays*").
4. Kadar kapur optimum berdasarkan hasil uji laboratorium didapatkan pada kadar kapur 4% dimana batas plastis mengalami kenaikan dari tanah asli 22,81% menjadi 34,38% dan batas cair mengalami penurunan dari tanah asli 55,355% menjadi 39,17% sehingga indeks plastisitas mengalami penurunan dari tanah asli 32,55% menjadi 4,8%.
5. Hasil pengujian pemadatan standar diperoleh nilai OMC 26,62 % dan nilai MDD sebesar 1,83 gr/  $cm^3$  .

6. Berdasarkan hasil pengujian kuat tekan bebas pada sampel I dan sampel II keduanya mengalami kenaikan pada saat pemeraman 36 hari pada saat kadar 4% kapur + 20% *fly ash* dengan  $q_u$  386,891 kPa mengalami peningkatan sebesar 131,91% terhadap tanah asli untuk sampel I dan  $q_u$  381,052 mengalami peningkatan sebesar 111,78% terhadap tanah asli untuk sampel II. Dan pada waktu pemeraman 36 hari pada campuran tanah dengan kadar kapur 4% dan *fly ash* 22% untuk kedua sampel terjadi penurunan nilai kuat tekan dibandingkan nilai kuat tekan pada saat kadar *fly ash* 18%.
7. Nilai CBR terbaik (optimum) terjadi pada variasi (kapur 4%+ *fly ash* 20%) pada pemeraman 36 hari yaitu sebesar 155,75% dengan prosentase kenaikan 237,14% terhadap tanah asli untuk penetrasi 0,1” dan 147,76% dengan prosentase kenaikan 208.98% untuk penetrasi 0,2”.

## 6.2. Saran

1. Perlu dilakukan penelitian dan aplikasi stabilisasi tanah pada tanah lempung menggunakan *fly ash* yang masih potensial untuk dikembangkan, diharapkan ada kelanjutan penelitian mengenai pengaruh tanah lempung berkapur dengan menggunakan *fly ash*.
2. Untuk penelitian selanjutnya disarankan mencari kadar air optimum tiap volume campuran tanah + kapur + *fly ash* untuk pengujian pengujian tiap sampel tanah + kapur + *fly ash*.

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**KADAR AIR TANAH LEPAS**

Pengujian Sampel : Kadar Air Lepas Diameter : -  
Tanggal Pengujian : 20 September 2018 Tinggi : -  
Waktu Pengujian : 09.00 Air yang ditambahkan : -  
OMC : 26,62 % Perlakuan : Tanah Lepas  
MDD : 1,83 %

Kode Cawan		A	B
Berat Cawan Kosong	$w_1$	13,49	13,66
Berat Cawan + Tanah Basah	$w_2$	24,47	21,72
Berat Cawan + Tanah Kering	$w_3$	23,73	21,29
Berat Air	$w_w = w_2 - w_3$	0,74	0,43
Berat Tanah Kering	$w_s = w_3 - w_1$	10,24	7,63
Kadar Air	$W = \frac{w_w}{w_s} \times 100\%$	7,23	5,64
Kadar Air Rata-Rata		6,43	

**Lampiran 1**



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### PENGUJIAN BERAT JENIS

Pengujian Sampel : Berat Jenis Tanah Lepas Diameter : -  
 Tanggal Pengujian : 21 September 2018 Tinggi : -  
 Waktu Pengujian : 09.00 Air yang ditambahkan : -  
 OMC : 26,62 % Perlakuan : Tanah Lepas  
 MDD : 1,83 %

No Picnometer	1	2
Berat Picnometer kosong/ w1	30,05	27,98
Berat Picnometer+Tanah Kering/ w2	51,72	46,80
Berat Picnometer+Tanah+Air/ w2	91,40	86,75
Berat Picnometer+Air /w3	79,55	77,90
Temperatur	28°	28°
A = w2-w1	21,67	18,82
B = w3-w4	11,85	8,85
C = A-B	9,82	9,97
Berat Jenis = A / C	2,21	1,89
Berat Jenis Rata-rata	2,0472	
Berat Jenis Tanah pada 27.5 <sup>0</sup> C $G_{27.5} = G \times \frac{\gamma_w (t^{\circ}\text{C})}{\gamma_w (27.5^{\circ}\text{C})}$	2,0474	

Lampiran 2



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### PENGUJIAN BATAS SUSUT

Pengujian Sampel : Berat Jenis Tanah Lepas  
 Tanggal Pengujian : 24 September 2018  
 Waktu Pengujian : 09.00

Proyek : Tugas Akhir  
 Air yang ditambahkan : -  
 Perlakuan : Tanah lepas

#### A. Berat Jenis Belum Diketahui

##### 1. Kadar Air Tanah Basah

Kode Cawan		1	2
Berat Cawan susut Kosong	$W_1$	16,13	16,37
Berat cawan + Tanah Basah	$W_2$	42,70	39,26
Berat cawan + Tanah Kering	$W_3$	36,54	33,52
Berat Air	$W_w = W_2 - W_3$	6,16	5,74
Berat Tanah Kering	$W_k = W_3 - W_1$	20,41	17,15
Kadar Air	$W = \frac{W_w}{W_k} \times 100\%$	30,18	33,47

##### 2. Volume Tanah Basah = Volume Cawan Susut

Kode Cawan		1	2
Berat air raksa pengisi cawan susut + cawan kaca	$W_3$	314,77	321,95
Berat Cawan Kaca	$W_4$	45,64	45,64
Berat Air Raksa	$W_5 = W_3 - W_4$	269,13	276,31
Volume Tanah Basah	$V_0 = \frac{W_5}{13,6}$	19,79	20,32

Lampiran 3



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### 3. Volume Tanah Kering

Kode Cawan		1	2
Berat air raksa didesak tanah kering + cawan kaca	W7	208,60	176,17
Berat Cawan Kaca	W8	45,64	45,64
Berat Air Raksa	$W9 = W7 - W8$	162,96	130,53
Volume Tanah Basah	$V0 = \frac{W9}{13,6}$	11,98	9,60

### 4. Hitungan Batas Susut

No Cawan		1	2
Batas Susut (%)	$SL = W - \left[ \frac{V - V_o}{W_o} \right] \times 100$	-8,068	-29,033
Angka Susut	$SR = \frac{W_o}{V_o}$	1,703	1787
Susut Volumetrik	$VS = (W - SL) \times SR$	65,151	111,683
Susut Linear	$L_s = 100 \times \left[ 1 - \sqrt[3]{\frac{100}{VS + 100}} \right]$	15,399	22,118
Berat Jenis Tanah	$G = \frac{1}{\frac{1}{SR} - \frac{SL}{100}}$	1,498	1,177
Berat Jenis Rata-Rata		1,3370	



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### B. Berat Jenis Sudah Diketahui

Berdasarkan pengujian berat jenis tanah asli,  $G = 2,0474$

No Cawan		1	2
Berat cawan susut + tanah kering	$W_2$	36,54	33,520
Berat cawan susut	$W_3$	16,13	16,370
Berat tanah kering	$W_4 = W_2 - W_3$	20,41	17,15
Berat air raksa yang didesak tanah kering + cawan kaca	$W_5$	208,6	176,17
Berat cawan kaca	$W_6$	45,64	45,64
Berat air raksa	$W_7 = W_5 - W_6$	162,96	130,53
Volume tanah kering	$V_o = \frac{W_5}{13,6}$	11,98	9,60
Batas Susut Tanah	$SL = \left[ \frac{V_o}{W_o} - \frac{1}{G} \right] \times 100$	9,87	7,12
Batas Susut Tanah Rata-Rata		8,94	





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### PENGUJIAN BATAS CAIR TANAH ASLI

Target Pukulan		15-20		21-24		26-30		31-40	
Jumlah Pukulan		19		23		27		37	
Kode Cawan		300A	300B	200A	200B	400A	400B	600A	600B
Berat Cawan Kosong	$w_c$	17,19	9,64	9,15	14,99	13,91	14,10	14,68	14,76
Berat Cawan + Tanah Basah	$w_1$	26,09	20,85	18,25	28,76	21,16	24,37	27,16	22,65
Berat Cawan + Tanah Kering	$w_2$	22,20	17,92	15,00	23,75	18,63	20,70	22,81	19,91
Berat Air	$w_w = w_1 - w_2$	3,89	2,93	3,25	5,01	2,53	3,67	4,35	2,74
Berat Tanah Kering	$w_k = w_2 - w_c$	5,01	8,28	5,85	8,76	4,72	6,60	8,13	5,15
Kadar Air	$W = \frac{w_w}{w_k} \times 100\%$	77,64	35,39	55,56	57,19	53,60	55,61	53,51	53,20
Kadar Air Rata-Rata		56,52		56,37		54,60		53,35	

Batas Cair  
 (Liquid Limit,  
 LL) = 55,35501  
 $w_{10} = 60$   
 $w_{100} = 48$   
 Flow Index,  $I_f$   
 $= w_{10} - w_{100} = 12$

Lampiran 4.a



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### PENGUJIAN BATAS CAIR TANAH + 2% KAPUR

Target Pukulan			15-20		21-24		26-30		31-40	
Jumlah Pukulan			16		23		30		40	
Kode Cawan			C	D	A	B	E	F	G	H
1	Berat Cawan Kosong	$w_c$	13,35	13,57	17,22	13,94	13,53	13,85	13,57	13,63
2	Berat Cawan + Tanah Basah	$w_1$	25,01	30,19	35,86	22,96	43,54	40,62	31,26	24,31
3	Berat Cawan + Tanah Kering	$w_2$	21,31	24,83	29,96	20,10	34,16	32,25	25,87	21,01
4	Berat Air	$w_w = w_1 - w_2$	3,70	5,36	5,90	2,86	9,38	8,37	5,39	3,30
5	Berat Tanah Kering	$w_k = w_2 - w_c$	7,96	11,26	12,74	6,16	20,63	18,40	12,30	7,38
6	Kadar Air	$W = \frac{w_w}{w_k} \times 100\%$	46,48	47,60	46,31	46,43	45,47	45,49	43,82	44,72
Kadar Air Rata-Rata			47,04		46,37		45,48		44,27	

Batas Cair (Liquid Limit, LL)

$$\begin{aligned}
 &= 45,88 \\
 w_{10} &= 49 \\
 w_{100} &= 42 \\
 \text{Flow Index, } I_f &= w_{10} - w_{100} = 7
 \end{aligned}$$

Lampiran 4.b



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### PENGUJIAN BATAS CAIR TANAH + 4% KAPUR

Target Pukulan			15-20		21-24		26-30		31-40	
			19		24		26		39	
			A	B	c	d	e	f	G	H
1	Berat Cawan Kosong	$w_c$	6,51	6,60	6,61	6,10	6,50	6,40	6,50	3,76
2	Berat Cawan + Tanah Basah	$w_1$	15,61	12,87	14,52	15,96	20,05	20,60	15,57	11,75
3	Berat Cawan + Tanah Kering	$w_2$	13,09	11,15	12,05	13,13	16,12	16,48	13,60	9,59
4	Berat Air	$w_w = w_1 - w_2$	2,52	1,72	2,47	2,83	3,93	4,12	1,97	2,16
5	Berat Tanah Kering	$w_k = w_2 - w_c$	6,58	4,55	5,44	7,03	9,62	10,08	7,10	5,83
6	Kadar Air	$W = \frac{w_w}{w_k} \times 100\%$	38,30	37,80	45,40	40,26	40,85	40,87	27,75	37,05
	Kadar Air Rata-Rata		38,05		42,83		40,86		32,40	

Batas Cair (Liquid  
 Limit, LL) = 39,17  
 $w_{10}$  = 53  
 $w_{100}$  = 19  
 Flow Index,  $I_f = w_{10} - w_{100} = 34$

Lampiran 4.c



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### PENGUJIAN BATAS CAIR TANAH + 6% KAPUR

Target Pukulan			15-20		21-24		26-30		31-40	
Jumlah Pukulan			19		23		27		38	
Kode Cawan			C	D	A	B	G	H	E	F
1	Berat Cawan Kosong	$w_c$	14,94	17,36	16,83	14,00	17,27	14,97	17,47	15,91
2	Berat Cawan + Tanah Basah	$w_1$	28,67	29,94	27,32	23,98	25,89	24,08	30,03	27,21
3	Berat Cawan + Tanah Kering	$w_2$	24,42	26,05	24,14	20,98	23,36	21,43	26,35	23,98
4	Berat Air	$w_w = w_1 - w_2$	4,25	3,89	3,18	3,00	2,53	2,65	3,68	3,23
5	Berat Tanah Kering	$w_k = w_2 - w_c$	9,48	8,69	7,31	6,98	6,09	6,46	8,88	8,07
6	Kadar Air	$W = \frac{w_w}{w_k} \times 100\%$	44,83	44,76	43,50	42,98	41,54	41,02	41,44	40,02
	Kadar Air Rata-Rata		44,80		43,24		41,28		40,73	

Batas Cair (Liquid Limit,  
 LL) = 42,72  
 $w_{10}$  = 48  
 $w_{100}$  = 34  
 Flow Index,  $I_f = w_{10} - w_{100} = 14$

Lampiran 4.d



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### PENGUJIAN BATAS CAIR TANAH + 8% KAPUR

Target Pukulan			15-20		21-24		26-30		31-40	
Jumlah Pukulan			17		22		29		40	
Kode Cawan			A	B	C	D	E	F	G	H
1	Berat Cawan Kosong	$w_c$	16,84	14,07	14,98	17,44	17,48	15,97	17,31	14,95
2	Berat Cawan + Tanah Basah	$w_1$	33,64	25,85	28,43	29,11	26,99	28,66	28,93	25,15
3	Berat Cawan + Tanah Kering	$w_2$	28,34	22,16	24,26	25,49	24,04	24,74	25,42	22,06
4	Berat Air	$w_w = w_1 - w_2$	5,30	3,69	4,17	3,62	2,95	3,92	3,51	3,09
5	Berat Tanah Kering	$w_k = w_2 - w_c$	11,50	8,09	9,28	8,05	6,56	8,77	8,11	7,11
6	Kadar Air	$W = \frac{w_w}{w_k} \times 100\%$	46,09	45,61	44,94	44,97	44,97	44,70	43,28	43,46
	Kadar Air Rata-Rata		45,85		44,95		44,83		43,37	

Batas Cair (Liquid Limit, LL)

$$= 44,82$$

$$w_{10} = 47$$

$$w_{100} = 41$$

$$\text{Flow Index, } I_f = w_{10} - w_{100} = 6$$

Lampiran 4.e



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### PENGUJIAN BATAS CAIR TANAH + 10% KAPUR

Target Pukulan			15-20		21-24		26-30		31-40	
Jumlah Pukulan			19		23		30		39	
Kode Cawan			A	B	C	D	E	F	G	H
1	Berat Cawan Kosong	$w_c$	6,33	3,87	6,00	6,23	6,62	6,16	6,12	3,88
2	Berat Cawan + Tanah Basah	$w_1$	13,34	11,68	11,02	11,57	13,91	14,48	11,27	8,23
3	Berat Cawan + Tanah Kering	$w_2$	11,24	9,32	9,53	10,00	11,78	12,05	9,79	6,99
4	Berat Air	$w_w = w_1 - w_2$	2,10	2,36	1,49	1,57	2,13	2,43	1,48	1,24
5	Berat Tanah Kering	$w_k = w_2 - w_c$	4,91	5,45	3,53	3,77	5,16	5,89	3,67	3,11
6	Kadar Air	$W = \frac{w_w}{w_k} \times 100\%$	42,77	43,30	42,21	41,64	41,28	41,26	40,33	39,87
	Kadar Air Rata-Rata		43,04		41,93		41,27		40,10	

Batas Cair (Liquid Limit,  
 LL) = 41,84  
 $w_{10}$  = 45  
 $w_{100}$  = 37  
 Flow Index,  $I_f = w_{10} - w_{100} = 8$

Lampiran 4.f



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### PENGUJIAN BATAS PLASTIS TANAH ASLI

Pengujian Sampel : Berat Jenis Tanah Lepas  
 Tanggal Pengujian : 25 September 2018  
 Waktu Pengujian : 10..00

Proyek : Tugas Akhir  
 Air yang ditambahkan : -  
 Perlakuan : Tanah lepas

Kode Cawan		A	B
Berat Cawan Kosong	$w_c$	17,20	13,94
Berat Cawan + Tanah Basah	$w_1$	21,14	17,92
Berat Cawan + Tanah Kering	$w_2$	20,38	17,21
Berat Air	$w_w = w_1 - w_2$	0,76	0,71
Berat Tanah Kering	$w_s = w_2 - w_c$	3,18	3,27
Kadar Air	$w = \frac{w_w}{w_s} \times 100\%$	23,90	21,71
Batas Plastis		22,81	



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 Laboratorium Penyelidikan Tanah  
 Jl. Babarsari No.44 Yogyakarta 55281 Indonesia Kotak Pos 1086  
 Telp. +62-274-487711 (hunting) Fax. +62-274-487748

### PENGUJIAN BATAS PLASTIS TANAH + 2% KAPUR

Pengujian Sampel : Berat Jenis Tanah Lepas  
 Tanggal Pengujian : 26 September 2018  
 Waktu Pengujian : 10..00

Proyek : Tugas Akhir  
 Air yang ditambahkan : -  
 Perlakuan : Tanah lepas

Kode Cawan		A	B
Berat Cawan Kosong	$w_c$	6,54	6,53
Berat Cawan + Tanah Basah	$w_1$	10,35	10,17
Berat Cawan + Tanah Kering	$w_2$	9,45	9,37
Berat Air	$w_w = w_1 - w_2$	0,90	0,80
Berat Tanah Kering	$w_s = w_2 - w_c$	2,91	2,84
Kadar Air	$w = \frac{w_w}{w_s} \times 100\%$	22,09	28,17
Batas Plastis		29,55	

Lampiran 5.b





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### PENGUJIAN BATAS PLASTIS TANAH + 4% KAPUR

Pengujian Sampel : Berat Jenis Tanah Lepas  
 Tanggal Pengujian : 27 September 2018  
 Waktu Pengujian : 10..00

Proyek : Tugas Akhir  
 Air yang ditambahkan : -  
 Perlakuan : Tanah lepas

Kode Cawan		A	B
Berat Cawan Kosong	$w_c$	10,90	9,38
Berat Cawan + Tanah Basah	$w_1$	16,48	14,98
Berat Cawan + Tanah Kering	$w_2$	15,05	13,55
Berat Air	$w_w = w_1 - w_2$	1,43	1,43
Berat Tanah Kering	$w_s = w_2 - w_c$	4,15	4,17
Kadar Air	$w = \frac{w_w}{w_s} \times 100\%$	34,46	34,29
Batas Plastis		34,38	

Lampiran 5.c



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### PENGUJIAN BATAS PLASTIS TANAH + 6% KAPUR

Pengujian Sampel : Berat Jenis Tanah Lepas  
 Tanggal Pengujian : 27 September 2018  
 Waktu Pengujian : 10..00

Proyek : Tugas Akhir  
 Air yang ditambahkan : -  
 Perlakuan : Tanah lepas

Kode Cawan		A	B
Berat Cawan Kosong	$w_c$	10,90	9,37
Berat Cawan + Tanah Basah	$w_1$	16,80	15,47
Berat Cawan + Tanah Kering	$w_2$	15,71	14,41
Berat Air	$w_w = w_1 - w_2$	1,09	1,06
Berat Tanah Kering	$w_s = w_2 - w_c$	4,81	5,04
Kadar Air	$w = \frac{w_w}{w_s} \times 100\%$	22,66	21,03
Batas Plastis		21,85	

Lampiran 5.d



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### PENGUJIAN BATAS PLASTIS TANAH + 8% KAPUR

Pengujian Sampel : Berat Jenis Tanah Lepas  
 Tanggal Pengujian : 28 September 2018  
 Waktu Pengujian : 10..00

Proyek : Tugas Akhir  
 Air yang ditambahkan : -  
 Perlakuan : Tanah lepas

Kode Cawan		A	B
Berat Cawan Kosong	$w_c$	10,99	9,43
Berat Cawan + Tanah Basah	$w_1$	14,48	12,73
Berat Cawan + Tanah Kering	$w_2$	13,77	12,06
Berat Air	$w_w = w_1 - w_2$	0,71	0,67
Berat Tanah Kering	$w_s = w_2 - w_c$	2,78	2,63
Kadar Air	$w = \frac{w_w}{w_s} \times 100\%$	25,54	25,48
Batas Plastis		25,51	

Lampiran 5.e



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### PENGUJIAN BATAS PLASTIS TANAH + 10% KAPUR

Pengujian Sampel : Berat Jenis Tanah Lepas  
 Tanggal Pengujian : 29 September 2018  
 Waktu Pengujian : 10..00

Proyek : Tugas Akhir  
 Air yang ditambahkan : -  
 Perlakuan : Tanah lepas

Kode Cawan		A	B
Berat Cawan Kosong	$w_c$	4,09	6,52
Berat Cawan + Tanah Basah	$w_1$	8,82	10,55
Berat Cawan + Tanah Kering	$w_2$	7,84	9,75
Berat Air	$w_w = w_1 - w_2$	0,98	0,80
Berat Tanah Kering	$w_s = w_2 - w_c$	3,75	3,23
Kadar Air	$w = \frac{w_w}{w_s} \times 100\%$	26,13	24,77
Batas Plastis		25,45	

Lampiran 5.f



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### PENGUJIAN ANALISIS SARINGAN

No. Sieve	Ukuran Butiran (mm)	Berat Saringan	Berat Saringan dan tanah	Berat Tertahan	Berat Lolos	Prosentase Lolos
a	b	c	d	e	f	g
				(d - c)	J - e	(f / J) x 100
4	4,750	580,850	584,740	3,890	96,11	96,11
10	2,000	526,650	528,8	2,150	93,96	93,96
20	0,850	483,480	486,000	2,520	91,44	91,44
40	0,425	432,550	436,110	3,560	87,88	87,88
60	0,250	432,210	436,980	4,770	83,11	83,11
140	0,106	424,090	434,930	10,840	72,27	72,27
200	0,075	412,950	416,650	3,700	68,57	68,57
Pan				68,6		
				Jumlah, J=	100,000	



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### PENGUJIAN HIDROMETER

Tipe Hidrometer		152
Koreksi Meniskus	m=	1
Berat Jenis Tanah	G=	2,04739744 2
Koreksi Hidrometer 152	a=	1,08

Berat Sampel Kering Oven	W	100	gr
K****		1,08	
Reagen		Na <sub>2</sub> S iO <sub>3</sub> /	NaPO <sub>3</sub>
Banyak reagen	2	sendok makan	ml/gr

Jam	Waktu (menit)	Pembacaan Suspensi	Pembacaan Cairan	Temperatur °C	Pembacaan Terkoreksi meniskus	Kedalaman Efektif	Konstan	Diameter Butir (mm)	Pembacaan Terkoreksi	% Lebih Kecil
	T	R1	R2	t °C	R' = R1+m	L* (cm)	Kh**	D	R = R1 - R2	p*** (%)
11:12	2	30	1	28	31	11,2	0,01327	0,0314	29	31,32
11:15	5	12	1	28	13	14,2	0,01327	0,0224	11	11,88
11:40	30	8	0	28	9	14,8	0,01327	0,0093	8	8,64
12:10	60	7	0	28	8	15	0,01327	0,0066	7	7,56
15:20	250	3	0	28	4	15,6	0,01327	0,0033	3	3,24
11:10	1440	0	0	28	1	16,1	0,01327	0,0014	0	0

Lampiran 7



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### PENGUJIAN PEMADATAN

Nomor Percoban	100 ml		200 ml		300 ml		400 ml		500 ml		600 ml	
Berat Silinder + Tanah Padat (gram)	4109		3935		4035		4188		4159		4305	
Berat Silinder (gram)	2529		2418		2394		2530		2431		2420	
Berat Tanah Padat, W (gram)	1580,00		1517,00		1641		1658		1728		1885	
Berat Volume Basah (gr/cm <sup>3</sup> )	1,94		1,87		2,02		2,04		2,13		2,32	
Nomor Cawan Timbang	100 - A	100 - B	200 - A	200 - B	300 - A	300 - B	400 - A	400 - B	500 - A	500 - B	600 - A	600 - B
Berat Cawan Kosong	10,66	11,09	9,26	15,26	17,26	9,64	14,78	14,84	13,98	14,17	21,08	15,89
Berat Cawan + Tanah Basah	42,84	56,84	38,39	64,23	57,75	51,65	75,97	76,41	62,61	73,78	71,17	61,35
Berat Cawan + Tanah Kering	39,48	51,88	33,76	56,59	49,55	43,30	50,81	58,94	56,45	48,08	56,38	56,72
Berat Air	3,36	4,96	4,63	7,64	8,20	8,35	25,16	17,47	6,16	25,70	14,79	4,63
Berat Tanah Kering	28,82	40,79	24,50	41,33	32,29	33,66	36,03	44,10	42,47	33,91	35,30	40,83
Kadar Air	11,66	12,16	18,90	18,49	25,39	24,81	69,83	39,61	14,50	75,79	41,90	11,34
Kadar Air Rata-Rata	11,91		18,69		25,10		54,72		45,15		26,62	
Berat Volume Tanah Kering	1,74		1,57		1,61		1,32		1,47		1,83	

**Lampiran 8**



**PENGUJIAN KUAT TEKAN BEBAS**

Waktu : 7 hari Sampel : Tanah Asli/ I  
 Diameter : 5,71 cm Luas mula – mula ( $A_0$ ) : 25,61 cm<sup>2</sup>  
 Tinggi : 8,05 cm Volume : 206,14 cm<sup>3</sup>  
 Berat : 328,13 gr Berat Volume  $\gamma_b$  : 1,58 gr/cm<sup>3</sup>

Perubahan Tinggi			Luas Penampang (cross-section area)		Beban		Tekanan (Q)
Angka Dial Vertikal	$\Delta L$ (mm)	$\epsilon$ Regangan (strain)	Koreksi	Luas Terkoreksi A (cm <sup>2</sup> )	Angka Dial Beban	Beban (kg)	P / A (kPa)
a	$a \times 10^{-3}$	$\Delta L / L_0$	$d = 1 - \epsilon$	$e = A_0 / d$	f	g	h
0	0	0	1	0	0	0	0
20	0.02	0.0025	0.998	25.671	50	5.15	19.67
40	0.04	0.0050	0.995	25.735	83	8.55	32.58
60	0.06	0.0075	0.993	25.799	118	12.15	46.20
80	0.08	0.0099	0.990	25.864	125	12.88	48.82
100	0.1	0.0124	0.988	25.929	140	14.42	54.54
120	0.12	0.0149	0.985	25.995	162	16.69	62.95
140	0.14	0.0174	0.983	26.060	168	17.30	65.12
160	0.16	0.0199	0.980	26.126	175	18.03	67.66
180	0.18	0.0224	0.978	26.193	181	18.64	69.80
200	0.2	0.0248	0.975	26.260	188	19.36	72.31
220	0.22	0.0273	0.973	26.327	195	20.09	74.82
240	0.24	0.0298	0.970	26.394	199	20.50	76.16
260	0.26	0.0323	0.968	26.462	200	20.60	76.34
280	0.28	0.0348	0.965	26.530	208	21.42	79.19
300	0.3	0.0373	0.963	26.598	210	21.63	79.75
320	0.32	0.0398	0.960	26.667	215	22.15	81.44
<b>340</b>	<b>0.34</b>	<b>0.0422</b>	<b>0.958</b>	<b>26.736</b>	<b>220</b>	<b>22.66</b>	<b>83.11</b>
360	0.36	0.0447	0.955	26.806	200	20.60	75.36





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### PENGUJIAN KUAT TEKAN BEBAS

Waktu : 7 hari Sampel : Tanah Asli/ II  
 Diameter : 5,65 cm Luas mula – mula ( $A_0$ ) : 25,07 cm<sup>2</sup>  
 Tinggi : 7,26 cm Volume : 182,02cm<sup>3</sup>  
 Berat : 316,81 gr Berat Volume  $\gamma_b$  : 1,74 gr/cm<sup>3</sup>

Perubahan Tinggi			Luas Penampang (cross-section area)		Beban		Tekanan (Q)
Angka Dial Vertikal	$\Delta L$ (mm)	$\epsilon$ Regangan (strain)	Koreksi	Luas Terkoreksi A (cm <sup>2</sup> )	Angka Dial Beban	Beban (kg)	P / A (kPa)
a	$a \times 10^{-3}$	$\Delta L / L_0$	$d = 1 - \epsilon$	$e = A_0 / d$	f	g	h
0	0	0	1	0	0	0	0
20	0.02	0.0028	0.997	25.141	95	9.79	38.17
40	0.04	0.0055	0.994	25.211	114	11.74	45.67
60	0.06	0.0083	0.992	25.281	121	12.46	48.35
80	0.08	0.0110	0.989	25.351	125	12.88	49.80
100	0.1	0.0138	0.986	25.422	127	13.08	50.46
120	0.12	0.0165	0.983	25.493	131	13.49	51.90
140	0.14	0.0193	0.981	25.565	135	13.91	53.34
160	0.16	0.0220	0.978	25.637	144	14.83	56.74
180	0.18	0.0248	0.975	25.709	144	14.83	56.58
200	0.2	0.0275	0.972	25.782	148	15.24	57.98
220	0.22	0.0303	0.970	25.855	154	15.86	60.16
240	0.24	0.0331	0.967	25.929	163	16.79	63.50
260	0.26	0.0358	0.964	26.003	168	17.30	65.26
280	0.28	0.0386	0.961	26.078	168	17.30	65.07
300	0.3	0.0413	0.959	26.153	170	17.51	65.66
320	0.32	0.0441	0.956	26.228	175	18.03	67.40
340	0.34	0.0468	0.953	26.304	183	18.85	70.27
360	0.36	0.0496	0.950	26.380	205	21.12	78.49
<b>380</b>	<b>0.38</b>	<b>0.0523</b>	<b>0.948</b>	<b>26.457</b>	<b>218</b>	<b>22.45</b>	<b>83.23</b>
400	0.4	0.0551	0.945	26.534	180	18.54	68.52



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### PENGUJIAN KUAT TEKAN BEBAS

Waktu : 7 hari Sampel : K4FA14 / I  
 Diameter : 5,69 cm Luas mula – mula ( $A_0$ ) : 25,43 cm<sup>2</sup>  
 Tinggi : 991 cm Volume : 251,99 cm<sup>3</sup>  
 Berat : 409,66 gr Berat Volume  $\gamma_b$  : 1,63 gr/cm<sup>3</sup>

Perubahan Tinggi			Luas Penampang (cross-section area)		Beban		Tekanan (Q)
Angka Dial Vertikal	$\Delta L$ (mm)	$\varepsilon$ Regangan (strain)	Koreksi	Luas Terkoreksi A (cm <sup>2</sup> )	Angka Dial Beban	Beban (kg)	P / A (kPa)
a	$a \times 10^{-3}$	$\Delta L / L_0$	$d = 1 - \varepsilon$	$e = A_0 / d$	f	g	h
0	0	0	1	0	0	0	0
20	0.02	0.0020	0.998	25.480	45	4.64	17.84
40	0.04	0.0040	0.996	25.531	90	9.27	35.61
60	0.06	0.0061	0.994	25.583	139	14.32	54.88
80	0.08	0.0081	0.992	25.635	190	19.57	74.86
100	0.1	0.0101	0.990	25.687	235	24.21	92.41
120	0.12	0.0121	0.988	25.740	285	29.36	111.84
140	0.14	0.0141	0.986	25.793	310	31.93	121.40
160	0.16	0.0161	0.984	25.845	310	31.93	121.15
180	0.18	0.0182	0.982	25.899	311	32.03	121.30
200	0.2	0.0202	0.980	25.952	315	32.45	122.60
220	0.22	0.0222	0.978	26.005	316	32.55	122.74
240	0.24	0.0242	0.976	26.059	335	34.51	129.85
260	0.26	0.0262	0.974	26.113	336	34.61	129.97
280	0.28	0.0283	0.972	26.167	338	34.81	130.47
300	0.3	0.0303	0.970	26.222	340	35.02	130.97
320	0.32	0.0323	0.968	26.277	340	35.02	130.70
340	0.34	0.0343	0.966	26.332	354	36.46	135.80
360	0.36	0.0363	0.964	26.387	355	36.57	135.89
380	0.38	0.0383	0.962	26.442	365	37.60	139.43
400	0.4	0.0404	0.960	26.498	390	40.17	148.67
420	0.42	0.0424	0.958	26.554	410	42.23	155.96
440	0.44	0.0444	0.956	26.610	423	43.57	160.57
<b>460</b>	<b>0.46</b>	<b>0.0464</b>	<b>0.954</b>	<b>26.666</b>	<b>428</b>	<b>44.08</b>	<b>162.12</b>
480	0.48	0.0484	0.952	26.722	355	36.57	134.19



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### PENGUJIAN KUAT TEKAN BEBAS

Waktu : 7 hari Sampel : K4FA14 / II  
 Diameter : 5,66 cm Luas mula – mula ( $A_0$ ) : 25,16 cm<sup>2</sup>  
 Tinggi : 9,47 cm Volume : 238,27 cm<sup>3</sup>  
 Berat : 397,67 gr Berat Volume  $\gamma_b$  : 1,67 gr/cm<sup>3</sup>

Perubahan Tinggi			Luas Penampang (cross-section area)		Beban		Tekanan (Q)
Angka Dial Vertikal	$\Delta L$ (mm)	$\epsilon$ Regangan (strain)	Koreksi	Luas Terkoreksi A (cm <sup>2</sup> )	Angka Dial Beban	Beban (kg)	P / A (kPa)
a	$a \times 10^{-3}$	$\Delta L / L_0$	$d = 1 - \epsilon$	$e = A_0 / d$	f	g	h
0	0	0	1	0	0	0	0
20	0.02	0.0021	0.998	25.214	30	3.09	12.02
40	0.04	0.0042	0.996	25.267	48	4.94	19.19
60	0.06	0.0063	0.994	25.321	65	6.70	25.93
80	0.08	0.0084	0.992	25.375	80	8.24	31.84
100	0.1	0.0106	0.989	25.429	95	9.79	37.74
120	0.12	0.0127	0.987	25.484	110	11.33	43.60
140	0.14	0.0148	0.985	25.538	145	14.94	57.35
160	0.16	0.0169	0.983	25.593	177	18.23	69.86
180	0.18	0.0190	0.981	25.648	190	19.57	74.83
200	0.2	0.0211	0.979	25.704	238	24.51	93.53
220	0.22	0.0232	0.977	25.759	250	25.75	98.03
240	0.24	0.0253	0.975	25.815	284	29.25	111.12
260	0.26	0.0275	0.973	25.871	313	32.24	122.21
280	0.28	0.0296	0.970	25.927	345	35.54	134.41
300	0.3	0.0317	0.968	25.984	374	38.52	145.39
320	0.32	0.0338	0.966	26.041	395	40.69	153.22
340	0.34	0.0359	0.964	26.098	413	42.54	159.85
360	0.36	0.0380	0.962	26.155	427	43.98	164.90
<b>380</b>	<b>0.38</b>	<b>0.0401</b>	<b>0.960</b>	<b>26.213</b>	<b>433</b>	<b>44.60</b>	<b>166.85</b>
400	0.4	0.0422	0.958	26.270	420	43.26	161.49



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### PENGUJIAN KUAT TEKAN BEBAS

Waktu : 7 hari  
 Diameter : 5,67 cm  
 Tinggi : 8,83 cm  
 Berat : 385,40 gr  
 Sampel : K4FA16 / I  
 Luas mula – mula ( $A_0$ ) : 25,25 cm<sup>2</sup>  
 Volume : 222,96 cm<sup>3</sup>  
 Berat Volume  $\gamma_b$  : 1,73 gr/cm<sup>3</sup>

Perubahan Tinggi			Luas Penampang (cross-section area)		Beban		Tekanan (Q)
Angka Dial Vertikal	$\Delta L$ (mm)	$\epsilon$ Regangan (strain)	Koreksi	Luas Terkoreksi A (cm <sup>2</sup> )	Angka Dial Beban	Beban (kg)	P / A (kPa)
a	$a \times 10^{-3}$	$\Delta L / L_0$	$d = 1 - \epsilon$	$e = A_0 / d$	f	g	h
0	0	0	1	0	0	0	0
20	0.02	0.0023	0.998	25.307	110	11.33	43.90
40	0.04	0.0045	0.995	25.365	165	17.00	65.71
60	0.06	0.0068	0.993	25.422	180	18.54	71.52
80	0.08	0.0091	0.991	25.481	185	19.06	73.34
100	0.1	0.0113	0.989	25.539	185	19.06	73.17
120	0.12	0.0136	0.986	25.598	185	19.06	73.00
140	0.14	0.0159	0.984	25.656	180	18.54	70.87
160	0.16	0.0181	0.982	25.716	185	19.06	72.67
180	0.18	0.0204	0.980	25.775	187	19.26	73.28
200	0.2	0.0227	0.977	25.835	210	21.63	82.11
220	0.22	0.0249	0.975	25.895	250	25.75	97.52
240	0.24	0.0272	0.973	25.955	295	30.39	114.80
260	0.26	0.0294	0.971	26.016	335	34.51	130.07
280	0.28	0.0317	0.968	26.077	375	38.63	145.26
300	0.3	0.0340	0.966	26.138	420	43.26	162.31
320	0.32	0.0362	0.964	26.199	455	46.87	175.42
340	0.34	0.0385	0.961	26.261	485	49.96	186.55
360	0.36	0.0408	0.959	26.323	510	52.53	195.70
<b>380</b>	<b>0.38</b>	<b>0.0430</b>	<b>0.957</b>	<b>26.385</b>	<b>524</b>	<b>53.97</b>	<b>200.60</b>
400	0.4	0.0453	0.955	26.448	510	52.53	194.78
420	0.42	0.0476	0.952	26.511	440	45.32	167.64



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### PENGUJIAN KUAT TEKAN BEBAS

Waktu : 7 hari Sampel : K4FA16 / II  
 Diameter : 5,78 cm Luas mula – mula ( $A_0$ ) : 26,24 cm<sup>2</sup>  
 Tinggi : 9,54 cm Volume : 250,32 cm<sup>3</sup>  
 Berat : 399,87 gr Berat Volume  $\gamma_b$  : 1,60 gr/cm<sup>3</sup>

Perubahan Tinggi			Luas Penampang (cross-section area)		Beban		Tekanan (Q)
Angka Dial Vertikal	$\Delta L$ (mm)	$\varepsilon$ Regangan (strain)	Koreksi	Luas Terkoreksi A (cm <sup>2</sup> )	Angka Dial Beban	Beban (kg)	P / A (kPa)
a	$a \times 10^{-3}$	$\Delta L / L_0$	$d = 1 - \varepsilon$	$e = A_0 / d$	f	g	h
0	0	0	1	0	0	0	0
20	0.02	0.0021	0.998	26.294	107	11.02	41.10
40	0.04	0.0042	0.996	26.349	113	11.64	43.32
60	0.06	0.0063	0.994	26.405	137	14.11	52.41
80	0.08	0.0084	0.992	26.461	158	16.27	60.31
100	0.1	0.0105	0.990	26.517	176	18.13	67.04
120	0.12	0.0126	0.987	26.573	198	20.39	75.26
140	0.14	0.0147	0.985	26.630	221	22.76	83.83
160	0.16	0.0168	0.983	26.686	248	25.54	93.87
180	0.18	0.0189	0.981	26.743	264	27.19	99.71
200	0.2	0.0210	0.979	26.801	274	28.22	103.27
220	0.22	0.0231	0.977	26.858	296	30.49	111.32
240	0.24	0.0252	0.975	26.916	323	33.27	121.21
260	0.26	0.0273	0.973	26.974	334	34.40	125.07
280	0.28	0.0294	0.971	27.032	351	36.15	131.15
300	0.3	0.0314	0.969	27.091	370	38.11	137.96
320	0.32	0.0335	0.966	27.150	385	39.66	143.24
340	0.34	0.0356	0.964	27.209	410	42.23	152.21
360	0.36	0.0377	0.962	27.268	425	43.78	157.43
380	0.38	0.0398	0.960	27.327	440	45.32	162.63
400	0.4	0.0419	0.958	27.387	445	45.84	164.12
420	0.42	0.0440	0.956	27.447	450	46.35	165.60
440	0.44	0.0461	0.954	27.508	455	46.87	167.08
460	0.46	0.0482	0.952	27.568	460	47.38	168.54
480	0.48	0.0503	0.950	27.629	465	47.90	170.00
500	0.5	0.0524	0.948	27.690	470	48.41	171.45
520	0.52	0.0545	0.945	27.752	475	48.93	172.89
540	0.54	0.0566	0.943	27.813	480	49.44	174.32
560	0.56	0.0587	0.941	27.875	485	49.96	175.74
580	0.58	0.0608	0.939	27.937	490	50.47	177.16
600	0.6	0.0629	0.937	28.000	495	50.99	178.57
<b>620</b>	<b>0.62</b>	<b>0.0650</b>	<b>0.935</b>	<b>28.063</b>	<b>500</b>	<b>51.50</b>	<b>179.97</b>
640	0.64	0.0671	0.933	28.126	480	49.44	172.38



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### PENGUJIAN KUAT TEKAN BEBAS

Waktu : 7 hari Sampel : K4FA18 / I  
 Diameter : 5,65 cm Luas mula – mula ( $A_0$ ) : 25,07 cm<sup>2</sup>  
 Tinggi : 9,75 cm Volume : 244,45cm<sup>3</sup>  
 Berat : 418,28 gr Berat Volume  $\gamma_b$  : 1,71 gr/cm<sup>3</sup>

Perubahan Tinggi			Luas Penampang (cross-section area)		Beban		Tekanan (Q)
Angka Dial Vertikal	$\Delta L$ (mm)	$\epsilon$ Regangan (strain)	Koreksi	Luas Terkoreksi A (cm <sup>2</sup> )	Angka Dial Beban	Beban (kg)	P / A (kPa)
a	$a \times 10^{-3}$	$\Delta L / L_0$	$d = 1 - \epsilon$	$e = A_0 / d$	f	g	h
0	0	0	1	0	0	0	0
20	0.02	0.0021	0.998	25.123	30	3.09	12.06
40	0.04	0.0041	0.996	25.175	53	5.46	21.26
60	0.06	0.0062	0.994	25.227	78	8.03	31.23
80	0.08	0.0082	0.992	25.279	109	11.23	43.55
100	0.1	0.0103	0.990	25.332	134	13.80	53.43
120	0.12	0.0123	0.988	25.384	174	17.92	69.24
140	0.14	0.0144	0.986	25.437	220	22.66	87.36
160	0.16	0.0164	0.984	25.490	258	26.57	102.24
180	0.18	0.0185	0.982	25.543	295	30.39	116.65
200	0.2	0.0205	0.979	25.597	335	34.51	132.19
220	0.22	0.0226	0.977	25.651	380	39.14	149.64
240	0.24	0.0246	0.975	25.705	415	42.75	163.08
260	0.26	0.0267	0.973	25.759	454	46.76	178.03
280	0.28	0.0287	0.971	25.813	495	50.99	193.70
300	0.3	0.0308	0.969	25.868	530	54.59	206.95
320	0.32	0.0328	0.967	25.923	580	59.74	226.00
340	0.34	0.0349	0.965	25.978	620	63.86	241.07
360	0.36	0.0369	0.963	26.033	650	66.95	252.20
<b>380</b>	<b>0.38</b>	<b>0.0390</b>	<b>0.961</b>	<b>26.089</b>	<b>670</b>	<b>69.01</b>	<b>259.41</b>
400	0.4	0.0410	0.959	26.144	640	65.92	247.26
420	0.42	0.0431	0.957	26.201	560	57.68	215.89



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### PENGUJIAN KUAT TEKAN BEBAS

Waktu : 7 hari Sampel : K4FA18 / II  
 Diameter : 5,64 cm Luas mula – mula ( $A_0$ ) : 24,98 cm<sup>2</sup>  
 Tinggi : 9,46 cm Volume : 236,34cm<sup>3</sup>  
 Berat : 392,39 gr Berat Volume  $\gamma_b$  : 1,66 gr/cm<sup>3</sup>

Perubahan Tinggi			Luas Penampang (cross-section area)		Beban		Tekanan (Q)
Angka Dial Vertikal	$\Delta L$ (mm)	$\epsilon$ Regangan (strain)	Koreksi	Luas Terkoreksi A (cm <sup>2</sup> )	Angka Dial Beban	Beban (kg)	P / A (kPa)
a	$a \times 10^{-3}$	$\Delta L / L_0$	$d = 1 - \epsilon$	$e = A_0 / d$	f	g	h
0	0	0	1	0	0	0	0
20	0.02	0.0021	0.998	25.036	65	6.70	26.22
40	0.04	0.0042	0.996	25.089	135	13.91	54.35
60	0.06	0.0063	0.994	25.143	175	18.03	70.30
80	0.08	0.0085	0.992	25.196	220	22.66	88.20
100	0.1	0.0106	0.989	25.250	268	27.60	107.21
120	0.12	0.0127	0.987	25.304	301	31.00	120.15
140	0.14	0.0148	0.985	25.358	353	36.36	140.61
160	0.16	0.0169	0.983	25.413	389	40.07	154.61
180	0.18	0.0190	0.981	25.468	410	42.23	162.61
200	0.2	0.0211	0.979	25.523	440	45.32	174.13
220	0.22	0.0233	0.977	25.578	485	49.96	191.53
240	0.24	0.0254	0.975	25.634	510	52.53	200.96
260	0.26	0.0275	0.973	25.689	520	53.56	204.46
280	0.28	0.0296	0.970	25.745	530	54.59	207.94
300	0.3	0.0317	0.968	25.801	545	56.14	213.36
320	0.32	0.0338	0.966	25.858	560	57.68	218.75
340	0.34	0.0359	0.964	25.915	585	60.26	228.02
360	0.36	0.0381	0.962	25.972	590	60.77	229.46
380	0.38	0.0402	0.960	26.029	595	61.29	230.90
400	0.4	0.0423	0.958	26.086	600	61.80	232.33
420	0.42	0.0444	0.956	26.144	605	62.32	233.75
440	0.44	0.0465	0.953	26.202	615	63.35	237.08
460	0.46	0.0486	0.951	26.260	615	63.35	236.56
<b>480</b>	<b>0.48</b>	<b>0.0507</b>	<b>0.949</b>	<b>26.319</b>	<b>630</b>	<b>64.89</b>	<b>241.79</b>
500	0.5	0.0529	0.947	26.377	630	64.89	241.25
520	0.52	0.0550	0.945	26.436	630	64.89	240.71





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### PENGUJIAN KUAT TEKAN BEBAS

Waktu : 7 hari Sampel : K4FA20 / I  
 Diameter : 5,67 cm Luas mula – mula ( $A_0$ ) : 25,25 cm<sup>2</sup>  
 Tinggi : 9,12 cm Volume : 230,28 cm<sup>3</sup>  
 Berat : 399,30 gr Berat Volume  $\gamma_b$  : 1,73 gr/cm<sup>3</sup>

Perubahan Tinggi			Luas Penampang (cross-section area)		Beban		Tekanan (Q)
Angka Dial Vertikal	$\Delta L$ (mm)	$\epsilon$ Regangan (strain)	Koreksi	Luas Terkoreksi A (cm <sup>2</sup> )	Angka Dial Beban	Beban (kg)	P / A (kPa)
a	$a \times 10^{-3}$	$\Delta L / L_0$	$d = 1 - \epsilon$	$e = A_0 / d$	f	g	h
0	0	0	1	0	0	0	0
20	0.02	0.0022	0.998	25.305	90	9.27	35.92
40	0.04	0.0044	0.996	25.361	135	13.91	53.77
60	0.06	0.0066	0.993	25.417	170	17.51	67.56
80	0.08	0.0088	0.991	25.473	195	20.09	77.32
100	0.1	0.0110	0.989	25.530	220	22.66	87.04
120	0.12	0.0132	0.987	25.586	220	22.66	86.85
140	0.14	0.0154	0.985	25.643	228	23.48	89.81
160	0.16	0.0175	0.982	25.701	230	23.69	90.39
180	0.18	0.0197	0.980	25.758	235	24.21	92.15
200	0.2	0.0219	0.978	25.816	235	24.21	91.95
220	0.22	0.0241	0.976	25.874	240	24.72	93.69
240	0.24	0.0263	0.974	25.932	242	24.93	94.26
260	0.26	0.0285	0.971	25.991	244	25.13	94.83
280	0.28	0.0307	0.969	26.049	250	25.75	96.94
300	0.3	0.0329	0.967	26.109	250	25.75	96.72
320	0.32	0.0351	0.965	26.168	257	26.47	99.20
340	0.34	0.0373	0.963	26.227	275	28.33	105.91
360	0.36	0.0395	0.961	26.287	298	30.69	114.51
380	0.38	0.0417	0.958	26.347	320	32.96	122.68
400	0.4	0.0439	0.956	26.408	350	36.05	133.87
420	0.42	0.0461	0.954	26.469	385	39.66	146.92
440	0.44	0.0482	0.952	26.530	430	44.29	163.72
460	0.46	0.0504	0.950	26.591	480	49.44	182.33
480	0.48	0.0526	0.947	26.652	525	54.08	198.97
500	0.5	0.0548	0.945	26.714	565	58.20	213.63
520	0.52	0.0570	0.943	26.776	605	62.32	228.22
540	0.54	0.0592	0.941	26.839	640	65.92	240.87
560	0.56	0.0614	0.939	26.902	685	70.56	257.20
580	0.58	0.0636	0.936	26.965	715	73.65	267.84
600	0.6	0.0658	0.934	27.028	740	76.22	276.55
<b>620</b>	<b>0.62</b>	<b>0.0680</b>	<b>0.932</b>	<b>27.091</b>	<b>750</b>	<b>77.25</b>	<b>279.63</b>
640	0.64	0.0702	0.930	27.155	740	76.22	275.25
660	0.66	0.0724	0.928	27.220	680	70.04	252.34





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### PENGUJIAN KUAT TEKAN BEBAS

Waktu : 7 hari Sampel : K4FA20 / II  
 Diameter : 5,69 cm Luas mula – mula ( $A_0$ ) : 25,43 cm<sup>2</sup>  
 Tinggi : 8,92 cm Volume : 226,82 cm<sup>3</sup>  
 Berat : 379,26 gr Berat Volume  $\gamma_b$  : 1,67 gr/cm<sup>3</sup>

Perubahan Tinggi			Luas Penampang (cross-section area)		Beban		Tekanan (Q)
Angka Dial Vertikal	$\Delta L$ (mm)	$\epsilon$ Regangan (strain)	Koreksi	Luas Terkoreksi A (cm <sup>2</sup> )	Angka Dial Beban	Beban (kg)	P / A (kPa)
a	$a \times 10^{-3}$	$\Delta L / L_0$	$d = 1 - \epsilon$	$e = A_0 / d$	f	g	h
0	0	0	1	0	0	0	0
20	0.02	0.0022	0.998	25.485	85	8.76	33.69
40	0.04	0.0045	0.996	25.543	85	8.76	33.61
60	0.06	0.0067	0.993	25.600	90	9.27	35.51
80	0.08	0.0090	0.991	25.658	110	11.33	43.30
100	0.1	0.0112	0.989	25.716	140	14.42	54.99
120	0.12	0.0135	0.987	25.775	160	16.48	62.70
140	0.14	0.0157	0.984	25.834	175	18.03	68.42
160	0.16	0.0179	0.982	25.893	205	21.12	79.97
180	0.18	0.0202	0.980	25.952	225	23.18	87.57
200	0.2	0.0224	0.978	26.011	235	24.21	91.26
220	0.22	0.0247	0.975	26.071	280	28.84	108.48
240	0.24	0.0269	0.973	26.131	335	34.51	129.49
260	0.26	0.0291	0.971	26.192	398	40.99	153.49
280	0.28	0.0314	0.969	26.252	442	45.53	170.06
300	0.3	0.0336	0.966	26.313	460	47.38	176.58
320	0.32	0.0359	0.964	26.374	485	49.96	185.75
340	0.34	0.0381	0.962	26.436	515	53.05	196.78
360	0.36	0.0404	0.960	26.498	540	55.62	205.85
380	0.38	0.0426	0.957	26.560	570	58.71	216.78
400	0.4	0.0448	0.955	26.622	615	63.35	233.34
420	0.42	0.0471	0.953	26.685	640	65.92	242.26
440	0.44	0.0493	0.951	26.748	675	69.53	254.90
460	0.46	0.0516	0.948	26.811	715	73.65	269.37
480	0.48	0.0538	0.946	26.874	742	76.43	278.88
<b>500</b>	<b>0.5</b>	<b>0.0561</b>	<b>0.944</b>	<b>26.938</b>	<b>760</b>	<b>78.28</b>	<b>284.97</b>
520	0.52	0.0583	0.942	27.002	740	76.22	276.82
540	0.54	0.0605	0.939	27.067	695	71.59	259.36



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### PENGUJIAN KUAT TEKAN BEBAS

Waktu : 7 hari Sampel : K4FA22 / I  
 Diameter : 5,66 cm Luas mula – mula ( $A_0$ ) : 25,16 cm<sup>2</sup>  
 Tinggi : 9,46 cm Volume : 238,02 cm<sup>3</sup>  
 Berat : 394,34 gr Berat Volume  $\gamma_b$  : 1,66 gr/cm<sup>3</sup>

Perubahan Tinggi			Luas Penampang (cross-section area)		Beban		Tekanan (Q)
Angka Dial Vertikal	$\Delta L$ (mm)	$\varepsilon$ Regangan (strain)	Koreksi	Luas Terkoreksi A (cm <sup>2</sup> )	Angka Dial Beban	Beban (kg)	P / A (kPa)
a	$a \times 10^{-3}$	$\Delta L / L_0$	$d = 1 - \varepsilon$	$e = A_0 / d$	f	g	h
0	0	0	1	0	0	0	0
20	0.02	0.0021	0.998	25.214	72	7.42	28.84
40	0.04	0.0042	0.996	25.268	135	13.91	53.97
60	0.06	0.0063	0.994	25.321	191	19.67	76.19
80	0.08	0.0085	0.992	25.375	247	25.44	98.32
100	0.1	0.0106	0.989	25.430	286	29.46	113.60
120	0.12	0.0127	0.987	25.484	305	31.42	120.89
140	0.14	0.0148	0.985	25.539	310	31.93	122.61
160	0.16	0.0169	0.983	25.594	315	32.45	124.32
180	0.18	0.0190	0.981	25.649	320	32.96	126.02
200	0.2	0.0211	0.979	25.704	326	33.58	128.11
220	0.22	0.0233	0.977	25.760	330	33.99	129.40
240	0.24	0.0254	0.975	25.816	350	36.05	136.94
260	0.26	0.0275	0.973	25.872	356	36.67	138.99
280	0.28	0.0296	0.970	25.928	399	41.10	155.44
300	0.3	0.0317	0.968	25.985	440	45.32	171.04
320	0.32	0.0338	0.966	26.042	482	49.65	186.96
340	0.34	0.0359	0.964	26.099	518	53.35	200.48
360	0.36	0.0381	0.962	26.156	548	56.44	211.62
380	0.38	0.0402	0.960	26.214	578	59.53	222.72
<b>400</b>	<b>0.4</b>	<b>0.0423</b>	<b>0.958</b>	<b>26.272</b>	<b>595</b>	<b>61.29</b>	<b>228.76</b>
420	0.42	0.0444	0.956	26.330	570	58.71	218.67



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### PENGUJIAN KUAT TEKAN BEBAS

Waktu : 7 hari  
 Diameter : 5,71 cm  
 Tinggi : 8,31 cm  
 Berat : 363,68 gr  
 Sampel : K4FA22 / II  
 Luas mula – mula ( $A_0$ ) : 25,61 cm<sup>2</sup>  
 Volume : 212,80cm<sup>3</sup>  
 Berat Volume  $\gamma_b$  : 1,71 gr/cm<sup>3</sup>

Perubahan Tinggi			Luas Penampang (cross-section area)		Beban		Tekanan (Q)
Angka Dial Vertikal	$\Delta L$ (mm)	$\epsilon$ Regangan (strain)	Koreksi	Luas Terkoreksi A (cm <sup>2</sup> )	Angka Dial Beban	Beban (kg)	P / A (kPa)
a	$a \times 10^{-3}$	$\Delta L / L_0$	$d = 1 - \epsilon$	$e = A_0 / d$	f	g	h
0	0	0	1	0	0	0	0
20	0.02	0.0024	0.998	25.669	90	9.27	35.42
40	0.04	0.0048	0.995	25.731	160	16.48	62.81
60	0.06	0.0072	0.993	25.793	230	23.69	90.07
80	0.08	0.0096	0.990	25.856	275	28.33	107.43
100	0.1	0.0120	0.988	25.919	310	31.93	120.81
120	0.12	0.0144	0.986	25.982	335	34.51	130.23
140	0.14	0.0168	0.983	26.046	355	36.57	137.67
160	0.16	0.0193	0.981	26.110	370	38.11	143.14
180	0.18	0.0217	0.978	26.174	430	44.29	165.94
200	0.2	0.0241	0.976	26.239	450	46.35	173.23
220	0.22	0.0265	0.974	26.304	485	49.96	186.25
240	0.24	0.0289	0.971	26.369	510	52.53	195.36
260	0.26	0.0313	0.969	26.434	540	55.62	206.34
280	0.28	0.0337	0.966	26.500	550	56.65	209.64
300	0.3	0.0361	0.964	26.566	560	57.68	212.92
320	0.32	0.0385	0.961	26.633	575	59.23	218.08
340	0.34	0.0409	0.959	26.700	585	60.26	221.31
360	0.36	0.0433	0.957	26.767	585	60.26	220.76
<b>380</b>	<b>0.38</b>	<b>0.0457</b>	<b>0.954</b>	<b>26.834</b>	<b>590</b>	<b>60.77</b>	<b>222.09</b>
400	0.4	0.0481	0.952	26.902	590	60.77	221.53
420	0.42	0.0505	0.949	26.970	590	60.77	220.97









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### PENGUJIAN KUAT TEKAN BEBAS

Waktu : 14 hari Sampel : K4FA14/ II  
 Diameter : 5,69 cm Luas mula – mula ( $A_0$ ) : 25,43 cm<sup>2</sup>  
 Tinggi : 9,23 cm Volume : 234,70 cm<sup>3</sup>  
 Berat : 414,32 gr Berat Volume  $\gamma_b$  : 1,77 gr/cm<sup>3</sup>

Perubahan Tinggi			Luas Penampang (cross-section area)		Beban		Tekanan (Q)
Angka Dial Vertikal	$\Delta L$ (mm)	$\epsilon$ Regangan (strain)	Koreksi	Luas Terkoreksi A (cm <sup>2</sup> )	Angka Dial Beban	Beban (kg)	P / A (kPa)
a	$a \times 10^{-3}$	$\Delta L / L_0$	$d = 1 - \epsilon$	$e = A_0 / d$	f	g	h
0	0	0	1	0	0	0	0
20	0.02	0.0022	0.998	25.483	85	8.76	33.69
40	0.04	0.0043	0.996	25.539	110	11.33	43.51
60	0.06	0.0065	0.993	25.595	140	14.42	55.25
80	0.08	0.0087	0.991	25.650	170	17.51	66.94
100	0.1	0.0108	0.989	25.707	210	21.63	82.51
120	0.12	0.0130	0.987	25.763	240	24.72	94.10
140	0.14	0.0152	0.985	25.820	265	27.30	103.67
160	0.16	0.0173	0.983	25.877	295	30.39	115.15
180	0.18	0.0195	0.980	25.934	325	33.48	126.58
200	0.2	0.0217	0.978	25.991	345	35.54	134.08
220	0.22	0.0238	0.976	26.049	375	38.63	145.41
240	0.24	0.0260	0.974	26.107	415	42.75	160.56
260	0.26	0.0282	0.972	26.165	460	47.38	177.58
280	0.28	0.0303	0.970	26.224	490	50.47	188.74
300	0.3	0.0325	0.967	26.282	510	52.53	196.00
320	0.32	0.0347	0.965	26.341	530	54.59	203.23
340	0.34	0.0368	0.963	26.401	550	56.65	210.43
360	0.36	0.0390	0.961	26.460	580	59.74	221.41
380	0.38	0.0412	0.959	26.520	610	62.83	232.34
400	0.4	0.0433	0.957	26.580	635	65.41	241.31
420	0.42	0.0455	0.954	26.640	655	67.47	248.35
440	0.44	0.0477	0.952	26.701	650	66.95	245.89





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**PENGUJIAN KUAT TEKAN BEBAS**

Waktu : 14 hari Sampel : K4FA16/ I  
 Diameter : 5,74 cm Luas mula – mula ( $A_0$ ) :25,88 cm<sup>2</sup>  
 Tinggi : 8,97 cm Volume :232,04 cm<sup>3</sup>  
 Berat : 414,11 gr Berat Volume  $\gamma_b$  :1,78 gr/cm<sup>3</sup>

Perubahan Tinggi			Luas Penampang (cross-section area)		Beban		Tekanan (Q)
Angka Dial Vertikal	$\Delta L$ (mm)	$\epsilon$ Regangan (strain)	Koreksi	Luas Terkoreksi A (cm <sup>2</sup> )	Angka Dial Beban	Beban (kg)	P / A (kPa)
a	$a \times 10^{-3}$	$\Delta L / L_0$	$d = 1 - \epsilon$	$e = A_0 / d$	f	g	h
0	0	0	1	0	0	0	0
20	0.02	0.0021	0.998	25.481	40	4.12	15.86
40	0.04	0.0041	0.996	25.534	90	9.27	35.60
60	0.06	0.0062	0.994	25.587	120	12.36	47.37
80	0.08	0.0083	0.992	25.641	165	17.00	65.00
100	0.1	0.0104	0.990	25.694	205	21.12	80.59
120	0.12	0.0124	0.988	25.748	240	24.72	94.15
140	0.14	0.0145	0.985	25.802	265	27.30	103.74
160	0.16	0.0166	0.983	25.857	275	28.33	107.43
180	0.18	0.0187	0.981	25.911	280	28.84	109.15
200	0.2	0.0207	0.979	25.966	285	29.36	110.86
220	0.22	0.0228	0.977	26.021	290	29.87	112.57
240	0.24	0.0249	0.975	26.077	290	29.87	112.33
260	0.26	0.0269	0.973	26.132	295	30.39	114.03
280	0.28	0.0290	0.971	26.188	300	30.90	115.71
300	0.3	0.0311	0.969	26.244	310	31.93	119.31
320	0.32	0.0332	0.967	26.300	320	32.96	122.90
340	0.34	0.0352	0.965	26.357	328	33.78	125.70
360	0.36	0.0373	0.963	26.414	338	34.81	129.26
380	0.38	0.0394	0.961	26.470	345	35.54	131.65
400	0.4	0.0415	0.959	26.528	350	36.05	133.27
420	0.42	0.0435	0.956	26.585	355	36.57	134.88
440	0.44	0.0456	0.954	26.643	370	38.11	140.27
460	0.46	0.0477	0.952	26.701	400	41.20	151.32
480	0.48	0.0497	0.950	26.759	420	43.26	158.54
500	0.5	0.0518	0.948	26.818	425	43.78	160.08
520	0.52	0.0539	0.946	26.876	435	44.81	163.48
540	0.54	0.0560	0.944	26.935	450	46.35	168.75
560	0.56	0.0580	0.942	26.995	450	46.35	168.38
580	0.58	0.0601	0.940	27.054	453	46.66	169.13
600	0.6	0.0622	0.938	27.114	455	46.87	169.50
620	0.62	0.0642	0.936	27.174	465	47.90	172.85
640	0.64	0.0663	0.934	27.234	470	48.41	174.32
660	0.66	0.0684	0.932	27.295	490	50.47	181.33
680	0.68	0.0705	0.930	27.356	530	54.59	195.70
700	0.7	0.0725	0.927	27.417	560	57.68	206.31
720	0.72	0.0746	0.925	27.478	585	60.26	215.04
740	0.74	0.0767	0.923	27.540	610	62.83	223.73
760	0.76	0.0788	0.921	27.602	640	65.92	234.21
780	0.78	0.0808	0.919	27.664	660	67.98	240.98
<b>800</b>	<b>0.8</b>	<b>0.0829</b>	<b>0.917</b>	<b>27.727</b>	<b>680</b>	<b>70.04</b>	<b>247.72</b>
820	0.82	0.0850	0.915	27.790	670	69.01	243.53

**Lampiran 25**





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### PENGUJIAN KUAT TEKAN BEBAS

Waktu : 14 hari Sampel : K4FA16/ II  
 Diameter : 5,77 cm Luas mula – mula ( $A_0$ ) : 26,15 cm<sup>2</sup>  
 Tinggi : 10,16 cm Volume : 265,67 cm<sup>3</sup>  
 Berat : 450,17gr Berat Volume  $\gamma_b$  : 1,69 gr/cm<sup>3</sup>

Perubahan Tinggi			Luas Penampang (cross-section area)		Beban		Tekanan (Q)
Angka Dial Vertikal	$\Delta L$ (mm)	$\epsilon$ Regangan (strain)	Koreksi	Luas Terkoreksi A (cm <sup>2</sup> )	Angka Dial Beban	Beban (kg)	P / A (kPa)
a	$a \times 10^{-3}$	$\Delta L / L_0$	$d = 1 - \epsilon$	$e = A_0 / d$	f	g	h
0	0	0	1	0	0	0	0
20	0.02	0.0020	0.998	26.200	35	3.61	13.49
40	0.04	0.0039	0.996	26.252	80	8.24	30.78
60	0.06	0.0059	0.994	26.304	110	11.33	42.24
80	0.08	0.0079	0.992	26.356	140	14.42	53.66
100	0.1	0.0098	0.990	26.408	175	18.03	66.94
120	0.12	0.0118	0.988	26.461	195	20.09	74.44
140	0.14	0.0138	0.986	26.514	195	20.09	74.29
160	0.16	0.0157	0.984	26.567	205	21.12	77.94
180	0.18	0.0177	0.982	26.620	205	21.12	77.79
200	0.2	0.0197	0.980	26.673	206	21.22	78.01
220	0.22	0.0217	0.978	26.727	208	21.42	78.61
240	0.24	0.0236	0.976	26.781	210	21.63	79.21
260	0.26	0.0256	0.974	26.835	210	21.63	79.05
280	0.28	0.0276	0.972	26.889	215	22.15	80.76
300	0.3	0.0295	0.970	26.944	220	22.66	82.47
320	0.32	0.0315	0.969	26.999	220	22.66	82.31
340	0.34	0.0335	0.967	27.054	225	23.18	84.01
360	0.36	0.0354	0.965	27.109	240	24.72	89.43
380	0.38	0.0374	0.963	27.164	245	25.24	91.10
400	0.4	0.0394	0.961	27.220	260	26.78	96.48
420	0.42	0.0413	0.959	27.276	270	27.81	99.99
440	0.44	0.0433	0.957	27.332	300	30.90	110.87
460	0.46	0.0453	0.955	27.388	320	32.96	118.02
480	0.48	0.0472	0.953	27.445	340	35.02	125.13
500	0.5	0.0492	0.951	27.502	340	35.02	124.88
520	0.52	0.0512	0.949	27.559	345	35.54	126.45
540	0.54	0.0531	0.947	27.616	345	35.54	126.19
560	0.56	0.0551	0.945	27.673	350	36.05	127.75
580	0.58	0.0571	0.943	27.731	355	36.57	129.31
600	0.6	0.0591	0.941	27.789	380	39.14	138.12
620	0.62	0.0610	0.939	27.848	390	40.17	141.46
640	0.64	0.0630	0.937	27.906	420	43.26	152.02
660	0.66	0.0650	0.935	27.965	450	46.35	162.54
680	0.68	0.0669	0.933	28.024	470	48.41	169.41
700	0.7	0.0689	0.931	28.083	500	51.50	179.84
720	0.72	0.0709	0.929	28.143	525	54.08	188.43
740	0.74	0.0728	0.927	28.202	550	56.65	196.99
760	0.76	0.0748	0.925	28.262	575	59.23	205.50
780	0.78	0.0768	0.923	28.323	610	62.83	217.55



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800	0.8	0.0787	0.921	28.383	630	64.89	224.20
820	0.82	0.0807	0.919	28.444	650	66.95	230.83
840	0.84	0.0827	0.917	28.505	650	66.95	230.33
860	0.86	0.0846	0.915	28.566	665	68.50	235.14
880	0.88	0.0866	0.913	28.628	680	70.04	239.93
<b>900</b>	<b>0.9</b>	<b>0.0886</b>	<b>0.911</b>	<b>28.690</b>	<b>690</b>	<b>71.07</b>	<b>242.93</b>
920	0.92	0.0906	0.909	28.752	690	71.07	242.41
940	0.94	0.0925	0.907	28.814	675	69.53	236.62





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### PENGUJIAN KUAT TEKAN BEBAS

Waktu : 14 hari Sampel : K4FA18/ I  
 Diameter : 5,72 cm Luas mula – mula ( $A_0$ ) : 25,69 cm<sup>2</sup>  
 Tinggi : 8,94 cm Volume : 229,73 cm<sup>3</sup>  
 Berat : 399,84 gr Berat Volume  $\gamma_b$  : 1,74 gr/cm<sup>3</sup>

Perubahan Tinggi			Luas Penampang (cross-section area)		Beban		Tekanan (Q)
Angka Dial Vertikal	$\Delta L$ (mm)	$\epsilon$ Regangan (strain)	Koreksi	Luas Terkoreksi A (cm <sup>2</sup> )	Angka Dial Beban	Beban (kg)	P / A (kPa)
a	$a \times 10^{-3}$	$\Delta L / L_0$	$d = 1 - \epsilon$	$e = A_0 / d$	f	g	h
0	0	0	1	0	0	0	0
20	0.02	0.0022	0.998	25.755	75	7.73	29.41
40	0.04	0.0045	0.996	25.812	105	10.82	41.09
60	0.06	0.0067	0.993	25.871	125	12.88	48.80
80	0.08	0.0089	0.991	25.929	150	15.45	58.43
100	0.1	0.0112	0.989	25.988	178	18.33	69.18
120	0.12	0.0134	0.987	26.047	220	22.66	85.32
140	0.14	0.0157	0.984	26.106	255	26.27	98.66
160	0.16	0.0179	0.982	26.165	285	29.36	110.02
180	0.18	0.0201	0.980	26.225	305	31.42	117.47
200	0.2	0.0224	0.978	26.285	315	32.45	121.05
220	0.22	0.0246	0.975	26.345	318	32.75	121.92
240	0.24	0.0268	0.973	26.406	320	32.96	122.41
260	0.26	0.0291	0.971	26.467	322	33.17	122.89
280	0.28	0.0313	0.969	26.528	322	33.17	122.61
300	0.3	0.0336	0.966	26.589	325	33.48	123.46
320	0.32	0.0358	0.964	26.651	325	33.48	123.18
340	0.34	0.0380	0.962	26.713	330	33.99	124.78
360	0.36	0.0403	0.960	26.775	345	35.54	130.15
380	0.38	0.0425	0.957	26.838	350	36.05	131.73
400	0.4	0.0447	0.955	26.901	360	37.08	135.18
420	0.42	0.0470	0.953	26.964	360	37.08	134.86
440	0.44	0.0492	0.951	27.027	370	38.11	138.28
460	0.46	0.0515	0.949	27.091	370	38.11	137.95
480	0.48	0.0537	0.946	27.155	375	38.63	139.49
500	0.5	0.0559	0.944	27.219	380	39.14	141.01
520	0.52	0.0582	0.942	27.284	385	39.66	142.53
540	0.54	0.0604	0.940	27.349	390	40.17	144.04
560	0.56	0.0626	0.937	27.414	400	41.20	147.38
580	0.58	0.0649	0.935	27.480	420	43.26	154.38
600	0.6	0.0671	0.933	27.546	440	45.32	161.35
620	0.62	0.0694	0.931	27.612	465	47.90	170.10
640	0.64	0.0716	0.928	27.678	485	49.96	176.99
660	0.66	0.0738	0.926	27.745	500	51.50	182.03
680	0.68	0.0761	0.924	27.812	510	52.53	185.22
700	0.7	0.0783	0.922	27.880	515	53.05	186.58
720	0.72	0.0805	0.919	27.948	520	53.56	187.94
740	0.74	0.0828	0.917	28.016	520	53.56	187.48
760	0.76	0.0850	0.915	28.084	525	54.08	188.82



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780	0.78	0.0872	0.913	28.153	560	57.68	200.92
800	0.8	0.0895	0.911	28.222	585	60.26	209.37
820	0.82	0.0917	0.908	28.292	595	61.29	212.43
840	0.84	0.0940	0.906	28.362	610	62.83	217.25
860	0.86	0.0962	0.904	28.432	620	63.86	220.26
880	0.88	0.0984	0.902	28.503	625	64.38	221.49
900	0.9	0.1007	0.899	28.573	630	64.89	222.71
920	0.92	0.1029	0.897	28.645	675	69.53	238.02
940	0.94	0.1051	0.895	28.716	705	72.62	247.98
960	0.96	0.1074	0.893	28.788	730	75.19	256.13
980	0.98	0.1096	0.890	28.861	755	77.77	264.24
<b>1000</b>	<b>1</b>	<b>0.1119</b>	<b>0.888</b>	<b>28.933</b>	<b>760</b>	<b>78.28</b>	<b>265.32</b>
1020	1.02	0.1141	0.886	29.006	540	55.62	188.04







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680	0.68	0.0719	0.928	27.687	840	86.52	306.45
700	0.7	0.0740	0.926	27.750	865	89.10	314.85
720	0.72	0.0761	0.924	27.814	880	90.64	319.58
740	0.74	0.0782	0.922	27.878	920	94.76	333.34
760	0.76	0.0803	0.920	27.942	940	96.82	339.81
780	0.78	0.0825	0.918	28.006	945	97.34	340.83
800	0.8	0.0846	0.915	28.071	950	97.85	341.84
820	0.82	0.0867	0.913	28.136	955	98.37	342.85
840	0.84	0.0888	0.911	28.201	960	98.88	343.85
860	0.86	0.0909	0.909	28.267	965	99.40	344.83
880	0.88	0.0930	0.907	28.333	980	100.94	349.38
900	0.9	0.0951	0.905	28.399	985	101.46	350.34
920	0.92	0.0973	0.903	28.465	990	101.97	351.30
940	0.94	0.0994	0.901	28.532	1000	103.00	354.02
<b>960</b>	<b>0.96</b>	<b>0.1015</b>	<b>0.899</b>	<b>28.599</b>	<b>1005</b>	<b>103.52</b>	<b>354.95</b>



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### PENGUJIAN KUAT TEKAN BEBAS

Waktu : 14 hari Sampel : K4FA20/ II  
 Diameter : 5,74 cm Luas mula – mula ( $A_0$ ) : 25,88 cm<sup>2</sup>  
 Tinggi : 8,77 cm Volume : 226,94cm<sup>3</sup>  
 Berat : 407,50 gr Berat Volume  $\gamma_b$  : 1,80 gr/cm<sup>3</sup>

Perubahan Tinggi			Luas Penampang (cross-section area)		Beban		Tekanan (Q)
Angka Dial Vertikal	$\Delta L$ (mm)	$\epsilon$ Regangan (strain)	Koreksi	Luas Terkoreksi A (cm <sup>2</sup> )	Angka Dial Beban	Beban (kg)	P / A (kPa)
a	$a \times 10^{-3}$	$\Delta L / L_0$	$d = 1 - \epsilon$	$e = A_0 / d$	f	g	h
0	0	0	1	0	0	0	0
20	0.02	0.0023	0.998	25.936	35	3.61	13.63
40	0.04	0.0046	0.995	25.996	55	5.67	21.37
60	0.06	0.0068	0.993	26.055	130	13.39	50.40
80	0.08	0.0091	0.991	26.115	170	17.51	65.75
100	0.1	0.0114	0.989	26.175	210	21.63	81.04
120	0.12	0.0137	0.986	26.236	220	22.66	84.70
140	0.14	0.0160	0.984	26.297	230	23.69	88.35
160	0.16	0.0182	0.982	26.358	240	24.72	91.97
180	0.18	0.0205	0.979	26.419	250	25.75	95.58
200	0.2	0.0228	0.977	26.481	255	26.27	97.27
220	0.22	0.0251	0.975	26.543	260	26.78	98.94
240	0.24	0.0274	0.973	26.605	270	27.81	102.51
260	0.26	0.0296	0.970	26.668	285	29.36	107.95
280	0.28	0.0319	0.968	26.730	295	30.39	111.47
300	0.3	0.0342	0.966	26.794	315	32.45	118.75
320	0.32	0.0365	0.964	26.857	325	33.48	122.23
340	0.34	0.0388	0.961	26.921	350	36.05	131.32
360	0.36	0.0410	0.959	26.985	350	36.05	131.01
380	0.38	0.0433	0.957	27.049	370	38.11	138.17
400	0.4	0.0456	0.954	27.114	370	38.11	137.84
420	0.42	0.0479	0.952	27.179	380	39.14	141.23
440	0.44	0.0502	0.950	27.244	400	41.20	148.30
460	0.46	0.0525	0.948	27.309	430	44.29	159.04
480	0.48	0.0547	0.945	27.375	465	47.90	171.57
500	0.5	0.0570	0.943	27.441	490	50.47	180.36
520	0.52	0.0593	0.941	27.508	520	53.56	190.94
540	0.54	0.0616	0.938	27.575	570	58.71	208.79
560	0.56	0.0639	0.936	27.642	590	60.77	215.60
580	0.58	0.0661	0.934	27.710	620	63.86	226.01
600	0.6	0.0684	0.932	27.777	655	67.47	238.18
620	0.62	0.0707	0.929	27.846	685	70.56	248.48
640	0.64	0.0730	0.927	27.914	720	74.16	260.54
660	0.66	0.0753	0.925	27.983	750	77.25	270.72
680	0.68	0.0775	0.922	28.052	780	80.34	280.86
700	0.7	0.0798	0.920	28.122	810	83.43	290.94
720	0.72	0.0821	0.918	28.191	830	85.49	297.38
740	0.74	0.0844	0.916	28.262	865	89.10	309.16
760	0.76	0.0867	0.913	28.332	895	92.19	319.08
780	0.78	0.0889	0.911	28.403	925	95.28	328.95





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800	0.8	0.0912	0.909	28.474	945	97.34	335.22
820	0.82	0.0935	0.906	28.546	985	101.46	348.54
840	0.84	0.0958	0.904	28.618	1025	105.58	361.78
860	0.86	0.0981	0.902	28.690	1085	111.76	381.99
880	0.88	0.1003	0.900	28.763	1090	112.27	382.78
<b>900</b>	<b>0.9</b>	<b>0.1026</b>	<b>0.897</b>	<b>28.836</b>	<b>1095</b>	<b>112.79</b>	<b>383.56</b>
920	0.92	0.1049	0.895	28.910	1080	111.24	377.34







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780	0.78	0.0793	0.9207	28.0070	495	50.99	178.52
800	0.8	0.0813	0.9187	28.0689	510	52.53	183.53
820	0.82	0.0833	0.9167	28.1312	540	55.62	193.89
840	0.84	0.0854	0.9146	28.1937	570	58.71	204.21
860	0.86	0.0874	0.9126	28.2565	605	62.32	216.27
880	0.88	0.0894	0.9106	28.3195	625	64.38	222.92
900	0.9	0.0915	0.9085	28.3829	655	67.47	233.10
920	0.92	0.0935	0.9065	28.4465	720	74.16	255.66
940	0.94	0.0955	0.9045	28.5105	725	74.68	256.86
960	0.96	0.0976	0.9024	28.5747	730	75.19	258.05
980	0.98	0.0996	0.9004	28.6392	760	78.28	268.05
1000	1	0.1016	0.8984	28.7040	795	81.89	279.76
1020	1.02	0.1037	0.8963	28.7691	820	84.46	287.90
<b>1040</b>	<b>1.04</b>	<b>0.1057</b>	<b>0.8943</b>	<b>28.8344</b>	<b>840</b>	<b>86.52</b>	<b>294.26</b>
1060	1.06	0.1077	0.8923	28.9001	840	86.52	293.59
1080	1.08	0.1098	0.8902	28.9661	800	82.40	278.97



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### PENGUJIAN KUAT TEKAN BEBAS

Waktu : 14 hari Sampel : K4FA22/ II  
 Diameter : 5,71 cm Luas mula – mula ( $A_0$ ) : 25,61 cm<sup>2</sup>  
 Tinggi : 9,18 cm Volume : 235,07 cm<sup>3</sup>  
 Berat : 425,40 gr Berat Volume  $\gamma_b$  : 1,81 gr/cm<sup>3</sup>

Perubahan Tinggi			Luas Penampang (cross-section area)		Beban		Tekanan (Q)
Angka Dial Vertikal	$\Delta L$ (mm)	$\epsilon$ Regangan (strain)	Koreksi	Luas Terkoreksi A (cm <sup>2</sup> )	Angka Dial Beban	Beban (kg)	P / A (kPa)
a	$a \times 10^{-3}$	$\Delta L / L_0$	$d = 1 - \epsilon$	$e = A_0 / d$	f	g	h
0	0	0	1	0	0	0	0
20	0.02	0.0022	0.998	25.663	115	11.85	45.26
40	0.04	0.0044	0.996	25.719	160	16.48	62.84
60	0.06	0.0065	0.993	25.776	190	19.57	74.46
80	0.08	0.0087	0.991	25.832	230	23.69	89.93
100	0.1	0.0109	0.989	25.889	260	26.78	101.44
120	0.12	0.0131	0.987	25.946	290	29.87	112.90
140	0.14	0.0153	0.985	26.004	300	30.90	116.53
160	0.16	0.0174	0.983	26.061	300	30.90	116.27
180	0.18	0.0196	0.980	26.119	302	31.11	116.79
200	0.2	0.0218	0.978	26.178	305	31.42	117.69
220	0.22	0.0240	0.976	26.236	310	31.93	119.35
240	0.24	0.0261	0.974	26.295	315	32.45	121.00
260	0.26	0.0283	0.972	26.354	320	32.96	122.65
280	0.28	0.0305	0.969	26.413	330	33.99	126.20
300	0.3	0.0327	0.967	26.472	340	35.02	129.73
320	0.32	0.0349	0.965	26.532	350	36.05	133.25
340	0.34	0.0370	0.963	26.592	355	36.57	134.84
360	0.36	0.0392	0.961	26.652	355	36.57	134.54
380	0.38	0.0414	0.959	26.713	360	37.08	136.13
400	0.4	0.0436	0.956	26.774	385	39.66	145.25
420	0.42	0.0458	0.954	26.835	410	42.23	154.33
440	0.44	0.0479	0.952	26.896	430	44.29	161.49
460	0.46	0.0501	0.950	26.958	465	47.90	174.23
480	0.48	0.0523	0.948	27.020	495	50.99	185.05
500	0.5	0.0545	0.946	27.082	530	54.59	197.67
520	0.52	0.0566	0.943	27.145	570	58.71	212.10
540	0.54	0.0588	0.941	27.208	605	62.32	224.61
560	0.56	0.0610	0.939	27.271	640	65.92	237.05
580	0.58	0.0632	0.937	27.334	680	70.04	251.28
600	0.6	0.0654	0.935	27.398	715	73.65	263.60
620	0.62	0.0675	0.932	27.462	755	77.77	277.70
640	0.64	0.0697	0.930	27.526	785	80.86	288.06
660	0.66	0.0719	0.928	27.591	820	84.46	300.20
680	0.68	0.0741	0.926	27.656	835	86.01	304.97
<b>700</b>	<b>0.7</b>	<b>0.0763</b>	<b>0.924</b>	<b>27.721</b>	<b>855</b>	<b>88.07</b>	<b>311.54</b>
720	0.72	0.0784	0.922	27.787	855	88.07	310.81
740	0.74	0.0806	0.919	27.852	855	88.07	310.07
760	0.76	0.0828	0.917	27.919	850	87.55	307.53

Lampiran 32



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### PENGUJIAN KUAT TEKAN BEBAS

Waktu : 36 hari Sampel : Tanah Asli/ I  
 Diameter : 5,88 cm Luas mula – mula ( $A_0$ ) : 27,15 cm<sup>2</sup>  
 Tinggi : 10,12 cm Volume : 274,81 cm<sup>3</sup>  
 Berat : 432,25 gr Berat Volume  $\gamma_b$  : 1,57 gr/cm<sup>3</sup>

Perubahan Tinggi			Luas Penampang (cross-section area)		Beban		Tekanan (Q)
Angka Dial Vertikal	$\Delta L$ (mm)	$\epsilon$ Regangan (strain)	Koreksi	Luas Terkoreksi A (cm <sup>2</sup> )	Angka Dial Beban	Beban (kg)	P / A (kPa)
a	$a \times 10^{-3}$	$\Delta L / L_0$	$d = 1 - \epsilon$	$e = A_0 / d$	f	g	h
0	0	0	1	0	0	0.00	0.00
20	0.02	0.0020	0.998	27.208	50	5.15	18.56
40	0.04	0.0040	0.996	27.262	90	9.27	33.35
60	0.06	0.0059	0.994	27.317	125	12.88	46.22
80	0.08	0.0079	0.992	27.371	158	16.27	58.31
100	0.1	0.0099	0.990	27.426	202	20.81	74.40
120	0.12	0.0119	0.988	27.481	220	22.66	80.86
140	0.14	0.0138	0.986	27.536	268	27.60	98.31
160	0.16	0.0158	0.984	27.591	295	30.39	108.00
180	0.18	0.0178	0.982	27.646	310	31.93	113.26
200	0.2	0.0198	0.980	27.702	335	34.51	122.15
220	0.22	0.0217	0.978	27.758	375	38.63	136.46
240	0.24	0.0237	0.976	27.814	390	40.17	141.63
260	0.26	0.0257	0.974	27.871	415	42.75	150.40
280	0.28	0.0277	0.972	27.927	445	45.84	160.95
300	0.3	0.0296	0.970	27.984	450	46.35	162.43
320	0.32	0.0316	0.968	28.041	455	46.87	163.90
340	0.34	0.0336	0.966	28.099	457	47.07	164.28
360	0.36	0.0356	0.964	28.156	462	47.59	165.74
<b>380</b>	<b>0.38</b>	<b>0.0375</b>	<b>0.962</b>	<b>28.214</b>	<b>466</b>	<b>48.00</b>	<b>166.83</b>
400	0.4	0.0395	0.960	28.272	440	45.32	157.20



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### PENGUJIAN KUAT TEKAN BEBAS

Waktu : 36 hari Sampel : Tanah Asli/ II  
 Diameter : 5,68 cm Luas mula – mula ( $A_0$ ) : 25,34 cm<sup>2</sup>  
 Tinggi : 10,36 cm Volume : 262,51 cm<sup>3</sup>  
 Berat : 447,33 gr Berat Volume  $\gamma_b$  : 1,70 gr/cm<sup>3</sup>

Perubahan Tinggi			Luas Penampang (cross-section area)		Beban		Tekanan (Q)
Angka Dial Vertikal	$\Delta L$ (mm)	$\epsilon$ Regangan (strain)	Koreksi	Luas Terkoreksi A (cm <sup>2</sup> )	Angka Dial Beban	Beban (kg)	P / A (kPa)
a	$a \times 10^{-3}$	$\Delta L / L_0$	$d = 1 - \epsilon$	$e = A_0 / d$	f	g	h
0	0	0	1	0	0	0	0
20	0.02	0.0019	0.998	25.388	60	6.18	23.87
40	0.04	0.0039	0.996	25.437	90	9.27	35.74
60	0.06	0.0058	0.994	25.486	105	10.82	41.61
80	0.08	0.0077	0.992	25.536	120	12.36	47.47
100	0.1	0.0097	0.990	25.586	145	14.94	57.24
120	0.12	0.0116	0.988	25.636	155	15.97	61.07
140	0.14	0.0135	0.986	25.686	165	17.00	64.89
160	0.16	0.0154	0.985	25.736	175	18.03	68.68
180	0.18	0.0174	0.983	25.787	185	19.06	72.47
200	0.2	0.0193	0.981	25.838	195	20.09	76.23
220	0.22	0.0212	0.979	25.889	200	20.60	78.03
240	0.24	0.0232	0.977	25.940	205	21.12	79.83
260	0.26	0.0251	0.975	25.991	210	21.63	81.61
280	0.28	0.0270	0.973	26.043	220	22.66	85.33
300	0.3	0.0290	0.971	26.094	240	24.72	92.90
320	0.32	0.0309	0.969	26.146	255	26.27	98.51
340	0.34	0.0328	0.967	26.199	262	26.99	101.01
360	0.36	0.0347	0.965	26.251	285	29.36	109.66
380	0.38	0.0367	0.963	26.304	292	30.08	112.13
400	0.4	0.0386	0.961	26.356	300	30.90	114.97
420	0.42	0.0405	0.959	26.409	335	34.51	128.13
440	0.44	0.0425	0.958	26.463	360	37.08	137.41
441	0.441	0.0426	0.957	26.465	398	40.99	151.90
442	0.442	0.0427	0.957	26.468	410	42.23	156.47
443	0.443	0.0428	0.957	26.471	415	42.75	158.36
444	0.444	0.0429	0.957	26.473	420	43.26	160.25
445	0.445	0.0430	0.957	26.476	425	43.78	162.14
446	0.446	0.0431	0.957	26.479	430	44.29	164.03
447	0.447	0.0431	0.957	26.481	435	44.81	165.92
448	0.448	0.0432	0.957	26.484	440	45.32	167.81
449	0.449	0.0433	0.957	26.487	445	45.84	169.70
450	0.45	0.0434	0.957	26.489	455	46.87	173.50
451	0.451	0.0435	0.956	26.492	460	47.38	175.39
452	0.452	0.0436	0.956	26.495	465	47.90	177.28
<b>453</b>	<b>0.453</b>	<b>0.0437</b>	<b>0.956</b>	<b>26.497</b>	<b>472</b>	<b>48.62</b>	<b>179.93</b>
454	0.454	0.0438	0.956	26.500	460	47.38	175.33



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### PENGUJIAN KUAT TEKAN BEBAS

Waktu : 36 hari Sampel : K4FA14/ I  
 Diameter : 5,68 cm Luas mula – mula ( $A_0$ ) : 25,34 cm<sup>2</sup>  
 Tinggi : 9,59 cm Volume : 242,99 cm<sup>3</sup>  
 Berat : 455,31 gr Berat Volume  $\gamma_b$  : 1,87 gr/cm<sup>3</sup>

Perubahan Tinggi			Luas Penampang (cross-section area)		Beban		Tekanan (Q)
Angka Dial Vertikal	$\Delta L$ (mm)	$\epsilon$ Regangan (strain)	Koreksi	Luas Terkoreksi A (cm <sup>2</sup> )	Angka Dial Beban	Beban (kg)	P / A (kPa)
a	$a \times 10^{-3}$	$\Delta L / L_0$	$d = 1 - \epsilon$	$e = A_0 / d$	f	g	h
0	0	0	1	0	0	0	0
20	0.02	0.0021	0.998	25.392	100	10.30	39.78
40	0.04	0.0042	0.996	25.445	175	18.03	69.47
60	0.06	0.0063	0.994	25.498	245	25.24	97.05
80	0.08	0.0083	0.992	25.552	325	33.48	128.47
100	0.1	0.0104	0.990	25.606	345	35.54	136.09
120	0.12	0.0125	0.987	25.660	345	35.54	135.81
140	0.14	0.0146	0.985	25.714	355	36.57	139.45
160	0.16	0.0167	0.983	25.769	370	38.11	145.03
180	0.18	0.0188	0.981	25.824	375	38.63	146.68
200	0.2	0.0209	0.979	25.879	375	38.63	146.37
220	0.22	0.0229	0.977	25.934	375	38.63	146.06
240	0.24	0.0250	0.975	25.989	395	40.69	153.52
260	0.26	0.0271	0.973	26.045	415	42.75	160.95
280	0.28	0.0292	0.971	26.101	440	45.32	170.28
300	0.3	0.0313	0.969	26.157	445	45.84	171.84
320	0.32	0.0334	0.967	26.214	480	49.44	184.96
340	0.34	0.0355	0.965	26.270	520	53.56	199.94
360	0.36	0.0375	0.962	26.327	575	59.23	220.61
380	0.38	0.0396	0.960	26.384	600	61.80	229.70
400	0.4	0.0417	0.958	26.442	630	64.89	240.66
420	0.42	0.0438	0.956	26.499	670	69.01	255.39
440	0.44	0.0459	0.954	26.557	715	73.65	271.94
460	0.46	0.0480	0.952	26.615	758	78.07	287.67
<b>480</b>	<b>0.48</b>	<b>0.0501</b>	<b>0.950</b>	<b>26.674</b>	<b>795</b>	<b>81.89</b>	<b>301.05</b>
500	0.5	0.0521	0.948	26.733	790	81.37	298.50





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### PENGUJIAN KUAT TEKAN BEBAS

Waktu : 36 hari Sampel : K4FA14/ II  
 Diameter : 5,71 cm Luas mula – mula ( $A_0$ ) : 25,61 cm<sup>2</sup>  
 Tinggi : 9,47 cm Volume : 242,5 cm<sup>3</sup>  
 Berat : 444,92 gr Berat Volume  $\gamma_b$  : 1,83 gr/cm<sup>3</sup>

Perubahan Tinggi			Luas Penampang (cross-section area)		Beban		Tekanan (Q)
Angka Dial Vertikal	$\Delta L$ (mm)	$\epsilon$ Regangan (strain)	Koreksi	Luas Terkoreksi A (cm <sup>2</sup> )	Angka Dial Beban	Beban (kg)	P / A (kPa)
a	$a \times 10^{-3}$	$\Delta L / L_0$	$d = 1 - \epsilon$	$e = A_0 / d$	f	g	h
0	0	0	1	0	0	0	0
20	0.02	0.0021	0.998	25.661	80	8.24	31.49
40	0.04	0.0042	0.996	25.716	125	12.88	49.10
60	0.06	0.0063	0.994	25.770	160	16.48	62.71
80	0.08	0.0084	0.992	25.825	195	20.09	76.27
100	0.1	0.0106	0.989	25.880	225	23.18	87.81
120	0.12	0.0127	0.987	25.936	230	23.69	89.57
140	0.14	0.0148	0.985	25.991	240	24.72	93.27
160	0.16	0.0169	0.983	26.047	255	26.27	98.89
180	0.18	0.0190	0.981	26.103	258	26.57	99.83
200	0.2	0.0211	0.979	26.160	260	26.78	100.39
220	0.22	0.0232	0.977	26.216	265	27.30	102.10
240	0.24	0.0253	0.975	26.273	270	27.81	103.80
260	0.26	0.0275	0.973	26.330	275	28.33	105.50
280	0.28	0.0296	0.970	26.387	285	29.36	109.10
300	0.3	0.0317	0.968	26.445	295	30.39	112.68
320	0.32	0.0338	0.966	26.503	305	31.42	116.24
340	0.34	0.0359	0.964	26.561	305	31.42	115.99
360	0.36	0.0380	0.962	26.619	310	31.93	117.63
380	0.38	0.0401	0.960	26.678	320	32.96	121.16
400	0.4	0.0422	0.958	26.737	340	35.02	128.45
420	0.42	0.0444	0.956	26.796	365	37.60	137.59
440	0.44	0.0465	0.954	26.855	380	39.14	142.93
460	0.46	0.0486	0.951	26.915	403	41.51	151.24
480	0.48	0.0507	0.949	26.974	425	43.78	159.15
500	0.5	0.0528	0.947	27.035	450	46.35	168.13
520	0.52	0.0549	0.945	27.095	475	48.93	177.08
540	0.54	0.0570	0.943	27.156	515	53.05	191.56
560	0.56	0.0591	0.941	27.217	540	55.62	200.41
580	0.58	0.0612	0.939	27.278	570	58.71	211.07
600	0.6	0.0634	0.937	27.339	600	61.80	221.68
620	0.62	0.0655	0.935	27.401	640	65.92	235.92
640	0.64	0.0676	0.932	27.463	670	69.01	246.42
660	0.66	0.0697	0.930	27.526	710	73.13	260.54
680	0.68	0.0718	0.928	27.588	745	76.74	272.77
700	0.7	0.0739	0.926	27.651	765	78.80	279.45
<b>720</b>	<b>0.72</b>	<b>0.0760</b>	<b>0.924</b>	<b>27.714</b>	<b>770</b>	<b>79.31</b>	<b>280.64</b>
740	0.74	0.0781	0.922	27.778	760	78.28	276.36







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### PENGUJIAN KUAT TEKAN BEBAS

Waktu : 36 hari Sampel : K4FA16/ II  
 Diameter : 5,69 cm Luas mula – mula ( $A_0$ ) : 25,43 cm<sup>2</sup>  
 Tinggi : 9,33 cm Volume : 237,24 cm<sup>3</sup>  
 Berat : 438,89 gr Berat Volume  $\gamma_b$  : 1,85 gr/cm<sup>3</sup>

Perubahan Tinggi			Luas Penampang (cross-section area)		Beban		Tekanan (Q)
Angka Dial Vertikal	$\Delta L$ (mm)	$\epsilon$ Regangan (strain)	Koreksi	Luas Terkoreksi A (cm <sup>2</sup> )	Angka Dial Beban	Beban (kg)	P / A (kPa)
a	$a \times 10^{-3}$	$\Delta L / L_0$	$d = 1 - \epsilon$	$e = A_0 / d$	f	g	h
0	0	0	1	0	0	0	0
20	0.02	0.0021	0.998	25.483	40	4.12	15.86
40	0.04	0.0043	0.996	25.538	85	8.76	33.62
60	0.06	0.0064	0.994	25.593	115	11.85	45.39
80	0.08	0.0086	0.991	25.648	145	14.94	57.10
100	0.1	0.0107	0.989	25.704	175	18.03	68.77
120	0.12	0.0129	0.987	25.759	190	19.57	74.50
140	0.14	0.0150	0.985	25.816	215	22.15	84.12
160	0.16	0.0171	0.983	25.872	245	25.24	95.65
180	0.18	0.0193	0.981	25.928	275	28.33	107.13
200	0.2	0.0214	0.979	25.985	280	28.84	108.84
220	0.22	0.0236	0.976	26.042	280	28.84	108.60
240	0.24	0.0257	0.974	26.099	280	28.84	108.36
260	0.26	0.0279	0.972	26.157	285	29.36	110.06
280	0.28	0.0300	0.970	26.215	285	29.36	109.81
300	0.3	0.0322	0.968	26.273	285	29.36	109.57
320	0.32	0.0343	0.966	26.331	290	29.87	111.25
340	0.34	0.0364	0.964	26.390	300	30.90	114.83
360	0.36	0.0386	0.961	26.449	302	31.11	115.34
380	0.38	0.0407	0.959	26.508	305	31.42	116.22
400	0.4	0.0429	0.957	26.567	305	31.42	115.96
420	0.42	0.0450	0.955	26.627	305	31.42	115.70
440	0.44	0.0472	0.953	26.687	310	31.93	117.33
460	0.46	0.0493	0.951	26.747	314	32.34	118.58
480	0.48	0.0514	0.949	26.807	320	32.96	120.57
500	0.5	0.0536	0.946	26.868	335	34.51	125.94
520	0.52	0.0557	0.944	26.929	340	35.02	127.53
540	0.54	0.0579	0.942	26.990	355	36.57	132.86
560	0.56	0.0600	0.940	27.052	370	38.11	138.15
580	0.58	0.0622	0.938	27.114	380	39.14	141.56
600	0.6	0.0643	0.936	27.176	385	39.66	143.10
620	0.62	0.0665	0.934	27.238	400	41.20	148.33
640	0.64	0.0686	0.931	27.301	410	42.23	151.69
660	0.66	0.0707	0.929	27.364	420	43.26	155.04
680	0.68	0.0729	0.927	27.427	430	44.29	158.36
700	0.7	0.0750	0.925	27.491	435	44.81	159.83
720	0.72	0.0772	0.923	27.555	438	45.11	160.56
740	0.74	0.0793	0.921	27.619	450	46.35	164.58
760	0.76	0.0815	0.919	27.683	470	48.41	171.49



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780	0.78	0.0836	0.916	27.748	475	48.93	172.91
800	0.8	0.0857	0.914	27.813	485	49.96	176.14
820	0.82	0.0879	0.912	27.878	485	49.96	175.72
840	0.84	0.0900	0.910	27.944	530	54.59	191.58
860	0.86	0.0922	0.908	28.010	575	59.23	207.35
880	0.88	0.0943	0.906	28.076	605	62.32	217.66
900	0.9	0.0965	0.904	28.143	650	66.95	233.29
920	0.92	0.0986	0.901	28.210	690	71.07	247.06
940	0.94	0.1008	0.899	28.277	735	75.71	262.55
960	0.96	0.1029	0.897	28.345	775	79.83	276.18
980	0.98	0.1050	0.895	28.413	805	82.92	286.18
1000	1	0.1072	0.893	28.481	835	86.01	296.14
<b>1020</b>	<b>1.02</b>	<b>0.1093</b>	<b>0.891</b>	<b>28.549</b>	<b>860</b>	<b>88.58</b>	<b>304.27</b>
1040	1.04	0.1115	0.889	28.618	840	86.52	296.48



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### PENGUJIAN KUAT TEKAN BEBAS

Waktu : 36 hari Sampel : K4FA18/ I  
 Diameter : 5,69 cm Luas mula – mula ( $A_0$ ) : 25,43 cm<sup>2</sup>  
 Tinggi : 9,34 cm Volume : 237,50 cm<sup>3</sup>  
 Berat : 438,66 gr Berat Volume  $\gamma_b$  : 1,85 gr/cm<sup>3</sup>

Perubahan Tinggi			Luas Penampang (cross-section area)		Beban		Tekanan (Q)
Angka Dial Vertikal	$\Delta L$ (mm)	$\varepsilon$ Regangan (strain)	Koreksi	Luas Terkoreksi A (cm <sup>2</sup> )	Angka Dial Beban	Beban (kg)	P / A (kPa)
a	$a \times 10^{-3}$	$\Delta L / L_0$	$d = 1 - \varepsilon$	$e = A_0 / d$	f	g	h
0	0	0	1	0	0	0	0
20	0.02	0.0021	0.998	25.483	75	7.73	29.73
40	0.04	0.0043	0.996	25.537	140	14.42	55.37
60	0.06	0.0064	0.994	25.593	190	19.57	74.99
80	0.08	0.0086	0.991	25.648	220	22.66	86.64
100	0.1	0.0107	0.989	25.703	245	25.24	96.28
120	0.12	0.0128	0.987	25.759	250	25.75	98.03
140	0.14	0.0150	0.985	25.815	255	26.27	99.78
160	0.16	0.0171	0.983	25.871	255	26.27	99.56
180	0.18	0.0193	0.981	25.928	270	27.81	105.19
200	0.2	0.0214	0.979	25.985	270	27.81	104.96
220	0.22	0.0236	0.976	26.042	272	28.02	105.50
240	0.24	0.0257	0.974	26.099	272	28.02	105.27
260	0.26	0.0278	0.972	26.156	273	28.12	105.43
280	0.28	0.0300	0.970	26.214	273	28.12	105.19
300	0.3	0.0321	0.968	26.272	275	28.33	105.73
320	0.32	0.0343	0.966	26.330	280	28.84	107.41
340	0.34	0.0364	0.964	26.389	290	29.87	111.00
360	0.36	0.0385	0.961	26.448	295	30.39	112.67
380	0.38	0.0407	0.959	26.507	320	32.96	121.94
400	0.4	0.0428	0.957	26.566	325	33.48	123.57
420	0.42	0.0450	0.955	26.625	330	33.99	125.19
440	0.44	0.0471	0.953	26.685	350	36.05	132.48
460	0.46	0.0493	0.951	26.745	360	37.08	135.96
480	0.48	0.0514	0.949	26.806	375	38.63	141.31
500	0.5	0.0535	0.946	26.866	390	40.17	146.63
520	0.52	0.0557	0.944	26.927	390	40.17	146.30
540	0.54	0.0578	0.942	26.988	405	41.72	151.58
560	0.56	0.0600	0.940	27.050	435	44.81	162.44
580	0.58	0.0621	0.938	27.112	450	46.35	167.65
600	0.6	0.0642	0.936	27.174	460	47.38	170.99
620	0.62	0.0664	0.934	27.236	480	49.44	178.01
640	0.64	0.0685	0.931	27.299	530	54.59	196.11
660	0.66	0.0707	0.929	27.362	570	58.71	210.42
680	0.68	0.0728	0.927	27.425	610	62.83	224.67
700	0.7	0.0749	0.925	27.488	625	64.38	229.66
720	0.72	0.0771	0.923	27.552	635	65.41	232.80
740	0.74	0.0792	0.921	27.616	655	67.47	239.57
760	0.76	0.0814	0.919	27.681	685	70.56	249.96



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780	0.78	0.0835	0.916	27.745	720	74.16	262.12
800	0.8	0.0857	0.914	27.810	745	76.74	270.59
820	0.82	0.0878	0.912	27.875	780	80.34	282.64
840	0.84	0.0899	0.910	27.941	805	82.92	291.01
860	0.86	0.0921	0.908	28.007	825	84.98	297.54
880	0.88	0.0942	0.906	28.073	850	87.55	305.83
<b>900</b>	<b>0.9</b>	<b>0.0964</b>	<b>0.904</b>	<b>28.140</b>	<b>865</b>	<b>89.10</b>	<b>310.50</b>
920	0.92	0.0985	0.901	28.206	865	89.10	309.76
940	0.94	0.1006	0.899	28.274	860	88.58	307.24



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### PENGUJIAN KUAT TEKAN BEBAS

Waktu : 36 hari Sampel : K4FA18/ II  
 Diameter : 5,72 cm Luas mula – mula ( $A_0$ ) : 25,70 cm<sup>2</sup>  
 Tinggi : 9,75 cm Volume : 250,55 cm<sup>3</sup>  
 Berat : 460,97 gr Berat Volume  $\gamma_b$  : 1,84 gr/cm<sup>3</sup>

Perubahan Tinggi			Luas Penampang (cross-section area)		Beban		Tekanan (Q)
Angka Dial Vertikal	$\Delta L$ (mm)	$\epsilon$ Regangan (strain)	Koreksi	Luas Terkoreksi /A (cm <sup>2</sup> )	Angka Dial Beban	Beban (kg)	P / A (kPa)
a	$a \times 10^{-3}$	$\Delta L / L_0$	$d = 1 - \epsilon$	$e = A_0 / d$	f	g	h
0	0	0	1	0	0	0	0
20	0.02	0.0021	0.9979	25.7498	60	6.18	23.5362
40	0.04	0.0041	0.9959	25.8028	120	12.36	46.9755
60	0.06	0.0062	0.9938	25.8561	155	15.965	60.5518
80	0.08	0.0082	0.9918	25.9096	210	21.63	81.8686
100	0.1	0.0103	0.9897	25.9633	270	27.81	105.0419
120	0.12	0.0123	0.9877	26.0172	290	29.87	112.5889
140	0.14	0.0144	0.9856	26.0713	295	30.385	114.2922
160	0.16	0.0164	0.9836	26.1257	295	30.385	114.0544
180	0.18	0.0185	0.9815	26.1803	295	30.385	113.8165
200	0.2	0.0205	0.9795	26.2351	305	31.415	117.4288
220	0.22	0.0226	0.9774	26.2902	305	31.415	117.1829
240	0.24	0.0246	0.9754	26.3455	307	31.621	117.7037
260	0.26	0.0267	0.9733	26.4010	310	31.93	118.6040
280	0.28	0.0287	0.9713	26.4568	310	31.93	118.3540
300	0.3	0.0308	0.9692	26.5127	310	31.93	118.1041
320	0.32	0.0328	0.9672	26.5690	310	31.93	117.8541
340	0.34	0.0349	0.9651	26.6254	325	33.475	123.2947
360	0.36	0.0369	0.9631	26.6822	345	35.535	130.6039
380	0.38	0.0390	0.9610	26.7391	365	37.595	137.8808
400	0.4	0.0410	0.9590	26.7963	375	38.625	141.3560
420	0.42	0.0431	0.9569	26.8537	375	38.625	141.0536
440	0.44	0.0451	0.9549	26.9114	390	40.17	146.3813
460	0.46	0.0472	0.9528	26.9694	400	41.2	149.8122
480	0.48	0.0492	0.9508	27.0276	405	41.715	151.3583
500	0.5	0.0513	0.9487	27.0860	430	44.29	160.3546
520	0.52	0.0533	0.9467	27.1447	470	48.41	174.8924
540	0.54	0.0554	0.9446	27.2036	510	52.53	189.3656
560	0.56	0.0574	0.9426	27.2628	560	57.68	207.4794
580	0.58	0.0595	0.9405	27.3223	605	62.315	223.6640
600	0.6	0.0615	0.9385	27.3820	640	65.92	236.0872
620	0.62	0.0636	0.9364	27.4420	665	68.495	244.7731
640	0.64	0.0656	0.9344	27.5022	675	69.525	247.9097
660	0.66	0.0677	0.9323	27.5628	710	73.13	260.1918
680	0.68	0.0697	0.9303	27.6235	760	78.28	277.9024
700	0.7	0.0718	0.9282	27.6846	810	83.43	295.5323
720	0.72	0.0738	0.9262	27.7459	850	87.55	309.4411
740	0.74	0.0759	0.9241	27.8075	880	90.64	319.6530
<b>760</b>	<b>0.76</b>	<b>0.0779</b>	<b>0.9221</b>	<b>27.8694</b>	<b>894</b>	<b>92.082</b>	<b>324.0176</b>
780	0.78	0.0800	0.9200	27.9315	880	90.64	318.2339

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780	0.78	0.0852	0.9148	27.2119	855	88.065	317.3700
800	0.8	0.0873	0.9127	27.2770	860	88.58	318.4641
820	0.82	0.0895	0.9105	27.3424	930	95.79	343.5617
840	0.84	0.0917	0.9083	27.4081	960	98.88	353.7939
860	0.86	0.0939	0.9061	27.4741	990	101.97	363.9729
880	0.88	0.0961	0.9039	27.5405	1020	105.06	374.0988
900	0.9	0.0983	0.9017	27.6072	1045	107.635	382.3421
<b>920</b>	<b>0.92</b>	<b>0.1004</b>	<b>0.8996</b>	<b>27.6742</b>	<b>1060</b>	<b>109.18</b>	<b>386.8912</b>
940	0.94	0.1026	0.8974	27.7415	1040	107.12	378.6700





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### PENGUJIAN KUAT TEKAN BEBAS

Waktu : 36 hari Sampel : K4FA20/ II  
 Diameter : 5,71 cm Luas mula – mula ( $A_0$ ) : 25,61 cm<sup>2</sup>  
 Tinggi : 9,47 cm Volume : 242,5 cm<sup>3</sup>  
 Berat : 462,28 gr Berat Volume  $\gamma_b$  : 1,91 gr/cm<sup>3</sup>

Perubahan Tinggi			Luas Penampang (cross-section area)		Beban		Tekanan (Q)
Angka Dial Vertikal	$\Delta L$ (mm)	$\epsilon$ Regangan (strain)	Koreksi	Luas Terkoreksi A (cm <sup>2</sup> )	Angka Dial Beban	Beban (kg)	P / A (kPa)
a	$a \times 10^{-3}$	$\Delta L / L_0$	$d = 1 - \epsilon$	$e = A_0 / d$	f	g	h
0	0	0	1	0	0	0	0
20	0.02	0.0021	0.998	25.661	65	6.70	25.59
40	0.04	0.0042	0.996	25.716	90	9.27	35.35
60	0.06	0.0063	0.994	25.770	110	11.33	43.11
80	0.08	0.0084	0.992	25.825	140	14.42	54.76
100	0.1	0.0106	0.989	25.880	170	17.51	66.35
120	0.12	0.0127	0.987	25.936	190	19.57	74.00
140	0.14	0.0148	0.985	25.991	195	20.09	75.78
160	0.16	0.0169	0.983	26.047	220	22.66	85.31
180	0.18	0.0190	0.981	26.103	220	22.66	85.13
200	0.2	0.0211	0.979	26.160	230	23.69	88.81
220	0.22	0.0232	0.977	26.216	235	24.21	90.54
240	0.24	0.0253	0.975	26.273	240	24.72	92.27
260	0.26	0.0275	0.973	26.330	248	25.54	95.14
280	0.28	0.0296	0.970	26.387	260	26.78	99.53
300	0.3	0.0317	0.968	26.445	270	27.81	103.13
320	0.32	0.0338	0.966	26.503	273	28.12	104.05
340	0.34	0.0359	0.964	26.561	280	28.84	106.48
360	0.36	0.0380	0.962	26.619	290	29.87	110.04
380	0.38	0.0401	0.960	26.678	310	31.93	117.37
400	0.4	0.0422	0.958	26.737	310	31.93	117.12
420	0.42	0.0444	0.956	26.796	320	32.96	120.63
440	0.44	0.0465	0.954	26.855	330	33.99	124.12
460	0.46	0.0486	0.951	26.915	345	35.54	129.48
480	0.48	0.0507	0.949	26.974	370	38.11	138.55
500	0.5	0.0528	0.947	27.035	410	42.23	153.19
520	0.52	0.0549	0.945	27.095	455	46.87	169.62
540	0.54	0.0570	0.943	27.156	505	52.02	187.84
560	0.56	0.0591	0.941	27.217	555	57.17	205.98
580	0.58	0.0612	0.939	27.278	595	61.29	220.33
600	0.6	0.0634	0.937	27.339	630	64.89	232.76
620	0.62	0.0655	0.935	27.401	670	69.01	246.98
640	0.64	0.0676	0.932	27.463	710	73.13	261.13
660	0.66	0.0697	0.930	27.526	745	76.74	273.39
680	0.68	0.0718	0.928	27.588	770	79.31	281.92
700	0.7	0.0739	0.926	27.651	805	82.92	294.06
720	0.72	0.0760	0.924	27.714	835	86.01	304.33
740	0.74	0.0781	0.922	27.778	865	89.10	314.54



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760	0.76	0.0803	0.920	27.842	890	91.67	322.89
780	0.78	0.0824	0.918	27.906	910	93.73	329.39
800	0.8	0.0845	0.916	27.970	935	96.31	337.66
820	0.82	0.0866	0.913	28.035	955	98.37	344.08
840	0.84	0.0887	0.911	28.100	985	101.46	354.07
860	0.86	0.0908	0.909	28.165	1000	103.00	358.63
880	0.88	0.0929	0.907	28.231	1020	105.06	364.95
900	0.9	0.0950	0.905	28.296	1040	107.12	371.24
920	0.92	0.0971	0.903	28.363	1055	108.67	375.72
940	0.94	0.0993	0.901	28.429	1070	110.21	380.17
<b>960</b>	<b>0.96</b>	<b>0.1014</b>	<b>0.899</b>	<b>28.496</b>	<b>1075</b>	<b>110.73</b>	<b>381.05</b>
980	0.98	0.1035	0.897	28.563	1076	110.83	380.51
1000	1	0.1056	0.894	28.630	1065	109.70	375.73



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### PENGUJIAN KUAT TEKAN BEBAS

Waktu : 36 hari Sampel : K4FA22/ I  
 Diameter : 5,68 cm Luas mula – mula ( $A_0$ ) : 25,34 cm<sup>2</sup>  
 Tinggi : 9,66 cm Volume : 244,77 cm<sup>3</sup>  
 Berat : 440,18 gr Berat Volume  $\gamma_b$  : 1,80 gr/cm<sup>3</sup>

Perubahan Tinggi			Luas Penampang (cross-section area)		Beban		Tekanan (Q)
Angka Dial Vertikal	$\Delta L$ (mm)	$\epsilon$ Regangan (strain)	Koreksi	Luas Terkoreksi A (cm <sup>2</sup> )	Angka Dial Beban	Beban (kg)	P / A (kPa)
a	$a \times 10^{-3}$	$\Delta L / L_0$	$d = 1 - \epsilon$	$e = A_0 / d$	f	g	h
0	0	0	1	0	0	0	0
20	0.02	0.0021	0.9979	25.3914	90	9.27	35.8025
40	0.04	0.0041	0.9959	25.4442	160	16.48	63.5169
60	0.06	0.0062	0.9938	25.4972	175	18.025	69.3272
80	0.08	0.0083	0.9917	25.5504	177	18.231	69.9734
100	0.1	0.0104	0.9896	25.6039	195	20.085	76.9284
120	0.12	0.0124	0.9876	25.6576	204	21.012	80.3106
140	0.14	0.0145	0.9855	25.7115	210	21.63	82.4993
160	0.16	0.0166	0.9834	25.7656	215	22.145	84.2862
180	0.18	0.0186	0.9814	25.8199	225	23.175	88.0208
200	0.2	0.0207	0.9793	25.8745	236	24.308	92.1292
220	0.22	0.0228	0.9772	25.9294	260	26.78	101.2837
240	0.24	0.0248	0.9752	25.9844	262	26.986	101.8466
260	0.26	0.0269	0.9731	26.0397	265	27.295	102.7940
280	0.28	0.0290	0.9710	26.0952	270	27.81	104.5107
300	0.3	0.0311	0.9689	26.1510	278	28.634	107.3779
320	0.32	0.0331	0.9669	26.2070	430	44.29	165.7332
340	0.34	0.0352	0.9648	26.2632	465	47.895	178.8394
360	0.36	0.0373	0.9627	26.3197	515	53.045	197.6443
380	0.38	0.0393	0.9607	26.3764	565	58.195	216.3668
400	0.4	0.0414	0.9586	26.4334	615	63.345	235.0067
420	0.42	0.0435	0.9565	26.4906	685	70.555	261.1901
440	0.44	0.0455	0.9545	26.5481	700	72.1	266.3319
460	0.46	0.0476	0.9524	26.6058	745	76.735	282.8384
480	0.48	0.0497	0.9503	26.6637	775	79.825	293.5882
500	0.5	0.0518	0.9482	26.7220	830	85.49	313.7385
520	0.52	0.0538	0.9462	26.7804	895	92.185	337.5697
<b>540</b>	<b>0.54</b>	<b>0.0559</b>	<b>0.9441</b>	<b>26.8392</b>	<b>920</b>	<b>94.76</b>	<b>346.2397</b>
560	0.56	0.0580	0.9420	26.8981	870	89.61	326.7043



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### PENGUJIAN KUAT TEKAN BEBAS

Waktu : 36 hari Sampel : K4FA22/ II  
 Diameter : 5,69 cm Luas mula – mula ( $A_0$ ) : 25,43 cm<sup>2</sup>  
 Tinggi : 9,14 cm Volume : 232,41 cm<sup>3</sup>  
 Berat : 430,86 gr Berat Volume  $\gamma_b$  : 1,85 gr/cm<sup>3</sup>

Perubahan Tinggi			Luas Penampang (cross-section area)		Beban		Tekanan (Q)
Angka Dial Vertikal	$\Delta L$ (mm)	E Regangan (strain)	Koreksi	Luas Terkoreksi /A (cm <sup>2</sup> )	Angka Dial Beban	Beban (kg)	P / A (kPa)
a	$a \times 10^{-3}$	$\Delta L / L_0$	$d = 1 - \epsilon$	$e = A_0 / d$	f	g	h
0	0	0	1	0	0	0	0
20	0.02	0.0022	0.998	25.484	30	3.09	11.89
40	0.04	0.0044	0.996	25.540	60	6.18	23.73
60	0.06	0.0066	0.993	25.596	95	9.79	37.49
80	0.08	0.0088	0.991	25.653	130	13.39	51.19
100	0.1	0.0109	0.989	25.709	170	17.51	66.79
120	0.12	0.0131	0.987	25.766	200	20.60	78.40
140	0.14	0.0153	0.985	25.824	230	23.69	89.96
160	0.16	0.0175	0.982	25.881	320	32.96	124.89
180	0.18	0.0197	0.980	25.939	350	36.05	136.29
200	0.2	0.0219	0.978	25.997	350	36.05	135.99
220	0.22	0.0241	0.976	26.055	353	36.36	136.85
240	0.24	0.0263	0.974	26.114	354	36.46	136.93
260	0.26	0.0284	0.972	26.173	355	36.57	137.01
280	0.28	0.0306	0.969	26.232	360	37.08	138.62
300	0.3	0.0328	0.967	26.291	365	37.60	140.23
320	0.32	0.0350	0.965	26.351	365	37.60	139.91
340	0.34	0.0372	0.963	26.411	370	38.11	141.51
360	0.36	0.0394	0.961	26.471	400	41.20	152.63
380	0.38	0.0416	0.958	26.531	400	41.20	152.29
400	0.4	0.0438	0.956	26.592	435	44.81	165.23
420	0.42	0.0460	0.954	26.653	440	45.32	166.75
440	0.44	0.0481	0.952	26.714	440	45.32	166.37
460	0.46	0.0503	0.950	26.776	445	45.84	167.87
480	0.48	0.0525	0.947	26.838	450	46.35	169.37
500	0.5	0.0547	0.945	26.900	455	46.87	170.85
520	0.52	0.0569	0.943	26.962	465	47.90	174.20
540	0.54	0.0591	0.941	27.025	500	51.50	186.88
560	0.56	0.0613	0.939	27.088	530	54.59	197.63
580	0.58	0.0635	0.937	27.151	570	58.71	212.05
600	0.6	0.0656	0.934	27.215	605	62.32	224.55
620	0.62	0.0678	0.932	27.279	635	65.41	235.13
640	0.64	0.0700	0.930	27.343	675	69.53	249.36
660	0.66	0.0722	0.928	27.407	720	74.16	265.35
680	0.68	0.0744	0.926	27.472	780	80.34	286.79
700	0.7	0.0766	0.923	27.537	795	81.89	291.61
720	0.72	0.0788	0.921	27.603	830	85.49	303.73
740	0.74	0.0810	0.919	27.668	870	89.61	317.61
760	0.76	0.0832	0.917	27.734	900	92.70	327.78
780	0.78	0.0853	0.915	27.801	930	95.79	337.90
<b>800</b>	<b>0.8</b>	<b>0.0875</b>	<b>0.912</b>	<b>27.867</b>	<b>955</b>	<b>98.37</b>	<b>346.15</b>
820	0.82	0.0897	0.910	27.934	920	94.76	332.67

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### PENGUJIAN CBR

Waktu : 7 hari Sampel : Tanah Asli / I  
 Diameter : 15,2 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,67 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3205 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4042 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 lbs	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	$e = d * 0,026 * 101,97$	$f = e * 2,205$	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	8	21.21	46.76	107.47	78.82
64	0.64	11	29.16	64.29	147.76	145.23
96	0.96	15	39.77	87.67	201.50	201.61
128	1.28	18	47.72	105.21	241.80	249.98
160	1.6	21	55.68	122.74	282.10	292.08
192	1.92	24	63.63	140.28	322.40	329.33
224	2.24	27	71.58	157.81	362.70	362.93
256	2.56	30	79.54	175.35	402.99	393.86
288	2.88	32	84.84	187.04	429.86	422.86
320	3.2	34	90.14	198.73	456.73	450.52
352	3.52	36	95.44	210.42	483.59	477.27
384	3.84	38	100.75	222.11	510.46	503.41
416	4.16	40	106.05	233.80	537.33	529.12
448	4.48	40	106.05	233.80	537.33	554.47
480	4.8	42	111.35	245.49	564.19	579.48
512	5.12	44	116.65	257.18	591.06	604.09
544	5.44	46	121.96	268.87	617.92	628.19
576	5.76	48	127.26	280.56	644.79	651.65
608	6.08	50	132.56	292.25	671.66	674.31
640	6.4	52	137.86	303.94	698.52	696.00
672	6.72	54	143.17	315.63	725.39	716.55
704	7.04	56	148.47	327.32	752.26	735.81
736	7.36	58	153.77	339.01	779.12	753.62
768	7.68	58	153.77	339.01	779.12	769.88
800	8	59	156.42	344.85	792.56	784.49
832	8.32	60	159.07	350.70	805.99	797.38
864	8.64	60	159.07	350.70	805.99	808.54
896	8.96	61	161.72	356.54	819.42	817.98
928	9.28	61	161.72	356.54	819.42	825.73
960	9.6	62	164.38	362.39	832.86	831.88
992	9.92	62	164.38	362.39	832.86	836.55
1024	10.24	63	167.03	368.23	846.29	839.87
1056	10.56	63	167.03	368.23	846.29	842.01
1088	10.88	63	167.03	368.23	846.29	843.15
1120	11.2	64	169.68	374.08	859.72	843.49
1152	11.52	64	169.68	374.08	859.72	843.22
1184	11.84	65	172.33	379.92	873.15	842.53
1216	12.16	65	172.33	379.92	873.15	841.59
1248	12.48	65	172.33	379.92	873.15	840.54
1280	12.8	66	174.98	385.77	886.59	839.47
1312	13.12	66	174.98	385.77	886.59	838.41
1344	13.44	67	177.63	391.61	900.02	837.32
1376	13.76	67	177.63	391.61	900.02	836.08
1408	14.08	68	180.28	397.46	913.45	834.43
1440	14.4	68	180.28	397.46	913.45	832.00
1472	14.72	69	182.93	403.30	926.89	828.27
1504	15.04	69	182.93	403.30	926.89	822.53
1536	15.36	69	182.93	403.30	926.89	813.89
1568	15.68	70	185.59	409.15	940.32	801.23
1600	16	70	185.59	409.15	940.32	783.18

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### PENGUJIAN CBR

Waktu : 7 hari Sampel : Tanah Asli / II  
 Diameter : 15,2 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,67 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3205 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4042 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 lbs	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	$e = 0,026 * 101,97$	$f = e * 2,205$	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	9	23.86	52.60	120.90	85.66
64	0.64	12	31.81	70.14	161.20	152.94
96	0.96	15	39.77	87.67	201.50	207.18
128	1.28	18	47.72	105.21	241.80	252.63
160	1.6	21	55.68	122.74	282.10	292.56
192	1.92	24	63.63	140.28	322.40	329.43
224	2.24	27	71.58	157.81	362.70	364.96
256	2.56	30	79.54	175.35	402.99	400.31
288	2.88	33	87.49	192.88	443.29	436.13
320	3.2	36	95.44	210.42	483.59	472.69
352	3.52	38	100.75	222.11	510.46	509.98
384	3.84	41	108.70	239.64	550.76	547.74
416	4.16	43	114.00	251.33	577.63	585.58
448	4.48	46	121.96	268.87	617.92	623.04
480	4.8	50	132.56	292.25	671.66	659.63
512	5.12	52	137.86	303.94	698.52	694.87
544	5.44	54	143.17	315.63	725.39	728.34
576	5.76	56	148.47	327.32	752.26	759.74
608	6.08	58	153.77	339.01	779.12	788.84
640	6.4	60	159.07	350.70	805.99	815.58
672	6.72	62	164.38	362.39	832.86	840.00
704	7.04	64	169.68	374.08	859.72	862.26
736	7.36	66	174.98	385.77	886.59	882.67
768	7.68	67	177.63	391.61	900.02	901.60
800	8	68	180.28	397.46	913.45	919.49
832	8.32	69	182.93	403.30	926.89	936.82
864	8.64	70	185.59	409.15	940.32	954.03
896	8.96	71	188.24	414.99	953.75	971.50
928	9.28	72	190.89	420.84	967.19	989.46
960	9.6	73	193.54	426.68	980.62	1007.93
992	9.92	74	196.19	432.53	994.05	1026.65
1024	10.24	75	198.84	438.37	1007.49	1044.96
1056	10.56	76	201.49	444.22	1020.92	1061.73
1088	10.88	76	201.49	444.22	1020.92	1075.26
1120	11.2	76	201.49	444.22	1020.92	1083.13

Lampiran 46



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### PENGUJIAN CBR

Waktu : 7 hari Sampel : K4FA14 / I  
 Diameter : 15,2 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,67 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3204,7 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4042 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 lbs	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	$e = 0,026 \times 101,97$	$f = e \times 2,205$	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	5	13.26	29.22	67.17	62.49
64	0.64	10	26.51	58.45	134.33	131.21
96	0.96	15	39.77	87.67	201.50	202.34
128	1.28	20	53.02	116.90	268.66	273.07
160	1.6	25	66.28	146.12	335.83	341.42
192	1.92	30	79.54	175.35	402.99	406.15
224	2.24	35	92.79	204.57	470.16	466.63
256	2.56	40	106.05	233.80	537.33	522.72
288	2.88	43	114.00	251.33	577.63	574.66
320	3.2	46	121.96	268.87	617.92	622.98
352	3.52	49	129.91	286.40	658.22	668.41
384	3.84	53	140.51	309.78	711.96	711.76
416	4.16	56	148.47	327.32	752.26	753.87
448	4.48	59	156.42	344.85	792.56	795.54
480	4.8	63	167.03	368.23	846.29	837.42
512	5.12	66	174.98	385.77	886.59	879.97
544	5.44	69	182.93	403.30	926.89	923.42
576	5.76	72	190.89	420.84	967.19	967.71
608	6.08	75	198.84	438.37	1007.49	1012.40
640	6.4	79	209.45	461.75	1061.22	1056.72
672	6.72	82	217.40	479.29	1101.52	1099.46
704	7.04	85	225.35	496.82	1141.82	1138.98
736	7.36	88	233.31	514.35	1182.12	1173.19
768	7.68	91	241.26	531.89	1222.42	1199.54
800	8	91	241.26	531.89	1222.42	1214.99
832	8.32	91	241.26	531.89	1222.42	1216.05
864	8.64	91	241.26	531.89	1222.42	1198.73





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### PENGUJIAN CBR

Waktu : 7 hari Sampel : K4FA14 / II  
 Diameter : 15,2 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,67 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3204,74 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4042 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 lbs	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	$e = 0,026 \times 101,97$	$f = e \times 2,205$	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	10	26.51	58.45	134.33	100.03
64	0.64	15	39.77	87.67	201.50	191.22
96	0.96	20	53.02	116.90	268.66	273.23
128	1.28	25	66.28	146.12	335.83	346.20
160	1.6	30	79.54	175.35	402.99	410.64
192	1.92	34	90.14	198.73	456.73	467.36
224	2.24	38	100.75	222.11	510.46	517.36
256	2.56	42	111.35	245.49	564.19	561.77
288	2.88	45	119.30	263.02	604.49	601.79
320	3.2	48	127.26	280.56	644.79	638.60
352	3.52	51	135.21	298.09	685.09	673.33
384	3.84	53	140.51	309.78	711.96	706.99
416	4.16	56	148.47	327.32	752.26	740.47
448	4.48	58	153.77	339.01	779.12	774.46
480	4.8	60	159.07	350.70	805.99	809.47
512	5.12	62	164.38	362.39	832.86	845.78
544	5.44	65	172.33	379.92	873.15	883.44
576	5.76	68	180.28	397.46	913.45	922.31
608	6.08	72	190.89	420.84	967.19	961.98
640	6.4	75	198.84	438.37	1007.49	1001.87
672	6.72	78	206.80	455.91	1047.79	1041.21
704	7.04	81	214.75	473.44	1088.09	1079.07
736	7.36	84	222.70	490.97	1128.38	1114.41
768	7.68	86	228.00	502.66	1155.25	1146.10
800	8	89	235.96	520.20	1195.55	1173.00
832	8.32	90	238.61	526.04	1208.98	1194.02
864	8.64	91	241.26	531.89	1222.42	1208.16
896	8.96	92	243.91	537.73	1235.85	1214.59
928	9.28	92	243.91	537.73	1235.85	1212.78
960	9.6	92	243.91	537.73	1235.85	1202.51
992	9.92	92	243.91	537.73	1235.85	1184.02
1024	10.24	90	238.61	526.04	1208.98	1158.13





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### PENGUJIAN CBR

Waktu : 7 hari Sampel : K4FA16/ I  
 Diameter : 15,2 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,67 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3204,74 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4042 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 lbs	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	$e = 0,026 \times 101,97$	$f = e \times 2,205$	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	6	15.91	35.07	80.60	101.45
64	0.64	13	34.47	75.98	174.63	194.17
96	0.96	20	53.02	116.90	268.66	278.65
128	1.28	27	71.58	157.81	362.70	355.50
160	1.6	32	84.84	187.04	429.86	425.37
192	1.92	37	98.10	216.26	497.03	488.98
224	2.24	41	108.70	239.64	550.76	547.07
256	2.56	45	119.30	263.02	604.49	600.41
288	2.88	49	129.91	286.40	658.22	649.74
320	3.2	52	137.86	303.94	698.52	695.83
352	3.52	56	148.47	327.32	752.26	739.38
384	3.84	59	156.42	344.85	792.56	781.07
416	4.16	62	164.38	362.39	832.86	821.53
448	4.48	62	164.38	362.39	832.86	861.34
480	4.8	65	172.33	379.92	873.15	901.00
512	5.12	68	180.28	397.46	913.45	940.95
544	5.44	72	190.89	420.84	967.19	981.53
576	5.76	76	201.49	444.22	1020.92	1023.04
608	6.08	80	212.10	467.60	1074.65	1065.65
640	6.4	84	222.70	490.97	1128.38	1109.47
672	6.72	88	233.31	514.35	1182.12	1154.55
704	7.04	91	241.26	531.89	1222.42	1200.80
736	7.36	94	249.21	549.42	1262.72	1248.11
768	7.68	97	257.17	566.96	1303.02	1296.26
800	8	100	265.12	584.49	1343.32	1344.96
832	8.32	103	273.08	602.03	1383.61	1393.88
864	8.64	107	283.68	625.41	1437.35	1442.61
896	8.96	111	294.29	648.79	1491.08	1490.71
928	9.28	115	304.89	672.17	1544.81	1537.71
960	9.6	119	315.50	695.55	1598.55	1583.10
992	9.92	122	323.45	713.08	1638.84	1626.37
1024	10.24	125	331.40	730.62	1679.14	1667.03
1056	10.56	128	339.36	748.15	1719.44	1704.59
1088	10.88	131	347.31	765.69	1759.74	1738.61
1120	11.2	134	355.26	783.22	1800.04	1768.71
1152	11.52	136	360.57	794.91	1826.91	1794.58
1184	11.84	138	365.87	806.60	1853.77	1816.02
1216	12.16	140	371.17	818.29	1880.64	1832.94
1248	12.48	141	373.82	824.14	1894.07	1845.41
1280	12.8	142	376.47	829.98	1907.51	1853.66
1312	13.12	143	379.12	835.83	1920.94	1858.11
1344	13.44	144	381.78	841.67	1934.37	1859.43



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### PENGUJIAN CBR

Waktu : 7 hari Sampel : K4FA16/ II  
 Diameter : 15,2 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,67 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3204,74 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4042 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 lbs	P (psi)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	$e = 0,026 \times 101,97$	$f = e \times 2,205$	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	8	21.21	46.76	107.47	73.89
64	0.64	15	39.77	87.67	201.50	152.00
96	0.96	25	66.28	146.12	335.83	233.16
128	1.28	30	79.54	175.35	402.99	316.33
160	1.6	35	92.79	204.57	470.16	400.54
192	1.92	40	106.05	233.80	537.33	484.97
224	2.24	44	116.65	257.18	591.06	568.84
256	2.56	48	127.26	280.56	644.79	651.52
288	2.88	52	137.86	303.94	698.52	732.43
320	3.2	56	148.47	327.32	752.26	811.07
352	3.52	60	159.07	350.70	805.99	887.04
384	3.84	64	169.68	374.08	859.72	959.99
416	4.16	68	180.28	397.46	913.45	1029.64
448	4.48	72	190.89	420.84	967.19	1095.80
480	4.8	76	201.49	444.22	1020.92	1158.29
512	5.12	80	212.10	467.60	1074.65	1217.03
544	5.44	108	286.33	631.25	1450.78	1271.98
576	5.76	110	291.63	642.94	1477.65	1323.12
608	6.08	111	294.29	648.79	1491.08	1370.50
640	6.4	113	299.59	660.48	1517.95	1414.21
672	6.72	114	302.24	666.32	1531.38	1454.36
704	7.04	115	304.89	672.17	1544.81	1491.12
736	7.36	116	307.54	678.01	1558.25	1524.67
768	7.68	117	310.19	683.86	1571.68	1555.21
800	8	118	312.84	689.70	1585.11	1583.00
832	8.32	119	315.50	695.55	1598.55	1608.29
864	8.64	119	315.50	695.55	1598.55	1631.36
896	8.96	120	318.15	701.39	1611.98	1652.52
928	9.28	120	318.15	701.39	1611.98	1672.08
960	9.6	121	320.80	707.24	1625.41	1690.38
992	9.92	122	323.45	713.08	1638.84	1707.76
1024	10.24	123	326.10	718.93	1652.28	1724.57
1056	10.56	124	328.75	724.77	1665.71	1741.19
1088	10.88	125	331.40	730.62	1679.14	1757.98
1120	11.2	125	331.40	730.62	1679.14	1775.33
1152	11.52	126	334.05	736.46	1692.58	1793.63
1184	11.84	127	336.70	742.31	1706.01	1813.27
1216	12.16	128	339.36	748.15	1719.44	1834.65
1248	12.48	129	342.01	754.00	1732.88	1858.18
1280	12.8	129	342.01	754.00	1732.88	1884.26
1312	13.12	130	344.66	759.84	1746.31	1913.31
1344	13.44	130	344.66	759.84	1746.31	1945.74
1376	13.76	131	347.31	765.69	1759.74	1981.98
1408	14.08	132	349.96	771.53	1773.18	2022.45
1440	14.4	133	352.61	777.38	1786.61	2067.58
1472	14.72	133	352.61	777.38	1786.61	2117.82



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1504	15.04	133	352.61	777.38	1786.61	2173.59
1536	15.36	134	355.26	783.22	1800.04	2235.36
1568	15.68	135	357.91	789.07	1813.48	2303.58
1600	16	135	357.91	789.07	1813.48	2378.72
1632	16.32	136	360.57	794.91	1826.91	2461.26
1664	16.64	137	363.22	800.76	1840.34	2551.70
1696	16.96	138	365.87	806.60	1853.77	2650.53
1728	17.28	138	365.87	806.60	1853.77	2758.28
1760	17.6	139	368.52	812.45	1867.21	2875.50
1792	17.92	140	371.17	818.29	1880.64	3002.74
1824	18.24	140	371.17	818.29	1880.64	3140.58
1856	18.56	141	373.82	824.14	1894.07	3289.64
1888	18.88	141	373.82	824.14	1894.07	3450.56
1920	19.2	142	376.47	829.98	1907.51	3623.98
1952	19.52	143	379.12	835.83	1920.94	3810.63
1984	19.84	144	381.78	841.67	1934.37	4011.23
2016	20.16	144	381.78	841.67	1934.37	4226.55
2048	20.48	145	384.43	847.52	1947.81	4457.43
2080	20.8	146	387.08	853.36	1961.24	4704.72
2112	21.12	146	387.08	853.36	1961.24	4969.33
2144	21.44	146	387.08	853.36	1961.24	5252.25



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### PENGUJIAN CBR

Waktu : 7 hari Sampel : K4FA18/ I  
 Diameter : 15,2 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,67 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3204,74 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4042 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 lbs	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	$e = 0,026 \times 101,97$	$f = e \times 2,205$	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	11.5	30.49	67.22	154.48	112.21
64	0.64	15	39.77	87.67	201.50	217.26
96	0.96	19	50.37	111.05	255.23	315.50
128	1.28	23	60.98	134.43	308.96	407.25
160	1.6	30	79.54	175.35	402.99	492.82
192	1.92	37	98.10	216.26	497.03	572.54
224	2.24	44	116.65	257.18	591.06	646.71
256	2.56	51	135.21	298.09	685.09	715.62
288	2.88	57	151.12	333.16	765.69	779.56
320	3.2	63	167.03	368.23	846.29	838.82
352	3.52	69	182.93	403.30	926.89	893.67
384	3.84	72	190.89	420.84	967.19	944.39
416	4.16	75	198.84	438.37	1007.49	991.23
448	4.48	78	206.80	455.91	1047.79	1034.44
480	4.8	78	206.80	455.91	1047.79	1074.27
512	5.12	83	220.05	485.13	1114.95	1110.97
544	5.44	86	228.00	502.66	1155.25	1144.76
576	5.76	89	235.96	520.20	1195.55	1175.86
608	6.08	92	243.91	537.73	1235.85	1204.50
640	6.4	95	251.87	555.27	1276.15	1230.89
672	6.72	96	254.52	561.11	1289.58	1255.22
704	7.04	97	257.17	566.96	1303.02	1277.69
736	7.36	98	259.82	572.80	1316.45	1298.49
768	7.68	99	262.47	578.65	1329.88	1317.79
800	8	100	265.12	584.49	1343.32	1335.79
832	8.32	101	267.77	590.34	1356.75	1352.62
864	8.64	102	270.42	596.18	1370.18	1368.47
896	8.96	103	273.08	602.03	1383.61	1383.47
928	9.28	104	275.73	607.87	1397.05	1397.78
960	9.6	105	278.38	613.72	1410.48	1411.52
992	9.92	106	281.03	619.56	1423.91	1424.83
1024	10.24	107	283.68	625.41	1437.35	1437.82
1056	10.56	108	286.33	631.25	1450.78	1450.62
1088	10.88	109	288.98	637.10	1464.21	1463.33
1120	11.2	110	291.63	642.94	1477.65	1476.06
1152	11.52	111	294.29	648.79	1491.08	1488.88
1184	11.84	112	296.94	654.63	1504.51	1501.89
1216	12.16	113	299.59	660.48	1517.95	1515.17
1248	12.48	114	302.24	666.32	1531.38	1528.78
1280	12.8	115	304.89	672.17	1544.81	1542.79
1312	13.12	116	307.54	678.01	1558.25	1557.26
1344	13.44	117	310.19	683.86	1571.68	1572.23
1376	13.76	118	312.84	689.70	1585.11	1587.75
1408	14.08	119	315.50	695.55	1598.55	1603.85
1440	14.4	120	318.15	701.39	1611.98	1620.55
1472	14.72	121	320.80	707.24	1625.41	1637.88



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1504	15.04	122	323.45	713.08	1638.84	1655.84
1536	15.36	123	326.10	718.93	1652.28	1674.45
1568	15.68	124	328.75	724.77	1665.71	1693.69
1600	16	125	331.40	730.62	1679.14	1713.57
1632	16.32	126	334.05	736.46	1692.58	1734.05
1664	16.64	128	339.36	748.15	1719.44	1755.13
1696	16.96	130	344.66	759.84	1746.31	1776.75
1728	17.28	130	344.66	759.84	1746.31	1798.90
1760	17.6	133	352.61	777.38	1786.61	1821.51
1792	17.92	136	360.57	794.91	1826.91	1844.54
1824	18.24	139	368.52	812.45	1867.21	1867.92
1856	18.56	142	376.47	829.98	1907.51	1891.58
1888	18.88	145	384.43	847.52	1947.81	1915.46
1920	19.2	148	392.38	865.05	1988.11	1939.46
1952	19.52	151	400.33	882.59	2028.41	1963.49
1984	19.84	152	402.99	888.43	2041.84	1987.47
2016	20.16	153	405.64	894.28	2055.27	2011.28
2048	20.48	154	408.29	900.12	2068.71	2034.80
2080	20.8	155	410.94	905.97	2082.14	2057.93
2112	21.12	156	413.59	911.81	2095.57	2080.53
2144	21.44	157	416.24	917.66	2109.00	2102.46
2176	21.76	158	418.89	923.50	2122.44	2123.60
2208	22.08	159	421.54	929.35	2135.87	2143.78
2240	22.4	160	424.20	935.19	2149.30	2162.85
2272	22.72	161	426.85	941.04	2162.74	2180.65
2304	23.04	162	429.50	946.88	2176.17	2197.00
2336	23.36	163	432.15	952.73	2189.60	2211.74
2368	23.68	164	434.80	958.57	2203.04	2224.66
2400	24	165	437.45	964.42	2216.47	2235.58
2432	24.32	166	440.10	970.26	2229.90	2244.30
2464	24.64	167	442.75	976.10	2243.34	2250.61
2496	24.96	168	445.40	981.95	2256.77	2254.30
2528	25.28	169	448.06	987.79	2270.20	2255.14
2560	25.6	169	448.06	987.79	2270.20	2252.90
2592	25.92	166	440.10	970.26	2229.90	2247.35



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### PENGUJIAN CBR

Waktu : 7 hari Sampel : K4FA18/ II  
 Diameter : 15,2 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,67 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3204,74 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4042 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 lbs	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	$e = 0,026 \times 101,97$	$f = e \times 2,205$	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	6	15.91	35.07	80.60	97.78
64	0.64	12	31.81	70.14	161.20	188.30
96	0.96	18	47.72	105.21	241.80	272.68
128	1.28	26	68.93	151.97	349.26	351.87
160	1.6	32	84.84	187.04	429.86	426.65
192	1.92	38	100.75	222.11	510.46	497.66
224	2.24	44	116.65	257.18	591.06	565.45
256	2.56	50	132.56	292.25	671.66	630.47
288	2.88	52	137.86	303.94	698.52	693.09
320	3.2	56	148.47	327.32	752.26	753.61
352	3.52	60	159.07	350.70	805.99	812.30
384	3.84	64	169.68	374.08	859.72	869.38
416	4.16	68	180.28	397.46	913.45	925.07
448	4.48	72	190.89	420.84	967.19	979.55
480	4.8	76	201.49	444.22	1020.92	1033.01
512	5.12	80	212.10	467.60	1074.65	1085.64
544	5.44	84	222.70	490.97	1128.38	1137.63
576	5.76	88	233.31	514.35	1182.12	1189.18
608	6.08	92	243.91	537.73	1235.85	1240.51
640	6.4	96	254.52	561.11	1289.58	1291.83
672	6.72	100.5	266.45	587.42	1350.03	1343.39
704	7.04	104	275.73	607.87	1397.05	1395.43
736	7.36	108.5	287.66	634.18	1457.50	1448.17
768	7.68	112	296.94	654.63	1504.51	1501.87
800	8	116	307.54	678.01	1558.25	1556.75
832	8.32	120	318.15	701.39	1611.98	1613.01
864	8.64	124	328.75	724.77	1665.71	1670.84
896	8.96	128	339.36	748.15	1719.44	1730.36
928	9.28	132.5	351.29	774.45	1779.89	1791.65
960	9.6	136.5	361.89	797.83	1833.63	1854.72
992	9.92	140.5	372.50	821.21	1887.36	1919.47
1024	10.24	144	381.78	841.67	1934.37	1985.72
1056	10.56	148	392.38	865.05	1988.11	2053.14
1088	10.88	152	402.99	888.43	2041.84	2121.27
1120	11.2	156	413.59	911.81	2095.57	2189.47
1152	11.52	160	424.20	935.19	2149.30	2256.89
1184	11.84	173	458.66	1011.17	2323.94	2322.49
1216	12.16	174	461.31	1017.02	2337.37	2384.95
1248	12.48	174.5	462.64	1019.94	2344.09	2442.69
1280	12.8	175	463.96	1022.86	2350.80	2493.81
1312	13.12	176	466.61	1028.71	2364.23	2536.07
1344	13.44	176	466.61	1028.71	2364.23	2566.85
1376	13.76	176	466.61	1028.71	2364.23	2583.13
1408	14.08	176	466.61	1028.71	2364.23	2581.43



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### PENGUJIAN CBR

Waktu : 7 hari Sampel : K4FA20/ I  
 Diameter : 15,2 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,67 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3204,74 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4042 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 lbs	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^2$	d	$e = 0,026 \times 101,97$	$f = e \times 2,205$	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	10	26.51	58.45	134.33	107.23
64	0.64	25	66.28	146.12	335.83	209.35
96	0.96	31	82.19	181.19	416.43	306.56
128	1.28	37.5	99.42	219.19	503.74	399.03
160	1.6	43.5	115.33	254.25	584.34	486.93
192	1.92	49.5	131.24	289.32	664.94	570.45
224	2.24	55.5	147.14	324.39	745.54	649.75
256	2.56	61.5	163.05	359.46	826.14	725.00
288	2.88	66	174.98	385.77	886.59	796.36
320	3.2	71	188.24	414.99	953.75	864.00
352	3.52	75.5	200.17	441.29	1014.20	928.07
384	3.84	79	209.45	461.75	1061.22	988.72
416	4.16	82.5	218.73	482.21	1108.24	1046.12
448	4.48	86	228.00	502.66	1155.25	1100.39
480	4.8	89.5	237.28	523.12	1202.27	1151.70
512	5.12	91	241.26	531.89	1222.42	1200.18
544	5.44	93	246.56	543.58	1249.28	1245.97
576	5.76	95	251.87	555.27	1276.15	1289.21
608	6.08	97	257.17	566.96	1303.02	1330.02
640	6.4	99	262.47	578.65	1329.88	1368.54
672	6.72	101	267.77	590.34	1356.75	1404.89
704	7.04	103	273.08	602.03	1383.61	1439.20
736	7.36	105	278.38	613.72	1410.48	1471.58
768	7.68	107	283.68	625.41	1437.35	1502.15
800	8	109	288.98	637.10	1464.21	1531.02
832	8.32	111	294.29	648.79	1491.08	1558.31
864	8.64	111	294.29	648.79	1491.08	1584.11
896	8.96	113	299.59	660.48	1517.95	1608.54
928	9.28	115	304.89	672.17	1544.81	1631.69
960	9.6	117	310.19	683.86	1571.68	1653.66
992	9.92	119	315.50	695.55	1598.55	1674.54
1024	10.24	121	320.80	707.24	1625.41	1694.42
1056	10.56	123	326.10	718.93	1652.28	1713.40
1088	10.88	125	331.40	730.62	1679.14	1731.55
1120	11.2	127	336.70	742.31	1706.01	1748.95
1152	11.52	129	342.01	754.00	1732.88	1765.69
1184	11.84	131	347.31	765.69	1759.74	1781.84
1216	12.16	133.5	353.94	780.30	1793.33	1797.47
1248	12.48	135	357.91	789.07	1813.48	1812.64
1280	12.8	137.5	364.54	803.68	1847.06	1827.43
1312	13.12	139	368.52	812.45	1867.21	1841.89
1344	13.44	141	373.82	824.14	1894.07	1856.08
1376	13.76	142	376.47	829.98	1907.51	1870.06
1408	14.08	143	379.12	835.83	1920.94	1883.88
1440	14.4	144	381.78	841.67	1934.37	1897.59
1472	14.72	145	384.43	847.52	1947.81	1911.23





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1504	15.04	146	387.08	853.36	1961.24	1924.85
1536	15.36	147	389.73	859.21	1974.67	1938.49
1568	15.68	148	392.38	865.05	1988.11	1952.18
1600	16	149	395.03	870.90	2001.54	1965.96
1632	16.32	150	397.68	876.74	2014.97	1979.85
1664	16.64	151	400.33	882.59	2028.41	1993.89
1696	16.96	152	402.99	888.43	2041.84	2008.08
1728	17.28	153	405.64	894.28	2055.27	2022.47
1760	17.6	154	408.29	900.12	2068.71	2037.06
1792	17.92	155	410.94	905.97	2082.14	2051.86
1824	18.24	156	413.59	911.81	2095.57	2066.90
1856	18.56	157	416.24	917.66	2109.00	2082.16
1888	18.88	158	418.89	923.50	2122.44	2097.67
1920	19.2	159	421.54	929.35	2135.87	2113.41
1952	19.52	160	424.20	935.19	2149.30	2129.39
1984	19.84	161	426.85	941.04	2162.74	2145.61
2016	20.16	162	429.50	946.88	2176.17	2162.05
2048	20.48	163	432.15	952.73	2189.60	2178.70
2080	20.8	164	434.80	958.57	2203.04	2195.54
2112	21.12	165	437.45	964.42	2216.47	2212.57
2144	21.44	166	440.10	970.26	2229.90	2229.75
2176	21.76	167	442.75	976.10	2243.34	2247.06
2208	22.08	168	445.40	981.95	2256.77	2264.48
2240	22.4	169	448.06	987.79	2270.20	2281.98
2272	22.72	170	450.71	993.64	2283.64	2299.51
2304	23.04	171	453.36	999.48	2297.07	2317.05
2336	23.36	172	456.01	1005.33	2310.50	2334.55
2368	23.68	173	458.66	1011.17	2323.94	2351.96
2400	24	174	461.31	1017.02	2337.37	2369.25
2432	24.32	175	463.96	1022.86	2350.80	2386.36
2464	24.64	176	466.61	1028.71	2364.23	2403.24
2496	24.96	177	469.27	1034.55	2377.67	2419.82
2528	25.28	178	471.92	1040.40	2391.10	2436.06
2560	25.6	179	474.57	1046.24	2404.53	2451.89
2592	25.92	180	477.22	1052.09	2417.97	2467.24
2624	26.24	181	479.87	1057.93	2431.40	2482.05
2656	26.56	183	485.17	1069.62	2458.27	2496.23
2688	26.88	184	487.82	1075.47	2471.70	2509.72
2720	27.2	185	490.48	1081.31	2485.13	2522.44
2752	27.52	186	493.13	1087.16	2498.57	2534.30
2784	27.84	187	495.78	1093.00	2512.00	2545.22
2816	28.16	188	498.43	1098.85	2525.43	2555.11
2848	28.48	189	501.08	1104.69	2538.87	2563.87
2880	28.8	190	503.73	1110.54	2552.30	2571.43
2912	29.12	191	506.38	1116.38	2565.73	2577.66
2944	29.44	192	509.03	1122.23	2579.17	2582.48
2976	29.76	194	514.34	1133.92	2606.03	2585.79
3008	30.08	195	516.99	1139.76	2619.46	2587.46
3040	30.4	196	519.64	1145.61	2632.90	2587.40
3072	30.72	190	503.73	1110.54	2552.30	2585.48





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### PENGUJIAN CBR

Waktu : 7 hari Sampel : K4FA20/ II  
 Diameter : 15,2 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,67 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3204,74 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4042 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 lbs	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	$e = 0,026 \times 101,97$	$f = e \times 2,205$	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	10	26.51	58.45	134.33	103.27
64	0.64	18	47.72	105.21	241.80	201.42
96	0.96	26	68.93	151.97	349.26	294.63
128	1.28	36	95.44	210.42	483.59	383.07
160	1.6	47	124.61	274.71	631.36	466.90
192	1.92	53	140.51	309.78	711.96	546.30
224	2.24	56	148.47	327.32	752.26	621.43
256	2.56	61	161.72	356.54	819.42	692.43
288	2.88	65	172.33	379.92	873.15	759.48
320	3.2	68	180.28	397.46	913.45	822.73
352	3.52	72	190.89	420.84	967.19	882.32
384	3.84	74	196.19	432.53	994.05	938.41
416	4.16	78	206.80	455.91	1047.79	991.14
448	4.48	80	212.10	467.60	1074.65	1040.66
480	4.8	84	222.70	490.97	1128.38	1087.11
512	5.12	86	228.00	502.66	1155.25	1130.62
544	5.44	88	233.31	514.35	1182.12	1171.34
576	5.76	90	238.61	526.04	1208.98	1209.39
608	6.08	93	246.56	543.58	1249.28	1244.91
640	6.4	94	249.21	549.42	1262.72	1278.02
672	6.72	96	254.52	561.11	1289.58	1308.85
704	7.04	98	259.82	572.80	1316.45	1337.52
736	7.36	99	262.47	578.65	1329.88	1364.15
768	7.68	101	267.77	590.34	1356.75	1388.86
800	8	102	270.42	596.18	1370.18	1411.76
832	8.32	104	275.73	607.87	1397.05	1432.97
864	8.64	106	281.03	619.56	1423.91	1452.59
896	8.96	107	283.68	625.41	1437.35	1470.73
928	9.28	108	286.33	631.25	1450.78	1487.49
960	9.6	109	288.98	637.10	1464.21	1502.98
992	9.92	110	291.63	642.94	1477.65	1517.29
1024	10.24	112	296.94	654.63	1504.51	1530.53
1056	10.56	113	299.59	660.48	1517.95	1542.77
1088	10.88	114	302.24	666.32	1531.38	1554.11
1120	11.2	115	304.89	672.17	1544.81	1564.65
1152	11.52	116	307.54	678.01	1558.25	1574.46
1184	11.84	116	307.54	678.01	1558.25	1583.63
1216	12.16	117	310.19	683.86	1571.68	1592.23
1248	12.48	117	310.19	683.86	1571.68	1600.35
1280	12.8	118	312.84	689.70	1585.11	1608.06
1312	13.12	119	315.50	695.55	1598.55	1615.43
1344	13.44	119	315.50	695.55	1598.55	1622.53
1376	13.76	120	318.15	701.39	1611.98	1629.42
1408	14.08	121	320.80	707.24	1625.41	1636.18
1440	14.4	121	320.80	707.24	1625.41	1642.86
1472	14.72	122	323.45	713.08	1638.84	1649.51
1504	15.04	122	323.45	713.08	1638.84	1656.20
1536	15.36	123	326.10	718.93	1652.28	1662.98
1568	15.68	124	328.75	724.77	1665.71	1669.90



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1600	16	124	328.75	724.77	1665.71	1677.00
1632	16.32	125	331.40	730.62	1679.14	1684.34
1664	16.64	125	331.40	730.62	1679.14	1691.95
1696	16.96	126	334.05	736.46	1692.58	1699.87
1728	17.28	126	334.05	736.46	1692.58	1708.15
1760	17.6	127	336.70	742.31	1706.01	1716.81
1792	17.92	127	336.70	742.31	1706.01	1725.89
1824	18.24	127	336.70	742.31	1706.01	1735.41
1856	18.56	128	339.36	748.15	1719.44	1745.40
1888	18.88	129	342.01	754.00	1732.88	1755.89
1920	19.2	129	342.01	754.00	1732.88	1766.90
1952	19.52	130	344.66	759.84	1746.31	1778.45
1984	19.84	131	347.31	765.69	1759.74	1790.54
2016	20.16	131	347.31	765.69	1759.74	1803.20
2048	20.48	132	349.96	771.53	1773.18	1816.44
2080	20.8	133	352.61	777.38	1786.61	1830.25
2112	21.12	134	355.26	783.22	1800.04	1844.66
2144	21.44	135	357.91	789.07	1813.48	1859.65
2176	21.76	136	360.57	794.91	1826.91	1875.24
2208	22.08	137	363.22	800.76	1840.34	1891.41
2240	22.4	138	365.87	806.60	1853.77	1908.16
2272	22.72	140	371.17	818.29	1880.64	1925.48
2304	23.04	144	381.78	841.67	1934.37	1943.37
2336	23.36	148	392.38	865.05	1988.11	1961.81
2368	23.68	152	402.99	888.43	2041.84	1980.78
2400	24	156	413.59	911.81	2095.57	2000.26
2432	24.32	158	418.89	923.50	2122.44	2020.23
2464	24.64	160	424.20	935.19	2149.30	2040.67
2496	24.96	161	426.85	941.04	2162.74	2061.55
2528	25.28	162	429.50	946.88	2176.17	2082.84
2560	25.6	163	432.15	952.73	2189.60	2104.51
2592	25.92	165	437.45	964.42	2216.47	2126.52
2624	26.24	166	440.10	970.26	2229.90	2148.84
2656	26.56	167	442.75	976.10	2243.34	2171.42
2688	26.88	168	445.40	981.95	2256.77	2194.23
2720	27.2	169	448.06	987.79	2270.20	2217.21
2752	27.52	170	450.71	993.64	2283.64	2240.33
2784	27.84	171	453.36	999.48	2297.07	2263.52
2816	28.16	172	456.01	1005.33	2310.50	2286.73
2848	28.48	172	456.01	1005.33	2310.50	2309.91
2880	28.8	173	458.66	1011.17	2323.94	2333.00
2912	29.12	174	461.31	1017.02	2337.37	2355.94
2944	29.44	175	463.96	1022.86	2350.80	2378.66
2976	29.76	176	466.61	1028.71	2364.23	2401.10
3008	30.08	177	469.27	1034.55	2377.67	2423.18
3040	30.4	178	471.92	1040.40	2391.10	2444.84
3072	30.72	179	474.57	1046.24	2404.53	2466.00
3104	31.04	180	477.22	1052.09	2417.97	2486.58
3136	31.36	180	477.22	1052.09	2417.97	2506.50
3168	31.68	181	479.87	1057.93	2431.40	2525.67
3200	32	181	479.87	1057.93	2431.40	2544.03
3232	32.32	182	482.52	1063.78	2444.83	2561.46
3264	32.64	183	485.17	1069.62	2458.27	2577.89
3296	32.96	184	487.82	1075.47	2471.70	2593.22
3328	33.28	185	490.48	1081.31	2485.13	2607.35
3360	33.6	186	493.13	1087.16	2498.57	2620.18
3392	33.92	187	495.78	1093.00	2512.00	2631.62
3424	34.24	188	498.43	1098.85	2525.43	2641.56
3456	34.56	188	498.43	1098.85	2525.43	2649.89
3488	34.88	189	501.08	1104.69	2538.87	2656.50
3520	35.2	190	503.73	1110.54	2552.30	2661.28
3552	35.52	191	506.38	1116.38	2565.73	2664.11
3584	35.84	191	506.38	1116.38	2565.73	2664.89



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3616	36.16	192	509.03	1122.23	2579.17	2663.47
3648	36.48	192	509.03	1122.23	2579.17	2659.76
3680	36.8	193	511.69	1128.07	2592.60	2653.61
3712	37.12	193	511.69	1128.07	2592.60	2644.90
3744	37.44	194	514.34	1133.92	2606.03	2633.50
3776	37.76	194	514.34	1133.92	2606.03	2619.27
3808	38.08	195	516.99	1139.76	2619.46	2602.08
3840	38.4	196	519.64	1145.61	2632.90	2581.79
3872	38.72	190	503.73	1110.54	2552.30	2558.26





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### PENGUJIAN CBR

Waktu : 7 hari Sampel : K4FA22/ I  
 Diameter : 15,2 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,67 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3204,74 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4042 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 lbs	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	$e = 0,026 \times 101,97$	$f = e \times 2,205$	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	8	21.21	46.76	107.47	63.65
64	0.64	11	29.16	64.29	147.76	125.10
96	0.96	15	39.77	87.67	201.50	184.45
128	1.28	18	47.72	105.21	241.80	241.79
160	1.6	22	58.33	128.59	295.53	297.22
192	1.92	26	68.93	151.97	349.26	350.83
224	2.24	29	76.89	169.50	389.56	402.71
256	2.56	33	87.49	192.88	443.29	452.93
288	2.88	38	100.75	222.11	510.46	501.58
320	3.2	43	114.00	251.33	577.63	548.73
352	3.52	45	119.30	263.02	604.49	594.45
384	3.84	49	129.91	286.40	658.22	638.80
416	4.16	53	140.51	309.78	711.96	681.84
448	4.48	55	145.82	321.47	738.82	723.64
480	4.8	58	153.77	339.01	779.12	764.25
512	5.12	60	159.07	350.70	805.99	803.70
544	5.44	62	164.38	362.39	832.86	842.06
576	5.76	64	169.68	374.08	859.72	879.35
608	6.08	66	174.98	385.77	886.59	915.63
640	6.4	68	180.28	397.46	913.45	950.91
672	6.72	70	185.59	409.15	940.32	985.23
704	7.04	73	193.54	426.68	980.62	1018.61
736	7.36	76	201.49	444.22	1020.92	1051.07
768	7.68	79	209.45	461.75	1061.22	1082.63
800	8	81	214.75	473.44	1088.09	1113.30
832	8.32	84	222.70	490.97	1128.38	1143.09
864	8.64	87	230.66	508.51	1168.68	1172.00
896	8.96	90	238.61	526.04	1208.98	1200.04
928	9.28	93	246.56	543.58	1249.28	1227.19
960	9.6	96	254.52	561.11	1289.58	1253.45
992	9.92	98	259.82	572.80	1316.45	1278.80
1024	10.24	101	267.77	590.34	1356.75	1303.24
1056	10.56	103	273.08	602.03	1383.61	1326.74
1088	10.88	103	273.08	602.03	1383.61	1349.26
1120	11.2	103	273.08	602.03	1383.61	1370.80
1152	11.52	104	275.73	607.87	1397.05	1391.31
1184	11.84	105	278.38	613.72	1410.48	1410.75
1216	12.16	106	281.03	619.56	1423.91	1429.08
1248	12.48	107	283.68	625.41	1437.35	1446.27
1280	12.8	108	286.33	631.25	1450.78	1462.25
1312	13.12	109	288.98	637.10	1464.21	1476.98
1344	13.44	110	291.63	642.94	1477.65	1490.39
1376	13.76	110.5	292.96	645.87	1484.36	1502.43
1408	14.08	110.5	292.96	645.87	1484.36	1513.03
1440	14.4	111	294.29	648.79	1491.08	1522.12
1472	14.72	112	296.94	654.63	1504.51	1529.63
1504	15.04	113	299.59	660.48	1517.95	1535.47
1536	15.36	114	302.24	666.32	1531.38	1539.57
1568	15.68	115	304.89	672.17	1544.81	1541.84



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1600	16	116	307.54	678.01	1558.25	1542.19
1632	16.32	117	310.19	683.86	1571.68	1540.52
1664	16.64	117	310.19	683.86	1571.68	1536.74
1696	16.96	112	296.94	654.63	1504.51	1530.73





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### PENGUJIAN CBR

Waktu : 7 hari Sampel : K4FA22/ II  
 Diameter : 15,2 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,67 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3204,74 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4042 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 (lbs)	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	e = 0,026*101,97	f e*2,205	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	8	21.21	46.76	107.47	107.95
64	0.64	15	39.77	87.67	201.50	210.48
96	0.96	23	60.98	134.43	308.96	307.77
128	1.28	32	84.84	187.04	429.86	399.98
160	1.6	37	98.10	216.26	497.03	487.28
192	1.92	43	114.00	251.33	577.63	569.83
224	2.24	48	127.26	280.56	644.79	647.80
256	2.56	53	140.51	309.78	711.96	721.35
288	2.88	58	153.77	339.01	779.12	790.63
320	3.2	62	164.38	362.39	832.86	855.81
352	3.52	66	174.98	385.77	886.59	917.04
384	3.84	70	185.59	409.15	940.32	974.47
416	4.16	75	198.84	438.37	1007.49	1028.27
448	4.48	79	209.45	461.75	1061.22	1078.57
480	4.8	83	220.05	485.13	1114.95	1125.53
512	5.12	87	230.66	508.51	1168.68	1169.30
544	5.44	91	241.26	531.89	1222.42	1210.02
576	5.76	95	251.87	555.27	1276.15	1247.84
608	6.08	99	262.47	578.65	1329.88	1282.89
640	6.4	103	273.08	602.03	1383.61	1315.33
672	6.72	103	273.08	602.03	1383.61	1345.29
704	7.04	104	275.73	607.87	1397.05	1372.91
736	7.36	105	278.38	613.72	1410.48	1398.33
768	7.68	106	281.03	619.56	1423.91	1421.67
800	8	107	283.68	625.41	1437.35	1443.08
832	8.32	108	286.33	631.25	1450.78	1462.67
864	8.64	109	288.98	637.10	1464.21	1480.60
896	8.96	110	291.63	642.94	1477.65	1496.97
928	9.28	111	294.29	648.79	1491.08	1511.92
960	9.6	112	296.94	654.63	1504.51	1525.57
992	9.92	113	299.59	660.48	1517.95	1538.05
1024	10.24	114	302.24	666.32	1531.38	1549.47
1056	10.56	115	304.89	672.17	1544.81	1559.96
1088	10.88	116	307.54	678.01	1558.25	1569.63
1120	11.2	117	310.19	683.86	1571.68	1578.61
1152	11.52	118	312.84	689.70	1585.11	1586.99
1184	11.84	119	315.50	695.55	1598.55	1594.91
1216	12.16	120	318.15	701.39	1611.98	1602.46
1248	12.48	120	318.15	701.39	1611.98	1609.76
1280	12.8	120	318.15	701.39	1611.98	1616.92
1312	13.12	121	320.80	707.24	1625.41	1624.04
1344	13.44	122	323.45	713.08	1638.84	1631.22
1376	13.76	123	326.10	718.93	1652.28	1638.58
1408	14.08	124	328.75	724.77	1665.71	1646.21
1440	14.4	124	328.75	724.77	1665.71	1654.21
1472	14.72	125	331.40	730.62	1679.14	1662.68
1504	15.04	125	331.40	730.62	1679.14	1671.71
1536	15.36	126	334.05	736.46	1692.58	1681.41

Lampiran 56



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### PENGUJIAN CBR

Waktu : 14 hari Sampel : Tanah Asli/ I  
 Diameter : 15,21 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,73 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3219,86 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4540 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 lbs	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^2$	d	e = 0,026*101,97	f = e*2,205	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	5	13.26	29.22	67.17	54.78
64	0.64	7	18.56	40.91	94.03	107.91
96	0.96	11	29.16	64.29	147.76	159.29
128	1.28	15	39.77	87.67	201.50	208.81
160	1.6	19	50.37	111.05	255.23	256.38
192	1.92	23	60.98	134.43	308.96	301.92
224	2.24	27	71.58	157.81	362.70	345.36
256	2.56	30	79.54	175.35	402.99	386.64
288	2.88	32	84.84	187.04	429.86	425.72
320	3.2	34	90.14	198.73	456.73	462.56
352	3.52	36	95.44	210.42	483.59	497.15
384	3.84	38	100.75	222.11	510.46	529.46
416	4.16	40	106.05	233.80	537.33	559.49
448	4.48	43	114.00	251.33	577.63	587.27
480	4.8	46	121.96	268.87	617.92	612.80
512	5.12	49	129.91	286.40	658.22	636.13
544	5.44	50	132.56	292.25	671.66	657.30
576	5.76	51	135.21	298.09	685.09	676.36
608	6.08	52	137.86	303.94	698.52	693.38
640	6.4	53.5	141.84	312.70	718.67	708.44
672	6.72	54	143.17	315.63	725.39	721.64
704	7.04	54	143.17	315.63	725.39	733.07
736	7.36	55.5	147.14	324.39	745.54	742.85
768	7.68	56	148.47	327.32	752.26	751.09
800	8	56	148.47	327.32	752.26	757.95
832	8.32	56.5	149.79	330.24	758.97	763.56
864	8.64	56.5	149.79	330.24	758.97	768.08
896	8.96	56.5	149.79	330.24	758.97	771.69
928	9.28	57	151.12	333.16	765.69	774.56
960	9.6	57	151.12	333.16	765.69	776.89
992	9.92	58	153.77	339.01	779.12	778.88
1024	10.24	58.5	155.10	341.93	785.84	780.75
1056	10.56	59	156.42	344.85	792.56	782.72
1088	10.88	59	156.42	344.85	792.56	785.04
1120	11.2	59.5	157.75	347.77	799.27	787.94
1152	11.52	59.5	157.75	347.77	799.27	791.70
1184	11.84	59.5	157.75	347.77	799.27	796.59
1216	12.16	59.5	157.75	347.77	799.27	802.89
1248	12.48	59.5	157.75	347.77	799.27	810.89





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### PENGUJIAN CBR

Waktu : 14 hari Sampel : Tanah Asli/ II  
 Diameter : 15,21 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,73 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3219,86 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4540 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 lbs	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	$e = 0,026 \times 101,97$	$f = e \times 2,205$	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	7	18.56	40.91	94.03	83.78
64	0.64	16	42.42	93.52	214.93	159.48
96	0.96	19	50.37	111.05	255.23	227.75
128	1.28	22	58.33	128.59	295.53	289.24
160	1.6	25	66.28	146.12	335.83	344.53
192	1.92	28	74.23	163.66	376.13	394.20
224	2.24	31	82.19	181.19	416.43	438.80
256	2.56	34	90.14	198.73	456.73	478.85
288	2.88	37	98.10	216.26	497.03	514.82
320	3.2	40	106.05	233.80	537.33	547.17
352	3.52	43	114.00	251.33	577.63	576.35
384	3.84	45	119.30	263.02	604.49	602.74
416	4.16	47	124.61	274.71	631.36	626.72
448	4.48	49	129.91	286.40	658.22	648.64
480	4.8	52	137.86	303.94	698.52	668.80
512	5.12	52	137.86	303.94	698.52	687.51
544	5.44	53	140.51	309.78	711.96	705.01
576	5.76	54	143.17	315.63	725.39	721.54
608	6.08	55	145.82	321.47	738.82	737.29
640	6.4	56	148.47	327.32	752.26	752.45
672	6.72	57	151.12	333.16	765.69	767.14
704	7.04	58	153.77	339.01	779.12	781.50
736	7.36	59	156.42	344.85	792.56	795.61
768	7.68	60	159.07	350.70	805.99	809.52
800	8	61	161.72	356.54	819.42	823.26
832	8.32	61	161.72	356.54	819.42	836.85
864	8.64	63	167.03	368.23	846.29	850.24
896	8.96	64	169.68	374.08	859.72	863.39
928	9.28	65	172.33	379.92	873.15	876.20
960	9.6	66	174.98	385.77	886.59	888.58
992	9.92	67	177.63	391.61	900.02	900.36
1024	10.24	68	180.28	397.46	913.45	911.40
1056	10.56	69	182.93	403.30	926.89	921.48
1088	10.88	70	185.59	409.15	940.32	930.38
1120	11.2	71	188.24	414.99	953.75	937.84
1152	11.52	72	190.89	420.84	967.19	943.59
1184	11.84	68	180.28	397.46	913.45	947.30





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### PENGUJIAN CBR

Waktu : 14 hari Sampel : K4FA14/ I  
 Diameter : 15,16 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,8 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3211,35 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4540 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 (lbs)	P (kPa)	Tekanan Dikoreksi
a	$b = a \times 10^{-2}$	d	$e = 0,026 * 101,97$	$f = e * 2,205$	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	5	13.26	29.22	67.17	41.06
64	0.64	8	21.21	46.76	107.47	86.48
96	0.96	11	29.16	64.29	147.76	135.61
128	1.28	14.5	38.44	84.75	194.78	187.83
160	1.6	19	50.37	111.05	255.23	242.57
192	1.92	24	63.63	140.28	322.40	299.31
224	2.24	28	74.23	163.66	376.13	357.57
256	2.56	32	84.84	187.04	429.86	416.93
288	2.88	35.5	94.12	207.50	476.88	477.00
320	3.2	38.5	102.07	225.03	517.18	537.44
352	3.52	42	111.35	245.49	564.19	597.93
384	3.84	45	119.30	263.02	604.49	658.22
416	4.16	49	129.91	286.40	658.22	718.08
448	4.48	54.5	144.49	318.55	732.11	777.31
480	4.8	61	161.72	356.54	819.42	835.75
512	5.12	67.5	178.96	394.53	906.74	893.29
544	5.44	73	193.54	426.68	980.62	949.82
576	5.76	78	206.80	455.91	1047.79	1005.29
608	6.08	82.5	218.73	482.21	1108.24	1059.67
640	6.4	86	228.00	502.66	1155.25	1112.94
672	6.72	90.5	239.94	528.97	1215.70	1165.13
704	7.04	92.5	245.24	540.66	1242.57	1216.29
736	7.36	95	251.87	555.27	1276.15	1266.47
768	7.68	98	259.82	572.80	1316.45	1315.78
800	8	100	265.12	584.49	1343.32	1364.32
832	8.32	102.5	271.75	599.11	1376.90	1412.23
864	8.64	106	281.03	619.56	1423.91	1459.64
896	8.96	110	291.63	642.94	1477.65	1506.73
928	9.28	114	302.24	666.32	1531.38	1553.68
960	9.6	118	312.84	689.70	1585.11	1600.68
992	9.92	122	323.45	713.08	1638.84	1647.92
1024	10.24	125	331.40	730.62	1679.14	1695.64
1056	10.56	129.5	343.33	756.92	1739.59	1744.05
1088	10.88	133.5	353.94	780.30	1793.33	1793.38
1120	11.2	138.5	367.19	809.52	1860.49	1843.87
1152	11.52	143	379.12	835.83	1920.94	1895.78
1184	11.84	145.5	385.75	850.44	1954.52	1949.33
1216	12.16	150	397.68	876.74	2014.97	2004.80
1248	12.48	159	421.54	929.35	2135.87	2062.42
1280	12.8	151	400.33	882.59	2028.41	2122.44



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### PENGUJIAN CBR

Waktu : 14 hari Sampel : K4FA14/ II  
 Diameter : 15,16 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,8 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3211,35 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4540 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 (Kg)	P2 lbs	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	$e = 0,026 \times 101,97$	$f = e \times 2,205$	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	2	5.30	11.69	26.87	60.89
64	0.64	4	10.60	23.38	53.73	120.23
96	0.96	9	23.86	52.60	120.90	178.10
128	1.28	12	31.81	70.14	161.20	234.55
160	1.6	18	47.72	105.21	241.80	289.64
192	1.92	24	63.63	140.28	322.40	343.43
224	2.24	30	79.54	175.35	402.99	395.97
256	2.56	36	95.44	210.42	483.59	447.30
288	2.88	39	103.40	227.95	523.89	497.48
320	3.2	43	114.00	251.33	577.63	546.55
352	3.52	46	121.96	268.87	617.92	594.55
384	3.84	49	129.91	286.40	658.22	641.52
416	4.16	52	137.86	303.94	698.52	687.49
448	4.48	56	148.47	327.32	752.26	732.50
480	4.8	60	159.07	350.70	805.99	776.57
512	5.12	64	169.68	374.08	859.72	819.73
544	5.44	64	169.68	374.08	859.72	862.01
576	5.76	66	174.98	385.77	886.59	903.43
608	6.08	69	182.93	403.30	926.89	943.99
640	6.4	72	190.89	420.84	967.19	983.73
672	6.72	75	198.84	438.37	1007.49	1022.65
704	7.04	79	209.45	461.75	1061.22	1060.76
736	7.36	81.5	216.07	476.36	1094.80	1098.07
768	7.68	83.5	221.38	488.05	1121.67	1134.57
800	8	86	228.00	502.66	1155.25	1170.28
832	8.32	89	235.96	520.20	1195.55	1205.19
864	8.64	92	243.91	537.73	1235.85	1239.29
896	8.96	95	251.87	555.27	1276.15	1272.58
928	9.28	97	257.17	566.96	1303.02	1305.05
960	9.6	100	265.12	584.49	1343.32	1336.68
992	9.92	102	270.42	596.18	1370.18	1367.45
1024	10.24	104	275.73	607.87	1397.05	1397.35
1056	10.56	106	281.03	619.56	1423.91	1426.36
1088	10.88	108	286.33	631.25	1450.78	1454.44
1120	11.2	110	291.63	642.94	1477.65	1481.58
1152	11.52	111.5	295.61	651.71	1497.80	1507.74
1184	11.84	114	302.24	666.32	1531.38	1532.88
1216	12.16	114	302.24	666.32	1531.38	1556.98
1248	12.48	118	312.84	689.70	1585.11	1579.98
1280	12.8	120	318.15	701.39	1611.98	1601.86
1312	13.12	122.5	324.77	716.01	1645.56	1622.56
1344	13.44	123	326.10	718.93	1652.28	1642.03
1376	13.76	124	328.75	724.77	1665.71	1660.23
1408	14.08	125	331.40	730.62	1679.14	1677.10
1440	14.4	126	334.05	736.46	1692.58	1692.58
1472	14.72	127	336.70	742.31	1706.01	1706.62
1504	15.04	128.5	340.68	751.07	1726.16	1719.15
1536	15.36	128.5	340.68	751.07	1726.16	1730.11

**Lampiran 60**



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### PENGUJIAN CBR

Waktu : 14 hari Sampel : K4FA16/ I  
 Diameter : 15,21 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,73 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3219,86 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4540 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 lbs	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^2$	d	e = 0,026*101,97	f = e*2,205	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	5	13.26	29.22	67.17	74.53
64	0.64	7.5	19.88	43.84	100.75	145.95
96	0.96	10.5	27.84	61.37	141.05	214.37
128	1.28	14	37.12	81.83	188.06	279.88
160	1.6	16	42.42	93.52	214.93	342.60
192	1.92	21	55.68	122.74	282.10	402.62
224	2.24	27	71.58	157.81	362.70	460.04
256	2.56	35	92.79	204.57	470.16	514.96
288	2.88	35	92.79	204.57	470.16	567.47
320	3.2	40	106.05	233.80	537.33	617.67
352	3.52	46	121.96	268.87	617.92	665.64
384	3.84	52.5	139.19	306.86	705.24	711.48
416	4.16	57	151.12	333.16	765.69	755.28
448	4.48	62	164.38	362.39	832.86	797.12
480	4.8	68	180.28	397.46	913.45	837.09
512	5.12	73	193.54	426.68	980.62	875.26
544	5.44	74.5	197.52	435.45	1000.77	911.73
576	5.76	75	198.84	438.37	1007.49	946.56
608	6.08	77.5	205.47	452.98	1041.07	979.84
640	6.4	79	209.45	461.75	1061.22	1011.65
672	6.72	80.5	213.42	470.52	1081.37	1042.05
704	7.04	82	217.40	479.29	1101.52	1071.12
736	7.36	83.5	221.38	488.05	1121.67	1098.93
768	7.68	85	225.35	496.82	1141.82	1125.55
800	8	87	230.66	508.51	1168.68	1151.04
832	8.32	88	233.31	514.35	1182.12	1175.47
864	8.64	89.5	237.28	523.12	1202.27	1198.91
896	8.96	91	241.26	531.89	1222.42	1221.41
928	9.28	92	243.91	537.73	1235.85	1243.04
960	9.6	93	246.56	543.58	1249.28	1263.85
992	9.92	95	251.87	555.27	1276.15	1283.90
1024	10.24	96	254.52	561.11	1289.58	1303.24
1056	10.56	97	257.17	566.96	1303.02	1321.94
1088	10.88	98.5	261.15	575.73	1323.17	1340.03
1120	11.2	99.5	263.80	581.57	1336.60	1357.56
1152	11.52	100.5	266.45	587.42	1350.03	1374.59
1184	11.84	103	273.08	602.03	1383.61	1391.17
1216	12.16	103.5	274.40	604.95	1390.33	1407.33
1248	12.48	105	278.38	613.72	1410.48	1423.11
1280	12.8	106	281.03	619.56	1423.91	1438.56
1312	13.12	108	286.33	631.25	1450.78	1453.72
1344	13.44	108.5	287.66	634.18	1457.50	1468.63
1376	13.76	109.5	290.31	640.02	1470.93	1483.31
1408	14.08	110.5	292.96	645.87	1484.36	1497.80
1440	14.4	111	294.29	648.79	1491.08	1512.14
1472	14.72	113.5	300.91	663.40	1524.66	1526.35



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1504	15.04	115	304.89	672.17	1544.81	1540.46
1536	15.36	116	307.54	678.01	1558.25	1554.50
1568	15.68	117	310.19	683.86	1571.68	1568.49
1600	16	118	312.84	689.70	1585.11	1582.46
1632	16.32	119	315.50	695.55	1598.55	1596.43
1664	16.64	120	318.15	701.39	1611.98	1610.41
1696	16.96	121	320.80	707.24	1625.41	1624.43
1728	17.28	122	323.45	713.08	1638.84	1638.50
1760	17.6	123	326.10	718.93	1652.28	1652.63
1792	17.92	124	328.75	724.77	1665.71	1666.84
1824	18.24	125	331.40	730.62	1679.14	1681.13
1856	18.56	126	334.05	736.46	1692.58	1695.52
1888	18.88	127	336.70	742.31	1706.01	1710.01
1920	19.2	128	339.36	748.15	1719.44	1724.61
1952	19.52	129	342.01	754.00	1732.88	1739.32
1984	19.84	130	344.66	759.84	1746.31	1754.15
2016	20.16	131	347.31	765.69	1759.74	1769.08
2048	20.48	132	349.96	771.53	1773.18	1784.13
2080	20.8	133	352.61	777.38	1786.61	1799.29
2112	21.12	134	355.26	783.22	1800.04	1814.55
2144	21.44	135	357.91	789.07	1813.48	1829.90
2176	21.76	136.5	361.89	797.83	1833.63	1845.34
2208	22.08	137	363.22	800.76	1840.34	1860.86
2240	22.4	138.5	367.19	809.52	1860.49	1876.44
2272	22.72	139.5	369.85	815.37	1873.92	1892.07
2304	23.04	140.5	372.50	821.21	1887.36	1907.74
2336	23.36	142	376.47	829.98	1907.51	1923.42
2368	23.68	143	379.12	835.83	1920.94	1939.10
2400	24	144	381.78	841.67	1934.37	1954.75
2432	24.32	145	384.43	847.52	1947.81	1970.36
2464	24.64	143	379.12	835.83	1920.94	1985.89
2496	24.96	149.5	396.36	873.82	2008.26	2001.33
2528	25.28	151	400.33	882.59	2028.41	2016.64
2560	25.6	152	402.99	888.43	2041.84	2031.79
2592	25.92	153	405.64	894.28	2055.27	2046.76
2624	26.24	154	408.29	900.12	2068.71	2061.50
2656	26.56	155	410.94	905.97	2082.14	2075.99
2688	26.88	156.5	414.92	914.73	2102.29	2090.18
2720	27.2	157.5	417.57	920.58	2115.72	2104.04
2752	27.52	158	418.89	923.50	2122.44	2117.52
2784	27.84	159	421.54	929.35	2135.87	2130.59
2816	28.16	160	424.20	935.19	2149.30	2143.21
2848	28.48	161.5	428.17	943.96	2169.45	2155.31
2880	28.8	146	387.08	853.36	1961.24	2166.86



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### PENGUJIAN CBR

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 Tinggi : 17,73 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3219,86 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4540 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 lbs	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	$e = 0,026 \times 101,97$	$f = e \times 2,205$	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	8	21.21	46.76	107.47	75.54
64	0.64	15	39.77	87.67	201.50	149.87
96	0.96	20.5	54.35	119.82	275.38	222.97
128	1.28	24	63.63	140.28	322.40	294.82
160	1.6	29	76.89	169.50	389.56	365.38
192	1.92	33	87.49	192.88	443.29	434.64
224	2.24	37.5	99.42	219.19	503.74	502.58
256	2.56	41	108.70	239.64	550.76	569.18
288	2.88	45	119.30	263.02	604.49	634.42
320	3.2	49	129.91	286.40	658.22	698.28
352	3.52	55	145.82	321.47	738.82	760.75
384	3.84	60	159.07	350.70	805.99	821.81
416	4.16	65	172.33	379.92	873.15	881.46
448	4.48	70	185.59	409.15	940.32	939.69
480	4.8	74.5	197.52	435.45	1000.77	996.47
512	5.12	79	209.45	461.75	1061.22	1051.82
544	5.44	84	222.70	490.97	1128.38	1105.72
576	5.76	88	233.31	514.35	1182.12	1158.16
608	6.08	93.5	247.89	546.50	1256.00	1209.15
640	6.4	96	254.52	561.11	1289.58	1258.69
672	6.72	99	262.47	578.65	1329.88	1306.76
704	7.04	101	267.77	590.34	1356.75	1353.38
736	7.36	103	273.08	602.03	1383.61	1398.55
768	7.68	105	278.38	613.72	1410.48	1442.27
800	8	108	286.33	631.25	1450.78	1484.55
832	8.32	111	294.29	648.79	1491.08	1525.40
864	8.64	114	302.24	666.32	1531.38	1564.82
896	8.96	117	310.19	683.86	1571.68	1602.83
928	9.28	120	318.15	701.39	1611.98	1639.43
960	9.6	123	326.10	718.93	1652.28	1674.65
992	9.92	126	334.05	736.46	1692.58	1708.49
1024	10.24	129	342.01	754.00	1732.88	1740.98
1056	10.56	132	349.96	771.53	1773.18	1772.12
1088	10.88	135	357.91	789.07	1813.48	1801.95
1120	11.2	138	365.87	806.60	1853.77	1830.47
1152	11.52	141	373.82	824.14	1894.07	1857.72
1184	11.84	143.5	380.45	838.75	1927.66	1883.72
1216	12.16	145	384.43	847.52	1947.81	1908.49
1248	12.48	146	387.08	853.36	1961.24	1932.05
1280	12.8	147	389.73	859.21	1974.67	1954.45
1312	13.12	148	392.38	865.05	1988.11	1975.70
1344	13.44	149	395.03	870.90	2001.54	1995.84
1376	13.76	150	397.68	876.74	2014.97	2014.91
1408	14.08	151	400.33	882.59	2028.41	2032.92
1440	14.4	152	402.99	888.43	2041.84	2049.93
1472	14.72	153	405.64	894.28	2055.27	2065.97
1504	15.04	154	408.29	900.12	2068.71	2081.08



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1536	15.36	155	410.94	905.97	2082.14	2095.29
1568	15.68	155.5	412.26	908.89	2088.86	2108.65
1600	16	157	416.24	917.66	2109.00	2121.21
1632	16.32	158	418.89	923.50	2122.44	2133.00
1664	16.64	159	421.54	929.35	2135.87	2144.08
1696	16.96	160	424.20	935.19	2149.30	2154.48
1728	17.28	160	424.20	935.19	2149.30	2164.27
1760	17.6	161	426.85	941.04	2162.74	2173.49
1792	17.92	162	429.50	946.88	2176.17	2182.19
1824	18.24	163	432.15	952.73	2189.60	2190.42
1856	18.56	164	434.80	958.57	2203.04	2198.25
1888	18.88	165	437.45	964.42	2216.47	2205.72
1920	19.2	165	437.45	964.42	2216.47	2212.90
1952	19.52	165	437.45	964.42	2216.47	2219.85
1984	19.84	166	440.10	970.26	2229.90	2226.62
2016	20.16	166	440.10	970.26	2229.90	2233.28
2048	20.48	167	442.75	976.10	2243.34	2239.89
2080	20.8	168	445.40	981.95	2256.77	2246.53
2112	21.12	169	448.06	987.79	2270.20	2253.24
2144	21.44	166	440.10	970.26	2229.90	2260.11





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### PENGUJIAN CBR

Waktu : 14 hari Sampel : K4FA18/ I  
 Diameter : 15,27 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,82 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3261,79 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4540 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 lbs	P (psi)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	$e = 0,026 \times 101,97$	$f = e \times 2,205$	g	h
0	0	0	10.60	0.00	0.00	0.00
32	0.32	4	10.60	23.38	53.73	126.04
64	0.64	12	31.81	70.14	161.20	242.45
96	0.96	20	53.02	116.90	268.66	349.85
128	1.28	28	74.23	163.66	376.13	448.85
160	1.6	36	95.44	210.42	483.59	540.01
192	1.92	44	116.65	257.18	591.06	623.91
224	2.24	52	137.86	303.94	698.52	701.09
256	2.56	61	161.72	356.54	819.42	772.07
288	2.88	70	185.59	409.15	940.32	837.36
320	3.2	74	196.19	432.53	994.05	897.45
352	3.52	78	206.80	455.91	1047.79	952.81
384	3.84	78	206.80	455.91	1047.79	1003.89
416	4.16	78	206.80	455.91	1047.79	1051.11
448	4.48	82	217.40	479.29	1101.52	1094.89
480	4.8	84	222.70	490.97	1128.38	1135.63
512	5.12	86	228.00	502.66	1155.25	1173.70
544	5.44	88	233.31	514.35	1182.12	1209.45
576	5.76	90	238.61	526.04	1208.98	1243.23
608	6.08	92	243.91	537.73	1235.85	1275.36
640	6.4	94	249.21	549.42	1262.72	1306.12
672	6.72	96	254.52	561.11	1289.58	1335.81
704	7.04	98	259.82	572.80	1316.45	1364.69
736	7.36	101	267.77	590.34	1356.75	1393.00
768	7.68	104	275.73	607.87	1397.05	1420.97
800	8	107	283.68	625.41	1437.35	1448.80
832	8.32	110	291.63	642.94	1477.65	1476.68
864	8.64	112	296.94	654.63	1504.51	1504.78
896	8.96	116	307.54	678.01	1558.25	1533.25
928	9.28	120	318.15	701.39	1611.98	1562.23
960	9.6	123	326.10	718.93	1652.28	1591.81
992	9.92	123	326.10	718.93	1652.28	1622.11
1024	10.24	125	331.40	730.62	1679.14	1653.18
1056	10.56	127	336.70	742.31	1706.01	1685.10
1088	10.88	130	344.66	759.84	1746.31	1717.90
1120	11.2	132	349.96	771.53	1773.18	1751.59
1152	11.52	134	355.26	783.22	1800.04	1786.18
1184	11.84	136	360.57	794.91	1826.91	1821.64
1216	12.16	138	365.87	806.60	1853.77	1857.95
1248	12.48	140	371.17	818.29	1880.64	1895.04
1280	12.8	142	376.47	829.98	1907.51	1932.85
1312	13.12	144	381.78	841.67	1934.37	1971.27
1344	13.44	146	387.08	853.36	1961.24	2010.19
1376	13.76	148	392.38	865.05	1988.11	2049.48
1408	14.08	148	392.38	865.05	1988.11	2089.00
1440	14.4	158	418.89	923.50	2122.44	2128.58
1472	14.72	162	429.50	946.88	2176.17	2168.02
1504	15.04	167	442.75	976.10	2243.34	2207.12
1536	15.36	172	456.01	1005.33	2310.50	2245.67

**Lampiran 63**



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### PENGUJIAN CBR

Waktu : 14 hari Sampel : K4FA18/ II  
 Diameter : 15,27 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,82 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3261,79 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4540 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 lbs	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	$e = 0,026 \times 101,97$	$f = e \times 2,205$	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	9	23.86	52.60	120.90	159.29
64	0.64	18	47.72	105.21	241.80	309.69
96	0.96	27	71.58	157.81	362.70	451.55
128	1.28	34	90.14	198.73	456.73	585.18
160	1.6	45	119.30	263.02	604.49	710.92
192	1.92	55	145.82	321.47	738.82	829.09
224	2.24	65	172.33	379.92	873.15	939.99
256	2.56	74.5	197.52	435.45	1000.77	1043.95
288	2.88	85	225.35	496.82	1141.82	1141.25
320	3.2	95	251.87	555.27	1276.15	1232.21
352	3.52	105	278.38	613.72	1410.48	1317.11
384	3.84	110	291.63	642.94	1477.65	1396.24
416	4.16	115	304.89	672.17	1544.81	1469.88
448	4.48	120	318.15	701.39	1611.98	1538.31
480	4.8	125	331.40	730.62	1679.14	1601.79
512	5.12	130	344.66	759.84	1746.31	1660.59
544	5.44	132	349.96	771.53	1773.18	1714.98
576	5.76	133	352.61	777.38	1786.61	1765.20
608	6.08	135	357.91	789.07	1813.48	1811.50
640	6.4	137	363.22	800.76	1840.34	1854.12
672	6.72	139	368.52	812.45	1867.21	1893.31
704	7.04	141	373.82	824.14	1894.07	1929.29
736	7.36	143	379.12	835.83	1920.94	1962.29
768	7.68	145	384.43	847.52	1947.81	1992.53
800	8	147	389.73	859.21	1974.67	2020.23
832	8.32	149	395.03	870.90	2001.54	2045.59
864	8.64	151	400.33	882.59	2028.41	2068.82
896	8.96	152.5	404.31	891.35	2048.56	2090.12
928	9.28	155	410.94	905.97	2082.14	2109.68
960	9.6	157	416.24	917.66	2109.00	2127.69
992	9.92	159	421.54	929.35	2135.87	2144.33
1024	10.24	161	426.85	941.04	2162.74	2159.78
1056	10.56	163	432.15	952.73	2189.60	2174.21
1088	10.88	164	434.80	958.57	2203.04	2187.77
1120	11.2	165	437.45	964.42	2216.47	2200.65
1152	11.52	165	437.45	964.42	2216.47	2212.98
1184	11.84	166	440.10	970.26	2229.90	2224.91
1216	12.16	167	442.75	976.10	2243.34	2236.60
1248	12.48	168	445.40	981.95	2256.77	2248.18
1280	12.8	169	448.06	987.79	2270.20	2259.78
1312	13.12	170	450.71	993.64	2283.64	2271.52
1344	13.44	171	453.36	999.48	2297.07	2283.54
1376	13.76	172	456.01	1005.33	2310.50	2295.94
1408	14.08	173	458.66	1011.17	2323.94	2308.84
1440	14.4	174	461.31	1017.02	2337.37	2322.33
1472	14.72	175	463.96	1022.86	2350.80	2336.53





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1504	15.04	176	466.61	1028.71	2364.23	2351.52
1536	15.36	177	469.27	1034.55	2377.67	2367.39
1568	15.68	178	471.92	1040.40	2391.10	2384.23
1600	16	174	461.31	1017.02	2337.37	2402.11





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### PENGUJIAN CBR

Waktu : 14 hari Sampel : K4FA20/ I  
 Diameter : 15,23 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,8 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3241,08 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4540 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 lbs	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	$e = 0,026 \times 101,97$	$f = e \times 2,205$	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	14	37.12	81.83	188.06	127.90
64	0.64	28	74.23	163.66	376.13	249.70
96	0.96	40	106.05	233.80	537.33	365.64
128	1.28	46	121.96	268.87	617.92	475.95
160	1.6	50	132.56	292.25	671.66	580.87
192	1.92	56.5	149.79	330.24	758.97	680.63
224	2.24	62	164.38	362.39	832.86	775.45
256	2.56	67	177.63	391.61	900.02	865.54
288	2.88	72	190.89	420.84	967.19	951.12
320	3.2	77	204.14	450.06	1034.35	1032.39
352	3.52	82.5	218.73	482.21	1108.24	1109.56
384	3.84	86	228.00	502.66	1155.25	1182.82
416	4.16	91	241.26	531.89	1222.42	1252.38
448	4.48	96	254.52	561.11	1289.58	1318.40
480	4.8	101	267.77	590.34	1356.75	1381.09
512	5.12	106	281.03	619.56	1423.91	1440.61
544	5.44	110	291.63	642.94	1477.65	1497.14
576	5.76	115	304.89	672.17	1544.81	1550.85
608	6.08	118.5	314.17	692.63	1591.83	1601.90
640	6.4	122	323.45	713.08	1638.84	1650.45
672	6.72	125.5	332.73	733.54	1685.86	1696.65
704	7.04	128.5	340.68	751.07	1726.16	1740.66
736	7.36	131.5	348.64	768.61	1766.46	1782.61
768	7.68	134	355.26	783.22	1800.04	1822.64
800	8	136.5	361.89	797.83	1833.63	1860.89
832	8.32	139	368.52	812.45	1867.21	1897.49
864	8.64	141	373.82	824.14	1894.07	1932.55
896	8.96	144.5	383.10	844.59	1941.09	1966.21
928	9.28	147	389.73	859.21	1974.67	1998.57
960	9.6	150	397.68	876.74	2014.97	2029.74
992	9.92	152	402.99	888.43	2041.84	2059.83
1024	10.24	154	408.29	900.12	2068.71	2088.94
1056	10.56	157	416.24	917.66	2109.00	2117.16
1088	10.88	159	421.54	929.35	2135.87	2144.58
1120	11.2	161	426.85	941.04	2162.74	2171.29
1152	11.52	163	432.15	952.73	2189.60	2197.36
1184	11.84	165.5	438.78	967.34	2223.19	2222.88
1216	12.16	167	442.75	976.10	2243.34	2247.90
1248	12.48	169	448.06	987.79	2270.20	2272.50
1280	12.8	171	453.36	999.48	2297.07	2296.74
1312	13.12	173	458.66	1011.17	2323.94	2320.67
1344	13.44	175	463.96	1022.86	2350.80	2344.34
1376	13.76	179	474.57	1046.24	2404.53	2367.80
1408	14.08	181	479.87	1057.93	2431.40	2391.08
1440	14.4	183	485.17	1069.62	2458.27	2414.23
1472	14.72	184	487.82	1075.47	2471.70	2437.28
1504	15.04	185	490.48	1081.31	2485.13	2460.24
1536	15.36	186	493.13	1087.16	2498.57	2483.15



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1568	15.68	188	498.43	1098.85	2525.43	2506.01
1600	16	190	503.73	1110.54	2552.30	2528.84
1632	16.32	192	509.03	1122.23	2579.17	2551.65
1664	16.64	193.5	513.01	1131.00	2599.31	2574.44
1696	16.96	195	516.99	1139.76	2619.46	2597.19
1728	17.28	197	522.29	1151.45	2646.33	2619.91
1760	17.6	198	524.94	1157.30	2659.76	2642.58
1792	17.92	199	527.59	1163.14	2673.20	2665.19
1824	18.24	200.5	531.57	1171.91	2693.35	2687.70
1856	18.56	202	535.55	1180.68	2713.50	2710.10
1888	18.88	203.5	539.52	1189.45	2733.65	2732.34
1920	19.2	205	543.50	1198.21	2753.80	2754.39
1952	19.52	206.5	547.48	1206.98	2773.95	2776.21
1984	19.84	208	551.45	1215.75	2794.10	2797.75
2016	20.16	209	554.10	1221.59	2807.53	2818.96
2048	20.48	210.5	558.08	1230.36	2827.68	2839.78
2080	20.8	212	562.06	1239.13	2847.83	2860.14
2112	21.12	213.5	566.04	1247.89	2867.98	2879.98
2144	21.44	214.5	568.69	1253.74	2881.41	2899.23
2176	21.76	215.5	571.34	1259.58	2894.84	2917.82
2208	22.08	217	575.31	1268.35	2914.99	2935.64
2240	22.4	218	577.97	1274.20	2928.43	2952.64
2272	22.72	219	580.62	1280.04	2941.86	2968.70
2304	23.04	220	583.27	1285.89	2955.29	2983.73
2336	23.36	221.5	587.25	1294.65	2975.44	2997.63
2368	23.68	222.5	589.90	1300.50	2988.88	3010.30
2400	24	223.5	592.55	1306.34	3002.31	3021.62
2432	24.32	225	596.52	1315.11	3022.46	3031.48
2464	24.64	226	599.18	1320.96	3035.89	3039.75
2496	24.96	227.5	603.15	1329.72	3056.04	3046.31
2528	25.28	228	604.48	1332.65	3062.76	3051.02
2560	25.6	229.5	608.45	1341.41	3082.91	3053.76
2592	25.92	230.5	611.11	1347.26	3096.34	3054.38
2624	26.24	231.5	613.76	1353.10	3109.77	3052.74
2656	26.56	233	617.73	1361.87	3129.92	3048.67
2688	26.88	220	583.27	1285.89	2955.29	3042.04



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### PENGUJIAN CBR

Waktu : 14 hari Sampel : K4FA20/ II  
 Diameter : 15,23 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,8 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3241,08 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4540 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	ΔL (mm)	Pembacaan arloji	P1 Kg	P2 lbs	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	$e = 0,026 \times 101,97$	$f = e \times 2,205$	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	14	37.12	81.83	188.06	222.57
64	0.64	24	63.63	140.28	322.40	424.57
96	0.96	37	98.10	216.26	497.03	607.53
128	1.28	50	132.56	292.25	671.66	772.92
160	1.6	63.5	168.35	371.15	853.01	922.11
192	1.92	76	201.49	444.22	1020.92	1056.41
224	2.24	88.5	234.63	517.28	1188.83	1177.04
256	2.56	98.5	261.15	575.73	1323.17	1285.16
288	2.88	105.5	279.70	616.64	1417.20	1381.86
320	3.2	112	296.94	654.63	1504.51	1468.16
352	3.52	117	310.19	683.86	1571.68	1545.03
384	3.84	122	323.45	713.08	1638.84	1613.37
416	4.16	124	328.75	724.77	1665.71	1674.00
448	4.48	126	334.05	736.46	1692.58	1727.73
480	4.8	128	339.36	748.15	1719.44	1775.28
512	5.12	142	376.47	829.98	1907.51	1817.33
544	5.44	143	379.12	835.83	1920.94	1854.51
576	5.76	144	381.78	841.67	1934.37	1887.41
608	6.08	145	384.43	847.52	1947.81	1916.56
640	6.4	146	387.08	853.36	1961.24	1942.46
672	6.72	147	389.73	859.21	1974.67	1965.57
704	7.04	148	392.38	865.05	1988.11	1986.31
736	7.36	149	395.03	870.90	2001.54	2005.04
768	7.68	150	397.68	876.74	2014.97	2022.13
800	8	151	400.33	882.59	2028.41	2037.87
832	8.32	152	402.99	888.43	2041.84	2052.56
864	8.64	153	405.64	894.28	2055.27	2066.43
896	8.96	154	408.29	900.12	2068.71	2079.72
928	9.28	155	410.94	905.97	2082.14	2092.63
960	9.6	156	413.59	911.81	2095.57	2105.31
992	9.92	157	416.24	917.66	2109.00	2117.94
1024	10.24	158	418.89	923.50	2122.44	2130.63
1056	10.56	159	421.54	929.35	2135.87	2143.49
1088	10.88	160	424.20	935.19	2149.30	2156.61
1120	11.2	161	426.85	941.04	2162.74	2170.07
1152	11.52	162	429.50	946.88	2176.17	2183.92
1184	11.84	163	432.15	952.73	2189.60	2198.21
1216	12.16	164	434.80	958.57	2203.04	2212.97
1248	12.48	165	437.45	964.42	2216.47	2228.21
1280	12.8	166	440.10	970.26	2229.90	2243.94
1312	13.12	167	442.75	976.10	2243.34	2260.16
1344	13.44	168	445.40	981.95	2256.77	2276.87
1376	13.76	169	448.06	987.79	2270.20	2294.03
1408	14.08	170	450.71	993.64	2283.64	2311.62
1440	14.4	171	453.36	999.48	2297.07	2329.62
1472	14.72	173	458.66	1011.17	2323.94	2347.99
1504	15.04	175	463.96	1022.86	2350.80	2366.69



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1536	15.36	177	469.27	1034.55	2377.67	2385.67
1568	15.68	179	474.57	1046.24	2404.53	2404.90
1600	16	181	479.87	1057.93	2431.40	2424.32
1632	16.32	183.5	486.50	1072.55	2464.98	2443.88
1664	16.64	185	490.48	1081.31	2485.13	2463.54
1696	16.96	186.5	494.45	1090.08	2505.28	2483.25
1728	17.28	189	501.08	1104.69	2538.87	2502.96
1760	17.6	191	506.38	1116.38	2565.73	2522.62
1792	17.92	192	509.03	1122.23	2579.17	2542.20
1824	18.24	193	511.69	1128.07	2592.60	2561.63
1856	18.56	194	514.34	1133.92	2606.03	2580.89
1888	18.88	195	516.99	1139.76	2619.46	2599.94
1920	19.2	196	519.64	1145.61	2632.90	2618.73
1952	19.52	197	522.29	1151.45	2646.33	2637.24
1984	19.84	198	524.94	1157.30	2659.76	2655.43
2016	20.16	199	527.59	1163.14	2673.20	2673.28
2048	20.48	200	530.24	1168.99	2686.63	2690.76
2080	20.8	201.5	534.22	1177.76	2706.78	2707.85
2112	21.12	202.5	536.87	1183.60	2720.21	2724.54
2144	21.44	204	540.85	1192.37	2740.36	2740.80
2176	21.76	205	543.50	1198.21	2753.80	2756.64
2208	22.08	206	546.15	1204.06	2767.23	2772.02
2240	22.4	207	548.80	1209.90	2780.66	2786.96
2272	22.72	208	551.45	1215.75	2794.10	2801.44
2304	23.04	209	554.10	1221.59	2807.53	2815.47
2336	23.36	210	556.76	1227.44	2820.96	2829.03
2368	23.68	211	559.41	1233.28	2834.40	2842.13
2400	24	212	562.06	1239.13	2847.83	2854.78
2432	24.32	213	564.71	1244.97	2861.26	2866.96
2464	24.64	214	567.36	1250.82	2874.69	2878.68
2496	24.96	215	570.01	1256.66	2888.13	2889.94
2528	25.28	216	572.66	1262.51	2901.56	2900.73
2560	25.6	217	575.31	1268.35	2914.99	2911.05
2592	25.92	218	577.97	1274.20	2928.43	2920.90
2624	26.24	219	580.62	1280.04	2941.86	2930.24
2656	26.56	220	583.27	1285.89	2955.29	2939.08
2688	26.88	221	585.92	1291.73	2968.73	2947.39
2720	27.2	222	588.57	1297.58	2982.16	2955.13
2752	27.52	223	591.22	1303.42	2995.59	2962.27
2784	27.84	224	593.87	1309.27	3009.03	2968.76
2816	28.16	225	596.52	1315.11	3022.46	2974.55
2848	28.48	226	599.18	1320.96	3035.89	2979.57
2880	28.8	227.5	603.15	1329.72	3056.04	2983.75
2912	29.12	227.5	603.15	1329.72	3056.04	2986.98
2944	29.44	228	604.48	1332.65	3062.76	2989.16
2976	29.76	228	604.48	1332.65	3062.76	2990.18
3008	30.08	229	607.13	1338.49	3076.19	2989.90
3040	30.4	229	607.13	1338.49	3076.19	2988.15
3072	30.72	229	607.13	1338.49	3076.19	2984.76
3104	31.04	230	609.78	1344.34	3089.62	2979.53
3136	31.36	222	588.57	1297.58	2982.16	2972.24



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### PENGUJIAN CBR

Waktu : 14 hari Sampel : K4FA22/ I  
 Diameter : 15,16 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,8 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3211,35 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4540 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 lbs	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	e = 0,026*101,97	f = e*2,205	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	5	13.26	29.22	67.17	54.61
64	0.64	10	26.51	58.45	134.33	115.03
96	0.96	15	39.77	87.67	201.50	180.19
128	1.28	20	53.02	116.90	268.66	249.05
160	1.6	25	66.28	146.12	335.83	320.69
192	1.92	30	79.54	175.35	402.99	394.25
224	2.24	35	92.79	204.57	470.16	468.95
256	2.56	40	106.05	233.80	537.33	544.09
288	2.88	45	119.30	263.02	604.49	619.04
320	3.2	50	132.56	292.25	671.66	693.23
352	3.52	55	145.82	321.47	738.82	766.17
384	3.84	60	159.07	350.70	805.99	837.43
416	4.16	65	172.33	379.92	873.15	906.66
448	4.48	71	188.24	414.99	953.75	973.55
480	4.8	77	204.14	450.06	1034.35	1037.86
512	5.12	83	220.05	485.13	1114.95	1099.39
544	5.44	89	235.96	520.20	1195.55	1158.03
576	5.76	93	246.56	543.58	1249.28	1213.68
608	6.08	97	257.17	566.96	1303.02	1266.31
640	6.4	99	262.47	578.65	1329.88	1315.94
672	6.72	102	270.42	596.18	1370.18	1362.62
704	7.04	105	278.38	613.72	1410.48	1406.44
736	7.36	108	286.33	631.25	1450.78	1447.52
768	7.68	111	294.29	648.79	1491.08	1486.04
800	8	113	299.59	660.48	1517.95	1522.18
832	8.32	115	304.89	672.17	1544.81	1556.16
864	8.64	117	310.19	683.86	1571.68	1588.23
896	8.96	119	315.50	695.55	1598.55	1618.63
928	9.28	121	320.80	707.24	1625.41	1647.65
960	9.6	123	326.10	718.93	1652.28	1675.58
992	9.92	125	331.40	730.62	1679.14	1702.71
1024	10.24	127	336.70	742.31	1706.01	1729.34
1056	10.56	129	342.01	754.00	1732.88	1755.77
1088	10.88	131	347.31	765.69	1759.74	1782.31
1120	11.2	133	352.61	777.38	1786.61	1809.24
1152	11.52	135	357.91	789.07	1813.48	1836.84
1184	11.84	137	363.22	800.76	1840.34	1865.38
1216	12.16	139	368.52	812.45	1867.21	1895.09
1248	12.48	141	373.82	824.14	1894.07	1926.21
1280	12.8	143	379.12	835.83	1920.94	1958.92
1312	13.12	145	384.43	847.52	1947.81	1993.38
1344	13.44	147	389.73	859.21	1974.67	2029.71
1376	13.76	149	395.03	870.90	2001.54	2067.99
1408	14.08	151	400.33	882.59	2028.41	2108.24
1440	14.4	153	405.64	894.28	2055.27	2150.45
1472	14.72	155	410.94	905.97	2082.14	2194.54
1504	15.04	157	416.24	917.66	2109.00	2240.37



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1536	15.36	159	421.54	929.35	2135.87	2287.72
1568	15.68	161	426.85	941.04	2162.74	2336.33
1600	16	163	432.15	952.73	2189.60	2385.83
1632	16.32	165	437.45	964.42	2216.47	2435.79
1664	16.64	167	442.75	976.10	2243.34	2485.67
1696	16.96	169	448.06	987.79	2270.20	2534.87
1728	17.28	171	453.36	999.48	2297.07	2582.65
1760	17.6	171	453.36	999.48	2297.07	2628.21
1792	17.92	171	453.36	999.48	2297.07	2670.59
1824	18.24	171	453.36	999.48	2297.07	2708.76







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### PENGUJIAN CBR

Waktu : 14 hari Sampel : K4FA22/ II  
 Diameter : 15,16 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,8 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3211,35 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4540 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 lbs	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	$e = 0,026 * 101,97$	$f = e * 2,205$	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	16	42.42	93.52	214.93	49.76
64	0.64	19	50.37	111.05	255.23	104.81
96	0.96	22	58.33	128.59	295.53	164.20
128	1.28	25	66.28	146.12	335.83	227.04
160	1.6	28	74.23	163.66	376.13	292.53
192	1.92	31	82.19	181.19	416.43	359.92
224	2.24	34	90.14	198.73	456.73	428.55
256	2.56	37	98.10	216.26	497.03	497.81
288	2.88	40	106.05	233.80	537.33	567.17
320	3.2	43	114.00	251.33	577.63	636.13
352	3.52	46	121.96	268.87	617.92	704.28
384	3.84	49	129.91	286.40	658.22	771.23
416	4.16	52	137.86	303.94	698.52	836.66
448	4.48	59	156.42	344.85	792.56	900.29
480	4.8	66	174.98	385.77	886.59	961.88
512	5.12	73	193.54	426.68	980.62	1021.24
544	5.44	78	206.80	455.91	1047.79	1078.20
576	5.76	83	220.05	485.13	1114.95	1132.65
608	6.08	88.5	234.63	517.28	1188.83	1184.49
640	6.4	93	246.56	543.58	1249.28	1233.66
672	6.72	98.5	261.15	575.73	1323.17	1280.13
704	7.04	103	273.08	602.03	1383.61	1323.90
736	7.36	108.5	287.66	634.18	1457.50	1364.98
768	7.68	113	299.59	660.48	1517.95	1403.41
800	8	114	302.24	666.32	1531.38	1439.24
832	8.32	115	304.89	672.17	1544.81	1472.55
864	8.64	116	307.54	678.01	1558.25	1503.43
896	8.96	117	310.19	683.86	1571.68	1531.98
928	9.28	118	312.84	689.70	1585.11	1558.31
960	9.6	119	315.50	695.55	1598.55	1582.54
992	9.92	120	318.15	701.39	1611.98	1604.82
1024	10.24	121	320.80	707.24	1625.41	1625.27
1056	10.56	121	320.80	707.24	1625.41	1644.05
1088	10.88	121	320.80	707.24	1625.41	1661.29
1120	11.2	122	323.45	713.08	1638.84	1677.14
1152	11.52	123	326.10	718.93	1652.28	1691.77
1184	11.84	124	328.75	724.77	1665.71	1705.31
1216	12.16	125	331.40	730.62	1679.14	1717.92
1248	12.48	126	334.05	736.46	1692.58	1729.74
1280	12.8	126.5	335.38	739.38	1699.29	1740.92
1312	13.12	126.5	335.38	739.38	1699.29	1751.61
1344	13.44	128	339.36	748.15	1719.44	1761.93
1376	13.76	129	342.01	754.00	1732.88	1772.02
1408	14.08	129	342.01	754.00	1732.88	1782.01
1440	14.4	131	347.31	765.69	1759.74	1792.01
1472	14.72	132	349.96	771.53	1773.18	1802.13





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1504	15.04	133	352.61	777.38	1786.61	1812.48
1536	15.36	134	355.26	783.22	1800.04	1823.16
1568	15.68	135	357.91	789.07	1813.48	1834.26
1600	16	136	360.57	794.91	1826.91	1845.85
1632	16.32	137	363.22	800.76	1840.34	1858.01
1664	16.64	138.5	367.19	809.52	1860.49	1870.81
1696	16.96	139.5	369.85	815.37	1873.92	1884.30
1728	17.28	140.5	372.50	821.21	1887.36	1898.53
1760	17.6	142	376.47	829.98	1907.51	1913.54
1792	17.92	143	379.12	835.83	1920.94	1929.38
1824	18.24	143	379.12	835.83	1920.94	1946.06
1856	18.56	144	381.78	841.67	1934.37	1963.60
1888	18.88	144	381.78	841.67	1934.37	1982.03
1920	19.2	145	384.43	847.52	1947.81	2001.36
1952	19.52	145	384.43	847.52	1947.81	2021.58
1984	19.84	146	387.08	853.36	1961.24	2042.70
2016	20.16	146	387.08	853.36	1961.24	2064.72
2048	20.48	146	387.08	853.36	1961.24	2087.64
2080	20.8	147	389.73	859.21	1974.67	2111.45
2112	21.12	148	392.38	865.05	1988.11	2136.15
2144	21.44	149	395.03	870.90	2001.54	2161.74
2176	21.76	150	397.68	876.74	2014.97	2188.21
2208	22.08	151.5	401.66	885.51	2035.12	2215.57
2240	22.4	152	402.99	888.43	2041.84	2243.84
2272	22.72	153	405.64	894.28	2055.27	2273.01
2304	23.04	154	408.29	900.12	2068.71	2303.12
2336	23.36	155	410.94	905.97	2082.14	2334.21
2368	23.68	156	413.59	911.81	2095.57	2366.31
2400	24	157	416.24	917.66	2109.00	2399.48
2432	24.32	158	418.89	923.50	2122.44	2433.81
2464	24.64	159	421.54	929.35	2135.87	2469.37
2496	24.96	160	424.20	935.19	2149.30	2506.28
2528	25.28	161	426.85	941.04	2162.74	2544.68
2560	25.6	162	429.50	946.88	2176.17	2584.71
2592	25.92	163	432.15	952.73	2189.60	2626.56
2624	26.24	164	434.80	958.57	2203.04	2670.43
2656	26.56	165.5	438.78	967.34	2223.19	2716.56
2688	26.88	165.5	160	424.20	935.19	2765.23



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### PENGUJIAN CBR

Waktu : 36 hari Sampel : Tanah Asli/ I  
 Diameter : 15,26 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,8 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3252,15 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4288 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 lbs	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	$e = 0,026 * 101,97$	$f = e * 2,205$	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	13	34.47	75.98	174.63	81.91
64	0.64	16	42.42	93.52	214.93	155.82
96	0.96	19	50.37	111.05	255.23	222.37
128	1.28	22	58.33	128.59	295.53	282.14
160	1.6	25	66.28	146.12	335.83	335.71
192	1.92	28	74.23	163.66	376.13	383.62
224	2.24	31	82.19	181.19	416.43	426.41
256	2.56	34	90.14	198.73	456.73	464.58
288	2.88	36	95.44	210.42	483.59	498.59
320	3.2	38	100.75	222.11	510.46	528.89
352	3.52	40	106.05	233.80	537.33	555.93
384	3.84	42	111.35	245.49	564.19	580.09
416	4.16	44	116.65	257.18	591.06	601.75
448	4.48	46	121.96	268.87	617.92	621.28
480	4.8	48	127.26	280.56	644.79	638.99
512	5.12	50	132.56	292.25	671.66	655.19
544	5.44	50	132.56	292.25	671.66	670.17
576	5.76	50	132.56	292.25	671.66	684.17
608	6.08	52	137.86	303.94	698.52	697.44
640	6.4	53	140.51	309.78	711.96	710.17
672	6.72	54.5	144.49	318.55	732.11	722.54
704	7.04	55	145.82	321.47	738.82	734.73
736	7.36	56	148.47	327.32	752.26	746.86
768	7.68	57	151.12	333.16	765.69	759.03
800	8	58	153.77	339.01	779.12	771.34
832	8.32	59	156.42	344.85	792.56	783.85
864	8.64	60	159.07	350.70	805.99	796.58
896	8.96	61	161.72	356.54	819.42	809.56
928	9.28	61	161.72	356.54	819.42	822.77
960	9.6	62	164.38	362.39	832.86	836.17
992	9.92	63	167.03	368.23	846.29	849.71
1024	10.24	64.5	171.00	377.00	866.44	863.28
1056	10.56	65	172.33	379.92	873.15	876.80
1088	10.88	66	174.98	385.77	886.59	890.11
1120	11.2	67	177.63	391.61	900.02	903.06
1152	11.52	67	177.63	391.61	900.02	915.47
1184	11.84	68	180.28	397.46	913.45	927.13
1216	12.16	69	182.93	403.30	926.89	937.81
1248	12.48	70	185.59	409.15	940.32	947.25
1280	12.8	71	188.24	414.99	953.75	955.16
1312	13.12	72	190.89	420.84	967.19	961.25
1344	13.44	73	193.54	426.68	980.62	965.18
1376	13.76	74	196.19	432.53	994.05	966.59
1408	14.08	72	190.89	420.84	967.19	965.12
1440	14.4	70	185.59	409.15	940.32	960.35

Lampiran 69



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### PENGUJIAN CBR

Waktu : 36 hari Sampel : Tanah Asli/ II  
 Diameter : 15,26 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,8 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3252,15 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4288 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 (lbs)	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	$e = 0,026 \times 101,97$	$f = e \times 2,205$	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	7	18.56	40.91	94.03	60.36
64	0.64	10	26.51	58.45	134.33	120.63
96	0.96	14	37.12	81.83	188.06	180.39
128	1.28	18	47.72	105.21	241.80	239.27
160	1.6	22	58.33	128.59	295.53	296.91
192	1.92	26	68.93	151.97	349.26	353.01
224	2.24	30	79.54	175.35	402.99	407.25
256	2.56	34	90.14	198.73	456.73	459.40
288	2.88	38	100.75	222.11	510.46	509.21
320	3.2	41	108.70	239.64	550.76	556.49
352	3.52	44	116.65	257.18	591.06	601.07
384	3.84	47	124.61	274.71	631.36	642.80
416	4.16	50	132.56	292.25	671.66	681.57
448	4.48	53	140.51	309.78	711.96	717.31
480	4.8	56	148.47	327.32	752.26	749.96
512	5.12	59	156.42	344.85	792.56	779.49
544	5.44	61	161.72	356.54	819.42	805.92
576	5.76	63	167.03	368.23	846.29	829.29
608	6.08	64	169.68	374.08	859.72	849.66
640	6.4	65	172.33	379.92	873.15	867.12
672	6.72	65	172.33	379.92	873.15	881.81
704	7.04	66	174.98	385.77	886.59	893.88
736	7.36	67	177.63	391.61	900.02	903.52
768	7.68	67.5	178.96	394.53	906.74	910.94
800	8	68	180.28	397.46	913.45	916.40
832	8.32	68	180.28	397.46	913.45	920.15
864	8.64	68.5	181.61	400.38	920.17	922.52
896	8.96	69	182.93	403.30	926.89	923.83
928	9.28	69	182.93	403.30	926.89	924.45
960	9.6	69	182.93	403.30	926.89	924.78
992	9.92	69	182.93	403.30	926.89	925.23
1024	10.24	69	182.93	403.30	926.89	926.27



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### PENGUJIAN CBR

Waktu : 36 hari Sampel : K4FA14/ I  
 Diameter : 15,26 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,8 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3252,15 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4288 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 lbs	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	$e = 0,026 * 101,97$	$f = e * 2,205$	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	10	26.51	58.45	134.33	210.41
64	0.64	20	53.02	116.90	268.66	402.84
96	0.96	45	119.30	263.02	604.49	578.39
128	1.28	55	145.82	321.47	738.82	738.11
160	1.6	65	172.33	379.92	873.15	883.02
192	1.92	75	198.84	438.37	1007.49	1014.12
224	2.24	85	225.35	496.82	1141.82	1132.35
256	2.56	95	251.87	555.27	1276.15	1238.64
288	2.88	100	265.12	584.49	1343.32	1333.88
320	3.2	105	278.38	613.72	1410.48	1418.92
352	3.52	110	291.63	642.94	1477.65	1494.60
384	3.84	115	304.89	672.17	1544.81	1561.69
416	4.16	120	318.15	701.39	1611.98	1620.96
448	4.48	125	331.40	730.62	1679.14	1673.14
480	4.8	130	344.66	759.84	1746.31	1718.90
512	5.12	135	357.91	789.07	1813.48	1758.91
544	5.44	136	360.57	794.91	1826.91	1793.79
576	5.76	137	363.22	800.76	1840.34	1824.13
608	6.08	138	365.87	806.60	1853.77	1850.50
640	6.4	139	368.52	812.45	1867.21	1873.41
672	6.72	140	371.17	818.29	1880.64	1893.36
704	7.04	141	373.82	824.14	1894.07	1910.81
736	7.36	142	376.47	829.98	1907.51	1926.18
768	7.68	143	379.12	835.83	1920.94	1939.86
800	8	144	381.78	841.67	1934.37	1952.21
832	8.32	145	384.43	847.52	1947.81	1963.56
864	8.64	146	387.08	853.36	1961.24	1974.20
896	8.96	147	389.73	859.21	1974.67	1984.39
928	9.28	148	392.38	865.05	1988.11	1994.35
960	9.6	149	395.03	870.90	2001.54	2004.29
992	9.92	150	397.68	876.74	2014.97	2014.35
1024	10.24	151	400.33	882.59	2028.41	2024.67
1056	10.56	152	402.99	888.43	2041.84	2035.33
1088	10.88	153	405.64	894.28	2055.27	2046.41
1120	11.2	154	408.29	900.12	2068.71	2057.92
1152	11.52	155	410.94	905.97	2082.14	2069.87
1184	11.84	156	413.59	911.81	2095.57	2082.20
1216	12.16	157	416.24	917.66	2109.00	2094.86
1248	12.48	158	418.89	923.50	2122.44	2107.72
1280	12.8	158	418.89	923.50	2122.44	2120.67
1312	13.12	158	418.89	923.50	2122.44	2133.51
1344	13.44	158	418.89	923.50	2122.44	2146.05



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### PENGUJIAN CBR

Waktu : 36 hari Sampel : K4FA14/ II  
 Diameter : 15,26 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,8 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3252,15 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4288 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 lbs	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	e = 0,026*101,97	f = e*2,205	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	17	45.07	99.36	228.36	215.90
64	0.64	27	71.58	157.81	362.70	409.31
96	0.96	40	106.05	233.80	537.33	581.96
128	1.28	53	140.51	309.78	711.96	735.49
160	1.6	65	172.33	379.92	873.15	871.48
192	1.92	75	198.84	438.37	1007.49	991.44
224	2.24	84	222.70	490.97	1128.38	1096.82
256	2.56	91	241.26	531.89	1222.42	1189.00
288	2.88	98	259.82	572.80	1316.45	1269.29
320	3.2	102	270.42	596.18	1370.18	1338.96
352	3.52	105	278.38	613.72	1410.48	1399.17
384	3.84	108	286.33	631.25	1450.78	1451.05
416	4.16	110	291.63	642.94	1477.65	1495.65
448	4.48	112	296.94	654.63	1504.51	1533.96
480	4.8	115	304.89	672.17	1544.81	1566.90
512	5.12	117	310.19	683.86	1571.68	1595.32
544	5.44	119	315.50	695.55	1598.55	1620.00
576	5.76	121	320.80	707.24	1625.41	1641.67
608	6.08	122	323.45	713.08	1638.84	1661.00
640	6.4	124	328.75	724.77	1665.71	1678.55
672	6.72	126	334.05	736.46	1692.58	1694.87
704	7.04	127	336.70	742.31	1706.01	1710.41
736	7.36	129	342.01	754.00	1732.88	1725.56
768	7.68	130	344.66	759.84	1746.31	1740.65
800	8	132	349.96	771.53	1773.18	1755.94
832	8.32	133	352.61	777.38	1786.61	1771.62
864	8.64	134	355.26	783.22	1800.04	1787.82
896	8.96	136	360.57	794.91	1826.91	1804.61
928	9.28	137	363.22	800.76	1840.34	1821.97
960	9.6	138	365.87	806.60	1853.77	1839.85
992	9.92	139	368.52	812.45	1867.21	1858.10
1024	10.24	140	371.17	818.29	1880.64	1876.53
1056	10.56	141	373.82	824.14	1894.07	1894.86
1088	10.88	142	376.47	829.98	1907.51	1912.77
1120	11.2	143	379.12	835.83	1920.94	1929.85
1152	11.52	144	381.78	841.67	1934.37	1945.64
1184	11.84	145	384.43	847.52	1947.81	1959.61
1216	12.16	145	384.43	847.52	1947.81	1971.16
1248	12.48	146	387.08	853.36	1961.24	1979.63
1280	12.8	147	389.73	859.21	1974.67	1984.29
1312	13.12	148	392.38	865.05	1988.11	1984.34
1344	13.44	148	392.38	865.05	1988.11	1978.93
1376	13.76	148	392.38	865.05	1988.11	1967.12



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### PENGUJIAN CBR

Waktu : 36 hari Sampel : K4FA16/ I  
 Diameter : 15,26 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,8 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3252,15 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4288 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 lbs	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	$e = 0,026 \times 101,97$	$f = e \times 2,205$	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	18	47.72	105.21	241.80	173.59
64	0.64	33	87.49	192.88	443.29	334.21
96	0.96	43	114.00	251.33	577.63	482.57
128	1.28	50	132.56	292.25	671.66	619.36
160	1.6	57	151.12	333.16	765.69	745.24
192	1.92	64	169.68	374.08	859.72	860.86
224	2.24	81	214.75	473.44	1088.09	966.85
256	2.56	90	238.61	526.04	1208.98	1063.81
288	2.88	95	251.87	555.27	1276.15	1152.35
320	3.2	98	259.82	572.80	1316.45	1233.04
352	3.52	100	265.12	584.49	1343.32	1306.41
384	3.84	102	270.42	596.18	1370.18	1373.02
416	4.16	104	275.73	607.87	1397.05	1433.37
448	4.48	106	281.03	619.56	1423.91	1487.97
480	4.8	108	286.33	631.25	1450.78	1537.28
512	5.12	110	291.63	642.94	1477.65	1581.77
544	5.44	113	299.59	660.48	1517.95	1621.88
576	5.76	116	307.54	678.01	1558.25	1658.03
608	6.08	119	315.50	695.55	1598.55	1690.63
640	6.4	122	323.45	713.08	1638.84	1720.04
672	6.72	125	331.40	730.62	1679.14	1746.65
704	7.04	128	339.36	748.15	1719.44	1770.79
736	7.36	131	347.31	765.69	1759.74	1792.79
768	7.68	134	355.26	783.22	1800.04	1812.96
800	8	137	363.22	800.76	1840.34	1831.58
832	8.32	140	371.17	818.29	1880.64	1848.94
864	8.64	142	376.47	829.98	1907.51	1865.27
896	8.96	143	379.12	835.83	1920.94	1880.81
928	9.28	144	381.78	841.67	1934.37	1895.77
960	9.6	145	384.43	847.52	1947.81	1910.35
992	9.92	146	387.08	853.36	1961.24	1924.72
1024	10.24	147	389.73	859.21	1974.67	1939.04
1056	10.56	148	392.38	865.05	1988.11	1953.45
1088	10.88	149	395.03	870.90	2001.54	1968.06
1120	11.2	150	397.68	876.74	2014.97	1982.97
1152	11.52	151	400.33	882.59	2028.41	1998.27
1184	11.84	152	402.99	888.43	2041.84	2014.02
1216	12.16	152	402.99	888.43	2041.84	2030.26
1248	12.48	153	405.64	894.28	2055.27	2047.01
1280	12.8	155	410.94	905.97	2082.14	2064.28
1312	13.12	156	413.59	911.81	2095.57	2082.06
1344	13.44	157	416.24	917.66	2109.00	2100.31
1376	13.76	158	418.89	923.50	2122.44	2118.98
1408	14.08	159	421.54	929.35	2135.87	2138.00
1440	14.4	162	429.50	946.88	2176.17	2157.28
1472	14.72	162	429.50	946.88	2176.17	2176.72
1504	15.04	163	432.15	952.73	2189.60	2196.18
1536	15.36	164	434.80	958.57	2203.04	2215.52



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1568	15.68	165	437.45	964.42	2216.47	2234.58
1600	16	166	440.10	970.26	2229.90	2253.17
1632	16.32	167	442.75	976.10	2243.34	2271.09
1664	16.64	168	445.40	981.95	2256.77	2288.12
1696	16.96	169	448.06	987.79	2270.20	2304.01
1728	17.28	170	450.71	993.64	2283.64	2318.51
1760	17.6	171	453.36	999.48	2297.07	2331.34
1792	17.92	172	456.01	1005.33	2310.50	2342.20
1824	18.24	173	458.66	1011.17	2323.94	2350.78
1856	18.56	174	461.31	1017.02	2337.37	2356.74
1888	18.88	175	463.96	1022.86	2350.80	2359.72
1920	19.2	176	466.61	1028.71	2364.23	2359.36
1952	19.52	177	469.27	1034.55	2377.67	2355.26
1984	19.84	178	471.92	1040.40	2391.10	2347.01
2016	20.16	175	463.96	1022.86	2350.80	2334.19





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### PENGUJIAN CBR

Waktu : 36 hari Sampel : K4FA16/ II  
 Diameter : 15,26 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,8 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3252,15 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4288 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 (Kg)	P2 (lbs)	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	$e = 0,026 \times 101,97$	$f = e \times 2,205$	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	22	58.33	128.59	295.53	213.84
64	0.64	34	90.14	198.73	456.73	411.20
96	0.96	44	116.65	257.18	591.06	592.98
128	1.28	54	143.17	315.63	725.39	760.04
160	1.6	64	169.68	374.08	859.72	913.24
192	1.92	74	196.19	432.53	994.05	1053.41
224	2.24	84	222.70	490.97	1128.38	1181.34
256	2.56	94	249.21	549.42	1262.72	1297.80
288	2.88	104	275.73	607.87	1397.05	1403.55
320	3.2	114	302.24	666.32	1531.38	1499.32
352	3.52	119	315.50	695.55	1598.55	1585.80
384	3.84	124	328.75	724.77	1665.71	1663.68
416	4.16	129	342.01	754.00	1732.88	1733.60
448	4.48	134	355.26	783.22	1800.04	1796.20
480	4.8	139	368.52	812.45	1867.21	1852.07
512	5.12	144	381.78	841.67	1934.37	1901.80
544	5.44	149	395.03	870.90	2001.54	1945.95
576	5.76	151	400.33	882.59	2028.41	1985.03
608	6.08	153	405.64	894.28	2055.27	2019.57
640	6.4	155	410.94	905.97	2082.14	2050.04
672	6.72	155	410.94	905.97	2082.14	2076.89
704	7.04	156	413.59	911.81	2095.57	2100.56
736	7.36	157	416.24	917.66	2109.00	2121.46
768	7.68	158	418.89	923.50	2122.44	2139.97
800	8	159	421.54	929.35	2135.87	2156.45
832	8.32	160	424.20	935.19	2149.30	2171.24
864	8.64	161	426.85	941.04	2162.74	2184.64
896	8.96	162	429.50	946.88	2176.17	2196.94
928	9.28	163	432.15	952.73	2189.60	2208.40
960	9.6	164	434.80	958.57	2203.04	2219.26
992	9.92	165	437.45	964.42	2216.47	2229.72
1024	10.24	166	440.10	970.26	2229.90	2239.99
1056	10.56	167	442.75	976.10	2243.34	2250.21
1088	10.88	168	445.40	981.95	2256.77	2260.53
1120	11.2	169	448.06	987.79	2270.20	2271.07
1152	11.52	170	450.71	993.64	2283.64	2281.90
1184	11.84	171	453.36	999.48	2297.07	2293.11
1216	12.16	172	456.01	1005.33	2310.50	2304.72
1248	12.48	173	458.66	1011.17	2323.94	2316.76
1280	12.8	174	461.31	1017.02	2337.37	2329.21
1312	13.12	175	463.96	1022.86	2350.80	2342.05
1344	13.44	176	466.61	1028.71	2364.23	2355.21
1376	13.76	177	469.27	1034.55	2377.67	2368.62
1408	14.08	178	471.92	1040.40	2391.10	2382.17
1440	14.4	179	474.57	1046.24	2404.53	2395.72
1472	14.72	180	477.22	1052.09	2417.97	2409.12
1504	15.04	181	479.87	1057.93	2431.40	2422.20
1536	15.36	182	482.52	1063.78	2444.83	2434.74

**Lampiran 74**





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### PENGUJIAN CBR

Waktu : 36 hari Sampel : K4FA18/ I  
 Diameter : 15,26 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,8 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3252,15 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4288 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 lbs	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	$e = 0,026 * 101,97$	$f = e * 2,205$	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	25	66.28	146.12	335.83	211.76
64	0.64	37	98.10	216.26	497.03	407.83
96	0.96	49	129.91	286.40	658.22	588.98
128	1.28	61	161.72	356.54	819.42	755.96
160	1.6	73	193.54	426.68	980.62	909.49
192	1.92	85	225.35	496.82	1141.82	1050.30
224	2.24	97	257.17	566.96	1303.02	1179.07
256	2.56	109	288.98	637.10	1464.21	1296.49
288	2.88	114	302.24	666.32	1531.38	1403.22
320	3.2	119	315.50	695.55	1598.55	1499.90
352	3.52	124	328.75	724.77	1665.71	1587.15
384	3.84	127	336.70	742.31	1706.01	1665.58
416	4.16	130	344.66	759.84	1746.31	1735.79
448	4.48	134	355.26	783.22	1800.04	1798.34
480	4.8	137	363.22	800.76	1840.34	1853.79
512	5.12	140	371.17	818.29	1880.64	1902.67
544	5.44	143	379.12	835.83	1920.94	1945.50
576	5.76	144	381.78	841.67	1934.37	1982.79
608	6.08	145	384.43	847.52	1947.81	2015.02
640	6.4	146	387.08	853.36	1961.24	2042.64
672	6.72	147	389.73	859.21	1974.67	2066.12
704	7.04	148	392.38	865.05	1988.11	2085.87
736	7.36	149	395.03	870.90	2001.54	2102.32
768	7.68	150	397.68	876.74	2014.97	2115.85
800	8	152	402.99	888.43	2041.84	2126.85
832	8.32	154	408.29	900.12	2068.71	2135.67
864	8.64	155	410.94	905.97	2082.14	2142.65
896	8.96	156	413.59	911.81	2095.57	2148.11
928	9.28	156	413.59	911.81	2095.57	2152.37
960	9.6	158	418.89	923.50	2122.44	2155.71
992	9.92	159	421.54	929.35	2135.87	2158.40
1024	10.24	160	424.20	935.19	2149.30	2160.69
1056	10.56	160	424.20	935.19	2149.30	2162.82
1088	10.88	161	426.85	941.04	2162.74	2165.00
1120	11.2	162	429.50	946.88	2176.17	2167.44
1152	11.52	164	434.80	958.57	2203.04	2170.31
1184	11.84	165	437.45	964.42	2216.47	2173.79
1216	12.16	166	440.10	970.26	2229.90	2178.00
1248	12.48	166	440.10	970.26	2229.90	2183.09
1280	12.8	166	440.10	970.26	2229.90	2189.17
1312	13.12	167	442.75	976.10	2243.34	2196.32
1344	13.44	168	445.40	981.95	2256.77	2204.62
1376	13.76	169	448.06	987.79	2270.20	2214.13
1408	14.08	170	450.71	993.64	2283.64	2224.89
1440	14.4	171	453.36	999.48	2297.07	2236.92
1472	14.72	172	456.01	1005.33	2310.50	2250.22
1504	15.04	173	458.66	1011.17	2323.94	2264.79
1536	15.36	174	461.31	1017.02	2337.37	2280.58
1568	15.68	175	463.96	1022.86	2350.80	2297.56



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1600	16	176	466.61	1028.71	2364.23	2315.65
1632	16.32	177	469.27	1034.55	2377.67	2334.77
1664	16.64	178	471.92	1040.40	2391.10	2354.81
1696	16.96	179	474.57	1046.24	2404.53	2375.66
1728	17.28	180	477.22	1052.09	2417.97	2397.18
1760	17.6	181	479.87	1057.93	2431.40	2419.21
1792	17.92	182	482.52	1063.78	2444.83	2441.58
1824	18.24	183	485.17	1069.62	2458.27	2464.10
1856	18.56	184	487.82	1075.47	2471.70	2486.56
1888	18.88	185	490.48	1081.31	2485.13	2508.74
1920	19.2	186	493.13	1087.16	2498.57	2530.38
1952	19.52	187	495.78	1093.00	2512.00	2551.23
1984	19.84	188	498.43	1098.85	2525.43	2571.01
2016	20.16	189	501.08	1104.69	2538.87	2589.41
2048	20.48	190	503.73	1110.54	2552.30	2606.13
2080	20.8	191	506.38	1116.38	2565.73	2620.83
2112	21.12	192	509.03	1122.23	2579.17	2633.17
2144	21.44	193	511.69	1128.07	2592.60	2642.76
2176	21.76	194	514.34	1133.92	2606.03	2649.23
2208	22.08	195	516.99	1139.76	2619.46	2652.17
2240	22.4	196	519.64	1145.61	2632.90	2651.17
2272	22.72	197	522.29	1151.45	2646.33	2645.77
2304	23.04	198	524.94	1157.30	2659.76	2635.53
2336	23.36	199	527.59	1163.14	2673.20	2619.96
2368	23.68	200	530.24	1168.99	2686.63	2598.58
2400	24	201	532.90	1174.83	2700.06	2570.88



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### PENGUJIAN CBR

Waktu : 36 hari Sampel : K4FA18/ II  
 Diameter : 15,26 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,8 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3252,15 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4288 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 lbs	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	$e = 0,026 \times 101,97$	$f = e \times 2,205$	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	22	58.33	128.59	295.53	222.06
64	0.64	35	92.79	204.57	470.16	428.35
96	0.96	48	127.26	280.56	644.79	619.69
128	1.28	61	161.72	356.54	819.42	796.92
160	1.6	71	188.24	414.99	953.75	960.82
192	1.92	83	220.05	485.13	1114.95	1112.17
224	2.24	93	246.56	543.58	1249.28	1251.71
256	2.56	103	273.08	602.03	1383.61	1380.15
288	2.88	110	291.63	642.94	1477.65	1498.20
320	3.2	117	310.19	683.86	1571.68	1606.53
352	3.52	124	328.75	724.77	1665.71	1705.78
384	3.84	131	347.31	765.69	1759.74	1796.57
416	4.16	138	365.87	806.60	1853.77	1879.50
448	4.48	145	384.43	847.52	1947.81	1955.13
480	4.8	152	402.99	888.43	2041.84	2024.02
512	5.12	159	421.54	929.35	2135.87	2086.69
544	5.44	162	429.50	946.88	2176.17	2143.63
576	5.76	165	437.45	964.42	2216.47	2195.31
608	6.08	168	445.40	981.95	2256.77	2242.19
640	6.4	171	453.36	999.48	2297.07	2284.68
672	6.72	174	461.31	1017.02	2337.37	2323.18
704	7.04	176	466.61	1028.71	2364.23	2358.06
736	7.36	178	471.92	1040.40	2391.10	2389.67
768	7.68	179	474.57	1046.24	2404.53	2418.34
800	8	180	477.22	1052.09	2417.97	2444.36
832	8.32	182	482.52	1063.78	2444.83	2468.01
864	8.64	184	487.82	1075.47	2471.70	2489.53
896	8.96	186	493.13	1087.16	2498.57	2509.15
928	9.28	188	498.43	1098.85	2525.43	2527.06
960	9.6	190	503.73	1110.54	2552.30	2543.44
992	9.92	192	509.03	1122.23	2579.17	2558.45
1024	10.24	192	509.03	1122.23	2579.17	2572.20
1056	10.56	192	509.03	1122.23	2579.17	2584.79
1088	10.88	193	511.69	1128.07	2592.60	2596.30
1120	11.2	194	514.34	1133.92	2606.03	2606.78
1152	11.52	195	516.99	1139.76	2619.46	2616.25
1184	11.84	196	519.64	1145.61	2632.90	2624.72
1216	12.16	196	519.64	1145.61	2632.90	2632.16
1248	12.48	196	519.64	1145.61	2632.90	2638.52



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### PENGUJIAN CBR

Waktu : 36 hari Sampel : K4FA20/ I  
 Diameter : 15,26 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,8 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3252,15 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4288 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 lbs	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	$e = 0,026 * 101,97$	$f = e * 2,205$	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	44	116.65	257.18	591.06	217.67
64	0.64	65	172.33	379.92	873.15	423.10
96	0.96	80	212.10	467.60	1074.65	616.80
128	1.28	95	251.87	555.27	1276.15	799.23
160	1.6	102	270.42	596.18	1370.18	970.89
192	1.92	109	288.98	637.10	1464.21	1132.24
224	2.24	116	307.54	678.01	1558.25	1283.72
256	2.56	123	326.10	718.93	1652.28	1425.80
288	2.88	128	339.36	748.15	1719.44	1558.91
320	3.2	133	352.61	777.38	1786.61	1683.47
352	3.52	138	365.87	806.60	1853.77	1799.91
384	3.84	143	379.12	835.83	1920.94	1908.64
416	4.16	148	392.38	865.05	1988.11	2010.05
448	4.48	153	405.64	894.28	2055.27	2104.53
480	4.8	158	418.89	923.50	2122.44	2192.47
512	5.12	163	432.15	952.73	2189.60	2274.24
544	5.44	167	442.75	976.10	2243.34	2350.19
576	5.76	171	453.36	999.48	2297.07	2420.68
608	6.08	175	463.96	1022.86	2350.80	2486.06
640	6.4	179	474.57	1046.24	2404.53	2546.64
672	6.72	183	485.17	1069.62	2458.27	2602.77
704	7.04	187	495.78	1093.00	2512.00	2654.75
736	7.36	191	506.38	1116.38	2565.73	2702.89
768	7.68	195	516.99	1139.76	2619.46	2747.47
800	8	199	527.59	1163.14	2673.20	2788.79
832	8.32	203	538.20	1186.52	2726.93	2827.13
864	8.64	207	548.80	1209.90	2780.66	2862.74
896	8.96	211	559.41	1233.28	2834.40	2895.88
928	9.28	215	570.01	1256.66	2888.13	2926.81
960	9.6	217	575.31	1268.35	2914.99	2955.76
992	9.92	220	583.27	1285.89	2955.29	2982.95
1024	10.24	222	588.57	1297.58	2982.16	3008.61
1056	10.56	224	593.87	1309.27	3009.03	3032.94
1088	10.88	226	599.18	1320.96	3035.89	3056.15
1120	11.2	228	604.48	1332.65	3062.76	3078.41
1152	11.52	230	609.78	1344.34	3089.62	3099.93
1184	11.84	232	615.08	1356.03	3116.49	3120.85
1216	12.16	234	620.39	1367.72	3143.36	3141.35
1248	12.48	236	625.69	1379.41	3170.22	3161.58
1280	12.8	238	630.99	1391.10	3197.09	3181.68
1312	13.12	240	636.29	1402.79	3223.96	3201.78
1344	13.44	242	641.60	1414.48	3250.82	3222.00
1376	13.76	244	646.90	1426.17	3277.69	3242.46
1408	14.08	246	652.20	1437.86	3304.56	3263.27
1440	14.4	248	657.50	1449.55	3331.42	3284.51
1472	14.72	250	662.81	1461.23	3358.29	3306.27
1504	15.04	252	668.11	1472.92	3385.15	3328.63
1536	15.36	254	673.41	1484.61	3412.02	3351.65



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1568	15.68	256	678.71	1496.30	3438.89	3375.39
1600	16	258	684.01	1507.99	3465.75	3399.90
1632	16.32	260	689.32	1519.68	3492.62	3425.21
1664	16.64	262	694.62	1531.37	3519.49	3451.35
1696	16.96	264	699.92	1543.06	3546.35	3478.33
1728	17.28	266	705.22	1554.75	3573.22	3506.18
1760	17.6	268	710.53	1566.44	3600.08	3534.88
1792	17.92	270	715.83	1578.13	3626.95	3564.42
1824	18.24	272	721.13	1589.82	3653.82	3594.80
1856	18.56	274	726.43	1601.51	3680.68	3625.97
1888	18.88	276	731.74	1613.20	3707.55	3657.89
1920	19.2	278	737.04	1624.89	3734.42	3690.52
1952	19.52	280	742.34	1636.58	3761.28	3723.81
1984	19.84	282	747.64	1648.27	3788.15	3757.67
2016	20.16	284	752.95	1659.96	3815.02	3792.04
2048	20.48	286	758.25	1671.65	3841.88	3826.83
2080	20.8	288	763.55	1683.34	3868.75	3861.94
2112	21.12	290	768.85	1695.03	3895.61	3897.27
2144	21.44	292	774.16	1706.72	3922.48	3932.70
2176	21.76	294	779.46	1718.41	3949.35	3968.10
2208	22.08	296	784.76	1730.10	3976.21	4003.35
2240	22.4	298	790.06	1741.79	4003.08	4038.29
2272	22.72	300	795.37	1753.48	4029.95	4072.77
2304	23.04	302	800.67	1765.17	4056.81	4106.64
2336	23.36	304	805.97	1776.86	4083.68	4139.71
2368	23.68	306	811.27	1788.55	4110.54	4171.81
2400	24	308	816.58	1800.24	4137.41	4202.75
2432	24.32	310	821.88	1811.93	4164.28	4232.31
2464	24.64	312	827.18	1823.62	4191.14	4260.30
2496	24.96	314	832.48	1835.31	4218.01	4286.49
2528	25.28	316	837.79	1847.00	4244.88	4310.65
2560	25.6	318	843.09	1858.69	4271.74	4332.54
2592	25.92	320	848.39	1870.38	4298.61	4351.92
2624	26.24	322	853.69	1882.07	4325.47	4368.52
2656	26.56	324	859.00	1893.76	4352.34	4382.08
2688	26.88	326	864.30	1905.45	4379.21	4392.32
2720	27.2	328	869.60	1917.14	4406.07	4398.95
2752	27.52	330	874.90	1928.83	4432.94	4401.67
2784	27.84	332	880.21	1940.52	4459.81	4400.19
2816	28.16	333	882.86	1946.36	4473.24	4394.18
2848	28.48	333	882.86	1946.36	4473.24	4383.32
2880	28.8	333	882.86	1946.36	4473.24	4367.27



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### PENGUJIAN CBR

Waktu : 36 hari Sampel : K4FA20/ II  
 Diameter : 15,26 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,8 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3252,15 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4288 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 lbs	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	$e = 0,026 * 101,97$	$f = e * 2,205$	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	44	116.65	257.18	591.06	253.89
64	0.64	61	161.72	356.54	819.42	487.47
96	0.96	78	206.80	455.91	1047.79	701.90
128	1.28	95	251.87	555.27	1276.15	898.30
160	1.6	100	265.12	584.49	1343.32	1077.76
192	1.92	105	278.38	613.72	1410.48	1241.34
224	2.24	115	304.89	672.17	1544.81	1390.07
256	2.56	125	331.40	730.62	1679.14	1524.94
288	2.88	129.5	343.33	756.92	1739.59	1646.93
320	3.2	131.5	348.64	768.61	1766.46	1756.97
352	3.52	135	357.91	789.07	1813.48	1855.96
384	3.84	139	368.52	812.45	1867.21	1944.77
416	4.16	143	379.12	835.83	1920.94	2024.25
448	4.48	147	389.73	859.21	1974.67	2095.20
480	4.8	151	400.33	882.59	2028.41	2158.40
512	5.12	155	410.94	905.97	2082.14	2214.60
544	5.44	159	421.54	929.35	2135.87	2264.52
576	5.76	163	432.15	952.73	2189.60	2308.83
608	6.08	166.5	441.43	973.18	2236.62	2348.20
640	6.4	169.5	449.38	990.72	2276.92	2383.24
672	6.72	171.5	454.68	1002.41	2303.79	2414.54
704	7.04	174	461.31	1017.02	2337.37	2442.67
736	7.36	177	469.27	1034.55	2377.67	2468.15
768	7.68	180	477.22	1052.09	2417.97	2491.47
800	8	183	485.17	1069.62	2458.27	2513.11
832	8.32	186	493.13	1087.16	2498.57	2533.50
864	8.64	189	501.08	1104.69	2538.87	2553.03
896	8.96	192	509.03	1122.23	2579.17	2572.09
928	9.28	195	516.99	1139.76	2619.46	2591.00
960	9.6	198	524.94	1157.30	2659.76	2610.09
992	9.92	200	530.24	1168.99	2686.63	2629.62
1024	10.24	202	535.55	1180.68	2713.50	2649.84
1056	10.56	204	540.85	1192.37	2740.36	2670.97
1088	10.88	206	546.15	1204.06	2767.23	2693.19
1120	11.2	208	551.45	1215.75	2794.10	2716.65
1152	11.52	210	556.76	1227.44	2820.96	2741.48
1184	11.84	212	562.06	1239.13	2847.83	2767.76
1216	12.16	214	567.36	1250.82	2874.69	2795.55
1248	12.48	216	572.66	1262.51	2901.56	2824.88
1280	12.8	218	577.97	1274.20	2928.43	2855.74
1312	13.12	220	583.27	1285.89	2955.29	2888.10
1344	13.44	222	588.57	1297.58	2982.16	2921.90
1376	13.76	224	593.87	1309.27	3009.03	2957.02
1408	14.08	226	599.18	1320.96	3035.89	2993.35
1440	14.4	228	604.48	1332.65	3062.76	3030.72
1472	14.72	230	609.78	1344.34	3089.62	3068.94
1504	15.04	232	615.08	1356.03	3116.49	3107.78
1536	15.36	234	620.39	1367.72	3143.36	3147.00
1568	15.68	236	625.69	1379.41	3170.22	3186.30



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1600	16	238	630.99	1391.10	3197.09	3225.37
1632	16.32	240	636.29	1402.79	3223.96	3263.86
1664	16.64	242	641.60	1414.48	3250.82	3301.39
1696	16.96	244	646.90	1426.17	3277.69	3337.54
1728	17.28	246	652.20	1437.86	3304.56	3371.88
1760	17.6	248	657.50	1449.55	3331.42	3403.93
1792	17.92	250	662.81	1461.23	3358.29	3433.19
1824	18.24	252	668.11	1472.92	3385.15	3459.11
1856	18.56	254	673.41	1484.61	3412.02	3481.14
1888	18.88	256	678.71	1496.30	3438.89	3498.66
1920	19.2	258	684.01	1507.99	3465.75	3511.06
1952	19.52	260	689.32	1519.68	3492.62	3517.67
1984	19.84	262	694.62	1531.37	3519.49	3517.79
2016	20.16	264	699.92	1543.06	3546.35	3510.71
2048	20.48	264	699.92	1543.06	3546.35	3495.66
2080	20.8	264	699.92	1543.06	3546.35	3471.86
2112	21.12	264	699.92	1543.06	3546.35	3438.49





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### PENGUJIAN CBR

Waktu : 36 hari Sampel : K4FA22/ I  
 Diameter : 15,26 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,8 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3252,15 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4288 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 lbs	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	$e = 0,026 \times 101,97$	$f = e \times 2,205$	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	20	53.02	116.90	268.66	222.66
64	0.64	35	92.79	204.57	470.16	428.73
96	0.96	46	121.96	268.87	617.92	619.14
128	1.28	57	151.12	333.16	765.69	794.82
160	1.6	68	180.28	397.46	913.45	956.65
192	1.92	79	209.45	461.75	1061.22	1105.50
224	2.24	90	238.61	526.04	1208.98	1242.20
256	2.56	101	267.77	590.34	1356.75	1367.56
288	2.88	111.5	295.61	651.71	1497.80	1482.36
320	3.2	121.5	322.12	710.16	1632.13	1587.35
352	3.52	132	349.96	771.53	1773.18	1683.26
384	3.84	137	363.22	800.76	1840.34	1770.79
416	4.16	141	373.82	824.14	1894.07	1850.62
448	4.48	145	384.43	847.52	1947.81	1923.38
480	4.8	149	395.03	870.90	2001.54	1989.70
512	5.12	152	402.99	888.43	2041.84	2050.16
544	5.44	155	410.94	905.97	2082.14	2105.33
576	5.76	158	418.89	923.50	2122.44	2155.75
608	6.08	161	426.85	941.04	2162.74	2201.92
640	6.4	164	434.80	958.57	2203.04	2244.33
672	6.72	167	442.75	976.10	2243.34	2283.43
704	7.04	170	450.71	993.64	2283.64	2319.65
736	7.36	173	458.66	1011.17	2323.94	2353.39
768	7.68	176	466.61	1028.71	2364.23	2385.02
800	8	179	474.57	1046.24	2404.53	2414.89
832	8.32	182	482.52	1063.78	2444.83	2443.31
864	8.64	184	487.82	1075.47	2471.70	2470.59
896	8.96	186	493.13	1087.16	2498.57	2496.98
928	9.28	188.5	499.75	1101.77	2532.15	2522.72
960	9.6	190	503.73	1110.54	2552.30	2548.02
992	9.92	192	509.03	1122.23	2579.17	2573.06
1024	10.24	194	514.34	1133.92	2606.03	2598.00
1056	10.56	196	519.64	1145.61	2632.90	2622.98
1088	10.88	198	524.94	1157.30	2659.76	2648.08
1120	11.2	200	530.24	1168.99	2686.63	2673.39
1152	11.52	202	535.55	1180.68	2713.50	2698.94
1184	11.84	204.5	542.17	1195.29	2747.08	2724.77
1216	12.16	206	546.15	1204.06	2767.23	2750.86
1248	12.48	207	548.80	1209.90	2780.66	2777.18
1280	12.8	209	554.10	1221.59	2807.53	2803.67
1312	13.12	211	559.41	1233.28	2834.40	2830.24
1344	13.44	213	564.71	1244.97	2861.26	2856.77
1376	13.76	215	570.01	1256.66	2888.13	2883.12
1408	14.08	217	575.31	1268.35	2914.99	2909.12
1440	14.4	219	580.62	1280.04	2941.86	2934.57
1472	14.72	221	585.92	1291.73	2968.73	2959.25
1504	15.04	223	591.22	1303.42	2995.59	2982.90
1536	15.36	224	593.87	1309.27	3009.03	3005.25





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1568	15.68	224	593.87	1309.27	3009.03	3025.99
1600	16	225	596.52	1315.11	3022.46	3044.79
1632	16.32	225	596.52	1315.11	3022.46	3061.28
1664	16.64	227	601.83	1326.80	3049.33	3075.08
1696	16.96	228	604.48	1332.65	3062.76	3085.77
1728	17.28	228	604.48	1332.65	3062.76	3092.91
1760	17.6	229	607.13	1338.49	3076.19	3096.04
1792	17.92	230	609.78	1344.34	3089.62	3094.64
1824	18.24	231	612.43	1350.18	3103.06	3088.21
1856	18.56	232	615.08	1356.03	3116.49	3076.20
1888	18.88	228	604.48	1332.65	3062.76	3058.01



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### PENGUJIAN CBR

Waktu : 36 hari Sampel : K4FA22/ II  
 Diameter : 15,26 cm OMC : 26,62 cm<sup>2</sup>  
 Tinggi : 17,8 cm MDD : 1,83 cm<sup>3</sup>  
 Volume : 3252,15 cm<sup>3</sup> Kadar Air Asal : 6,43 %  
 Berat RING : 4288 gr Jumlah Air Ditambah : 948,40 ml

Penetrasi		Beban			Tekanan (Q)	Tekanan Dikoreksi
Pembacaan arloji	$\Delta L$ (mm)	Pembacaan arloji	P1 Kg	P2 lbs	P (kPa)	Koreksi dari grafik
a	$b = a \times 10^{-2}$	d	$e = 0,026 \times 101,97$	$f = e \times 2,205$	g	h
0	0	0	0.00	0.00	0.00	0.00
32	0.32	43	114.00	251.33	577.63	215.69
64	0.64	55	145.82	321.47	738.82	414.73
96	0.96	62	164.38	362.39	832.86	597.99
128	1.28	69	182.93	403.30	926.89	766.36
160	1.6	76	201.49	444.22	1020.92	920.66
192	1.92	83	220.05	485.13	1114.95	1061.74
224	2.24	90	238.61	526.04	1208.98	1190.37
256	2.56	97	257.17	566.96	1303.02	1307.35
288	2.88	107	283.68	625.41	1437.35	1413.43
320	3.2	112	296.94	654.63	1504.51	1509.32
352	3.52	117	310.19	683.86	1571.68	1595.76
384	3.84	122	323.45	713.08	1638.84	1673.41
416	4.16	127	336.70	742.31	1706.01	1742.94
448	4.48	132	349.96	771.53	1773.18	1804.99
480	4.8	137	363.22	800.76	1840.34	1860.19
512	5.12	142	376.47	829.98	1907.51	1909.11
544	5.44	143	379.12	835.83	1920.94	1952.34
576	5.76	145	384.43	847.52	1947.81	1990.43
608	6.08	147	389.73	859.21	1974.67	2023.90
640	6.4	148	392.38	865.05	1988.11	2053.25
672	6.72	151	400.33	882.59	2028.41	2078.96
704	7.04	152	402.99	888.43	2041.84	2101.50
736	7.36	154	408.29	900.12	2068.71	2121.30
768	7.68	155	410.94	905.97	2082.14	2138.77
800	8	157	416.24	917.66	2109.00	2154.31
832	8.32	159	421.54	929.35	2135.87	2168.27
864	8.64	160	424.20	935.19	2149.30	2181.00
896	8.96	162	429.50	946.88	2176.17	2192.84
928	9.28	163	432.15	952.73	2189.60	2204.06
960	9.6	165	437.45	964.42	2216.47	2214.96
992	9.92	166	440.10	970.26	2229.90	2225.78
1024	10.24	168	445.40	981.95	2256.77	2236.76
1056	10.56	170	450.71	993.64	2283.64	2248.10
1088	10.88	171	453.36	999.48	2297.07	2259.99
1120	11.2	172	456.01	1005.33	2310.50	2272.59
1152	11.52	174	461.31	1017.02	2337.37	2286.04
1184	11.84	175	463.96	1022.86	2350.80	2300.47
1216	12.16	176	466.61	1028.71	2364.23	2315.96
1248	12.48	177	469.27	1034.55	2377.67	2332.58
1280	12.8	179	474.57	1046.24	2404.53	2350.39
1312	13.12	180	477.22	1052.09	2417.97	2369.41
1344	13.44	181	479.87	1057.93	2431.40	2389.65
1376	13.76	182	482.52	1063.78	2444.83	2411.08
1408	14.08	185	490.48	1081.31	2485.13	2433.67
1440	14.4	185	490.48	1081.31	2485.13	2457.35
1472	14.72	186	493.13	1087.16	2498.57	2482.03
1504	15.04	189	501.08	1104.69	2538.87	2507.60
1536	15.36	190	503.73	1110.54	2552.30	2533.94



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1568	15.68	191	506.38	1116.38	2565.73	2560.88
1600	16	193	511.69	1128.07	2592.60	2588.24
1632	16.32	194	514.34	1133.92	2606.03	2615.84
1664	16.64	195	516.99	1139.76	2619.46	2643.43
1696	16.96	196	519.64	1145.61	2632.90	2670.78
1728	17.28	197	522.29	1151.45	2646.33	2697.62
1760	17.6	198	524.94	1157.30	2659.76	2723.65
1792	17.92	199	527.59	1163.14	2673.20	2748.57
1824	18.24	200	530.24	1168.99	2686.63	2772.03
1856	18.56	201	532.90	1174.83	2700.06	2793.67
1888	18.88	202	535.55	1180.68	2713.50	2813.11
1920	19.2	205	543.50	1198.21	2753.80	2829.96
1952	19.52	214	567.36	1250.82	2874.69	2843.76
1984	19.84	220	583.27	1285.89	2955.29	2854.09
2016	20.16	221	585.92	1291.73	2968.73	2860.46
2048	20.48	219	580.62	1280.04	2941.86	2862.38



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### **PENGUJIAN KUAT TEKAN BEBAS**







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### **PENGUJIAN CBR**

