

BAB VI

KESIMPULAN DAN SARAN

6.1 Kesimpulan

Dari hasil penelitian Pengaruh Penggunaan Serat Plastik Terhadap Nilai Daya Dukung Tanah Lempung dapat ditarik kesimpulan sebagai berikut :

1. Pada pengujian CBR *unsoaked*, nilai CBR untuk tanah yang tidak diberi tambahan serat plastik adalah 3.8, sedang untuk penambahan serat plastik 0.1% , 0.2%, 0.3%, 0.4%, 0.5% nilai CBR'nya berturut- turut adalah (4), (5.4), (6), (4.8), (4). Nilai CBR tertinggi didapat pada penambahan serat plastik 0.3% dengan nilai CBR 6 atau naik sebesar 63% dari nilai CBR awal tanpa penambahan serat.
2. Pada pengujian CBR *soaked*, nilai CBR untuk tanah yang tidak diberitambahan serat plastik adalah 2.3, sedang untuk penambahan serat plastik 0.1% , 0.2%, 0.3%, 0.4%, 0.5% nilai CBR'nya berturut- turut adalah (3), (4), (3.6), (3), (2.8). Nilai CBR tertinggi didapat pada penambahan serat plastik 0.2% dengan nilai CBR 4 atau naik sebesar 70% dari nilai CBR awal tanpa penambahan serat.
3. Dari hasil analisis, kadar serat plastik yang dapat direkomendasikan di lapangan adalah sebesar 0,2%.
4. Penambahan serat plastik juga mampu meningkatkan daya dukung tanah karena semakin besar nilai CBR tanah, semakin besar pula nilai daya dukung tanahnya.

6.2 Saran

1. Bila ingin melakukan penelitian serupa dengan serat plastik, hendaknya pada saat proses pencampuran benda uji perlu kecermatan yang tinggi agar homogenitas campuran yang diperoleh akan baik.
2. Dapat dilakukan penelitian serupa dengan menggunakan jenis tanah jelek yang berbeda yang mempunyai karakteristik sifat yang sama dengan tanah lempung agar bisa diketahui apakah serat plastik juga bisa digunakan untuk perkuatan daya dukung tanah tersebut.
3. Dapat dilakukan penelitian lebih lanjut dengan variasi bentuk dan ukuran serat plastik yang berbeda. Pada penelitian ini digunakan ukuran serat plastik 5cm x 1cm, mungkin untuk penelitian lebih lanjut bisa digunakan serat plastik yang berbentuk lebih panjang supaya luas penampang serat yang akan menahan tekanan tanah juga semakin luas atau serat plastik berbentuk persegi supaya serat dapat tercampur dengan baik.

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Gambar Sampel Tanah Lempung



Gambar Potongan Serat Plastik



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Gambar Sampel CBR 5Kg



Gambar Pencampuran Tanah Dengan Plastik



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Gambar Perendaman Benda Uji Untuk CBR *Soaked*



Gambar Proses Pengujian CBR (Alat CBR)



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TABEL PENGUJIAN BERAT JENIS TANAH

1	No. <i>Piknometer</i>		3a	5a
2	Berat <i>Piknometer</i> kosong	W_1 gr	27,4	31
3	Berat <i>Piknometer</i> + tanah kering	W_2 gr	47	48,75
4	Berat <i>Piknometer</i> + tanah + air	W_3 gr	87,9	91,5
5	Berat <i>piknometer</i> + air	W_4 gr	77,25	81
6	Temperatur, $t^\circ \text{C}$		27	27
7	$A = W_2 - W_1$, gram		19,6	17,75
8	$B = W_3 - W_4$, gram		10,65	10,5
9	$C = A - B$, gram		8,95	7,25
10	Berat jenis, $G_1 = A / C$		2,189	2,45
11	Rata-rata harga G_1		2,3195	
12	$G \text{ untuk } 27,5^\circ = G_1 \times \frac{b.j \text{ air } t^\circ}{b.j \text{ air } 27,5^\circ}$		$2,3195 \times \frac{0,99615}{0,9964} = 2,3145$	



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TABEL PENGUJIAN KADAR AIR

Kode Cawan		11	12	13
Berat Cawan Kosong	w_c	21,00	23,5	21,00
Berat Cawan + Tanah Basah	w_1	52,9	56,5	54,5
Berat Cawan + Tanah Kering	w_2	47,00	51,5	48,9
Berat Air	$w_w = w_1 - w_2$	5,9	5,00	5,6
Berat Tanah Kering	$w_s = w_2 - w_c$	26,00	28,00	27,9
Kadar Air	$w = \frac{w_w}{w_s} \times 100\%$	22,69	17,86	20,07
Kadar Air Rata-Rata		20,21		



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TABEL PENGUJIAN DISTRIBUSI UKURAN BUTIRAN

No. Saringan	Diameter (mm)	Persentase butir (%)
Saringan No. 4	4,750	100
Saringan No. 10	2,000	100
Saringan No. 20	0,850	100
Saringan No. 40	0,425	98,70
Saringan No. 60	0,250	95,12
Saringan No. 140	0,106	83,89
Saringan No. 200	0,075	59,69



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TABEL PENGUJIAN HIDROMETER

Tipe Hidrometer	151/H/152H/
Koreksi Meniskus	M = 1
Berat Jenis Tanah	G = 2,65
Koreksi Hidrometer 152	a = 1.093

Berat Sampel Kering Oven (W)	
K****	
Reagen	
Banyak reagen	

Tanggal	Jam	Waktu (menit)	Suspensi	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* (mm)	K _h **	D	R = R1 - R2	p**** (%)
14/04/2011	10.43	2	11	4	29	18	13.3	0.0138	0.1125	13	44.031
14/04/2011	10.46	5	11	3	29	15	13.8	0.0138	0.0725	10	33.87
14/04/2011	11.11	30	11	3	29	12.5	14.25	0.0138	0.03	7.5	25.4025
14/04/2011	11.41	60	10	2	29	11	14.5	0.0137	0.0213	6	20.322
14/04/2011	14.51	250	8	1	29.5	9	14.8	0.0136	0.0105	4	13.548
15/04/2011	10.41	1440	7	1	28	7	15.2	0.0139	0.0045	2	6.774



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TABEL PENGUJIAN BATAS CAIR

Target Pukulan		15-19		20-24		26-30		31-40	
Jumlah Pukulan		16		24		33		36	
Kode Cawan		3	4	3	6	7	8	9	10
Berat Cawan Kosong	w_c	23,5	21,4	21,3	21,8	22	22,7	20,8	21,2
Berat Cawan + Tanah Basah	w_1	29,8	27,5	28,00	29,02	28,95	31,00	30,3	30,9
Berat Cawan + Tanah Kering	w_2	27,00	24,81	25,4	26,5	26,4	27,6	26,6	27,31
Berat Air	$w_w = w_1 - w_2$	2,8	2,69	2,6	2,52	2,55	3,4	3,7	3,59
Berat Tanah Kering	$w_s = w_2 - w_c$	3,5	3,39	4,1	4,7	4,4	4,9	5,8	6,1
Kadar Air	$w = \frac{w_w}{w_s} \times 100\%$	80,00	79,92	63,42	53,62	57,96	69,39	63,79	58,85
Kadar Air Rata-Rata		79,96		58,52		63,67		61,32	

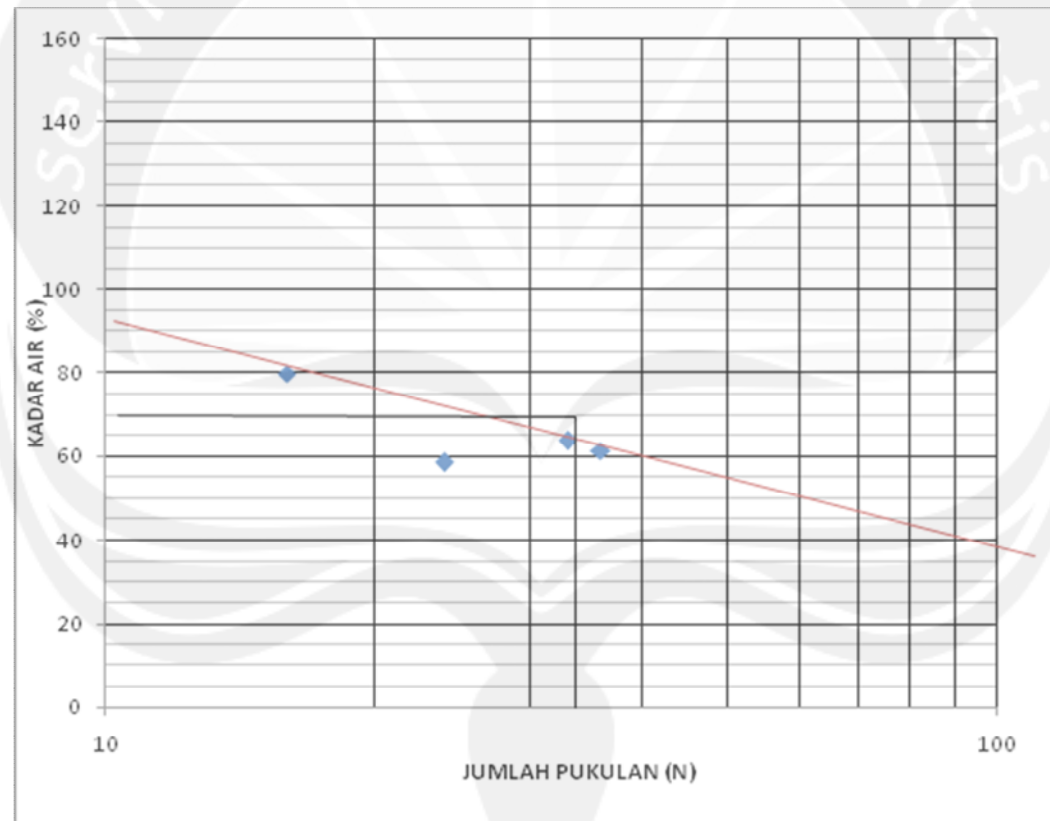
Batas cair (LL) = 70
 W 10 = 92
 W 100 = 33
 Flow Index = 59



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GRAFIK BATAS CAIR





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TABEL PENGUJIAN BATAS PLASTIS

Kode Cawan		1	2
Berat Cawan Kosong	w_c	23,4	23,00
Berat Cawan + Tanah Basah	w_1	46,00	42,85
Berat Cawan + Tanah Kering	w_2	41,3	37,6
Berat Air	$w_w = w_1 - w_2$	4,7	5,25
Berat Tanah Kering	$w_s = w_2 - w_c$	17,9	14,6
Kadar Air	$w = \frac{w_w}{w_s} \times 100\%$	26,26	35,96
Batas Plastis		31,11	



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TABEL PENGUJIAN BATAS SUSUT

a. Kadar air tanah basah

No. cawan susut		21	5
Berat cawan susut	W_1 , gram	16,65	16,87
Berat cawan + tanah basah	W_2 , gram	45,7	45,4
Berat cawan +tanah kering	W_3 , gram	34,3	34,5
Berat tanah kering	$W_o = (W_3 - W_1)$, gram	17,65	17,63
Berat air	$A = (W_2 - W_3)$, gram	11,4	10,9
Kadar air tanah	$W = (A/W_o) * 100 \%$	64,5892	61,8264

b. Volume tanah basah = volume cawan susut

Berat cawan porselen	W_4 , gram	107	107
Berat cawan porselen + berat air-rasa pengisi cawan susut	W_5 , gram	338	335
Berat air-rasa	$B = (W_5 - W_4)$, gram	231	228
Volume tanah basah	$V = B/13,6 \text{ cm}^3$	16,9853	16,7647



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c. Volume tanah kering.

Berat cawan porselen + berat air-rasa yang didesak tanah kering	W_6 , gram	276	288
Berat cawan porselen	W_7 , gram	107	107
Berat air-rasa	$C = (W_6 - W_7)$ gram	169	181
Volume tanah kering	$V_o = \frac{C}{13,6} \text{ cm}^3$	12,4265	13,3088

d.

Batas-susut, $SL = \left(w - \frac{V - V_o}{W_o} \right) \times 100 \%$	38,7603	42,2240
Angka-susut, $SR = \frac{W_o}{v_o}$	1,4204	1,3247
Susut-volumetrik, $VS = (w - SL) SR$	36,6874	25,9673
Susut-linear, $L_s = 100 \left(1 - \sqrt[3]{\frac{100}{VS + 100}} \right)$	9,8933	7,4065
Berat jenis tanah, $G = \frac{1}{\frac{1}{SR} - \frac{SL}{100}}$	3,1603	3,0062



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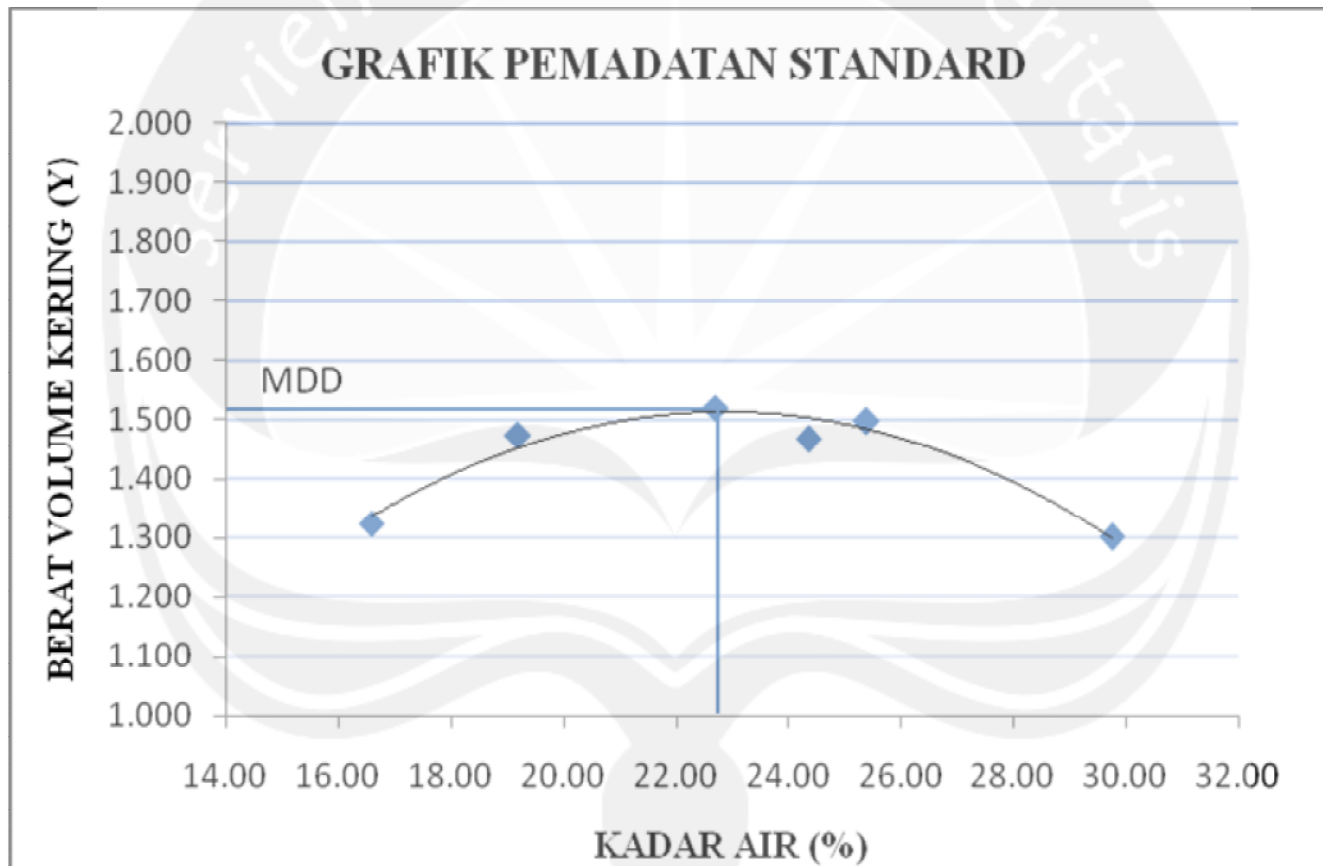
TABEL PENGUJIAN PEMADATAN STANDAR

Nomor Percobaan		1		2		3		4		5		6	
Berat Silinder + Tanah Padat (gram)	W _A	3305		3410		3510		3455		3440		3450	
Berat Silinder (gram)	W _B	1825		1825		1825		1825		1825		1825	
Berat Tanah Padat, W (gram)	W = W _A -W _B	1480		1585		1685		1630		1615		1625	
Berat Volume Basah (gr/cm ³)	$\gamma_b = \frac{W}{V}$	1,639		1,756		1,867		1,806		1,789		1,800	
Nomor Cawan Timbang		1	2	3	4	5	6	7	8	9	10	11	12
Berat Cawan Kosong	W _c	25,06	19,49	23,50	21,20	21,30	21,80	21,05	22,70	20,80	21,50	21,00	23,00
Berat Cawan + Tanah Basah	W ₁	44,10	36,90	36,15	31,45	37,35	39,30	44,40	42,35	51,50	46,60	49,60	55,45
Berat Cawan + Tanah Kering	W ₂	41,16	34,06	32,50	29,80	34,30	36,15	39,20	38,20	43,40	39,90	41,10	46,30
Berat Air	W _w = W ₁ - W ₂	2,94	2,84	3,65	1,65	3,05	3,15	5,20	4,15	8,10	6,70	8,50	9,15
Berat Tanah Kering	W _s = W ₂ - W _c	16,10	14,57	9,00	8,60	13,00	14,35	18,15	15,50	22,60	18,40	20,10	23,30
Kadar Air	$w = \frac{W_w}{W_s} \times 100\%$	18,26	19,49	40,56	19,19	23,46	21,95	28,65	26,77	35,84	36,41	42,29	39,27
Kadar Air Rata-Rata		16.59		19.19		22.71		24.36		25.39		29.75	
Berat Volume Tanah Kering	$\gamma_k = \frac{\gamma_b}{1 + w}$	1.324		1.473		1.521		1.468		1.498		1.302	



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TABEL PENGUJIAN CBR TAK TERENDAM

TABEL PENGUJIAN CBR TAK TERENDAM (TANAH + 0,0% PLASTIK)

Perubahan Tinggi			Beban			Tekanan (Q)
Angka Dial Vertikal	ΔL (mm)	ΔL (inchi)	Angka Dial Beban	Beban (kg)	Beban (lbs) P	P / 3 (psi)
a	$b = a \times 10^{-2}$	$b / 25.4$	d	e	$f = e/0.454$	g
0	0	0	0	0	0	0
50	0,5	0,01969	15	18,55	40,84976	13,61659
100	1	0,03937	20	24,73	54,46634	18,15545
150	1,5	0,05906	25	30,91	68,08293	22,69431
200	2	0,07874	30	37,09	81,69952	27,23317
250	2,5	0,09843	35	43,27	95,31610	31,77203
300	3	0,11811	38	46,98	103,48605	34,49535
350	3,5	0,13780	43	53,16	117,10264	39,03421
400	4	0,15748	47	58,11	127,99591	42,66530
450	4,5	0,17717	53	65,53	144,33581	48,11194
500	5	0,19685	55	68,00	149,78244	49,92748
550	5,5	0,21654	60	74,18	163,39903	54,46634
600	6	0,23622	65	80,37	177,01562	59,00521
650	6,5	0,25591	70	86,55	190,63220	63,54407
700	7	0,27559	75	92,73	204,24879	68,08293
750	7,5	0,29528	80	98,91	217,86537	72,62179
800	8	0,31496	82	101,38	223,31201	74,43734
850	8,5	0,33465	83	102,62	226,03533	75,34511
900	9	0,35433	85	105,09	231,48196	77,16065
950	9,5	0,37402	87	107,57	236,92859	78,97620
1000	10	0,39370	90	111,27	245,09855	81,69952
1050	10,5	0,41339	91	112,51	247,82186	82,60729
1100	11	0,43307	93	114,98	253,26850	84,42283
1150	11,5	0,45276	95	117,46	258,71513	86,23838
1200	12	0,47244	98	121,17	266,88508	88,96169
1250	12,5	0,49213	100	123,64	272,33172	90,77724
1300	13	0,51181	102	126,11	277,77835	92,59278
1350	13,5	0,53150	104	128,58	283,22499	94,40833
1400	14	0,55118	106	131,06	288,67162	96,22387
1450	14,5	0,57087	107	132,29	291,39494	97,13165
1500	15	0,59055	109	134,77	296,84157	98,94719
1550	15,5	0,61024	110	136,00	299,56489	99,85496
1600	16	0,62992	112	138,48	305,01152	101,67051
1650	16,5	0,64961	115	142,18	313,18148	104,39383
1700	17	0,66929	116	143,42	315,90479	105,30160



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1750	17,5	0,68898	118	145,89	321,35143	107,11714
1800	18	0,70866	121	149,60	329,52138	109,84046
1850	18,5	0,72835	125	154,55	340,41465	113,47155
1900	19	0,74803	127	157,02	345,86128	115,28709
1950	19,5	0,76772	129	159,49	351,30792	117,10264
2000	20	0,78740	133	164,44	362,20119	120,73373
2050	20,5	0,80709	135	166,91	367,64782	122,54927
2100	21	0,82677	137	169,38	373,09445	124,36482
2150	21,5	0,84646	138	170,62	375,81777	125,27259
2200	22	0,86614	141	174,33	383,98772	127,99591
2250	22,5	0,88583	143	176,80	389,43436	129,81145
2300	23	0,90551	144	178,04	392,15767	130,71922
2350	23,5	0,92520	146	180,51	397,60431	132,53477
2400	24	0,94488	148	182,99	403,05094	134,35031
2450	24,5	0,96457	150	185,46	408,49758	136,16586
2500	25	0,98425	152	187,93	413,94421	137,98140
2550	25,5	1,00394	153	189,17	416,66753	138,88918
2600	26	1,02362	155	191,64	422,11416	140,70472
2650	26,5	1,04331	158	195,35	430,28411	143,42804
2700	27	1,06299	162	200,29	441,17738	147,05913
2750	27,5	1,08268	165	204,00	449,34733	149,78244
2800	28	1,10236	167	206,48	454,79397	151,59799
2850	28,5	1,12205	169	208,95	460,24060	153,41353
2900	29	1,14173	172	212,66	468,41056	156,13685
2950	29,5	1,16142	173	213,89	471,13387	157,04462
3000	30	1,18110	177	218,84	482,02714	160,67571
3050	30,5	1,20079	182	225,02	495,64373	165,21458
3100	31	1,22047	185	228,73	503,81368	167,93789
3150	31,5	1,24016	188	232,44	511,98363	170,66121
3200	32	1,25984	190	234,91	517,43026	172,47675
3250	32,5	1,27953	192	237,39	522,87690	174,29230
3300	33	1,29921	194	239,86	528,32353	176,10784
3350	33,5	1,31890	196	242,33	533,77017	177,92339
3400	34	1,33858	200	247,28	544,66344	181,55448
3450	34,5	1,35827	203	250,99	552,83339	184,27780
3500	35	1,37795	205	253,46	558,28002	186,09334
3550	35,5	1,39764	208	257,17	566,44997	188,81666
3600	36	1,41732	210	259,64	571,89661	190,63220
3650	36,5	1,43701	211	260,88	574,61993	191,53998
3700	37	1,45669	214	264,59	582,78988	194,26329
3750	37,5	1,47638	217	268,30	590,95983	196,98661
3800	38	1,49606	222	274,4777	604,5764141	201,5254714
3850	38,5	1,51575	225	278,1869	612,7463656	204,2487885
3900	39	1,53543	228	281,896	620,9163172	206,9721057
3950	39,5	1,55512	232	286,8416	631,8095859	210,6031953



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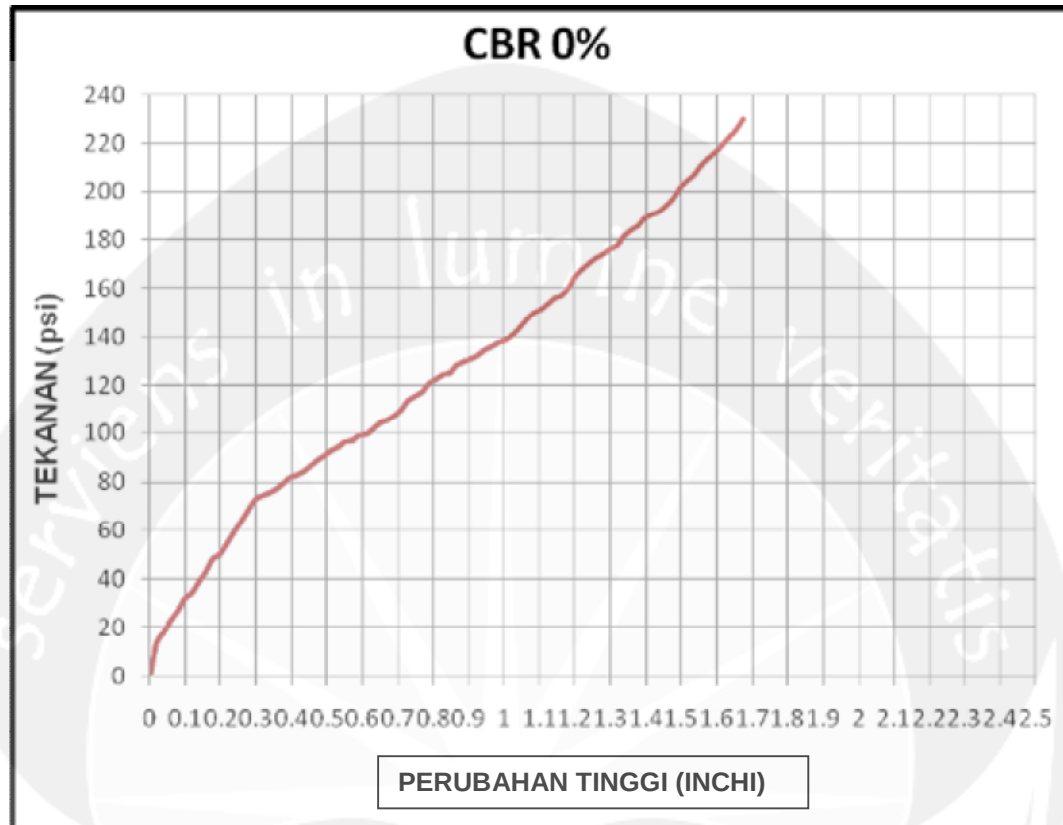
4000	40	1,57480	235	290,5507	639,9795374	213,3265125
4050	40,5	1,59449	238	294,2599	648,149489	216,0498297
4100	41	1,61417	241	297,969	656,3194405	218,7731468
4150	41,5	1,63386	245	302,9146	667,2127093	222,4042364
4200	42	1,65354	248	306,6237	675,3826608	225,1275536
4250	42,5	1,67323	253	312,8057	688,9992467	229,6664156





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TABEL PENGUJIAN CBR TAK TERENDAM (TANAH + 0,1% PLASTIK)

Perubahan Tinggi			Beban			Tekanan (Q)
Angka Dial Vertikal	ΔL (mm)	ΔL (inchi)	Angka Dial Beban	Beban (kg)	Beban P (lbs)	P / 3 (psi)
a	$b = a \times 10^{-2}$	$b / 25.4$	d	e	$f = e / 0.454$	g
0	0	0	0	0	0	0
50	0,5	0,01969	18	22,26	49,03850	16,34617
100	1	0,03937	25	30,92	68,10903	22,70301
150	1,5	0,05906	28	34,63	76,28211	25,42737
200	2	0,07874	35	43,29	95,35264	31,78421
250	2,5	0,09843	40	49,47	108,97445	36,32482
300	3	0,11811	48	59,37	130,76934	43,58978
350	3,5	0,13780	51	63,08	138,94242	46,31414
400	4	0,15748	55	68,03	149,83987	49,94662
450	4,5	0,17717	58	71,74	158,01295	52,67098
500	5	0,19685	65	80,40	177,08348	59,02783
550	5,5	0,21654	69	85,34	187,98093	62,66031
600	6	0,23622	75	92,76	204,32709	68,10903
650	6,5	0,25591	82	101,42	223,39762	74,46587
700	7	0,27559	86	106,37	234,29507	78,09836
750	7,5	0,29528	92	113,79	250,64123	83,54708
800	8	0,31496	98	121,21	266,98740	88,99580
850	8,5	0,33465	105	129,87	286,05793	95,35264
900	9	0,35433	109	134,82	296,95537	98,98512
950	9,5	0,37402	113	139,77	307,85282	102,61761
1000	10	0,39370	116	143,48	316,02590	105,34197
1050	10,5	0,41339	121	149,66	329,64771	109,88257
1100	11	0,43307	126	155,84	343,26952	114,42317
1150	11,5	0,45276	129	159,55	351,44260	117,14753
1200	12	0,47244	135	166,98	367,78877	122,59626
1250	12,5	0,49213	138	170,69	375,96185	125,32062
1300	13	0,51181	144	178,11	392,30802	130,76934
1350	13,5	0,53150	155	191,71	422,27599	140,75866
1400	14	0,55118	162	200,37	441,34652	147,11551
1450	14,5	0,57087	167	206,56	454,96833	151,65611
1500	15	0,59055	172	212,74	468,59013	156,19671
1550	15,5	0,61024	178	220,16	484,93630	161,64543
1600	16	0,62992	185	228,82	504,00683	168,00228
1650	16,5	0,64961	190	235,00	517,62863	172,54288
1700	17	0,66929	196	242,42	533,97480	177,99160
1750	17,5	0,68898	203	251,08	553,04533	184,34844



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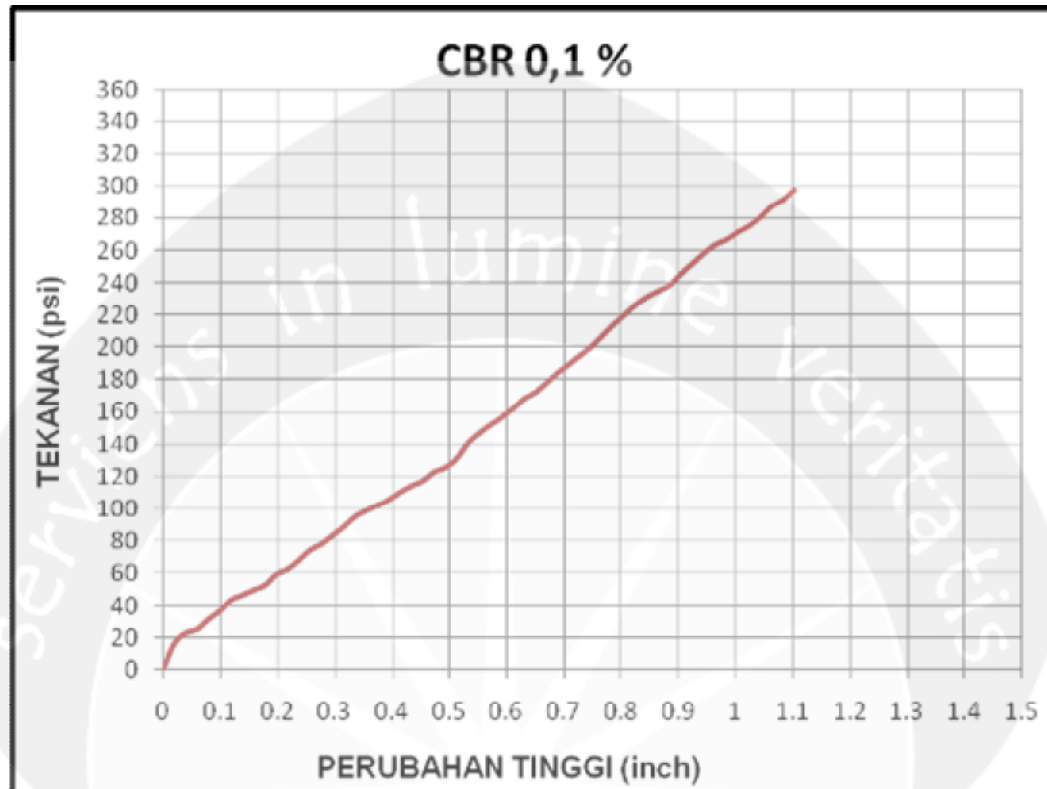
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1800	18	0,70866	209	258,50	569,39150	189,79717
1850	18,5	0,72835	215	265,92	585,73767	195,24589
1900	19	0,74803	221	273,35	602,08383	200,69461
1950	19,5	0,76772	228	282,00	621,15436	207,05145
2000	20	0,78740	236	291,90	642,94925	214,31642
2050	20,5	0,80709	243	300,56	662,01978	220,67326
2100	21	0,82677	250	309,22	681,09031	227,03010
2150	21,5	0,84646	255	315,40	694,71211	231,57070
2200	22	0,86614	259	320,35	705,60956	235,20319
2250	22,5	0,88583	263	325,29	716,50700	238,83567
2300	23	0,90551	271	335,19	738,30189	246,10063
2350	23,5	0,92520	278	343,85	757,37242	252,45747
2400	24	0,94488	285	352,51	776,44295	258,81432
2450	24,5	0,96457	290	358,69	790,06476	263,35492
2500	25	0,98425	294	363,64	800,96220	266,98740
2550	25,5	1,00394	299	369,82	814,58401	271,52800
2600	26	1,02362	303	374,77	825,48145	275,16048
2650	26,5	1,04331	309	382,19	841,82762	280,60921
2700	27	1,06299	316	390,85	860,89815	286,96605
2750	27,5	1,08268	321	397,03	874,51996	291,50665
2800	28	1,10236	328	405,69	893,59048	297,86349
2850	28,5	1,12205	335	414,35	912,66101	304,22034
2900	29	1,14173	341	421,77	929,00718	309,66906
2950	29,5	1,16142	348	430,43	948,07771	316,02590
3000	30	1,18110	353	436,61	961,69952	320,56651
3050	30,5	1,20079	359	444,03	978,04568	326,01523



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TABEL PENGUJIAN CBR TAK TERENDAM (TANAH + 0,2% PLASTIK)

Perubahan Tinggi			Beban			Tekanan (Q)
Angka Dial Vertikal	ΔL (mm)	ΔL (inchi)	Angka Dial Beban	Beban (kg)	Beban P (lbs)	P / 3 (psi)
a	$b = a \times 10^{-2}$	$b / 25.4$	d	e	$f = e / 0.454$	g
0	0	0	0	0	0	0
50	0,5	0,01969	11	13,61	29,96797	9,98932
100	1	0,03937	20	24,74	54,48722	18,16241
150	1,5	0,05906	28	34,63	76,28211	25,42737
200	2	0,07874	35	43,29	95,35264	31,78421
250	2,5	0,09843	50	61,84	136,21806	45,40602
300	3	0,11811	54	66,79	147,11551	49,03850
350	3,5	0,13780	58	71,74	158,01295	52,67098
400	4	0,15748	62	76,69	168,91040	56,30347
450	4,5	0,17717	68	84,11	185,25656	61,75219
500	5	0,19685	75	92,76	204,32709	68,10903
550	5,5	0,21654	83	102,66	226,12198	75,37399
600	6	0,23622	88	108,84	239,74379	79,91460
650	6,5	0,25591	95	117,50	258,81432	86,27144
700	7	0,27559	98	121,21	266,98740	88,99580
750	7,5	0,29528	103	127,40	280,60921	93,53640
800	8	0,31496	108	133,58	294,23101	98,07700
850	8,5	0,33465	112	138,53	305,12846	101,70949
900	9	0,35433	116	143,48	316,02590	105,34197
950	9,5	0,37402	119	147,19	324,19899	108,06633
1000	10	0,39370	125	154,61	340,54515	113,51505
1050	10,5	0,41339	131	162,03	356,89132	118,96377
1100	11	0,43307	136	168,21	370,51313	123,50438
1150	11,5	0,45276	141	174,40	384,13493	128,04498
1200	12	0,47244	148	183,06	403,20546	134,40182
1250	12,5	0,49213	155	191,71	422,27599	140,75866
1300	13	0,51181	162	200,37	441,34652	147,11551
1350	13,5	0,53150	168	207,79	457,69269	152,56423
1400	14	0,55118	173	213,98	471,31449	157,10483
1450	14,5	0,57087	178	220,16	484,93630	161,64543
1500	15	0,59055	181	223,87	493,10938	164,36979
1550	15,5	0,61024	185	228,82	504,00683	168,00228
1600	16	0,62992	189	233,77	514,90427	171,63476
1650	16,5	0,64961	191	236,24	520,35300	173,45100
1700	17	0,66929	198	244,90	539,42352	179,80784
1750	17,5	0,68898	205	253,56	558,49405	186,16468



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1800	18	0,70866	210	259,74	572,11586	190,70529
1850	18,5	0,72835	214	264,69	583,01330	194,33777
1900	19	0,74803	218	269,64	593,91075	197,97025
1950	19,5	0,76772	222	274,58	604,80819	201,60273
2000	20	0,78740	228	282,00	621,15436	207,05145
2050	20,5	0,80709	231	285,71	629,32744	209,77581
2100	21	0,82677	235	290,66	640,22489	213,40830
2150	21,5	0,84646	241	298,08	656,57106	218,85702
2200	22	0,86614	248	306,74	675,64159	225,21386
2250	22,5	0,88583	252	311,69	686,53903	228,84634
2300	23	0,90551	258	319,11	702,88520	234,29507
2350	23,5	0,92520	262	324,06	713,78264	237,92755
2400	24	0,94488	265	327,77	721,95573	240,65191
2450	24,5	0,96457	269	332,72	732,85317	244,28439
2500	25	0,98425	273	337,66	743,75062	247,91687
2550	25,5	1,00394	278	343,85	757,37242	252,45747
2600	26	1,02362	280	346,32	762,82115	254,27372
2650	26,5	1,04331	281	347,56	765,54551	255,18184
2700	27	1,06299	285	352,51	776,44295	258,81432
2750	27,5	1,08268	291	359,93	792,78912	264,26304
2800	28	1,10236	295	364,87	803,68656	267,89552
2850	28,5	1,12205	299	369,82	814,58401	271,52800
2900	29	1,14173	303	374,77	825,48145	275,16048
2950	29,5	1,16142	309	382,19	841,82762	280,60921
3000	30	1,18110	315	389,61	858,17379	286,05793
3050	30,5	1,20079	321	397,03	874,51996	291,50665
3100	31	1,22047	326	403,22	888,14176	296,04725
3150	31,5	1,24016	331	409,40	901,76357	300,58786
3200	32	1,25984	336	415,58	915,38537	305,12846
3250	32,5	1,27953	341	421,77	929,00718	309,66906
3300	33	1,29921	345	426,72	939,90463	313,30154
3350	33,5	1,31890	348	430,43	948,07771	316,02590
3400	34	1,33858	352	435,37	958,97515	319,65838
3450	34,5	1,35827	355	439,09	967,14824	322,38275
3500	35	1,37795	358	442,80	975,32132	325,10711
3550	35,5	1,39764	362	447,74	986,21877	328,73959
3600	36	1,41732	365	451,45	994,39185	331,46395
3650	36,5	1,43701	368	455,16	1002,56493	334,18831
3700	37	1,45669	369	456,40	1005,28930	335,09643
3750	37,5	1,47638	372	460,11	1013,46238	337,82079
3800	38	1,49606	375	463,82	1021,63546	340,54515
3850	38,5	1,51575	377	466,30	1027,08419	342,36140
3900	39	1,53543	378	467,53	1029,80855	343,26952
3950	39,5	1,55512	381	471,24	1037,98163	345,99388
4000	40	1,57480	382	472,48	1040,70599	346,90200



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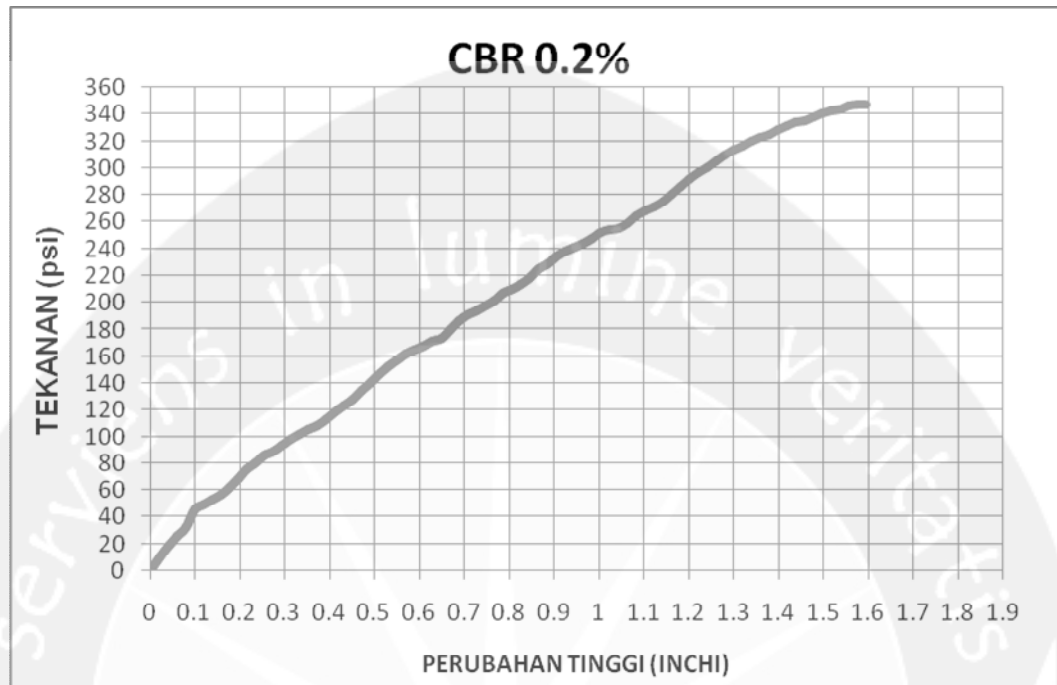
4050	40,5	1,59449	382	472,48	1040,70599	346,90200
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TABEL PENGUJIAN CBR TAK TERENDAM (TANAH + 0,3% PLASTIK)

Perubahan Tinggi			Beban			Tekanan (Q)
Angka Dial Vertikal	ΔL (mm)	ΔL (inchi)	Angka Dial Beban	Beban (kg)	Beban P (lbs)	P / 3 (psi)
a	$b = a \times 10^{-2}$	$b / 25.4$	d	e	$f = e / 0.454$	g
0	0	0	0	0	0	0
50	0,5	0,01969	25	30,92	68,10903	22,70301
100	1	0,03937	36	44,53	98,07700	32,69233
150	1,5	0,05906	42	51,95	114,42317	38,14106
200	2	0,07874	50	61,84	136,21806	45,40602
250	2,5	0,09843	58	71,74	158,01295	52,67098
300	3	0,11811	63	77,92	171,63476	57,21159
350	3,5	0,13780	65	80,40	177,08348	59,02783
400	4	0,15748	67	82,87	182,53220	60,84407
450	4,5	0,17717	69	85,34	187,98093	62,66031
500	5	0,19685	80	98,95	217,94890	72,64963
550	5,5	0,21654	84	103,90	228,84634	76,28211
600	6	0,23622	93	115,03	253,36559	84,45520
650	6,5	0,25591	101	124,92	275,16048	91,72016
700	7	0,27559	108	133,58	294,23101	98,07700
750	7,5	0,29528	114	141,00	310,57718	103,52573
800	8	0,31496	120	148,42	326,92335	108,97445
850	8,5	0,33465	128	158,32	348,71824	116,23941
900	9	0,35433	137	169,45	373,23749	124,41250
950	9,5	0,37402	145	179,34	395,03238	131,67746
1000	10	0,39370	154	190,48	419,55163	139,85054
1050	10,5	0,41339	161	199,13	438,62216	146,20739
1100	11	0,43307	167	206,56	454,96833	151,65611
1150	11,5	0,45276	175	216,45	476,76322	158,92107
1200	12	0,47244	183	226,35	498,55811	166,18604
1250	12,5	0,49213	189	233,77	514,90427	171,63476
1300	13	0,51181	194	239,95	528,52608	176,17536
1350	13,5	0,53150	197	243,66	536,69916	178,89972
1400	14	0,55118	204	252,32	555,76969	185,25656
1450	14,5	0,57087	207	256,03	563,94278	187,98093
1500	15	0,59055	210	259,74	572,11586	190,70529
1550	15,5	0,61024	213	263,45	580,28894	193,42965
1600	16	0,62992	216	267,16	588,46203	196,15401
1650	16,5	0,64961	218	269,64	593,91075	197,97025
1700	17	0,66929	223	275,82	607,53256	202,51085
1750	17,5	0,68898	227	280,77	618,43000	206,14333



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1800	18	0,70866	229	283,24	623,87872	207,95957
1850	18,5	0,72835	232	286,95	632,05181	210,68394
1900	19	0,74803	235	290,66	640,22489	213,40830
1950	19,5	0,76772	238	294,37	648,39797	216,13266
2000	20	0,78740	240	296,85	653,84670	217,94890
2050	20,5	0,80709	245	303,03	667,46850	222,48950
2100	21	0,82677	247	305,50	672,91722	224,30574
2150	21,5	0,84646	252	311,69	686,53903	228,84634
2200	22	0,86614	259	320,35	705,60956	235,20319
2250	22,5	0,88583	265	327,77	721,95573	240,65191
2300	23	0,90551	269	332,72	732,85317	244,28439
2350	23,5	0,92520	273	337,66	743,75062	247,91687
2400	24	0,94488	277	342,61	754,64806	251,54935
2450	24,5	0,96457	280	346,32	762,82115	254,27372
2500	25	0,98425	283	350,03	770,99423	256,99808
2550	25,5	1,00394	284	351,27	773,71859	257,90620
2600	26	1,02362	288	356,22	784,61604	261,53868
2650	26,5	1,04331	293	362,40	798,23784	266,07928
2700	27	1,06299	294	363,64	800,96220	266,98740
2750	27,5	1,08268	296	366,11	806,41093	268,80364
2800	28	1,10236	299	369,82	814,58401	271,52800
2850	28,5	1,12205	302	373,53	822,75709	274,25236
2900	29	1,14173	306	378,48	833,65454	277,88485
2950	29,5	1,16142	309	382,19	841,82762	280,60921
3000	30	1,18110	313	387,14	852,72507	284,24169
3050	30,5	1,20079	317	392,08	863,62251	287,87417
3100	31	1,22047	323	399,51	879,96868	293,32289
3150	31,5	1,24016	326	403,22	888,14176	296,04725
3200	32	1,25984	333	411,87	907,21229	302,40410
3250	32,5	1,27953	340	420,53	926,28282	308,76094
3300	33	1,29921	345	426,72	939,90463	313,30154
3350	33,5	1,31890	350	432,90	953,52643	317,84214
3400	34	1,33858	357	441,56	972,59696	324,19899
3450	34,5	1,35827	364	450,22	991,66749	330,55583
3500	35	1,37795	370	457,64	1008,01366	336,00455
3550	35,5	1,39764	376	465,06	1024,35982	341,45327
3600	36	1,41732	381	471,24	1037,98163	345,99388
3650	36,5	1,43701	386	477,43	1051,60344	350,53448
3700	37	1,45669	392	484,85	1067,94960	355,98320
3750	37,5	1,47638	399	493,51	1087,02013	362,34004
3800	38	1,49606	410	507,11	1116,98811	372,32937
3850	38,5	1,51575	417	515,77	1136,05863	378,68621
3900	39	1,53543	426	526,90	1160,57789	386,85930
3950	39,5	1,55512	434	536,80	1182,37278	394,12426
4000	40	1,57480	440	544,22	1198,71894	399,57298



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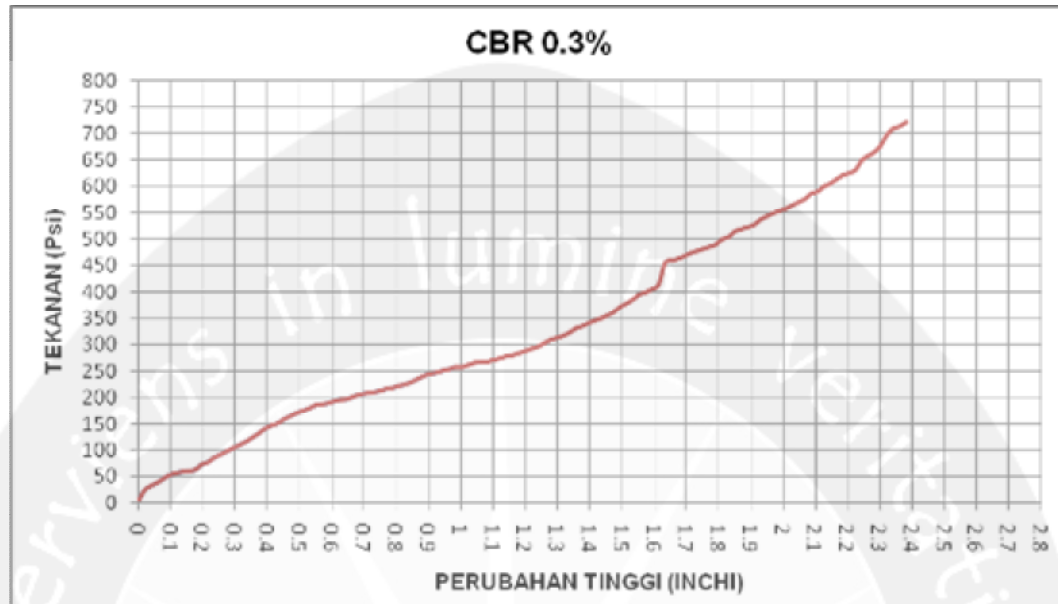
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4050	40,5	1,59449	447	552,88	1217,78947	405,92982
4100	41	1,61417	456	564,01	1242,30872	414,10291
4150	41,5	1,63386	500	618,43	1362,18062	454,06021
4200	42	1,65354	505	624,61	1375,80242	458,60081
4250	42,5	1,67323	510	630,80	1389,42423	463,14141
4300	43	1,69291	515	636,98	1403,04604	467,68201
4350	43,5	1,71260	520	643,17	1416,66784	472,22261
4400	44	1,73228	525	649,35	1430,28965	476,76322
4450	44,5	1,75197	530	655,54	1443,91145	481,30382
4500	45	1,77165	535	661,72	1457,53326	485,84442
4550	45,5	1,79134	540	667,90	1471,15507	490,38502
4600	46	1,81102	550	680,27	1498,39868	499,46623
4650	46,5	1,83071	555	686,46	1512,02048	504,00683
4700	47	1,85039	565	698,83	1539,26410	513,08803
4750	47,5	1,87008	570	705,01	1552,88590	517,62863
4800	48	1,88976	575	711,19	1566,50771	522,16924
4850	48,5	1,90945	580	717,38	1580,12952	526,70984
4900	49	1,92913	590	729,75	1607,37313	535,79104
4950	49,5	1,94882	597	738,41	1626,44366	542,14789
5000	50	1,96850	605	748,30	1648,23855	549,41285
5050	50,5	1,98819	610	754,48	1661,86035	553,95345
5100	51	2,00787	613	758,20	1670,03344	556,67781
5150	51,5	2,02756	620	766,85	1689,10396	563,03465
5200	52	2,04724	627	775,51	1708,17449	569,39150
5250	52,5	2,06693	635	785,41	1729,96938	576,65646
5300	53	2,08661	645	797,77	1757,21300	585,73767
5350	53,5	2,10630	650	803,96	1770,83480	590,27827
5400	54	2,12598	660	816,33	1798,07841	599,35947
5450	54,5	2,14567	665	822,51	1811,70022	603,90007
5500	55	2,16535	675	834,88	1838,94383	612,98128
5550	55,5	2,18504	683	844,78	1860,73872	620,24624
5600	56	2,20472	688	850,96	1874,36053	624,78684
5650	56,5	2,22441	695	859,62	1893,43106	631,14369
5700	57	2,24409	715	884,35	1947,91828	649,30609
5750	57,5	2,26378	725	896,72	1975,16189	658,38730
5800	58	2,28346	730	902,91	1988,78370	662,92790
5850	58,5	2,30315	745	921,46	2029,64912	676,54971
5900	59	2,32283	767	948,67	2089,58507	696,52836
5950	59,5	2,34252	780	964,75	2125,00176	708,33392
6000	60	2,36220	785	970,94	2138,62357	712,87452
6050	60,5	2,38189	795	983,30	2165,86718	721,95573



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TABEL PENGUJIAN CBR TAK TERENDAM (TANAH + 0,4% PLASTIK)

Perubahan Tinggi			Beban			Tekanan (Q)
Angka Dial Vertikal	ΔL (mm)	ΔL (inchi)	Angka Dial Beban	Beban (kg)	Beban P (lbs)	P / 3 (psi)
a	$b = a \times 10^{-2}$	$b / 25.4$	d	e	$f = e / 0.454$	g
0	0	0	0	0	0	0
50	0,5	0,01969	12	14,84	32,69233	10,89744
100	1	0,03937	22	27,21	59,93595	19,97865
150	1,5	0,05906	34	42,05	92,62828	30,87609
200	2	0,07874	42	51,95	114,42317	38,14106
250	2,5	0,09843	44	54,42	119,87189	39,95730
300	3	0,11811	46	56,90	125,32062	41,77354
350	3,5	0,13780	50	61,84	136,21806	45,40602
400	4	0,15748	52	64,32	141,66678	47,22226
450	4,5	0,17717	54	66,79	147,11551	49,03850
500	5	0,19685	59	72,97	160,73731	53,57910
550	5,5	0,21654	62	76,69	168,91040	56,30347
600	6	0,23622	65	80,40	177,08348	59,02783
650	6,5	0,25591	68	84,11	185,25656	61,75219
700	7	0,27559	73	90,29	198,87837	66,29279
750	7,5	0,29528	77	95,24	209,77581	69,92527
800	8	0,31496	79	97,71	215,22454	71,74151
850	8,5	0,33465	85	105,13	231,57070	77,19023
900	9	0,35433	88	108,84	239,74379	79,91460
950	9,5	0,37402	93	115,03	253,36559	84,45520
1000	10	0,39370	96	118,74	261,53868	87,17956
1050	10,5	0,41339	99	122,45	269,71176	89,90392
1100	11	0,43307	104	128,63	283,33357	94,44452
1150	11,5	0,45276	108	133,58	294,23101	98,07700
1200	12	0,47244	112	138,53	305,12846	101,70949
1250	12,5	0,49213	115	142,24	313,30154	104,43385
1300	13	0,51181	119	147,19	324,19899	108,06633
1350	13,5	0,53150	124	153,37	337,82079	112,60693
1400	14	0,55118	129	159,55	351,44260	117,14753
1450	14,5	0,57087	134	165,74	365,06441	121,68814
1500	15	0,59055	138	170,69	375,96185	125,32062
1550	15,5	0,61024	143	176,87	389,58366	129,86122
1600	16	0,62992	149	184,29	405,92982	135,30994
1650	16,5	0,64961	155	191,71	422,27599	140,75866
1700	17	0,66929	161	199,13	438,62216	146,20739
1750	17,5	0,68898	164	202,85	446,79524	148,93175



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1800	18	0,70866	169	209,03	460,41705	153,47235
1850	18,5	0,72835	173	213,98	471,31449	157,10483
1900	19	0,74803	179	221,40	487,66066	162,55355
1950	19,5	0,76772	185	228,82	504,00683	168,00228
2000	20	0,78740	188	232,53	512,17991	170,72664
2050	20,5	0,80709	190	235,00	517,62863	172,54288
2100	21	0,82677	194	239,95	528,52608	176,17536
2150	21,5	0,84646	200	247,37	544,87225	181,62408
2200	22	0,86614	203	251,08	553,04533	184,34844
2250	22,5	0,88583	208	257,27	566,66714	188,88905
2300	23	0,90551	214	264,69	583,01330	194,33777
2350	23,5	0,92520	219	270,87	596,63511	198,87837
2400	24	0,94488	225	278,29	612,98128	204,32709
2450	24,5	0,96457	232	286,95	632,05181	210,68394
2500	25	0,98425	238	294,37	648,39797	216,13266
2550	25,5	1,00394	243	300,56	662,01978	220,67326
2600	26	1,02362	246	304,27	670,19286	223,39762
2650	26,5	1,04331	249	307,98	678,36595	226,12198
2700	27	1,06299	253	312,93	689,26339	229,75446
2750	27,5	1,08268	255	315,40	694,71211	231,57070
2800	28	1,10236	259	320,35	705,60956	235,20319
2850	28,5	1,12205	264	326,53	719,23137	239,74379
2900	29	1,14173	271	335,19	738,30189	246,10063
2950	29,5	1,16142	277	342,61	754,64806	251,54935
3000	30	1,18110	281	347,56	765,54551	255,18184
3050	30,5	1,20079	285	352,51	776,44295	258,81432
3100	31	1,22047	288	356,22	784,61604	261,53868
3150	31,5	1,24016	289	357,45	787,34040	262,44680
3200	32	1,25984	293	362,40	798,23784	266,07928
3250	32,5	1,27953	295	364,87	803,68656	267,89552
3300	33	1,29921	299	369,82	814,58401	271,52800
3350	33,5	1,31890	304	376,01	828,20581	276,06860
3400	34	1,33858	310	383,43	844,55198	281,51733
3450	34,5	1,35827	315	389,61	858,17379	286,05793
3500	35	1,37795	322	398,27	877,24432	292,41477
3550	35,5	1,39764	327	404,45	890,86612	296,95537
3600	36	1,41732	333	411,87	907,21229	302,40410
3650	36,5	1,43701	338	418,06	920,83410	306,94470
3700	37	1,45669	341	421,77	929,00718	309,66906
3750	37,5	1,47638	348	430,43	948,07771	316,02590
3800	38	1,49606	355	439,09	967,14824	322,38275
3850	38,5	1,51575	357	441,56	972,59696	324,19899
3900	39	1,53543	358	442,80	975,32132	325,10711
3950	39,5	1,55512	360	445,27	980,77004	326,92335
4000	40	1,57480	362	447,74	986,21877	328,73959



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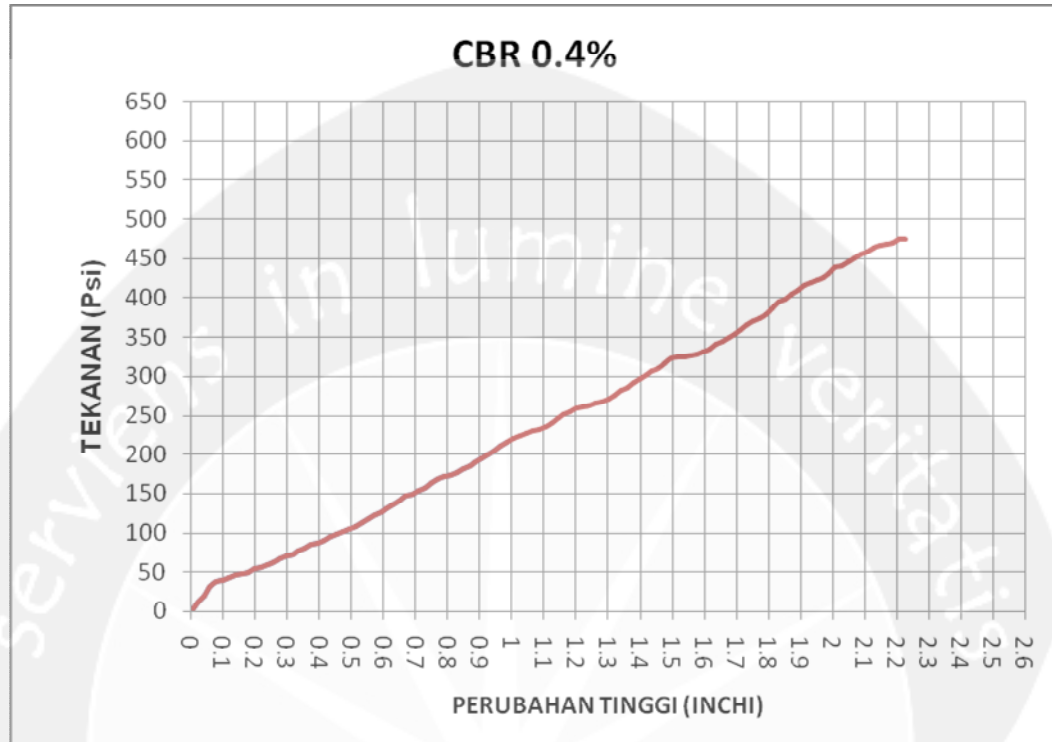
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4050	40,5	1,59449	365	451,45	994,39185	331,46395
4100	41	1,61417	369	456,40	1005,28930	335,09643
4150	41,5	1,63386	375	463,82	1021,63546	340,54515
4200	42	1,65354	380	470,01	1035,25727	345,08576
4250	42,5	1,67323	385	476,19	1048,87907	349,62636
4300	43	1,69291	390	482,38	1062,50088	354,16696
4350	43,5	1,71260	396	489,80	1078,84705	359,61568
4400	44	1,73228	403	498,45	1097,91758	365,97253
4450	44,5	1,75197	407	503,40	1108,81502	369,60501
4500	45	1,77165	412	509,59	1122,43683	374,14561
4550	45,5	1,79134	417	515,77	1136,05863	378,68621
4600	46	1,81102	425	525,67	1157,85352	385,95117
4650	46,5	1,83071	434	536,80	1182,37278	394,12426
4700	47	1,85039	438	541,74	1193,27022	397,75674
4750	47,5	1,87008	445	550,40	1212,34075	404,11358
4800	48	1,88976	451	557,82	1228,68692	409,56231
4850	48,5	1,90945	458	566,48	1247,75744	415,91915
4900	49	1,92913	462	571,43	1258,65489	419,55163
4950	49,5	1,94882	465	575,14	1266,82797	422,27599
5000	50	1,96850	469	580,09	1277,72542	425,90847
5050	50,5	1,98819	475	587,51	1294,07159	431,35720
5100	51	2,00787	483	597,40	1315,86648	438,62216
5150	51,5	2,02756	485	599,88	1321,31520	440,43840
5200	52	2,04724	490	606,06	1334,93700	444,97900
5250	52,5	2,06693	495	612,25	1348,55881	449,51960
5300	53	2,08661	502	620,90	1367,62934	455,87645
5350	53,5	2,10630	505	624,61	1375,80242	458,60081
5400	54	2,12598	511	632,04	1392,14859	464,04953
5450	54,5	2,14567	513	634,51	1397,59731	465,86577
5500	55	2,16535	515	636,98	1403,04604	467,68201
5550	55,5	2,18504	517	639,46	1408,49476	469,49825
5600	56	2,20472	522	645,64	1422,11656	474,03885
5650	56,5	2,22441	523	646,88	1424,84093	474,94698



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TABEL PENGUJIAN CBR TAK TERENDAM (TANAH + 0,5% PLASTIK)

Perubahan Tinggi			Beban			Tekanan (Q)
Angka Dial Vertikal	ΔL (mm)	ΔL (inchi)	Angka Dial Beban	Beban (kg)	Beban P (lbs)	P / 3 (psi)
a	$b = a \times 10^{-2}$	$b / 25.4$	d	e	$f = e / 0.454$	g
0	0	0	0	0	0	0
50	0,5	0,01969	10	12,37	27,24361	9,08120
100	1	0,03937	15	18,55	40,86542	13,62181
150	1,5	0,05906	26	32,16	70,83339	23,61113
200	2	0,07874	33	40,82	89,90392	29,96797
250	2,5	0,09843	37	45,76	100,80137	33,60046
300	3	0,11811	40	49,47	108,97445	36,32482
350	3,5	0,13780	43	53,18	117,14753	39,04918
400	4	0,15748	47	58,13	128,04498	42,68166
450	4,5	0,17717	52	64,32	141,66678	47,22226
500	5	0,19685	58	71,74	158,01295	52,67098
550	5,5	0,21654	63	77,92	171,63476	57,21159
600	6	0,23622	67	82,87	182,53220	60,84407
650	6,5	0,25591	73	90,29	198,87837	66,29279
700	7	0,27559	80	98,95	217,94890	72,64963
750	7,5	0,29528	86	106,37	234,29507	78,09836
800	8	0,31496	91	112,55	247,91687	82,63896
850	8,5	0,33465	97	119,98	264,26304	88,08768
900	9	0,35433	103	127,40	280,60921	93,53640
950	9,5	0,37402	107	132,34	291,50665	97,16888
1000	10	0,39370	115	142,24	313,30154	104,43385
1050	10,5	0,41339	122	150,90	332,37207	110,79069
1100	11	0,43307	127	157,08	345,99388	115,33129
1150	11,5	0,45276	132	163,27	359,61568	119,87189
1200	12	0,47244	135	166,98	367,78877	122,59626
1250	12,5	0,49213	139	171,92	378,68621	126,22874
1300	13	0,51181	143	176,87	389,58366	129,86122
1350	13,5	0,53150	146	180,58	397,75674	132,58558
1400	14	0,55118	149	184,29	405,92982	135,30994
1450	14,5	0,57087	153	189,24	416,82727	138,94242
1500	15	0,59055	156	192,95	425,00035	141,66678
1550	15,5	0,61024	159	196,66	433,17344	144,39115
1600	16	0,62992	163	201,61	444,07088	148,02363
1650	16,5	0,64961	166	205,32	452,24396	150,74799
1700	17	0,66929	169	209,03	460,41705	153,47235
1750	17,5	0,68898	173	213,98	471,31449	157,10483



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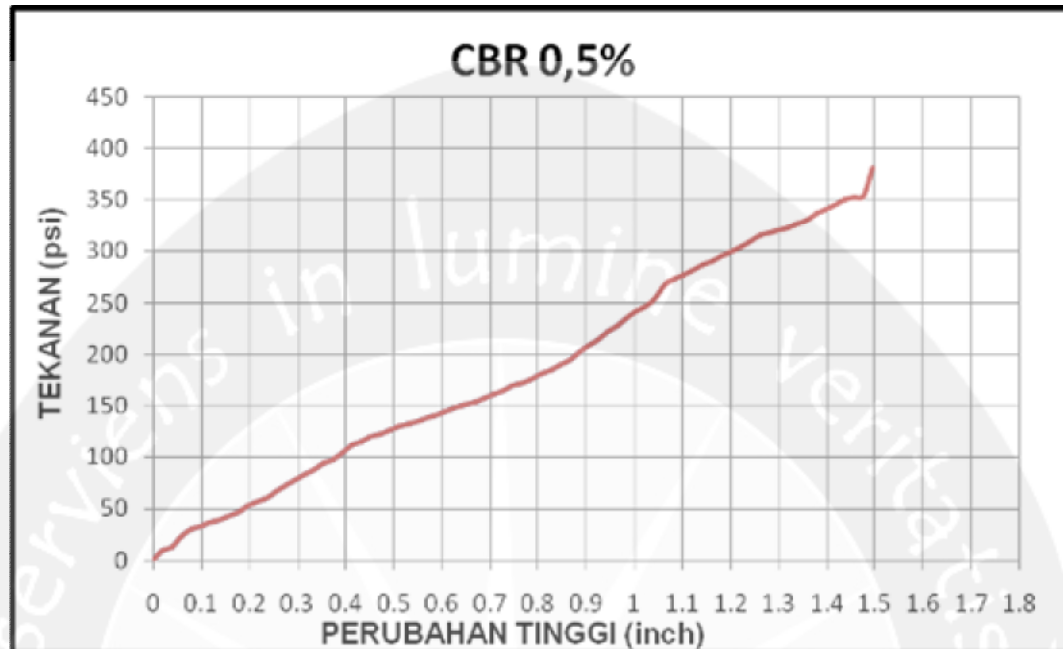
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1800	18	0,70866	177	218,92	482,21194	160,73731
1850	18,5	0,72835	182	225,11	495,83374	165,27791
1900	19	0,74803	187	231,29	509,45555	169,81852
1950	19,5	0,76772	190	235,00	517,62863	172,54288
2000	20	0,78740	194	239,95	528,52608	176,17536
2050	20,5	0,80709	199	246,14	542,14789	180,71596
2100	21	0,82677	204	252,32	555,76969	185,25656
2150	21,5	0,84646	209	258,50	569,39150	189,79717
2200	22	0,86614	215	265,92	585,73767	195,24589
2250	22,5	0,88583	223	275,82	607,53256	202,51085
2300	23	0,90551	229	283,24	623,87872	207,95957
2350	23,5	0,92520	236	291,90	642,94925	214,31642
2400	24	0,94488	245	303,03	667,46850	222,48950
2450	24,5	0,96457	251	310,45	683,81467	227,93822
2500	25	0,98425	259	320,35	705,60956	235,20319
2550	25,5	1,00394	266	329,00	724,68009	241,56003
2600	26	1,02362	272	336,43	741,02626	247,00875
2650	26,5	1,04331	280	346,32	762,82115	254,27372
2700	27	1,06299	295	364,87	803,68656	267,89552
2750	27,5	1,08268	300	371,06	817,30837	272,43612
2800	28	1,10236	305	377,24	830,93018	276,97673
2850	28,5	1,12205	310	383,43	844,55198	281,51733
2900	29	1,14173	315	389,61	858,17379	286,05793
2950	29,5	1,16142	320	395,80	871,79559	290,59853
3000	30	1,18110	325	401,98	885,41740	295,13913
3050	30,5	1,20079	330	408,16	899,03921	299,67974
3100	31	1,22047	335	414,35	912,66101	304,22034
3150	31,5	1,24016	340	420,53	926,28282	308,76094
3200	32	1,25984	347	429,19	945,35335	315,11778
3250	32,5	1,27953	350	432,90	953,52643	317,84214
3300	33	1,29921	352	435,37	958,97515	319,65838
3350	33,5	1,31890	356	440,32	969,87260	323,29087
3400	34	1,33858	360	445,27	980,77004	326,92335
3450	34,5	1,35827	363	448,98	988,94313	329,64771
3500	35	1,37795	370	457,64	1008,01366	336,00455
3550	35,5	1,39764	375	463,82	1021,63546	340,54515
3600	36	1,41732	380	470,01	1035,25727	345,08576
3650	36,5	1,43701	385	476,19	1048,87907	349,62636
3700	37	1,45669	388	479,90	1057,05216	352,35072
3750	37,5	1,47638	390	482,38	1062,50088	354,16696
3800	38	1,49606	420	519,48	1144,23172	381,41057



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TABEL PENGUJIAN CBR TERENDAM

TABEL PENGUJIAN CBR TERENDAM TANAH + 0,0% PLASTIK

Perubahan Tinggi			Beban			Tekanan (Q)
Angka Dial Vertikal	ΔL (mm)	ΔL (inchi)	Angka Dial Beban	Beban (kg)	Beban P (lbs)	P / 3 (psi)
a	$b = a \times 10^{-2}$	$b / 25.4$	d	e	$f = e / 0.454$	g
0	0	0	0	0	0	0
50	0,5	0,01969	6	7,42	16,34617	5,44872
100	1	0,03937	9	11,13	24,51925	8,17308
150	1,5	0,05906	13	16,08	35,41670	11,80557
200	2	0,07874	16	19,79	43,58978	14,52993
250	2,5	0,09843	20	24,74	54,48722	18,16241
300	3	0,11811	22	27,21	59,93595	19,97865
350	3,5	0,13780	23	28,45	62,66031	20,88677
400	4	0,15748	24	29,68	65,38467	21,79489
450	4,5	0,17717	28	34,63	76,28211	25,42737
500	5	0,19685	33	40,82	89,90392	29,96797
550	5,5	0,21654	33	40,82	89,90392	29,96797
600	6	0,23622	35	43,29	95,35264	31,78421
650	6,5	0,25591	38	47,00	103,52573	34,50858
700	7	0,27559	40	49,47	108,97445	36,32482
750	7,5	0,29528	42	51,95	114,42317	38,14106
800	8	0,31496	44	54,42	119,87189	39,95730
850	8,5	0,33465	46	56,90	125,32062	41,77354
900	9	0,35433	48	59,37	130,76934	43,58978
950	9,5	0,37402	50	61,84	136,21806	45,40602
1000	10	0,39370	52	64,32	141,66678	47,22226
1050	10,5	0,41339	53	65,55	144,39115	48,13038
1100	11	0,43307	55	68,03	149,83987	49,94662
1150	11,5	0,45276	56	69,26	152,56423	50,85474
1200	12	0,47244	58	71,74	158,01295	52,67098
1250	12,5	0,49213	59	72,97	160,73731	53,57910
1300	13	0,51181	61	75,45	166,18604	55,39535
1350	13,5	0,53150	63	77,92	171,63476	57,21159
1400	14	0,55118	65	80,40	177,08348	59,02783
1450	14,5	0,57087	66	81,63	179,80784	59,93595
1500	15	0,59055	67	82,87	182,53220	60,84407
1550	15,5	0,61024	68	84,11	185,25656	61,75219
1600	16	0,62992	69	85,34	187,98093	62,66031
1650	16,5	0,64961	71	87,82	193,42965	64,47655
1700	17	0,66929	73	90,29	198,87837	66,29279
1750	17,5	0,68898	74	91,53	201,60273	67,20091
1800	18	0,70866	76	94,00	207,05145	69,01715



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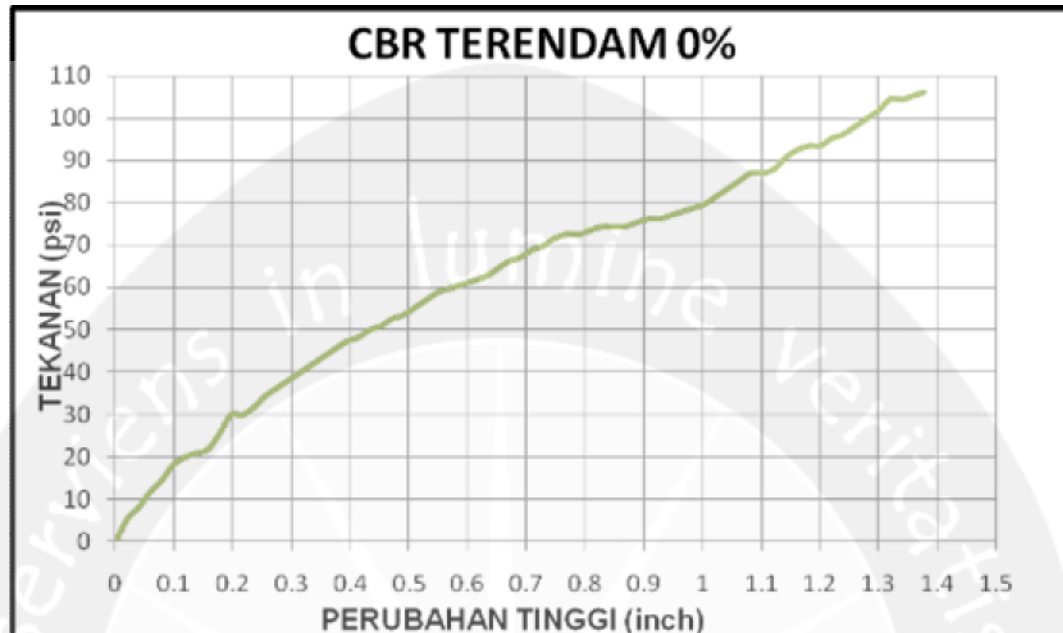
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1850	18,5	0,72835	77	95,24	209,77581	69,92527
1900	19	0,74803	79	97,71	215,22454	71,74151
1950	19,5	0,76772	80	98,95	217,94890	72,64963
2000	20	0,78740	80	98,95	217,94890	72,64963
2050	20,5	0,80709	81	100,19	220,67326	73,55775
2100	21	0,82677	82	101,42	223,39762	74,46587
2150	21,5	0,84646	82	101,42	223,39762	74,46587
2200	22	0,86614	82	101,42	223,39762	74,46587
2250	22,5	0,88583	83	102,66	226,12198	75,37399
2300	23	0,90551	84	103,90	228,84634	76,28211
2350	23,5	0,92520	84	103,90	228,84634	76,28211
2400	24	0,94488	85	105,13	231,57070	77,19023
2450	24,5	0,96457	86	106,37	234,29507	78,09836
2500	25	0,98425	87	107,61	237,01943	79,00648
2550	25,5	1,00394	88	108,84	239,74379	79,91460
2600	26	1,02362	90	111,32	245,19251	81,73084
2650	26,5	1,04331	92	113,79	250,64123	83,54708
2700	27	1,06299	94	116,26	256,08996	85,36332
2750	27,5	1,08268	96	118,74	261,53868	87,17956
2800	28	1,10236	96	118,74	261,53868	87,17956
2850	28,5	1,12205	97	119,98	264,26304	88,08768
2900	29	1,14173	100	123,69	272,43612	90,81204
2950	29,5	1,16142	102	126,16	277,88485	92,62828
3000	30	1,18110	103	127,40	280,60921	93,53640
3050	30,5	1,20079	103	127,40	280,60921	93,53640
3100	31	1,22047	105	129,87	286,05793	95,35264
3150	31,5	1,24016	106	131,11	288,78229	96,26076
3200	32	1,25984	108	133,58	294,23101	98,07700
3250	32,5	1,27953	110	136,05	299,67974	99,89325
3300	33	1,29921	112	138,53	305,12846	101,70949
3350	33,5	1,31890	115	142,24	313,30154	104,43385
3400	34	1,33858	115	142,24	313,30154	104,43385
3450	34,5	1,35827	116	143,48	316,02590	105,34197
3500	35	1,37795	117	144,71	318,75026	106,25009



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TABEL PENGUJIAN CBR TERENDAM TANAH + 0,1% PLASTIK

Perubahan Tinggi			Beban			Tekanan (Q)
Angka Dial Vertikal	ΔL (mm)	ΔL (inchi)	Angka Dial Beban	Beban (kg)	Beban P (lbs)	P / 3 (psi)
a	$b = a \times 10^{-2}$	b / 25.4	d	e	f = e/0.454	g
0	0	0	0	0	0	0
50	0,5	0,01969	5	6,18	13,62181	4,54060
100	1	0,03937	13	16,08	35,41670	11,80557
150	1,5	0,05906	18	22,26	49,03850	16,34617
200	2	0,07874	23	28,45	62,66031	20,88677
250	2,5	0,09843	27	33,40	73,55775	24,51925
300	3	0,11811	33	40,82	89,90392	29,96797
350	3,5	0,13780	35	43,29	95,35264	31,78421
400	4	0,15748	38	47,00	103,52573	34,50858
450	4,5	0,17717	42	51,95	114,42317	38,14106
500	5	0,19685	45	55,66	122,59626	40,86542
550	5,5	0,21654	47	58,13	128,04498	42,68166
600	6	0,23622	48	59,37	130,76934	43,58978
650	6,5	0,25591	50	61,84	136,21806	45,40602
700	7	0,27559	50	61,84	136,21806	45,40602
750	7,5	0,29528	51	63,08	138,94242	46,31414
800	8	0,31496	51	63,08	138,94242	46,31414
850	8,5	0,33465	52	64,32	141,66678	47,22226
900	9	0,35433	53	65,55	144,39115	48,13038
950	9,5	0,37402	55	68,03	149,83987	49,94662
1000	10	0,39370	55	68,03	149,83987	49,94662
1050	10,5	0,41339	57	70,50	155,28859	51,76286
1100	11	0,43307	58	71,74	158,01295	52,67098
1150	11,5	0,45276	59	72,97	160,73731	53,57910
1200	12	0,47244	60	74,21	163,46167	54,48722
1250	12,5	0,49213	62	76,69	168,91040	56,30347
1300	13	0,51181	62	76,69	168,91040	56,30347
1350	13,5	0,53150	63	77,92	171,63476	57,21159
1400	14	0,55118	64	79,16	174,35912	58,11971
1450	14,5	0,57087	64	79,16	174,35912	58,11971
1500	15	0,59055	65	80,40	177,08348	59,02783
1550	15,5	0,61024	66	81,63	179,80784	59,93595
1600	16	0,62992	67	82,87	182,53220	60,84407
1650	16,5	0,64961	68	84,11	185,25656	61,75219
1700	17	0,66929	69	85,34	187,98093	62,66031
1750	17,5	0,68898	69	85,34	187,98093	62,66031
1800	18	0,70866	71	87,82	193,42965	64,47655



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1850	18,5	0,72835	71	87,82	193,42965	64,47655
1900	19	0,74803	74	91,53	201,60273	67,20091
1950	19,5	0,76772	77	95,24	209,77581	69,92527
2000	20	0,78740	79	97,71	215,22454	71,74151
2050	20,5	0,80709	80	98,95	217,94890	72,64963
2100	21	0,82677	82	101,42	223,39762	74,46587
2150	21,5	0,84646	82	101,42	223,39762	74,46587
2200	22	0,86614	83	102,66	226,12198	75,37399
2250	22,5	0,88583	85	105,13	231,57070	77,19023
2300	23	0,90551	86	106,37	234,29507	78,09836
2350	23,5	0,92520	86	106,37	234,29507	78,09836
2400	24	0,94488	87	107,61	237,01943	79,00648
2450	24,5	0,96457	87	107,61	237,01943	79,00648
2500	25	0,98425	88	108,84	239,74379	79,91460
2550	25,5	1,00394	89	110,08	242,46815	80,82272
2600	26	1,02362	90	111,32	245,19251	81,73084
2650	26,5	1,04331	90	111,32	245,19251	81,73084
2700	27	1,06299	92	113,79	250,64123	83,54708
2750	27,5	1,08268	93	115,03	253,36559	84,45520
2800	28	1,10236	95	117,50	258,81432	86,27144
2850	28,5	1,12205	96	118,74	261,53868	87,17956
2900	29	1,14173	98	121,21	266,98740	88,99580
2950	29,5	1,16142	99	122,45	269,71176	89,90392
3000	30	1,18110	100	123,69	272,43612	90,81204
3050	30,5	1,20079	102	126,16	277,88485	92,62828
3100	31	1,22047	102	126,16	277,88485	92,62828
3150	31,5	1,24016	103	127,40	280,60921	93,53640
3200	32	1,25984	104	128,63	283,33357	94,44452
3250	32,5	1,27953	106	131,11	288,78229	96,26076
3300	33	1,29921	108	133,58	294,23101	98,07700
3350	33,5	1,31890	110	136,05	299,67974	99,89325
3400	34	1,33858	114	141,00	310,57718	103,52573
3450	34,5	1,35827	116	143,48	316,02590	105,34197
3500	35	1,37795	118	145,95	321,47463	107,15821
3550	35,5	1,39764	120	148,42	326,92335	108,97445
3600	36	1,41732	122	150,90	332,37207	110,79069
3650	36,5	1,43701	125	154,61	340,54515	113,51505
3700	37	1,45669	127	157,08	345,99388	115,33129
3750	37,5	1,47638	129	159,55	351,44260	117,14753
3800	38	1,49606	130	160,79	354,16696	118,05565
3850	38,5	1,51575	132	163,27	359,61568	119,87189
3900	39	1,53543	132	163,27	359,61568	119,87189
3950	39,5	1,55512	135	166,98	367,78877	122,59626
4000	40	1,57480	136	168,21	370,51313	123,50438
4050	40,5	1,59449	139	171,92	378,68621	126,22874



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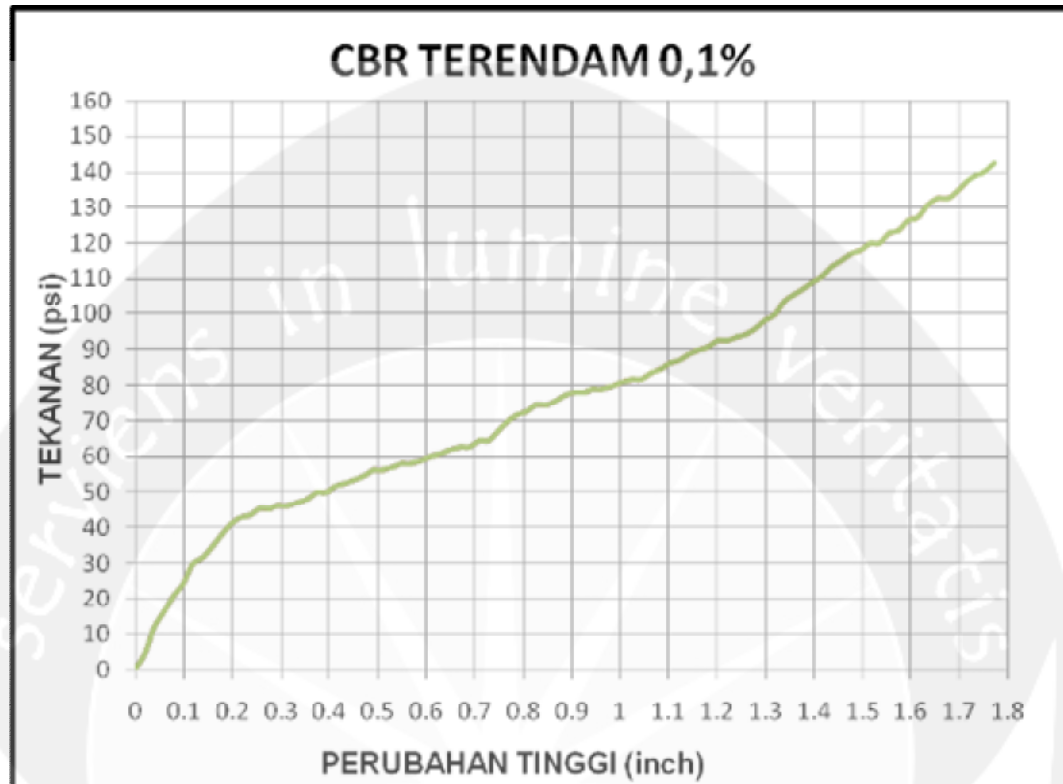
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4100	41	1,61417	140	173,16	381,41057	127,13686
4150	41,5	1,63386	144	178,11	392,30802	130,76934
4200	42	1,65354	146	180,58	397,75674	132,58558
4250	42,5	1,67323	146	180,58	397,75674	132,58558
4300	43	1,69291	148	183,06	403,20546	134,40182
4350	43,5	1,71260	151	186,77	411,37855	137,12618
4400	44	1,73228	153	189,24	416,82727	138,94242
4450	44,5	1,75197	154	190,48	419,55163	139,85054
4500	45	1,77165	157	194,19	427,72471	142,57490



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TABEL PENGUJIAN CBR TERENDAM TANAH + 0,2% PLASTIK

Perubahan Tinggi			Beban			Tekanan (Q)
Angka Dial Vertikal	ΔL (mm)	ΔL (inchi)	Angka Dial Beban	Beban (kg)	Beban P (lbs)	P / 3 (psi)
a	$b = a \times 10^{-2}$	$b / 25.4$	d	e	$f = e / 0.454$	g
0	0	0	0	0	0	0
50	0,5	0,01969	15	18,55	40,86542	13,62181
100	1	0,03937	25	30,92	68,10903	22,70301
150	1,5	0,05906	30	37,11	81,73084	27,24361
200	2	0,07874	34	42,05	92,62828	30,87609
250	2,5	0,09843	40	49,47	108,97445	36,32482
300	3	0,11811	42	51,95	114,42317	38,14106
350	3,5	0,13780	48	59,37	130,76934	43,58978
400	4	0,15748	52	64,32	141,66678	47,22226
450	4,5	0,17717	55	68,03	149,83987	49,94662
500	5	0,19685	57	70,50	155,28859	51,76286
550	5,5	0,21654	62	76,69	168,91040	56,30347
600	6	0,23622	63	77,92	171,63476	57,21159
650	6,5	0,25591	64	79,16	174,35912	58,11971
700	7	0,27559	65	80,40	177,08348	59,02783
750	7,5	0,29528	67	82,87	182,53220	60,84407
800	8	0,31496	69	85,34	187,98093	62,66031
850	8,5	0,33465	69	85,34	187,98093	62,66031
900	9	0,35433	70	86,58	190,70529	63,56843
950	9,5	0,37402	72	89,05	196,15401	65,38467
1000	10	0,39370	73	90,29	198,87837	66,29279
1050	10,5	0,41339	74	91,53	201,60273	67,20091
1100	11	0,43307	74	91,53	201,60273	67,20091
1150	11,5	0,45276	75	92,76	204,32709	68,10903
1200	12	0,47244	76	94,00	207,05145	69,01715
1250	12,5	0,49213	78	96,48	212,50018	70,83339
1300	13	0,51181	79	97,71	215,22454	71,74151
1350	13,5	0,53150	80	98,95	217,94890	72,64963
1400	14	0,55118	81	100,19	220,67326	73,55775
1450	14,5	0,57087	82	101,42	223,39762	74,46587
1500	15	0,59055	83	102,66	226,12198	75,37399
1550	15,5	0,61024	84	103,90	228,84634	76,28211
1600	16	0,62992	85	105,13	231,57070	77,19023
1650	16,5	0,64961	86	106,37	234,29507	78,09836
1700	17	0,66929	87	107,61	237,01943	79,00648
1750	17,5	0,68898	88	108,84	239,74379	79,91460
1800	18	0,70866	88	108,84	239,74379	79,91460



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1850	18,5	0,72835	89	110,08	242,46815	80,82272
1900	19	0,74803	90	111,32	245,19251	81,73084
1950	19,5	0,76772	92	113,79	250,64123	83,54708
2000	20	0,78740	93	115,03	253,36559	84,45520
2050	20,5	0,80709	93	115,03	253,36559	84,45520
2100	21	0,82677	94	116,26	256,08996	85,36332
2150	21,5	0,84646	95	117,50	258,81432	86,27144
2200	22	0,86614	96	118,74	261,53868	87,17956
2250	22,5	0,88583	97	119,98	264,26304	88,08768
2300	23	0,90551	98	121,21	266,98740	88,99580
2350	23,5	0,92520	99	122,45	269,71176	89,90392
2400	24	0,94488	99	122,45	269,71176	89,90392
2450	24,5	0,96457	100	123,69	272,43612	90,81204
2500	25	0,98425	101	124,92	275,16048	91,72016
2550	25,5	1,00394	101	124,92	275,16048	91,72016
2600	26	1,02362	104	128,63	283,33357	94,44452
2650	26,5	1,04331	105	129,87	286,05793	95,35264
2700	27	1,06299	106	131,11	288,78229	96,26076
2750	27,5	1,08268	107	132,34	291,50665	97,16888
2800	28	1,10236	108	133,58	294,23101	98,07700
2850	28,5	1,12205	108	133,58	294,23101	98,07700
2900	29	1,14173	110	136,05	299,67974	99,89325
2950	29,5	1,16142	114	141,00	310,57718	103,52573
3000	30	1,18110	116	143,48	316,02590	105,34197
3050	30,5	1,20079	119	147,19	324,19899	108,06633
3100	31	1,22047	120	148,42	326,92335	108,97445
3150	31,5	1,24016	122	150,90	332,37207	110,79069
3200	32	1,25984	124	153,37	337,82079	112,60693
3250	32,5	1,27953	126	155,84	343,26952	114,42317
3300	33	1,29921	128	158,32	348,71824	116,23941
3350	33,5	1,31890	131	162,03	356,89132	118,96377
3400	34	1,33858	134	165,74	365,06441	121,68814
3450	34,5	1,35827	136	168,21	370,51313	123,50438
3500	35	1,37795	138	170,69	375,96185	125,32062
3550	35,5	1,39764	141	174,40	384,13493	128,04498
3600	36	1,41732	145	179,34	395,03238	131,67746
3650	36,5	1,43701	148	183,06	403,20546	134,40182
3700	37	1,45669	150	185,53	408,65419	136,21806
3750	37,5	1,47638	151	186,77	411,37855	137,12618
3800	38	1,49606	155	191,71	422,27599	140,75866
3850	38,5	1,51575	156	192,95	425,00035	141,66678
3900	39	1,53543	158	195,42	430,44907	143,48302
3950	39,5	1,55512	159	196,66	433,17344	144,39115
4000	40	1,57480	162	200,37	441,34652	147,11551
4050	40,5	1,59449	165	204,08	449,51960	149,83987



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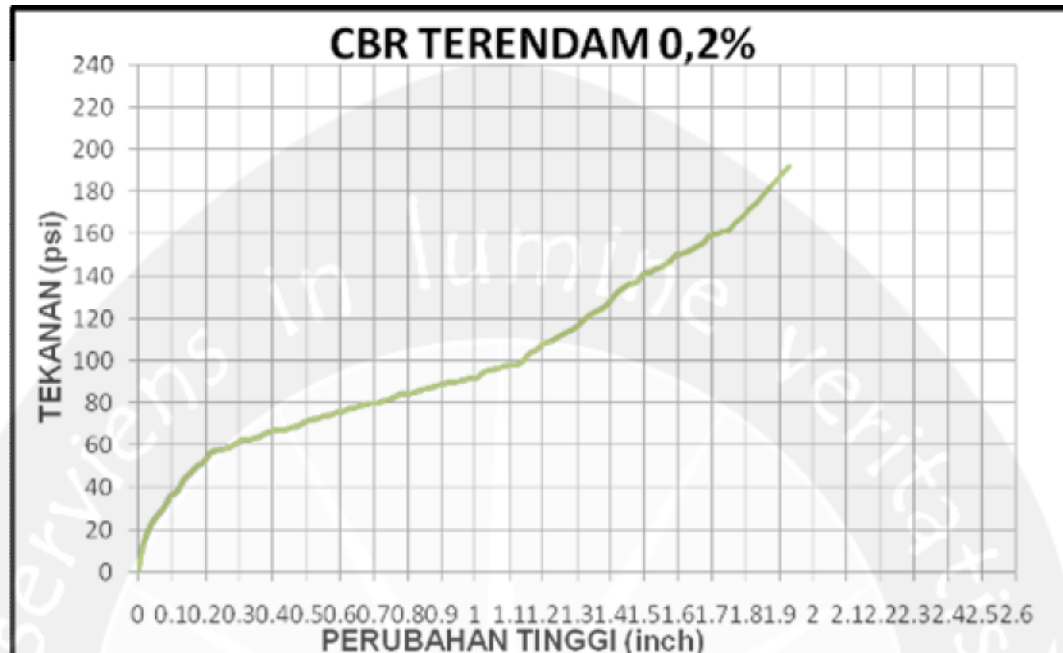
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4100	41	1,61417	166	205,32	452,24396	150,74799
4150	41,5	1,63386	167	206,56	454,96833	151,65611
4200	42	1,65354	169	209,03	460,41705	153,47235
4250	42,5	1,67323	171	211,50	465,86577	155,28859
4300	43	1,69291	175	216,45	476,76322	158,92107
4350	43,5	1,71260	176	217,69	479,48758	159,82919
4400	44	1,73228	177	218,92	482,21194	160,73731
4450	44,5	1,75197	178	220,16	484,93630	161,64543
4500	45	1,77165	182	225,11	495,83374	165,27791
4550	45,5	1,79134	185	228,82	504,00683	168,00228
4600	46	1,81102	189	233,77	514,90427	171,63476
4650	46,5	1,83071	192	237,48	523,07736	174,35912
4700	47	1,85039	196	242,42	533,97480	177,99160
4750	47,5	1,87008	200	247,37	544,87225	181,62408
4800	48	1,88976	204	252,32	555,76969	185,25656
4850	48,5	1,90945	208	257,27	566,66714	188,88905
4900	49	1,92913	211	260,98	574,84022	191,61341



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TABEL PENGUJIAN CBR TERENDAM TANAH + 0,3% PLASTIK

Perubahan Tinggi			Beban			Tekanan (Q)
Angka Dial Vertikal	ΔL (mm)	ΔL (inchi)	Angka Dial Beban	Beban (kg)	Beban P (lbs)	P / 3 (psi)
a	$b = a \times 10^{-2}$	$b / 25.4$	d	e	$f = e / 0.454$	g
0	0	0	0	0	0	0
50	0,5	0,01969	13	16,08	35,41670	11,80557
100	1	0,03937	17	21,03	46,31414	15,43805
150	1,5	0,05906	23	28,45	62,66031	20,88677
200	2	0,07874	27	33,40	73,55775	24,51925
250	2,5	0,09843	33	40,82	89,90392	29,96797
300	3	0,11811	36	44,53	98,07700	32,69233
350	3,5	0,13780	39	48,24	106,25009	35,41670
400	4	0,15748	47	58,13	128,04498	42,68166
450	4,5	0,17717	53	65,55	144,39115	48,13038
500	5	0,19685	58	71,74	158,01295	52,67098
550	5,5	0,21654	58	71,74	158,01295	52,67098
600	6	0,23622	59	72,97	160,73731	53,57910
650	6,5	0,25591	59	72,97	160,73731	53,57910
700	7	0,27559	60	74,21	163,46167	54,48722
750	7,5	0,29528	61	75,45	166,18604	55,39535
800	8	0,31496	62	76,69	168,91040	56,30347
850	8,5	0,33465	62	76,69	168,91040	56,30347
900	9	0,35433	62	76,69	168,91040	56,30347
950	9,5	0,37402	64	79,16	174,35912	58,11971
1000	10	0,39370	65	80,40	177,08348	59,02783
1050	10,5	0,41339	66	81,63	179,80784	59,93595
1100	11	0,43307	67	82,87	182,53220	60,84407
1150	11,5	0,45276	68	84,11	185,25656	61,75219
1200	12	0,47244	68	84,11	185,25656	61,75219
1250	12,5	0,49213	69	85,34	187,98093	62,66031
1300	13	0,51181	70	86,58	190,70529	63,56843
1350	13,5	0,53150	71	87,82	193,42965	64,47655
1400	14	0,55118	71	87,82	193,42965	64,47655
1450	14,5	0,57087	72	89,05	196,15401	65,38467
1500	15	0,59055	73	90,29	198,87837	66,29279
1550	15,5	0,61024	73	90,29	198,87837	66,29279
1600	16	0,62992	74	91,53	201,60273	67,20091
1650	16,5	0,64961	74	91,53	201,60273	67,20091
1700	17	0,66929	75	92,76	204,32709	68,10903
1750	17,5	0,68898	76	94,00	207,05145	69,01715
1800	18	0,70866	76	94,00	207,05145	69,01715



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1850	18,5	0,72835	77	95,24	209,77581	69,92527
1900	19	0,74803	78	96,48	212,50018	70,83339
1950	19,5	0,76772	79	97,71	215,22454	71,74151
2000	20	0,78740	79	97,71	215,22454	71,74151
2050	20,5	0,80709	80	98,95	217,94890	72,64963
2100	21	0,82677	81	100,19	220,67326	73,55775
2150	21,5	0,84646	81	100,19	220,67326	73,55775
2200	22	0,86614	82	101,42	223,39762	74,46587
2250	22,5	0,88583	82	101,42	223,39762	74,46587
2300	23	0,90551	83	102,66	226,12198	75,37399
2350	23,5	0,92520	84	103,90	228,84634	76,28211
2400	24	0,94488	84	103,90	228,84634	76,28211
2450	24,5	0,96457	85	105,13	231,57070	77,19023
2500	25	0,98425	86	106,37	234,29507	78,09836
2550	25,5	1,00394	88	108,84	239,74379	79,91460
2600	26	1,02362	88	108,84	239,74379	79,91460
2650	26,5	1,04331	89	110,08	242,46815	80,82272
2700	27	1,06299	90	111,32	245,19251	81,73084
2750	27,5	1,08268	92	113,79	250,64123	83,54708
2800	28	1,10236	93	115,03	253,36559	84,45520
2850	28,5	1,12205	93	115,03	253,36559	84,45520
2900	29	1,14173	93	115,03	253,36559	84,45520
2950	29,5	1,16142	94	116,26	256,08996	85,36332
3000	30	1,18110	94	116,26	256,08996	85,36332
3050	30,5	1,20079	95	117,50	258,81432	86,27144
3100	31	1,22047	95	117,50	258,81432	86,27144
3150	31,5	1,24016	95	117,50	258,81432	86,27144
3200	32	1,25984	96	118,74	261,53868	87,17956
3250	32,5	1,27953	96	118,74	261,53868	87,17956
3300	33	1,29921	97	119,98	264,26304	88,08768
3350	33,5	1,31890	99	122,45	269,71176	89,90392
3400	34	1,33858	99	122,45	269,71176	89,90392
3450	34,5	1,35827	101	124,92	275,16048	91,72016
3500	35	1,37795	101	124,92	275,16048	91,72016
3550	35,5	1,39764	102	126,16	277,88485	92,62828
3600	36	1,41732	103	127,40	280,60921	93,53640
3650	36,5	1,43701	105	129,87	286,05793	95,35264
3700	37	1,45669	105	129,87	286,05793	95,35264
3750	37,5	1,47638	105	129,87	286,05793	95,35264
3800	38	1,49606	108	133,58	294,23101	98,07700
3850	38,5	1,51575	108	133,58	294,23101	98,07700
3900	39	1,53543	109	134,82	296,95537	98,98512
3950	39,5	1,55512	111	137,29	302,40410	100,80137
4000	40	1,57480	114	141,00	310,57718	103,52573
4050	40,5	1,59449	114	141,00	310,57718	103,52573



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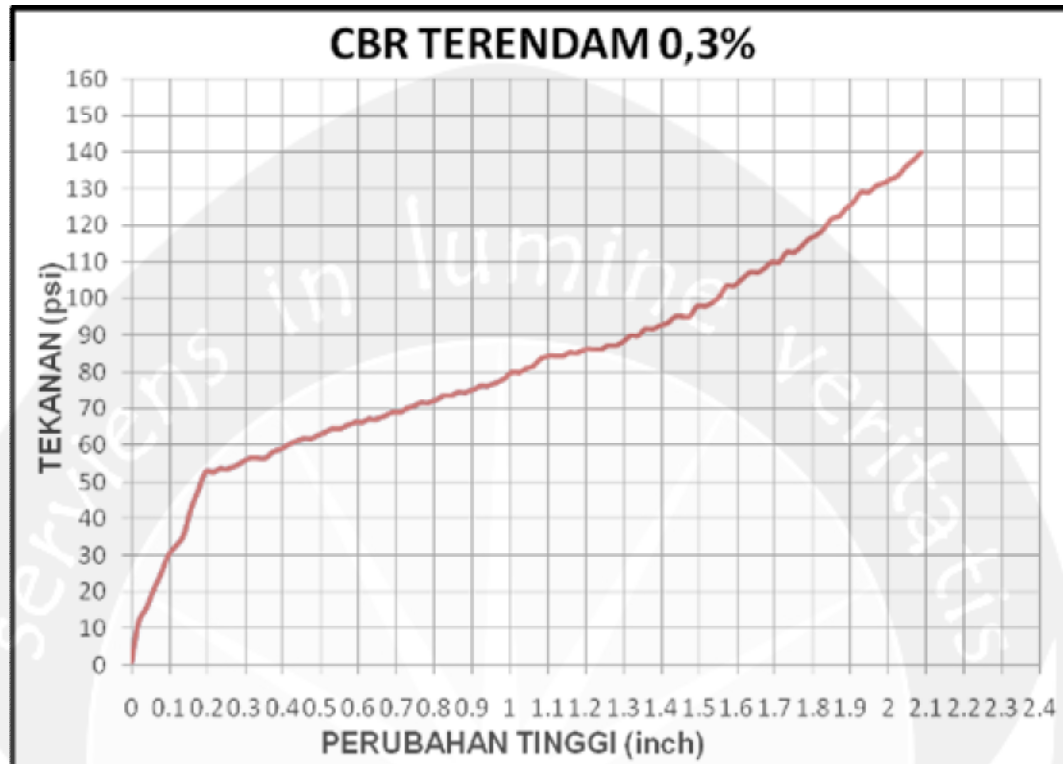
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4100	41	1,61417	116	143,48	316,02590	105,34197
4150	41,5	1,63386	118	145,95	321,47463	107,15821
4200	42	1,65354	118	145,95	321,47463	107,15821
4250	42,5	1,67323	119	147,19	324,19899	108,06633
4300	43	1,69291	121	149,66	329,64771	109,88257
4350	43,5	1,71260	121	149,66	329,64771	109,88257
4400	44	1,73228	124	153,37	337,82079	112,60693
4450	44,5	1,75197	124	153,37	337,82079	112,60693
4500	45	1,77165	126	155,84	343,26952	114,42317
4550	45,5	1,79134	128	158,32	348,71824	116,23941
4600	46	1,81102	129	159,55	351,44260	117,14753
4650	46,5	1,83071	131	162,03	356,89132	118,96377
4700	47	1,85039	134	165,74	365,06441	121,68814
4750	47,5	1,87008	135	166,98	367,78877	122,59626
4800	48	1,88976	137	169,45	373,23749	124,41250
4850	48,5	1,90945	139	171,92	378,68621	126,22874
4900	49	1,92913	142	175,63	386,85930	128,95310
4950	49,5	1,94882	142	175,63	386,85930	128,95310
5000	50	1,96850	144	178,11	392,30802	130,76934
5050	50,5	1,98819	145	179,34	395,03238	131,67746
5100	51	2,00787	146	180,58	397,75674	132,58558
5150	51,5	2,02756	147	181,82	400,48110	133,49370
5200	52	2,04724	150	185,53	408,65419	136,21806
5250	52,5	2,06693	152	188,00	414,10291	138,03430
5300	53	2,08661	154	190,48	419,55163	139,85054
5350	53,5	2,10630	154	190,48	419,55163	139,85054
5400	54	2,12598	157	194,19	427,72471	142,57490
5450	54,5	2,14567	158	195,42	430,44907	143,48302
5500	55	2,16535	160	197,90	435,89780	145,29927
5550	55,5	2,18504	165	204,08	449,51960	149,83987
5600	56	2,20472	167	206,56	454,96833	151,65611
5650	56,5	2,22441	170	210,27	463,14141	154,38047
5700	57	2,24409	174	215,21	474,03885	158,01295
5750	57,5	2,26378	175	216,45	476,76322	158,92107
5800	58	2,28346	178	220,16	484,93630	161,64543
5850	58,5	2,30315	180	222,63	490,38502	163,46167
5900	59	2,32283	184	227,58	501,28247	167,09416
5950	59,5	2,34252	186	230,06	506,73119	168,91040
6000	60	2,36220	189	233,77	514,90427	171,63476



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TABEL PENGUJIAN CBR TERENDAM TANAH + 0,4% PLASTIK

Perubahan Tinggi			Beban			Tekanan (Q)
Angka Dial Vertikal	ΔL (mm)	ΔL (inchi)	Angka Dial Beban	Beban (kg)	Beban P (lbs)	P / 3 (psi)
a	$b = a \times 10^{-2}$	$b / 25.4$	d	e	$f = e / 0.454$	g
0	0	0	0	0	0	0
50	0,5	0,01969	18	22,26	49,03850	16,34617
100	1	0,03937	22	27,21	59,93595	19,97865
150	1,5	0,05906	24	29,68	65,38467	21,79489
200	2	0,07874	27	33,40	73,55775	24,51925
250	2,5	0,09843	30	37,11	81,73084	27,24361
300	3	0,11811	32	39,58	87,17956	29,05985
350	3,5	0,13780	32	39,58	87,17956	29,05985
400	4	0,15748	33	40,82	89,90392	29,96797
450	4,5	0,17717	34	42,05	92,62828	30,87609
500	5	0,19685	35	43,29	95,35264	31,78421
550	5,5	0,21654	35	43,29	95,35264	31,78421
600	6	0,23622	36	44,53	98,07700	32,69233
650	6,5	0,25591	38	47,00	103,52573	34,50858
700	7	0,27559	39	48,24	106,25009	35,41670
750	7,5	0,29528	40	49,47	108,97445	36,32482
800	8	0,31496	40	49,47	108,97445	36,32482
850	8,5	0,33465	41	50,71	111,69881	37,23294
900	9	0,35433	41	50,71	111,69881	37,23294
950	9,5	0,37402	42	51,95	114,42317	38,14106
1000	10	0,39370	43	53,18	117,14753	39,04918
1050	10,5	0,41339	45	55,66	122,59626	40,86542
1100	11	0,43307	45	55,66	122,59626	40,86542
1150	11,5	0,45276	46	56,90	125,32062	41,77354
1200	12	0,47244	47	58,13	128,04498	42,68166
1250	12,5	0,49213	47	58,13	128,04498	42,68166
1300	13	0,51181	48	59,37	130,76934	43,58978
1350	13,5	0,53150	49	60,61	133,49370	44,49790
1400	14	0,55118	49	60,61	133,49370	44,49790
1450	14,5	0,57087	50	61,84	136,21806	45,40602
1500	15	0,59055	51	63,08	138,94242	46,31414
1550	15,5	0,61024	52	64,32	141,66678	47,22226
1600	16	0,62992	54	66,79	147,11551	49,03850
1650	16,5	0,64961	55	68,03	149,83987	49,94662
1700	17	0,66929	56	69,26	152,56423	50,85474
1750	17,5	0,68898	58	71,74	158,01295	52,67098
1800	18	0,70866	59	72,97	160,73731	53,57910



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1850	18,5	0,72835	61	75,45	166,18604	55,39535
1900	19	0,74803	61	75,45	166,18604	55,39535
1950	19,5	0,76772	62	76,69	168,91040	56,30347
2000	20	0,78740	64	79,16	174,35912	58,11971
2050	20,5	0,80709	66	81,63	179,80784	59,93595
2100	21	0,82677	68	84,11	185,25656	61,75219
2150	21,5	0,84646	69	85,34	187,98093	62,66031
2200	22	0,86614	71	87,82	193,42965	64,47655
2250	22,5	0,88583	72	89,05	196,15401	65,38467
2300	23	0,90551	74	91,53	201,60273	67,20091
2350	23,5	0,92520	76	94,00	207,05145	69,01715
2400	24	0,94488	78	96,48	212,50018	70,83339
2450	24,5	0,96457	76	94,00	207,05145	69,01715
2500	25	0,98425	77	95,24	209,77581	69,92527
2550	25,5	1,00394	78	96,48	212,50018	70,83339
2600	26	1,02362	79	97,71	215,22454	71,74151
2650	26,5	1,04331	81	100,19	220,67326	73,55775
2700	27	1,06299	83	102,66	226,12198	75,37399
2750	27,5	1,08268	85	105,13	231,57070	77,19023
2800	28	1,10236	86	106,37	234,29507	78,09836
2850	28,5	1,12205	88	108,84	239,74379	79,91460
2900	29	1,14173	89	110,08	242,46815	80,82272
2950	29,5	1,16142	91	112,55	247,91687	82,63896
3000	30	1,18110	92	113,79	250,64123	83,54708
3050	30,5	1,20079	95	117,50	258,81432	86,27144
3100	31	1,22047	96	118,74	261,53868	87,17956
3150	31,5	1,24016	98	121,21	266,98740	88,99580
3200	32	1,25984	99	122,45	269,71176	89,90392
3250	32,5	1,27953	103	127,40	280,60921	93,53640
3300	33	1,29921	105	129,87	286,05793	95,35264
3350	33,5	1,31890	107	132,34	291,50665	97,16888
3400	34	1,33858	109	134,82	296,95537	98,98512
3450	34,5	1,35827	110	136,05	299,67974	99,89325
3500	35	1,37795	112	138,53	305,12846	101,70949
3550	35,5	1,39764	115	142,24	313,30154	104,43385
3600	36	1,41732	118	145,95	321,47463	107,15821
3650	36,5	1,43701	119	147,19	324,19899	108,06633
3700	37	1,45669	123	152,13	335,09643	111,69881
3750	37,5	1,47638	125	154,61	340,54515	113,51505
3800	38	1,49606	128	158,32	348,71824	116,23941
3850	38,5	1,51575	131	162,03	356,89132	118,96377
3900	39	1,53543	135	166,98	367,78877	122,59626
3950	39,5	1,55512	136	168,21	370,51313	123,50438
4000	40	1,57480	138	170,69	375,96185	125,32062
4050	40,5	1,59449	140	173,16	381,41057	127,13686



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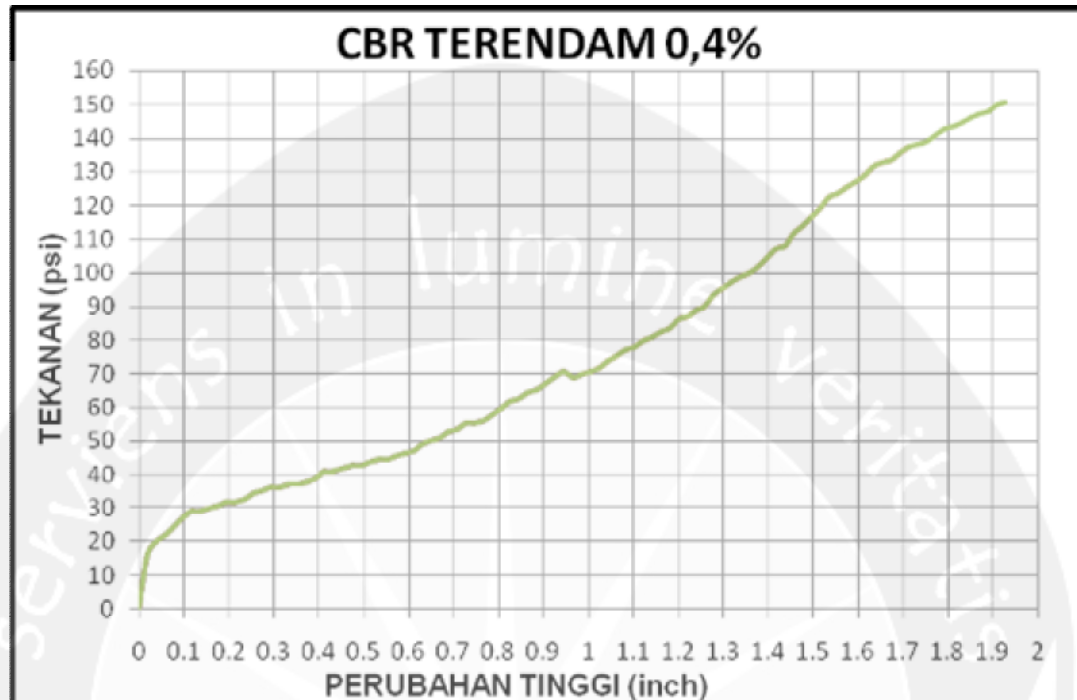
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4100	41	1,61417	142	175,63	386,85930	128,95310
4150	41,5	1,63386	145	179,34	395,03238	131,67746
4200	42	1,65354	146	180,58	397,75674	132,58558
4250	42,5	1,67323	147	181,82	400,48110	133,49370
4300	43	1,69291	149	184,29	405,92982	135,30994
4350	43,5	1,71260	151	186,77	411,37855	137,12618
4400	44	1,73228	152	188,00	414,10291	138,03430
4450	44,5	1,75197	153	189,24	416,82727	138,94242
4500	45	1,77165	155	191,71	422,27599	140,75866
4550	45,5	1,79134	157	194,19	427,72471	142,57490
4600	46	1,81102	158	195,42	430,44907	143,48302
4650	46,5	1,83071	159	196,66	433,17344	144,39115
4700	47	1,85039	161	199,13	438,62216	146,20739
4750	47,5	1,87008	162	200,37	441,34652	147,11551
4800	48	1,88976	163	201,61	444,07088	148,02363
4850	48,5	1,90945	165	204,08	449,51960	149,83987
4900	49	1,92913	166	205,32	452,24396	150,74799



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TABEL PENGUJIAN CBR TERENDAM TANAH + 0,5 % PLASTIK

Perubahan Tinggi			Beban			Tekanan (Q)
Angka Dial Vertikal	ΔL (mm)	ΔL (inchi)	Angka Dial Beban	Beban (kg)	Beban P (lbs)	P / 3 (psi)
a	$b = a \times 10^{-2}$	$b / 25.4$	d	e	$f = e / 0.454$	g
0	0	0	0	0	0	0
50	0,5	0,01969	12	14,84	32,69233	10,89744
100	1	0,03937	17	21,03	46,31414	15,43805
150	1,5	0,05906	22	27,21	59,93595	19,97865
200	2	0,07874	27	33,40	73,55775	24,51925
250	2,5	0,09843	29	35,87	79,00648	26,33549
300	3	0,11811	31	38,34	84,45520	28,15173
350	3,5	0,13780	34	42,05	92,62828	30,87609
400	4	0,15748	34	42,05	92,62828	30,87609
450	4,5	0,17717	35	43,29	95,35264	31,78421
500	5	0,19685	36	44,53	98,07700	32,69233
550	5,5	0,21654	37	45,76	100,80137	33,60046
600	6	0,23622	37	45,76	100,80137	33,60046
650	6,5	0,25591	38	47,00	103,52573	34,50858
700	7	0,27559	39	48,24	106,25009	35,41670
750	7,5	0,29528	40	49,47	108,97445	36,32482
800	8	0,31496	40	49,47	108,97445	36,32482
850	8,5	0,33465	41	50,71	111,69881	37,23294
900	9	0,35433	42	51,95	114,42317	38,14106
950	9,5	0,37402	43	53,18	117,14753	39,04918
1000	10	0,39370	43	53,18	117,14753	39,04918
1050	10,5	0,41339	44	54,42	119,87189	39,95730
1100	11	0,43307	45	55,66	122,59626	40,86542
1150	11,5	0,45276	46	56,90	125,32062	41,77354
1200	12	0,47244	47	58,13	128,04498	42,68166
1250	12,5	0,49213	48	59,37	130,76934	43,58978
1300	13	0,51181	48	59,37	130,76934	43,58978
1350	13,5	0,53150	49	60,61	133,49370	44,49790
1400	14	0,55118	50	61,84	136,21806	45,40602
1450	14,5	0,57087	51	63,08	138,94242	46,31414
1500	15	0,59055	51	63,08	138,94242	46,31414
1550	15,5	0,61024	52	64,32	141,66678	47,22226
1600	16	0,62992	54	66,79	147,11551	49,03850
1650	16,5	0,64961	55	68,03	149,83987	49,94662
1700	17	0,66929	57	70,50	155,28859	51,76286
1750	17,5	0,68898	59	72,97	160,73731	53,57910



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1800	18	0,70866	60	74,21	163,46167	54,48722
1850	18,5	0,72835	62	76,69	168,91040	56,30347
1900	19	0,74803	63	77,92	171,63476	57,21159
1950	19,5	0,76772	65	80,40	177,08348	59,02783
2000	20	0,78740	66	81,63	179,80784	59,93595
2050	20,5	0,80709	66	81,63	179,80784	59,93595
2100	21	0,82677	68	84,11	185,25656	61,75219
2150	21,5	0,84646	68	84,11	185,25656	61,75219
2200	22	0,86614	71	87,82	193,42965	64,47655
2250	22,5	0,88583	71	87,82	193,42965	64,47655
2300	23	0,90551	74	91,53	201,60273	67,20091
2350	23,5	0,92520	75	92,76	204,32709	68,10903
2400	24	0,94488	75	92,76	204,32709	68,10903
2450	24,5	0,96457	76	94,00	207,05145	69,01715
2500	25	0,98425	76	94,00	207,05145	69,01715
2550	25,5	1,00394	77	95,24	209,77581	69,92527
2600	26	1,02362	79	97,71	215,22454	71,74151
2650	26,5	1,04331	80	98,95	217,94890	72,64963
2700	27	1,06299	81	100,19	220,67326	73,55775
2750	27,5	1,08268	81	100,19	220,67326	73,55775
2800	28	1,10236	82	101,42	223,39762	74,46587
2850	28,5	1,12205	82	101,42	223,39762	74,46587
2900	29	1,14173	87	107,61	237,01943	79,00648
2950	29,5	1,16142	90	111,32	245,19251	81,73084
3000	30	1,18110	92	113,79	250,64123	83,54708
3050	30,5	1,20079	93	115,03	253,36559	84,45520
3100	31	1,22047	95	117,50	258,81432	86,27144
3150	31,5	1,24016	101	124,92	275,16048	91,72016
3200	32	1,25984	114	141,00	310,57718	103,52573
3250	32,5	1,27953	114	141,00	310,57718	103,52573
3300	33	1,29921	117	144,71	318,75026	106,25009
3350	33,5	1,31890	119	147,19	324,19899	108,06633
3400	34	1,33858	120	148,42	326,92335	108,97445
3450	34,5	1,35827	123	152,13	335,09643	111,69881
3500	35	1,37795	124	153,37	337,82079	112,60693
3550	35,5	1,39764	125	154,61	340,54515	113,51505
3600	36	1,41732	125	154,61	340,54515	113,51505
3650	36,5	1,43701	128	158,32	348,71824	116,23941
3700	37	1,45669	129	159,55	351,44260	117,14753
3750	37,5	1,47638	130	160,79	354,16696	118,05565
3800	38	1,49606	131	162,03	356,89132	118,96377
3850	38,5	1,51575	134	165,74	365,06441	121,68814
3900	39	1,53543	134	165,74	365,06441	121,68814
3950	39,5	1,55512	137	169,45	373,23749	124,41250
4000	40	1,57480	138	170,69	375,96185	125,32062



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4050	40,5	1,59449	140	173,16	381,41057	127,13686
4100	41	1,61417	141	174,40	384,13493	128,04498
4150	41,5	1,63386	143	176,87	389,58366	129,86122
4200	42	1,65354	144	178,11	392,30802	130,76934
4250	42,5	1,67323	146	180,58	397,75674	132,58558
4300	43	1,69291	148	183,06	403,20546	134,40182
4350	43,5	1,71260	148	183,06	403,20546	134,40182





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