

Data :

Slump 10 cm  
 Ukuran maksimum agregat kasar 20 mm  
 FM 2.69

Bj semen 3.15  
 Bj pasir 2.48  
 Bj kerikil 2.58

Dari Data :  
 Entarped air 2  
 Sand percent 45  
 Water 185

Tabel Penyesuaian

Yang diinginkan	Penyesuaian	
	s/a	w
- FM =2,69	44,45	-
- Slump =10	-	192,40
- Batu pecah	48,45	205,40
- s/a =48,45%	-	210,58

Dari hasil penyesuaian :  
 w/c 0.65

Berat semen :  
 semen 323.96

volume agregat total 0.67

sand 0.32 m<sup>3</sup> = 800.94 kg  
 coarse 0.34 m<sup>3</sup> = 886.54 kg

Dari hasil perhitungan ini, untuk per m<sup>3</sup> beton didapat campuran sebagai berikut :

semen 323.96 kg  
 Pasir 800.94 kg  
 kerikil 886.54 kg  
 air 210.58 kg

Data :

Ukuran maksimum agregat kasar 20 mm  
 FM 2.69

Bj semen 3.15  
 Bj pasir 2.48  
 Bj kerikil 2.58

Tabel Penyesuaian

Yang diinginkan	Penyesuaian	
	s/a	w
- w/c	46,45	-
- s/a = 46,45%	-	207,58

Hasil perhitungan sebelumnya:  
 Sand percent 48.45  
 Water 210.58

Dari hasil penyesuaian :  
 w/c 0.55

Berat semen :  
 semen 377.41

volume agregat total 0.65

sand 0.30 m<sup>3</sup> = 751.78 kg  
 coarse 0.35 m<sup>3</sup> = 901.64 kg

Dari hasil perhitungan ini, untuk per m<sup>3</sup> beton didapat campuran sebagai berikut :

semen 377.41 kg  
 Pasir 751.78 kg  
 kerikil 901.64 kg  
 air 207.58 kg

Data :

Ukuran maksimum agregat kasar 20  
 FM 2.69

Bj semen 3.15  
 Bj pasir 2.48  
 Bj kerikil 2.58

Tabel Penyesuaian		
Yang diinginkan	Penyesuaian	
	s/a	w
- w/c	44,45	-
- s/a = 44,45%	-	204.58

Hasil perhitungan sebelumnya:  
 Sand percent 46.45  
 Water 207.58

Dari hasil penyesuaian :  
 w/c 0.45

Berat semen :  
 semen 454.61

volume agregat total 0.63

sand 0.28 m<sup>3</sup> = 695.70 kg  
 coarse 0.35 m<sup>3</sup> = 904.49 kg

Dari hasil perhitungan ini, untuk per m<sup>3</sup> beton didapat campuran sebagai berikut :

semen 454.61 kg  
 Pasir 695.70 kg  
 kerikil 904.49 kg  
 air 204.58 kg

Data :

Ukuran maksimum agregat kasar 20  
 FM 2.69

Bj semen 3.15  
 Bj pasir 2.48  
 Bj kerikil 2.58

Tabel Penyesuaian		
Yang diinginkan	Penyesuaian	
	s/a	w
- w/c	42,45	-
- s/a = 42,45%	-	201.58

Hasil perhitungan sebelumnya:  
 Sand percent 44.45  
 Water 204.58

Dari hasil penyesuaian :  
 w/c 0.35

Berat semen :  
 semen 575.93

volume agregat total 0.60

sand 0.25 m<sup>3</sup> = 627.01 kg  
 coarse 0.34 m<sup>3</sup> = 884.33 kg

Dari hasil perhitungan ini, untuk per m<sup>3</sup> beton didapat campuran sebagai berikut :

semen 575.93 kg  
 Pasir 627.01 kg  
 kerikil 884.33 kg  
 air 201.58 kg



**TEST FOR SPECIFIC GRAVITY  
AND ABSORPTION-TEST OF FINE AGGREGATE**

Sample : Pasir alam  
Source : Cimangkok  
Date Tested : September, 3<sup>th</sup> 2008

Sample	I	II
A) Weight of Oven-Dry Specimen in Air (gram)	478	478
B) Weight of Pycnometer Filled with Water (gram)	663	657
c) Weight of Pycnometer with Specimen and Water to Calibration Mark (gram)	964	953
Bulk Specific Gravity = $\frac{A}{B+500-C}$	2,402	2,343
Average of Above	2,373	
Bulk Specific Gravity (Saturated-Surface-Dry Basis) = $\frac{500}{B+500-C}$	2,513	2,451
Average of Above	2,482	
Apparent Specific Gravity = $\frac{A}{B+A-C}$	2,700	2,685
Average of Above	2,693	
Absorption (%) = $\frac{500-A}{A} \times 100\%$	4,603	4,603
Average of Above (%)	4,603	

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Head of Laboratory

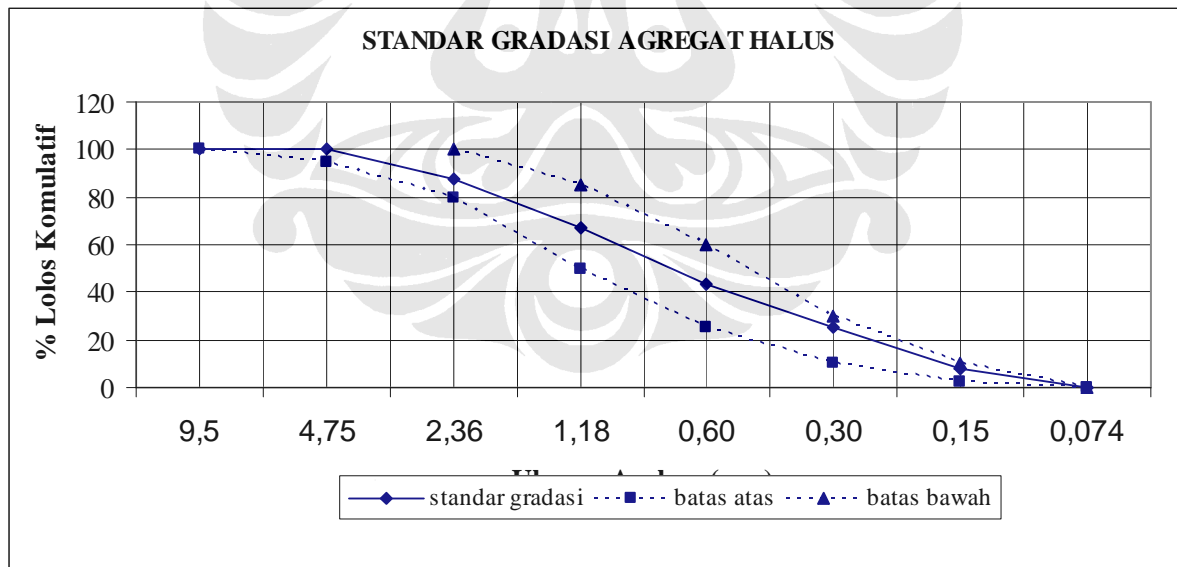
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### SIEVE ANALYSIS OF FINE AGGREGATE

Sample : Pasir alam  
 Source : Cimangkok  
 Date Tested : September, 3<sup>th</sup> 2008

SIEVE SIZE (mm)	SAMPLE No. 1			SAMPLE No. 2			AVERAGE		
	WEIGHT RET GRAMS	IND % RET	CUM % RET	WEIGHT RET GRAMS	IND % RET	CUM % RET	IND %	CUM %	AVERAGE PASSING (%)
9,5	0	0	0	0	0	0	0	0	0
4,75	0	0	0	0	0	0	0	0	0
2,36	63	12,6	12,6	61	12,2	12,2	12,4	12,4	87,6
1,18	110	22	34,6	94	18,8	31	20,4	32,8	67,2
0,60	121	24,2	58,8	119	23,8	54,8	24	56,8	43,2
0,30	86	17,2	76	94	18,8	73,6	18	74,8	25,2
0,15	80	16	92	93	18,6	92,2	17,3	92,1	7,9
0,074									
PAN	40	8	100	39	7,8	100	7,9	100	0
FM	2,740			2,638			2,689		





**TEST FOR MATERIALS FINER THAN NO. 200 SIEVE  
IN MINERAL AGGREGATES BY WASHING**

Sample : Pasir alam  
Source : Cimangkok  
Date Tested : September, 3<sup>th</sup> 2008

SAMPLE	I	II
B) Original dry weight of sample (gr)	500	500
C) Dry weight of sample (gr)	489	490
A) Percentage of material finer than a No. 200 sieve by washing (%)	2,20	2,00
Average of above (%)	2,10	
$A = \frac{B-C}{B} \times 100\%$		

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**TEST FOR ORGANIC IMPURITIES IN FINE AGGREGATE**  
**(astm c 40 – 92)**

Sample : Pasir alam  
Source : Cimangkok  
Date Tested : September, 3<sup>th</sup> 2008

Nearest Color of The Liquid of the Test Sample	Organic Plate Number
Lighter / <u>Equal</u> / Darker Color to	1
	2
	<u>3</u> (standard)
	4
	5

**Determination of Color Value**

Lighter / equal / darker color to that of the reference standard (No.3)

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**TEST FOR UNIT WEIGHT AND VOIDS IN FINE AGGREGATE**

Sample : Pasir alam  
 Source : Cimangkok  
 Date Tested : September, 3<sup>th</sup> 2008

	I	II
a) Weight of Measure (kg)	1,055	1,055
b) Weight of Measure + Water (kg)	3,055	3,055
c) Weight of Measure and Sample (kg)	3,944	3,828
d) Weight of Sample (kg)	2,889	2,773
e) Volume of Measure (liter)	2	2
f) Unit weight of aggregate (kg/liter)	1,4445	1,3865
B) Average of above (kg/liter)	1,4155	
A) Bulk Spesific Gravity of Aggregate	2,482	
W) Unit Weight of Water (kg/liter)	0,998	
Void (%)	42,855	42,855
Average	42,855	
$d = c - a$ $e = b - a$ $f = \frac{d}{e}$	$Void (\%) = \frac{(A \times W) - B}{A \times W} \times 100\%$	

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**TEST OF SPECIFIC GRAVITY  
AND ABSORPTION OF COARSE AGGREGATE**

Sample : Split  
Source : Rumpin, Adhimix  
Date Tested : August, 26<sup>th</sup> 2008

A) Weight of oven - dry specimen in air (gr)	4890	4894
B) Weight of ssd specimen in air (gr)	5000	5000
C) Weight of saturated specimen in water (gr)	3063	3066
Bulk Specific Gravity $= \frac{A}{B - C}$	2,525	2,531
Average of above	2,528	
SSD Specific Gravity $= \frac{B}{B - C}$	2,581	2,585
Average of above	2,583	
Apparent Specific Gravity $= \frac{A}{A - C}$	2,677	2,677
Average of above	2,677	
Absorption (%) $= \frac{B - A}{A} \times 100\%$	2,249	2,166
Average of above (%)	2,208	

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Head of Laboratory

Dr. Ir. Elly Tjahjono,DEA





### SIEVE ANALYSIS OF COARSE AGGREGATE

Sample : Split  
Source : Rumpin, Adhimix  
Date Tested : August, 26<sup>th</sup> 2008

Sieve Size (mm)	Sample No.1			Sample No.2			Average		
	Weight Ret Grams	Ind % Ret	Cum % Ret	Weight Ret Grams	Ind % Ret	Cum % Ret	Ind % Ret	Cum % Ret	Average Passing %
25,4	0	0	0	0	0	0	0	0	100
19,0	247	4,94	4,94	187	3,74	3,74	4,34	4,34	95,66
12,50	3386	67,72	72,66	3130	62,6	66,34	65,16	69,5	30,5
9,5	846	16,92	89,52	1180	23,6	89,94	20,26	89,76	10,24
4,76	502	10,04	99,62	466	9,32	99,26	9,68	99,44	0,56
2,36	0	0	99,62	20	0,4	99,66	0,2	99,64	0,36
1,18									
0,60									
0,30									
0,15									
PAN	19	0,38	100	17	0,34	100	0,36	100	0
TOTAL	5000			5000			5		

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Head of Laboratory

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**DATA TES SLUMP**

No	kode	Slump			Jumlah Air
		1	2	rata-rata	
1	A-0,65	10,5	12,0		210,58
2	A-0,65	8,0	8,5		210,58
3	A-0,65	10,0	10,5	9,7	210,58
4	A-0,65	8,5	10,5		210,58
5	A-0,65	8,0	10,0		210,58

No	kode	Slump			Jumlah Air
		1	2	rata-rata	
1	B-0,55	9,0	8,5		207,58
2	B-0,55	7,5	8,0		207,58
3	B-0,55	9,0	9,5	8,7	207,58
4	B-0,55	9,0	9,5		207,58
5	B-0,55	10,0	7,0		207,58

No	kode	Slump			Jumlah Air
		1	2	rata-rata	
1	C-0,45	5,5	5,0		204,58
2	C-0,45	6,0	7,5		204,58
3	C-0,45	7,5	7,5	6,6	204,58
4	C-0,45	6,0	6,5		204,58
5	C-0,45	8,0	6,0		204,58

No	kode	Slump			Jumlah Air
		1	2	rata-rata	
1	D-0,35	3,0	4,0		201,58
2	D-0,35	3,5	3,0		201,58
3	D-0,35	4,0	4,0	3,7	201,58
4	D-0,35	4,0	4,0		201,58
5	D-0,35	3,0	4,0		201,58

**LABORATORIUM BAHAN**

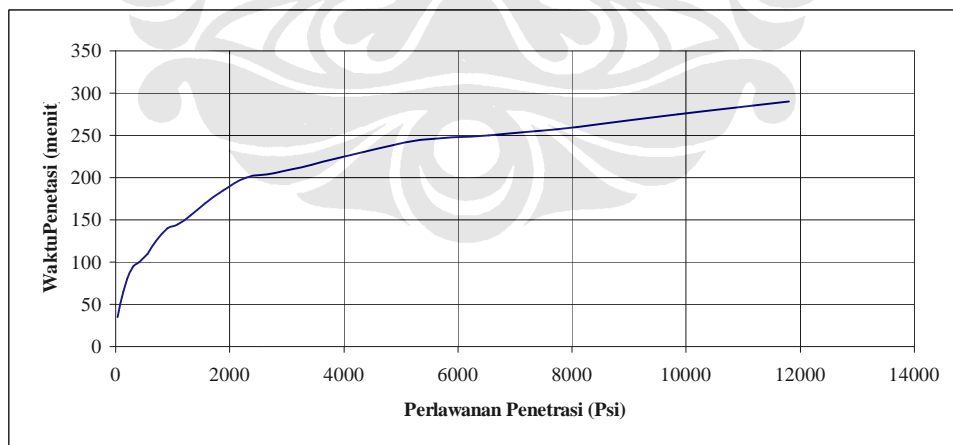
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Universitas Indonesia

Kampus Baru UI Depok, Telp. 787 4878-727 0029 (ext. 18)-727 0028 (Fax)

Tabel Uji Setting Time w/c =0,35

No	Luasan Jarum (inchi <sup>2</sup> )	Waktu Penetrasi			Hasil Pembacaan	Nilai Perlawanan Penetrasi		Ket
		Jam	Durasi (menit)	Kumulatif (menit)		Psi	Kumulatif (Psi)	
1	1"	13.00	35	35	30	30	30	
2		13.15	15	50	48	48	78	
3		13.30	15	65	54	54	132	
4		13.45	15	80	74	74	206	
5		14.00	15	95	92	92	298	
6	1/2"	14.05	5	100	60	120	418	
7		14.15	10	110	69	138	556	
8		14.30	15	125	74	148	704	
9		14.45	15	140	100	200	904	
10	1/4"	14.50	5	145	45	180	1084	
11		15.00	10	155	56	224	1308	
12		15.15	15	170	67	268	1576	
13		15.30	15	185	77	308	1884	
14	1/10"	15.45	15	200	100	400	2284	
15		15.50	5	205	50	500	2784	
16		16.00	10	215	65	650	3434	
17		16.15	15	230	91	910	4344	
18		16.30	15	245	100	1000	5344	
19	1/20"	16.35	5	250	60	1200	6544	
20		16.45	10	260	77	1540	8084	
21		17.00	15	275	89	1780	9864	
22		17.15	15	290	97	1940	11804	





**LABORATORIUM BAHAN**

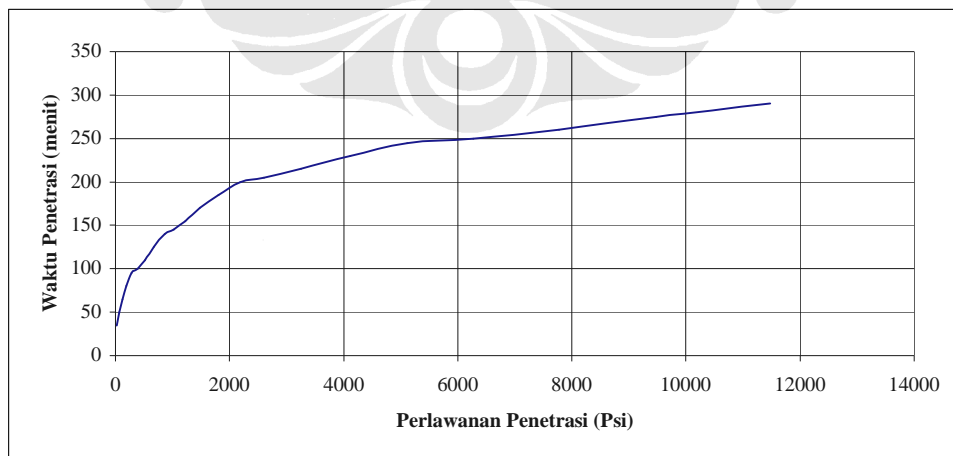
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Tabel Uji Setting Time w/c =0,55

No	Luasan Jarum (inchi <sup>2</sup> )	Waktu Penetrasi			Hasil Pembacaan	Nilai Perlawanan Penetrasi		Ket
		Jam	Durasi (menit)	Kumulatif (menit)		Psi	Kumulatif (Psi)	
1	1"	13.00	35	35	28	28	28	
2		13.15	15	50	40	40	68	
3		13.30	15	65	55	55	123	
4		13.45	15	80	68	68	191	
5		14.00	15	95	90	90	281	
6	1/2"	14.05	5	100	54	108	389	
7		14.15	10	110	62	124	513	
8		14.30	15	125	78	156	669	
9		14.45	15	140	96	192	861	
10	1/4"	14.45	5	145	40	160	1021	
11		15.00	10	155	50	200	1221	
12		15.15	15	170	65	260	1481	
13		15.30	15	185	80	320	1801	
14	1/10"	15.45	15	200	96	384	2185	
15		15.50	5	205	42	420	2605	
16		16.00	10	215	65	650	3255	
17		16.15	15	230	86	860	4115	
18		16.30	15	245	100	1000	5115	
19	1/20"	16.35	5	250	58	1160	6275	
20		16.45	10	260	75	1500	7775	
21		17.00	15	275	85	1700	9475	
22		17.15	15	290	100	2000	11475	



**LABORATORIUM BAHAN**

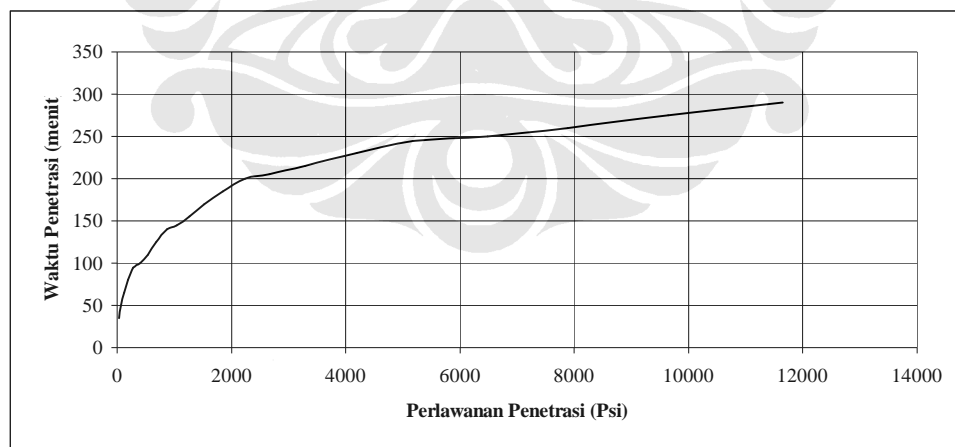
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Tabel Uji Setting Time  $w/c = 0,45$ 

No	Luasan Jarum (inchi <sup>2</sup> )	Waktu Penetrasi			Hasil Pembacaan	Nilai Perlawanan Penetrasi		Ket
		Jam	Durasi (menit)	Kumulatif (menit)		Psi	Kumulatif (Psi)	
1	1"	13.00	35	35	30	30	30	
2		13.15	15	50	37	37	67	
3		13.30	15	65	52	52	119	
4		13.45	15	80	73	73	192	
5		14.00	15	95	90	90	282	
6	1/2"	14.05	5	100	62	124	406	
7		14.15	10	110	64	128	534	
8		14.30	15	125	74	148	682	
9		14.45	15	140	94	188	870	
10	1/4"	14.50	5	145	42	168	1038	
11		15.00	10	155	57	228	1266	
12		15.15	15	170	65	260	1526	
13		15.30	15	185	80	320	1846	
14	1/10"	15.45	15	200	98	392	2238	
15		15.50	5	205	43	430	2668	
16		16.00	10	215	62	620	3288	
17		16.15	15	230	90	900	4188	
18		16.30	15	245	100	1000	5188	
19	1/20"	16.35	5	250	65	1300	6488	
20		16.45	10	260	70	1400	7888	
21		17.00	15	275	88	1760	9648	
22		17.15	15	290	100	2000	11648	





**LABORATORIUM BAHAN**

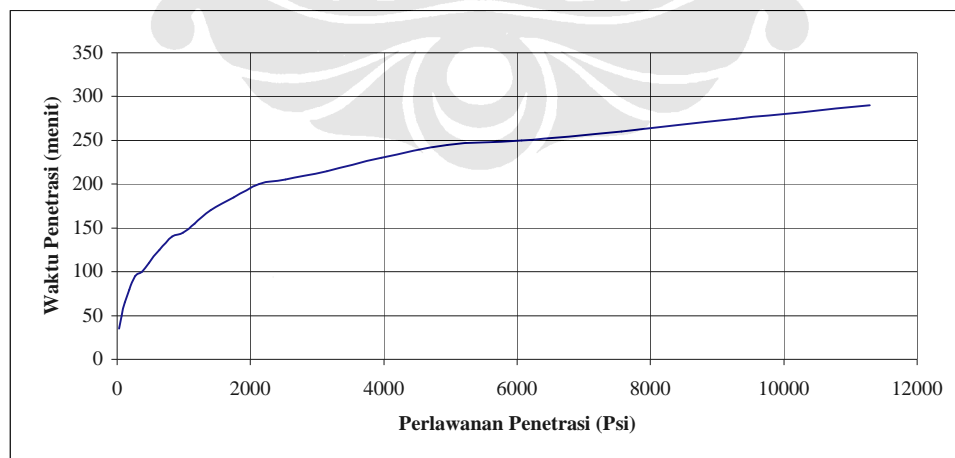
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Tabel Uji Setting Time w/c =0,65

No	Luasan Jarum (inchi <sup>2</sup> )	Waktu Penetrasi			Hasil Pembacaan	Nilai Perlawanan Penetrasi		Ket
		Jam	Durasi (menit)	Kumulatif (menit)		Psi	Kumulatif (Psi)	
1	1"	13.00	35	35	27	27	27	
2		13.15	15	50	38	38	65	
3		13.30	15	65	52	52	117	
4		13.45	15	80	66	66	183	
5		14.00	15	95	85	86	269	
6	1/2"	14.05	5	100	52	104	373	
7		14.15	10	110	54	108	481	
8		14.30	15	125	78	156	637	
9		14.45	15	140	94	188	825	
10	1/4"	14.50	5	145	40	160	985	
11		15.00	10	155	45	180	1165	
12		15.15	15	170	60	240	1405	
13		15.30	15	185	85	340	1745	
14	1/10"	15.45	15	200	96	384	2129	
15		15.50	5	205	40	400	2529	
16		16.00	10	215	62	620	3149	
17		16.15	15	230	82	820	3969	
18		16.30	15	245	98	980	4949	
19	1/20"	16.35	5	250	56	1120	6069	
20		16.45	10	260	75	1500	7569	
21		17.00	15	275	86	1720	9289	
22		17.15	15	290	100	2000	11289	



**LABORATORIUM BAHAN**

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Tabel Uji Setting Time w/c =0,35

No	t	PR	Log PR Y	Log t X	XxY	X <sup>2</sup>
1	35	30	1.477	1.544	2.281	2.384
2	50	78	1.892	1.699	3.215	2.886
3	65	132	2.121	1.813	3.844	3.287
4	80	206	2.314	1.903	4.403	3.622
5	95	298	2.474	1.978	4.893	3.911
6	100	418	2.621	2.000	5.242	4.000
7	110	556	2.745	2.041	5.604	4.167
8	125	704	2.848	2.097	5.971	4.397
9	140	904	2.956	2.146	6.344	4.606
10	145	1084	3.035	2.161	6.560	4.672
11	155	1308	3.117	2.190	6.826	4.798
12	170	1576	3.198	2.230	7.132	4.975
13	185	1884	3.275	2.267	7.425	5.140
14	200	2284	3.359	2.301	7.728	5.295
15	205	2784	3.445	2.312	7.963	5.344
16	215	3434	3.536	2.332	8.247	5.440
17	230	4344	3.638	2.362	8.592	5.578
18	245	5344	3.728	2.389	8.906	5.708
19	250	6544	3.816	2.398	9.150	5.750
20	260	8084	3.908	2.415	9.437	5.832
21	275	9864	3.994	2.439	9.743	5.950
22	290	11804	4.072	2.462	10.027	6.063
$\Sigma$			67.567	47.481	149.535	103.806

initial

b = 2.790253

a = -2.95083

Logt= 2.024833

t = 105.8846

final

b = 2.790253

a = -2.95083

Logt= 2.348491

t = 223.0958



**LABORATORIUM BAHAN**

Jurusan Teknik Sipil-Fakultas Teknik

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Kampus Baru UI Depok, Telp. 787 4878-727 0029 (ext. 18)-727 0028 (Fax)

Tabel Uji Setting Time w/c =0,55

No	t	PR	Log PR Y	Log t X	XxY	X <sup>2</sup>
1	35	28	1.447	1.544	2.235	2.384
2	50	68	1.833	1.699	3.113	2.886
3	65	123	2.090	1.813	3.789	3.287
4	80	191	2.281	1.903	4.341	3.622
5	95	281	2.449	1.978	4.843	3.911
6	100	389	2.590	2.000	5.180	4.000
7	110	513	2.710	2.041	5.532	4.167
8	125	669	2.825	2.097	5.925	4.397
9	140	861	2.935	2.146	6.299	4.606
10	145	1021	3.009	2.161	6.504	4.672
11	155	1221	3.087	2.190	6.761	4.798
12	170	1481	3.171	2.230	7.072	4.975
13	185	1801	3.256	2.267	7.381	5.140
14	200	2185	3.339	2.301	7.684	5.295
15	205	2605	3.416	2.312	7.897	5.344
16	215	3255	3.513	2.332	8.193	5.440
17	230	4115	3.614	2.362	8.536	5.578
18	245	5115	3.709	2.389	8.861	5.708
19	250	6275	3.798	2.398	9.106	5.750
20	260	7775	3.891	2.415	9.396	5.832
21	275	9475	3.977	2.439	9.700	5.950
22	290	11475	4.060	2.462	9.997	6.063
Σ			66.997	47.481	148.344	103.806

initial

b = 2.818148

a = -3.03691

Logt= 2.035336

t = 108.4766

final

b = 2.818148

a = -3.03691

Logt= 2.355791

t = 226.8773



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Tabel Uji Setting Time w/c =0,45

No	t	PR	Log PR Y	Log t X	XxY	X <sup>2</sup>
1	35	30	1.477	1.544	2.281	2.384
2	50	67	1.826	1.699	3.102	2.886
3	65	119	2.076	1.813	3.763	3.287
4	80	192	2.283	1.903	4.345	3.622
5	95	282	2.450	1.978	4.846	3.911
6	100	406	2.609	2.000	5.217	4.000
7	110	534	2.728	2.041	5.568	4.167
8	125	682	2.834	2.097	5.942	4.397
9	140	870	2.940	2.146	6.309	4.606
10	145	1038	3.016	2.161	6.519	4.672
11	155	1266	3.102	2.190	6.795	4.798
12	170	1526	3.184	2.230	7.101	4.975
13	185	1846	3.266	2.267	7.405	5.140
14	200	2238	3.350	2.301	7.708	5.295
15	205	2668	3.426	2.312	7.920	5.344
16	215	3288	3.517	2.332	8.203	5.440
17	230	4188	3.622	2.362	8.554	5.578
18	245	5188	3.715	2.389	8.876	5.708
19	250	6488	3.812	2.398	9.141	5.750
20	260	7888	3.897	2.415	9.411	5.832
21	275	9648	3.984	2.439	9.719	5.950
22	290	11648	4.066	2.462	10.013	6.063
$\Sigma$			67.180	47.481	148.739	103.806

initial

b = 2.819525

a = -3.03158

Logt= 2.032453

t = 107.7589

final

b = 2.819525

a = -3.03158

Logt= 2.352752

t = 225.2951

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Tabel Uji Setting Time w/c =0,65

No	t	PR	Log PR Y	Log t X	XxY	X <sup>2</sup>
1	35	27	1.431	1.544	2.210	2.384
2	50	65	1.813	1.699	3.080	2.886
3	65	117	2.068	1.813	3.749	3.287
4	80	183	2.262	1.903	4.306	3.622
5	95	269	2.430	1.978	4.805	3.911
6	100	373	2.572	2.000	5.143	4.000
7	110	481	2.682	2.041	5.475	4.167
8	125	637	2.804	2.097	5.880	4.397
9	140	825	2.916	2.146	6.259	4.606
10	145	985	2.993	2.161	6.470	4.672
11	155	1165	3.066	2.190	6.716	4.798
12	170	1405	3.148	2.230	7.021	4.975
13	185	1745	3.242	2.267	7.350	5.140
14	200	2129	3.328	2.301	7.658	5.295
15	205	2529	3.403	2.312	7.867	5.344
16	215	3149	3.498	2.332	8.159	5.440
17	230	3969	3.599	2.362	8.499	5.578
18	245	4949	3.695	2.389	8.827	5.708
19	250	6069	3.783	2.398	9.072	5.750
20	260	7569	3.879	2.415	9.368	5.832
21	275	9289	3.968	2.439	9.679	5.950
22	290	11289	4.053	2.462	9.979	6.063
$\Sigma$			66.634	47.481	147.573	103.806

initial

b = 2.829099

a = -3.07707

Logt= 2.041655

t = 110.0664

final

b = 2.829099

a = -3.07707

Logt= 2.360869

t = 229.5458



**DATA TES KUAT TEKAN BETON**

No	Tanggal		Umur (hari)	Kode	Luas (cm <sup>2</sup> )	Slump (cm)	Jumlah Air (kg)	Berat (kg)	Beban (kg)	Tegangan (kg/cm <sup>2</sup> )	Tegangan Rata-rata (kg/cm <sup>2</sup> )	Ket
	Dicor	Ditest										
1	21/10/2008	24/10/2008	3	A - 0,65	176,715	9,7	7.267	12235	22750	128,738		
2	21/10/2008	24/10/2008	3	A - 0,65	176,715	9,7	7.267	12030	24000	135,812		
3	21/10/2008	24/10/2008	3	A - 0,65	176,715	9,7	7.267	12080	22500	127,324	130,719	
4	21/10/2008	24/10/2008	3	A - 0,65	176,715	9,7	7.267	12390	24500	138,641		
5	21/10/2008	24/10/2008	3	A - 0,65	176,715	9,7	7.267	12200	21750	123,080		

No	Tanggal		Umur (hari)	Kode	Luas (cm <sup>2</sup> )	Slump (cm)	Jumlah Air (kg)	Berat (kg)	Beban (kg)	Tegangan (kg/cm <sup>2</sup> )	Tegangan Rata-rata (kg/cm <sup>2</sup> )	Ket
	Dicor	Ditest										
1	21/10/2008	28/10/2008	7	A - 0,65	176,715	9,7	7,267	12208	34000	192,400		
2	21/10/2008	28/10/2008	7	A - 0,65	176,715	9,7	7,267	12304	34250	193,815		
3	21/10/2008	28/10/2008	7	A - 0,65	176,715	9,7	7,267	12012	32500	183,912	192,966	
4	21/10/2008	28/10/2008	7	A - 0,65	176,715	9,7	7,267	12217	33750	190,985		
5	21/10/2008	28/10/2008	7	A - 0,65	176,715	9,7	7,267	12148	36000	203,718		

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No	Tanggal		Umur (hari)	Kode	Luas (cm <sup>2</sup> )	Slump (cm)	Jumlah Air (kg)	Berat (kg)	Beban (kg)	Tegangan (kg/cm <sup>2</sup> )	Tegangan Rata-rata (kg/cm <sup>2</sup> )	Ket
	Dicor	Ditest										
1	21/10/2008	4/11/2008	14	A - 0,65	176,715	9,7	7,267	12297	41000	232,012		
2	21/10/2008	4/11/2008	14	A - 0,65	176,715	9,7	7,267	12192	40750	230,597		
3	21/10/2008	4/11/2008	14	A - 0,65	176,715	9,7	7,267	12189	40750	230,597	230,951	
4	21/10/2008	4/11/2008	14	A - 0,65	176,715	9,7	7,267	12220	35000	198,059		No ok
5	21/10/2008	4/11/2008	14	A - 0,65	176,715	9,7	7,267	11985	40750	230,597		

No	Tanggal		Umur (hari)	Kode	Luas (cm <sup>2</sup> )	Slump (cm)	Jumlah Air (kg)	Berat (kg)	Beban (kg)	Tegangan (kg/cm <sup>2</sup> )	Tegangan Rata-rata (kg/cm <sup>2</sup> )	Ket
	Dicor	Ditest										
1	21/10/2008	11/11/2008	21	A - 0,65	176,715	9,7	7,267	12146	40000	226,353		
2	21/10/2008	11/11/2008	21	A - 0,65	176,715	9,7	7,267	12151	46000	260,306		
3	21/10/2008	11/11/2008	21	A - 0,65	176,715	9,7	7,267	12369	44000	248,988	242,764	
4	21/10/2008	11/11/2008	21	A - 0,65	176,715	9,7	7,267	12188	42500	240,500		
5	21/10/2008	11/11/2008	21	A - 0,65	176,715	9,7	7,267	12147	42000	237,671		

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No	Tanggal		Umur (hari)	Kode	Luas (cm <sup>2</sup> )	Slump (cm)	Jumlah Air (kg)	Berat (kg)	Beban (kg)	Tegangan (kg/cm <sup>2</sup> )	Tegangan Rata-rata (kg/cm <sup>2</sup> )	Ket
	Dicor	Ditest										
1	21/10/2008	18/11/2008	28	A - 0,65	176,715	9,7	7,267	12117	45000	254,647		
2	21/10/2008	18/11/2008	28	A - 0,65	176,715	9,7	7,267	12305	50000	282,941		
3	21/10/2008	18/11/2008	28	A - 0,65	176,715	9,7	7,267	12133	45000	254,647	264,833	
4	21/10/2008	18/11/2008	28	A - 0,65	176,715	9,7	7,267	12234	45000	254,647		
5	21/10/2008	18/11/2008	28	A - 0,65	176,715	9,7	7,267	12278	49000	277,283		

No	Tanggal		Umur (hari)	Kode	Luas (cm <sup>2</sup> )	Slump (cm)	Jumlah Air (kg)	Berat (kg)	Beban (kg)	Tegangan (kg/cm <sup>2</sup> )	Tegangan Rata-rata (kg/cm <sup>2</sup> )	Ket
	Dicor	Ditest										
1	24/10/2008	27/10/2008	3	B - 0,55	176,715	8,7	7,162	12205	30000	169,765		
2	24./10/2008	27/10/2008	3	B - 0,55	176,715	8,7	7,162	12278	32500	183,912		
3	24/10/2008	27/10/2008	3	B - 0,55	176,715	8,7	7,162	12278	30250	171,180	177,970	
4	24/10/2008	27/10/2008	3	B - 0,55	176,715	8,7	7,162	12177	33000	186,741		
5	24/10/2008	27/10/2008	3	B- 0,55	176,715	8,7	7,162	12309	31500	178,253		

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No	Tanggal		Umur (hari)	Kode	Luas (cm <sup>2</sup> )	Slump (cm)	Jumlah Air (kg)	Berat (kg)	Beban (kg)	Tegangan (kg/cm <sup>2</sup> )	Tegangan Rata-rata (kg/cm <sup>2</sup> )	Ket
	Dicor	Ditest										
1	24/10/2008	31/10/2008	7	B - 0,55	176,715	8,7	7,162	12348	41000	232,012		
2	24./10/2008	31/10/2008	7	B - 0,55	176,715	8,7	7,162	12247	43500	246,159		
3	24/10/2008	31/10/2008	7	B - 0,55	176,715	8,7	7,162	12130	39500	223,524	234,841	
4	24/10/2008	31/10/2008	7	B - 0,55	176,715	8,7	7,162	12357	40500	229,183		
5	24/10/2008	31/10/2008	7	B- 0,55	176,715	8,7	7,162	12220	43000	243,330		

No	Tanggal		Umur (hari)	Kode	Luas (cm <sup>2</sup> )	Slump (cm)	Jumlah Air (kg)	Berat (kg)	Beban (kg)	Tegangan (kg/cm <sup>2</sup> )	Tegangan Rata-rata (kg/cm <sup>2</sup> )	Ket
	Dicor	Ditest										
1	24/10/2008	7/11/2008	14	B - 0,55	176,715	8,7	7,162	12133	50250	284,356		No ok
2	24./10/2008	7/11/2008	14	B - 0,55	176,715	8,7	7,162	12170	46000	260,306		
3	24/10/2008	7/11/2008	14	B - 0,55	176,715	8,7	7,162	12280	48000	282,941	269,738	
4	24/10/2008	7/11/2008	14	B - 0,55	176,715	8,7	7,162	12233	49000	277,283		
5	24/10/2008	7/11/2008	14	B- 0,55	176,715	8,7	7,162	12506	51000	288,600		No ok

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No	Tanggal		Umur (hari)	Kode	Luas (cm <sup>2</sup> )	Slump (cm)	Jumlah Air (kg)	Berat (kg)	Beban (kg)	Tegangan (kg/cm <sup>2</sup> )	Tegangan Rata-rata (kg/cm <sup>2</sup> )	Ket
	Dicor	Ditest										
1	24/10/2008	14/11/2008	21	B - 0,55	176,715	8,7	7,162	12354	55000	311,236		No ok
2	24./10/2008	14/11/2008	21	B - 0,55	176,715	8,7	7,162	12232	56750	321,139		
3	24/10/2008	14/11/2008	21	B - 0,55	176,715	8,7	7,162	12174	47500	268,794	285,581	
4	24/10/2008	14/11/2008	21	B - 0,55	176,715	8,7	7,162	12273	47500	268,794		
5	24/10/2008	14/11/2008	21	B- 0,55	176,715	8,7	7,162	12337	50000	282,941		

No	Tanggal		Umur (hari)	Kode	Luas (cm <sup>2</sup> )	Slump (cm)	Jumlah Air (kg)	Berat (kg)	Beban (kg)	Tegangan (kg/cm <sup>2</sup> )	Tegangan Rata-rata (kg/cm <sup>2</sup> )	Ket
	Dicor	Ditest										
1	24/10/2008	21/11/2008	28	B - 0,55	176,715	8,7	7,162	12351	49000	277,283		
2	24./10/2008	21/11/2008	28	B - 0,55	176,715	8,7	7,162	12404	54000	305,577		
3	24/10/2008	21/11/2008	28	B - 0,55	176,715	8,7	7,162	12308	55000	311,236	305,577	
4	24/10/2008	21/11/2008	28	B - 0,55	176,715	8,7	7,162	12253	54000	305,577		
5	24/10/2008	21/11/2008	28	B- 0,55	176,715	8,7	7,162	12286	58000	328,212		

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No	Tanggal		Umur (hari)	Kode	Luas (cm <sup>2</sup> )	Slump (cm)	Jumlah Air (kg)	Berat (kg)	Beban (kg)	Tegangan (kg/cm <sup>2</sup> )	Tegangan Rata-rata (kg/cm <sup>2</sup> )	Ket
	Dicor	Ditest										
1	28/10/2008	31/10/2008	3	C - 0,45	176,715	6,6	7,057	12238	47000	265,624		
2	28/10/2008	31/10/2008	3	C - 0,45	176,715	6,6	7,057	12242	46000	260,306		
3	28/10/2008	31/10/2008	3	C - 0,45	176,715	6,6	7,057	12111	47500	268,794	262,750	
4	28/10/2008	31/10/2008	3	C - 0,45	176,715	6,6	7,057	12442	45000	254,647		
5	28/10/2008	31/10/2008	3	C - 0,45	176,715	6,6	7,057	12366	46500	263,136		

No	Tanggal		Umur (hari)	Kode	Luas (cm <sup>2</sup> )	Slump (cm)	Jumlah Air (kg)	Berat (kg)	Beban (kg)	Tegangan (kg/cm <sup>2</sup> )	Tegangan Rata-rata (kg/cm <sup>2</sup> )	Ket
	Dicor	Ditest										
1	28/10/2008	4/11/2008	7	C - 0,45	176,715	6,6	7,057	12329	54000	305,577		
2	28/10/2008	4/11/2008	7	C - 0,45	176,715	6,6	7,057	12364	53000	299,918		
3	28/10/2008	4/11/2008	7	C - 0,45	176,715	6,6	7,057	12243	56500	319,724	312,367	
4	28/10/2008	4/11/2008	7	C - 0,45	176,715	6,6	7,057	12428	58000	328,212		
5	28/10/2008	4/11/2008	7	C - 0,45	176,715	6,6	7,057	12548	54500	308,406		



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No	Tanggal		Umur (hari)	Kode	Luas (cm <sup>2</sup> )	Slump (cm)	Jumlah Air (kg)	Berat (kg)	Beban (kg)	Tegangan (kg/cm <sup>2</sup> )	Tegangan Rata-rata (kg/cm <sup>2</sup> )	Ket
	Dicor	Ditest										
1	28/10/2008	11/11/2008	14	C - 0,45	176,715	6,6	7,057	12276	66000	373,483		
2	28/10/2008	11/11/2008	14	C - 0,45	176,715	6,6	7,057	12410	60000	339,530		
3	28/10/2008	11/11/2008	14	C - 0,45	176,715	6,6	7,057	12319	69000	390,459	355,092	
4	28/10/2008	11/11/2008	14	C - 0,45	176,715	6,6	7,057	12413	49000	277,283		No ok
5	28/10/2008	11/11/2008	14	C - 0,45	176,715	6,6	7,057	12309	65000	367,824		

No	Tanggal		Umur (hari)	Kode	Luas (cm <sup>2</sup> )	Slump (cm)	Jumlah Air (kg)	Berat (kg)	Beban (kg)	Tegangan (kg/cm <sup>2</sup> )	Tegangan Rata-rata (kg/cm <sup>2</sup> )	Ket
	Dicor	Ditest										
1	28/10/2008	18/11/2008	21	C - 0,45	176,715	6,6	7,057	12318	60000	339,530		No ok
2	28/10/2008	18/11/2008	21	C - 0,45	176,715	6,6	7,057	12334	60000	339,530		
3	28/10/2008	18/11/2008	21	C - 0,45	176,715	6,6	7,057	12443	65000	367,824	374,199	
4	28/10/2008	18/11/2008	21	C - 0,45	176,715	6,6	7,057	12283	64500	364,994		
5	28/10/2008	18/11/2008	21	C - 0,45	176,715	6,6	7,057	12544	69000	390,459		

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No	Tanggal		Umur (hari)	Kode	Luas (cm <sup>2</sup> )	Slump (cm)	Jumlah Air (kg)	Berat (kg)	Beban (kg)	Tegangan (kg/cm <sup>2</sup> )	Tegangan Rata-rata (kg/cm <sup>2</sup> )	Ket
	Dicor	Ditest										
1	28/10/2008	25/11/2008	28	C - 0,45	176,715	6,6	7,057	12434	79500	449,877		
2	28/10/2008	25/11/2008	28	C - 0,45	176,715	6,6	7,057	12470	68500	387,630		
3	28/10/2008	25/11/2008	28	C - 0,45	176,715	6,6	7,057	12456	68000	384,800	392,157	
4	28/10/2008	25/11/2008	28	C - 0,45	176,715	6,6	7,057	12375	70500	398,947		
5	28/10/2008	25/11/2008	28	C - 0,45	176,715	6,6	7,057	12271	60000	339,530		

No	Tanggal		Umur (hari)	Kode	Luas (cm <sup>2</sup> )	Slump (cm)	Jumlah Air (kg)	Berat (kg)	Beban (kg)	Tegangan (kg/cm <sup>2</sup> )	Tegangan Rata-rata (kg/cm <sup>2</sup> )	Ket
	Dicor	Ditest										
1	31/10/2008	3/11/2008	3	D - 0,35	176,715	3,7	6,952	12569	49750	281,527		
2	31/10/2008	3/11/2008	3	D - 0,35	176,715	3,7	6,952	12545	57500	325,383		
3	31/10/2008	3/11/2008	3	D - 0,35	176,715	3,7	6,952	12438	65000	367,824	351,130	
4	31/10/2008	3/11/2008	3	D - 0,35	176,715	3,7	6,952	12513	72000	407,436		
5	31/10/2008	3/11/2008	3	D - 0,35	176,715	3,7	6,952	12429	66000	373,483		

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No	Tanggal		Umur (hari)	Kode	Luas (cm <sup>2</sup> )	Slump (cm)	Jumlah Air (kg)	Berat (kg)	Beban (kg)	Tegangan (kg/cm <sup>2</sup> )	Tegangan Rata-rata (kg/cm <sup>2</sup> )	Ket
	Dicor	Ditest										
1	31/10/2008	7/11/2008	7	D - 0,35	176,715	3,7	6,952	12397	74000	418,753		
2	31/10/2008	7/11/2008	7	D - 0,35	176,715	3,7	6,952	12305	72500	410,265		
3	31/10/2008	7/11/2008	7	D - 0,35	176,715	3,7	6,952	12396	72500	410,265	417,056	
4	31/10/2008	7/11/2008	7	D - 0,35	176,715	3,7	6,952	12520	75000	424,412		
5	31/10/2008	7/11/2008	7	D - 0,35	176,715	3,7	6,952	12407	74500	421,583		

No	Tanggal		Umur (hari)	Kode	Luas (cm <sup>2</sup> )	Slump (cm)	Jumlah Air (kg)	Berat (kg)	Beban (kg)	Tegangan (kg/cm <sup>2</sup> )	Tegangan Rata-rata (kg/cm <sup>2</sup> )	Ket
	Dicor	Ditest										
1	31/10/2008	14/11/2008	14	D - 0,35	176,715	3,7	6,952	12350	79500	448,462		
2	31/10/2008	14/11/2008	14	D - 0,35	176,715	3,7	6,952	12345	75500	427,242		
3	31/10/2008	14/11/2008	14	D - 0,35	176,715	3,7	6,952	12350	76250	431,486	439,125	
4	31/10/2008	14/11/2008	14	D - 0,35	176,715	3,7	6,952	12516	78000	441,389		
5	31/10/2008	14/11/2008	14	D - 0,35	176,715	3,7	6,952	12380	79000	447,048		

**LABORATORIUM BAHAN**

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Telp. 7874878 – 7270029(Ext.18) – 7270028 (Fax)

No	Tanggal		Umur (hari)	Kode	Luas (cm <sup>2</sup> )	Slump (cm)	Jumlah Air (kg)	Berat (kg)	Beban (kg)	Tegangan (kg/cm <sup>2</sup> )	Tegangan Rata-rata (kg/cm <sup>2</sup> )	Ket
	Dicor	Ditest										
1	31/10/2008	21/11/2008	21	D - 0,35	176,715	3,7	6,952	12507	78000	441,389		
2	31/10/2008	21/11/2008	21	D - 0,35	176,715	3,7	6,952	12346	77000	435,750		
3	31/10/2008	21/11/2008	21	D - 0,35	176,715	3,7	6,952	12500	69000	390,459	451,575	
4	31/10/2008	21/11/2008	21	D - 0,35	176,715	3,7	6,952	12604	95000	537,589		
5	31/10/2008	21/11/2008	21	D - 0,35	176,715	3,7	6,952	12447	80000	452,706		

No	Tanggal		Umur (hari)	Kode	Luas (cm <sup>2</sup> )	Slump (cm)	Jumlah Air (kg)	Berat (kg)	Beban (kg)	Tegangan (kg/cm <sup>2</sup> )	Tegangan Rata-rata (kg/cm <sup>2</sup> )	Ket
	Dicor	Ditest										
1	31/10/2008	28/11/2008	28	D - 0,35	176,715	3,7	6,952	12373	84500	478,171		
2	31/10/2008	28/11/2008	28	D - 0,35	176,715	3,7	6,952	12571	90000	509,295		
3	31/10/2008	28/11/2008	28	D - 0,35	176,715	3,7	6,952	12502	81000	458,365	471,663	
4	31/10/2008	28/11/2008	28	D - 0,35	176,715	3,7	6,952	12312	81250	459,780		
5	31/10/2008	28/11/2008	28	D - 0,35	17,715	3,7	6,952	12654	80000	452,706		

## PERALATAN



Gelas Ukur



Sekop



Timbangan



Alat Analisa Ayakan



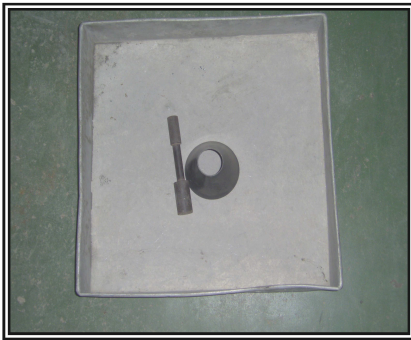
Alat Uji Berat Jenis Agravat Kasar



Mixer



Cetakan



Kerucut Abram



Alat Uji Slump



Alat Kaping



Alat Setting Time

## PELAKSANAAN



Uji Kondisi SSD Agregat Halus



Kondisi SSD Agregat Kasar

Uji Kadar Organik



Uji Slump

Pemadatan