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Lampiran 1 Dokumentasi Persiapan Material



(a)



(b)



(c)

(a) Penyaringan Agregat; (b) Pencucian Agregat; (c) Penjemuran Agregat

Lampiran 2 Dokumentasi Pembuatan Benda Uji



(a)



(b)



(c)

(a) Pengadukan beton segar; (b) Pemadatan Beton; (c) Pencetakan beton

Lampiran 3 Perawatan Benda Uji



Curing benda uji

Lampiran 4 Dokumentasi Pengujian Benda Uji



(a)



(b)

(a) Pengujian Benda Uji; (b) *Data logger* dan komputer untuk merekam hasil pengujian

Lampiran 5 Tabel Modulus Elastisitas Beton

BSW Kontrol

Sampel 1

Hasil Uji		Eksperimental				Teori
Tegangan (MPa)	Regangan (mm)	S1→(0.00005)	S2→40%	ϵ_2 (Longitudinal)	Ec (MPa)	(MPa)
0.959276433	0.000045	1.068691295	10.18700637	0.000487155	20858.30	23718.71
1.451643312	0.0000675					
25.46751592	0.00196					
9.677656051	0.00046					
10.6623949	0.0005125					

Sampel 2

Hasil Uji		Eksperimental				Teori
Tegangan (MPa)	Regangan (mm)	S1→(0.00005)	S2→(40%)	ϵ_2 (Longitudinal)	Ec (MPa)	(MPa)
0.848917197	0.000035	1.205460722	9.243006369	0.000424163	21481.41	22593.03
1.383732484	0.0000575					
23.10751592	0.0018325					
8.107159236	0.000365					
9.355070064	0.00043					

Sampel 3

Hasil Uji		Eksperimental				Teori
Tegangan (MPa)	Regangan (mm)	S1→(0.00005)	S2→40%	ϵ_2 (Longitudinal)	Ec (MPa)	(MPa)
1.035678981	0.0000425	1.211123567	9.358471338	0.000429202	21485.53	22733.71
1.562012739	0.000065					
23.39617834	0.001535					
9.083414013	0.000415					
10.39075159	0.0004825					

Rekap	Sampel 1 (MPa)	Sampel 2 (MPa)	Sampel 3 (MPa)	Rata-rata (MPa)
E_c (Eksperimental)	20858.29636	21481.40544	21485.52746	21275.08
E_c (Teori)	23718.71469	22593.03049	22733.7102	23015.15

Sampel 1

Hasil Uji		Eksperimental				Teori
Tegangan (MPa)	Regangan (mm)	S1→(0.00005)	S2→40%	ε ₂ (Longitudinal)	Ec (MPa)	(MPa)
4.762420382	0.00003	5.319312102	7.626649682	0.000175205	18428.41	20522.71
5.458535032	0.000055					
19.0666242	0.001395					
6.961121019	0.000155					
7.784573248	0.00018					

Sampel 2

Hasil Uji		Eksperimental				Teori
Tegangan (MPa)	Regangan (mm)	S1→(0.00005)	S2→(40%)	ε ₂ (Longitudinal)	Ec (MPa)	(MPa)
0.585752866	0.0000375	0.845733758	8.305783439	0.000427943	19738.54	21416.98
1.001722293	0.0000575					
20.7644586	0.00222					
7.665719745	0.0003925					
8.658955414	0.0004475					

Sampel 3

Hasil Uji		Eksperimental				Teori
Tegangan (MPa)	Regangan (mm)	S1→(0.00005)	S2→40%	ε ₂ (Longitudinal)	Ec (MPa)	(MPa)
1.30733758	0.00005	1.30733758	9.15811465	0.000451964	19531.06	22489.04
1.850636943	0.0000775					
22.89528662	0.0019575					
8.548598726	0.0004175					
9.609745223	0.0004775					

Rekap	Sampel 1 (MPa)	Sampel 2 (MPa)	Sampel 3 (MPa)	Rata-rata (MPa)
<i>Ec (Eksperimental)</i>	18428.41282	19738.5444	19531.06344	19232.67
<i>Ec (Teori)</i>	20522.71251	21416.97669	22489.03914	21476.24

Sampel 1

Hasil Uji		Eksperimental				Teori
Tegangan (MPa)	Regangan (mm)	S1→(0.00005)	S2→40%	ε ₂ (Longitudinal)	Ec (MPa)	(MPa)
0.976254777	0.00004	1.204251137	8.125859873	0.000412798	19078.43	21183.73
1.375248408	0.0000575					
20.31464968	0.0014725					
7.292203822	0.000365					
8.251477707	0.00042					

Sampel 2

Hasil Uji		Eksperimental				Teori
Tegangan (MPa)	Regangan (mm)	S1→(0.00005)	S2→(40%)	ε ₂ (Longitudinal)	Ec (MPa)	(MPa)
0.713090446	0.000044893	0.784031105	7.837197452	0.000559547	13842.04	20804.07
1.095103185	0.000072394					
19.59299363	0.002310009					
7.71666242	0.000554916					
8.497656051	0.000584921					

Sampel 3

Hasil Uji		Eksperimental				Teori
Tegangan (MPa)	Regangan (mm)	S1→(0.00005)	S2→40%	ε ₂ (Longitudinal)	Ec (MPa)	(MPa)
0.008489172	0.000005	0.004244586	5.776050955	0.000373219	17857.28	17860.08
0	0.000095					
14.44012739	0.003625					
5.645299363	0.0003675					
6.502700637	0.000405					

Rekap	Sampel 1 (MPa)	Sampel 2 (MPa)	Sampel 3 (MPa)	Rata-rata (MPa)
<i>Ec (Eksperimental)</i>	19078.42521	13842.03737	17857.2809	16925.91
<i>Ec (Teori)</i>	21183.7346	20804.06761	17860.07878	19949.29

BSW Variasi 25%

Sampel 1

Hasil Uji		Eksperimental				Teori
Tegangan (MPa)	Regangan (mm)	S1→(0.00005)	S2→40%	ε ₂ (Longitudinal)	E _c (MPa)	(MPa)
0	0.0000325	0.051170842	5.399133758	0.001132502	4940.372	17267.52
0.263164331	0.0001225					
13.49783439	0.0047					
5.110484076	0.0010975					
5.832063694	0.001185					

Sampel 2

Hasil Uji		Eksperimental				Teori
Tegangan (MPa)	Regangan (mm)	S1→(0.00005)	S2→(40%)	ε ₂ (Longitudinal)	E _c (MPa)	(MPa)
0.008489172	0.00004	0.008489172	6.54343949	0.000612722	11613.12	19009.51
0.008489172	0.0000625					
16.35859873	0.0018025					
6.120687898	0.000635					
6.927159236	0.0005925					

Sampel 3

Hasil Uji		Eksperimental				Teori
Tegangan (MPa)	Regangan (mm)	S1→(0.00005)	S2→40%	ε ₂ (Longitudinal)	E _c (MPa)	(MPa)
3.947464968	0.0000475	3.997093582	6.231031847	0.000182844	16816.2	18550.17
4.592636943	0.00008					
15.57757962	0.0014875					
5.96788535	0.0001775					
6.70644586	0.0001925					

Rekap	Sampel 1 (MPa)	Sampel 2 (MPa)	Sampel 3 (MPa)	Rata-rata (MPa)
<i>E_c (Eksperimental)</i>	4940.371577	11613.11573	16816.19606	11123.23
<i>E_c (Teori)</i>	17267.51753	19009.50935	18550.16803	18275.73