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LAMPIRAN

Lampiran 1. Persiapan HHF dan Agregat



Lampiran 2. Dokumentasi Pembuatan Benda uji



(a) Pencampuran Material



(b) Pencetakan Beton

Lampiran 3. Perawatan Benda Uji

(a) *Curing* Benda Uji(b) Peletakan Benda Uji ke dalam Bak *Curing*

Lampiran 4. Dokumentasi Pengujian Benda Uji



(a) *Data Logger* dan Komputer untuk Merekam Hasil Pengujian



(b) Pengujian Kekuatan Tekan Beton



(c) Pengujian Kekuatan Tarik Belah Beton



Lampiran 5. Analisa Kekuatan Tekan & Modulus Elastisitas

PERHITUNGAN KEKUATAN TEKAN & MODULUS ELASTISITAS ANALISIS												
Variasi Substitusi HHF	Nomor Sampel	Panjang (L)	Diameter (D)	L/D	Faktor Koreksi L/D	Faktor Koreksi Diameter	Luas Bidang (A)	Massa Benda Uji	Gaya Tekan	Berat Isi	Kekuatan Tekan	Modulus Elastisitas Analisis (N/mm ²)
		mm	mm				mm ²	kg	kN	kg/m ³	N/mm ²	
0%	S1	200	100	2	1	1.04	7853.98	3.66	218.32	2330.03	28.91	25270.66
	S2	200	100	2	1	1.04	7853.98	3.69	226.70	2345.94	30.02	25751.23
	S3	200	100	2	1	1.04	7853.98	3.65	222.80	2323.66	29.50	25528.84
	RATA-RATA								3.67	222.61	2333.21	29.48
1%	S1	200	100	2	1	1.04	7853.98	3.68	186.22	2342.76	24.66	23339.03
	S2	200	100	2	1	1.04	7853.98	3.59	176.70	2285.46	23.40	22734.63
	S3	200	100	2	1	1.04	7853.98	3.64	176.70	2317.30	23.40	22734.63
	RATA-RATA								3.64	179.87	2315.17	23.82
2%	S1	200	100	2	1	1.04	7853.98	3.64	183.61	2317.30	24.31	23174.89
	S2	200	100	2	1	1.04	7853.98	3.57	191.96	2269.55	25.42	23696.00
	S3	200	100	2	1	1.04	7853.98	3.57	187.63	2272.73	24.85	23427.22
	RATA-RATA								3.59	187.73	2286.53	24.86
3%	S1	200	100	2	1	1.04	7853.98	3.53	167.72	2247.27	22.21	22149.40
	S2	200	100	2	1	1.04	7853.98	3.59	169.00	2285.46	22.38	22233.76
	S3	200	100	2	1	1.04	7853.98	3.57	161.60	2272.73	21.40	21741.54
	RATA-RATA								3.56	166.11	2268.49	22.00

Lampiran 6. Analisa Kekuatan Tarik Belah

PERHITUNGAN KEKUATAN TARIK BELAH BETON							
Variasi Substitusi HHF	Nomor Sampel	Panjang (L)	Diameter (D)	Massa Benda Uji	Beban (P)	Berat Isi	Kekuatan Tarik Belah
		mm	mm	kg	kN	kg/m ³	N/mm ²
0%	S1	200	100	3.74	131.28	2377.77	4.18
	S2	200	100	3.72	116.28	2368.23	3.70
	S3	200	100	3.63	125.61	2307.75	4.00
	RATA-RATA			3.69	124.39	2351.25	3.96
1%	S1	200	100	3.58	93.18	2279.10	2.97
	S2	200	100	3.60	83.14	2288.65	2.65
	S3	200	100	3.60	106.68	2291.83	3.40
	RATA-RATA			3.59	94.33	2286.53	3.00
2%	S1	200	100	3.59	101.97	2285.46	3.25
	S2	200	100	3.50	109.98	2228.17	3.50
	S3	200	100	3.65	104.98	2323.66	3.34
	RATA-RATA			3.58	105.64	2279.10	3.36
3%	S1	200	100	3.53	93.50	2247.27	2.98
	S2	200	100	3.55	79.38	2260.00	2.53
	S3	200	100	3.57	90.99	2272.73	2.90
	RATA-RATA			3.55	87.96	2260.00	2.80

