DAFTAR PUSTAKA

Arvian Angga Baktiar. (2021). Pengaruh Penambahan Serbuk Kaca Terhadap Kuat Tekan Beton Non-Struktural.

Herbudiman, B. ; Januar, C., 2011, Pemanfaatan Serbuk Kaca Sebagai Powder pada Self Compacting Concrete, laporan tugas akhir, Institut Teknologi Nasional, Bandung.

Hossam A. Eleqram, M A. (2019). *Effect of immersion time of glass powder on mechanical properties of concrete contained glass powder as cement replacemen.*

Karwur, H. Y., Tenda, R., Wallah, S. E., & Windah, R. S. (2013). KUAT TEKAN BETON DENGAN TAMBAHAN SERBUK. jurnal Sipil Statik Vol.1 No.4 (276-281) ISSN: 2337-6732.

Mulyono, Tri. (2003). Teknologi Beton. Yogyakarta: Andi Offset

Nawy, E. G. (1985). *Beton bertulang Suatu Pendektan Dasar. Bandung*: PT Refika Aditama.

Rosidawani dan I. Mahani. (2019)**.** Pengaruh Variasi Serbuk Kaca Sebagai Pengganti Sebagian Semen Terhadap Karakteristik Flowability SCC.

SNI 03-1974-2011. (2011) *Cara Uji Kuat Tekan Beton dengan Benda Uji Silinder*. Badan Standarisasi Nasional, Jakarta.

SNI 03-2834-2000. (2000). *Tentang Tata Cara Pembuatan Rencana Campuran Beton Normal*. Badan Standarisasi Nasional, Jakarta

SNI 03-2491-2014. (2014). *Metode uji kekuatan Tarik Belah Beton*. Badan Standarisasi Nasional, Bandung.

SNI 03-2834-2000. (2000). T*ata Cara Pembuatan rancangan Campuran Beton Normal*. Badan Standarisasi Nasional, Jakarta.

SNI 1972-2008 *Tentang Cara Uji Slump Beton*. Badan Standarisasi Nasional, Jakarta.

SNI 2049:2015 (2015). *Cement Portland*. Badan Standarisasi Nasional, Jakarta.

SNI 2847-2019. (2019). *Persyaratan Beton Struktural Untuk Bangunan dan penjelasan*. Badan Standarisasi Nasional, Jakarta.

Srikanth Maheshwaram. (2017). *EFFECT OF GLASS POWDER ON MECHANICAL PROPERTIES OF CONCRETE*.

Tjokrodimuljo, K. 1996. Teknologi Beton. Yogyakarta: Nafiri

Tjokrodimuljo, K., 2007, Teknologi Beton, Andi Offset : Yogyakarta.
International Organization for Standardization.

Lampiran 1 Dokumentasi Persiapan Material

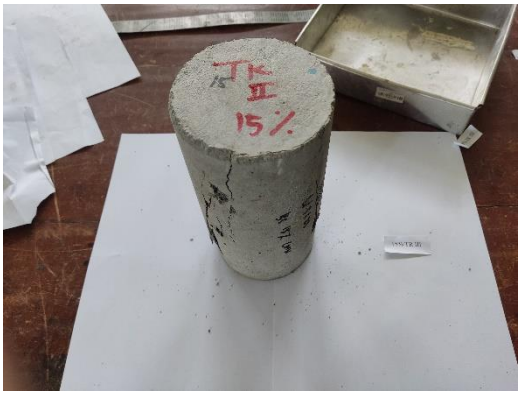


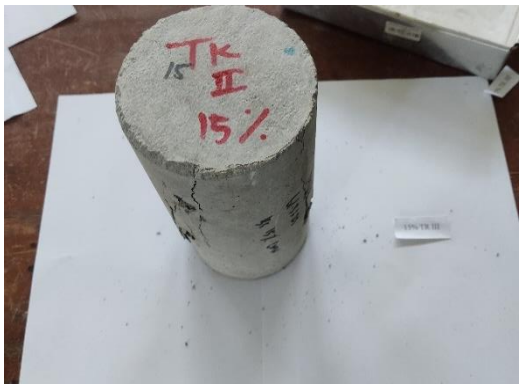




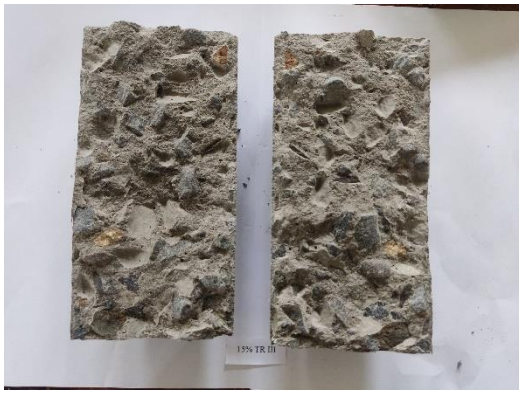

Lampiran 2 Dokumentasi Pengecoran

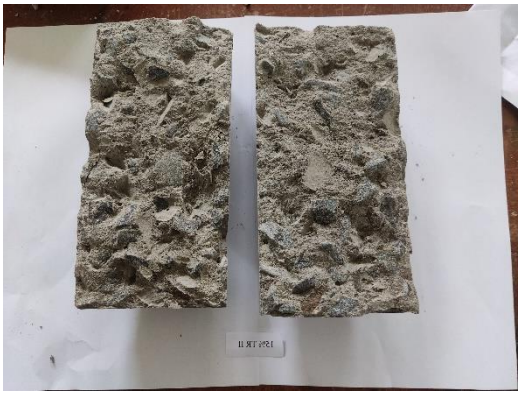
Lampiran 3 Pengujian Kekutan Tekan Beton



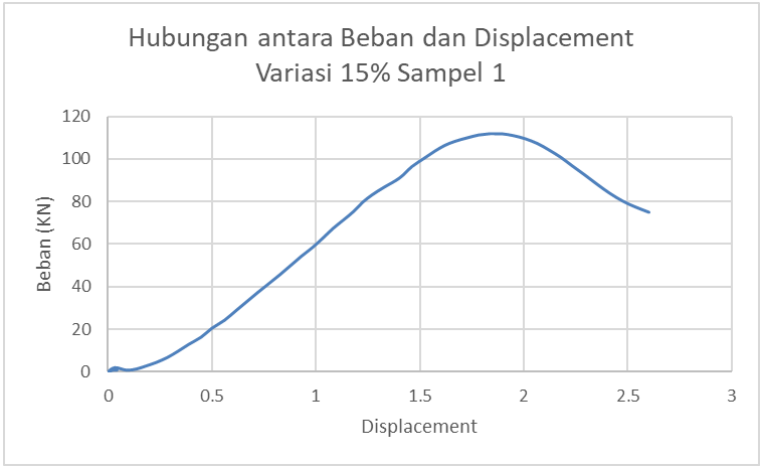


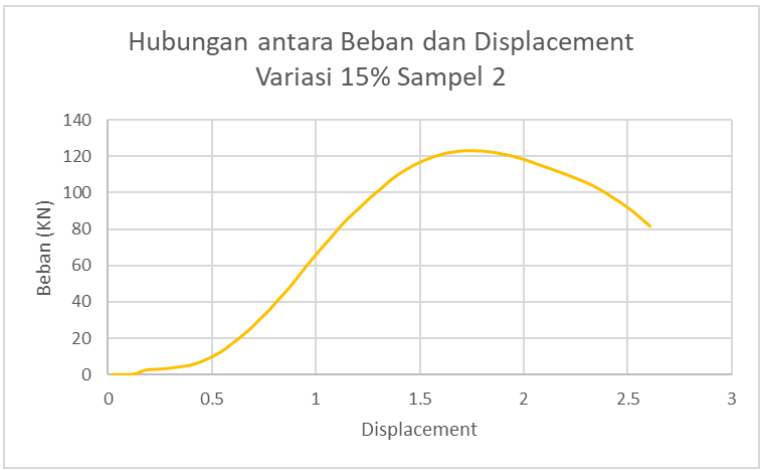
Lampiran 4 Pengujian Kekutan Tarik Belah Beton

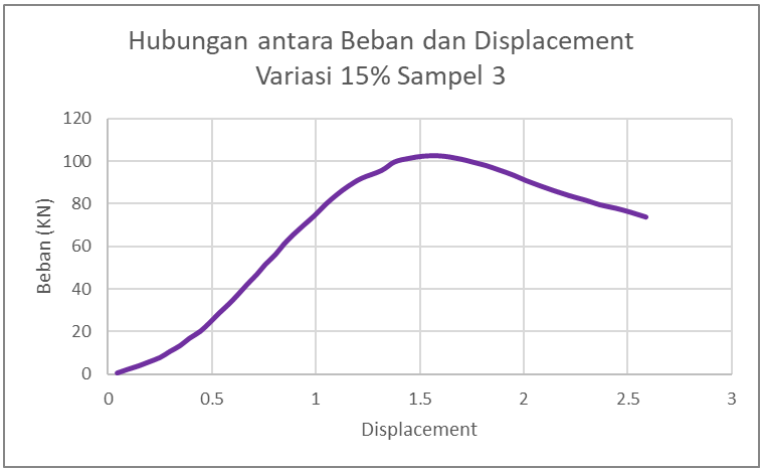


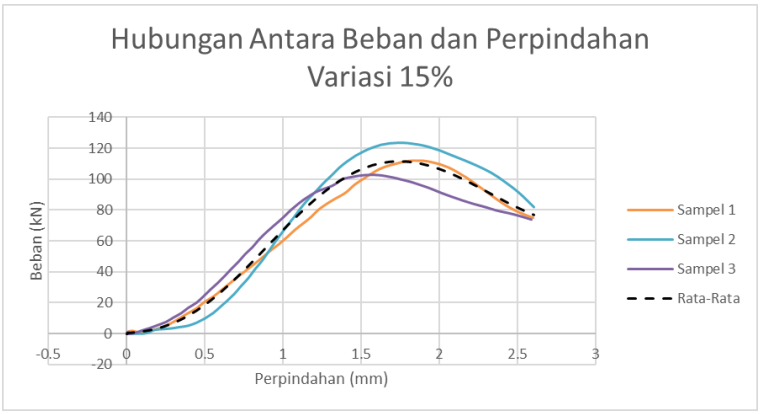


Lampiran 5 Hubungan Beban dan Perpindahan Variasi 15%

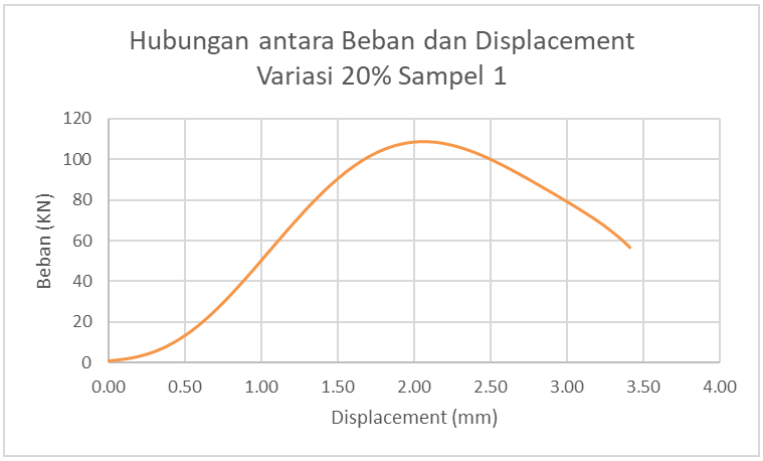


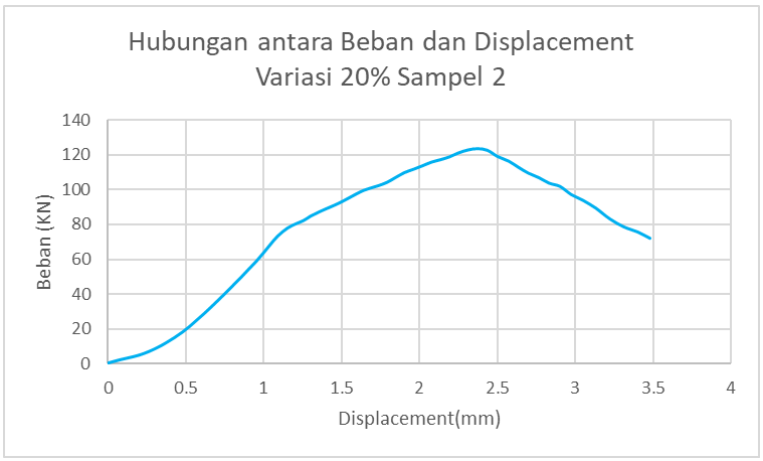


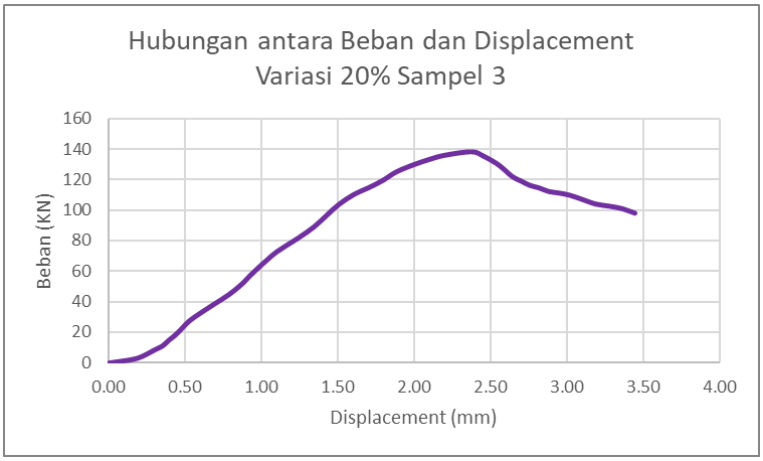


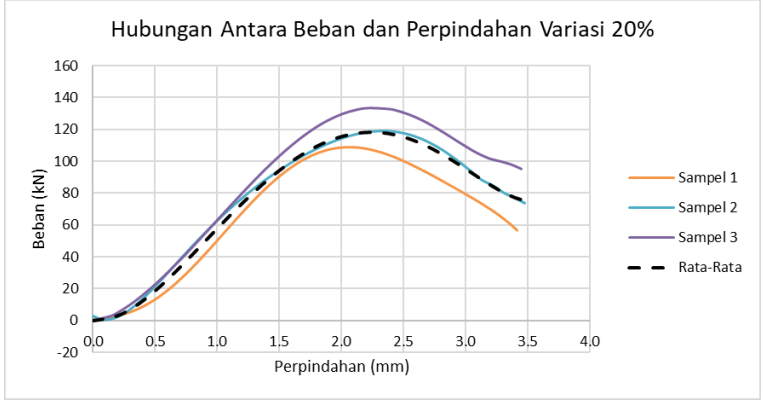


Lampiran 6 Hubungan Beban dan Perpindahan Variasi 20%

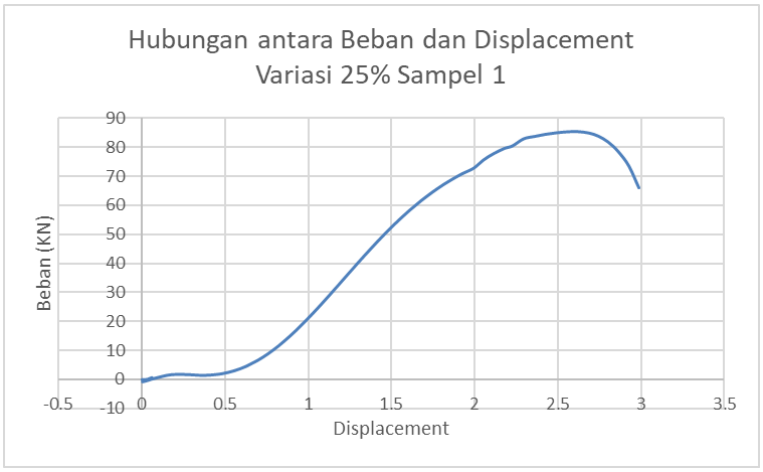


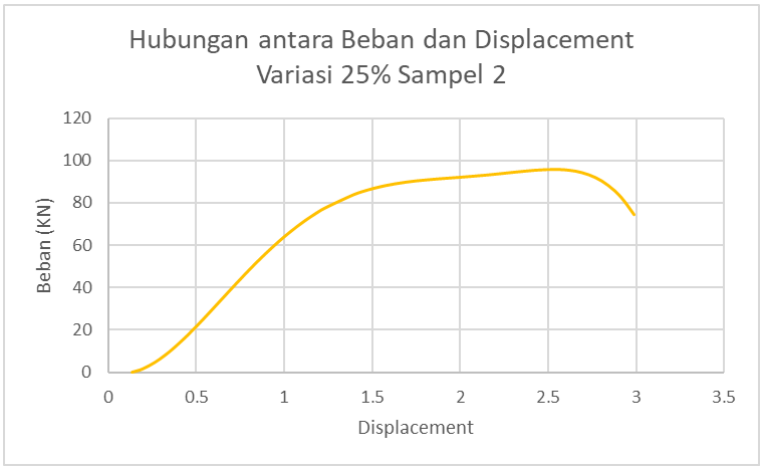


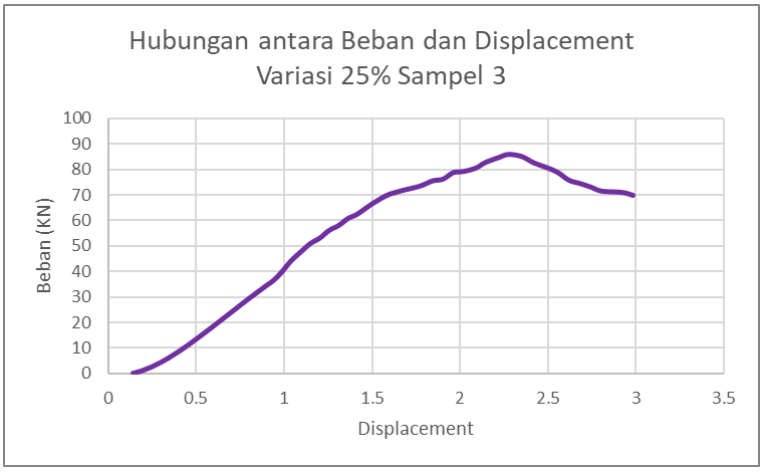


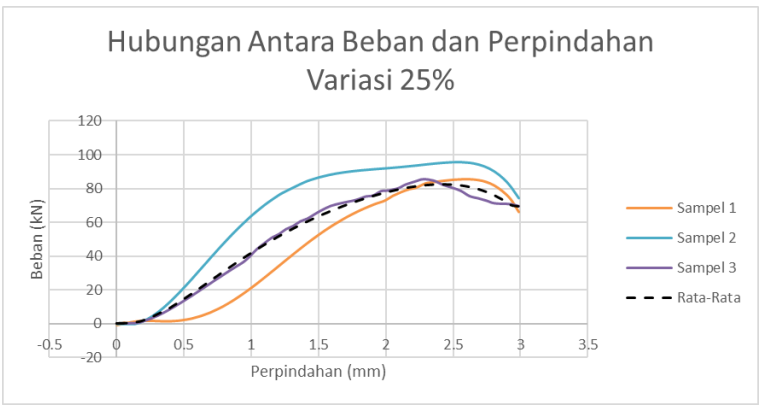


Lampiran 7 Hubungan Beban dan Perpindahan Variasi 25%









Lampiran 9 Modulus Elastisitas Beton variasi 20%

Sampel 1

Hasil Uji		Eksperimental				Teori
Tegangan (MPa)	Regangan (mm)	S1→(0.00005)	S2→40%	Ɛ2 (Longitudinal)	Ec (MPa)	(MPa)
0.55179618	0.00004250	0.61546497	5.74889172	0.00030106	20447.06689	17818.04
0.72157962	0.00006250					
14.37222930	0.00174000					
5.69622930	0.00019750					
6.21407643	0.00023250					

Sampel 2

Hasil Uji		Eksperimental				Teori
Tegangan (MPa)	Regangan (mm)	S1→(0.00005)	S2→40%	Ɛ2 (Longitudinal)	Ec (MPa)	(MPa)
1.91006369	0.00004500	2.00061430	6.29278471	0.00027868	18769.6267	18641.86
2.31754140	0.00006750					
15.73196178	0.00826750					
5.74717197	0.00024750					
6.31594904	0.00028000					

Sampel 3

Hasil Uji		Eksperimental				Teori
Tegangan (MPa)	Regangan (mm)	S1→(0.00005)	S2→40%	Ɛ2 (Longitudinal)	Ec (MPa)	(MPa)
0.71309045	0.00003250	1.05265732	7.05620382	0.00035656	19583.65049	19740.29
1.05265732	0.00005000					
17.64050955	0.00210500					
6.68946497	0.00033750					
7.55536306	0.00038250					

NO	Variasi	Sampel	Ec (Eksperimental)	Ec (Teori)
1	20%	1	20447.07	17818.04
		2	18769.63	18641.86
		3	19583.65	19740.29
		Rata-rata	19600.11	18733.40

Lampiran 8 Modulus Elastisitas Beton variasi 15%

Sampel 1

Hasil Uji		Eksperimental				Teori
Tegangan (MPa)	Regangan (mm)	S1→(0.00005)	S2→40%	² (Longitudina	Ec (MPa)	(MPa)
0.55179618	0.00004250	0.67404025	5.88489172	0.00035891	16868.301	18027.56626
0.75553631	0.00005500					
14.71222930	0.00246500					
5.69622930	0.00049000					
6.09522293	0.00053000					

Sampel 2

Hasil Uji		Eksperimental				Teori
Tegangan (MPa)	Regangan (mm)	S1→(0.00005)	S2→40%	² (Longitudina	Ec (MPa)	(MPa)
0.60273121	0.00003250	0.68662420	6.29559236	0.00036596	17751.938	18646.0207
0.80647134	0.00007500					
15.73898089	0.00344750					
5.71321019	0.00080000					
6.48573248	0.00088750					

Sampel 3

Hasil Uji		Eksperimental				Teori
Tegangan (MPa)	Regangan (mm)	S1→(0.00005)	S2→40%	² (Longitudina	Ec (MPa)	(MPa)
1.15452739	0.00004250	1.28914031	5.30608917	0.00027850	17579.58	17118.08326
1.46862420	0.00006000					
13.26522293	0.00413250					
5.21235669	0.00027250					
5.79810191	0.00031000					

NO	Jenis Limbah	Variasi Substitusi *Glass Powder* (%)	Ec (Eksperimental)	Ec (Teori)
1	15%	1	16868.30	18027.57
		2	17751.94	18646.02
		3	17579.58	17118.08
		Rata-rata	17399.94	17930.56

Lampiran 10 Modulus Elastisitas Beton variasi 25%

Sampel 1

Hasil Uji		Eksperimental				Teori
Tegangan (MPa)	Regangan (mm)	S1→(0.00005)	S2→40%	Ɛ2 (Longitudinal)	Ec (MPa)	(MPa)
0.61970955	0.00004000	0.67456267	4.47268790	0.00030750	14750.00474	15716.36692
0.79798217	0.00007250					
11.18171975	0.00051500					
4.43135032	0.00010250					
4.90673885	0.00016000					

Sampel 2

Hasil Uji		Eksperimental				Teori
Tegangan (MPa)	Regangan (mm)	S1→(0.00005)	S2→40%	Ɛ2 (Longitudinal)	Ec (MPa)	(MPa)
0.92531975	0.00003500	1.23092994	4.91353376	0.00027347	16478.83957	16472.70171
1.23092994	0.00005000					
12.28383439	0.00664250					
4.53322293	0.00024500					
5.03407643	0.00028250					

Sampel 3

Hasil Uji		Eksperimental				Teori
Tegangan (MPa)	Regangan (mm)	S1→(0.00005)	S2→40%	Ɛ2 (Longitudinal)	Ec (MPa)	(MPa)
1.07812484	0.00004750	1.13415338	3.53176051	0.00023031	13297.36046	13965.72498
1.35826752	0.00006000					
8.82940127	0.00396000					
3.24286624	0.00016250					
3.60789809	0.00018500					

NO	Jenis Limbah	Variasi Substitusi *Glass Powder* (%)	Ec (Eksperimental)	Ec (Teori)
1	25%	1	14750.00	15716.37
		2	16478.84	16472.70
		3	13297.36	13965.72
		Rata-rata	14842.07	15384.93