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## LAMPIRAN

### Lampiran 1 Dokumentasi persiapan alat dan bahan



sekam



resin



Mesin potong



Alat pres



cetakan



Stopper

### Lampiran 2 Dokumentasi proses pembuatan spesimen



Pencampuran resin dengan katalis



Pencampuran resin dengan sekam padi

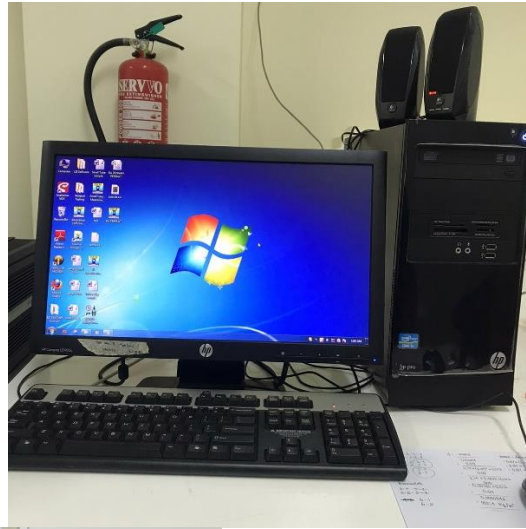


Masukkan sekam kedalam cetakan



Proses pengepressan

**Lampiran 3** Dokumentasi proses pengujian spesimen



**Lampiran 4** Tabel variasi komposisi ketebalan 25

Frekuensi	SAC ( $\alpha$ )			Frekuensi	SAC ( $\alpha$ )		
	30:70	25:75	20:80		30:70	25:75	20:80
150	0.02	0.01	0.00	900	0.20	0.15	0.13
200	0.06	0.02	0.01	950	0.19	0.15	0.14
250	0.09	0.03	0.02	1000	0.18	0.15	0.15
300	0.13	0.04	0.02	1050	0.18	0.15	0.15
350	0.18	0.05	0.02	1100	0.17	0.14	0.14
400	0.25	0.07	0.02	1150	0.16	0.14	0.13
450	0.33	0.09	0.03	1200	0.17	0.14	0.12
500	0.39	0.11	0.03	1250	0.17	0.15	0.10
550	0.42	0.14	0.04	1300	0.19	0.15	0.10
600	0.40	0.17	0.05	1350	0.20	0.15	0.09
650	0.36	0.22	0.06	1400	0.21	0.15	0.09
700	0.32	0.24	0.07	1450	0.24	0.15	0.09
750	0.28	0.22	0.09	1500	0.28	0.16	0.09
800	0.24	0.19	0.10	1550	0.33	0.17	0.10
850	0.23	0.17	0.11	1600	0.42	0.20	0.13

**Lampiran 5** Tabel variasi komposisi ketebalan 30

Frekuensi	SAC ( $\alpha$ )			Frekuensi	SAC ( $\alpha$ )		
	30:70	25:75	20:80		30:70	25:75	20:80
150	0.03	0.00	0.00	900	0.26	0.24	0.08
200	0.06	0.02	0.01	950	0.25	0.19	0.12
250	0.09	0.03	0.01	1000	0.25	0.16	0.15
300	0.12	0.03	0.01	1050	0.25	0.14	0.16
350	0.18	0.04	0.01	1100	0.26	0.13	0.14
400	0.25	0.05	0.01	1150	0.25	0.12	0.11
450	0.34	0.07	0.01	1200	0.24	0.12	0.09
500	0.43	0.08	0.01	1250	0.25	0.12	0.07
550	0.46	0.10	0.02	1300	0.28	0.13	0.07
600	0.44	0.13	0.02	1350	0.28	0.13	0.06
650	0.40	0.17	0.03	1400	0.29	0.13	0.06
700	0.35	0.23	0.03	1450	0.32	0.14	0.06
750	0.31	0.29	0.04	1500	0.34	0.16	0.06
800	0.28	0.33	0.05	1550	0.38	0.19	0.07
850	0.27	0.30	0.06	1600	0.44	0.24	0.09

**Lampiran 6** Tabel Variasi komposisi ketebalan 40

Frekuensi	SAC ( $\alpha$ )			Frekuensi	SAC ( $\alpha$ )		
	30:70	25:75	20:80		30:70	25:75	20:80
150	0.04	0.01	0.01	900	0.18	0.15	0.17
200	0.10	0.03	0.01	950	0.16	0.13	0.21
250	0.18	0.04	0.02	1000	0.15	0.12	0.22
300	0.27	0.04	0.02	1050	0.14	0.12	0.22
350	0.40	0.06	0.02	1100	0.13	0.12	0.19
400	0.50	0.08	0.02	1150	0.14	0.12	0.16
450	0.54	0.10	0.03	1200	0.13	0.12	0.13
500	0.48	0.14	0.03	1250	0.14	0.12	0.10
550	0.41	0.20	0.04	1300	0.14	0.13	0.09
600	0.35	0.28	0.04	1350	0.15	0.14	0.08
650	0.29	0.35	0.05	1400	0.15	0.14	0.07
700	0.25	0.33	0.06	1450	0.17	0.16	0.07
750	0.23	0.27	0.08	1500	0.19	0.17	0.07
800	0.21	0.21	0.10	1550	0.23	0.20	0.08
850	0.20	0.17	0.13	1600	0.30	0.24	0.10

**Lampiran 7** Tabel variasi ketebalan komposisi 3070

Frekuensi	SAC ( $\alpha$ )			Frekuensi	SAC ( $\alpha$ )		
	30:70	25:75	20:80		30:70	25:75	20:80
150	0.02	0.03	0.04	900	0.20	0.26	0.18
200	0.06	0.06	0.10	950	0.19	0.25	0.16
250	0.09	0.09	0.18	1000	0.18	0.25	0.15
300	0.13	0.12	0.27	1050	0.18	0.25	0.14
350	0.18	0.18	0.40	1100	0.17	0.26	0.13
400	0.25	0.25	0.50	1150	0.16	0.25	0.14
450	0.33	0.34	0.54	1200	0.17	0.24	0.13
500	0.39	0.43	0.48	1250	0.17	0.25	0.14
550	0.42	0.46	0.41	1300	0.19	0.28	0.14
600	0.40	0.44	0.35	1350	0.20	0.28	0.15
650	0.36	0.40	0.29	1400	0.21	0.29	0.15
700	0.32	0.35	0.25	1450	0.24	0.32	0.17
750	0.28	0.31	0.23	1500	0.28	0.34	0.19
800	0.24	0.28	0.21	1550	0.33	0.38	0.23
850	0.23	0.27	0.20	1600	0.42	0.44	0.30



**Lampiran 8** Tabel variasi ketebalan komposisi 2575

Frekuensi	SAC ( $\alpha$ )			Frekuensi	SAC ( $\alpha$ )		
	30:70	25:75	20:80		30:70	25:75	20:80
150	0.01	0.00	0.01	900	0.15	0.24	0.15
200	0.02	0.02	0.03	950	0.15	0.19	0.13
250	0.03	0.03	0.04	1000	0.15	0.16	0.12
300	0.04	0.03	0.04	1050	0.15	0.14	0.12
350	0.05	0.04	0.06	1100	0.14	0.13	0.12
400	0.07	0.05	0.08	1150	0.14	0.12	0.12
450	0.09	0.07	0.10	1200	0.14	0.12	0.12
500	0.11	0.08	0.14	1250	0.15	0.12	0.12
550	0.14	0.10	0.20	1300	0.15	0.13	0.13
600	0.17	0.13	0.28	1350	0.15	0.13	0.14
650	0.22	0.17	0.35	1400	0.15	0.13	0.14
700	0.24	0.23	0.33	1450	0.15	0.14	0.16
750	0.22	0.29	0.27	1500	0.16	0.16	0.17
800	0.19	0.33	0.21	1550	0.17	0.19	0.20
850	0.17	0.30	0.17	1600	0.20	0.24	0.24

**Lampiran 9** Tabel variasi ketebalan komposisi 2080

Frekuensi	SAC ( $\alpha$ )			Frekuensi	SAC ( $\alpha$ )		
	30:70	25:75	20:80		30:70	25:75	20:80
150	0.00	0.00	0.01	900	0.13	0.08	0.17
200	0.01	0.01	0.01	950	0.14	0.12	0.21
250	0.02	0.01	0.02	1000	0.15	0.15	0.22
300	0.02	0.01	0.02	1050	0.15	0.16	0.22
350	0.02	0.01	0.02	1100	0.14	0.14	0.19
400	0.02	0.01	0.02	1150	0.13	0.11	0.16
450	0.03	0.01	0.03	1200	0.12	0.09	0.13
500	0.03	0.01	0.03	1250	0.10	0.07	0.10
550	0.04	0.02	0.04	1300	0.10	0.07	0.09
600	0.05	0.02	0.04	1350	0.09	0.06	0.08
650	0.06	0.03	0.05	1400	0.09	0.06	0.07
700	0.07	0.03	0.06	1450	0.09	0.06	0.07
750	0.09	0.04	0.08	1500	0.09	0.06	0.07
800	0.10	0.05	0.10	1550	0.10	0.07	0.08
850	0.11	0.06	0.13	1600	0.13	0.09	0.10

**Lampiran 10** Analisis taguchi pada frekuensi 500 Hz menggunakan aplikasi Minitab

↓	C1-T	C2-T	C3	C4 <input checked="" type="checkbox"/>	C5
	Fraksi Volume	Tebal Spesimen	SAC (500 Hz)	MEAN	
1	20:80	25mm	0,033	0,033	
2	20:80	30mm	0,014	0,014	
3	20:80	40mm	0,031	0,031	
4	25:75	25mm	0,110	0,110	
5	25:75	30mm	0,082	0,082	
6	25:75	40mm	0,139	0,139	
7	30:70	25mm	0,393	0,393	
8	30:70	30mm	0,425	0,425	
9	30:70	40mm	0,484	0,484	
10					
11					
12					
13					

Tabel ortogonal array L9 penelitian pada aplikasi Minitab

Tabel respon faktor rata-rata pada aplikasi Minitab

## Response Table for Means

	Fraksi Level Volume	Tebal Spesimen
1	0.02600	0.17867
2	0.11033	0.17367
3	0.43400	0.21800
Delta	0.40800	0.04433
Rank	1	2

**Lampiran 11** Analisis taguchi pada frekuensi 1.000 Hz menggunakan aplikasi Minitab

Minitab - TAGUCHI 1000 HZ.MPJ

↓	C1-T	C2-T	C3	C4 <input checked="" type="checkbox"/>	C5	C6
	Fraksi Volume	Tebal Spesimen	SAC (1000 Hz)	MEAN		
1	20:80	25mm	0,148	0,148		
2	20:80	30mm	0,148	0,148		
3	20:80	40mm	0,225	0,225		
4	25:75	25mm	0,146	0,146		
5	25:75	30mm	0,158	0,158		
6	25:75	40mm	0,124	0,124		
7	30:70	25mm	0,176	0,176		
8	30:70	30mm	0,247	0,247		
9	30:70	40mm	0,150	0,150		
10						
11						
12						

Tabel ortogonal array L9 penelitian pada aplikasi Minitab

Tabel respon faktor rata-rata pada aplikasi Minitab

## Response Table for Means

	Fraksi Level	Volume	Tebal Spesimen
1		0.1737	0.1567
2		0.1427	0.1843
3		0.1910	0.1663
Delta		0.0483	0.0277
Rank		1	2

**Lampiran 12** Analisis taguchi pada frekuensi 1.600 Hz menggunakan aplikasi Minitab

Minitab - TAGUCHI 1600 HZ.MPJ

↓	C1-T	C2-T	C3	C4 <input checked="" type="checkbox"/>	C5	C6
	Fraksi Volume	Tebal Spesimen	SAC (1600 Hz)	MEAN		
1	20:80	25mm	0,127	0,127		
2	20:80	30mm	0,087	0,087		
3	20:80	40mm	0,103	0,103		
4	25:75	25mm	0,196	0,196		
5	25:75	30mm	0,240	0,240		
6	25:75	40mm	0,243	0,243		
7	30:70	25mm	0,415	0,415		
8	30:70	30mm	0,436	0,436		
9	30:70	40mm	0,303	0,303		
10						
11						
12						

Tabel ortogonal array L9 penelitian pada aplikasi Minitab

Tabel respon faktor rata-rata pada aplikasi Minitab

### Response Table for Means

Level	Fraksi Volume	Tebal Spesimen
1	0.1057	0.2460
2	0.2263	0.2543
3	0.3847	0.2163
Delta	0.2790	0.0380
Rank	1	2