

## LAMPIRAN

Data perhitungan fraksi volume matrik dengan *filler*

2. Ukuran *molding*

$$P = 35,7 \text{ cm}$$

$$L = 25,5 \text{ cm}$$

$$t = 0,5 \text{ cm}$$

$$Volume = P \times l \times t = 455,175 \text{ cm}^3$$

3. Perbandingan matrik dengan *filler* = 70 : 30

4. Volume *filler* (limbah masker)

$$V_{filler} = \frac{30}{100} \times Volume \text{ molding}$$

$$V_{filler} = \frac{30}{100} \times 455,175 \text{ cm}^3 = 136,55 \text{ cm}^3$$

5. Massa limbah masker (gram)

$$Massa \text{ (Gram)} = \rho_{polipropilena} \times Volume \text{ filler}$$

$$Massa \text{ (Gram)} = 0,946 \text{ g/cm}^3 \times 136,55 \text{ cm}^3 = 129,1763 \text{ gram}$$

6. Volume resin poliester

$$V_{resin} = \frac{70}{100} \times Volume \text{ molding}$$

$$V_{resin} = \frac{70}{100} \times 455,175 \text{ cm}^3 = 318,62 \text{ cm}^3$$

7. Massa resin (gram)

$$Massa \text{ (Gram)} = \rho_{resin} \times Volume \text{ resin}$$

$$Massa \text{ (Gram)} = 1,15 \text{ g/cm}^3 \times 318,62 \text{ cm}^3 = 366,413 \text{ gram}$$

Lampiran 1 Data pengujian kekuatan tarik limbah masker

view

Customer Code **ILHAM** Test Code **MAS KER** Date **5/12/2022** Time **4:08:54 AM**

Sample Description  
Parcel Lot  
Material  
Examiner  
Sample Length **75 [mm]** Load cell ID/FS [kg] **6 / 1000 X 1**  
Clamp Speed **300 [mm/min]** Pretension **0 [kg]**  
Test Machine

Observations

*Statistical Results of the Test*

	Force [kg]	Elongation [%]	Average Time of Breakage [s]
Maximum	3.742 (3)	108.400 (5)	13.6
Minimum	3.148 (2)	68.400 (2)	
Average	3.485	90.480	
Range	17.037 [%]	44.209 [%]	
CV	7.399 [%]	17.978 [%]	
Deviation	0.258	16.266	
IC95%	0.226	14.258	
IC99%	0.297	18.738	

*Results of Single Samples*

Sample #	Max Force [kg]	Max Elongation [%]	Time [s]
1	3.348	82.40	12.4
2	3.148	68.40	10.3
3	3.742	89.20	13.4
4	3.742	104.00	15.6
5	3.445	108.40	16.3

Tensolab

Lampiran 2 Limbah masker medis KF94



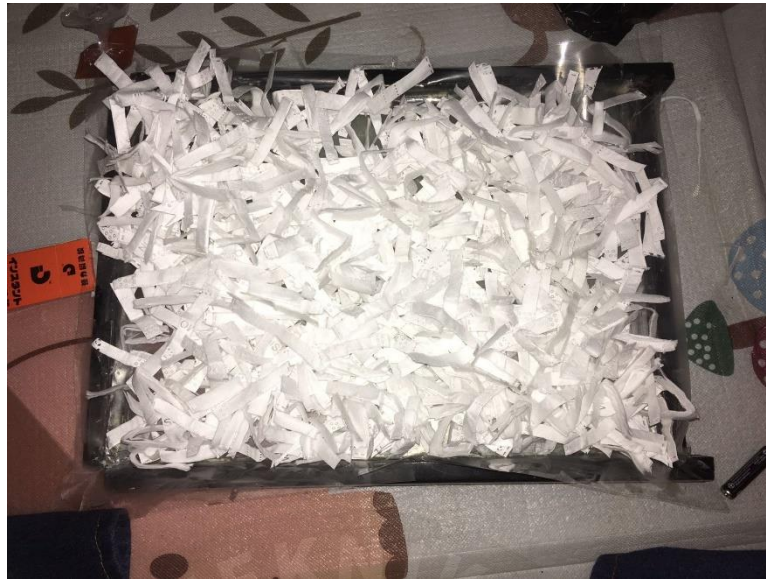
Lampiran 3 *Filler* limbah masker panjang



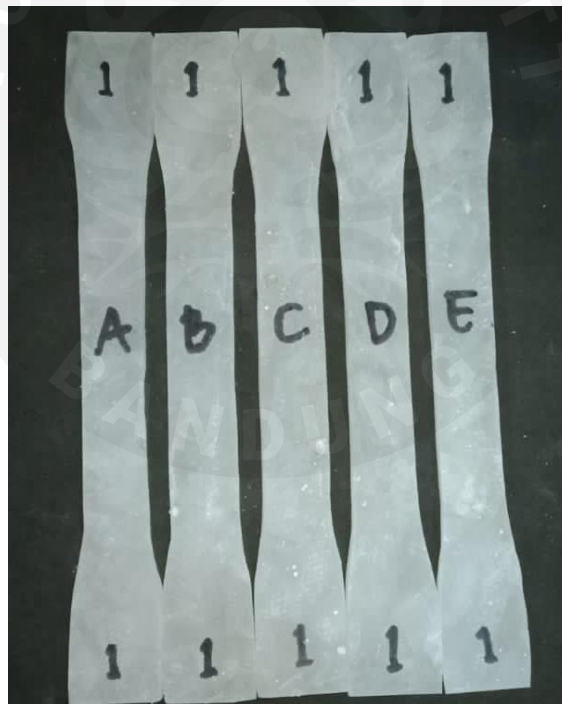
Lampiran 4 *Filler* limbah masker pendek



Lampiran 5 Proses pencampuran matrik dengan filler metode hand lay up

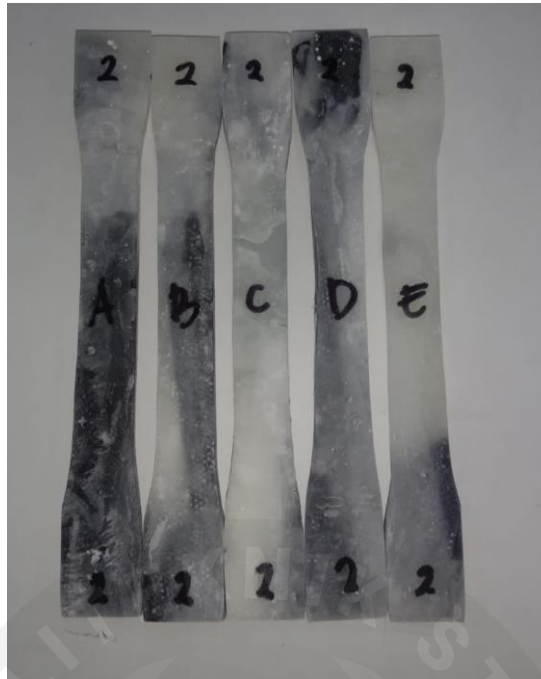


Lampiran 6 Sampel komposit limbah masker KF94 filler pendek

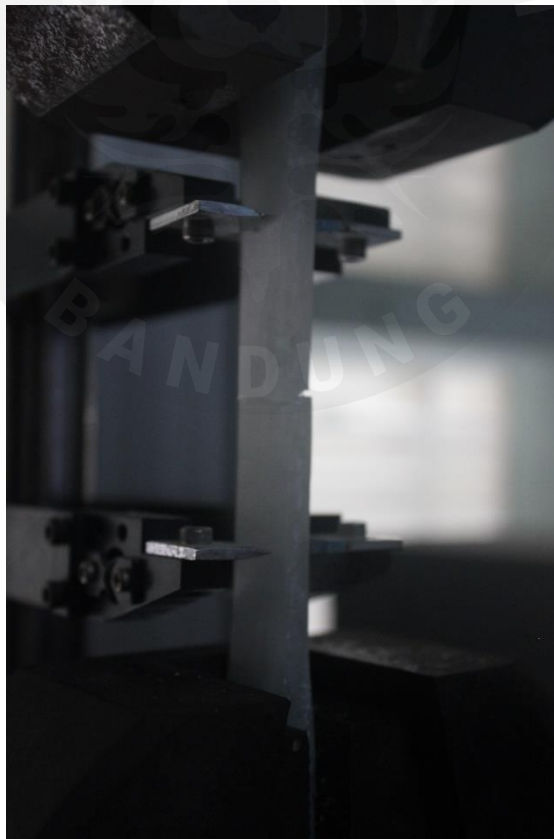




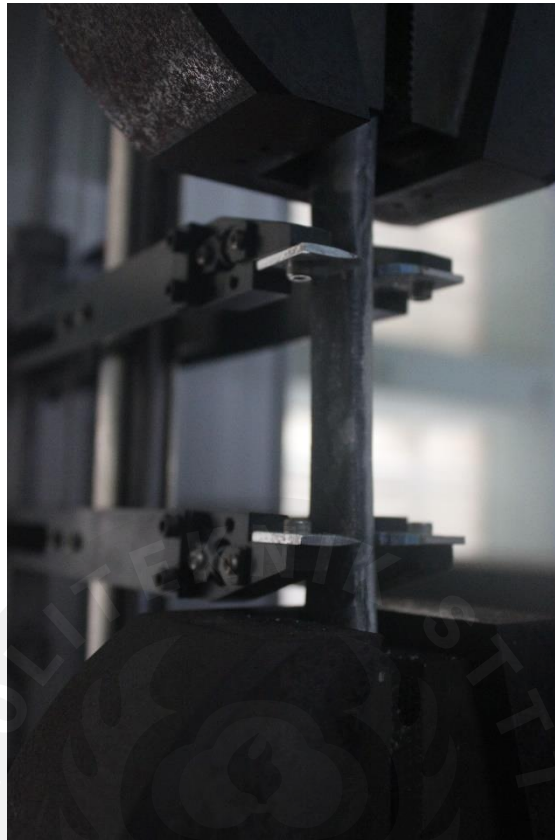
Lampiran 7 Sampel komposit limbah masker KF94 filler panjang



Lampiran 8 Uji kekuatan tarik komposit limbah masker *filler* pendek



Lampiran 9 Pengujian kekuatan tarik komposit limbah masker filler panjang



Lampiran 10 Data pengujian komposit limbah masker filler panjang

Machine name	RTF			Test type	Tension		
Strain input 1	50 mm	100 %RO		Test speed	5.0 mm/min		
Strain input 2	Not used			Chart speed	OFF		
Machine rigidity	0 mm/kgf						
Point data(Load)	0	0	0	Point data(Elong)	0	0	0
N	0	0	0	mm	0	0	0
Elastic modulus anal.	Interval	1	100	Initial sample length	Gage leng	50 mm	
Load	Pitch	5 N		Origin of elongation	Start		
Elong adjust	No			Break point measurement	0.5 N		
Save SS curve	Yes						

Test date	2022/06/10	Temperature	25 C
Humidity	60 %RH	Sample name	KOMPOSIT LIMBAH MASKER S
Lot No.	205-1884	Preparation	ILHAM SETIAWAN
Operator	HARITS	User	ILHAM SETIAWAN

TestID=1487	Width	Thickness	Sectional ar	Maximum poin	Maximum poin	Break	Break
Test No	mm	mm	mm2	Load	Stress	Elongation	Strain
				kgf	N/mm2	mm	%GL
1	14.870	6.1400	91.302	27.509	2.9547	2.9625	5.9250
2	14.450	7.4100	107.07	131.30	12.025	0.6625	1.3250
3	16.310	6.7100	109.44	58.585	5.2496	0.1475	0.2950
4	15.660	6.5300	102.26	100.49	9.6374	0.7050	1.4100
5	15.570	6.6600	103.70	135.90	12.852	0.5375	1.0750
6	14.620	7.2900	106.58	112.11	10.315	0.1475	0.2950
Average	15.247	6.7900	103.39	94.314	8.8390	0.8604	1.7208

Lampiran 11 Data pengujian komposit limbah masker filler pendek

Machine name	RTF			Test type	Tension		
Strain input 1	50 mm	100 %RO		Test speed	5.0 mm/min		
Strain input 2	Not used			Chart speed	OFF		
Machine rigidity	0 mm/kgf						
Point data(Load)	0	0	0	Point data(Elong)	0	0	0
	N	0	0	mm	0	0	0
Elastic modulus anal.	Interval	1	100	Initial sample length	Gage leng	50 mm	
Load	Pitch	5 N		Origin of elongation	Start		
Elong adjust	No			Break point measurem	0.5 N		
Save SS curve	Yes						

Test date	2022/06/10	Temperature	25 C
Humidity	60 %RH	Sample name	KOMPOSIT LIMBAH MASKER S
Lot No.	205-1884	Preparation	ILHAM SETIAWAN
Operator	HARITS	User	ILHAM SETIAWAN

TestID=1488	Width	Thickness	Sectional ar	Maximum poin	Maximum poin	Break	Break
Test No	mm	mm	mm2	Load	Stress	Elongation	Strain
				kgf	N/mm2	mm	%GL
1	15.400	5.6400	86.856	50.578	5.7106	0.4600	0.9200
2	14.250	6.1100	87.068	40.630	4.5762	0.0400	0.0800
3	15.190	6.3600	96.608	66.267	6.7267	0.4350	0.8700
4	14.310	6.0200	86.146	62.135	7.0733	0.2125	0.4250
5	14.810	6.4100	94.932	97.615	10.084	0.3575	0.7150
Average	14.792	6.1080	90.322	63.445	6.8341	0.3010	0.6020

