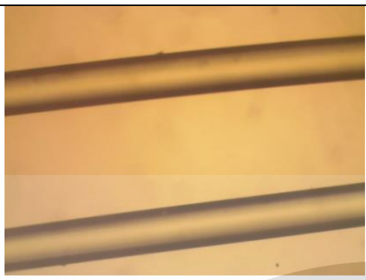
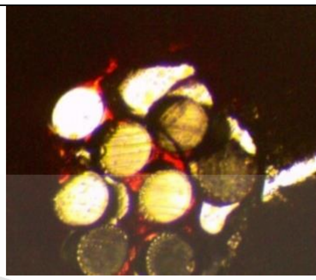
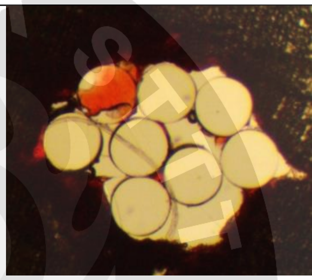
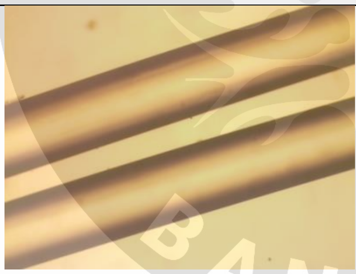
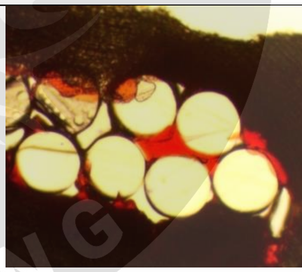
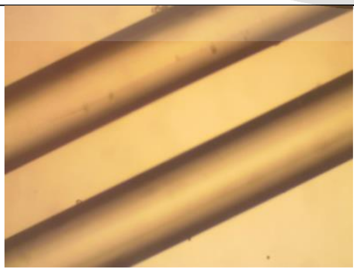
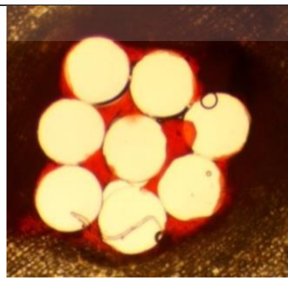
Lampiran

Lampiran A Morfologi benang monofilamen nilon

Penampang membujur	Penampang melintang
	
diameter 0, 15 mm (kehalusan 23,93 Tex)	
	
diameter 0, 20 mm (kehalusan 43,56 Tex)	
	
diameter 0, 25 mm (kehalusan 61,72 Tex)	
	
diameter 0,30 mm (kehalusan 82,00 Tex)	

Gambar A.1 Penampang benang monofilamen nilon

Lampiran B Data pengujian benang

B.1 Kehalusan benang

- Panjang benang poliester dan kapas yang diuji = 120 yard atau 109,73 m.

Tabel B.1 Kehalusan benang poliester dan kapas

No	Poliester		Kapas	
	Berat, g	Tex	Berat, g	Tex
1	3,94838	35,99	2,18273	19,90
2	3,94665	35,97	2,17445	19,82
3	3,96778	36,17	2,16873	19,77
4	3,94783	35,98	2,17655	19,84
5	3,97071	36,19	2,17162	19,79
6	3,95158	36,02	2,17488	19,82
7	3,95483	36,05	2,17528	19,83
8	3,97375	36,22	2,18005	19,87
9	3,95665	36,06	2,16014	19,69
10	3,93812	35,90	2,16843	19,77
11	3,94648	35,97	2,18088	19,88
12	3,95692	36,07	2,15888	19,68
13	3,97157	36,20	2,18152	19,88
14	3,95079	36,01	2,18204	19,89
15	3,96683	36,16	2,16467	19,73
16	3,95911	36,09	2,18245	19,89
17	3,96656	36,15	2,18965	19,96
18	3,95349	36,04	2,18868	19,95
19	3,96511	36,14	2,19444	20,00
20	3,96560	36,15	2,17721	19,85
rata-rata	3,95794	36,08	2,1767	19,84
s	0,0101	0,09	0,0094	0,09
cv, %	0,2546	0,25	0,4321	0,43

- Panjang benang nilon yang diuji = 0,5 m

Tabel B.2 Kehalusan benang monofilamen nilon

No	**Nilon**							
	0,15 mm		**0,20 mm**		**0,25 mm**		**0,30 mm**	
	Berat, g	Tex	Berat, g	Tex	Berat, g	Tex	Berat, g	Tex
1	0,01197	23,94	0,02113	42,26	0,03151	63,02	0,04141	82,82
2	0,01167	23,34	0,02215	44,30	0,03110	62,20	0,04099	81,98
3	0,01186	23,72	0,02216	44,32	0,03053	61,06	0,04049	80,98
4	0,01201	24,02	0,02222	44,44	0,02995	59,90	0,04080	81,60
5	0,01175	23,50	0,02112	42,24	0,03084	61,68	0,03931	78,62
6	0,01211	24,22	0,02153	43,06	0,03098	61,96	0,04068	81,36
7	0,01207	24,14	0,02116	42,32	0,03226	64,52	0,04177	83,54
8	0,01194	23,88	0,02218	44,36	0,03076	61,52	0,04118	82,36
9	0,01206	24,12	0,02205	44,10	0,03086	61,72	0,04248	84,96
10	0,01203	24,06	0,02172	43,44	0,03042	60,84	0,04023	80,46
11	0,01194	23,88	0,02115	42,30	0,03186	63,72	0,04128	82,56
12	0,01206	24,12	0,02221	44,42	0,03101	62,02	0,03986	79,72
13	0,01215	24,30	0,02149	42,98	0,03065	61,30	0,04097	81,94
14	0,01192	23,84	0,02153	43,06	0,02994	59,88	0,04203	84,06
15	0,01199	23,98	0,02201	44,02	0,03078	61,56	0,04103	82,06
16	0,01175	23,50	0,02151	43,02	0,03093	61,86	0,03995	79,90
17	0,01198	23,96	0,02218	44,36	0,02997	59,94	0,04148	82,96
18	0,01211	24,22	0,02197	43,94	0,03146	62,92	0,04161	83,22
19	0,01211	24,22	0,02197	43,94	0,03051	61,02	0,04110	82,20
20	0,01183	23,66	0,02216	44,32	0,03084	61,68	0,04137	82,74
rata-rata	0,01197	23,93	0,0218	43,56	0,03086	61,72	0,0410	82,00
s	0,0001	0,27	0,0004	0,83	0,0006	1,20	0,0008	1,53
cv, %	1,1270	1,13	1,8981	1,90	1,9379	1,94	1,8665	1,87

B.2 Kekuatan tarik dan mulur benang per helai

Tabel B.3 Kekuatan tarik dan mulur benang poliester dan kapas

No	**Poliester**		**Kapas**	
	Kekuatan, N	Mulur, %	Kekuatan, N	Mulur, %
1	13,51	38,52	2,53	5,40
2	13,51	41,64	2,27	4,80
3	12,51	41,04	2,45	5,00
4	11,56	42,64	2,11	4,40
5	11,56	50,40	2,08	4,60
6	12,51	37,08	2,57	5,00
7	12,51	47,16	2,51	4,60
8	11,56	32,04	2,53	5,20
9	11,56	33,60	2,59	5,00
10	11,56	34,68	2,57	5,40
11	13,51	38,64	2,20	3,80
12	11,56	43,72	2,45	5,00
13	12,51	36,24	2,74	5,80
14	13,51	37,68	2,53	5,40
15	10,60	32,04	2,53	4,80
16	10,60	38,64	2,25	4,20
17	12,51	37,44	2,62	5,60
18	11,56	35,76	2,25	5,20
19	10,60	36,16	2,41	5,30
20	10,60	39,20	2,53	4,80
rata-rata	12,00	38,72	2,44	4,97
s	1,0163	4,71	0,18	0,49
cv, %	8,4697	12,16	7,43	9,81

Tabel B.4 Kekuatan tarik dan mulur benang nilon

No	Nilon							
	0,15 mm		**0,20 mm**		**0,25 mm**		**0,30 mm**	
	Kekuatan (N)	Mulur (%)	Kekuatan (N)	Mulur (%)	Kekuatan (N)	Mulur (%)	Kekuatan (N)	Mulur (%)
1	17,35	88,76	22,21	76,80	29,90	80,76	32,81	114,72
2	15,93	88,44	20,25	74,88	31,85	87,84	33,76	163,08
3	15,43	70,80	20,25	66,24	30,85	84,96	31,85	78,84
4	13,51	56,28	20,25	69,00	30,85	83,64	34,72	110,64
5	13,51	55,20	21,21	75,72	29,90	79,08	33,76	109,32
6	15,43	75,12	22,21	97,32	29,90	78,24	33,76	128,04
7	16,39	71,88	20,25	65,64	27,98	80,40	34,72	109,08
8	16,39	73,08	20,25	75,24	28,94	93,00	34,72	108,72
9	16,39	73,08	20,25	67,80	31,85	92,40	35,72	126,36
10	13,51	55,20	21,21	71,76	29,90	84,60	36,67	111,24
11	15,43	64,08	21,21	73,56	28,94	108,48	33,76	108,72
12	16,39	78,60	22,21	64,68	27,03	96,60	32,81	88,20
13	16,39	89,16	21,21	73,08	27,98	105,36	33,76	103,08
14	16,39	81,00	22,21	71,04	29,90	72,84	32,81	93,72
15	15,43	60,48	21,21	67,68	31,85	103,32	31,85	104,64
16	15,93	60,72	21,21	83,64	27,03	99,60	35,72	104,64
17	15,43	77,04	22,21	83,64	28,94	99,72	36,67	144,96
18	15,43	81,60	21,21	97,56	30,85	86,40	33,76	115,32
19	14,47	65,04	21,21	81,24	27,03	96,48	35,72	105,36
20	14,47	69,00	22,21	90,12	29,90	80,76	33,76	90,00
rata-rata	15,48	71,73	21,22	76,33	29,57	89,72	34,16	110,93
s	1,0866	10,98	0,7789	9,83	1,5695	10,18	1,4165	19,07
cv, %	7,0202	15,31	3,6707	12,88	5,3079	11,34	4,1471	17,19

B.3 Jumlah antihan (*twist*) benang kapas

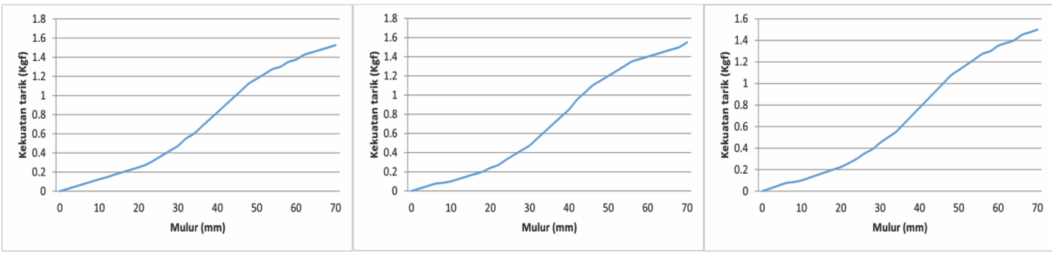
Tabel B.5 Jumlah *twist* benang kapas

No.	TPM
1	843
2	818
3	820
4	848
5	832
6	834
7	815
8	842
9	863
10	838
11	857
12	838
13	860
14	822
15	834
rata-rata	838
s	15,09
cv, %	1,80

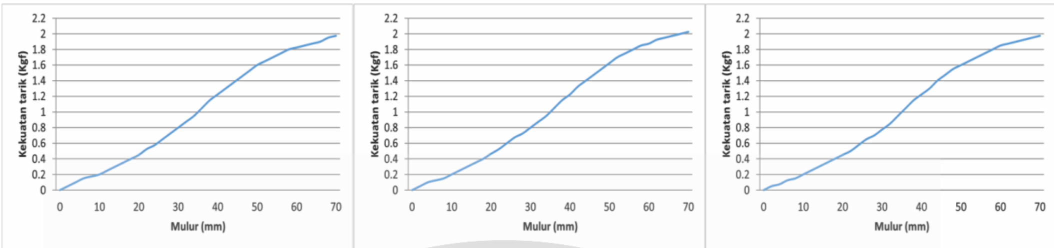
B.4 Modulus elastisitas

Tabel B.6 Modulus elastisitas benang monofilamen nilon

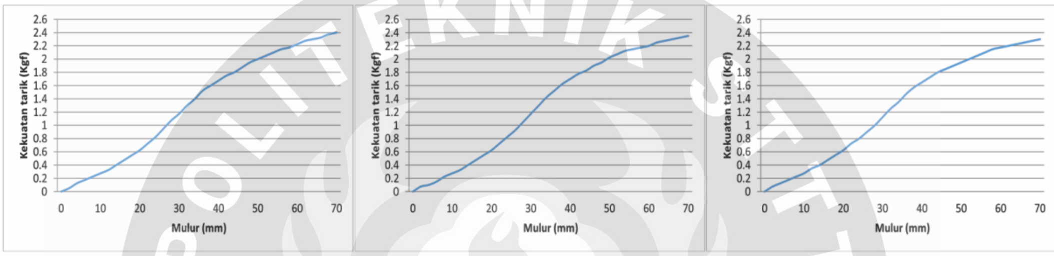
No	Diameter benang, mm	Gaya, N	Luas penampang, m^2	Panjang, m	Perubahan panjang, m	Modulus elastisitas, kg/m^2
1	0,15	1,72	$1,77 \times 10^{-8}$	0,25	0,01	$1,73 \times 10^9$
2		1,96			0,02	$1,54 \times 10^9$
3		1,72			0,02	$1,52 \times 10^9$
rata-rata						$1,60 \times 10^9$
1	0,20	4,41	$3,14 \times 10^{-8}$	0,25	0,02	$1,76 \times 10^9$
2		3,92			0,02	$1,73 \times 10^9$
3		4,41			0,02	$1,76 \times 10^9$
rata-rata						$1,75 \times 10^9$
1	0,25	4,66	$4,91 \times 10^{-8}$	0,25	0,02	$1,48 \times 10^9$
2		6,13			0,02	$1,56 \times 10^9$
3		2,70			0,01	$1,37 \times 10^9$
rata-rata						$1,47 \times 10^9$
1	0,30	7,35	$7,07 \times 10^{-8}$	0,25	0,02	$1,45 \times 10^9$
2		7,11			0,02	$1,40 \times 10^9$
3		8,33			0,02	$1,47 \times 10^9$
rata-rata						$1,44 \times 10^9$



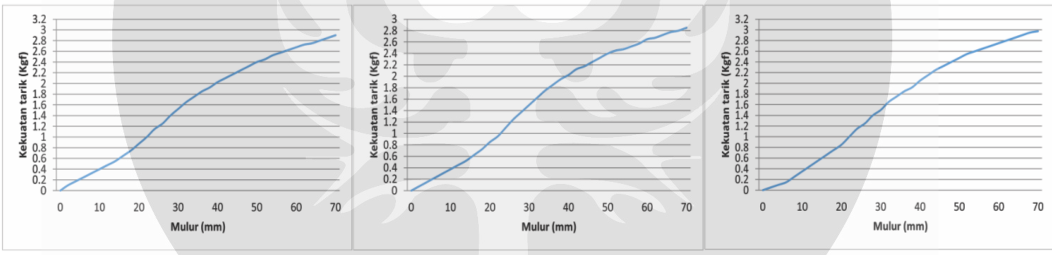
Nilon 0,15 mm



Nilon 0,20 mm



Nilon 0,25 mm



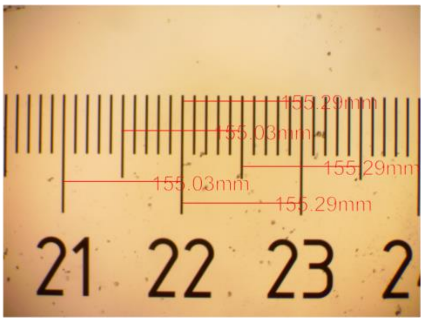
Nilon 0,30 mm

Gambar B.1 Grafik kekuatan tarik dan mulur masing-masing diameter benang monofilamen nilon (digambar ulang dari grafik alat Instron)

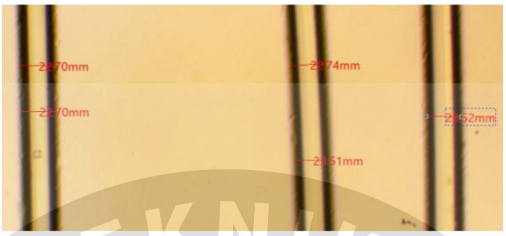
B.5 Pengukuran diameter benang monofilamen nilon

Tabel B.7 Hasil pengukuran diameter benang monofilamen nilon

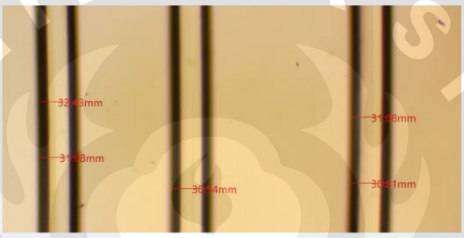
No	Sampel	Hasil pegukuran	
1	Penggaris kalibrasi	**Mikroskop (mm)**	**Aktual (mm)**
		155,03	1,000
		155,29	
		155,29	
		155,03	
		155,29	
	rata-rata	155,186	1,000
2	nilon 0,15 mm	**Mikroskop (mm)**	**Aktual (mm)**
		22,7	0,146
		22,74	0,147
		23,51	0,151
		23,52	0,152
		22,7	0,146
	rata-rata	23,034	0,148
3	nilon 0,20 mm	**Mikroskop (mm)**	**Aktual (mm)**
		32,43	0,209
		31,08	0,200
		30,54	0,197
		31,08	0,200
		30,81	0,199
	rata-rata	31,188	0,201
4	nilon 0,25 mm	**Mikroskop (mm)**	**Aktual (mm)**
		38,65	0,249
		38,38	0,247
		39,19	0,253
		39,19	0,253
		38,65	0,249
	rata-rata	38,812	0,250
5	nilon 0,30 mm	**Mikroskop (mm)**	**Aktual (mm)**
		47,57	0,307
		46,49	0,300
		47,04	0,303
		47,036	0,303
		47,03	0,303
	rata-rata	47,0332	0,303



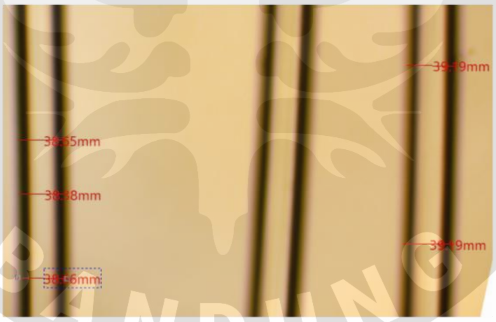
Penggaris kalibrasi



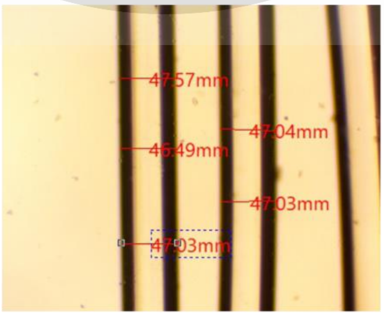
Nilon 0,15mm



Nilon 0,20mm



Nilon 0,25mm



Nilon 0,30mm

Gambar B.2 Pengukuran diameter benang monofilamen nilon pada pembesaran mikroskop 4x

Lampiran C Alat uji benturan (*drop impact tester*)

C.1 *Listing program* mikrokontroler Arduino pada alat uji benturan

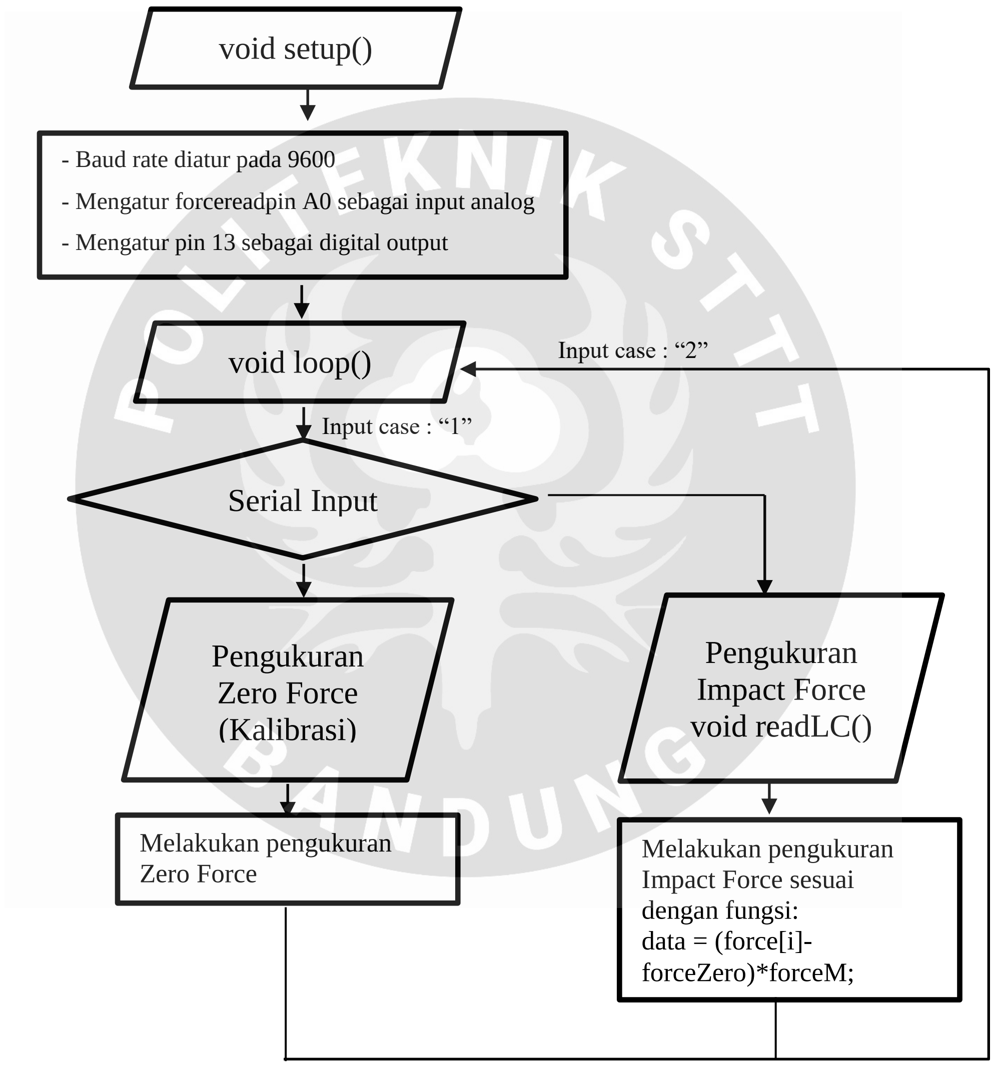
Listing program merupakan rangkaian perintah yang digunakan untuk mengatur mikrokontroler agar dapat bekerja sesuai dengan aplikasi penggunaan yang dibutuhkan. Secara garis besar listing program yang digunakan berfungsi untuk melakukan aktifitas pengambilan data sinyal yang dikirimkan oleh LC-Amp. Terdapat tiga bagian utama pada listing program yang digunakan, yaitu bagian *void setup*, bagian *void loop* dan bagian *voidReadLC*. Bagian *void setup* berfungsi untuk mendeklarasikan *baudrate* dan pin yang digunakan. Bagian void loop berfungsi untuk mengatur rangkaian perintah yang akan dilakukan mikrokontroler sesuai dengan *input serial* yang diberikan, yaitu angka “1” untuk melakukan kalibrasi (mengambil nilai *Zero Force* atau nilai tanpa beban) dan angka “2” untuk perintah mengambil data perubahan gaya benturan. Apabila input serial yang diberikan adalah angka “2”, maka perintah akan dilanjukan pada bagian *voidReadLC*. Pada penelitian ini telah digunakan *listing program* mikrokontroler Arduino Uno sebagai berikut:

```
const float forceM = 6.8306*8.871965; // Gradiant for force curve
int forceZero; // Base reading for the force analog pin
/* For force with the Maywood U4000 Load Cell
analogRead() = 3.7126 * Load + 342.63
so, Load = (analogRead() - 342.63)/3.7126
Calibrated by applying loads with the Instron and plotting */

const int forceReadPin = A0; // pin for force reading input
const int samples = 200; // number of samples to record
int force[samples];
//const int resolution = 13;
int count,sensitivity,forceData;
char data;

void setup(){
//  Serial1.setTimeout(5000);
//  Serial1.begin(115200);
  Serial.begin(9600);
//  analogReadRes(resolution);
  pinMode(13,OUTPUT);
}
```

```
void loop(){
  // read the input from Python
  int inData = Serial.read();
  // Do nothing until data is available
  while(inData == -1){
    digitalWrite(13,HIGH); // turn on the LED
    delay(10);

    digitalWrite(13,LOW); // turn off the LED
    delay(500);
    inData = Serial.read();
  }
  data = char(inData);
  Serial.println(data);
  switch(data){
    case '1':
      initialise();
      Serial.print("Zero Force =    ");
    default:
      for(count=0;count<5;count++){
        digitalWrite(13,HIGH); // turn on the LED
        delay(500);
        digitalWrite(13,LOW); // turn off the LED
        delay(100);
      }
  }
}

void readLC(){ // Subroutine to read 'samples' data points
//   and send them to Python
  int i;
  float time = 0;
  float sum = 0;
  float data;
  float startTime,endTime,stepTime;
  forceData = analogRead(forceReadPin);
  while(forceData < sensitivity){
    forceData = analogRead(forceReadPin);
  }
  force[0] = forceData;
  startTime = micros();
  for(i=1;i<samples;i++){
    force[i] = analogRead(forceReadPin);
    delayMicroseconds(100);
  }
  endTime = micros();
  stepTime = (endTime-startTime)/samples/1000;
  for(i=0;i<samples;i++){
    Serial.print(time);
    Serial.print(",");
    data = (force[i]-forceZero)*forceM;
    Serial.println(data);
    sum += data;
    time += stepTime;
  }
```

```
Serial.print("Average = ");
  Serial.println(sum/samples);
  Serial.println("END");
}

void initialise(){
  // Set the zero force value and the sensitivity
  int forceSum = 0;
  int highValue = 0;
  for(count=0;count<100;count++){
    forceData = analogRead(forceReadPin);
    if(forceData > highValue){

      highValue = forceData;
    }
    forceSum += forceData;
    Serial.println(forceData);
    delay(87);
  }
  forceZero = forceSum/100;
  Serial.println(highValue);
  sensitivity = forceZero + int((highValue-forceZero) * 1.5) + 5;
}
```

Secara garis besar, diagram alir kerja *listing program* yang digunakan dapat dilihat pada diagram dibawah ini. Pertama mikrokontroler akan menjalankan perintah *void setup* untuk mengatur nilai *baud rate* dan deklarasi peran pin yang digunakan pada operasi pengukuran gaya benturan. Kedua mikrokontroler akan menjalankan perintah *void loop* untuk menjalankan perintah berulang. Perintah berulang pada bagian *void setup* akan membutuhkan *input case* berupa angka “1” untuk proses kalibrasi atau angka “2” untuk proses pengukuran.



Gambar C.1 Diagram alir *listing program* alat uji benturan

C.2 Validasi data hasil uji alat *drop impact tester*

A. Data gaya benturan pada penelitian Wardiningsih (2016)

Gaya benturan, rata-rata = 1087,179 N

Standar deviasi, *s* = 64,103

B. Data alat *drop impact tester* yang dibuat:

Tabel C.1 Gaya benturan alat uji benturan

No	Gaya benturan (N)
1	1176.69
2	1022.53
3	1192.95
4	1008.95
5	1079.34
6	1136.15
7	965.72
8	965.72
9	1022.53
10	1022.53
11	1090.82
12	1090.82
13	1167.71
14	1136.15
15	1022.53
rata-rata	1073,409
standar deviasi, *s*	75,625

Uji Distribusi Normal

Data eksperimen alat *drop impact tester*:

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Impact_force	.216	15	.058	.925	15	.226

a. Lilliefors Significance Correction

Berdasarkan kriteria penilaian: jika Sig. > 0,05 maka data berdistribusi normal, data hasil uji alat *drop impact tester* secara statistik memiliki distribusi normal.

Uji Homogenitas

$$F_{hitung} = \frac{Varians\ Terbesar}{Varians\ Terkecil} = \frac{75.625}{64.103} = 1.332$$

$$Dk_{pembilang} = n_2 - 1 = 15 - 1 = 14$$

$$Dk_{penyebut} = n_1 - 1 = 5 - 1 = 4$$

Kriteria pengujian :

Jika $F_{hitung} \geq F_{tabel}$, maka data tidak homogen

Jika $F_{hitung} \leq F_{tabel}$, data homogen

Dengan nilai taraf signifikansi 0,05, secara statistik didapatkan nilai $F_{tabel} = 5{,}87$

Sehingga dapat disimpulkan bahwa data kedua populasi adalah homogen.

Uji T-perbedaan (independent T-test)

$$S_{gab} = \sqrt{\frac{(n_1 - 1).{S_1}^2 + (n_2 - 1).{S_2}^2}{n_1 + n_2 - 2}}$$

$$= \sqrt{\frac{(5 - 1).64.103^2 + (15 - 1).75.625^2}{5 + 15 - 2}}$$

$$= \sqrt{\frac{80405.29}{18}} = 66.835\ N$$

$$t_{hitung} = \frac{(\overline{x_1} - \overline{x_2})}{S_{gab}\sqrt{\frac{1}{n_1} + \frac{1}{n_2}}} = \frac{(1096.092 - 1073.409)}{66.835\sqrt{\frac{1}{5} + \frac{1}{15}}} = \frac{22.683}{34.514} = 0.657$$

Kriteria pengujian :

Jika $-t_{hitung} \leq t_{hitung} \leq t_{tabel}$, maka rata-rata kedua populasi tidak berbeda signifikan

Jika $-t_{hitung} \geq t_{hitung}$ atau $t_{hitung} \geq t_{tabel}$, maka rata-rata kedua populasi berbeda signifikan

Dengan nilai taraf signifikansi 0,05, secara statistik didapatkan nilai $t_{tabel} =$ 2.10092 dan $t_{hitung} = 0.657$, maka $-t_{hitung} \leq t_{hitung} \leq t_{tabel}$

Sehingga dapat disimpulkan bahwa rata-rata kedua populasi tidak berbeda signifikan.

Lampiran D Data uji struktur dan sifat fisika sampel kain dan busa

D.1 Ketebalan

Tabel D.1 Hasil uji ketebalan kain

No	Ketebalan kain, mm								
	A015	**A020**	**A025**	**A030**	**A15x2**	**B015**	**B020**	**B025**	**B030**
1	3.120	3.770	3.680	3.750	3.205	3.010	3.460	3.505	3.655
2	3.070	3.710	3.725	3.645	3.290	3.040	3.485	3.465	3.695
3	3.065	3.620	3.595	3.740	3.465	3.090	3.605	3.645	3.720
4	3.150	3.600	3.725	3.640	3.380	3.080	3.335	3.480	3.645
5	3.075	3.590	3.625	3.630	3.255	3.135	3.385	3.550	3.695
rata-rata	3.096	3.658	3.670	3.681	3.319	3.071	3.454	3.529	3.682
s	0.037	0.079	0.059	0.059	0.104	0.048	0.103	0.072	0.031
cv, %	1.205	2.147	1.600	1.597	3.123	1.563	2.992	2.052	0.846

Tabel D.2 Hasil uji ketebalan busa

No	Ketebalan busa, mm		
	WT	**TM**	**AO**
1	8.70	12.70	11.70
2	9.60	12.00	11.90
3	10.00	13.80	11.50
4	9.20	13.70	12.00
5	9.30	13.50	11.80
rata-rata	9.36	13.14	11.78
s	0.48	0.77	0.19
cv, %	5.16	5.86	1.63

D.2 Berat

Tabel D.3 Berat kain

No	Berat kain, g/m^2								
	A015	**A020**	**A025**	**A030**	**A15x2**	**B015**	**B020**	**B025**	**B030**
1	582,10	716,50	864,00	951,60	729,00	587,60	752,40	864,10	1077,40
2	598,00	737,70	870,50	964,00	747,70	612,60	747,70	880,80	1082,10
3	578,60	739,50	848,40	961,90	752,20	602,60	752,40	900,90	1091,10
4	602,00	724,10	869,80	969,20	757,20	596,50	762,50	890,90	1061,80
5	593,10	731,70	850,40	986,80	748,80	593,10	748,20	880,50	1065,20
rata-rata	590,76	729,90	860,62	966,70	746,98	598,48	752,64	883,44	1075,52
s	10,09	9,61	10,57	12,93	10,71	9,59	5,95	13,70	12,09
cv, %	1,71	1,32	1,23	1,34	1,43	1,60	0,79	1,55	1,12

Tabel D.4 Berat busa

No	Berat busa, g/m2		
	WT	**TM**	**AO**
1	356,40	366,80	556,67
2	374,40	322,80	521,11
3	409,60	362,40	534,44
4	363,20	332,00	536,67
5	374,00	322,00	554,44
rata-rata	375,52	341,20	540,67
s	20,51	21,78	14,86
cv, %	5,46	6,38	2,75

D.3 Jumlah jeratan

Tabel D.5 Jumlah jeratan sampel kain

No	Jumlah jeratan kain, jeratan/cm									
	A015		A020		A025		A030		A15x2	
	CPC	WPC	CPC	WPC	CPC	WPC	CPC	WPC	CPC	WPC
1	18	7	19	7	19	7	19	7	19	7
2	19	7	19	7	19	7	18	7	19	7
3	18	7	19	7	18	7	18	7	18	7
4	18	7	18	7	18	7	19	7	18	7
5	19	7	18	7	19	7	19	7	18	7
rata-rata	18,4	7	18,6	7	18,6	7	18,6	7	18,4	7
s	0,55	0	0,55	0	0,55	0	0,55	0	0,55	0
cv, %	2,98	0	2,94	0	2,94	0	2,94	0	2,98	0

No	Jumlah jeratan kain, jeratan/cm							
	B015		B020		B025		B030	
	CPC	WPC	CPC	WPC	CPC	WPC	CPC	WPC
1	18	7	18	7	18	7	19	7
2	18	7	19	7	18	7	19	7
3	19	7	19	7	19	7	18	7
4	18	7	18	7	18	7	18	7
5	19	7	19	7	19	7	18	7
rata-rata	18,4	7	18,6	7	18,4	7	18,4	7
s	0,55	0	0,55	0	0,55	0	0,55	0
cv, %	2,98	0,00	2,94	0,00	2,98	0,00	2,98	0,00

D.4 Daya tembus udara

Tabel D.6 Daya tembus udara sampel kain dan busa

No	Daya tembus udara kain, cm^3/cm^2/detik									Busa
	A015	A020	A025	A030	A015X2	B015	B020	B025	B030	
1	151	151	138	143	122	127	123	114	104	0
2	145	145	150	142	116	125	120	113	108	0
3	146	141	141	148	118	137	118	109	111	0
4	150	146	148	146	128	132	122	108	115	0
5	157	148	147	141	134	138	125	114	107	0
rata-rata	149,80	146,20	144,80	144,00	123,60	131,80	121,60	111,60	109,00	0
s	4,76	3,70	5,07	2,92	7,40	5,81	2,70	2,88	4,18	0

Lampiran E Data hasil uji benturan

E.1 Sampel kain rajut pakan *spacer*

1) Energi benturan 9,8 J

Tabel E.1 Gaya benturan satu lapis kain

No	KS	A015	A020	A025	A030	A015X2
		KS+A015	KS+A020	KS+A025	KS+A030	KS+A015X2
1	5462,81	5060,37	4984,96	4988,37	4716,02	4644,62
2	5701,71	5061,48	5012,92	4715,10	4732,55	4936,40
3	5896,01	4945,35	4774,96	4877,05	4581,30	4821,25
4	5832,31	5215,16	4892,37	4839,53	4712,19	4839,94
5	5457,46	4889,78	4791,20	4550,70	4472,42	5133,20
rata-rata	5670,06	5034,43	4891,28	4794,15	4642,90	4875,08
s	204,04	125,43	108,54	167,46	112,96	178,63
cv, %	3,60	2,49	2,22	3,49	2,43	3,66

No	B015	B020	B025	B030
	KS+B015	KS+B020	KS+B025	KS+B030
1	4904,88	4408,51	4435,78	4352,01
2	4781,79	4700,28	4547,80	4138,60
3	4892,14	4724,65	4751,15	4331,50
4	4877,42	4588,87	4426,41	4212,17
5	5060,37	4625,98	4587,94	4267,65
rata-rata	4903,32	4609,66	4549,82	4260,39
s	100,29	125,09	132,50	87,55
cv, %	2,05	2,71	2,91	2,06

Tabel E.2 Peredaman gaya satu lapis kain

No	A015	A020	A025	A030	A015X2
1	609,69	685,1	681,69	954,04	1025,44
2	608,58	657,14	954,96	937,51	733,66
3	724,71	895,1	793,01	1088,76	848,81
4	454,9	777,69	830,53	957,87	830,12
5	780,28	878,86	1119,36	1197,64	536,86
rata-rata	635,63	778,78	875,91	1027,16	794,98
s	125,43	108,54	167,46	112,96	178,63

No	B015	B020	B025	B030
1	765,18	1261,55	1234,28	1318,05
2	888,27	969,78	1122,26	1531,46
3	777,92	945,41	918,91	1338,56
4	792,64	1081,19	1243,65	1457,89
5	609,69	1044,08	1082,12	1402,41
rata-rata	766,74	1060,40	1120,24	1409,67
s	100,29	125,09	132,50	87,55

Tabel E.3 Gaya benturan tiga lapis kain

No	KS	A015	A020	A025	A030	A015X2
		KS+A015	KS+A020	KS+A025	KS+A030	KS+A015X2
1	5462,81	4415,52	3981,32	3613,39	3190,97	4077,87
2	5701,71	4293,68	4022,76	3414,15	3212,61	4149,12
3	5896,01	4390,23	4070,95	3736,34	3344,09	4201,56
4	5832,31	4184,99	3875,35	3645,01	3500,58	4112,07
5	5457,46	4496,15	3848,30	3735,26	3140,42	3897,73
rata-rata	5670,06	4356,11	3959,74	3628,83	3277,73	4087,67
s	204,04	119,88	95,32	131,79	145,51	115,67

No	B015	B020	B025	B030
	KS+B015	KS+B020	KS+B025	KS+B030
1	4304,39	3765,68	3548,60	2790,75
2	4155,77	3804,57	3437,05	2937,18
3	4305,31	3735,72	3546,16	3008,27
4	4106,25	3722,68	3533,77	2962,55
5	4236,82	3878,63	3353,82	3120,43
rata-rata	4221,71	3781,46	3483,88	2963,84
s	89,07	62,79	86,12	119,55

Tabel E.4 Peredaman gaya tiga lapis kain

No	A015	A020	A025	A030	A015X2
1	1254,54	1688,74	2056,67	2479,09	1592,19
2	1376,38	1647,30	2255,91	2457,45	1520,94
3	1279,83	1599,11	1933,72	2325,97	1468,50
4	1485,07	1794,71	2025,05	2169,48	1557,99
5	1173,91	1821,76	1934,80	2529,64	1772,33
rata-rata	1313,95	1710,32	2041,23	2392,33	1582,39
s	119,88	95,32	131,79	145,51	115,67

No	B015	B020	B025	B030
1	1365,67	1904,38	2121,46	2879,31
2	1514,29	1865,49	2233,01	2732,88
3	1364,75	1934,34	2123,90	2661,79
4	1563,81	1947,38	2136,29	2707,51
5	1433,24	1791,43	2316,24	2549,63
rata-rata	1448,35	1888,60	2186,18	2706,22
s	89,07	62,79	86,12	119,55

Tabel E.5 Gaya benturan lima lapis kain

No	KS	A015	A020	A025	A030	A015X2
		KS+A015	KS+A020	KS+A025	KS+A030	KS+A015X2
1	5462,81	4007,35	3242,00	2633,02	2272,66	3472,84
2	5701,71	3991,65	3364,09	2913,31	2407,34	3673,62
3	5896,01	4077,59	2997,94	2902,66	2260,93	3672,05
4	5832,31	3905,53	2964,48	2807,38	2301,91	3206,68
5	5457,46	3934,43	3232,92	2859,63	2216,81	3528,65
rata-rata	5670,06	3983,31	3160,29	2823,20	2291,93	3510,77
s	204,04	67,04	171,89	114,21	71,40	191,55

No	B015	B020	B025	B030
	KS+B015	KS+B020	KS+B025	KS+B030
1	3736,66	2964,14	2575,14	2170,2
2	3912,18	2888,19	2857,58	1872,15
3	3889,38	3046,72	2543,26	1991,64
4	3638,63	2946,04	2684,19	2303,63
5	3793,81	3022,03	2768,09	2141,11
rata-rata	3794,13	2973,42	2685,65	2095,75
s	112,35	62,92	131,19	167,07

Tabel E.6 Peredaman gaya lima lapis kain

No	A015	A020	A025	A030	A015X2
1	1662,71	2428,06	3037,04	3397,40	2197,22
2	1678,41	2305,97	2756,75	3262,72	1996,44
3	1592,47	2672,12	2767,40	3409,13	1998,01
4	1764,53	2705,58	2862,68	3368,15	2463,38
5	1735,63	2437,14	2810,43	3453,25	2141,41
rata-rata	1686,75	2509,77	2846,86	3378,13	2159,29
s	67,04	171,89	114,21	71,40	191,55

No	B015	B020	B025	B030
1	1933,40	2705,92	3094,92	3499,86
2	1757,88	2781,87	2812,48	3797,91
3	1780,68	2623,34	3126,80	3678,42
4	2031,43	2724,02	2985,87	3366,43
5	1876,25	2648,03	2901,97	3528,95
rata-rata	1875,93	2696,64	2984,41	3574,31
s	112,35	62,92	131,19	167,07

2) Energi benturan 29,5 J

Tabel E.7 Gaya benturan satu lapis kain

No	KS	A015	A020	A025	A030	A015X2
		KS+A015	KS+A020	KS+A025	KS+A030	KS+A015X2
1	12628,60	13317,80	13416,40	12810,40	12188,00	13163,70
2	12880,20	12674,80	12510,50	12796,00	12746,70	12500,20
3	13503,70	12406,70	12820,70	12291,70	12638,90	13530,40
4	13382,50	12844,30	13194,60	12686,10	12796,00	12402,60
5	13005,60	13571,50	12322,50	13097,00	12136,60	12550,50
rata-rata	13080,12	12963,02	12852,94	12736,24	12501,24	12829,48
s	360,64	475,07	456,59	291,27	315,11	492,82

No	B015	B020	B025	B030
	KS+B015	KS+B020	KS+B025	KS+B030
1	13473,90	13073,40	12763,20	12542,30
2	12891,50	12486,90	12857,70	12254,70
3	12877,20	12523,80	12513,60	12308,10
4	13055,90	12854,60	12383,10	12749,80
5	12265,00	13187,40	12880,20	12594,70
rata-rata	12912,70	12825,22	12679,56	12489,92
s	434,94	315,81	220,46	205,94

Tabel E.8 Peredaman gaya satu lapis kain

No	A015	A020	A025	A030	A015X2
1	-237,68	-336,28	269,72	892,12	-83,58
2	405,32	569,62	284,12	333,42	579,92
3	673,42	259,42	788,42	441,22	-450,28
4	235,82	-114,48	394,02	284,12	677,52
5	-491,38	757,62	-16,88	943,52	529,62
rata-rata	117,10	227,18	343,88	578,88	250,64
s	475,07	456,59	291,27	315,11	492,82

No	B015	B020	B025	B030
1	-393,78	6,72	316,92	537,82
2	188,62	593,22	222,42	825,42
3	202,92	556,32	566,52	772,02
4	24,22	225,52	697,02	330,32
5	815,12	-107,28	199,92	485,42
rata-rata	167,42	254,90	400,56	590,20
s	434,94	315,81	220,46	205,94

Tabel E.9 Gaya benturan tiga lapis kain

No	KS	A015	A020	A025	A030	A015X2
		KS+A015	KS+A020	KS+A025	KS+A030	KS+A015X2
1	12628,60	12305,10	11139,30	10851,70	10285,70	11199,90
2	12880,20	11670,30	11649,70	11230,70	10413,10	11442,30
3	13503,70	12008,20	11424,80	10508,60	10705,80	11174,20
4	13382,50	11627,10	10886,60	11251,20	9918,00	11386,80
5	13005,60	11791,50	11015,00	10544,50	10605,10	11563,50
rata-rata	13080,12	11880,44	11223,08	10877,34	10385,54	11353,34
s	360,64	279,69	310,74	357,79	308,26	164,95

No	B015	B020	B025	B030
	KS+B015	KS+B020	KS+B025	KS+B030
1	11606,60	11286,10	10255,90	9771,12
2	11869,60	10962,60	10766,40	9984,76
3	11840,80	10967,60	10651,40	10084,40
4	11970,20	11104,30	10120,30	9528,71
5	11275,90	11029,40	10235,40	10311,40
rata-rata	11712,62	11070,00	10405,88	9936,08
s	278,11	133,74	284,33	299,33

Tabel E.10 Peredaman gaya tiga lapis kain

No	A015	A020	A025	A030	A015X2
1	775,02	1940,82	2228,42	2794,42	1880,22
2	1409,82	1430,42	1849,42	2667,02	1637,82
3	1071,92	1655,32	2571,52	2374,32	1905,92
4	1453,02	2193,52	1828,92	3162,12	1693,32
5	1288,62	2065,12	2535,62	2475,02	1516,62
rata-rata	1199,68	1857,04	2202,78	2694,58	1726,78
s	279,69	310,74	357,79	308,26	164,95

No	B015	B020	B025	B030
1	1473,52	1794,02	2824,22	3309,00
2	1210,52	2117,52	2313,72	3095,36
3	1239,32	2112,52	2428,72	2995,72
4	1109,92	1975,82	2959,82	3551,41
5	1804,22	2050,72	2844,72	2768,72
rata-rata	1367,50	2010,12	2674,24	3144,04
s	278,11	133,74	284,33	299,33

Tabel E.11 Gaya benturan lima lapis kain

No	KS	A015	A020	A025	A030	A015X2
		KS+A015	KS+A020	KS+A025	KS+A030	KS+A015X2
1	12628,60	11174,20	10387,40	9389,02	8524,18	10629,80
2	12880,20	10836,30	10145,00	9281,17	8281,78	11008,80
3	13503,70	11000,60	10394,60	9623,20	7934,60	10680,10
4	13382,50	10608,20	9417,78	9569,79	8484,12	10227,20
5	13005,60	11563,50	9983,73	9623,20	8411,19	10498,30
rata-rata	13080,12	11036,56	10065,70	9497,28	8327,17	10608,84
s	360,64	361,07	401,40	154,43	238,05	284,32

No	B015	B020	B025	B030
	KS+B015	KS+B020	KS+B025	KS+B030
1	10576,40	9736,20	9247,28	7817,51
2	10940,00	9675,59	8776,85	8228,36
3	11136,20	9488,65	8827,18	8241,71
4	11032,40	9983,73	9625,26	8273,56
5	10715,10	8993,58	9024,39	7978,77
rata-rata	10880,02	9575,55	9100,19	8107,98
s	230,12	370,36	347,19	200,54

Tabel E.12 Peredaman gaya lima lapis kain

No	A015	A020	A025	A030	A015X2
1	1905,92	2692,72	3691,10	4555,94	2450,32
2	2243,82	2935,12	3798,95	4798,34	2071,32
3	2079,52	2685,52	3456,92	5145,52	2400,02
4	2471,92	3662,34	3510,33	4596,00	2852,92
5	1516,62	3096,39	3456,92	4668,93	2581,82
rata-rata	2043,56	3014,42	3582,84	4752,95	2471,28
s	361,07	401,40	154,43	238,05	284,32

No	B015	B020	B025	B030
1	2503,72	3343,92	3832,84	5262,61
2	2140,12	3404,53	4303,27	4851,76
3	1943,92	3591,47	4252,94	4838,41
4	2047,72	3096,39	3454,86	4806,56
5	2365,02	4086,54	4055,73	5101,35
rata-rata	2200,10	3504,57	3979,93	4972,14
s	230,12	370,36	347,19	200,54

3) Energi benturan 49 J

Tabel E.13 Gaya benturan satu lapis kain

No	KS	A015	A020	A025	A030	A015X2
		KS+A015	KS+A020	KS+A025	KS+A030	KS+A015X2
1	19341,90	19130,30	19442,60	19615,20	19956,20	19529,90
2	20581,00	20577,60	19688,10	18611,60	18885,90	19374,80
3	18856,10	19022,50	19362,50	20103,00	19278,30	19675,80
rata-rata	19593,00	19576,80	19497,73	19443,27	19373,47	19526,83
s	889,44	868,39	169,66	760,42	541,46	150,52

No	B015	B020	B025	B030
	KS+B015	KS+B020	KS+B025	KS+B030
1	20308,50	19163,20	18877,70	18941,40
2	18907,50	19752,80	19388,20	19474,40
3	19395,40	19423,10	19937,70	19696,30
rata-rata	19537,13	19446,37	19401,20	19370,70
s	711,17	295,49	530,12	387,99

Tabel E.14 Peredaman gaya satu lapis kain

No	A015	A020	A025	A030	A015X2
1	462,70	150,40	-22,20	-363,20	63,10
2	-984,60	-95,10	981,40	707,10	218,20
3	570,50	230,50	-510,00	314,70	-82,80
rata-rata	16,20	95,27	149,73	219,53	66,17
s	868,39	169,66	760,42	541,46	150,52

No	B015	B020	B025	B030
1	-715,50	429,80	715,30	651,60
2	685,50	-159,80	204,80	118,60
3	197,60	169,90	-344,70	-103,30
rata-rata	55,87	146,63	191,80	222,30
s	711,17	295,49	530,12	387,99

Tabel E.15 Gaya benturan tiga lapis kain

No	KS	A015	A020	A025	A030	A015X2
		KS+A015	KS+A020	KS+A025	KS+A030	KS+A015X2
1	19341,90	17898,80	17035,00	16169,10	16229,70	17274,30
2	20581,00	17789,90	16475,20	16550,20	15906,20	17240,40
3	18856,10	18031,30	16504,00	16285,20	16039,70	16840,90
4		17307,20	16743,30	16036,60	15802,40	17156,20
5		18174,10	17687,20	17000,10	15487,10	16942,60
rata-rata	19593,00	17840,26	16888,94	16408,24	15893,02	17090,88
s	889,44	330,93	499,78	381,08	277,50	190,23

No	B015	B020	B025	B030
	KS+B015	KS+B020	KS+B025	KS+B030
1	18175,10	16758,70	15473,80	15060,90
2	17476,70	16507,10	16481,40	15314,60
3	17107,90	16570,70	16619,00	15563,10
4	18227,50	16504,00	16154,70	16001,70
5	17302,10	16804,90	16232,80	15310,40
rata-rata	17657,86	16629,08	16192,34	15450,14
s	513,29	142,87	442,99	355,80

Tabel E.16 Peredaman gaya tiga lapis kain

No	A015	A020	A025	A030	A015X2
1	1694,20	2558,00	3423,90	3363,30	2318,70
2	1803,10	3117,80	3042,80	3686,80	2352,60
3	1561,70	3089,00	3307,80	3553,30	2752,10
4	2285,80	2849,70	3556,40	3790,60	2436,80
5	1418,90	1905,80	2592,90	4105,90	2650,40
rata-rata	1752,74	2704,06	3184,76	3699,98	2502,12
s	330,93	499,78	381,08	277,50	190,23

No	B015	B020	B025	B030
1	1417,90	2834,30	4119,20	4532,10
2	2116,30	3085,90	3111,60	4278,40
3	2485,10	3022,30	2974,00	4029,90
4	1365,50	3089,00	3438,30	3591,30
5	2290,90	2788,10	3360,20	4282,60
rata-rata	1935,14	2963,92	3400,66	4142,86
s	513,29	142,87	442,99	355,80

Tabel E.17 Gaya benturan lima lapis kain

No	KS	A015	A020	A025	A030	A015X2
		KS+A015	KS+A020	KS+A025	KS+A030	KS+A015X2
1	19341,90	16787,50	15704,90	15234,40	13332,20	16594,40
2	20581,00	16146,50	15288,90	14932,50	13204,80	15779,40
3	18856,10	17106,90	16255,40	15509,70	13689,60	16411,50
4		15765,50	15603,20	14939,70	14091,20	16204,10
5		17168,50	15666,90	15046,50	13927,90	15784,00
rata-rata	19593,00	16594,98	15703,86	15132,56	13649,14	16154,68
s	889,44	615,88	349,24	243,53	378,37	367,42

No	B015	B020	B025	B030
	KS+B015	KS+B020	KS+B025	KS+B030
1	16255,40	15049,60	14477,40	13109,30
2	15554,90	15345,40	14574,00	12964,50
3	17196,30	15467,60	14093,30	13448,30
4	16420,80	14941,70	14416,80	13525,30
5	16665,20	15467,60	14726,00	13296,20
rata-rata	16418,52	15254,38	14457,50	13268,72
s	599,63	244,39	234,71	232,81

Tabel E.18 Peredaman gaya lima lapis kain

No	A015	A020	A025	A030	A015X2
1	2805,50	3888,10	4358,60	6260,80	2998,60
2	3446,50	4304,10	4660,50	6388,20	3813,60
3	2486,10	3337,60	4083,30	5903,40	3181,50
4	3827,50	3989,80	4653,30	5501,80	3388,90
5	2424,50	3926,10	4546,50	5665,10	3809,00
rata-rata	2998,02	3889,14	4460,44	5943,86	3438,32
s	615,88	349,24	243,53	378,37	367,42

No	B015	B020	B025	B030
1	3337,60	4543,40	5115,60	6483,70
2	4038,10	4247,60	5019,00	6628,50
3	2396,70	4125,40	5499,70	6144,70
4	3172,20	4651,30	5176,20	6067,70
5	2927,80	4125,40	4867,00	6296,80
rata-rata	3174,48	4338,62	5135,50	6324,28
s	599,63	244,39	234,71	232,81

E.2 Sampel busa

Tabel E.19 Gaya benturan pada energi benturan 49 J

No	KS	KS+WT	KS+AO	KS+ML
1	19341,90	18726,70	17598,90	15947,30
2	20581,00	18187,40	17294,90	17093,50
3	18856,10	18091,90	17884,40	17128,50
4		18152,50	17392,40	16891,20
5		17655,40	17041,20	17004,20
rata-rata	19593,00	18162,78	17442,36	16812,94
s	889,44	381,17	318,23	492,53

- Peredaman gaya pada energi benturan 49 J

No	B015	B020	B025
1	866,30	1994,10	3645,70
2	1405,60	2298,10	2499,50
3	1501,10	1708,60	2464,50
4	1440,50	2200,60	2701,80
5	1937,60	2551,80	2588,80
rata-rata	1430,22	2150,64	2780,06
s	381,17	318,23	492,53

Lampiran F Data hasil uji perpindahan uap air dengan alat SGHP

Tabel F.1 Nilai ketahanan terhadap uap air sampel kain dan busa

No	Sampel kain	Nilai ketahanan uap air (R_{et}), m^2kPa/W				
		R_{et} Bareplate	R_{et} Total	R_{et} kain	Rata-rata	Standar deviasi, s
1	A015	6.881	15.686	8.805	8.774	0.027
			15.635	8.754		
			15.645	8.763		
2	A020	5.587	16.241	10.654	10.744	0.120
			16.284	10.697		
			16.467	10.880		
3	A025	5.587	16.763	11.177	11.198	0.031
			16.769	11.183		
			16.820	11.234		
4	A030	5.957	17.329	11.372	11.382	0.029
			17.316	11.359		
			17.371	11.414		
5	A015X2	5.895	17.905	12.010	12.083	0.077
			17.971	12.076		
			18.058	12.163		
6	B015	5.895	15.580	9.685	9.629	0.049
			15.493	9.599		
			15.499	9.604		
7	B020	5.895	17.721	11.826	11.460	0.335
			17.281	11.386		
			17.063	11.168		
8	B025	5.895	18.335	12.440	12.350	0.078
			18.192	12.298		
			18.207	12.312		
9	B030	5.895	18.473	12.579	12.650	0.062
			18.578	12.683		
			18.583	12.688		
10	Busa 1 mm	5.645	190.039	184.395	195.603	9.707
			206.918	201.273		
			206.785	201.140		

Lampiran G Analisa statistik

G.1 *Two-way* Anova ketebalan kain

Tingkat signifikansi = 0,05

Kriteria penerimaan: Terima H_0 jika: Sig. > 0,05 (tidak ada perbedaan signifikan)

Tolak H_0 jika: Sig. < 0,05 (terdapat perbedaan signifikan)

Tests of Between-Subjects Effects

Dependent Variable:tebal

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2.449[a]	8	.306	62.052	.000
Intercept	518.509	1	518.509	105085.492	.000
struktur	.085	1	.085	17.247	.000
diameter	2.351	4	.588	119.094	.000
struktur * diameter	.070	3	.023	4.743	.007
Error	.178	36	.005		
Total	542.041	45			
Corrected Total	2.627	44			

a. R Squared = .932 (Adjusted R Squared = .917)

Homogeneous Subsets

tebal

	diameter	N	Subset 1	2	3	4
Student-Newman-Keuls[a,,b,c]	0,15 mm	10	3.0835			
	0,15 mm x2	5		3.3190		
	0,20 mm	10			3.5560	
	0,25 mm	10			3.5995	
	0,30 mm	10				3.6815
	Sig.		1.000	1.000	.214	1.000
Tukey HSD[a,,b,c]	0,15 mm	10	3.0835			
	0,15 mm x2	5		3.3190		
	0,20 mm	10			3.5560	
	0,25 mm	10			3.5995	3.5995
	0,30 mm	10				3.6815
	Sig.		1.000	1.000	.714	.143

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = .005.

a. Uses Harmonic Mean Sample Size = 8.333.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

G.2 *Two-way* Anova berat kain

Tingkat signifikansi = 0,05

Kriteria penerimaan: Terima H_0 jika: Sig. > 0,05 (tidak ada perbedaan signifikan)

Tolak H_0 jika: Sig. < 0,05 (terdapat perbedaan signifikan)

Tests of Between-Subjects Effects

Dependent Variable:Berat

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1.043E6	8	130433.840	1119.463	.000
Intercept	2.792E7	1	2.792E7	239616.877	.000
struktur	16422.756	1	16422.756	140.950	.000
diameter	1001379.052	4	250344.763	2148.612	.000
struktur * diameter	15925.371	3	5308.457	45.560	.000
Error	4194.528	36	116.515		
Total	2.989E7	45			
Corrected Total	1047665.248	44			

a. R Squared = .996 (Adjusted R Squared = .995)

Homogeneous Subsets

Berat

			Subset			
	diameter	N	1	2	3	4
Student-Newman-Keuls[a,,b,,c]	0,15 mm	10	594.6200			
	0,20 mm	10		741.2700		
	0,15 mm x2	5		746.9800		
	0,25 mm	10			872.0300	
	0,30 mm	10				1021.1100
	Sig.		1.000	.287	1.000	1.000
Tukey HSD[a,,b,,c]	0,15 mm	10	594.6200			
	0,20 mm	10		741.2700		
	0,15 mm x2	5		746.9800		
	0,25 mm	10			872.0300	
	0,30 mm	10				1021.1100
	Sig.		1.000	.816	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 116.515.

a. Uses Harmonic Mean Sample Size = 8.333.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

G.3 *Two-way* Anova daya tembus udara kain

Tingkat signifikansi = 0,05

Kriteria penerimaan: Terima H_0 jika: Sig. > 0,05 (tidak ada perbedaan signifikan)

Tolak H_0 jika: Sig. < 0,05 (terdapat perbedaan signifikan)

Tests of Between-Subjects Effects

Dependent Variable:DTU

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	9733.778[a]	8	1216.722	56.975	.000
Intercept	728769.542	1	728769.542	34125.525	.000
diameter	3295.540	4	823.885	38.579	.000
struktur	7672.900	1	7672.900	359.293	.000
diameter * struktur	468.100	3	156.033	7.306	.001
Error	768.800	36	21.356		
Total	787208.000	45			
Corrected Total	10502.578	44			

a. R Squared = .927 (Adjusted R Squared = .911)

Homogeneous Subsets

DTU

	diameter	N	Subset 1	Subset 2	Subset 3
Student-Newman-Keuls[a,,b,,c]	0,15 x2 mm	5	123.6000		
	0,30 mm	10	126.5000		
	0,25 mm	10	128.2000		
	0,20 mm	10		133.9000	
	0,15 mm	10			140.8000
	Sig.		.119	1.000	1.000
Tukey HSD[a,,b,,c]	0,15 x2 mm	5	123.6000		
	0,30 mm	10	126.5000		
	0,25 mm	10	128.2000	128.2000	
	0,20 mm	10		133.9000	
	0,15 mm	10			140.8000
	Sig.		.272	.109	1.000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 21.356.

a. Uses Harmonic Mean Sample Size = 8.333.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

G.4 *Two-way* Anova gaya benturan pada energi benturan 9,8 J

G.4.1 Sampel kain satu lapis

Tingkat signifikansi = 0,05

Kriteria penerimaan: Terima H_0 jika: Sig. > 0,05 (tidak ada perbedaan signifikan)

Tolak H_0 jika: Sig. < 0,05 (terdapat perbedaan signifikan)

Tests of Between-Subjects Effects

Dependent Variable:gaya

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2.245E6	8	280597.528	16.708	.000
Intercept	9.704E8	1	9.704E8	57780.726	.000
struktur	675448.912	1	675448.912	40.218	.000
diameter	1373191.831	4	343297.958	20.441	.000
struktur * diameter	80837.059	3	26945.686	1.604	.205
Error	604604.375	36	16794.566		
Total	1.009E9	45			
Corrected Total	2849384.600	44			

a. R Squared = .788 (Adjusted R Squared = .741)

Homogeneous Subsets

gaya

	diameter	N	Subset 1	2	3	4
Student-Newman-Keuls[a,,b,,c]	0,30 mm	10	4451.6410			
	0,25 mm	10		4671.9830		
	0,20 mm	10		4750.4700	4750.4700	
	0,15 mm x2	5			4875.0820	4875.0820
	0,15 mm	10				4968.8740
	Sig.		1.000	.224	.057	.148

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 16794.566.

a. Uses Harmonic Mean Sample Size = 8.333.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

- Peredaman gaya benturan

Tingkat signifikansi = 0,05

Kriteria penerimaan: Terima H_0 jika: Sig. > 0,05 (tidak ada perbedaan signifikan)

Tolak H_0 jika: Sig. < 0,05 (terdapat perbedaan signifikan)

Tests of Between-Subjects Effects

Dependent Variable:redaman_gaya

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2.245E6	8	280597.528	16.708	.000
Intercept	3.933E7	1	3.933E7	2341.644	.000
struktur	675448.912	1	675448.912	40.218	.000
diameter	1373191.831	4	343297.958	20.441	.000
struktur * diameter	80837.059	3	26945.686	1.604	.205
Error	604604.375	36	16794.566		
Total	4.270E7	45			
Corrected Total	2849384.600	44			

a. R Squared = .788 (Adjusted R Squared = .741)

Homogeneous Subsets

redaman_gaya

	diameter	N	Subset 1	2	3	4
Student-Newman-Keuls[a,,b,,c]	0,15 mm	10	701.1860			
	0,15 mm x2	5	794.9780	794.9780		
	0,20 mm	10		919.5900	919.5900	
	0,25 mm	10			998.0770	
	0,30 mm	10				1218.4190
	Sig.		.148	.057	.224	1.000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 16794.566.

a. Uses Harmonic Mean Sample Size = 8.333.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

G.4.2 Sampel kain tiga lapis

Tingkat signifikansi = 0,05

Kriteria penerimaan: Terima H_0 jika: Sig. > 0,05 (tidak ada perbedaan signifikan)

Tolak H_0 jika: Sig. < 0,05 (terdapat perbedaan signifikan)

Tests of Between-Subjects Effects

Dependent Variable:gaya

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	8.377E6	8	1047162.496	86.494	.000
Intercept	6.141E8	1	6.141E8	50726.905	.000
struktur	372040.446	1	372040.446	30.730	.000
diameter	7635319.169	4	1908829.792	157.666	.000
struktur * diameter	51437.525	3	17145.842	1.416	.254
Error	435843.539	36	12106.765		
Total	6.420E8	45			
Corrected Total	8813143.504	44			

a. R Squared = .951 (Adjusted R Squared = .940)

Homogeneous Subsets

gaya

	diameter	N	Subset 1	2	3	4	5
Student-Newman-Keuls[a,,b,,c]	0,30 mm	10	3120.7850				
	0,25 mm	10		3556.3550			
	0,20 mm	10			3870.5960		
	0,15 mm x2	5				4087.6700	
	0,15 mm	10					4288.9110
	Sig.		1.000	1.000	1.000	1.000	1.000
Tukey HSD[a,,b,,c]	0,30 mm	10	3120.7850				
	0,25 mm	10		3556.3550			
	0,20 mm	10			3870.5960		
	0,15 mm x2	5				4087.6700	
	0,15 mm	10					4288.9110
	Sig.		1.000	1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 12106.765.

a. Uses Harmonic Mean Sample Size = 8.333.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

- Peredaman gaya benturan

Tingkat signifikansi = 0,05

Kriteria penerimaan: Terima H_0 jika: Sig. > 0,05 (tidak ada perbedaan signifikan)

Tolak H_0 jika: Sig. < 0,05 (terdapat perbedaan signifikan)

Tests of Between-Subjects Effects

Dependent Variable:redaman_gaya

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	8.377E6	8	1047162.496	86.494	.000
Intercept	1.598E8	1	1.598E8	13197.919	.000
struktur	372040.446	1	372040.446	30.730	.000
diameter	7635319.169	4	1908829.792	157.666	.000
struktur * diameter	51437.525	3	17145.842	1.416	.254
Error	435843.539	36	12106.765		
Total	1.745E8	45			
Corrected Total	8813143.504	44			

a. R Squared = .951 (Adjusted R Squared = .940)

Homogeneous Subsets

redaman_gaya

	diameter	N	Subset 1	2	3	4
Student-Newman-Keuls[a,,b,,c]	0,15 mm	10	701.1860			
	0,15 mm x2	5	794.9780	794.9780		
	0,20 mm	10		919.5900	919.5900	
	0,25 mm	10			998.0770	
	0,30 mm	10				1218.4190
	Sig.		.148	.057	.224	1.000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 16794.566.

a. Uses Harmonic Mean Sample Size = 8.333.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

G.4.3 Sampel kain lima lapis

Tingkat signifikansi = 0,05

Kriteria penerimaan: Terima H_0 jika: Sig. > 0,05 (tidak ada perbedaan signifikan)

Tolak H_0 jika: Sig. < 0,05 (terdapat perbedaan signifikan)

Tests of Between-Subjects Effects

Dependent Variable:gaya

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1.661E7	8	2076668.544	124.121	.000
Intercept	4.042E8	1	4.042E8	24159.722	.000
struktur	314860.182	1	314860.182	18.819	.000
diameter	1.582E7	4	3954459.866	236.354	.000
struktur * diameter	5423.160	3	1807.720	.108	.955
Error	602318.112	36	16731.059		
Total	4.318E8	45			
Corrected Total	1.722E7	44			

a. R Squared = .965 (Adjusted R Squared = .957)

Homogeneous Subsets

gaya

	diameter	N	Subset 1	2	3	4	5
Student-Newman-Keuls[a,,b,,c]	0,30 mm	10	2193.8380				
	0,25 mm	10		2754.4260			
	0,20 mm	10			3066.8550		
	0,15 mm x2	5				3510.7680	
	0,15 mm	10					3888.7210
	Sig.		1.000	1.000	1.000	1.000	1.000
Tukey HSD[a,,b,,c]	0,30 mm	10	2193.8380				
	0,25 mm	10		2754.4260			
	0,20 mm	10			3066.8550		
	0,15 mm x2	5				3510.7680	
	0,15 mm	10					3888.7210
	Sig.		1.000	1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 16731.059.

a. Uses Harmonic Mean Sample Size = 8.333.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

- Peredaman gaya benturan

Tingkat signifikansi = 0,05

Kriteria penerimaan: Terima H_0 jika: Sig. > 0,05 (tidak ada perbedaan signifikan)

Tolak H_0 jika: Sig. < 0,05 (terdapat perbedaan signifikan)

Tests of Between-Subjects Effects

Dependent Variable:redaman_gaya

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1.661E7	8	2076668.544	124.121	.000
Intercept	2.999E8	1	2.999E8	17923.936	.000
struktur	314860.182	1	314860.182	18.819	.000
diameter	1.582E7	4	3954459.866	236.354	.000
struktur * diameter	5423.160	3	1807.720	.108	.955
Error	602318.112	36	16731.059		
Total	3.296E8	45			
Corrected Total	1.722E7	44			

a. R Squared = .965 (Adjusted R Squared = .957)

Homogeneous Subsets

redaman_gaya

	diameter	N	Subset 1	2	3	4	5
Student-Newman-Keuls[a,,b,,c]	0,15 mm	10	1781.3390				
	0,15 mm x2	5		2159.2920			
	0,20 mm	10			2603.2050		
	0,25 mm	10				2915.6340	
	0,30 mm	10					3476.2220
	Sig.		1.000	1.000	1.000	1.000	1.000
Tukey HSD[a,,b,,c]	0,15 mm	10	1781.3390				
	0,15 mm x2	5		2159.2920			
	0,20 mm	10			2603.2050		
	0,25 mm	10				2915.6340	
	0,30 mm	10					3476.2220
	Sig.		1.000	1.000	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 16731.059.

a. Uses Harmonic Mean Sample Size = 8.333.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

G.5 *Two-way* Anova gaya benturan pada energi benturan 29,4 J

G.5.1 Sampel kain satu lapis

Tingkat signifikansi = 0,05

Kriteria penerimaan: Terima H_0 jika: Sig. > 0,05 (tidak ada perbedaan signifikan)

Tolak H_0 jika: Sig. < 0,05 (terdapat perbedaan signifikan)

Tests of Between-Subjects Effects

Dependent Variable:gaya

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1.145E6	8	143071.384	1.038	.427
Intercept	7.088E9	1	7.088E9	51396.791	.000
diameter	1113814.701	4	278453.675	2.019	.112
struktur	13329.801	1	13329.801	.097	.758
diameter * struktur	3273.363	3	1091.121	.008	.999
Error	4964338.100	36	137898.281		
Total	7.327E9	45			
Corrected Total	6108909.172	44			

a. R Squared = .187 (Adjusted R Squared = .007)

- Peredaman gaya benturan

Tingkat signifikansi = 0,05

Kriteria penerimaan: Terima H_0 jika: Sig. > 0,05 (tidak ada perbedaan signifikan)

Tolak H_0 jika: Sig. < 0,05 (terdapat perbedaan signifikan)

Tests of Between-Subjects Effects

Dependent Variable:redaman_gaya

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1.145E6	8	143071.384	1.038	.427
Intercept	4585285.604	1	4585285.604	33.251	.000
struktur	13329.801	1	13329.801	.097	.758
diameter	1113814.701	4	278453.675	2.019	.112
struktur * diameter	3273.363	3	1091.121	.008	.999
Error	4964338.100	36	137898.281		
Total	1.088E7	45			
Corrected Total	6108909.172	44			

a. R Squared = .187 (Adjusted R Squared = .007)

G.5.2 Uji *Independent sample* T-Test sampel kain satu lapis dengan karet silikon

Tingkat kepercayaan = 95%

Kriteria penerimaan: Terima H_0 jika: Sig. > 0,05 (hasil tidak berbeda)

Tolak H_0 jika: Sig. < 0,05 (hasil berbeda)

- Sampel A015

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	.695	.429	.439	8	.672	117.10000	266.74137	-498.00670	732.20670
	Equal variances not assumed			.439	7.461	.673	117.10000	266.74137	-505.83013	740.03013

- Sampel A020

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	.371	.560	.873	8	.408	227.18000	260.20522	-372.85431	827.21431
	Equal variances not assumed			.873	7.593	.409	227.18000	260.20522	-378.50396	832.86396

- Sampel A025

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	.707	.425	1.659	8	.136	343.88000	207.31544	-134.19025	821.95025
	Equal variances not assumed			1.659	7.661	.137	343.88000	207.31544	-137.90076	825.66076

- Sampel A030

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	.058	.816	2.703	8	.027	578.88000	214.17413	84.99356	1072.76644
	Equal variances not assumed			2.703	7.859	.027	578.88000	214.17413	83.44197	1074.31803

- Sampel A015X2

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	1.437	.265	.918	8	.386	250.64000	273.10426	-379.13956	880.41956
	Equal variances not assumed			.918	7.329	.388	250.64000	273.10426	-389.31231	890.59231

- Sampel B015

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	.003	.956	.663	8	.526	167.42000	252.67785	-415.25616	750.09616
	Equal variances not assumed			.663	7.735	.527	167.42000	252.67785	-418.75164	753.59164

- Sampel B020

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	.140	.718	1.189	8	.269	254.90000	214.38173	-239.46515	749.26515
	Equal variances not assumed			1.189	7.863	.269	254.90000	214.38173	-240.96770	750.76770

- Sampel B025

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	1.822	.214	2.119	8	.067	400.56000	189.03206	-35.34871	836.46871
	Equal variances not assumed			2.119	6.623	.074	400.56000	189.03206	-51.63580	852.75580

- Sampel B030

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	2.365	.163	3.178	8	.013	590.20000	185.72726	161.91217	1018.48783
	Equal variances not assumed			3.178	6.358	.018	590.20000	185.72726	141.87298	1038.52702

G.5.3 Sampel kain tiga lapis

Tingkat signifikansi = 0,05

Kriteria penerimaan: Terima H_0 jika: Sig. > 0,05 (tidak ada perbedaan signifikan)

Tolak H_0 jika: Sig. < 0,05 (terdapat perbedaan signifikan)

Tests of Between-Subjects Effects

Dependent Variable:gaya

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1.669E7	8	2085836.173	27.179	.000
Intercept	5.252E9	1	5.252E9	68438.831	.000
struktur	963826.175	1	963826.175	12.559	.001
diameter	1.500E7	4	3749570.270	48.858	.000
struktur * diameter	225892.975	3	75297.658	.981	.412
Error	2762806.738	36	76744.632		
Total	5.447E9	45			
Corrected Total	1.945E7	44			

a. R Squared = .858 (Adjusted R Squared = .826)

Homogeneous Subsets

gaya

	diameter	N	Subset 1	2	3	4
Student-Newman-Keuls[a,,b,,c]	0,30 mm	10	10160.8090			
	0,25 mm	10		10641.6100		
	0,20 mm	10			11146.5400	
	0,15 mm x2	5			11353.3400	
	0,15 mm	10				11796.5300
	Sig.		1.000	1.000	.136	1.000
Tukey HSD[a,,b,,c]	0,30 mm	10	10160.8090			
	0,25 mm	10		10641.6100		
	0,20 mm	10			11146.5400	
	0,15 mm x2	5			11353.3400	
	0,15 mm	10				11796.5300
	Sig.		1.000	1.000	.554	1.000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 76744.632.

a. Uses Harmonic Mean Sample Size = 8.333.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

- Peredaman gaya benturan

Tingkat signifikansi = 0,05

Kriteria penerimaan: Terima H_0 jika: Sig. > 0,05 (tidak ada perbedaan signifikan)

Tolak H_0 jika: Sig. < 0,05 (terdapat perbedaan signifikan)

Tests of Between-Subjects Effects

Dependent Variable:redaman_gaya

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1.669E7	8	2085836.173	27.179	.000
Intercept	1.920E8	1	1.920E8	2501.639	.000
struktur	963826.175	1	963826.175	12.559	.001
diameter	1.500E7	4	3749570.270	48.858	.000
struktur * diameter	225892.975	3	75297.658	.981	.412
Error	2762806.738	36	76744.632		
Total	2.174E8	45			
Corrected Total	1.945E7	44			

a. R Squared = .858 (Adjusted R Squared = .826)

Homogeneous Subsets

redaman_gaya

	diameter	N	Subset 1	2	3	4
Student-Newman-Keuls[a,,b,,c]	0,15 mm	10	1283.5900			
	0,15 mm x2	5		1726.7800		
	0,20 mm	10		1933.5800		
	0,25 mm	10			2438.5100	
	0,30 mm	10				2919.3110
	Sig.		1.000	.136	1.000	1.000
Tukey HSD[a,,b,,c]	0,15 mm	10	1283.5900			
	0,15 mm x2	5		1726.7800		
	0,20 mm	10		1933.5800		
	0,25 mm	10			2438.5100	
	0,30 mm	10				2919.3110
	Sig.		1.000	.554	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 76744.632.

a. Uses Harmonic Mean Sample Size = 8.333.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

G.5.4 Sampel kain lima lapis

Tingkat signifikansi = 0,05

Kriteria penerimaan: Terima H_0 jika: Sig. > 0,05 (tidak ada perbedaan signifikan)

Tolak H_0 jika: Sig. < 0,05 (terdapat perbedaan signifikan)

Tests of Between-Subjects Effects

Dependent Variable:gaya

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4.486E7	8	5608105.075	62.798	.000
Intercept	4.108E9	1	4.108E9	46003.688	.000
struktur	996930.106	1	996930.106	11.163	.002
diameter	4.201E7	4	1.050E7	117.591	.000
struktur * diameter	179256.371	3	59752.124	.669	.577
Error	3214917.576	36	89303.266		
Total	4.272E9	45			
Corrected Total	4.808E7	44			

a. R Squared = .933 (Adjusted R Squared = .918)

Homogeneous Subsets

gaya

	diameter	N	Subset 1	2	3	4	5
Student-Newman-Keuls[a,,b,,c]	0,30 mm	10	8217.5780				
	0,25 mm	10		9298.7340			
	0,20 mm	10			9820.6260		
	0,15 mm x2	5				10608.8400	
	0,15 mm	10					10958.2900
	Sig.		1.000	1.000	1.000	1.000	1.000
Tukey HSD[a,,b,,c]	0,30 mm	10	8217.5780				
	0,25 mm	10		9298.7340			
	0,20 mm	10			9820.6260		
	0,15 mm x2	5				10608.8400	
	0,15 mm	10				10958.2900	
	Sig.		1.000	1.000	1.000	.142	

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 89303.266.

a. Uses Harmonic Mean Sample Size = 8.333.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

- Peredaman gaya benturan

Tingkat signifikansi = 0,05

Kriteria penerimaan: Terima H_0 jika: Sig. > 0,05 (tidak ada perbedaan signifikan)

Tolak H_0 jika: Sig. < 0,05 (terdapat perbedaan signifikan)

Tests of Between-Subjects Effects

Dependent Variable:redaman_gaya

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	4.486E7	8	5608105.075	62.798	.000
Intercept	4.943E8	1	4.943E8	5535.107	.000
struktur	996930.106	1	996930.106	11.163	.002
diameter	4.201E7	4	1.050E7	117.591	.000
struktur * diameter	179256.371	3	59752.124	.669	.577
Error	3214917.576	36	89303.266		
Total	5.656E8	45			
Corrected Total	4.808E7	44			

a. R Squared = .933 (Adjusted R Squared = .918)

Homogeneous Subsets

redaman_gaya

	diameter	N	Subset 1	2	3	4	5
Student-Newman-Keuls[a,,b,,c]	0,15 mm	10	2121.8300				
	0,15 mm x2	5		2471.2800			
	0,20 mm	10			3259.4940		
	0,25 mm	10				3781.3860	
	0,30 mm	10					4862.5420
	Sig.		1.000	1.000	1.000	1.000	1.000
Tukey HSD[a,,b,,c]	0,15 mm	10	2121.8300				
	0,15 mm x2	5	2471.2800				
	0,20 mm	10		3259.4940			
	0,25 mm	10			3781.3860		
	0,30 mm	10				4862.5420	
	Sig.		.142	1.000	1.000	1.000	

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 89303.266.

a. Uses Harmonic Mean Sample Size = 8.333.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

G.6 *Two-way* Anova gaya benturan pada energi benturan 49 J

G.6.1 Sampel kain satu lapis

Tingkat signifikansi = 0,05

Kriteria penerimaan: Terima H_0 jika: Sig. > 0,05 (tidak ada perbedaan signifikan)

Tolak H_0 jika: Sig. < 0,05 (terdapat perbedaan signifikan)

Tests of Between-Subjects Effects

Dependent Variable:gaya

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	134230.247[a]	8	16778.781	.056	1.000
Intercept	9.902E9	1	9.902E9	32987.385	.000
struktur	6922.407	1	6922.407	.023	.881
diameter	118806.444	4	29701.611	.099	.981
struktur * diameter	2061.450	3	687.150	.002	1.000
Error	5403208.000	18	300178.222		
Total	1.023E10	27			
Corrected Total	5537438.247	26			

a. R Squared = .024 (Adjusted R Squared = -.409)

- Peredaman gaya benturan

Tingkat signifikansi = 0,05

Kriteria penerimaan: Terima H_0 jika: Sig. > 0,05 (tidak ada perbedaan signifikan)

Tolak H_0 jika: Sig. < 0,05 (terdapat perbedaan signifikan)

Tests of Between-Subjects Effects

Dependent Variable:redaman_gaya

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	134230.247[a]	8	16778.781	.056	1.000
Intercept	431347.080	1	431347.080	1.437	.246
struktur	6922.407	1	6922.407	.023	.881
diameter	118806.444	4	29701.611	.099	.981
struktur * diameter	2061.450	3	687.150	.002	1.000
Error	5403208.000	18	300178.222		
Total	5988682.330	27			
Corrected Total	5537438.247	26			

a. R Squared = .024 (Adjusted R Squared = -.409)

G.6.2 Uji *Independent sample* T-Test sampel kain satu lapis dengan karet silikon

Tingkat kepercayaan = 95%

Kriteria penerimaan: Terima H_0 jika: Sig. > 0,05 (hasil tidak berbeda)

Tolak H_0 jika: Sig. < 0,05 (hasil berbeda)

- Sampel A015

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	.001	.977	.023	4	.983	16.20000	717.68473	-1976.41225	2008.81225
	Equal variances not assumed			.023	3.998	.983	16.20000	717.68473	-1976.86296	2009.26296

- Sampel A020

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	5.852	.073	.182	4	.864	95.26667	522.77848	-1356.19908	1546.73241
	Equal variances not assumed			.182	2.145	.871	95.26667	522.77848	-2014.16449	2204.69782

- Sampel A025

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	.127	.740	.222	4	.835	149.73333	675.61027	-1726.06149	2025.52816
	Equal variances not assumed			.222	3.906	.836	149.73333	675.61027	-1744.07459	2043.54126

- Sampel A030

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means					95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	1.057	.362	.365	4	.733	219.53333	601.18950	-1449.63632	1888.70298
	Equal variances not assumed			.365	3.303	.737	219.53333	601.18950	-1598.06136	2037.12802

- Sampel A015X2

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	6.313	.066	.127	4	.905	66.16667	520.82169	-1379.86618	1512.19951
	Equal variances not assumed			.127	2.114	.910	66.16667	520.82169	-2062.41847	2194.75180

- Sampel B015

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	.251	.643	.085	4	.936	55.86667	657.48889	-1769.61514	1881.34847
	Equal variances not assumed			.085	3.815	.937	55.86667	657.48889	-1805.00091	1916.73424

- Sampel B020

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	3.752	.125	.271	4	.800	146.63333	541.11658	-1355.74714	1649.01381
	Equal variances not assumed			.271	2.436	.808	146.63333	541.11658	-1824.42474	2117.69140

- Sampel B025

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	1.184	.338	.321	4	.764	191.80000	597.81133	-1467.99034	1851.59034
	Equal variances not assumed			.321	3.262	.768	191.80000	597.81133	-1627.19280	2010.79280

- Sampel B030

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	2.477	.191	.397	4	.712	222.30000	560.25059	-1333.20502	1777.80502
	Equal variances not assumed			.397	2.735	.720	222.30000	560.25059	-1662.70234	2107.30234

G.6.3 Sampel kain tiga lapis

Tingkat signifikansi = 0,05

Kriteria penerimaan: Terima H_0 jika: Sig. > 0,05 (tidak ada perbedaan signifikan)

Tolak H_0 jika: Sig. < 0,05 (terdapat perbedaan signifikan)

Tests of Between-Subjects Effects

Dependent Variable:gaya

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2.480E7	8	3100319.261	22.789	.000
Intercept	1.211E10	1	1.211E10	89025.071	.000
struktur	757680.676	1	757680.676	5.569	.024
diameter	2.340E7	4	5850603.668	43.004	.000
struktur * diameter	101200.534	3	33733.511	.248	.862
Error	4897692.476	36	136047.013		
Total	1.254E10	45			
Corrected Total	2.970E7	44			

a. R Squared = .835 (Adjusted R Squared = .798)

Homogeneous Subsets

gaya

	diameter	N	Subset 1	Subset 2	Subset 3	Subset 4
Student-Newman-Keuls[a,,b,,c]	0,30 mm	10	15671.5800			
	0,25 mm	10		16300.2900		
	0,20 mm	10			16759.0100	
	0,15 mm x2	5			17090.8800	
	0,15 mm	10				17749.0600
	Sig.		1.000	1.000	.075	1.000
Tukey HSD[a,,b,,c]	0,30 mm	10	15671.5800			
	0,25 mm	10		16300.2900		
	0,20 mm	10		16759.0100	16759.0100	
	0,15 mm x2	5			17090.8800	
	0,15 mm	10				17749.0600
	Sig.		1.000	.104	.369	1.000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 136047.013.

a. Uses Harmonic Mean Sample Size = 8.333.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

- Peredaman gaya benturan

Tingkat signifikansi = 0,05

Kriteria penerimaan: Terima H_0 jika: Sig. > 0,05 (tidak ada perbedaan signifikan)

Tolak H_0 jika: Sig. < 0,05 (terdapat perbedaan signifikan)

Tests of Between-Subjects Effects

Dependent Variable:redaman_gaya

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	2.480E7	8	3100319.261	22.789	.000
Intercept	3.464E8	1	3.464E8	2546.190	.000
struktur	757680.676	1	757680.676	5.569	.024
diameter	2.340E7	4	5850603.668	43.004	.000
struktur * diameter	101200.534	3	33733.511	.248	.862
Error	4897692.476	36	136047.013		
Total	3.881E8	45			
Corrected Total	2.970E7	44			

a. R Squared = .835 (Adjusted R Squared = .798)

Homogeneous Subsets

redaman_gaya

	diameter	N	Subset 1	2	3	4
Student-Newman-Keuls[a,,b,,c]	0,15 mm	10	1745.5700			
	0,15 mm x2	5		2403.7500		
	0,20 mm	10		2735.6200		
	0,25 mm	10			3194.3400	
	0,30 mm	10				3823.0500
	Sig.		1.000	.075	1.000	1.000
Tukey HSD[a,,b,,c]	0,15 mm	10	1745.5700			
	0,15 mm x2	5		2403.7500		
	0,20 mm	10		2735.6200	2735.6200	
	0,25 mm	10			3194.3400	
	0,30 mm	10				3823.0500
	Sig.		1.000	.369	.104	1.000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 136047.013.

a. Uses Harmonic Mean Sample Size = 8.333.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

G.6.4 Sampel kain lima lapis

Tingkat signifikansi = 0,05

Kriteria penerimaan: Terima H_0 jika: Sig. > 0,05 (tidak ada perbedaan signifikan)

Tolak H_0 jika: Sig. < 0,05 (terdapat perbedaan signifikan)

Tests of Between-Subjects Effects

Dependent Variable:gaya

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	5.643E7	8	7054262.819	46.433	.000
Intercept	1.006E10	1	1.006E10	66246.886	.000
struktur	1766983.260	1	1766983.260	11.631	.002
diameter	5.215E7	4	1.304E7	85.821	.000
struktur * diameter	317006.195	3	105668.732	.696	.561
Error	5469303.076	36	151925.085		
Total	1.043E10	45			
Corrected Total	6.190E7	44			

a. R Squared = .912 (Adjusted R Squared = .892)

Homogeneous Subsets

gaya

	diameter	N	Subset 1	2	3	4
Student-Newman-Keuls[a,,b,,c]	0,30 mm	10	13458.9300			
	0,25 mm	10		14795.0300		
	0,20 mm	10			15479.1200	
	0,15 mm x2	5				16154.6800
	0,15 mm	10				16506.7500
	Sig.		1.000	1.000	1.000	.073
Tukey HSD[a,,b,,c]	0,30 mm	10	13458.9300			
	0,25 mm	10		14795.0300		
	0,20 mm	10			15479.1200	
	0,15 mm x2	5				16154.6800
	0,15 mm	10				16506.7500
	Sig.		1.000	1.000	1.000	.365

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 151925.085.

a. Uses Harmonic Mean Sample Size = 8.333.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

- Peredaman gaya benturan

Tingkat signifikansi = 0,05

Kriteria penerimaan: Terima H_0 jika: Sig. > 0,05 (tidak ada perbedaan signifikan)

Tolak H_0 jika: Sig. < 0,05 (terdapat perbedaan signifikan)

Tests of Between-Subjects Effects

Dependent Variable:redaman_gaya

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	5.643E7	8	7054262.819	46.433	.000
Intercept	8.033E8	1	8.033E8	5287.366	.000
struktur	1766983.260	1	1766983.260	11.631	.002
diameter	5.215E7	4	1.304E7	85.821	.000
struktur * diameter	317006.195	3	105668.732	.696	.561
Error	5469303.076	36	151925.085		
Total	8.990E8	45			
Corrected Total	6.190E7	44			

a. R Squared = .912 (Adjusted R Squared = .892)

Homogeneous Subsets

redaman_gaya

	diameter	N	Subset 1	2	3	4
Student-Newman-Keuls[a,,b,,c]	0,15 mm	10	2987.8800			
	0,15 mm x2	5	3339.9500			
	0,20 mm	10		4015.5100		
	0,25 mm	10			4699.6000	
	0,30 mm	10				6035.7000
	Sig.		.073	1.000	1.000	1.000
Tukey HSD[a,,b,,c]	0,15 mm	10	2987.8800			
	0,15 mm x2	5	3339.9500			
	0,20 mm	10		4015.5100		
	0,25 mm	10			4699.6000	
	0,30 mm	10				6035.7000
	Sig.		.365	1.000	1.000	1.000

Means for groups in homogeneous subsets are displayed.
Based on observed means.
The error term is Mean Square(Error) = 151925.085.

a. Uses Harmonic Mean Sample Size = 8.333.

b. The group sizes are unequal. The harmonic mean of the group sizes is used. Type I error levels are not guaranteed.

c. Alpha = .05.

G.7 Uji *Independent sample* T-Test sampel busa dengan sampel kain tiga lapis pada energi benturan 49 J

Tingkat kepercayaan = 95%

Kriteria penerimaan: Terima H_0 jika: Sig. > 0,05 (hasil tidak berbeda)

Tolak H_0 jika: Sig. < 0,05 (hasil berbeda)

- Sampel busa AO dan sampel kain A015

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	.003	.961	-1.938	8	.089	-397.90000	205.32114	-871.37139	75.57139
	Equal variances not assumed			-1.938	7.988	.089	-397.90000	205.32114	-871.49758	75.69758

- Sampel busa AO dan sampel kain A015X2

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	.942	.360	2.120	8	.067	351.48000	165.80361	-30.86380	733.82380
	Equal variances not assumed			2.120	6.535	.075	351.48000	165.80361	-46.31095	749.27095

- Sampel busa AO dan sampel kain A020

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	.946	.359	2.089	8	.070	553.42000	264.97142	-57.60519	1164.44519
	Equal variances not assumed			2.089	6.786	.076	553.42000	264.97142	-77.17417	1184.01417

- Sampel busa AO dan sampel kain B015

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	3.357	.104	-.798	8	.448	-215.50000	270.08712	-838.32201	407.32201
	Equal variances not assumed			-.798	6.679	.452	-215.50000	270.08712	-860.42701	429.42701

- Sampel busa AO dan sampel kain B020

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	2.192	.177	5.213	8	.001	813.28000	156.00005	453.54324	1173.01676
	Equal variances not assumed			5.213	5.550	.003	813.28000	156.00005	423.92331	1202.63669

- Sampel busa ML dan sampel kain A015X2

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	1.798	.217	-1.177	8	.273	-277.94000	236.12205	-822.43842	266.55842
	Equal variances not assumed			-1.177	5.167	.291	-277.94000	236.12205	-879.04514	323.16514

- Sampel busa ML dan sampel kain A020

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	.030	.866	-.242	8	.815	-76.00000	313.80351	-799.63218	647.63218
	Equal variances not assumed			-.242	7.998	.815	-76.00000	313.80351	-799.65911	647.65911

- Sampel busa ML dan sampel kain A025

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	.107	.752	1.453	8	.184	404.70000	278.49808	-237.51773	1046.91773
	Equal variances not assumed			1.453	7.526	.187	404.70000	278.49808	-244.63193	1054.03193

- Sampel busa ML dan sampel kain A030

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	.905	.369	3.639	8	.007	919.92000	252.81958	336.91699	1502.92301
	Equal variances not assumed			3.639	6.307	.010	919.92000	252.81958	308.52075	1531.31925

- Sampel busa ML dan sampel kain B015

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	.327	.583	-2.656	8	.029	-844.92000	318.13493	-1578.54047	-111.29953
	Equal variances not assumed			-2.656	7.986	.029	-844.92000	318.13493	-1578.75802	-111.08198

- Sampel busa ML dan sampel kain B020

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	2.658	.142	.802	8	.446	183.86000	229.34428	-345.00887	712.72887
	Equal variances not assumed			.802	4.668	.462	183.86000	229.34428	-418.50861	786.22861

- Sampel busa ML dan sampel kain B025

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	.055	.821	2.095	8	.069	620.60000	296.24969	-62.55302	1303.75302
	Equal variances not assumed			2.095	7.912	.070	620.60000	296.24969	-63.88167	1305.08167

- Sampel busa WT dan sampel kain A015

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	.000	.990	1.429	8	.191	322.52000	225.74737	-198.05436	843.09436
	Equal variances not assumed			1.429	7.845	.192	322.52000	225.74737	-199.84630	844.88630

- Sampel busa WT dan sampel kain A015X2

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	.360	.565	5.626	8	.000	1071.90000	190.51494	632.57177	1511.22823
	Equal variances not assumed			5.626	5.876	.001	1071.90000	190.51494	603.33262	1540.46738

- Sampel busa WT dan sampel kain A020

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	.687	.431	4.532	8	.002	1273.84000	281.09600	625.63147	1922.04853
	Equal variances not assumed			4.532	7.477	.002	1273.84000	281.09600	617.65402	1930.02598

- Sampel busa WT dan sampel kain B015

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
gaya	Equal variances assumed	1.925	.203	1.766	8	.115	504.92000	285.92334	-154.42040	1164.26040
	Equal variances not assumed			1.766	7.383	.119	504.92000	285.92334	-164.13680	1173.97680

G.8 Analisa korelasi sampel kain terhadap ketahanan uap air

G.8.1 Struktur kain

Correlations

		Ret	struktur
Ret	Pearson Correlation	1	.409*
	Sig. (2-tailed)		.047
	N	24	24
struktur	Pearson Correlation	.409*	1
	Sig. (2-tailed)	.047	
	N	24	24

*. Correlation is significant at the 0.05 level (2-tailed).

G.8.2 Diameter atau kehalusan benang *spacer* monofilamen struktur A

Correlations

		Ret	diameter
Ret	Pearson Correlation	1	.891**
	Sig. (2-tailed)		.000
	N	12	12
diameter	Pearson Correlation	.891**	1
	Sig. (2-tailed)	.000	
	N	12	12

**. Correlation is significant at the 0.01 level (2-tailed).

G.8.3 Diameter atau kehalusan benang *spacer* monofilamen struktur B

Correlations

		Ret	diameter
Ret	Pearson Correlation	1	.938**
	Sig. (2-tailed)		.000
	N	12	12
diameter	Pearson Correlation	.938**	1
	Sig. (2-tailed)	.000	
	N	12	12

**. Correlation is significant at the 0.01 level (2-tailed).

G.8.4 Ketebalan sampel kain rajut pakan *spacer*

Correlations

		Ret	Tebal
Ret	Pearson Correlation	1	.683**
	Sig. (2-tailed)		.000
	N	27	27
Tebal	Pearson Correlation	.683**	1
	Sig. (2-tailed)	.000	
	N	27	27

**. Correlation is significant at the 0.01 level (2-tailed).