

LAMPIRAN

Lampiran 1. Data Pengujian Bahan Baku

1. Pengujian Gramasi Kain



Nama kain : Kain tenun polos
Warna : Putih
Jenis serat : Kapas

Nama kain : Katun tenun *twill*
Warna : Hitam
Jenis serat : Campuran

a. Kain katun Jepang (putih)

$$= \frac{100 \times 100}{10 \times 10} \times 0,97005 \text{ g} = 90,05 \text{ g/m}^2$$

b. Kain katun toyobo (hitam)

$$= \frac{100 \times 100}{10 \times 10} \times 1,08070 \text{ g} = 108,07 \text{ g/m}^2$$

2. Pengujian Identifikasi Serat Cara Pembakaran

No.	Nama kain	Asap	Bau	Sifat pembakaran	Sisa pembakaran	Jenis serat
1	Kain tenun polos	Putih	Kertas terbakar	Meneruskan pembakaran	Abu halus	Serat selulosa
2	Kain tenun <i>twill</i>	Hitam	Plastik terbakar	Meneruskan pembakaran	Menggumpal keras hitam	Serat selulosa dan sintetis



Gambar hasil pengujian pembakaran serat

3. Pengujian Identifikasi Serat Cara Pelarutan

No.	Nama kain	Hasil uji pelarutan	Jenis serat
1	Kain tenun polos	Larut seluruhnya dalam larutan asam sulfat (H_2SO_4) 70%.	100% kapas
2	Kain tenun <i>twill</i>	Larut sebagian dalam larutan asam sulfat (H_2SO_4) 70%.	14% kapas 86% polyester

Jenis campuran serat katun toyobo : Kapas – Polyester

Pelarut yang digunakan : Asam sulfat (H_2SO_4) 70%.

Serat yang larut : Kapas

Serat yang tidak larut : Polyester

Berat serat awal (BA) : 1,6125 g

Berat serat akhir (BS) : 1,3812 g

Perhitungan :

• %Serat yang larut

$$\begin{aligned}
 &= \frac{BA - BS}{BA} \times 100\% \\
 &= \frac{1,6125 - 1,3812}{1,6125} \times 100\% \\
 &= 14\%
 \end{aligned}$$

• %Serat yang tidak larut

$$\begin{aligned}
 &= \frac{BS}{BA} \times 100\% \\
 &= \frac{1,3812}{1,6125} \times 100\% \\
 &= 86\%
 \end{aligned}$$



Gambar hasil pengujian pelarutan serat

4. Pengujian Kekuatan Tarik Jahitan

- o Kain tenun polos (putih)

No.	Lusi		Pakan	
	Kekuatan (kg)	Keterangan	Kekuatan (kg)	Keterangan
1	18	Benang jahit putus	12	Kain sobek pada jahitan
2	15	Benang jahit putus	14	Kain sobek dan kain sobek pada jahitan
3	14	Benang jahit putus	12	Kain sobek dan kain sobek pada jahitan

Percobaan	Lusi				Pakan			
	Kekuatan		(x- $\bar{x}$)	(x- $\bar{x}$) ²	Kekuatan		(x- $\bar{x}$)	(x- $\bar{x}$) ²
	Kg	N			kg	N		
1	18	176,4	22,87	523,03	12	117,6	-6,53	42,64
2	15	147	-6,53	42,64	14	137,2	13,07	170,82
3	14	137,2	-16,33	266,66	12	117,6	-6,53	42,64
Jumlah	47	460,6		832,33	38	372,4		256,1
Rata-rata	15,66	153,53		277,44	12,66	124,13		85,36

$$SD \text{ Lusi} = \sqrt{\frac{\sum (x - \bar{x})^2}{n-1}}$$

$$SD \text{ Pakan} = \sqrt{\frac{\sum (x - \bar{x})^2}{n-1}}$$

$$SD \text{ Lusi} = \sqrt{\frac{832,33}{3-1}}$$

$$SD \text{ Pakan} = \sqrt{\frac{256,1}{3-1}}$$

$$SD \text{ Lusi} = 20,40$$

$$SD \text{ Pakan} = 11,31$$

$$CV \text{ Lusi} = \frac{SD}{\bar{x}} \times 100\%$$

$$CV \text{ Pakan} = \frac{SD}{\bar{x}} \times 100\%$$

$$CV \text{ Lusi} = \frac{20,40}{153,53} \times 100\%$$

$$CV \text{ Pakan} = \frac{11,31}{124,13} \times 100\%$$

$$CV \text{ Lusi} = 13,28\%$$

$$CV \text{ Pakan} = 9,11\%$$

- o Kain tenun *twill* (hitam)

No.	Lusi		Pakan	
	Kekuatan (kg)	Keterangan	Kekuatan (kg)	Keterangan
1	11	Kain sobek pada jahitan dan benang jahit putus	13	Kain sobek pada jahitan dan benang jahit putus
2	10	Kain sobek pada jahitan dan benang jahit putus	11	Kain sobek pada jahitan dan benang jahit putus
3	14	Kain sobek pada jahitan dan benang jahit putus	9	Kain sobek, benang jahit putus dan benang-benang kain tergelincir

Percobaan	Lusi				Pakan			
	Kekuatan		(x- $\bar{x}$)	(x- $\bar{x}$) ²	Kekuatan		(x- $\bar{x}$)	(x- $\bar{x}$) ²
	Kg	N			kg	N		
1	11	107,8	-6,53	42,64	13	127,4	19,6	384,16
2	10	98	-16,33	266,66	11	107,8	0	0
3	14	137,2	22,87	523,03	9	88,2	-19,6	384,16
Jumlah	35	343		832,33	33	323,4		768,32
Rata-rata	11,66	114,33		277,44	11	107,8		256,10

$$SD \text{ Lusi} = \sqrt{\frac{\sum(x - \bar{x})^2}{n-1}}$$

$$SD \text{ Pakan} = \sqrt{\frac{\sum(x - \bar{x})^2}{n-1}}$$

$$SD \text{ Lusi} = \sqrt{\frac{832,33}{3-1}}$$

$$SD \text{ Pakan} = \sqrt{\frac{768,32}{3-1}}$$

$$SD \text{ Lusi} = 20,40$$

$$SD \text{ Pakan} = 19,6$$

$$CV \text{ Lusi} = \frac{SD}{\bar{x}} \times 100\%$$

$$CV \text{ Pakan} = \frac{SD}{\bar{x}} \times 100\%$$

$$CV \text{ Lusi} = \frac{20,40}{114,33} \times 100\%$$

$$CV \text{ Pakan} = \frac{19,6}{107,8} \times 100\%$$

$$CV \text{ Lusi} = 17,8\%$$

$$CV \text{ Pakan} = 18,1\%$$

5. Pengujian Kekakuan Kain

Percobaan	Posisi	Kekakuan (cm)			
		Kain tenun polos (putih)		Kain tenun <i>twill</i> (hitam)	
		Lusi	Pakan	Lusi	Pakan
1	Muka 1	1,3	1,5	1,4	1,15
	Muka 2	1,5	1,5	1,2	1,4
	Belakang 1	1,4	1,8	1,8	1,4
	Belakang 2	1,3	1,5	1,7	1,55
2	Muka 1	1,3	1,4	1,3	1,3
	Muka 2	1,3	1,3	1,7	1,5
	Belakang 1	1,4	1,3	1,7	1,4
	Belakang 2	1,2	1,6	1,8	1,6
3	Muka 1	1,5	1,5	1,9	1,3
	Muka 2	1,4	1,8	1,9	1,45
	Belakang 1	1,5	1,7	1,9	1,35
	Belakang 2	1,3	1,6	1,7	1,5
Jumlah		15,1	18,5	20	16,9
Rata-rata		1,258	1,541	1,666	1,408

a. Kain tenun polos (Putih)

- Panjang lengkung rata-rata lusi

$$= (CL) \times 0,5$$

$$= 1,258 \times 0,5$$

$$= 0,629$$

- Panjang lengkung rata-rata pakan

$$= (CP) \times 0,5$$

$$= 1,541 \times 0,5$$

$$= 0,7705$$

b. Kain tenun *twill* (Hitam)

- Panjang lengkung rata-rata lusi

$$= (CL) \times 0,5$$

$$= 1,666 \times 0,5$$

$$= 0,833$$

- Panjang lengkung rata-rata pakan

$$= (CP) \times 0,5$$

$$= 1,408 \times 0,5$$

$$= 0,704$$

- *Flexural rigidity* lusi
 $= 0,1 W CL^3$
 $= 0,1 \times 90,05 \times (1,258)^3$
 $= 17,927 \text{ g/cm}^2$

- *Flexural rigidity* pakan
 $= 0,1 W CP^3$
 $= 0,1 \times 90,05 \times (1,541)^3$
 $= 32,952 \text{ g/cm}^2$

- Kekakuan total
 $= \sqrt{(GL+GP)}$
 $= \sqrt{(17,927 + 32,952)}$
 $= \sqrt{50,879}$
 $= 7,133 \text{ g/cm}^2$

- *Bending modulus*
 $= \frac{12 GT \times 10^{-6}}{g^3}$
 $= \frac{12 \times 7,133 \times 10^{-6}}{(0,024)^3}$
 $= \frac{85,596 \times 10^{-6}}{1,382 \times 10^{-5}}$
 $= 6,193 \text{ g/cm}^2$

- *Flexural rigidity* lusi
 $= 0,1 W CL^3$
 $= 0,1 \times 108,07 \times (1,666)^3$
 $= 49,972 \text{ g/cm}^2$

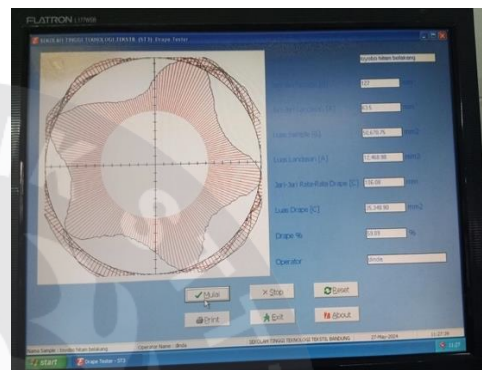
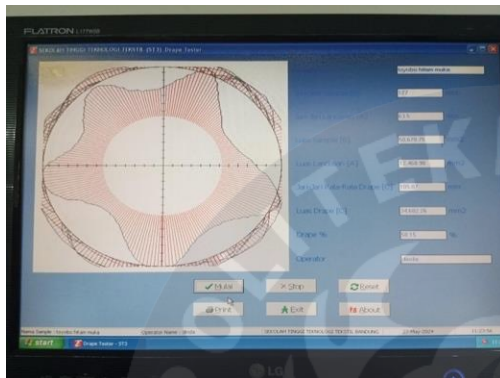
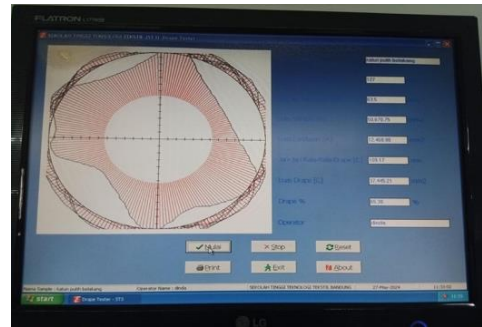
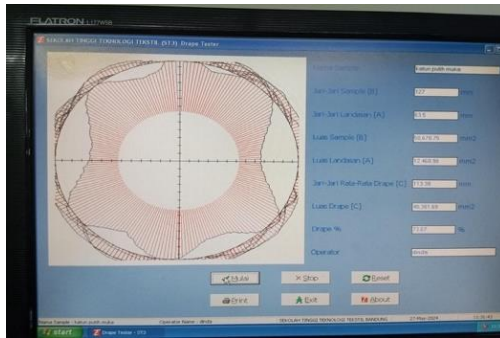
- *Flexural rigidity* pakan
 $= 0,1 W CP^3$
 $= 0,1 \times 108,07 \times (1,408)^3$
 $= 30,165 \text{ g/cm}^2$

- Kekakuan total
 $= \sqrt{(GL+GP)}$
 $= \sqrt{(49,972 + 30,165)}$
 $= \sqrt{80,137}$
 $= 8,951 \text{ g/cm}^2$

- *Bending modulus*
 $= \frac{12 GT \times 10^{-6}}{g^3}$
 $= \frac{12 \times 8,951 \times 10^{-6}}{(0,024)^3}$
 $= \frac{107,412 \times 10^{-6}}{1,382 \times 10^{-5}}$
 $= 77,72 \text{ g/cm}^2$

6. Pengujian kelangsaian kain

No.	Nama kain	Kelangsaian kain (%)	
		Muka	Belakang
1	Kain tenun polos (putih)	73,07	65,38
2	Kain tenun <i>twill</i> (hitam)	58,15	59,89



Gambar hasil pengujian kelangsaian kain

7. Pengujian slip jahitan pada jahitan kain tenun (metode bukaan jahitan tetap)

a. Kain tenun polos (putih)

Lusi

- Buka an jahitan awal pada beban 5N (0,5 kg) = 5 mm
- Buka an jahitan 3 mm = $(3 \text{ mm} \times 5) + 8 = 23 \text{ mm}$

Gaya pada bukaan jahitan 3 mm 7 kg

- Buka an jahitan 6 mm = $(6 \text{ mm} \times 5) + 8 = 38 \text{ mm}$

Gaya pada bukaan jahitan 3 mm 11,5 kg

Pakan

- Buka an jahitan awal pada beban 5N (0,5 kg) = 5 mm
- Buka an jahitan 3 mm = (3 mm × 5) + 5 = 20 mm

Gaya pada bukaan jahitan 3 mm $\geq$ 20,4 kg

- Bukaah jahitan 6 mm = $(6 \text{ mm} \times 5) + 5 = 35 \text{ mm}$

Gaya pada bukaan jahitan 3 mm $\geq$ 20,4 kg

b. Kain tenun *twill* (hitam)

Lusi

- Bukaam jahitan awal pada beban 5N (0,5 kg) = 5 mm
- Bukaam jahitan 3 mm = $(3 \text{ mm} \times 5) + 8 = 23 \text{ mm}$
Gaya pada bukaam jahitan 3 mm 5,5 kg
- Bukaam jahitan 6 mm = $(6 \text{ mm} \times 5) + 8 = 38 \text{ mm}$
Gaya pada bukaam jahitan 3 mm 13 kg

Pakan

- Bukaam jahitan awal pada beban 5N (0,5 kg) = 5 mm
- Bukaam jahitan 3 mm = $(3 \text{ mm} \times 5) + 7 = 22 \text{ mm}$
Gaya pada bukaam jahitan 3 mm 15 kg
- Bukaam jahitan 6 mm = $(6 \text{ mm} \times 5) + 7 = 37 \text{ mm}$
Gaya pada bukaam jahitan 3 mm $\geq 20,4 \text{ kg}$

8. Pengujian nomor benang

Satuan Berat	Satuan Panjang
1 pound (lbs) = 16 ounces	1 hank = 840 yard
7000 grains	768 meter
453,6 gram	1 lea = 120 yard
	1 yard = 36 inch = 0,914 meter
	1 inch = 2,54 cm

• Perhitungan manual (benang putih) panjang 1 m

- | | |
|-----------------------|-----------------------|
| - Benang 1 = 0,03026 | - Benang 11 = 0,02925 |
| - Benang 2 = 0,02947 | - Benang 12 = 0,03015 |
| - Benang 3 = 0,03057 | - Benang 13 = 0,02945 |
| - Benang 4 = 0,02999 | - Benang 14 = 0,02878 |
| - Benang 5 = 0,03297 | - Benang 15 = 0,02967 |
| - Benang 6 = 0,02965 | - Benang 16 = 0,02865 |
| - Benang 7 = 0,02905 | - Benang 17 = 0,02996 |
| - Benang 8 = 0,02995 | - Benang 18 = 0,02990 |
| - Benang 9 = 0,02843 | - Benang 19 = 0,02890 |
| - Benang 10 = 0,02890 | - Benang 20 = 0,02756 |

$$\text{Rumus nomor benang Ne1} = \frac{P \text{ (hank)}}{\text{Berat (lbs)}}$$

- Benang putih

$$1. \text{ Ne1} = \frac{1/768}{0,03026/453,6} = 19,50$$

$$2. \text{ Ne1} = \frac{1/768}{0,02947/453,6} = 20$$

$$3. \text{ Ne1} = \frac{1/768}{0,03057/453,6} = 19,32$$

$$4. \text{ Ne1} = \frac{1/768}{0,02999/453,6} = 19,70$$

$$5. \text{ Ne1} = \frac{1/768}{0,03297/453,6} = 17,90$$

$$6. \text{ Ne1} = \frac{1/768}{0,02965/453,6} = 19,90$$

$$7. \text{ Ne1} = \frac{1/768}{0,02905/453,6} = 20,3$$

$$8. \text{ Ne1} = \frac{1/768}{0,02995/453,6} = 19,80$$

$$9. \text{ Ne1} = \frac{1/768}{0,02843/453,6} = 20,81$$

$$10. \text{ Ne1} = \frac{1/768}{0,02890/453,6} = 20,45$$

$$11. \text{ Ne1} = \frac{1/768}{0,02925/453,6} = 20,20$$

$$12. \text{ Ne1} = \frac{1/768}{0,03015/453,6} = 19,58$$

$$13. \text{ Ne1} = \frac{1/768}{0,02945/453,6} = 20,05$$

$$14. \text{ Ne1} = \frac{1/768}{0,02878/453,6} = 20,50$$

$$15. \text{ Ne1} = \frac{1/768}{0,02967/453,6} = 17,90$$

$$16. \text{ Ne1} = \frac{1/768}{0,02865/453,6} = 19,90$$

$$17. \text{ Ne1} = \frac{1/768}{0,02996/453,6} = 19,70$$

$$18. \text{ Ne1} = \frac{1/768}{0,02990/453,6} = 19,75$$

$$19. \text{ Ne1} = \frac{1/768}{0,02890/453,6} = 20,40$$

$$20. \text{ Ne1} = \frac{1/768}{0,02756/453,6} = 21,43$$

Benang	Ne1	$x - \bar{x}$	$(x - \bar{x})^2$
1.	19,50	-0,25	0,0625
2.	20	0,25	0,0625
3.	19,32	-0,43	0,1849
4.	19,70	-0,05	0,0025
5.	17,90	-1,85	3,4225
6.	19,90	0,15	0,0225
7.	20,3	0,55	0,3025
8.	19,80	0,05	0,0025
9.	20,81	1,06	1,1236
10.	20,45	0,7	0,49
11.	20,20	0,45	0,2025
12.	19,58	-0,17	0,0289
13.	20,05	0,3	0,09
14.	20,50	0,75	0,5625
15.	17,90	-1,85	3,4225

Benang	Ne1	$x - \bar{x}$	$(x - \bar{x})^2$
16.	19,90	0,15	0,0225
17.	19,70	-0,05	0,0025
18.	19,75	0	0
19.	20,40	0,65	0,4225
20.	21,43	1,68	2,8224
Σ	395,09		13,2523
$\bar{x}$	19,75		

$$SD = \sqrt{\frac{\Sigma(x - \bar{x})^2}{n-1}} = \sqrt{\frac{13,2523}{19}} = \sqrt{0,6974} = 0,8351$$

$$CV = \frac{SD}{\bar{x}} \times 100\% = \frac{0,8351}{19,75} \times 100\% = 4,22\%$$

$$SE = \frac{SD}{\sqrt{n}} = \frac{0,8351}{\sqrt{20}} = 0,1867$$

- Perhitungan manual (benang hitam) panjang 1 m

- | | |
|-----------------------|-----------------------|
| - Benang 1 = 0,03026 | - Benang 11 = 0,02925 |
| - Benang 2 = 0,02947 | - Benang 12 = 0,03015 |
| - Benang 3 = 0,03057 | - Benang 13 = 0,02945 |
| - Benang 4 = 0,02999 | - Benang 14 = 0,02878 |
| - Benang 5 = 0,03297 | - Benang 15 = 0,02967 |
| - Benang 6 = 0,02965 | - Benang 16 = 0,02865 |
| - Benang 7 = 0,02905 | - Benang 17 = 0,02996 |
| - Benang 8 = 0,02995 | - Benang 18 = 0,02990 |
| - Benang 9 = 0,02843 | - Benang 19 = 0,02890 |
| - Benang 10 = 0,02890 | - Benang 20 = 0,02756 |

$$\text{Rumus nomor benang Ne1} = \frac{P (\text{hank})}{\text{Berat (lbs)}}$$

- Benang hitam

$$1. Ne1 = \frac{1/768}{0,03345/453,6} = 17,65$$

$$2. Ne1 = \frac{1/768}{0,03340/453,6} = 17,70$$

$$3. Ne1 = \frac{1/768}{0,03176/453,6} = 18,60$$

$$4. Ne1 = \frac{1/768}{0,03277/453,6} = 18$$

$$5. Ne1 = \frac{1/768}{0,03369/453,6} = 17,50$$

$$6. Ne1 = \frac{1/768}{0,03312/453,6} = 17,8$$

$$7. Ne1 = \frac{1/768}{0,03232/453,6} = 18,30$$

$$8. Ne1 = \frac{1/768}{0,03325/453,6} = 17,8$$

$$9. Ne1 = \frac{1/768}{0,03291/453,6} = 17,90$$

$$10. Ne1 = \frac{1/768}{0,03210/453,6} = 18,40$$

$$11. Ne1 = \frac{1/768}{0,03222/453,6} = 18,33$$

$$12. Ne1 = \frac{1/768}{0,03171/453,6} = 18,60$$

$$13. Ne1 = \frac{1/768}{0,03057/453,6} = 19$$

$$14. Ne1 = \frac{1/768}{0,03020/453,6} = 19,5$$

$$15. Ne1 = \frac{1/768}{0,03196/453,6} = 16,05$$

$$16. Ne1 = \frac{1/768}{0,03678/453,6} = 16,05$$

$$17. Ne1 = \frac{1/768}{0,03263/453,6} = 18$$

$$18. Ne1 = \frac{1/768}{0,03255/453,6} = 18,10$$

$$19. Ne1 = \frac{1/768}{0,03578/453,6} = 16,5$$

$$20. Ne1 = \frac{1/768}{0,03444/453,6} = 17,10$$

Benang	Ne1	$x - \bar{x}$	$(x - \bar{x})^2$
1.	17,65	-0,3	0,09
2.	17,70	-0,25	0,0625
3.	18,60	-0,65	0,4225
4.	18	0,05	0,0025
5.	17,50	-0,45	0,2025
6.	17,8	-0,15	0,0225
7.	18,30	0,35	0,1225
8.	17,8	-0,15	0,0025
9.	17,90	-0,05	0,0025
10.	18,40	0,45	0,2025
11.	18,33	0,38	0,1444
12.	18,60	0,65	0,4225
13.	19	1,05	1,1025
14.	19,5	1,55	2,4025
15.	16,05	-1,9	3,61

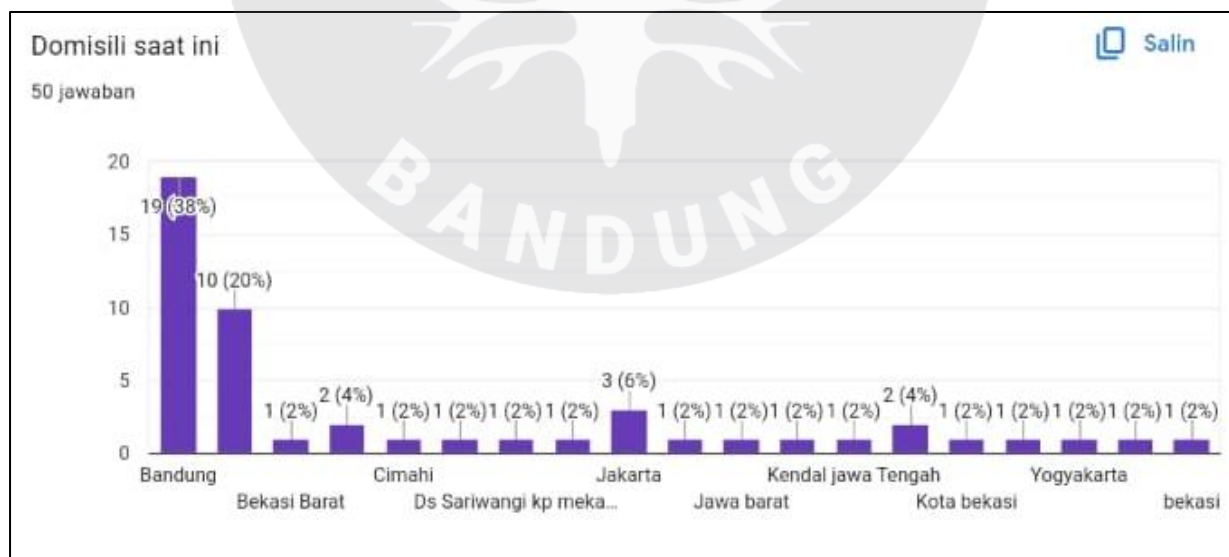
Benang	Ne1	$x - \bar{x}$	$(x - \bar{x})^2$
16.	16,05	-1,9	3,61
17.	18	0,05	0,0025
18.	18,10	0,15	0,0225
19.	16,5	-1,45	2,1025
20.	17,10	-0,85	0,7225
Σ	395,23		2040,0
$\bar{x}$	17,95		

$$SD = \sqrt{\frac{\Sigma(x - \bar{x})^2}{n-1}} = \sqrt{\frac{2040,0}{19}} = \sqrt{107,36} = 10,36$$

$$CV = \frac{SD}{\bar{x}} \times 100\% = \frac{10,36}{17,95} \times 100\% = 57,7\%$$

$$SE = \frac{SD}{\sqrt{n}} = \frac{10,36}{\sqrt{20}} = 0,518$$

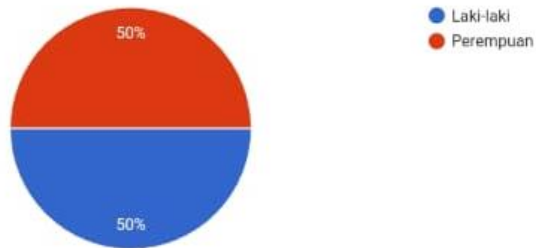
Lampiran 2. Diagram Hasil Survei



Jenis Kelamin

Salin

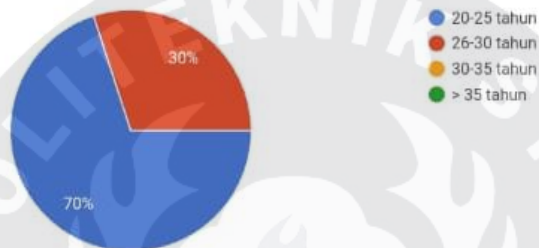
50 jawaban



Berapakah usia anda saat ini?

Salin

50 jawaban



Status Pekerjaan?

Salin

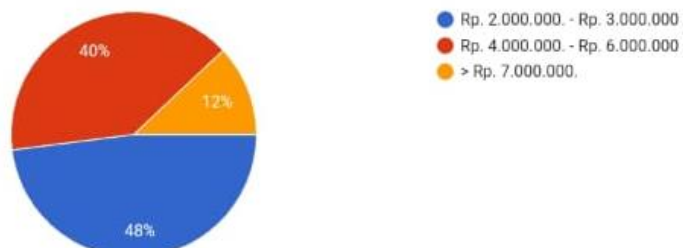
50 jawaban



Berapakah Pendapatan Anda Saat Ini?

Salin

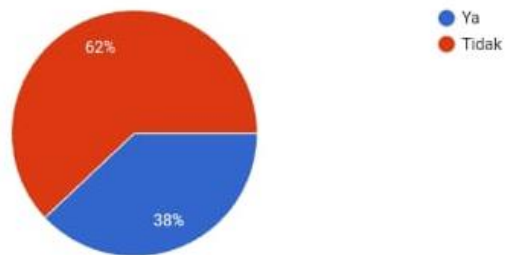
50 jawaban



Apakah anda mengetahui tentang Reka Bahan *Tuck* /Teknik *Tuck* pada busana?

 Salin

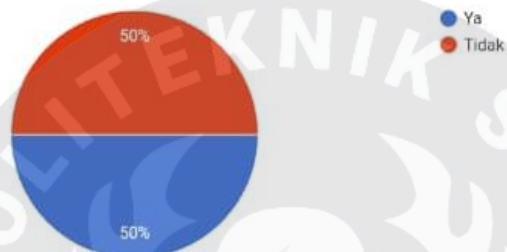
50 jawaban



Apakah anda mengetahui tentang Pola Jahitan Dekoratif Mesin?

 Salin

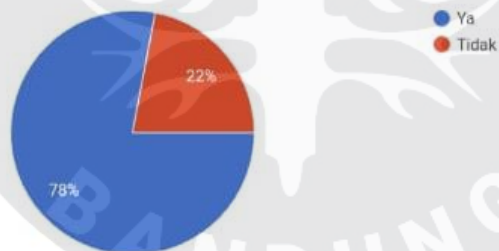
50 jawaban



Apakah anda mengetahui tentang *Beads*/Manik-manik?

 Salin

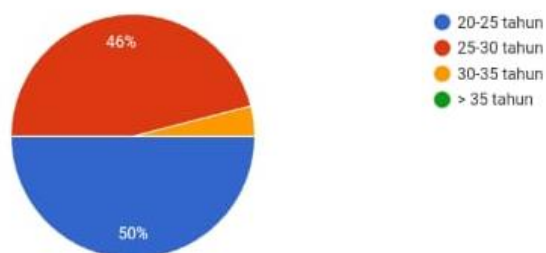
50 jawaban



Berapakah usia yang tepat untuk mengenakan busana tersebut?

 Salin

50 jawaban



Apakah anda tertarik dengan busana *Ready-to-wear deluxe* yang menerapkan Teknik *Tuck*, Pola Jahitan Dekoratif Mesin dan Aplikasi *Beads*?

 Salin

50 jawaban



Menurut Anda, berapakah harga jual yang cocok untuk koleksi busana "*Revival*" ini?

 Salin

50 jawaban

