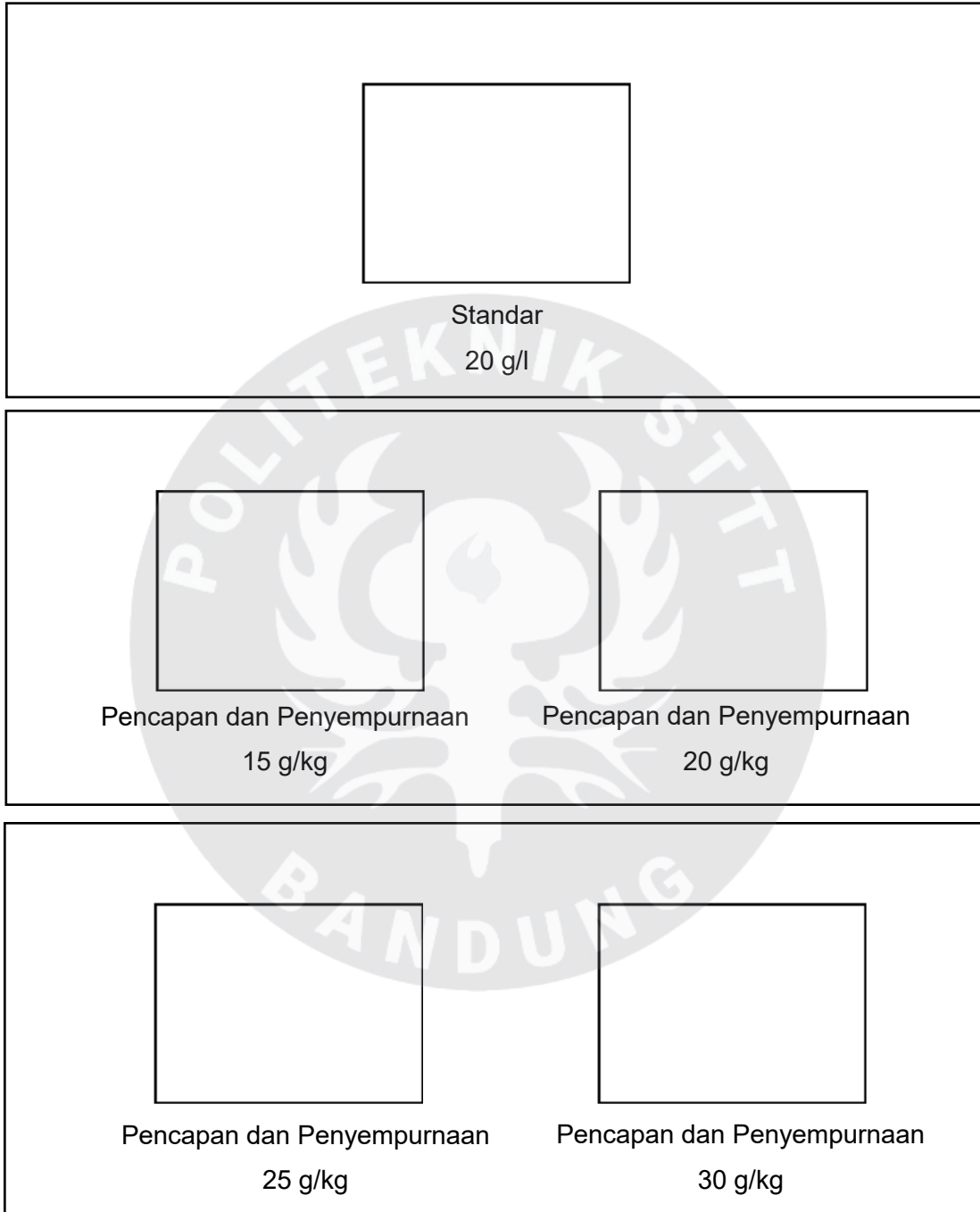


## LAMPIRAN

### Lampiran 1. Kain Hasil Percobaan



## 1. Standar 20 g/L

- Berat Kain (W) : 202,6 g/m<sup>2</sup>
- Ketebalan Kain (G) : 0,060 mm
- Rata-rata Kekakuan *Wale* : 1. 1,25  
2. 1,75  
3. 1,225
- Rata-rata Kekakuan *Course* : 1. 0,825  
2. 0,8  
3. 0,85

Perhitungan:

- Panjang Lengkung (C<sub>w</sub>)

$$\frac{1,25 + 1,175 + 1,225}{3} \times 0,5 = 0,6083$$

- Panjang Lengkung (C<sub>c</sub>)

$$\frac{0,825 + 0,8 + 0,85}{3} \times 0,5 = 0,4125$$

- Kekakuan Lentur (G<sub>w</sub>)

$$0,1 W (C_w^3) = 0,1 \times 202,6 \times (0,6083^3) = 4,56 \text{ mg.cm}$$

- Kekakuan Lentur (G<sub>c</sub>)

$$0,1 W (C_c^3) = 0,1 \times 202,6 \times (0,4125^3) = 1,42 \text{ mg.cm}$$

- Bending Modulus (Q<sub>c</sub>)

$$\frac{12 G_w \times 10^{-6}}{g^3} = \frac{12 \times 4,56 \times 10^{-6}}{0,060^3} = \frac{12 \times 4,56 \times 10^{-6}}{216 \times 10^{-6}} = \frac{54,72}{216} = 0,25 \text{ kg/cm}^2$$

- Bending Modulus (Q<sub>c</sub>)

$$\frac{12 G_c \times 10^{-6}}{g^3} = \frac{12 \times 1,42 \times 10^{-6}}{0,060^3} = \frac{12 \times 1,42 \times 10^{-6}}{216 \times 10^{-6}} = \frac{17,04}{216} = 0,07 \text{ kg/cm}^2$$

## 2. Variasi Konsentrasi 15 g/kg (Pencapan dan Penyempurnaan)

- Berat Kain (W) : 194,4 g/m<sup>2</sup>
- Ketebalan Kain (G) : 0,063 mm
- Rata-rata Kekakuan *Wale* : 1. 1,225  
2. 1,275  
3. 1,2
- Rata-rata Kekakuan *Course* : 1. 0,9  
2. 0,85  
3. 0,825

Perhitungan:

- Panjang Lengkung (C<sub>w</sub>)

$$\frac{1,225 + 1,275 + 1,2}{3} \times 0,5 = 0,6166$$

- Panjang Lengkung (C<sub>c</sub>)

$$\frac{0,9 + 0,85 + 0,825}{3} \times 0,5 = 0,4291$$

- Kekakuan Lentur (G<sub>w</sub>)

$$0,1 W (C_w^3) = 0,1 \times 194,4 \times (0,6166^3) = 4,55 \text{ mg.cm}$$

- Kekakuan Lentur (G<sub>c</sub>)

$$0,1 W (C_c^3) = 0,1 \times 194,4 \times (0,4291^3) = 1,53 \text{ mg.cm}$$

- Bending Modulus (Q<sub>c</sub>)

$$\frac{12 G_c \times 10^{-6}}{g^3} = \frac{12 \times 4,55 \times 10^{-6}}{0,063^3} = \frac{12 \times 4,55 \times 10^{-6}}{250,047 \times 10^{-6}} = \frac{54,6}{250,047} = 0,21 \text{ kg/cm}^2$$

- Bending Modulus (Q<sub>w</sub>)

$$\frac{12 G_w \times 10^{-6}}{g^3} = \frac{12 \times 1,53 \times 10^{-6}}{0,063^3} = \frac{12 \times 1,53 \times 10^{-6}}{250,047 \times 10^{-6}} = \frac{18,36}{250,047} = 0,07 \text{ kg/cm}^2$$

### 3. Variasi Konsentrasi 20 g/kg (Pencapan dan Penyempurnaan)

- Berat Kain (W) : 194,4 g/m<sup>2</sup>
- Ketebalan Kain (G) : 0,061 mm
- Rata-rata Kekakuan *Wale* : 1. 1,175  
2. 1,175  
3. 1,2
- Rata-rata Kekakuan *Course* : 1. 0,825  
2. 0,725  
3. 0,825

Perhitungan:

- Panjang Lengkung (C<sub>w</sub>)

$$\frac{1,175 + 1,175 + 1,2}{3} \times 0,5 = 0,5916$$

- Panjang Lengkung (C<sub>c</sub>)

$$\frac{0,825 + 0,8 + 0,9}{3} \times 0,5 = 0,3958$$

- Kekakuan Lentur (G<sub>w</sub>)

$$0,1 W (C_w^3) = 0,1 \times 194,4 \times (0,5916^3) = 4,02 \text{ mg.cm}$$

- Kekakuan Lentur (G<sub>c</sub>)

$$0,1 W (C_c^3) = 0,1 \times 194,4 \times (0,3958^3) = 1,20 \text{ mg.cm}$$

- Bending Modulus (Q<sub>c</sub>)

$$\frac{12 G_c \times 10^{-6}}{g^3} = \frac{12 \times 4,02 \times 10^{-6}}{0,061^3} = \frac{12 \times 4,02 \times 10^{-6}}{226,981 \times 10^{-6}} = \frac{48,24}{226,981} = 0,21 \text{ kg/cm}^2$$

- Bending Modulus (Q<sub>c</sub>)

$$\frac{12 G_c \times 10^{-6}}{g^3} = \frac{12 \times 1,20 \times 10^{-6}}{0,061^3} = \frac{12 \times 1,20 \times 10^{-6}}{226,981 \times 10^{-6}} = \frac{14,4}{226,981} = 0,06 \text{ kg/cm}^2$$

#### 4. Variasi Konsentrasi 25 g/kg (Pencapan dan Penyempurnaan)

- Berat Kain (W) : 194,4 g/m<sup>2</sup>
- Ketebalan Kain (G) : 0,060 mm
- Rata-rata Kekakuan *Wale* : 1. 1,15  
2. 1,15  
3. 1,1
- Rata-rata Kekakuan *Course* : 1. 0,825  
2. 0,6  
3. 0,775

Perhitungan:

- Panjang Lengkung (C<sub>w</sub>)

$$\frac{1,15 + 1,15 + 1,1}{3} \times 0,5 = 0,5666$$

- Panjang Lengkung (C<sub>c</sub>)

$$\frac{0,825 + 0,6 + 0,775}{3} \times 0,5 = 0,3666$$

- Kekakuan Lentur (G<sub>w</sub>)

$$0,1 W (C_w^3) = 0,1 \times 194,4 \times (0,5666^3) = 3,53 \text{ mg.cm}$$

- Kekakuan Lentur (G<sub>c</sub>)

$$0,1 W (C_c^3) = 0,1 \times 194,4 \times (0,3666^3) = 0,95 \text{ mg.cm}$$

- Bending Modulus (Q<sub>c</sub>)

$$\frac{12 G_c \times 10^{-6}}{g^3} = \frac{12 \times 3,53 \times 10^{-6}}{0,060^3} = \frac{12 \times 3,53 \times 10^{-6}}{216 \times 10^{-6}} = \frac{42,36}{216} = 0,19 \text{ kg/cm}^2$$

- Bending Modulus (Q<sub>w</sub>)

$$\frac{12 G_w \times 10^{-6}}{g^3} = \frac{12 \times 0,95 \times 10^{-6}}{0,060^3} = \frac{12 \times 0,95 \times 10^{-6}}{216 \times 10^{-6}} = \frac{11,40}{216} = 0,05 \text{ kg/cm}^2$$

## 5. Variasi Konsentrasi 30 g/kg (Pencapan dan Penyempurnaan)

- Berat Kain (W) : 194,4 g/m<sup>2</sup>
- Ketebalan Kain (G) : 0,059 mm
- Rata-rata Kekakuan *Wale* : 1. 1  
2. 1,075  
3. 0,95
- Rata-rata Kekakuan *Course* : 1. 0,725  
2. 0,75  
3. 0,775

Perhitungan:

- Panjang Lengkung (C<sub>w</sub>)

$$\frac{1 + 1,075 + 0,95}{3} \times 0,5 = 0,5041$$

- Panjang Lengkung (C<sub>c</sub>)

$$\frac{0,725 + 0,75 + 0,775}{3} \times 0,5 = 0,375$$

- Kekakuan Lentur (G<sub>w</sub>)

$$0,1 W (C_w^3) = 0,1 \times 194,4 \times (0,5041^3) = 2,49 \text{ mg.cm}$$

- Kekakuan Lentur (G<sub>c</sub>)

$$0,1 W (C_c^3) = 0,1 \times 194,4 \times (0,375^3) = 1,02 \text{ mg.cm}$$

- Bending Modulus (Q<sub>c</sub>)

$$\frac{12 G_c \times 10^{-6}}{g^3} = \frac{12 \times 2,49 \times 10^{-6}}{0,059^3} = \frac{12 \times 2,49 \times 10^{-6}}{205,379 \times 10^{-6}} = \frac{29,88}{205,379} = 0,14 \text{ kg/cm}^2$$

- Bending Modulus (Q<sub>c</sub>)

$$\frac{12 G_c \times 10^{-6}}{g^3} = \frac{12 \times 1,02 \times 10^{-6}}{0,059^3} = \frac{12 \times 1,02 \times 10^{-6}}{205,379 \times 10^{-6}} = \frac{12,24}{205,379} = 0,05 \text{ kg/cm}^2$$

