

LAMPIRAN
PERHITUNGAN HASIL ANALISA

Tabel x. Hasil Analisa Cake

Variabel Tekanan	Nampan	Cawan Basah	Cawan Kering
2	I	1200,50	950,12
	II	850,74	782,51
	III	800,88	753,64
4	I	1005,53	892,30
	II	861,42	791,32
	III	812,29	780,70
6	I	915,89	756,53
	II	791,66	702,24
	III	750,09	683,46

Tabel x. Hasil Analisa Densitas dan Viskositas

Variabel Tekanan	M			
	(piknometer isi)		tx (waktu alir)	
	Sebelum	Sesudah	Sebelum	Sesudah
2	47,66	46,88	1,25	1,05
4	47,30	46,83	1,17	1,02
6	47,15	46,17	1,10	0,95

1. Perhitungan Hasil Analisa

1.1. Cake Basah

Rumus :

$$\text{Cake} = \text{Cawan Basah (isi)} - \text{Cawan Kosong}$$

1.1.2. Variabel Tekanan 2 bar

a. Plate I

$$\begin{aligned}\text{Cake} &= 1200,50 - 950,12 \\ &= 250,38\end{aligned}$$

b. Plate II

$$\begin{aligned}\text{Cake} &= 850,74 - 782,51 \\ &= 68,23\end{aligned}$$

c. Plate III

$$\begin{aligned}\text{Cake} &= 800,88 - 753,64 \\ &= 47,24\end{aligned}$$

1.1.3. Variabel Tekanan 4 bar

a. Plate I

$$\begin{aligned}\text{Cake} &= 1005,53 - 892,30 \\ &= 113,23\end{aligned}$$

b. Plate II

$$\begin{aligned}\text{Cake} &= 861,42 - 791,32 \\ &= 70,1\end{aligned}$$

c. Plate III

$$\begin{aligned}\text{Cake} &= 812,29 - 780,70 \\ &= 31,59\end{aligned}$$

1.1.4. Variabel Tekanan 6 bar

a. Plate I

$$\begin{aligned}\text{Cake} &= 915,89 - 756,53 \\ &= 150,36\end{aligned}$$

b. Plate II

$$\begin{aligned}\text{Cake} &= 791,66 - 702,24 \\ &= 89,42\end{aligned}$$

c. Plate III

$$\begin{aligned}\text{Cake} &= 750,09 - 683,46 \\ &= 66,63\end{aligned}$$

1.2. Cake Kering

Rumus :

$$\text{Cake} = \text{Cawan kering (isi)} - \text{Cawan Kosong}$$

1.2.2. Variabel Tekanan 2 bar

a. Plate I

$$\begin{aligned}\text{Cake} &= 950,12 - 193,67 \\ &= 756,45\end{aligned}$$

b. Plate II

$$\begin{aligned}\text{Cake} &= 782,51 - 186,52 \\ &= 595,99\end{aligned}$$

c. Plate III

$$\begin{aligned}\text{Cake} &= 753,64 - 191,40 \\ &= 562,24\end{aligned}$$

1.2.3. Variabel Tekanan 4 bar

a. Plate I

$$\begin{aligned}\text{Cake} &= 892,30 - 193,67 \\ &= 698,63\end{aligned}$$

b. Plate II

$$\begin{aligned}\text{Cake} &= 791,32 - 186,52 \\ &= 604,8\end{aligned}$$

c. Plate III

$$\begin{aligned}\text{Cake} &= 780,70 - 191,40 \\ &= 589,30\end{aligned}$$

1.2.4 Variabel Tekanan 6 bar

a. Plate I

$$\begin{aligned}\text{Cake} &= 756,53 - 193,67 \\ &= 571,86\end{aligned}$$

b. Plate II

$$\text{Cake} = 702,24 - 186,52$$

$$= 515,72$$

c. Plate III

$$\text{Cake} = 683,46 - 191,40$$

$$= 492,06$$

1.3. Densitas

$$\rho = \frac{m}{v}$$

1.3.1. Variabel Tekanan 2 bar dalam 40 Liter

a. Sebelum

$$\rho = \frac{47,66-22,96}{25} = 0,988 \text{ gram/ml}$$

b. Sesudah

$$\rho = \frac{46,88-22,96}{25} = 0,957 \text{ gram/ml}$$

1.3.2. Variabel Tekanan 4 bar dalam 40 Liter

a. Sebelum

$$\rho = \frac{47,30-22,96}{25} = 0,973 \text{ gram/ml}$$

b. Sesudah

$$\rho = \frac{46,83-22,96}{25} = 0,9548 \text{ gram/ml}$$

1.3.3. Variabel Tekanan 6 bar dalam 40 Liter

a. Sebelum

$$\rho = \frac{47,15-22,96}{25} = 0,967 \text{ gram/ml}$$

a. Sesudah

$$\rho = \frac{46,17-22,96}{25} = 0,928 \text{ gram/ml}$$

1.4. Viskositas

$$\mu_x = \frac{dx \cdot tx}{do \cdot to} \mu_o$$

1.4.1. Variabel Tekanan 2 bar dalam 40 Liter

a. Sebelum

$$\mu_x = \frac{1,25 \cdot 0,988}{1 \cdot 1} 1 = 1,23 \text{ cp}$$

b. Sesudah

$$\mu_x = \frac{1,05 \cdot 0,957}{1 \cdot 1} 1 = 1,0048 \text{ cp}$$

1.4.2. Variabel Tekanan 4 bar dalam 40 Liter

a. Sebelum

$$\mu_x = \frac{1,17 \cdot 0,973}{1 \cdot 1} 1 = 1,14 \text{ cp}$$

b. Sesudah

$$\mu_x = \frac{1,02 \cdot 0,9548}{1 \cdot 1} 1 = 0,973 \text{ cp}$$

1.4.3. Variabel Tekanan 6 bar dalam 40 Liter

a. Sebelum

$$\mu_x = \frac{1,10 \cdot 0,967}{1 \cdot 1} 1 = 1,06 \text{ cp}$$

b. Sesudah

$$\mu x = \frac{0,95 \cdot 0,9548}{1 \cdot 1} 1 = 0,907 \text{ cp}$$

Kadar Air

a. Variabel Tekanan 2 bar

- Plate I

$$\begin{aligned} \text{Kadar Air} &= \frac{1200,50 - 950,12}{1200,50} \times 100 \% \\ &= 20,85 \% \end{aligned}$$

- Plate II

$$\begin{aligned} \text{Kadar Air} &= \frac{850,74 - 782,51}{850,74} \times 100 \% \\ &= 8,02 \% \end{aligned}$$

- Plate III

$$\begin{aligned} \text{Kadar Air} &= \frac{800,88 - 753,64}{800,88} \times 100 \% \\ &= 5,89 \% \end{aligned}$$

b. Variabel Tekanan 4 bar

- Plate I

$$\begin{aligned} \text{Kadar Air} &= \frac{1005,53 - 892,30}{1005,53} \times 100 \% \\ &= 11,26 \% \end{aligned}$$

- Plate II

$$\begin{aligned} \text{Kadar Air} &= \frac{861,42 - 791,32}{861,42} \times 100 \% \\ &= 8,13 \% \end{aligned}$$

- Plate III

$$\begin{aligned}\text{Kadar Air} &= \frac{812,29 - 780,70}{812,29} \times 100 \% \\ &= 3,88 \%\end{aligned}$$

c. Variabel Tekanan 6 bar

- Plate I

$$\begin{aligned}\text{Kadar Air} &= \frac{915,89 - 756,53}{915,89} \times 100 \% \\ &= 16,41 \%\end{aligned}$$

- Plate II

$$\begin{aligned}\text{Kadar Air} &= \frac{791,66 - 702,24}{791,66} \times 100 \% \\ &= 11,29 \%\end{aligned}$$

- Plate III

$$\begin{aligned}\text{Kadar Air} &= \frac{750,09 - 683,46}{750,09} \times 100 \% \\ &= 8,88 \%\end{aligned}$$