

LAMPIRAN

A. Perhitungan *Wettability* Mesh 24

• Waktu 2,5 Menit

Tetes 1

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 1,61}{6,18} \right) = 55,05^{\circ}$$

Tetes 2

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 1,8}{5,92} \right) = 62,60^{\circ}$$

Tetes 3

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 1,65}{6,18} \right) = 56,20^{\circ}$$

$$\text{Rata - rata} = \frac{55,05^{\circ} + 62,60^{\circ} + 56,20^{\circ}}{3} = 55,05^{\circ}$$

• Waktu 7,5 Menit

Tetes 1

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 2,36}{7,53} \right) = 64,16^{\circ}$$

Tetes 2

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 2,1}{7,68} \right) = 57,34^{\circ}$$

Tetes 3

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 2,21}{7,27} \right) = 62,59^{\circ}$$

$$\text{Rata - rata} = \frac{64,16^{\circ} + 57,34^{\circ} + 62,59^{\circ}}{3} = 61,36^{\circ}$$

• Waktu 5 Menit

Tetes 1

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 1,83}{5,55} \right) = 66,80^{\circ}$$

Tetes 2

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 1,87}{7,65} \right) = 52,10^{\circ}$$

Tetes 3

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 2,1}{9,9} \right) = 45,97^{\circ}$$

$$\text{Rata - rata} = \frac{66,80^{\circ} + 52,10^{\circ} + 45,97^{\circ}}{3} = 54,95^{\circ}$$

• Waktu 10 Menit

Tetes 1

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 2,58}{6,07} \right) = 80,16^{\circ}$$

Tetes 2

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 2,47}{5,92} \right) = 79,68^{\circ}$$

Tetes 3

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 2,62}{6,56} \right) = 79,21^{\circ}$$

$$\text{Rata - rata} = \frac{80,16^{\circ} + 79,68^{\circ} + 79,21^{\circ}}{3} = 79,21^{\circ}$$

B. Perhitungan *Wettability* Mesh 50

• Waktu 2,5 Menit

Tetes 1

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 1,69}{9,22} \right) = 42,65^{\circ}$$

Tetes 2

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 1,83}{8,66} \right) = 45,82^{\circ}$$

Tetes 3

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 1,72}{8,32} \right) = 44,92^{\circ}$$

$$\text{Rata - rata} = \frac{42,65^{\circ} + 45,82^{\circ} + 44,92^{\circ}}{3} = 44,46^{\circ}$$

• Waktu 7,5 Menit

Tetes 1

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 1,98}{6,15} \right) = 65,55^{\circ}$$

Tetes 2

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 2,58}{6,93} \right) = 73,34^{\circ}$$

Tetes 3

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 55}{6,3} \right) = 77,98^{\circ}$$

$$\text{Rata - rata} = \frac{65,55^{\circ} + 73,34^{\circ} + 77,98^{\circ}}{3} = 72,29^{\circ}$$

• Waktu 5 Menit

Tetes 1

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 2,36}{7,16} \right) = 66,78^{\circ}$$

Tetes 2

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 2,28}{7,01} \right) = 66,08^{\circ}$$

Tetes 3

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 1,95}{6,45} \right) = 44,92^{\circ}$$

$$\text{Rata - rata} = \frac{66,78^{\circ} + 66,08^{\circ} + 44,92^{\circ}}{3} = 44,46^{\circ}$$

• Waktu 10 Menit

Tetes 1

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 2,36}{5,66} \right) = 79,65^{\circ}$$

Tetes 2

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 2,34}{6,18} \right) = 74,27^{\circ}$$

Tetes 3

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 2,06}{6,45} \right) = 65,13^{\circ}$$

$$\text{Rata - rata} = \frac{79,65^{\circ} + 74,27^{\circ} + 65,13^{\circ}}{3} = 73,01^{\circ}$$

C. Perhitungan Wettability Mesh 60

• Waktu 2,5 Menit

Tetes 1

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 2,58}{6,41} \right) = 77,66^{\circ}$$

Tetes 2

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 2,06}{5,62} \right) = 72,48^{\circ}$$

Tetes 3

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 2,13}{6,93} \right) = 63,15^{\circ}$$

$$\text{Rata - rata} = \frac{77,66^{\circ} + 72,48^{\circ} + 63,15^{\circ}}{3} = 71,09^{\circ}$$

• Waktu 7,5 Menit

Tetes 1

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 1,53}{5,55} \right) = 57,74^{\circ}$$

Tetes 2

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 1,68}{8,58} \right) = 42,77^{\circ}$$

Tetes 3

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 1,72}{7,98} \right) = 46,63^{\circ}$$

$$\text{Rata - rata} = \frac{57,74^{\circ} + 42,77^{\circ} + 46,63^{\circ}}{3} = 49,04^{\circ}$$

• Waktu 5 Menit

Tetes 1

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 1,98}{6,3} \right) = 64,30^{\circ}$$

Tetes 2

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 2,17}{8,17} \right) = 55,95^{\circ}$$

Tetes 3

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 1,65}{5,77} \right) = 59,53^{\circ}$$

$$\text{Rata - rata} = \frac{64,30^{\circ} + 55,95^{\circ} + 59,53^{\circ}}{3} = 59,92^{\circ}$$

• Waktu 10 Menit

Tetes 1

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 2,43}{6,75} \right) = 71,50^{\circ}$$

Tetes 2

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 0,2}{6,33} \right) = 65,09^{\circ}$$

Tetes 3

$$\theta = 2 \tan^{-1} \left(\frac{2 \times 2,17}{7,27} \right) = 61,67^{\circ}$$

$$\text{Rata - rata} = \frac{71,50^{\circ} + 65,09^{\circ} + 61,67^{\circ}}{3} = 66,08^{\circ}$$

D. Perhitungan Ketahanan Fluida Mesh 24

• Waktu 2,5 Menit

$$\begin{aligned}\eta &= \frac{2 \times 2,5 \times 1,66^2 \times 8,9}{1000 \times 0,43} \\ &= \frac{122,62}{430} \\ &= 0,285 \text{ Ns/m}^2\end{aligned}$$

$$\begin{aligned}\eta &= \frac{2 \times 2,5 \times 1,58^2 \times 8,9}{1000 \times 0,49} \\ &= \frac{111,08}{490} \\ &= 0,226 \text{ Ns/m}^2\end{aligned}$$

$$\begin{aligned}\eta &= \frac{2 \times 2,5 \times 1,65^2 \times 8,9}{1000 \times 0,44} \\ &= \frac{121,15}{440} \\ &= 0,275 \text{ Ns/m}^2\end{aligned}$$

• Waktu 5 Menit

$$\begin{aligned}\eta &= \frac{2 \times 5 \times 1,48^2 \times 8,9}{1000 \times 0,49} \\ &= \frac{194,94}{490} \\ &= 0,397 \text{ Ns/m}^2\end{aligned}$$

$$\begin{aligned}\eta &= \frac{2 \times 5 \times 2,04^2 \times 8,9}{1000 \times 0,50} \\ &= \frac{370,38}{500} \\ &= 0,740 \text{ Ns/m}^2\end{aligned}$$

$$\begin{aligned}\eta &= \frac{2 \times 5 \times 2,64^2 \times 8,9}{1000 \times 0,56} \\ &= \frac{620,29}{560} \\ &= 1,170 \text{ Ns/m}^2\end{aligned}$$

• Waktu 7,5 Menit

$$\begin{aligned}\eta &= \frac{2 \times 7,5 \times 1,62^2 \times 8,9}{1000 \times 0,69} \\ &= \frac{350,35}{690} \\ &= 0,507 \text{ Ns/m}^2\end{aligned}$$

$$\begin{aligned}\eta &= \frac{2 \times 7,5 \times 1,58^2 \times 8,9}{1000 \times 0,66} \\ &= \frac{333,26}{660} \\ &= 0,504 \text{ Ns/m}^2\end{aligned}$$

$$\begin{aligned}\eta &= \frac{2 \times 7,5 \times 1,75^2 \times 8,9}{1000 \times 0,70} \\ &= \frac{408,48}{700} \\ &= 0,583 \text{ Ns/m}^2\end{aligned}$$

• Waktu 10 Menit

$$\begin{aligned}\eta &= \frac{2 \times 10 \times 2,01^2 \times 8,9}{1000 \times 0,63} \\ &= \frac{719,13}{630} \\ &= 1,141 \text{ Ns/m}^2\end{aligned}$$

$$\begin{aligned}\eta &= \frac{2 \times 10 \times 2,05^2 \times 8,9}{1000 \times 0,56} \\ &= \frac{748,04}{560} \\ &= 1,338 \text{ Ns/m}^2\end{aligned}$$

$$\begin{aligned}\eta &= \frac{2 \times 10 \times 1,95^2 \times 8,9}{1000 \times 0,59} \\ &= \frac{669,92}{590} \\ &= 1,135 \text{ Ns/m}^2\end{aligned}$$

E. Perhitungan Ketahanan Fluida Mesh 50

• Waktu 2,5 Menit

$$\begin{aligned}\eta &= \frac{2 \times 2,5 \times 2,46^2 \times 8,9}{1000 \times 0,48} \\ &= \frac{296,52}{480} \\ &= 0,617 \text{ Ns/m}^2\end{aligned}$$

$$\begin{aligned}\eta &= \frac{2 \times 2,5 \times 2,31^2 \times 8,9}{1000 \times 0,44} \\ &= \frac{721,36}{440} \\ &= 1,619 \text{ Ns/m}^2\end{aligned}$$

$$\begin{aligned}\eta &= \frac{2 \times 2,5 \times 2,22^2 \times 8,9}{1000 \times 0,46} \\ &= \frac{877,25}{460} \\ &= 1,907 \text{ Ns/m}^2\end{aligned}$$

• Waktu 5 Menit

$$\begin{aligned}\eta &= \frac{2 \times 5 \times 1,51^2 \times 8,9}{1000 \times 0,63} \\ &= \frac{202,92}{630} \\ &= 0,322 \text{ Ns/m}^2\end{aligned}$$

$$\begin{aligned}\eta &= \frac{2 \times 5 \times 1,65^2 \times 8,9}{1000 \times 0,65} \\ &= \frac{242,30}{650} \\ &= 0,372 \text{ Ns/m}^2\end{aligned}$$

$$\begin{aligned}\eta &= \frac{2 \times 5 \times 1,98^2 \times 8,9}{1000 \times 0,55} \\ &= \frac{348,91}{550} \\ &= 0,634 \text{ Ns/m}^2\end{aligned}$$

• Waktu 7,5 Menit

$$\begin{aligned}\eta &= \frac{2 \times 7,5 \times 1,91^2 \times 8,9}{1000 \times 0,63} \\ &= \frac{487,02}{630} \\ &= 0,773 \text{ Ns/m}^2\end{aligned}$$

$$\begin{aligned}\eta &= \frac{2 \times 7,5 \times 1,87^2 \times 8,9}{1000 \times 0,61} \\ &= \frac{466,83}{610} \\ &= 0,765 \text{ Ns/m}^2\end{aligned}$$

$$\begin{aligned}\eta &= \frac{2 \times 7,5 \times 1,72^2 \times 8,9}{1000 \times 0,52} \\ &= \frac{394,94}{520} \\ &= 0,759 \text{ Ns/m}^2\end{aligned}$$

• Waktu 10 Menit

$$\begin{aligned}\eta &= \frac{2 \times 10 \times 1,64^2 \times 8,9}{1000 \times 0,69} \\ &= \frac{478,74}{690} \\ &= 0,693 \text{ Ns/m}^2\end{aligned}$$

$$\begin{aligned}\eta &= \frac{2 \times 10 \times 1,85 \times 8,9}{1000 \times 0,53} \\ &= \frac{609,20}{530} \\ &= 1,149 \text{ Ns/m}^2\end{aligned}$$

$$\begin{aligned}\eta &= \frac{2 \times 10 \times 1,86^2 \times 8,9}{1000 \times 0,68} \\ &= \frac{615,80}{680} \\ &= 0,905 \text{ Ns/m}^2\end{aligned}$$

F. Perhitungan Ketahanan Fluida Mesh 60

• Waktu 2,5 Menit

$$\begin{aligned}\eta &= \frac{2 \times 2,5 \times 1,71^2 \times 8,9}{1000 \times 0,69} \\ &= \frac{130,12}{690} \\ &= 0,188 \text{ Ns/m}^2\end{aligned}$$

$$\begin{aligned}\eta &= \frac{2 \times 2,5 \times 1,50^2 \times 8,9}{1000 \times 0,55} \\ &= \frac{100,12}{556} \\ &= 0,182 \text{ Ns/m}^2\end{aligned}$$

$$\begin{aligned}\eta &= \frac{2 \times 2,5 \times 1,85^2 \times 8,9}{1000 \times 0,57} \\ &= \frac{152,30}{570} \\ &= 0,267 \text{ Ns/m}^2\end{aligned}$$

• Waktu 5 Menit

$$\begin{aligned}\eta &= \frac{2 \times 5 \times 1,68^2 \times 8,9}{1000 \times 0,53} \\ &= \frac{251,19}{530} \\ &= 0,473 \text{ Ns/m}^2\end{aligned}$$

$$\begin{aligned}\eta &= \frac{2 \times 5 \times 2,18^2 \times 8,9}{1000 \times 0,58} \\ &= \frac{422,96}{580} \\ &= 0,729 \text{ Ns/m}^2\end{aligned}$$

$$\begin{aligned}\eta &= \frac{2 \times 5 \times 1,54^2 \times 8,9}{1000 \times 0,44} \\ &= \frac{211,07}{440} \\ &= 0,479 \text{ Ns/m}^2\end{aligned}$$

• Waktu 7,5 Menit

$$\begin{aligned}\eta &= \frac{2 \times 7,5 \times 1,68^2 \times 8,9}{1000 \times 0,41} \\ &= \frac{292,41}{410} \\ &= 0,713 \text{ Ns/m}^2\end{aligned}$$

$$\begin{aligned}\eta &= \frac{2 \times 7,5 \times 2,29^2 \times 8,9}{1000 \times 0,45} \\ &= \frac{700,08}{450} \\ &= 1,555 \text{ Ns/m}^2\end{aligned}$$

$$\begin{aligned}\eta &= \frac{2 \times 7,5 \times 2,13^2 \times 8,9}{1000 \times 0,46} \\ &= \frac{605,76}{460} \\ &= 1,316 \text{ Ns/m}^2\end{aligned}$$

• Waktu 10 Menit

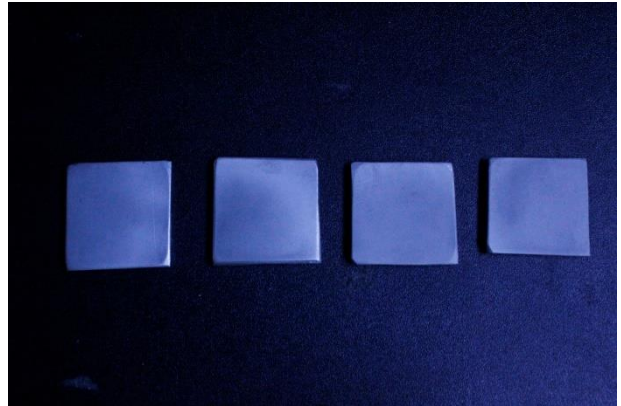
$$\begin{aligned}\eta &= \frac{2 \times 10 \times 1,80^2 \times 8,9}{1000 \times 0,65} \\ &= \frac{576,72}{650} \\ &= 0,887 \text{ Ns/m}^2\end{aligned}$$

$$\begin{aligned}\eta &= \frac{2 \times 10 \times 1,69 \times 8,9}{1000 \times 0,54} \\ &= \frac{508,38}{540} \\ &= 0,941 \text{ Ns/m}^2\end{aligned}$$

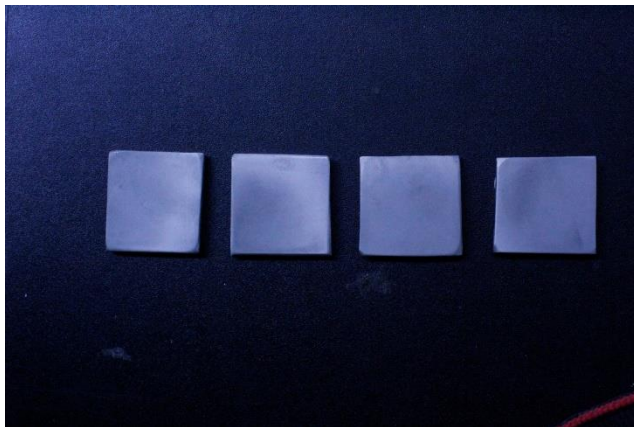
$$\begin{aligned}\eta &= \frac{2 \times 10 \times 1,94^2 \times 8,9}{1000 \times 0,58} \\ &= \frac{669,92}{580} \\ &= 1,155 \text{ Ns/m}^2\end{aligned}$$



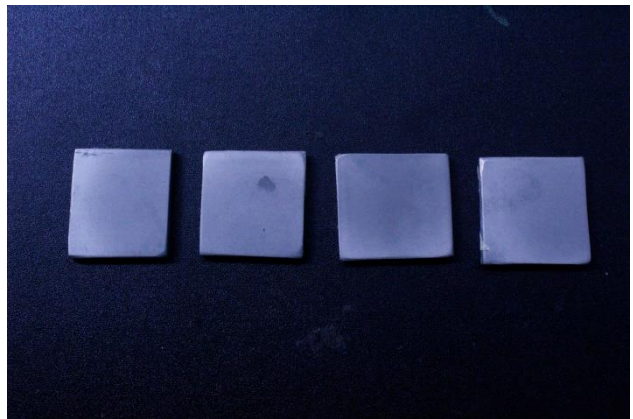
Material sebelum dilakukan *sandblasting*



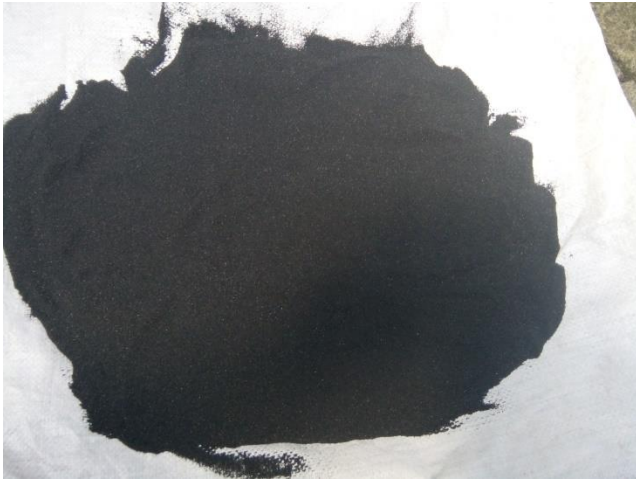
Hasil *sandblasting* dengan mesh 24



Hasil *sandblasting* dengan mesh 50



Hasil *sandblasting* dengan mesh 60



Pasir besi



Alat bantu *sandblasting*



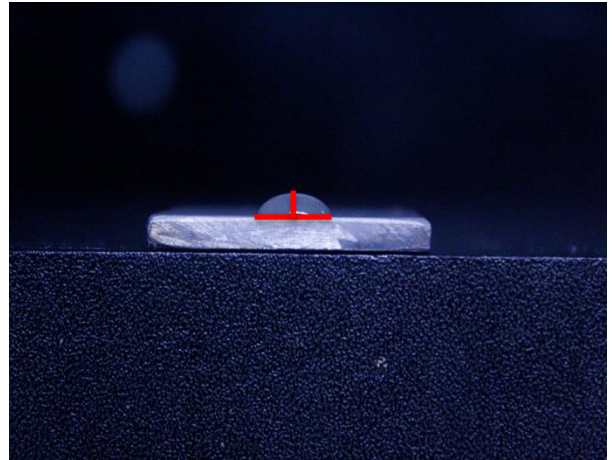
Proses *sandblasting*



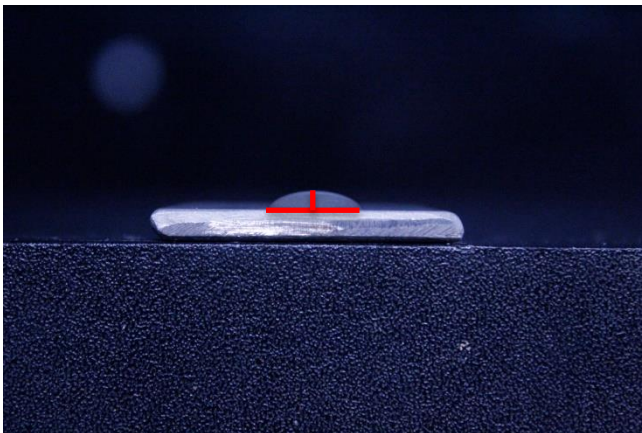
Pengukuran jarak spesimen



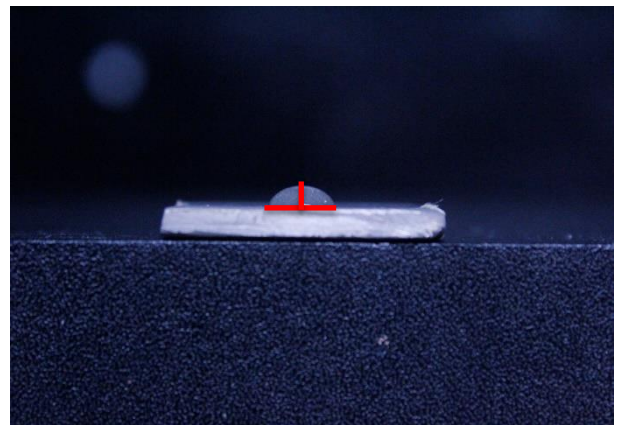
Tekanan proses *sandblasting*



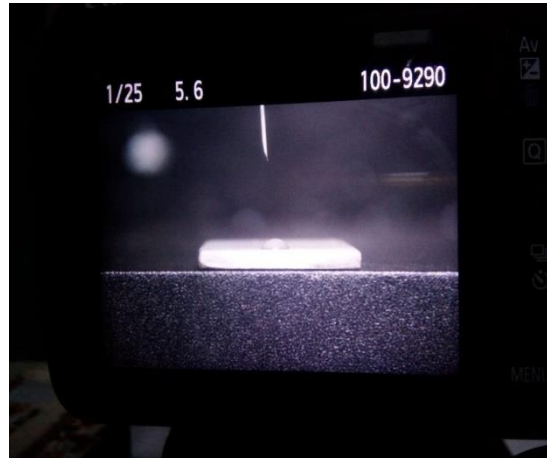
Hasil pengujian *wettability* mesh 24



Hasil pengujian *wettability* mesh 50



Hasil pengujian *wettability* mesh 60



Proses pengujian *wettability*