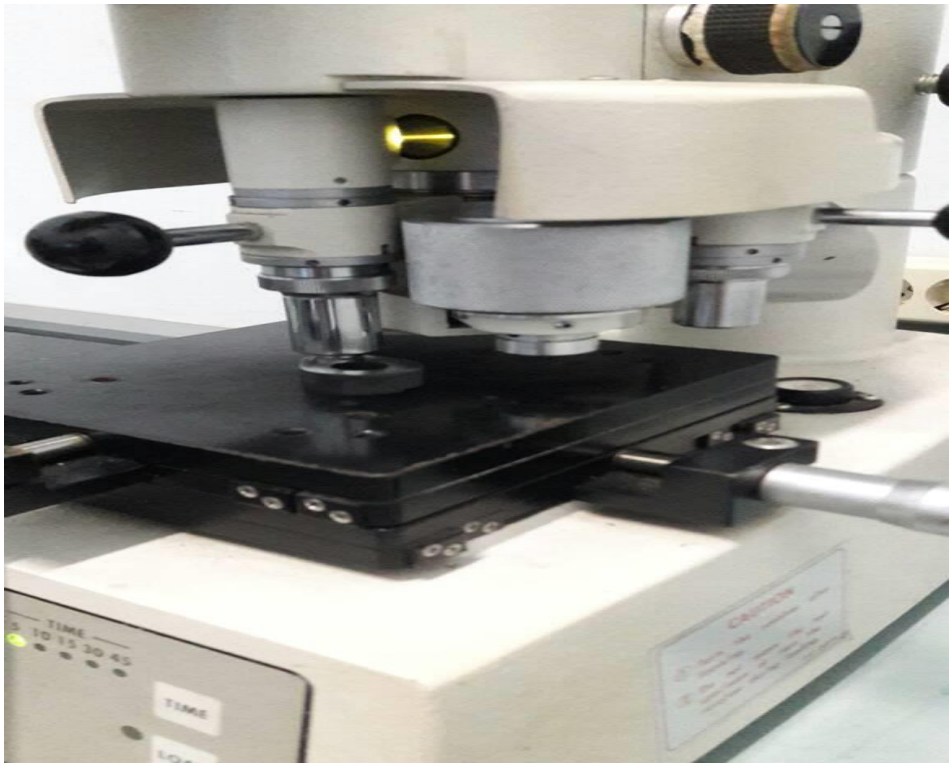
LAMPIRAN


TIME
10 15 30 45
TIME


Thermo
POWER
CYCLE
905°
908
THERMODYNE

Nilai dari uji kekerasan

a. Perhitungan dari Raw material

Titik 1 :

Diketahui : P = 200 gf = 0,2 kgf

d = 29,5 μm

$$\text{VHN} = \frac{1{,}8540\ x\ P}{d^2/1000}$$

$$= \frac{1{,}8540\ x\ 0{,}2}{29{,}5^2/1000}$$

$$= \frac{1{,}8540\ x\ 0{,}2}{0{,}0295^2}$$

$$= \frac{0.3708}{0{,}00087025}$$

= 426,1 VHN

Titik 2 :

Diketahui : P = 200 gf = 0,2 kgf

d = 30,25 μm

$$\text{VHN} = \frac{1{,}8540\ x\ P}{d^2/1000}$$

$$= \frac{1{,}8540\ x\ 0.2}{30{,}25^2/1000}$$

$$= \frac{1{,}8540\ x\ 0.2}{0{,}03025^2}$$

$$= \frac{0.3708}{0{,}00091506}$$

= 405.2 VHN

Titik 3 :

Diketahui : P = 200 gf = 0.2 kgf

d = 31,5 μm

$$\text{VHN} = \frac{1{,}8540\ x\ P}{d^2/1000}$$

$$= \frac{1{,}8540\ x\ 0.2}{31{,}5^2/1000}$$

$$= \frac{1{,}8540\ x\ 0.2}{0{,}0315^2}$$

$$= \frac{0.3708}{0{,}00099225}$$

= 373,7 VHN

b. Perhitungan dari quenching

Titik 1 :

Diketahui : P = 200 gf = 0.2 kgf

d = 28 μm

$$\text{VHN} = \frac{1{,}8540\ x\ P}{d^2/1000}$$

$$= \frac{1{,}8540\ x\ 0.2}{28^2/1000}$$

$$= \frac{1{,}8540\ x\ 0.2}{0.028^2}$$

$$= \frac{0.3708}{0{,}000784}$$

$$= 472.9 \text{ VHN}$$

Titik 2 :

Diketahui : P = 200 gf = 0.2 kgf

d = 27 μm

$$\text{VHN} = \frac{1{,}8540\ x\ P}{d^2/1000}$$

$$= \frac{1{,}8540\ x\ 0.2}{27^2/1000}$$

$$= \frac{1{,}8540\ x\ 0.2}{0{,}027^2}$$

$$= \frac{0.3708}{0{,}000729}$$

$$= 508{,}6 \text{ VHN}$$

Titik 3 :

Diketahui : P = 200 gf = 0.2 kgf

d = 28 μm

$$\text{VHN} = \frac{1{,}8540\ x\ P}{d^2/1000}$$

$$= \frac{1{,}8540\ x\ 0.2}{28^2/1000}$$

$$= \frac{1{,}8540\ x\ 0.2}{0{,}028^2}$$

$$= \frac{0.3708}{0{,}000784}$$

= 472.9 VHN

c. Perhitungan dari Tempering

Titik 1 :

Diketahui : P = 200 gf = 0.2 kgf

d = 32,5 μm

$$\text{VHN} = \frac{1{,}8540\ x\ P}{d^2/1000}$$

$$= \frac{1{,}8540\ x\ 0.2}{32{,}5^2/1000}$$

$$= \frac{1{,}8540\ x\ 0.2}{0{,}0325^2}$$

$$= \frac{0{,}3708}{0.00105625}$$

$$= 351.1 \text{ VHN}$$

Titik 2 :

Diketahui : P = 200 gf = 0.2 kgf

d = 31,5 μm

$$\text{VHN} = \frac{1{,}8540\ x\ P}{d^2/1000}$$

$$= \frac{1{,}8540\ x\ 0.2}{3{,}15^2/1000}$$

$$= \frac{1{,}8540\ x\ 0.2}{0{,}0315^2}$$

$$= \frac{0{,}3708}{0.00099225}$$

$$= 373{,}7 \text{ VHN}$$

Titik 3 :

Diketahui : P = 200 gf = 0.2 kgf

d = 33,5 μm

$$\text{VHN} = \frac{1{,}8540\ x\ P}{d^2/1000}$$

$$= \frac{1{,}8540\ x\ 0.2}{33{,}5^2/1000}$$

$$= \frac{1{,}8540\ x\ 0.2}{0.0335^2}$$

$$= \frac{0{,}3708}{0.00112225}$$

$$= 330{,}4\ \text{VHN}$$

Nilai dari uji keausan

1. Raw material

   Diketahui :

   B = 3 mm

   b = 1,05 mm

   r = 15 mm

$$w = \frac{\text{B}\ .\ \text{b}^3}{12\ .\ \text{r}}$$

$$w = \frac{3\ .\ 1{,}05^3}{12\ .\ 15}$$

$$w = \frac{3{,}473}{180}$$

$$w = 0.0193\ \text{mm}^3$$

2. Quenching

Diketahui :

B = 3 mm

b = 0.42 mm

r = 15 mm

$$w = \frac{\mathrm{B}\,.\,\mathrm{b}^3}{12\,.\,\mathrm{r}}$$

$$w = \frac{3\,.\,0{,}42^3}{12\,.\,15}$$

$$w = \frac{0{,}222}{180}$$

$$w = 0{,}0012\ mm^3$$

3. Tempering

Diketahui :

B = 3 mm

b = 0.63 mm

r = 15 mm

$$w = \frac{\mathrm{B}\,.\,\mathrm{b}^3}{12\,.\,\mathrm{r}}$$

$$w = \frac{3\,.\,0{,}63^3}{12\,.\,15}$$

$$w = \frac{0{,}750}{180}$$

$$w = 0{,}0042\ \mathrm{mm}^3$$