

LAMPIRAN

PERHITUNGAN Ti-B

Ti-B yang digunakan = Jumlah Seluruh Bahan Baku x 0,05%

$$= 2 \text{ Kg} \times 0,05\%$$

$$= 2000 \text{ gram} \times \frac{0,05}{100}$$

$$= \frac{100}{100}$$

$$= 1 \text{ gram}$$

PERHITUNGAN KEKERASAN *MACRO VICKERS*

Diketahui :

Titik₁ d₁ : 0.98 mm

P = 40 kgf

d₂ : 0.99 mm

Titik₂ d₁ : 0.95 mm

d₂ : 0.96 mm

Titik₃ d₁ : 0.95 mm

$$d_2 : 0.96 \text{ mm}$$

Ditanya : VHN ?

$$\text{Jawab : } VHN = \frac{2P \sin(\theta/2)}{d^2} = \frac{1.854xP}{d^2}$$

$$\text{Titik}_1 : \frac{1.854xP}{d^2} = \frac{1.854x40}{(0.985)^2} = \frac{74.16}{0.97} = 76.45 \text{ VHN}$$

$$\text{Titik}_2 : \frac{1.854xP}{d^2} = \frac{1.854x40}{(0.955)^2} = \frac{74.16}{0.912} = 81.31 \text{ VHN}$$

$$\text{Titik}_3 : \frac{1.854xP}{d^2} = \frac{1.854x40}{(0.955)^2} = \frac{74.16}{0.912} = 81.31 \text{ VHN}$$

Rata-rata kekerasan :

$$\frac{76.16 + 81.31 + 81.31}{3} = \frac{238.78}{3} = 79.59 \text{ VHN}$$

Standar Deviasi kekerasan :

$$\text{Titik}_1 = (76.45 - 79.59)^2$$

$$= (-9.859)^2$$

$$= 97.199$$

$$\text{Titik}_2 = (81.31 - 79.59)^2$$

$$= (2.958)^2$$

$$= 8.749$$

$$\text{Titik}_3 = (81.31 - 79.59)^2$$

$$= (2.958)^2$$

$$= 8.749$$

$$\text{Standar deviasi} = \sqrt{\frac{97.199 + 8.749 + 8.749}{3}}$$

$$= \sqrt{\frac{114.697}{3}}$$

$$= \sqrt{38.232}$$

=

6.183



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LAPORAN HASIL ANALISA
REPORT OF ANALYSIS

No Order : 179729 Tanggal : 29 Juli 2017
Customer : MUHAMMAD NUR SAHID Kode Sampel : ALUMINIUM
Analisa : Spektrometer Program : ALALSI
Hasil / Result :

Unsur	%
Si	1,20910
Fe	0,0480
Cu	0,0034
Mn	0,0762
Mg	2,6509
Ni	0,0278
Nb	0,0235
Zn	0,1413
P	0,0211
S	0,0011
F	0,0009
Pb	0,0008
Sn	0,0004
Sr	0,0114
Al	81,60

Catatan : Sample diuji oleh laboratorium kami

Yogyakarta, 31 Juli 2017
Teknik Laboratorium
Bahan Teknik UGM

Syahj
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