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## LAMPIRAN

### Penurunan rumus

#### 1. Koefisien atenuasi linier

$$\frac{I}{I_0} = e^{-\mu x}$$

$$\ln \frac{I}{I_0} = \ln e^{-\mu x}$$

$$\ln \frac{I}{I_0} = -\mu x$$

$$\mu = -\frac{1}{x} \ln \frac{I}{I_0}$$

#### 2. HVL

$$I = I_0 e^{-\mu x}$$

$$\frac{1}{2} = 1 e^{-\mu(HVL)}$$

$$\ln\left(\frac{1}{2}\right) = \ln(e^{-\mu(HVL)})$$

$$-0.693 = -\mu (HVL)$$

$$HVL = \frac{0.693}{\mu} = \frac{\ln 2}{\mu}$$

#### 3. TVL

$$I = I_0 e^{-\mu x}$$

$$\frac{1}{10} = 1 e^{-\mu(TVL)}$$

$$\ln\left(\frac{1}{10}\right) = \ln(e^{-\mu(TVL)})$$

$$-2.302 = -\mu (TVL)$$

$$TVL = \frac{2.302}{\mu} = \frac{\ln 10}{\mu}$$

Sampel Apron Selulosa/Bismuth dan Selulosa/Tungsten



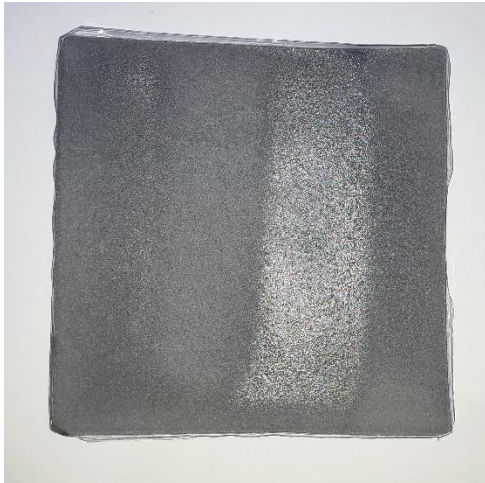
Sampel Selulosa/Bismuth 11% (A<sub>1</sub>)



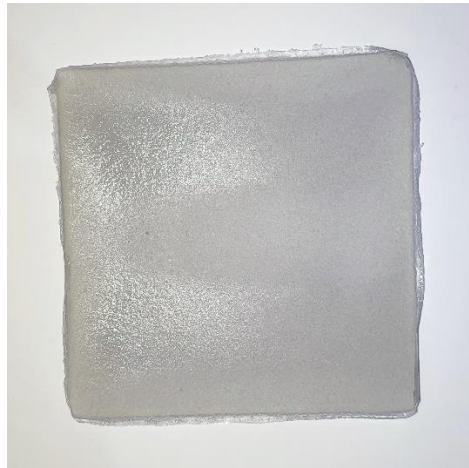
Sampel Selulosa/Bismuth 8% (A<sub>2</sub>)



Sampel Selulosa/Bismuth 3% (A<sub>3</sub>)



Sampel Selulosa/Tungsten 11% (B<sub>1</sub>)



Sampel Selulosa/Tungsten 8% (B<sub>2</sub>)



Sampel Selulosa/Tungsten 3% (B<sub>3</sub>)