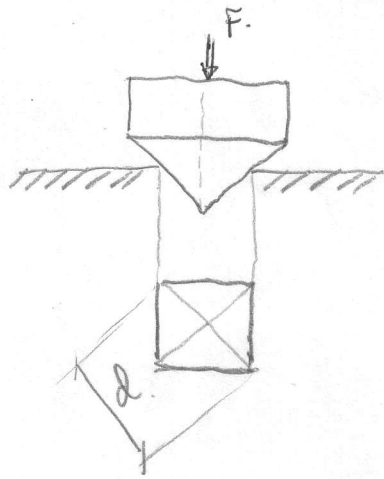


DEMOSTRACIÓN DUREZA VICKERS

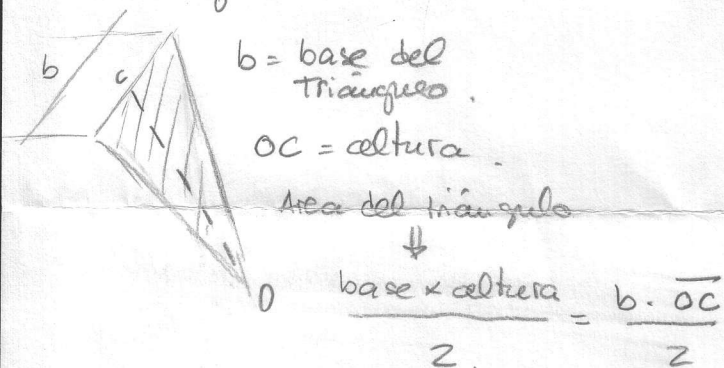
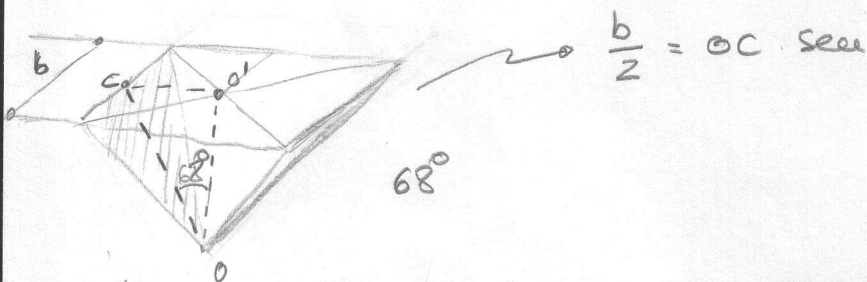


F = carga aplicada (kp).

S = Superficie de la huella.

H_v : Dureza Vickers

d : Diagonal (mm) de la huella.



El Área de la huella será 4 veces el área de cada triángulo

$$S = 4 \cdot \left(\frac{b \cdot \overline{OC}}{2} \right)$$

$$\sec 68^\circ = \frac{b/2}{\overline{OC}} = \frac{b}{2 \cdot \overline{OC}} \Rightarrow \overline{OC} = \frac{b}{2 \cdot \sec 68^\circ}$$

$$\text{luego } S = 4 \cdot \left(\frac{b \cdot \overline{OC}}{2} \right) = 4 \cdot \frac{b \cdot b}{2 \cdot 2 \cdot \sec 68^\circ} = 4 \cdot \frac{b^2}{4 \cdot \sec 68^\circ} = \frac{b^2}{\sec 68^\circ}$$

$$d^2 = b^2 + b^2 = 2b^2 \Rightarrow b^2 = \frac{d^2}{2} \Rightarrow S = \frac{d^2}{2 \sec 68^\circ} = \frac{d^2}{1.854}$$

$$H_v = 1.854 \cdot \frac{F}{d^2}$$