

$$q_{\perp} = 350 \frac{W}{m^2}$$

$$q_p = 660 - 30\% = 462 \frac{W}{m^2}$$

$$a) K = \frac{L_M (q_p / q_{\perp})}{\Delta X} = \frac{L_M (462 / 350)}{0,1} = \boxed{2,7763 \text{ mm}^{-1}}$$

$$b) q_{\perp} = 200 \frac{W}{m^2} \quad \Delta X = \frac{L_M (462 / 200)}{2,7763} = \boxed{0,3 \text{ mm}}$$

$$c) t = \frac{200}{462} = 0,43 \text{ ou } \boxed{43\%}$$

$$d) \alpha = 90^\circ \rightarrow \alpha = 40^\circ \quad q_{\perp} = ?$$

$$q_{\perp} = q_p \cdot e^{-K \cdot \Delta X} \quad \beta = 90 - \alpha = 50^\circ$$

$$q_{\perp} = 462 \cdot \cos(50^\circ)$$

$$q_{\perp} = 296,96 \cdot e^{-2,7763 \cdot 0,1} \quad q_{\perp} = 296,96 \frac{W}{m^2} \text{ (passa a ser o novo } q_p)$$

$$\boxed{q_{\perp} = 224,97 \frac{W}{m^2}}$$

$$5) K = 1,2 \text{ cm}^{-1}$$

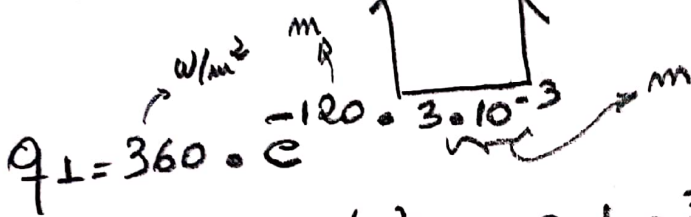
$$K = \frac{Lm (q_0/q_L)}{\Delta x} \text{ } \left. \begin{array}{l} \text{dimensões} \\ \text{cm} \end{array} \right\}$$

$$K = \frac{0}{1 \text{ cm}} = 1,2 \text{ cm}^{-1}$$

$$K = \frac{1,2 \cdot 10^2}{10^{-2} \text{ m}} = 120 \text{ m}^{-1}$$

$\Delta x = 3 \text{ mm}$ 6 mm 10 mm
 $q_{ab} = ?$ 400 W/m^2 $10\% = 0,1$

$$q_0 = 400 - 10\% = 360 \text{ W/m}^2$$



$$q_{ab} = 360 - 251,16 = 108,83 \text{ W/m}^2$$

$\rho / 6 \text{ mm}$ $q_L = 360 \text{ W/m}^2$
 $q_L = 175,23 \text{ W/m}^2$ $120 \cdot 6 \cdot 10^{-3}$

$$q_{ab} = 360 - 175,23 = 184,76 \text{ W/m}^2$$

$\rho / 10 \text{ mm}$ $q_L = 360 \text{ W/m}^2$
 $q_L = 108,42 \text{ W/m}^2$ $120 \cdot 10 \cdot 10^{-3}$

$$q_{ab} = 360 - 108,42 = 251,57 \text{ W/m}^2$$

\uparrow espessura vidro $\uparrow q_{ab}$

$$c) \text{ absorptividade} = \frac{108,83}{360} = 30,23\% \text{ (3 mm)}$$

$$\frac{184,76}{360} = 51,32\%$$

$$\frac{251,57}{360} = 69,88\%$$