



**ASIGNATURA: MÁQUINAS TÉRMICAS –AÑO 2021**

CODIGO: 95-0030

NIVEL: **4° AÑO**

MODALIDAD DE CURSADO: **ANUAL**

PROFESOR A CARGO: ING. RUIZ MARCOS ANDRES

AUXILIAR JTP: ING. WALTER CAPELETTI

**PRACTICO N° 1**

**RESOLUCIONES**

**EJERCICIO 1:**

$$(K + Ml) . \Delta t . C = Pc . G + C_1 + C_2 + C_3$$

$$K = \frac{Pc . G + C_1 + C_2 + C_3}{\Delta t . C} - Ml$$

$$K = \frac{6324 \frac{cal}{grs} . (0,9627 - 0,0116)grs + 545,47 cal + 380,2 cal + (0,0116 grs . 1600 \frac{cal}{grs}) - 2200 grs}{2,37^\circ C . \frac{cal}{grs}}$$

$$K = 736,28 grs$$

**EJERCICIO 2:**

$\Delta t \rightarrow$  mediante el gráfico es:

$$-\Delta t = t_f - t_i$$

$$\Delta t = 20,677 - 17,801 = 2,876^\circ C$$

$$-G = P_{cal} - P_{al}$$

$$G = 1,22 grs - 0,015 grs = 1,205 grs$$

$$-Pc = \frac{(M_L + K) . \Delta t . C - C_1 - C_2 - C_3}{G}$$



$$P_c = \frac{(2500\text{grs} + 374\text{grs}) \cdot 2,876 \frac{\text{cal}}{\text{grs}} \cdot 1 - 5,78 \text{ cal} - 21,42 \text{ cal} - 0,015 \frac{\text{cal}}{\text{grs}} \cdot 1600 \text{ grs}}{1,205\text{grs}}$$

$$P_c = 6816,95 \frac{\text{cal}}{\text{grs}}$$

$$-P_c \cong W_s \rightarrow W_s = 6816,95 \frac{\text{cal}}{\text{grs}}$$

$$-g = P_{Cl_2 \text{ ca} \text{ final}} - P_{Cl_2 \text{ ca} \text{ antes}}$$

$$g = 48,760 \text{ grs} - 47,302 \text{ grs} = 1,458\text{grs}$$

$$-W_i = W_s - \frac{g \cdot 600}{G}$$

$$W_i = 6816,95 \frac{\text{cal}}{\text{grs}} - \frac{1,458 \cdot 600}{1,205 \text{ grs}}$$

$$W_i = 6090,97 \frac{\text{cal}}{\text{grs}}$$

### **EJERCICIO 3:**

$$-\Delta t = t_s - t_i = 23,16^\circ\text{C} - 13,5^\circ\text{C}$$

$$-W_s = \frac{G_w \cdot \Delta t \cdot c}{G_c} = \frac{11460\text{grs} \cdot 9,66^\circ\text{C} \cdot 1 \frac{\text{cal}}{\text{grs} \cdot ^\circ\text{C}}}{10\text{grs}} = 11070,36 \frac{\text{cal}}{\text{grs}}$$

$$-W_i = W_s - \frac{G_w \cdot 600}{G_c} = 11070,36 \frac{\text{cal}}{\text{grs}} - \frac{12\text{grs} \cdot 600 \frac{\text{cal}}{\text{grs}}}{10\text{grs}} = 10350,36 \frac{\text{cal}}{\text{grs}}$$