

Datos:

- Masa del agua de mar: 4,7242 Kg
- Masa del hielo escama: 0,36672 Kg
- Calor específico del hielo: $2090 \frac{\text{J}}{\text{Kg} \cdot \text{K}}$
- Calor de fusión del hielo a 0°C: $334000 \frac{\text{J}}{\text{Kg}}$
- Calor específico del agua de mar: $3935 \frac{\text{J}}{\text{Kg} \cdot \text{K}}$

Temperatura Final del Flow – Ice o Hielo Líquido

$$-M_{\text{agua}} * C_{p\text{agua}} * (T_f - 3)\text{K} = M_{\text{hielo}} * C_{p\text{hielo}} * (0 - (-4)) + M_{\text{hielo}} * \Delta H_f + M_{\text{hielo}} * C_{p\text{agua}} * (T_f - 0)\text{K}$$

$$-4,7242 \text{ Kg} * 3935 \frac{\text{J}}{\text{Kg} * \text{K}} * (T_f - 3)\text{K} = 0,36672 \text{ Kg} * 2090 \frac{\text{J}}{\text{Kg} * \text{K}} * (0 - (-4))\text{K} + 0,36672 \text{ Kg} * 334000 \frac{\text{J}}{\text{Kg}} + 0,36672 \text{ Kg} * 3935 \frac{\text{J}}{\text{Kg} * \text{K}} * (T_f - 0)\text{K}$$

$$-18589,727 \frac{\text{J}}{\text{K}} * (T_f - 3)\text{K} = 3065,7792 \text{ (J)} + 122484,48 \text{ (J)} + 1443,0432 \frac{\text{J}}{\text{K}} * (T_f - 0)\text{K}$$

$$-18589,727 \frac{\text{J}}{\text{K}} T_f + 55769,181 \text{ (J)} = 3065,7792 \text{ (J)} + 122484,48 \text{ (J)} + 1443,0432 \frac{\text{J}}{\text{K}} T_f$$

$$55769,181 \text{ (J)} - 3065,7792 \text{ (J)} - 122484,48 \text{ (J)} = 1443,0432 \frac{\text{J}}{\text{K}} T_f + 18589,727 \frac{\text{J}}{\text{K}} T_f$$

$$-69781,0782 \text{ J} = 20032,7702 \frac{\text{J}}{\text{K}} T_f$$

$$\frac{-69781,0782 \text{ J}}{20032,7702 \frac{\text{J}}{\text{K}}} = T_f$$

$$T_f: -3,4 \text{ °C}$$