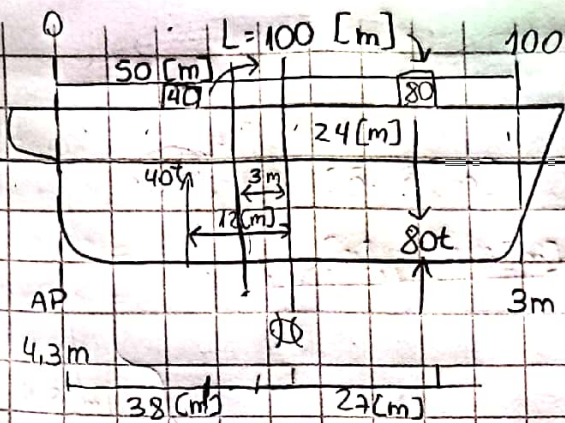




$$\text{Hundimiento paralelo} = \frac{w}{TPC}$$

$$= \frac{80 \text{ [ton/cm]}}{10 \text{ [ton]}}$$

$$0,08 \text{ [cm]} = 8 \text{ [cm]}$$

$$\text{Cambio Asiento} = \frac{\rho \text{ cambio Asiento}}{MTC 1 \text{ cm}}$$

$$\text{momento C. Asiento} = \frac{80 \text{ [T]} \times 27 \text{ [m]}}{120 \text{ [T-m]}}$$

$$= 18 \text{ [cm]}$$

$$= 0,18 \text{ [cm]}$$

$$TPC = 10 \text{ TON}$$

$$MTC 1 = 120 \text{ [T-m]}$$

CARGA : 24

80 ton a 24 m

$$\text{Cambio de calado a popa} = \frac{l}{L} \cdot \text{Cambio Asiento} = \frac{74 \text{ [m]}}{100 \text{ [m]}} \cdot 18 \text{ [cm]} = 13,32 \text{ [cm]} = 0,133 \text{ [m]}$$

$$\text{cambio de calado a proa} = \frac{26 \text{ [m]}}{100 \text{ [m]}} \cdot 18 \text{ [cm]} = 4,68 \text{ [cm]} = 0,046 \text{ [m]}$$

$$\text{Calados} = \text{[popa]} = -4,3 \text{ [m]}$$

$$+ 0,08 \text{ [m]}$$

$$(-) 4,38 \text{ [m]}$$

$$\text{cambio Asiento} =$$

$$0,133 \text{ [m]}$$

$$4,247 \text{ [m]}$$

$$\text{[proa]} = 3 \text{ [m]}$$

$$+ 0,08 \text{ [m]}$$

$$(+) 3,08 \text{ [m]}$$

$$0,046 \text{ [m]}$$

$$3,126 \text{ [m]}$$

DESCARGA:
40[T] 12[m] de Φ

$$\text{Cambio de Asiento} = \frac{\text{momento c. de Asiento}}{\text{MTC } 1\text{cm}}$$

$$w = 40[\text{T}]$$

$$\text{MTC } 1\text{cm} = 120 \left[\frac{\text{T-m}}{\text{cm}} \right]$$

$$\text{momento c. de Asiento} = w \cdot d = 40[\text{T}] \times 9[\text{m}] = 360[\text{T-m}]$$

$$\text{Cambio asiento} = \frac{360 \left[\frac{\text{T-m}}{\text{cm}} \right]}{120 \left[\frac{\text{T-m}}{\text{cm}} \right]} = 3 \text{ cm} = 0,03 \text{ m}$$

$$\text{cambio Calado} : \frac{38[\text{m}]}{100[\text{m}]} \times 3[\text{cm}] = 1,14[\text{cm}] = 0,011[\text{m}]$$

$$\text{cambio Calado} : \frac{62[\text{m}]}{100[\text{m}]} \times 3[\text{cm}] = 1,86[\text{cm}] = 0,018[\text{m}]$$

$$\text{hundimiento} : \frac{40[\text{T}]}{10 \left[\frac{\text{ton}}{\text{cm}} \right]} = 4[\text{cm}] = 0,04[\text{m}]$$

$$\begin{array}{r} \text{popa: } 4,247[\text{m}] \\ - 0,04 \\ \hline 4,207[\text{m}] \end{array}$$

$$\begin{array}{r} \text{C.de A } 0,011 \\ 4,196[\text{m}] \end{array}$$

$$\begin{array}{r} \text{proa: } 3,126[\text{m}] \\ + 0,04 \\ \hline 3,166[\text{m}] \\ 0,018 \\ \hline 3,184[\text{m}] \end{array}$$