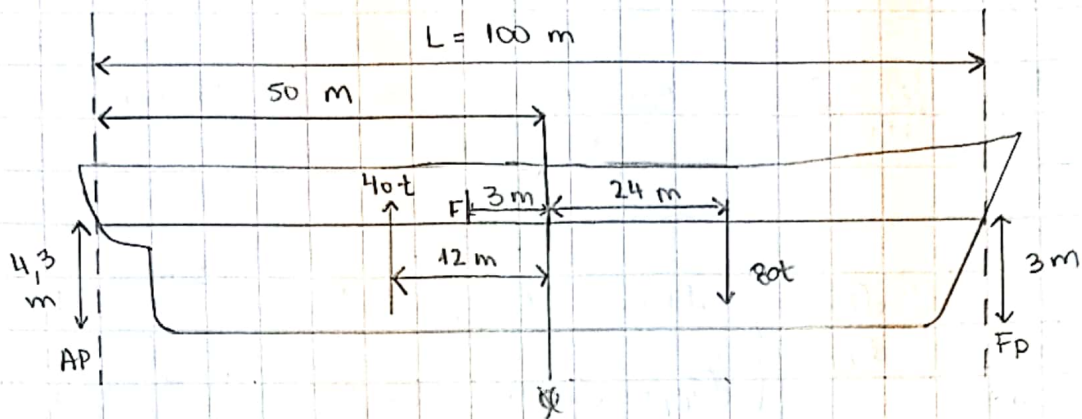


Preg 5:



Datos = $L_{pp} = 100 \text{ m}$

$T_{proa} = 3 \text{ m}$

$T_{popa} = 4,3 \text{ m}$

$TPC = 10 \frac{\text{ton}}{\text{cm}}$

$MTC \text{ 1cm} = 120 \left(\frac{T_{cm}}{\text{cm}} \right)$

$LCF = 3 \text{ m a popa}$

- a) Si se agregan 80 T a 24 m a proa de la sección media
 b) Si se quitan 40 T a 12 m a popa de la sección media

¿nuevos calados?

Desarrollo

$$\text{fórmulas} = \frac{\Delta T_{popa} \times \text{cambio } w_l}{\Delta_{popa}} = \frac{\Delta T_{proa} \times \text{cambio } w_l}{\Delta_{proa}} = \frac{\Delta \text{asiento}}{L_{pp}}$$

$$\Delta \text{asiento} = \frac{w_l}{MTC \text{ 1cm}}$$

$$\Delta T = \frac{w}{TPC}$$

para a) $\delta T = \frac{W}{TPC} = \frac{80 \text{ Ton}}{10 \frac{\text{Ton}}{\text{cm}}} = 8 \text{ cm}$

$\delta \text{ asiento} = \frac{W \times l}{MTC} = \frac{80 \text{ Ton} \times 27 \text{ m}}{120 \frac{\text{Ton} \cdot \text{m}}{\text{cm}}} = 18 \text{ cm}$

$\frac{\delta \text{ asiento}}{LPP} = \frac{\delta T_{proa}}{dT_{proa}} = \frac{\delta T_{popa}}{dT_{popa}} \left\{ \begin{array}{l} \delta T_{proa} = \delta \text{ asiento} \frac{d_{proa}}{LPP} = 18 \text{ cm} \frac{53 \text{ m}}{100 \text{ m}} = 9,54 \text{ cm} \\ \delta T_{popa} = \delta \text{ asiento} \frac{d_{popa}}{LPP} = 18 \text{ cm} \frac{47 \text{ m}}{100 \text{ m}} = 8,46 \text{ cm} \end{array} \right.$

$T_{proa \text{ nuevo}} = 3 \text{ m} + 0,08 \text{ m} + 0,0954 \text{ m} = 3,17 \text{ m} //$

$T_{popa \text{ nuevo}} = 4,3 \text{ m} + 0,08 \text{ m} - 0,0846 \text{ m} = 4,29 \text{ m} //$

para b) $\delta T = \frac{W}{TPC} = \frac{40 \text{ Ton}}{10 \frac{\text{Ton}}{\text{cm}}} = 4 \text{ cm}$

$\delta \text{ asiento} = \frac{W \times l}{MTC} = \frac{40 \text{ Ton} \times 9 \text{ m}}{120 \frac{\text{Ton} \cdot \text{m}}{\text{cm}}} = 3 \text{ cm}$

$\frac{\delta \text{ asiento}}{LPP} = \frac{\delta T_{proa}}{dT_{proa}} = \frac{\delta T_{popa}}{dT_{popa}} \left\{ \begin{array}{l} \delta T_{proa} = \delta \text{ asiento} \frac{d_{proa}}{LPP} = 3 \text{ cm} \frac{53 \text{ m}}{100 \text{ m}} = 1,59 \text{ cm} \\ \delta T_{popa} = \delta \text{ asiento} \frac{d_{popa}}{LPP} = 3 \text{ cm} \frac{47 \text{ m}}{100 \text{ m}} = 1,41 \text{ cm} \end{array} \right.$

$T_{proa \text{ nuevo}} = 3,17 \text{ m} - 0,04 \text{ m} - 0,0159 = 3,11 \text{ m} //$

$T_{popa \text{ nuevo}} = 4,29 \text{ m} - 0,04 \text{ m} + 0,0141 = 4,26 \text{ m} //$

Finales.