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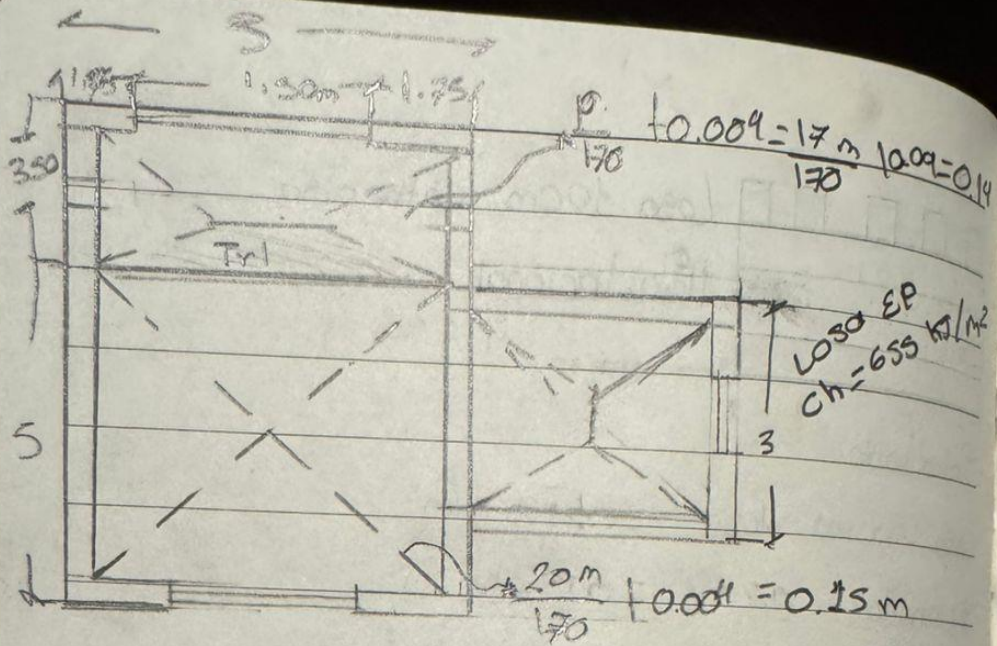
*Materia*  
*Análisis de estructuras*

*Carrera:*  
*Arquitectura*

*Cuatrimestre:*  
*5°*

*Unidad:*  
*1°*

*Lugar:*  
*Comitán de Domínguez Chiapas*



Indice tr1

$$\frac{1.50}{5} \quad \frac{1.75}{5} = \frac{B+b \times h}{2} \rightarrow 5.687 \text{ m}^2$$

Area

$$\frac{2.50}{5} = \frac{B \times h}{2} \rightarrow 6.25 \text{ m}^2$$

Peso = Area por peso de losa

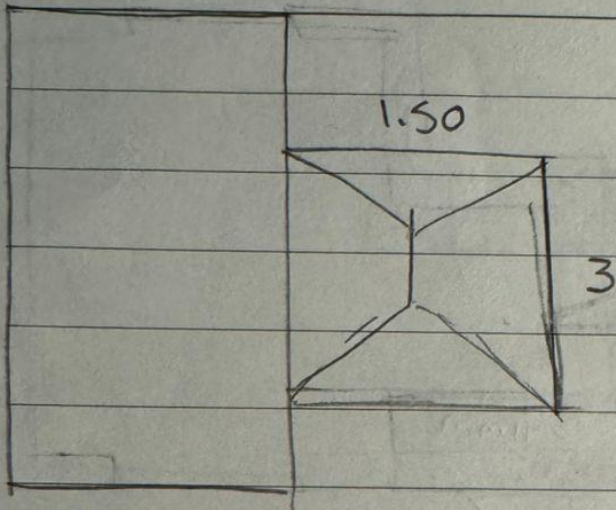
$$\text{Area 1} = 5.687 (655 \text{ kg/m}^2) = 3,724.985 \text{ kg/m}^2$$

$$\text{Area 2} = 6.25 \text{ m}^2 (655 \text{ kg/m}^2) = 4,903.75 \text{ kg/m}^2$$

(w) 
$$\frac{\text{Area 1}}{5} = \frac{3,724.985 \text{ kg/m}^2}{5} = \underline{\underline{744.995 \text{ kg/m}}}$$

Carga  
Carga

$$w_2 = \frac{4,903.75}{5.0 \text{ m}} = \underline{\underline{980.75 \text{ kg/m}}}$$



Trape

$$\frac{1.50 + 3}{2} \times 3 = 7.688$$

Area

$$\frac{3 \times 5}{2} = 6.25 \text{ m}^2$$

Peso = Area por peso de losa

$$\text{Area 1} = 1.688 (600) = 1,012.800$$

$$\text{Area 2} = 6.25 \text{ m}^2 (655) = 4,093.75 \text{ k/m}^2$$

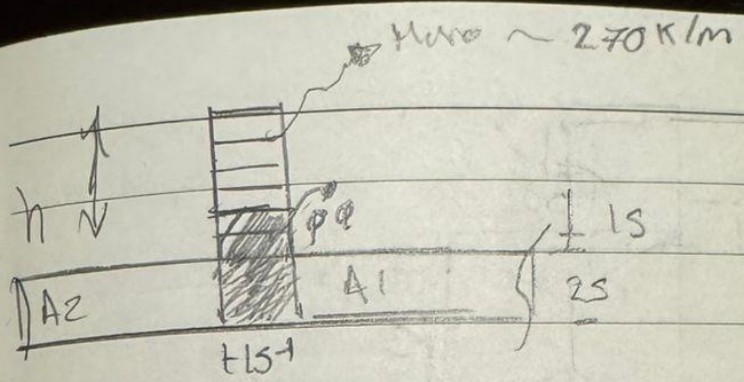
$$W \text{ Area 1} = \frac{1,012,800 \text{ k/m}^2}{3} = 337.600$$

$$W 2 = 4,903.75 / 5.0 = 980.75 \text{ k/m}$$



2.14

m<sup>2</sup>



$$h_{\text{Trabe}} = \frac{L}{12} \rightarrow \frac{5.0}{12} = 0.41 \text{ m}$$

$$b = 0.5(h) = 0.20 \text{ m} = 0.15 \text{ m}$$

Peso pp

$$\text{Trabe} = \text{Tr}1 + [0.15 \text{ m} (0.41 \text{ m}) \times 1 \text{ m}] \times 2400 \text{ K/m}^3 = \underline{\underline{144 \text{ Kg/m}}}$$

Peso muro

$$h = 2.0 \text{ m} \times 270 \text{ K/m} = \underline{\underline{540 \text{ K/m}}}$$

Peso cr

$$(0.15 \times 0.20 \times 1) \times 2400 \text{ K/m}^3 = \underline{\underline{72 \text{ K/m}}}$$

$$18.75 + 744.995 + 540 + 144 + 72 = 2.319.735$$

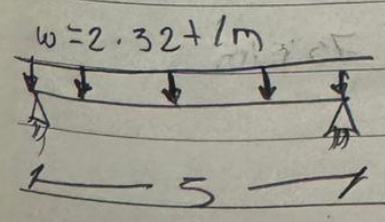


Diagrama  
Diagrama

$$H_{\text{trabe}} \frac{L}{12} = \frac{3}{12} = 0.25 \text{ cm}$$

$$b = 0.5 \times 0.25 = 0.15$$

peso propio

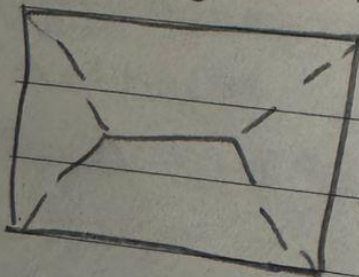
$$= 0.25 \times 0.15 \times 1 \text{ m} (2400) = \underline{90 \text{ kg}}$$

peso de pretel. 90

$$90 \times 2.70 = \underline{243}$$

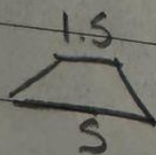
Cadena 72 kg

$$0.15 \times 2.0 \times 1 \times 2400 = \underline{72 \text{ kg}}$$



$$\frac{q}{170} + 0.04 = 0.004 \text{ cm}$$

$$\frac{P}{170} + 0.004 =$$



$$= \frac{b + B \times h}{2} = 5.687 \text{ m}^2$$



6

$$L_{\text{cra}} = 655 \text{ kg/m}^2$$

E.P



① Áreas

$$A = 5 \text{ m} \left( \frac{2.5 \text{ m}}{2} \right) = 6.25 \text{ m}^2$$

$$A = \frac{(5 \text{ m} + 1 \text{ m}) \times 2 \text{ m}}{2} = 6.0 \text{ m}^2$$

② peso Área x p, de lona

$$6.25 \text{ m}^2 (655 \text{ kg/m}^2) = 4093.75 \text{ K/m}^2$$

$$6.0 \text{ m}^2 (655 \text{ kg/m}^2) = 3930.0 \text{ K/m}^2$$

③  $W$  ( $\frac{\text{peso}}{\text{dist. Apoyo}}$ )

$$\frac{4093.75 \text{ K/m}}{5.0 \text{ m}} = 818.750 \text{ K/m}$$

$$\frac{3930 \text{ K/m}}{5 \text{ m}} = 786.0 \text{ K/m}$$

④  $h$ , Trabe ( $\frac{L}{12}$ )

$$\frac{4.15}{12} = 0.30$$

$$B = 0.5(h) + 0.50(0.30) = 0.15 \text{ m}$$

$$w_1 = 1712.75 \text{ kg/m}$$

$$w_2 = 3498 \text{ kg/m}$$

④ Peso propio

$$0.15 \times 0.30 \times 2400 \text{ kg/m}^3 = 108 \text{ kg/m}$$

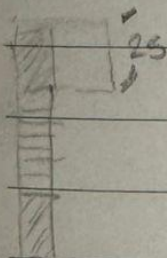
⑤ Peso de muro

Altura muro

$$3.0 (270 \text{ kg/m}) = 810 \text{ kg/m}$$

⑥ Peso de Cerramiento (cr)

$$0.15 \times 25 \times 2400 = 90 \text{ kg/m}$$



$$w_2 \quad w_1 \quad w_2 \quad w_1 = 1712.75 \text{ kg/m}$$
$$w_2 = 3498 \text{ kg/m}$$

⑦ Losa de azotea

$$\text{Area } 3 = 6.25 \text{ m}^2$$

$$6.25 \text{ m}^2 (665 \text{ kg/m}^2) = 4156.25 \text{ kg/m}$$

⑧ w

$$\frac{4156.25}{5} = 831.25 = w = 975.25 \text{ kg/m}$$

⑨ Peso de perfil

3m

$$0.20 \text{ m} (270 \text{ kg/m}) = 54 \text{ kg/m}$$



B Area + carga

$$A = \frac{5.68 \text{ K/m}^2}{3.5} = 1.069$$

$$h \text{ Trabe} = \frac{1}{12} = \frac{35}{12} = .29 \text{ cm}$$

Peso propio

$$15 \times 30 \times 1 (2400) = 108$$

Pretal 2 x 270 = 540

$$\text{Caden } 15 \times .20 \times 1 (2400) = 72 \text{ kg}$$

$$w = 1.784$$



