

**EXAMEN**  
**3ª UNIDAD**

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CARRERA:

LICENCIATURA EN ARQUITECTURA

CUATRIMESTRE:

QUINTO

COMITÁN DE DOMÍNGUEZ, CHIAPAS; 18 DE MARZO DE 2021

Cerramiento C-3

Examen

18 de marzo del 2021

Long = 5.65 + 0.24 = 5.89 m

metros totales de varillas = (5.89) (6 varillas) = 35.34 m

$D = (35.33 \text{ m}) (1.03) = 36.4002 \text{ m}$

Desperdicio del 3%

Piezas =  $\frac{36.4002 \text{ m}}{12 \text{ m}} = 3.03335 \text{ piezas} = 9 \text{ piezas}$

Peso = (36.4002) (0.566) = 20.6025

Estribas dobles var # 2 a 10

Long =  $\begin{array}{|c|c|} \hline 0.07 & 0.20 \\ \hline 0.15 & \\ \hline \end{array}$

Long = 0.30 + 0.40 + 0.19 = 0.89 m

estribos dobles = (0.89) (2) = 1.68 m

Cantidad estribos = (5.65) (0.10) = 56.5 = 57 estribos

M totales de varilla

MT = (57 e) (1.68 m) = 95.76 m

Desperdicio del 3%

$(95.76 \text{ m}) (1.03) = 98.6328 \text{ m}$

Peso = (98.6328 m) (0.250) = 24.6582 m

### Bastones

$$\text{long } 0.12 \quad 1.0 \quad 1.0.12$$

$$\text{long} = 1.0 + 0.29 = 1.29 \text{ m} //$$

$$\text{piezas} = (2.63 \text{ m}) / (0.25) + 1 = 11.72 \text{ m} = \text{igual a } 12 \text{ piezas}$$

$$\text{metros totales} = (12 \text{ piezas}) (1.29 \text{ m}) = 15.48 \text{ m}$$

$$B \quad 0.12 \quad 1.10 \quad 1.0.12$$

$$\text{Long} = 1.10 + 0.29 = 1.39 \text{ m} //$$

$$\text{piezas} = (2.63 \text{ m}) / (0.25) + 1 = 11.52 = \text{es igual a } 12 \text{ piezas}$$

$$\text{metros totales} = (1.39 \text{ m}) (12 \text{ piezas}) = 16.68 \text{ m}$$

$$\text{total metros} = (16.68 \text{ m}) (2) = 33.36 \text{ m}$$

Total de metros de varilla #3

$$350.12 \text{ m}$$

Descuento del 3%

$$(350.12 \text{ m}) (1.03) = 360.6236 \text{ m}$$

$$\text{metros totales de varilla} = 360.6236 \text{ m} + 308.7693 \text{ m} \\ = 669.3929$$

$$\text{Cantidad de varilla} = 669.3929 \text{ m} / 12 \text{ m} = 55.78 \text{ igual a } 56 \text{ varillas}$$

$$\text{Peso} = (669.3929 \text{ m}) (0.566) = 378.8759 \text{ kg}$$

Pavilla de leña # 3 a 25 Tableros

$$\text{Long} = \begin{array}{|c|} \hline 0.12 \\ \hline \end{array} \begin{array}{|c|} \hline 6.45 \\ \hline \end{array}$$

$$\text{long} = 6.95 + 0.16 + 1.80 + 0.24 = 9.15 \text{ m}$$

$$\text{Cantidad de varillas} \\ 3.025 \div 0.25 + 1 = 13.1 = 14 \text{ piezas}$$

$$\text{Metros de varilla} \\ \text{mdv} = (9.15 \text{ m}) (14 \text{ piezas}) = 128.1 \text{ m}$$

$$3.025 + 0.8 + 0.12 = 3.945 \text{ m} \quad \swarrow = 119.405$$

$$6.95 / 0.25 + 1 = 28.8 = 29 \text{ piezas}$$

Resolones

$$B = 1.80 + 0.24 = 2.04 \times 14 = 28.56 \text{ m}$$

$$B = 0.75 + 0.24 = (0.99) (29) = 28.71$$

$$\Sigma = 299.775 \quad \text{Desperdicio del 3\%}$$

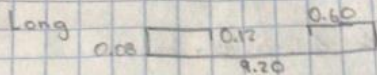
$$(299.775) (1.03) = 308.7683 \text{ m}$$



Parilla de losa

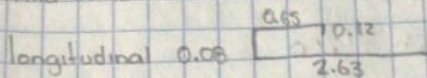
Longitudinales

Tablero 2



$$\text{longitud} = 9.20 + 0.16 + 1.20 + 0.29 = 10.85 \text{ m}$$
$$\text{piezas} = (2.63 \text{ m}) / (0.25) + 1 = 11.52 \text{ igual a } 12 \text{ piezas}$$
$$\text{metros de varilla} = (10.8 \text{ m}) (12 \text{ piezas}) = 129.6 \text{ m}$$

Parilla de losa transversal



$$\text{long} = 2.63 + 0.08 + 0.65 + 0.12 = 3.48 \text{ m}$$
$$\text{piezas} = (3.48 \text{ m}) / (0.25) + 1 = 15.12 \text{ igual a } 16$$
$$\text{metros de varilla} = (3.48 \text{ m}) (16 \text{ piezas}) = 55.68 \text{ m}$$

$$\text{long} = 2.63 + 0.16 + 1.30 + 0.29 = 4.38 \text{ m}$$
$$\text{piezas} = (4.38 \text{ m}) / (0.25) + 1 = 18.52 \text{ igual a } 19$$
$$\text{metros de varilla} = (4.38 \text{ m}) (19 \text{ piezas}) = 83.22 \text{ m}$$

Barrales long =

0.65      0.12  
0.77

$$\text{long} = 0.65 + 0.12 = 0.77 \text{ m}$$

$$\text{piezas} = (9.70 \text{ m}) / (0.25) + 1 = 39.8 \text{ igual a } 40 \text{ piezas}$$

$$\text{total de metros} = (40) (0.77 \text{ m}) = 30.8 \text{ m}$$

Concreto  $F' = 200$

Tableros sin traves

Sumatoria de area de tableros por espesor

$$T_1 = 5.6306$$

$$T_2 = 9.6906$$

$$T_3 = 9.6906$$

$$T_4 = 5.6306$$

$$T_5 = 9.3937$$

$$T_6 = 9.3937$$

$$(39.2298 \text{ m}^2) (0.12 \text{ m}) = 4.707576 \text{ m}^3$$

Concreto  $F' = 200$

longitudes de traves de  $15 \times 20 \text{ cm}$

$$\text{area } \square = 0.15 \times 0.20 = 0.03 \text{ m}^2$$

$$C_1 = 8.90$$

$$C_2 = 6.80$$

$$C_3 = 2.85$$

$$C_4 = 3.0250$$

$$C_5 = 3.0250$$

$$C_6 = 8.60$$

$$C_7 = 2.6250$$

$$C_8 = 2.9750$$

$$C_9 = 2.9750$$

$$(90.775 \text{ m}) (0.03 \text{ m}^2) = 1.2232 \text{ m}^3$$

$$C-3 \text{ area } (30)(0.20\text{m}) = 0.06 \text{ m}^2$$

$$\text{long} = 5.50\text{m}$$

$$\text{Concreto m}^3 = (5.50\text{m})(0.6\text{m}^2) \\ = 0.33 \text{ m}^3$$

Total concreto F'200

$$TC = 9.707576 \text{ m}^3 + 1.2232 \text{ m}^3 + 0.33 \text{ m}^3 = 6.260776 \text{ m}^3$$

Desperdicio del 5%

$$\text{Total} = (6.260776 \text{ m}^3)(1.05) = 6.573819 \text{ m}^3$$



## Resumen

### Vanilla corrogada #3

$$\begin{aligned} \text{Losa} &\rightarrow 669.2919 \text{ m} \\ \text{C-2} &\rightarrow 21.9287 \text{ m} \\ \text{C-3} &\rightarrow 36.4002 \text{ m} \end{aligned} \quad \left. \begin{array}{l} \\ \\ \end{array} \right\} \begin{aligned} &727.7208 \text{ m} \\ \text{Pzas} &= \frac{727.7208 \text{ m}}{12 \text{ m}} \\ &= 60.6434 = 61 \text{ pzas} \end{aligned}$$
$$\text{Pzo} (727.7208)(0.566) = 911.8899 \text{ kg}$$

### Armer 15x20 - 9

$$\begin{aligned} \text{C}_1 \text{ y } \text{C}_2 &= 91.26 \text{ m} \\ \text{pzas} &= \frac{91.26 \text{ m}}{6 \text{ m}} = 6.87 \text{ igual a } 7 \text{ piezas} \end{aligned}$$

### Concreto F'200

$$\begin{aligned} \text{losa} &= 9.707576 \text{ m}^3 \\ \text{C-1 y C-2} &= 1.2232 \text{ m}^3 \\ \text{C-3} &= 0.33 \text{ m}^3 \end{aligned} \quad \left. \begin{array}{l} \\ \\ \end{array} \right\} 6.5738198 \text{ m}^3$$

### Vanilla #2

$$\text{C-3} = \underline{29.6582 \text{ m}}$$

