

## Examen



- Lic. Arquitectura
- 5to cuatrimestre
- Rudy Guillén Pohlenz
- PEDRO ALBERTO GARCIA LOPEZ
- TALLER DE CONSTRUCCIÓN DE MATERIALES BÁSICOS

18/02/2021

# zapata examen

Excavación:

$$(0.10)(6.85)(0.15) = \underline{7.6475 \text{ m}^3}$$

Abundamiento del 30%

$$(7.6475 \text{ m}^3)(1.3)$$
$$= \underline{9.94175 \text{ m}^3}$$

Concreto F' 100 Kg/m<sup>2</sup>

Anchura = 1

Long = 6.85

Alt = 0.05

Desperdicio 10%

$$(0.3425)(1.1) = \underline{0.37675 \text{ m}^3}$$

Concreto F' 200 Kg/m<sup>2</sup>

Base

Anchura = 0.80

Longitud = 6.65

Altura = 0.15

Contratado

Anchura = 0.15

Longitud = 6

Altura = 0.35

$$0.798$$

$$0.315$$

$$\text{Total} = 1.113 \text{ m}^3$$

Desperdicio 5%

$$(1.113 \text{ m}^3)(1.05)$$
$$= \underline{1.16865 \text{ m}^3}$$

Varilla Arroyada N 3 Transversales

$$\text{Doble} = 3/8 (0.254) = 0.009525 \times 12 \\ = 11.43 \\ \text{Redondeada} = \underline{12} //$$

$$0.12 \text{ | } \text{-----} \text{ | } 0.12 \\ \text{0.80}$$

Longitud

$$L = 0.80 + 0.12 + 0.12 = \underline{1.04} \text{ m} //$$

Número de Pzas

$$6.65 / 0.15 + 1 = 45.333$$

Longitudinales

$$\underline{45.333} //$$

$$0.12 \text{ | } \text{-----} \text{ | } 0.12 \\ + 6.65 \text{ ---}$$

Longitud

$$6.65 + 0.12 + 0.12 = \underline{6.89} \text{ m} //$$

Mz varilla

$$6.89 \text{ m} (4) = \underline{27.56} \text{ m} //$$

Contratiabe

$$0.12 \text{ | } \text{-----} \text{ | } 0.12 \\ \text{---} 6 \text{ ---}$$

$$L = 6 + 0.12 + 0.12 = 6.24 \text{ m}$$

$$2 \text{ Pzas} (6.24) = \underline{12.48} \text{ m} //$$

$$\text{Total} = 85.3733$$

$$\times 1.03 \text{ Desperdicio } 3\%$$

$$\text{Pzas} = 8$$

$$\text{Kg} = 49.77092643 \text{ Kg}$$

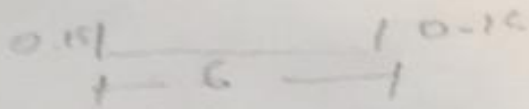
$$= \underline{87.934499}$$

$$/ 12$$

$$= 7.32787522223$$

Varrilla # 4

$$(12) (1.220 \text{ m}) = 15.24$$
$$= 15$$



Longitud  
 $= 6 + 0.30 = \underline{6.30 \text{ m}}$  ✓

$$2 \text{ Pzas} \times 6.30 = \underline{12.6}$$

Desperdicio 50%

$$12.6 (1.05)$$

$$= \underline{13.23 \text{ m}}$$
 //

$$\text{Piezas} \frac{13.23}{12} = 1.1025$$

$$= \underline{2 \text{ Pzas}}$$
 //

Peso  $(13.23) (0.997 \text{ Kg})$

$$= \underline{13.19031 \text{ Kg}}$$
 //

② Varrillas # 2

Longitud

$$1.30 + 0.14 = \underline{1.44 \text{ m}}$$
 //

Neto Piezas

$$C / 0.15 + 1 = \underline{41}$$

Longitud

$$(41 \text{ Pzas}) (1.44 \text{ m}) = 59.04 \text{ m}$$

Desperdicio

$$(59.04) (1.03)$$

$$= \underline{60.8112 \text{ m}}$$

$$\text{Total Kg} = (60.8112) (0.25)$$

$$= \underline{15.2028 \text{ Kg}}$$
 //

①



Doble  
0.07

0.50

0.15

$$\text{Perimetro} = 1.30$$

Varilla N# 5 (5/8)

$$\text{Dobles} = (1.587)(12) = 19.044 \\ = \underline{20} \checkmark$$

$$0.20 \left| \begin{array}{c} \text{-----} \\ \text{-----} \\ \text{-----} \end{array} \right. / 0.20$$

$$L = 6 \text{ m} + 0.40 \text{ m} = 6.40 \text{ m}$$

Longitud

$$(6.40 \text{ m}) (2 \text{ pza}) = 12.80 \text{ m}$$

Desperdicio del 7%

$$(12.80) (1.07) \\ = \underline{13.696} \text{ m}$$

$$\text{Pza} = 2 \times \frac{12}{1200}$$

$$\text{Peso} = (13.696) (1.566) \\ = \underline{21.447936} \text{ Kg} \checkmark$$