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Materia:

Taller de construcción

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Arquitectura, quinto cuatrimestre

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ZAPATA 1

Cantidad de excavación

$$A = 1.25 \times 1.25 \times 1.65 = \underline{2.421875 \text{ m}^3} //$$

Plantilla debajo de zapata

Desperdicio del 5%

$$FIC = 100 \text{ kg/cm}^2$$

$$= 1.05 \times 1.05 \times 0.05 = 0.055125 \text{ m}^2$$

$$\text{Base} = 1.05$$

$$\text{Longitud} = 1.05$$

$$\text{Alt} = 0.05$$

Desperdicio

$$0.055125 \text{ m}^2 (1.05)$$

$$= \underline{0.05788125 \text{ m}^2} //$$

$$FIC = 200 \text{ kg/m}^2$$

Desperdicio del 5%

$$\text{Base} = 1.05$$

$$\text{Longitud} = 1.05$$

$$\text{Alt} = 0.20$$

$$1.05 \times 1.05 \times 0.20 = 0.2205 \text{ m}^3$$

Desperdicio

$$= 0.2205 \text{ m}^3 \times 1.05$$

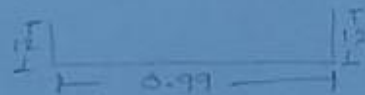
$$= \underline{0.231525 \text{ m}^3} //$$

Parilla Varilla corrugada 3/8, Longitudinal

$$\text{Dobles} = \frac{3/8 (0.254)}{\times 12} = 0.009525$$

$$= 0.1143$$

Redondeado a 12 m //



$$L = 0.99 + 0.12 + 0.12$$

$$L = 1.23$$

$$Pzas = (1.05/0.15) + 1$$

$$Pzas = 7 + 1 = \underline{8 \text{ Pzas}} //$$

Total

$$\Sigma = (8 \text{ Pzas})(1.23 \text{ m})$$

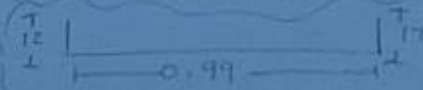
$$\Sigma = \underline{9.84 \text{ m}}$$

Parilla Varilla corrugada 3/8, Transversal

$$\text{Dobles } 3/8 (0.254) = 0.009525$$

$$= 0.1143$$

Redondeado a 12 m //



$$L = 0.99 + 0.12 + 0.12$$

$$L = 1.23$$

$$Pzas = (1.05/0.15) + 1$$

$$Pzas = 7 + 1 = \underline{8 \text{ Pzas}} //$$

Total

$$\Sigma = (8 \text{ Pzas})(1.23 \text{ m})$$

$$\Sigma = \underline{9.84 \text{ m}}$$

Desperdicio Total

$$\Sigma = 9.84 + 9.84$$

$$\Sigma = \frac{19.68 (1.07)}{12} = 1.7548 = \underline{2 \text{ Varillas}} //$$

ZAPATA 2

CANTIDAD DE EXCAVACIÓN

$$CE = 1.60 \times 2.70 \times 1.55 = \underline{6.696 \text{ m}^3} //$$

$$F'c = 100 \text{ Kg/m}^2$$

$$\text{Base} = 1.40 \text{ m}$$

$$\text{Longitud} = 2.50 \text{ m}$$

$$\text{AH} = 0.05 \text{ m}$$

$$\begin{aligned} & 1.40 \text{ m} \times 2.50 \text{ m} \times 0.05 \text{ m} \\ & = 0.175 \text{ m}^3 \\ & \text{Descuento} \\ & 0.175 \text{ m}^3 (1.05) \\ & = \underline{0.1837 \text{ m}^3} // \end{aligned}$$

$$F'c = 200 \text{ Kg/m}^2$$

$$\text{Base} = 1.40$$

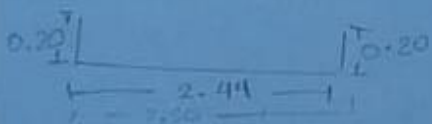
$$\text{Longitud} = 2.50$$

$$\text{AH} = 0.25$$

$$\begin{aligned} & 1.40 \times 2.50 \times 0.25 \\ & = 0.875 \text{ m}^3 \\ & \text{Descuento} \\ & = 0.875 \text{ m}^3 (1.05) \\ & = \underline{0.91875 \text{ m}^3} // \end{aligned}$$

Parrilla / Varilla corrugada 1/2 corrugadas / Longitudinal

$$\begin{aligned} \text{Dobles} &: 1/2 (0.0254) = 0.0127 (15) \\ &= 0.1905, \text{ Redondeado } a = 0.20 \end{aligned}$$



$$\begin{aligned} L &= 0.20 + 2.44 + 0.20 \\ L &= \underline{2.84 \text{ m}} // \end{aligned}$$

$$\text{Pzos.} = (2.50 / 0.20) + 1$$

$$\text{Pzos.} = 12.5 + 1 = 13.5$$

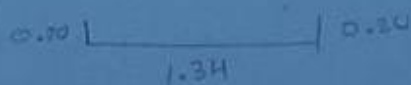
$$\text{Total} =$$

$$\Sigma = (2.84 \times 13.5)$$

$$\Sigma = \underline{38.34 \text{ m}} //$$

Parrilla / varilla 1/2 corrugadas / Transversal

$$\begin{aligned} \text{Dobles} &= 1/2 (0.0254) = 0.0127 (15) \\ &= 0.1905, \text{ Redondeado } a = 0.20 \end{aligned}$$



$$L = 0.20 + 1.34 + 0.20$$

$$L = \underline{1.74 \text{ m}} //$$

$$\text{Pzos.} = (1.40 / 0.15) + 1$$

$$\text{Pzos.} = 9.3333 + 1$$

$$P_1 = \underline{10.3333} //$$

$$\text{Total}$$

$$1.74 \times 10.3333 = 17.97992$$

$$= \underline{17.9799 \text{ m}} //$$

$$\begin{aligned} \text{Total con desperdicio} \\ 17.4799 + 38.34 &= 55.81 (1.05) \\ &= \underline{58.6108} \end{aligned}$$

$$\frac{58.6108}{12} = \underline{5 \text{ varillas}}$$