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DOCENTE: ARQ. Pedro García

MATERIA: taller de construcción

ACTIVIDAD: Actividad

PASIÓN POR EDUCAR

CUATRIMESTRE: 5to UNIDAD: 2

$M = \frac{3}{2}L$ $q = \frac{3}{2}$

① $M_{max} = \frac{(1.42)}{2} (4.8m) = 3.40 \text{ kNm}$

② $M_u = 3.40 \times 1.2 = 408.000$ $b = 20$
 $h = 40$

③ $h = \frac{L}{12} = \frac{4.8}{12} = 0.4m$ $d = 36$

④ $\sqrt{\frac{408.000}{0.85 \times 20 \times 36^2}} = 1.36$ $\times 2 + 1.18 \text{ m}$
 $= 0.8618$

$\rho = \frac{(-2+1) (f'c)}{f_y} = \frac{(-0.8618) \times (136 \text{ MPa})}{4200}$
 $= 0.0044$

$A_s = \rho (b) (d)$
 $A_s = 0.0044 (20 \text{ cm}) (36 \text{ cm}) = 3.168 \text{ cm}^2$

beautiful LIFE

$\frac{3.168}{2} = 1.58 \text{ cm } 2B5 + 3.98$ $3B5 = 3.81 \text{ cm}^2$

Comprobacion de ρ_{min}

$\frac{3.98}{(20 \times 36)} = 0.0061$

$A.L.2 = \rho_{min} (b) d$

$A.L.2 = 0.00225 (20) (36) = 1.62$ $\frac{1.62}{2} = 0.81$

$\frac{4.80}{4} = 1.2$ $\frac{1.62}{0.17} = 9.529$ $2.2B5 = 1.99 = 0.80$
 $\frac{3.98}{20 \times 36} = 0.0061$

$uCR = \rho_{max} = \frac{(1.42)}{2} = 0.71$

$u = 2.2 (u_1) = 2.987$ $uCR = 1.2 (0.8) = 0.96$
 $\frac{3.98}{20 \times 36} = 0.0061$

LOVE yourself