

3.4.3 PERDIDAS DIFERIDAS

RETRACCION SH = $0.8(1.2 - 1.06 RH) A_s = 16.415 \text{ TON}$
CON RH = 70%

RELAJACION $CR_c = (12 f_{cr} - 7 f_{ds}) A_s = 61.062 \checkmark$
O CREEP TERM.

RELAJACION $CR_s = 0.352 A_s - 5\% (8 SH + CR_c) = 9.426 \checkmark$
DEL ACERO
Y $f_{ri} = 0$
- 7% f_{ri}
- 10% ES

TOTAL PERDIDAS DIFERIDAS: 86.904 TON

$P_{se} = 493.047 \text{ TON}$

3.4.4 ELONGACIONES DIFERIDAS

(TABLA MONOCABLE)

$\Delta e = \frac{16.415}{E_s A_s} (1 - \frac{f_{ri}}{f_{ti}}) (f_{ti} + 60) =$

	(3)	(2)	(1)
	0.161	0.162	0.164
	0.184	0.185	0.187

+ ASID. WIND OP. - ACTIVA = -0.002 -0.002 -0.002

DIFERENCIA PRECARGA A CARGA:

0.182	0.183	0.185
0.159	0.160	0.162

3.5.- VERIFICACION CAPACIDAD FLEXURAL

$\phi M_u \geq M_m = 1.3 (2 M_{pp} + M_{sc}/0.6) = 1437.7 \text{ TM}$

$1525.7 \text{ TM} \geq M_{cr} = 1.2 W_i (f_r + f_{pc} - f_{dl}) = 555.7 \text{ TM}$
 $1.2 W_i (37.4 + 150)$

$(f_r = 2 \sqrt{f'_c} = 1)$

$\phi M_u = 0.90 \times A_s \times f_{su} (d - a/2) = 1525.7 \text{ TM}$

$f_{su} = f'_s (1 - 0.5 \rho^* f'_s / f'_c) = 18.565 \text{ TON/cm}^2$

$f'_s = 18.983 \text{ TON/cm}^2$ $f'_c = 0.250 \text{ TON/cm}^2$

$d = 220 - 11 = 209 \text{ cm}$ $\rho^* = 0.579\%$

$b = 370 \text{ cm}$ $A_s = 44.8 \text{ cm}^2$

$a = A_s f_{su} / 0.85 b f'_c = 10.6 \text{ cm}$