

TABLA PREDIMENSIONADO PLACAS DE CIMENTACIÓN

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	Fy (Ksi)	F'c (Ksi)	h/dt	ρ	ρ'/ρ	Rn(adim) =Mu/D	$\mu\phi$	Mu (Tf- m/m)
PREDIMENSIONADO DE PLACAS DE CIMENTACIÓN CON $\rho' = 0.54 \cdot 0.3333\% = 0.18\%$ TEMPERATURA	60.0	3.0	1.1077	0.3333%	0.54	0.0641768	11.57	Mu=Rn*D D= [0.9*F'c*d²]
	60.0	4.0	1.1077	0.3333%	0.54	0.0489913	13.77	
	60.0	5.0	1.1077	0.3333%	0.54	0.0397212	15.23	
	60.0	6.0	1.1077	0.3333%	0.54	0.0334578	16.38	
	60.0	7.0	1.1077	0.3333%	0.54	0.0289260	17.27	
	60.0	8.0	1.1077	0.3333%	0.54	0.0254833	17.94	
	60.0	9.0	1.1077	0.3333%	0.54	0.0228254	19.47	
	60.0	10.0	1.1077	0.3333%	0.54	0.0206049	21.74	

SOPORTE DE CÁLCULOS

ρ	0.0030000
ρ'/ρ	0.54000
$E_s(\text{Ksi})$	29,000
$F'c(\text{Ksi})$	3
$F_y(\text{Ksi})$	60
$F'c(Tf/m^2)$	2,109.24
$F_y(Tf/m^2)$	42,184.88
$bw(m)$	1.00000
$h(m)$	0.7715
$d'(m)$	0.0750
$d(m)$	0.6965
d'/d	0.1077
β_1	0.85000
ν_o-a/d	0.0839628

Dir 1 = X-Dir

Dir 2 = Y-Dir

OJO ANTES DE EJECUTAR 'SOLVER'

g's	-0.0002702
f'so(Tf/m2)	-5,509.48
f's1(Tf/m2)	-5,509.48
f(v)	0.00
ρ	0.3333%

0.0641768	11.57
Rn	$\mu\phi$

D=0.9*F'c*dt ²	920.9716
curv_ult	0.0303706
curv_ced	0.0026248
$\mu\phi$	$\frac{\text{curv_ult}}{\text{curv_ced}}$
Ec(Ksi)	3,155.92
n	9.1890672
ρ'	0.1800%
k	0.2117648

barra	diam (in)	s(m)	Asi(in2)	cant (un)	Ast (in2)/m	Ast (in2)/in	Fy (Ksi)	F'c (Ksi)	p	p'/p	Rn=Mu/D	Mu	Mu (Tl-mm)
#3	0.3740	0.20	0.1099	6	0.6592	0.01674	60.0	3.0	0.0611%	0.54	0.012689	51.37	11.69
#4	0.5000	0.20	0.1963	6	1.1780	0.02992	60.0	3.0	0.1091%	0.54	0.023976	27.77	20.63
#5	0.6250	0.20	0.3078	6	1.8466	0.04690	60.0	3.0	0.1710%	0.54	0.034268	17.98	31.71
#6	0.7520	0.20	0.4441	6	2.6646	0.06768	60.0	3.0	0.2468%	0.54	0.048507	14.17	44.62
#7	0.8740	0.20	0.6000	6	3.6000	0.09144	60.0	3.0	0.3335%	0.54	0.0642734	11.58	59.19
#8	1.0000	0.20	0.7854	6	4.7124	0.11969	60.0	3.0	0.4365%	0.54	0.0828958	9.47	76.34
#9	1.1299	0.20	1.0027	6	6.0162	0.15281	60.0	3.0	0.5573%	0.54	0.1044825	7.93	96.23
#10	1.2677	0.20	1.2622	6	7.5732	0.19236	60.0	3.0	0.7015%	0.54	0.1300022	6.68	119.74
#11	1.4094	0.20	1.5602	6	9.3612	0.23777	60.0	3.0	0.8671%	0.54	0.1590816	5.67	146.51
#8+#9	1.5089	0.20	1.7881	6	10.7286	0.27251	60.0	3.0	0.9937%	0.54	0.1811419	5.09	166.83
#8+#10	1.6146	0.20	2.0476	6	12.2856	0.31205	60.0	3.0	1.1380%	0.54	0.2061057	4.56	189.82
#14	1.6929	0.20	2.2509	6	13.5054	0.34304	60.0	3.0	1.2509%	0.54	0.2255562	4.22	207.73
#9+#11	1.8064	0.20	2.5629	6	15.3774	0.39059	60.0	3.0	1.4243%	0.54	0.2523239	3.78	235.07
#10+#11	1.8957	0.20	2.8224	6	16.9344	0.43013	60.0	3.0	1.5686%	0.54	0.2797730	3.48	256.65
#11	1.9932	0.20	3.1204	6	18.7224	0.47555	60.0	3.0	1.7243%	0.54	0.3077928	3.20	283.47
#2#12	2.2559	0.20	3.9970	6	23.9820	0.02213	60.0	3.0	2.3121%	0.54	0.3906843	2.71	359.81

Fuente: Reinforced Concrete Structures, Robert Park & Thomas Paulay, 1975, pp 204-205, chapter 6