Reinforced Concrete
Square Column 24C24

PHYSICAL PROPERTIES

$A = 576$ in.^{2} $S_b = 2,304$ in.^{3}
$I = 27,648$ in.^{4} $S_t = 2,304$ in.^{3}
$Y_b = 12.00$ in. $Wt. = 600$ PLF
$Y_t = 12.00$ in.

4 REBAR PATTERN 8 REBAR PATTERN 12 REBAR PATTERN
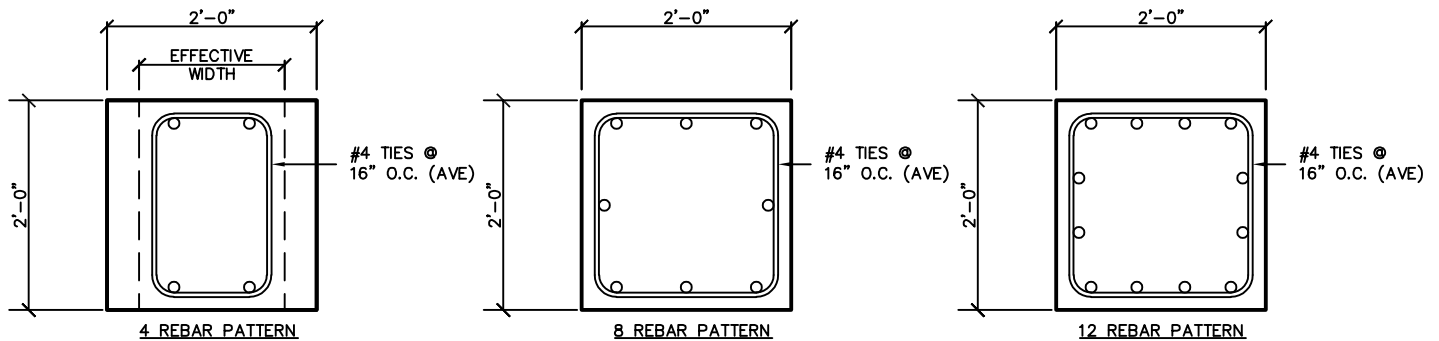
DESIGN DATA

1. Precast Strength @ 28 days = 6,000 PSI
2. Precast Density = 150 PCF
3. Slenderness effects were not considered when determining the allowable factored loads in this table.
4. Correction factor Cm = 1.00 was assumed when determining the allowable factored loads in this table.
5. Sustained load ratio βd = 0.65 was assumed when determining the allowable factored loads in this table.
6. Minimum allowable eccentricity e = 0.60 + 0.03h.
7. When only using four (4) corner bars, the loads shown are based upon a reduced effective width calculated using a 1% reinforcement to gross concrete ratio, assuming the column depth remains constant.   For 4 - #8, 4 - #9 and 4 - #10 bars these widths are 13.16", 16.66" and 21.16" respectively. The bars are located in the corners, while the above section is only intended to depict the effective width.
8. Ties shown are graphical only.   More ties might be required to meet ACI 318 requirements.

ALLOWABLE FACTORED LOADS (P_u)

Rebar Pattern	ECCENTRICITY (INCHES)											
	0"	1.32"	2"	4"	6"	8"	10"	12"	14"	16"	18"	20"
4 - #8	927 K	927 K	927 K	791 K	630 K	504 K	412 K	378 K	333 K	258 K	206 K	169 K
4 - #9	1,174 K	1,174 K	1,174 K	1,001 K	797 K	637 K	521 K	477 K	420 K	324 K	258 K	214 K
4 - #10	1,491 K	1,491 K	1,491 K	1,271 K	1,011 K	808 K	660 K	604 K	531 K	410 K	327 K	270 K
8 - #8	1,707 K	1,707 K	1,707 K	1,434 K	1,126 K	887 K	734 K	658 K	592 K	483 K	393 K	328 K
8 - #9	1,755 K	1,755 K	1,755 K	1,475 K	1,165 K	900 K	758 K	681 K	616 K	547 K	463 K	392 K
8 - #10	1,817 K	1,817 K	1,817 K	1,527 K	1,213 K	976 K	806 K	708 K	642 K	586 K	530 K	561 K
12 - #10	1,962 K	1,962 K	1,962 K	1,646 K	1,314 K	1,070 K	893 K	765 K	689 K	630 K	579 K	535 K

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