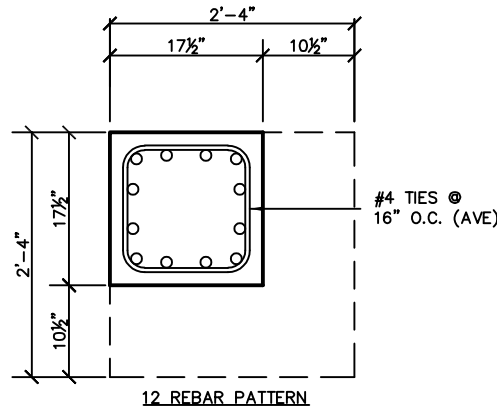
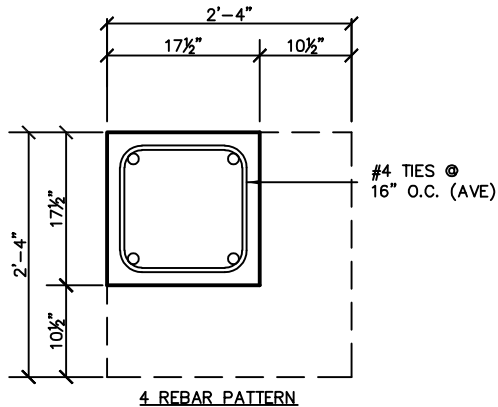


Reinforced Concrete Square Column 17.5C17.5

PHYSICAL PROPERTIES

$A = 306 \text{ in.}^2$ $S_b = 893 \text{ in.}^3$
 $I = 7,816 \text{ in.}^4$ $S_t = 893 \text{ in.}^3$
 $Y_b = 8.75 \text{ in.}$ $Wt. = 319 \text{ PLF}$
 $Y_t = 8.75 \text{ in.}$

The values reflected in the table below result from carving out a conventional 28C28 corner column with recesses to support 10" thick spandrel panels and 1/2" neoprene spacer pads at the tie-back connections to the column.



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 $C_m = 1.00$ was assumed when determining the allowable factored loads in this table.
5. Sustained load ratio $\beta_d = 0.65$ was assumed when determining the allowable factored loads in this table.
6. Minimum allowable eccentricity $e = 0.60 + 0.03h$. Typical $e = 14.25$ " for 10" spandrel loading.
8. Ties shown are graphical only. More ties might be required to meet ACI 318 requirements.
9. These corner columns are often subjected to bi-axial bending. Bi-axial bending has not been considered in this table.

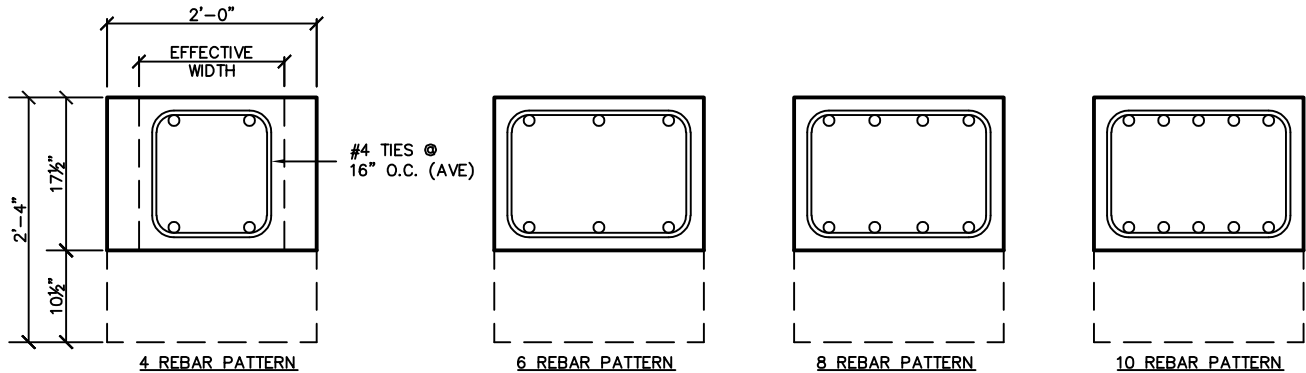
ALLOWABLE FACTORED LOADS (P _u)							IBC 2012 & ACI 318-11 (1.2 D + 1.6 L)						
Rebar Pattern	ECCENTRICITY (INCHES)												
	0"	1.125"	2"	4"	6"	8"	10"	12"	14"	14.25"	16"	18"	20"
4 - #8	902 K	902 K	868 K	634 K	455 K	350 K	296 K	214 K	163 K	158 K	130 K	108 K	92 K
4 - #9	926 K	926 K	890 K	654 K	477 K	363 K	311 K	253 K	194 K	188 K	156 K	130 K	112 K
4 - #10	957 K	957 K	918 K	679 K	502 K	387 K	325 K	281 K	231 K	225 K	188 K	157 K	135 K
12 - #8	1,082 K	1,082 K	1,025 K	746 K	556 K	437 K	362 K	316 K	278 K	273 K	247 K	224 K	203 K
12 - #9	1,154 K	1,154 K	1,090 K	795 K	599 K	474 K	391 K	339 K	299 K	295 K	267 K	241 K	219 K
12 - #10	1,247 K	1,247 K	1,171 K	855 K	649 K	519 K	430 K	367 K	325 K	320 K	291 K	262 K	239 K

Reinforced Concrete Rectangular Column 24C17.5

PHYSICAL PROPERTIES

$A = 420 \text{ in.}^2$ $S_b = 1,225 \text{ in.}^3$
 $I = 10,719 \text{ in.}^4$ $S_t = 1,225 \text{ in.}^3$
 $Y_b = 8.75 \text{ in.}$ $Wt. = 437.5 \text{ PLF}$
 $Y_t = 8.75 \text{ in.}$

The values reflected in the table below result from carving out a conventional 24C28 column with recesses to support 10" thick spandrel panels and 1/2" neoprene spacer pads at the tie-back connections to the column.



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 $C_m = 1.00$ was assumed when determining the allowable factored loads in this table.
5. Sustained load ratio $\beta_d = 0.65$ was assumed when determining the allowable factored loads in this table.
6. Minimum allowable eccentricity $e = 0.60 + 0.03h$. Typical $e = 14.25"$ for 10" spandrel loading.
7. When only using four (4) corner bars, some of 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 - #9 bars this width is 22.85". 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.

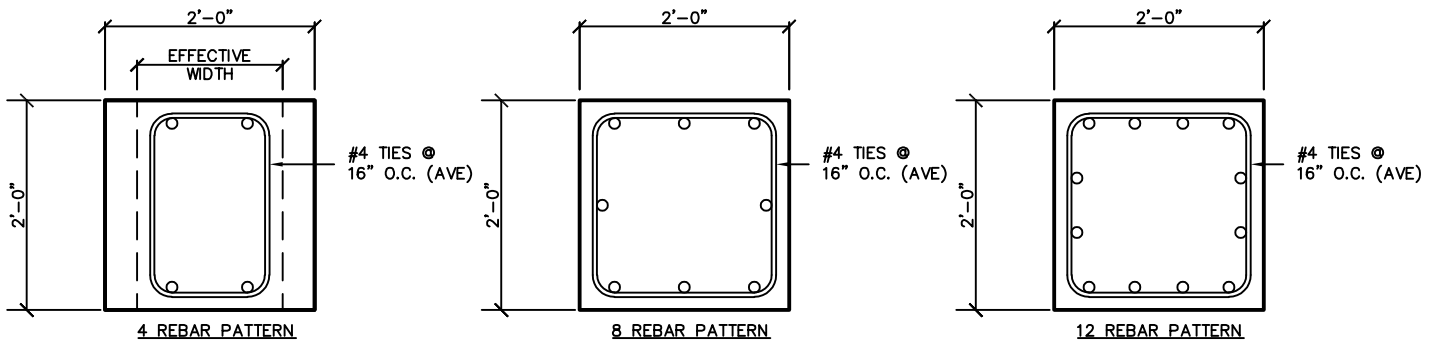
ALLOWABLE FACTORED LOADS (P_u)

Rebar Pattern	ECCENTRICITY (INCHES)												
	0"	1.125"	2"	4"	6"	8"	10"	12"	14"	14.25"	16"	18"	20"
4 - #9	1,174 K	1,174 K	1,133 K	832 K	603 K	474 K	405 K	285 K	215 K	208 K	171 K	141 K	120 K
4 - #10	1,258 K	1,258 K	1,213 K	895 K	656 K	510 K	440 K	320 K	260 K	252 K	208 K	173 K	148 K
6 - #9	1,285 K	1,285 K	1,239 K	920 K	683 K	530 K	460 K	387 K	298 K	289 K	240 K	200 K	171 K
6 - #10	1,331 K	1,331 K	1,282 K	958 K	720 K	566 K	481 K	423 K	356 K	346 K	289 K	242 K	208 K
8 - #10	1,403 K	1,403 K	1,351 K	1,019 K	779 K	622 K	516 K	459 K	410 K	405 K	365 K	308 K	266 K
10 - #10	1,476 K	1,476 K	1,420 K	1,079 K	834 K	673 K	563 K	491 K	442 K	436 K	400 K	363 K	322 K

Reinforced Concrete Square Column 24C24

PHYSICAL PROPERTIES

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



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 $C_m = 1.00$ was assumed when determining the allowable factored loads in this table.
5. Sustained load ratio $\beta_d = 0.65$ 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.

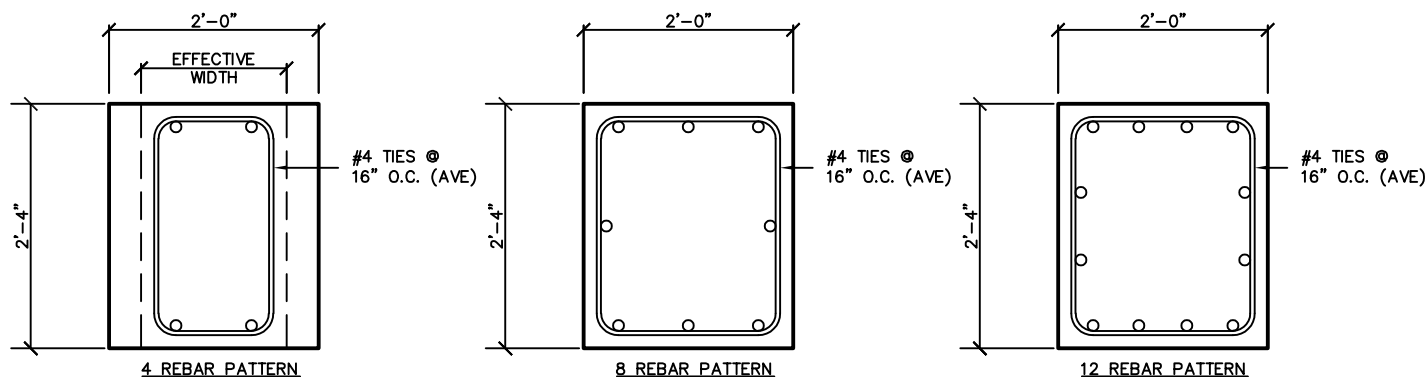
ALLOWABLE FACTORED LOADS (P_U)

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

Reinforced Concrete Rectangular Column 24C28

PHYSICAL PROPERTIES

$A = 672 \text{ in.}^2$ $S_b = 3,136 \text{ in.}^3$
 $I = 43,904 \text{ in.}^4$ $S_t = 3,136 \text{ in.}^3$
 $Y_b = 14.00 \text{ in.}$ $Wt. = 700 \text{ PLF}$
 $Y_t = 14.00 \text{ in.}$



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 $C_m = 1.00$ was assumed when determining the allowable factored loads in this table.
5. Sustained load ratio $\beta_d = 0.65$ 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 - #9 bars and 4 - #10 bars these widths are 14.28" and 18.14" 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"	1.44"	2"	4"	6"	8"	10"	12"	14"	16"	18"	20"
4 - #9	1,174 K	1,174 K	1,174 K	1,067 K	884 K	729 K	607 K	521 K	485 K	448 K	360 K	293 K
4 - #10	1,492 K	1,492 K	1,492 K	1,354 K	1,121 K	925 K	770 K	661 K	615 K	567 K	455 K	371 K
8 - #9	2,010 K	2,010 K	2,010 K	1,803 K	1,480 K	1,208 K	998 K	865 K	790 K	724 K	633 K	541 K
8 - #10	2,072 K	2,072 K	2,072 K	1,859 K	1,531 K	1,260 K	1,050 K	983 K	819 K	753 K	695 K	620 K
12 - #10	2,217 K	2,217 K	2,217 K	1,988 K	1,642 K	1,364 K	1,149 K	988 K	873 K	805 K	744 K	691 K