

# ANCHORS

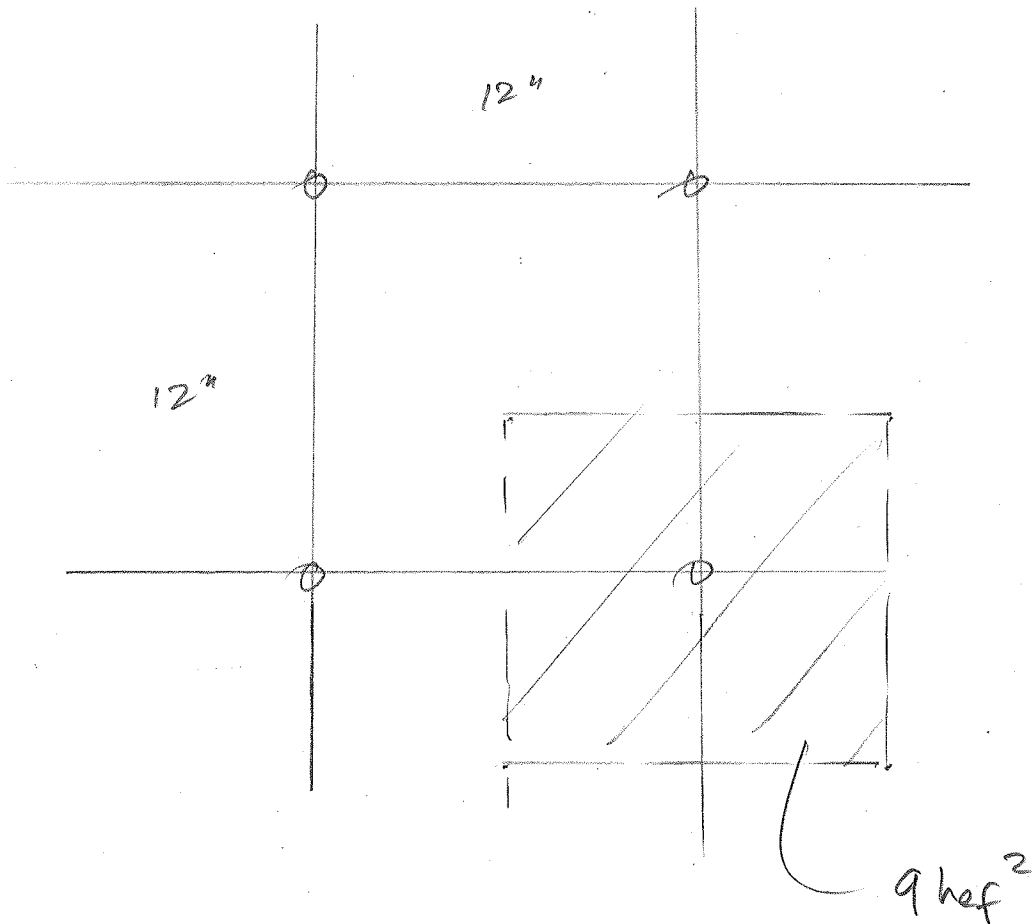
①

for  $5/8"$   $\phi$  @  $4"$  effective embed,

$$N_{p,cr} = N/A$$

therefore, when anchors are sufficiently spaced 3 hef apart, breakout governs.

theoretical scenario from EC8:



②

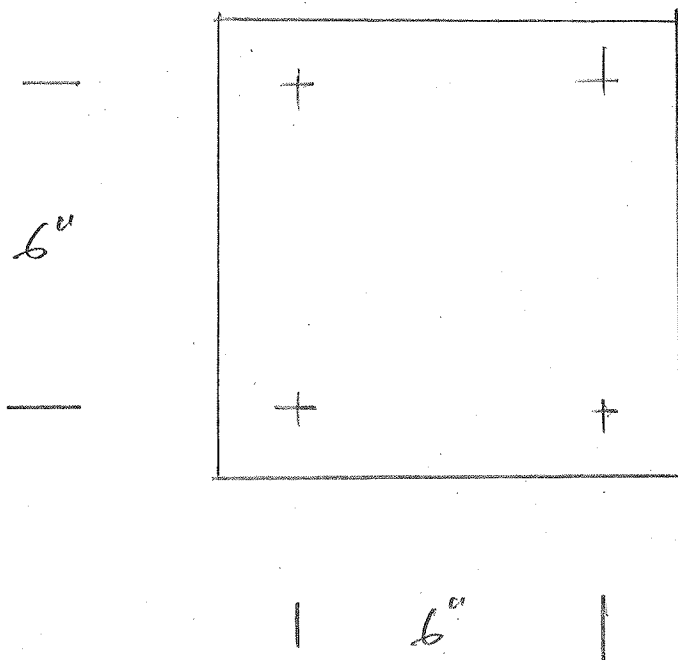
breakout capacity of  
single anchor at 4" embed

$$N_b = 17 \sqrt{4000} 4^{1.5}$$
$$= 8601 \text{ lbs}$$

therefore  $N_{p,cr} \geq 8601 \text{ lbs}$

for  $f'_c = 4000 \text{ psi}$ .

Now try  $h_{ef} = 5.25''$  for the  
actual baseplate geometry



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$$N_D = 17 \sqrt{4000} \cdot 5.25^{1.5}$$

$$= 12.93k$$

$$A_{nco} = 9 (5.25)^2 = 248 \text{ in}^2$$

$$A_{nc} = (1.5(5.25) + 6 + 1.5(5.25))^2$$

$$= 473 \text{ in}^2$$

$$\phi N_{cbg} = 0.75 (0.65) \frac{473}{248} 12.93k$$

$$= 12.0k$$

fr 10x10 baseplate

$$A_{nc} = (2(1.5)5.25 + 8)^2$$

$$= 564 \text{ in}^2$$

$$\phi N_{cbg} = 0.75 (0.65) \frac{564}{248} 12.93$$

$$= 14.3k$$

pullout doesn't govern per pages 142.