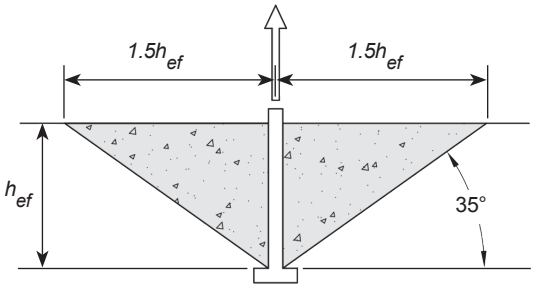
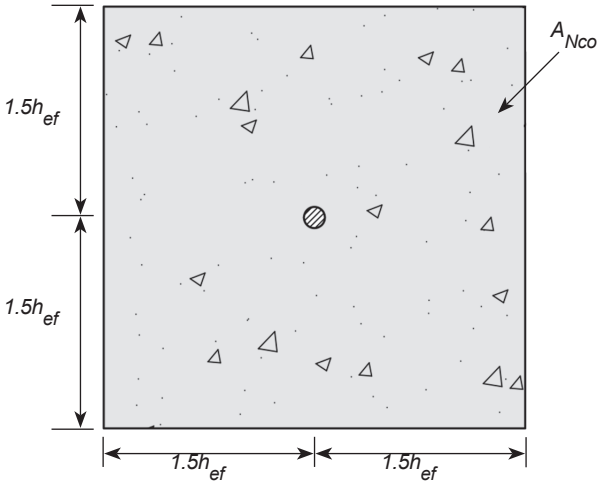
Anchor Embedment Depths

Anchor embedment depths below are derived by calculation from ACI 318. Shorter embedment depths, edge distances and center to center spacing are possible if anchor design loads don't reach the ultimate strength of the anchor. Embedments depths to achieve ductile steel failure are reflected in the table below.

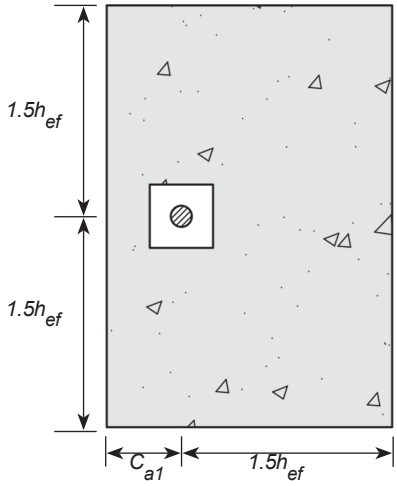
Section through failure cone



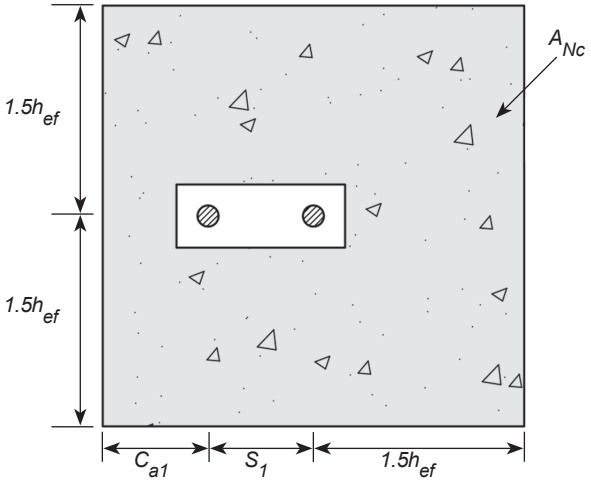
$A_{Nco} = 9 * h_{ef}^2$



$A_{Nc} = (c_{ef}+1.5h_{ef})(2*1.5h_{ef})$
if: $c_{a1}<1.5h_{ef}$



$A_{Nc} = (c_{a1}+s_1+1.5h_{ef})(2*1.5h_{ef})$
if: $c_{a1} < 1.5h_{ef}$
and: $s_1 < 3h_{ef}$



$A_{Nc} = (c_{a1}+ s_1+1.5h_{ef})(c_{a2}+s_2+1.5h_{ef})$
if: c_{a1} and $c_{a2} < 1.5h_{ef}$
and: s_1 and $s_2 < 3h_{ef}$