



DSA Structural Amendments under review are highlighted in GRAY

Template 19-52

2001 CBC - Chapter 19A
CONCRETE

Section - 1923A - ANCHORAGE TO CONCRETE

Subsection(s) - 1923A.3.2

1 *1923A.3 Strength of Anchors.*

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3
4 *1923A.3.2 Design strength in tension. The design strength of*
5 *anchors in tension shall be the minimum of P_{ss} or ϕP_c where:*

$$P_{ss} = 0.9 A_b f_{ut}$$

8
9 *and for an anchor group where the distance between anchors is*
10 *less than twice their embedment length or for a single anchor or*
11 *anchor group where the distance between anchors is equal to or*
12 *greater than twice their embedment length*

$$\phi P_c = \phi \lambda 4 A_p \sqrt{f'_c}$$

15
16 For SI:
$$\phi P_c = 0.32 \phi \lambda A_p \sqrt{f'_c}$$

17
18 **WHERE:**

19
20 A_b = nominal area [in square inches (mm^2)] of anchor. Must
21 be used with the corresponding steel properties to deter-
22 mine the weakest part of the assembly in tension.

23
24 A_p = the effective area [in square inches (mm^2)] of the projec-
25 tion of an assumed concrete failure surface upon the sur-
26 face from which the anchor protrudes. For a single
27 anchor or for an anchor group where the distance
28 between anchors is equal to or greater than twice their
29 embedment length, the failure surface is assumed to be
30 that of a truncated cone radiating at a 45-degree slope
31 from the bearing edge of the anchor toward the surface

32 *from which the anchor protrudes. The effective area is*
33 *the projection of the cone on this surface. For an anchor*
34 *which is perpendicular to the surface from which it pro-*
35 *trudes, the effective area is a circle.*

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