CODE

17.6.5.3 *Bond eccentricity factor*, $\psi_{ec,Na}$

17.6.5.3.1 Modification factor for adhesive anchor groups loaded eccentrically in tension, $\psi_{ec,Na}$, shall be calculated by Eq (17.6.5.3.1).

$$\psi_{ec,Na} = \frac{1}{\left(1+\frac{e'_N}{c_{Na}}\right)} \le 1.0 \qquad (17.6.5.3.1)$$

17.6.5.3.2 If the loading on an adhesive anchor group is such that only some of the adhesive anchors are in tension, only those adhesive anchors that are in tension shall be considered for determining eccentricity e'_N in Eq. (17.6.5.3.1) and for the calculation of N_{ag} according to Eq. (17.6.5.1b).

17.6.5.3.3 If a load is eccentric about two orthogonal axes, $\psi_{ec,Na}$ shall be calculated for each axis individually, and the product of these factors shall be used as $\psi_{ec,Na}$ in Eq. (17.6.5.1b).

17.6.5.4 *Bond edge effect factor*, $\psi_{ed,Na}$

17.6.5.4.1 Modification factor for edge effects for single adhesive anchors or adhesive anchor groups in tension, $\psi_{ed,Na}$, shall be determined by (a) or (b) using the critical distance c_{Na} as defined in Eq. (17.6.5.1.2b).

(a) If $c_{a,min} \ge c_{Na}$, then $\psi_{ed,Na} = 1.0$ (17.6.5.4.1a)

(b) If $c_{a,min} < c_{Na}$, then $\psi_{ed,Na} = 0.7 + 0.3\frac{c_{a,min}}{c_{Na}}$ (17.6.5.4.1b)

17.6.5.5 *Bond splitting factor*, $\psi_{cp,Na}$

17.6.5.5.1 Modification factor for adhesive anchors designed for uncracked concrete in accordance with 17.6.5.1 without supplementary reinforcement to control splitting, $\psi_{cp,Na}$, shall be determined by (a) or (b) where c_{ac} is defined in 17.9.5

(a) If $c_{a,min} \ge c_{ac}$, then $\psi_{cp,Na} = 1.0$ (17.6.5.5.1a)

(b) If $c_{a,min} < c_{ac}$, then $\psi_{cp,Na} = \frac{c_{a,min}}{c_{ac}} \ge \frac{c_{Na}}{c_{ac}}$ (17.6.5.5.1b)

COMMENTARY

Characteristic bond stresses associated with qualified adhesive anchor systems for a specific set of installation and use conditions may substantially exceed the minimum values provided in Table 17.6.5.2.5. For example, 13 to 19 mm diameter anchors installed in impact-drilled holes in dry concrete where use is limited to indoor conditions in uncracked concrete as described above may exhibit characteristic bond stresses τ_{uncr} in the range of 14 to 17 MPa.

R17.6.5.3 *Bond eccentricity factor*, $\psi_{ec,Na}$

R17.6.5.3.1 Refer to R17.6.2.3.1.

R17.6.5.4 *Bond edge effect factor*, $\psi_{ed,Na}$

R17.6.5.4.1 If anchors are located close to an edge, their strength is further reduced beyond that reflected in A_{Na}/A_{Nao}. The factor $\psi_{ed,Na}$ accounts for the edge effect (Fuchs et al. 1995; Eligehausen et al. 2006a).