No.	Last Name	Item #	Line #	A/C or N	Comment
1.	Feldman	CB200		E	Colons, as used to introduce a list, are not used consistently through the chapter.
2.	Wyllie	CB200	1	N	We have just dumped a newly formatted ACI 318 on our profession and we all will spend years finding where familiar provisions were shifted in 318-14. This "directive" to reformat Chapter 17, which was not allowed in the last cycle, came from somewhere, probably the Steering Committee. I do not recall the entire 318 Committee discussing nor agreeing on this rewrite of Chapter 17. Other than satisfying someone's idea of a style guide, we never voted on nor agreed to any style guide. Why make all these changes to further confuse our profession. There are some changes that are beneficial, but not changing every sentence.
3.	Feldman	CB200	103	C	Suggest rephrasing the start of this provision to "Anchors shall additionally satisfy…"
4.	Lui	CB200	103	N	Delete words "in addition"
5.	McGlohn	CB200	103	A/C	Consider adding "In addition "to 17.3.1.1" since this section was pulled away from original location and it pertains to design and is used in adhesive bond 17.3.1.2
6.	Wyllie	CB200	104	N	Section 17.7 is no longer required edge distances, etc.; it is to precluded splitting failure. We either require it or we don't.
7.	Lui	CB200	105	N	Not clear that this references back to 17.3.1
8.	Wyllie	CB200	105	N	OK, it shall be permitted. Where is (a) through (h)? This is the whole criteria of 17.3.2. Where do we say our code provisions meet the criteria?
9.	Anderson	CB200	106	A/C	. . . applicable test results for **17.3.1** (a) through (h).
10.	Fick	CB200	106	A/C	This section may be too far removed from the (a) through (h) list. Suggest: "…on test evaluation using the 5 percent fractile of applicable test results for the failure modes included in 17.3.1."
11.	Fuchs	CB200	106	A/C	Editorial: … applicable test results for 17.3.1 (a) through (h)….
12.	McGlohn	CB200	106	A/C	Consider adding words for "anchor strengths" (a) through (h).
13.	McGlohn	CB200	118	A/C	New business. Wording should be changed to "calculation of the additional concrete breakout strength provided with 17.4.2 and 17.5.2 is not allowed".
14.	Fuchs	CB200	120	N	The limitation on the validity of the CCD-method is incomplete and not consistent with the present data base (see references given in the commentary to Chapter 17). The following is proposed: 17.3.2.2 For anchors with diameters da≤not exceeding 4 in. and hef ≥ 1.5in. in tension and anchors with diameters da ≤ 2-3/8 in. in shear, the concrete breakout strength

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					requirements shall be considered satisfied by the design procedure of 17.4.2 and 17.5.2.
15.	Wyllie	CB200	120	N	Keep the words which are perfectly clear.
16.	Fuchs	CB200	122	N	The given limitation is not consistent with ACI 355.4, Clause 1.2.1. The following is proposed: 17.3.2.3 For adhesive anchors with embedment depths 4da ≤ hef ≤ 20da, and hef ≥ 1-5/8in. the bond strength requirements shall be considered satisfied by the design procedure of 17.4.5.
17.	Wyllie	CB200	122	N	Why delete “the”. Is this another purge of the word “the”?
18.	Anderson	CB200	124	A/C	General comment - Should the phi factors be moved to Chapter 21 to be consistent with the intent of the Code?
19.	Wyllie	CB200	124	Y	As many of you know I have objected to our excessive use of tables, but I believe these do clarify a confusing section.
20.	Ahlborn	CB200	126	N	Replace “0.75” with “0.75 when supplemental reinforcement is provided”. Justification: This line is inconsistent with the commentary CB201 lines 215-216, which states that phi is 0.75 if supp. reinforcement is present and reduced to 0.70 without supp. reinforcement.
21.	McGlohn	CB200	135	A/C	Consider changing 2nd table heading “Type of anchor reinforcement” to “Type of anchor Installation” to be consistent with table c.
22.	McGlohn	CB200	135	A/C	Consider deleting the word sensitivity in 3rd table heading and only use Reliability category from ACI 355.2 or ACI 355.4 since this is explained in commentary.
23.	Meinheit	CB200	135	A	Suggested revision: Category from ACI 355.2 or ACI 355.4 from sensitivity / reliability testing Reason: Change the title of the third column to reflect the nature of the numerical value listed. The numbers are category numbers not sensitivity numbers
24.	Fick	CB200	136	A/C	Is the supplementary reinforcement listed in the table the same as the restraining reinforcement of 17.3.2.1? A reference to reinforcement requirements would be helpful to the designer.
25.	McGlohn	CB200	137	A/C	Consider deleting the last column of table c since shear is considered above in concrete breakout and the anchor controlled by tension pull out may have greater shear breakout strength if supplemental reinforcement is present and the phi factor would be greater.
26.	McGlohn	CB200	164	A/C	Consider keeping text as it was to be consistent with similar wording for shear 17.5.1.1 or change wording for shear to be consistent. See item #23.

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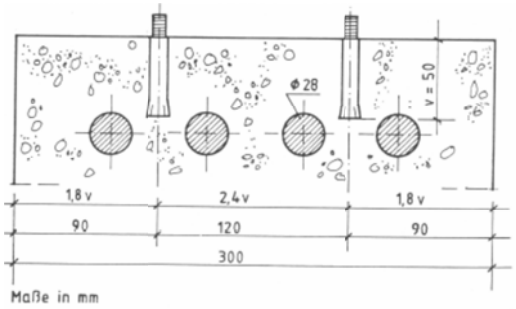
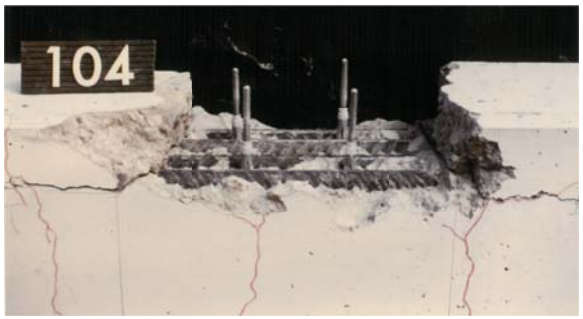
27.	Wyllie	CB200	166	N	This is a change in meaning. If I have a really brittle steel anchor I may assign a lower strength but now I am violating the code as this new wording says I must use the formula unreduced. Keep shall not exceed.
28.	Meinheit	CB200	17	E	Revise to read: (a) Cast-in headed studs and headed bolts having head geometry ~~that has been demonstrated to~~ resulting in a pullout strength in uncracked concrete ~~equal to or exceeding~~ of at least 1.4 N_p, where N_p is given in Eq. (17.4.3.4) Reason: The anchor geometry includes the head, shank, embedment length, and threads. It is the head geometry that controls the pullout strength.
29.	Fuchs	CB200	177		Equations (17.4.2.1a) and (17.4.2.1b) lack the so-called shell spalling factor accounting for the unfavorable superimposition of the tensile stresses induced by the anchors and the bond stresses induced by dense reinforcement and yielding a shell spalling of the concrete surface instead of a concrete break-out.   Tests were performed with undercut and expansion anchors The following addition is proposed: (a) For a single anchor $N_{cb} = \frac{A_{Nc}}{A_{Nco}} \psi_{re,N} \psi_{ed,N} \psi_{c,N} \psi_{cp,N} N_b$ (17.4.2.1a) (b) For a group of anchors $N_{cbg} = \frac{A_{Nc}}{A_{Nco}} \psi_{re,N} \psi_{ec,N} \psi_{ed,N} \psi_{c,N} \psi_{cp,N} N_b$ (17.4.2.1b)

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					Factors ψre,N, ψec,N, ψed,N, ψc,N, and ψcp,N are….. 17.4.2.X — The shell spalling factor ψre,N applies when hef < 4 in. and accounts for the effect of dense reinforcement between which the fastener is installed: $\psi_{re,N} = 0{,}5 + \frac{h_{ef}}{4in.} \leq 1$ (17.4.2.Y) The factor ψre,N may be taken as 1,0 in the following cases: a) Reinforcement (any diameter) is present at a spacing ≥ 6 in., or b) #3 rebars or smaller are present at a spacing ≥ 4 in.. The conditions a) or b) shall be fulfilled for both directions in case of reinforcement in two directions. This effect is described in Eligehausen et al. 'Anchorage in Concrete Construction', Ernst&Sohn, Wiley, 2006 and considered in Eurocode EN 1992-4.
30.	Darwin	CB200	179	A	Y. Agree that section should be broken up.
31.	Wyllie	CB200	179	N	Do not consider the box.
32.	Anderson	CB200	180	A/C	I would suggest breaking into separate sections.
33.	Feldman	CB200	180	C	I'd suggest leaving this information in a single section as we are simply defining the terms used in Eq. (17.4.2.1b).
34.	Fick	CB200	180.5	A/C	No
35.	Anderson	CB200	183	A/C	I think it is a "shape" rather than a "figure." I believe we use the term "prism" elsewhere.
36.	Wyllie	CB200	185	N	Why do we have commas and periods in the middle of a sentence?
37.	McGlohn	CB200	187	A/C	This may be new business, but all of our examples to date have been based on using 1.5hef for calculating ANco. Not sure when you would want to use a value greater since this will decrease your capacity of anchor group being that this term is in the denominator.
38.	Lui	CB200	192	N	Add "Eq. (17.x.x.x)" as required
39.	Fick	CB200	196	A/C	Remove bold text for '24'.
40.	Meinheit	CB200	196	E	Embolden **17** because **24** is bold
41.	Anderson	CB200	198	A/C	. . . .based on ACI 355.2 or ACI 355.4 product-specific tests, ~~but shall not exceed 24~~ **such that 17 ≤ k_c ≤ 24.**

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42.	Anderson	CB200	199	A/C	It seems like this is its own provision.
43.	McGlohn	CB200	199	A/C	New business. Wording should be changed to "calculation of the additional concrete breakout strength provided with 17.4.2 and 17.5.2 is not allowed".
44.	Wyllie	CB200	199	N	Again, if I want to use something less I violate the code. Stay with shall not exceed.
45.	Meinheit	CB200	20	E	Revise to read: (b) Cast-in hooked bolts having hook geometry ~~that has been demonstrated to result~~ resulting in a pullout strength without friction in uncracked concrete equal to or exceeding of at least 1.4 N_p, where N_p is given in Eq. (17.4.3.5) Reason: The hook geometry is the key geometry controlling the pullout strength.
46.	Lui	CB200	200	N	Add "Eq. (17.x.x.x)" as required
47.	Wyllie	CB200	204	N	Old words say the same.
48.	Wyllie	CB200	205	N	Old words say the same.
49.	Wyllie	CB200	206	N	Old words say the same.
50.	Lui	CB200	209	N	Add "Eq. (17.x.x.x)" as required
51.	Wyllie	CB200	209	N	Old words say the same.
52.	Wyllie	CB200	211	N	Old words say the same.
53.	Anderson	CB200	212	A/C	I would suggest breaking into separate (a) and (b) sections, as two different thoughts are being conveyed.
54.	Feldman	CB200	212	N	This is awkwardly stated right not (i.e. "shall be considered in the group". Suggest rephrasing as follows: "If only some anchors are in tension, then the effective group used for the calculation of the eccentricity e'_N in Eq. (17.4.2.4) and for the calculation of N_{cbg} according to Eq. (17.4.2.1b) shall include only those anchors that are in tension."
55.	Wyllie	CB200	212	N	Old words say the same.
56.	Meinheit	CB200	222	A	Is there a need to indicate, as in line 211, that $\psi_{ed,N} \leq 1.0$
57.	Wyllie	CB200	223	N	I strongly object in this reversal of focus. The old focus was where analysis indicates no cracking. OK, flexural tension cracking is somewhat easy but most engineers just focus on reinforcement needed. They do not analyze for shrinkage so no analysis – no cracking. Keep old words.
58.	Anderson	CB200	225	A/C	$\psi_{c,N}$, shall be determined ~~as follows~~ **by (a) or (b):**
59.	Fick	CB200	237	A/C	Paragraphs are repeated to cover both cracked and uncracked case and uncracked case. Suggest: "If the value of kc used in Eq. 17.4.2.2a is taken from the ACI 355.2 or ACI 355.4 product evaluation report for post-installed anchors: (a) Ψc,N = shall be based on the ACI 355.2 or ACI 355.4 product evaluation report for cracked and uncracked concrete.

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					(b) Ψc,N = 1.0 for uncracked concrete.
60.	Feldman	CB200	238	C	Two reports are cited: ACI 355.2 and ACI 355.4. Given that, should "report" in lines 238 and 241 be plural?
61.	Fick	CB200	239	A/C	Beginning of sentence states kc has been taken from ACI 355.2/355/4. It's repetitive to state again later in the sentence.
62.	McGlohn	CB200	250	A/C	Consider leaving "using the critical distance cac as defined in 17.7.7" since cac check applies to first equation 17.4.2.7a as well and where this is moved it only mentions 17.4.2.7b.
63.	McGlohn	CB200	253	A/C	This is new business but saying that ψcp,N be at least 1.5hef /cac, has always puzzled me in that it seems one is trying to establish a minimum value. If it is saying the minimum edge distance has to be 1.5hef then it should be rewritten, otherwise if one used a value for ca,min = 1.0hef then a lower value of ψcp,N would result using the same value of cac
64.	Darwin	CB200	268	E	Drop "Eq. (17.4.3.1)." The equation number is redundant.
65.	Wyllie	CB200	268	N	Again, if I use less I am not in compliance with code. Keep old words.
66.	Fuchs	CB200	27	N	The minimum age is not only required for post-installed adhesive anchors but also for post-installed mechanical and cast-in anchors. Reasons: • ACI 355.2 and ACI 355.4 require for the assessment of post-installed anchors a minimum concrete age of 21 days. Information on the behavior of these products in younger concrete is not present. • The data for headed anchors on which the CCD-method is based contains only data of tests in concrete older than 21 days. Since the concrete tensile strength usually develops slower with time than the concrete compressive strength the use of the CCD-predictors might yield liberal results. • Proposal for new text: 17.1.3 Adhesive Post-installed anchors shall be installed in concrete having an age of at least 21 days at time of anchor installation. Cast-in anchors shall only be loaded if the age of concrete is at least 21 days.
67.	McGlohn	CB200	27	N	This may be new business but can section 17.1.3 be deleted or moved into subsection (e) on line 26 rather can create a new section, so that the design documents and inspection requirements, chapter 26.7.1, line 348 only refers to 17.1.2. The other types of anchors must also be installed in concrete with minimum age concrete. Also specifying

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					21 days could be removed since it is stated in section 17.4.5.2 and there are other minimum requirements such as minimum 2500 psi compressive strength. Or combine with above "Post-installed adhesive anchors that meet the assessment criteria of ACI 355.4 and installed in concrete having an age of at least 21 days at time of anchor installation."
68.	Wyllie	CB200	27	N	This provision seems totally out of place and needs to be within the provisions under execution.
69.	McGlohn	CB200	273	A/C	Add the word "post-installed expansion and post-installed undercut anchors to be consistent.
70.	Darwin	CB200	282	E	Drop "Eq. (17.4.3.4)." The equation number is redundant.
71.	Wyllie	CB200	282	N	Again, if I use less I am not in compliance with code. Keep old words.
72.	Darwin	CB200	287	E	Drop "Eq. (17.4.3.5)." The equation number is redundant.
73.	Wyllie	CB200	287	N	Again, if I use less I am not in compliance with code. Keep old words.
74.	Lui	CB200	292	N	This does not make sense when provisions below are for both cracked and uncracked
75.	Anderson	CB200	30	A/C	A load application that is predominantly an impact load does not make sense. Perhaps **17.1.4** This chapter does not apply for load applications that are predominantly high-cycle fatigue or **due to** impact ~~loads~~.
76.	McGlohn	CB200	303	A/C	New business, consider using the check value of (ca1<0.4hef), instead of (hef > 2.5ca1), since one is checking when ca1 is less than the minimum value.
77.	Lui	CB200	304	N	Add "Eq. (17.x.x.x)" as required
78.	Wyllie	CB200	304	N	Again, if I use less I am not in compliance with code. Keep old words.
79.	Fuchs	CB200	31	A/C	To be consistent with the wording in ICC-ES, AC 446: 17.1.5 This chapter does not apply to cast-in specialty inserts….
80.	McGlohn	CB200	310	A/C	Same as above
81.	Darwin	CB200	312	E	Drop "Eq. (17.4.4.2)." The equation number is redundant.
82.	Wyllie	CB200	312	N	Again, if I use less I am not in compliance with code. Keep old words.
83.	Lui	CB200	317	N	Revise "a group of anchors" to "an anchor group"
84.	Anderson	CB200	32	A/C	. . . grouted anchors; ~~and~~ **or** power driven anchors
85.	Feldman	CB200	32	C	Punctuation as shown in incorrect. Please change the colons following "embedded end

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					of the anchors" and "grouted anchors" to commas.
86.	Anderson	CB200	322	A/C	I would suggest breaking into separate sections.
87.	Darwin	CB200	322	A	Y. Agree that section should be broken up.
88.	Wyllie	CB200	322	N	Do not consider the box.
89.	Fick	CB200	322.5	A/C	No
90.	Feldman	CB200	323	C	I'd suggest leaving this information in a single section.
91.	McGlohn	CB200	329	A/C	Same comment as item # 15.
92.	Ahlborn	CB200	334	E	It is atypical to give units for constants. Delete this line.
93.	Lui	CB200	336	N	Add "Eq. (17.x.x.x)" as required
94.	Wyllie	CB200	336	N	Do not consider the box.
95.	Meinheit	CB200	338	E	Add space after h_{ef} to separate it from the equation number
96.	Ahlborn	CB200	342	E	Replace "where" with "if"
97.	Meinheit	CB200	35	E	Revise to read: 17.2.1 Anchors and anchor groups shall be designed for critical effects of factored loads ~~as~~ ~~determined~~ calculated by elastic analysis. Reason: Including as before calculated in not necessary.
98.	Wyllie	CB200	352	N	They say the same. Why change?
99.	Wyllie	CB200	354	N	They say the same. Why change?
100.	Wyllie	CB200	354	N	Why do we need 17.1.3 when it is said here?
101.	Wyllie	CB200	358	N	"and epoxy qualification is required as well as special inspection requirements "
102.	Lui	CB200	363	N	Add "Eq. (17.x.x.x)" as required
103.	Feldman	CB200	368	N	This is awkwardly stated right not (i.e. "shall be considered in the group". Suggest rephrasing as follows: "If only some of the anchors are in tension, then the effective group used for the calculation of the eccentricity e'_N in Eq. (17.4.5.3) and for the calculation of N_{ag} according to Eq. (17.4.5.1b) shall consist only of those anchors that are in tension."
104.	Fick	CB200	37	A/C	Consider "compatibility of deformations" or "deformation compatibility" as used elsewhere in the code.
105.	Meinheit	CB200	378	A	Same comment as on line 222 (No. 8)
106.	McGlohn	CB200	387	A/C	New business: Consider adding "using the critical distance cac as defined in 17.7.7" in first paragraph since cac check applies to first equation 17.4.5.5a as well and where this is moved it only mentions 17.4.5.5b.
107.	McGlohn	CB200	392	A/C	Consider adding the plural for anchors as was done in 17.4.1.1, see item #14.

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108.	Wyllie	CB200	396	N	Again, if I use less I am not in compliance with code. Keep old words.
109.	Cook	CB200	402	N	This should be reworded to read the same as the tension section (lines 171 and 172). As currently worded, the user may decide to just use one of the two values shown and not use the actual fut. …and the value of futa shall not exceed the lesser of 1.9fya and 125,000 psi.
110.	Cook	CB200	409	N	This should be reworded to read the same as the tension section (lines 171 and 172). As currently worded, the user may decide to just use one of the two values shown and not use the actual fut. …and the value of futa shall not exceed the lesser of 1.9fya and 125,000 psi.
111.	Fick	CB200	412	A/C	Requirements here simply say "…tests performed and evaluated according to ACI 355.2". Other areas of chapter 17 state: "evaluation using the 5 percent fractile" (line 105), and "…5 percent fractile of results of tests performed and evaluated according to ACI 355.2." (line 274). Suggest using consistent wording for test and evaluation requirements.
112.	Feldman	CB200	414	N	Change to "If anchors are used with built-up grout pads, the nominal strength V_{sa} calculated in accordance with 17.5.1.2 shall be multiplied by 0.80."
113.	Wyllie	CB200	418	N	Again, if I use less I am not in compliance with code. Keep old words.
114.	Ahlborn	CB200	427	A/C	Agree with editor to break into new section.
115.	Anderson	CB200	427	A/C	I would suggest breaking into separate sections
116.	Darwin	CB200	427	A	Y. Agree that section should be broken up.
117.	Wyllie	CB200	427	N	Do not consider the box.
118.	Fick	CB200	427.5	A/C	No
119.	Feldman	CB200	429	C	I'd suggest leaving this information in a single section.
120.	Feldman	CB200	436	C	Add "of" before "at least".
121.	Wyllie	CB200	446	N	No change in words. Why change?
122.	Wyllie	CB200	45	N	This sentence now makes no sense. Design strength shall be at least equal to effects of factored loads. Factored loads are not design strength. Keep old words.
123.	Wyllie	CB200	457	N	Keep old wordings. I like the steel thickness up front rather than (d) as it make scope clearer.
124.	McGlohn	CB200	46	A/C	Consider adding the words "factored loads and combinations in 5.3
125.	Anderson	CB200	460	A/C	the lesser of Eq. (17.5.2.2b) and Eq. (17.5.2.3) provided that **(a) to (d) are satisfied:**
126.	Wyllie	CB200	47	Y	I support moving seismic effects to 17.8.
127.	Feldman	CB200	475	N	"… in accordance with 17.5.2.1 as well as in Eq. (17.5.2.1c) through 17.5.2.8 shall be…" is hard to follow as an Equation reference is placed in between a series of provisions to

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					be checked. I would instead suggest "… in accordance with 17.5.2.1 through 17.5.2.8 as well as in Eq. (17.5.2.1c) shall be the greatest of (a) through (c)."
128.	Fick	CB200	477	A/C	Suggest "…in accordance with 17.5.2.1 through 17.5.2.8 as well as in Eq. (17.5.2.1c)"
129.	Lui	CB200	486	N	Add "Eq. (17.x.x.x)" as required
130.	Wyllie	CB200	488	N	No need to change the equation to look like something new.
131.	Meinheit	CB200	49	A	19.2.3 should be 17.2.3
132.	Feldman	CB200	491	N	This is awkwardly stated right not (i.e. "shall be considered in the group". Suggest rephrasing as follows: "If the loading on an anchor group is such that only some anchors are in shear in the same direction, then the effective group for the calculation of the eccentricity e'_V in Eq. (17.5.2.5) and for the calculation of V_{cbg} according to Eq. (17.5.2.1b) shall include only those anchors that are in shear in the same direction."
133.	Meinheit	CB200	495	A	Revise to read: 17.5.2.6 The modification factor of edge effects for ~~a~~ a single ~~anchors~~ anchor of anchor groups ~~of anchors~~ loaded in shear… Reason: Suggested text did not appropriately identify a single anchor
134.	Meinheit	CB200	499	A	Same comment as on line 222 (No. 8)
135.	Lui	CB200	501	N	This does not make sense when provisions below are for both cracked and uncracked
136.	McGlohn	CB200	501	A/C	Consider adding the words," presence of cracking or no cracking in anchor regions at service load…"
137.	Wyllie	CB200	503	N	No need to change this all around. I prefer the old order better.
138.	Meinheit	CB200	510	E	Substitute: service-load levels for ~~service load levels~~
139.	Meinheit	CB200	519	N	Why is the modification factor for no cracking not in Table 17.5.2.7? Including uncracked concrete in the Table seems to be the clearest way of keeping all the $\psi_{c,V}$ factors together and easily found and identified.
140.	Fuchs	CB200	520	N	It should be made clear to the designer that this requirement is valid for the lifetime of the anchorage. Therefore the following addition is proposed: For anchors located in a region of a concrete member where analysis indicates no cracking at service load levels over service life, ψc,V
141.	Lui	CB200	525	N	Add "Eq. (17.x.x.x)" as required
142.	Lui	CB200	527	N	Revise "not be taken less than" to "be at least"
143.	Wyllie	CB200	536	N	Again, if I use less I am not in compliance with code. Keep old words.
144.	McGlohn	CB200	54	A/C	For consistency should the word "load" be deleted? sustained tension load
145.	Lui	CB200	555	N	Revise "a group of anchors" to "an anchor group"

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146.	Wyllie	CB200	567	N	Keep required, as they are.
147.	Wyllie	CB200	569	N	Keep the word minimum throughout this section. No need for all these wording changes as it says the same thing.
148.	Fick	CB200	570	A/C	A reference to the supplementary reinforcement requirements would be helpful.
149.	Feldman	CB200	597	N	Line 597: "… less than those given in 17.7.2 to 17.7.4" and Line 598: "… meets the requirements of 17.7.to 17.7" both use to between the identified provisions whereas most other instances in the document use "through". We should maintain consistency.
150.	Wyllie	CB200	606	N	Is "critical" defined? I think minimum is much clearer.
151.	Fuchs	CB200	615	A/C	The design should not be earthquake resistant but the anchorage. Therefore it is proposed to change the title of this Chapter as follows: 17.8—Earthquake-resistant Seismic design of anchors
152.	Feldman	CB200	622	N	Commas need to separate the notation from the sentence as follows: "…The pullout strength, N_t, and steel shear strength, V_{sa}, of expansion and…"
153.	Fick	CB200	626	A/C	Title is unclear. Suggest "Design requirements for earthquake-induced tension"
154.	McGlohn	CB200	63	A/C	Consider adding to table heading – "Modification factors", λa
155.	McGlohn	CB200	63	A/C	Should foot note [1] be in each line of table next to λa or delete [1] and just have a footnote?
156.	Lui	CB200	630	N	Revise "a group of anchors" to "an anchor group"
157.	McGlohn	CB200	64	A/C	Footnote 1 reference should be 19.2.4 not 5.2.4
158.	Meinheit	CB200	64	A	There is no Section 5.2.4 in ACI 318-14. What is the correct pointer?
159.	Lui	CB200	647	N	Delete "loads"
160.	Lui	CB200	657	N	Revise "a group of anchors" to "an anchor group"
161.	Lui	CB200	658	N	Revise "a group of anchors" to "an anchor group"
162.	Lui	CB200	662	N	Revise "a group of anchors" to "an anchor group"
163.	Lui	CB200	665	N	Revise "a group of anchors" to "an anchor group"
164.	Feldman	CB200	672	N	The statement preceding this list does not seem to reasonably state what this list needs to be used for (i.e. are these methods by which one can demonstrate that the concrete remains uncracked?).
165.	Lui	CB200	675	N	Revise "a group of anchors" to "an anchor group"
166.	Fick	CB200	681	A/C	Suggest "Design requirements for earthquake-induced shear"
167.	Lui	CB200	684	N	Revise "a group of anchors" to "an anchor group"
168.	Wyllie	CB200	69	N	Old words say the same thing.

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169.	Lui	CB200	701	N	Revise "a group of anchors" to "an anchor group"
170.	Ahlborn	CB200	71	E	Replace “calculation” with “calculations”
171.	Wyllie	CB200	71	N	This sentence is not clear. We need to say that strength is based on the criteria of 17.3.2 and the provisions of Sections x to y meet that criteria.
172.	Wyllie	CB200	714	N	I do not object to moving old 17.8 to Chapter 26, but we need a cross reference here, especially for upward adhesive anchors and their prequalification and special inspection requirements.
173.	Fick	CB200	72	A/C	The requirements stated are unclear. Suggestion: “Strength of anchors shall be based on calculation using design models that satisfy 17.3.2. Design for tension and shear shall consider the following failure modes:” Failure modes is the term used in 17.8.4.4.
174.	Lui	CB200	72	N	Deleting "or on test evaluation using the 5 percent…" does not make sense. See comment regarding line 105 below.
175.	McGlohn	CB200	76	A/C	Consider adding word of in front of cast-in
176.	Wyllie	CB200	99	N	I realize this is existing code, but saying tension and shear instead of the expressions is more user friendly.
177.	Wyllie	CB201	-	N	As I voted on CB200, I do not believe we need all this editing which does not change anything.
178.	Wyllie	CB201	11	N	Need to keep some history, that we added adhesive anchors in 2011 and if we make all these changes that we wordsmithed the hell out of these provisions in 201X.
179.	Feldman	CB201	117	N	Information relating to using test data is required to calculate the 5 percent fractile has been moved from 17.3.1 to 17.3.1.5. This information should therefore be moved to a new R17.3.1.5.
180.	Lui	CB201	133	N	It appears that "tension loads" and "tensile loads" should read as "tension"
181.	McGlohn	CB201	133	A/C	Consider striking “if used” to read “and provides satisfactory performance of adhesive anchors under sustained tensile loads in accordance with ACI 355.4”
182.	Lui	CB201	134	N	It appears that "tension loads" and "tensile loads" should read as "tension"
183.	Fuchs	CB201	154	A/C	CEB (1994, 1997) was replaced und updated by fib bulletin 58: 'Design of Anchorages in Concrete', guide to good practice, fib, Lausanne, 2011. Therefore It should read: CEB (1994, 1997) fib (2011), Klingner et al. (1982), ACI 349, and Eligehausen et al. (2006b) provide ….
184.	Meinheit	CB201	154	E	Need to identify which issue of ACI 349 is referenced

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					Can we reference work the Jain Zhao testing at University of Wisconsin Milwaukee?
185.	Meinheit	CB201	171	E	Change: 4 in. diameter to 4-in.diameter
186.	Meinheit	CB201	172	E	Change: 1 in. diameter to 1-in.diameter
187.	Meinheit	CB201	174	E	Change: 8 in. diameter to 8-in.diameter
188.	Fuchs	CB201	175	N	For reasons of consistency with ACI 355.4: R17.3.2.3 ACI 355.4 limits the embedment depth of adhesive anchors to 4da ≤ hef ≤ 20da, and hef ≥ 1-5/8in. which represents the theoretical limits of the bond model (Eligehausen et al. 2006a).
189.	Ahlborn	CB201	195	A/C	Reference the ACI 349-13 Code.
190.	McGlohn	CB201	215	A/C	Strike the word “for”, to read “anchors, ϕ = 0.75 if supplementary”
191.	Wyllie	CB201	215	N	Need a sentence that Conditions A and B replaced with words – no changes in provisions.
192.	Feldman	CB201	222	N	The way this is currently worded implies that the safety factor is equal to 5.3 and that the ϕ-factor is equal to 17.3.3. Suggest rephrasing as: “The use of Eq. (17.4.1.2) with the load factors provided in 5.3 and the ϕ-factors provided in 17.3.3 give design strengths consistent with AISC 360.”
193.	Meinheit	CB201	23	E	Revise to read: R17.1.32 Typical cast-in headed studs and headed bolts with head geometries consistent with ASME B1.1, ….. Reason: It is the head geometry that controls the pullout strength
194.	Lui	CB201	278	N	It appears that "tension loads" and "tensile loads" should read as "tension"
195.	McGlohn	CB201	321	N	Change the word breakout to “tensile” since this is not considered breakout strength but tensile strength of the reinforcement.
196.	Fuchs	CB201	340	N	The following additional comment is needed to avoid bending effects of the head unfavorably influencing the pull-out capacity: R17.4.3.3 The bearing area Abrg should be calculated with a width of the bearing plate or diameter of the head not exceeding 6th + da where th is the thickness of the bearing plate or head. The pullout strength in tension of headed studs or headed bolts can be increased by providing confining reinforcement, such as closely spaced spirals, throughout the head region. This increase can be demonstrated by tests.

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197.	Ahlborn	CB201	35	N	Replace “17.25” with “17.2.5”
198.	Fick	CB201	35	A/C	17.2.5 instead of 17.25.
199.	McGlohn	CB201	35	A/C	Correct 17.25 to 17.2.5
200.	McGlohn	CB201	359	A/C	New business, consider using the check value of (ca1<0.4hef), instead of (hef > 2.5ca1), since one is checking when ca1 is less than the minimum value.
201.	Fuchs	CB201	40	N	The text should be modified as follows: R17.1.3 The design performance of adhesive anchors cannot be ensured by establishing a minimum concrete compressive strength at the time of installation in early-age concrete. Therefore, a concrete age of at least 21 days at the time of adhesive anchor installation was adopted.
202.	Feldman	CB201	459	N	The first clause in this sentence should be changed to: “If the shear force originates above the plane of the concrete surface, the shear should first be resolved into that component that acts in the plane of the concrete surface.” Should the “with” that follows be changed to “acting in combination with.”
203.	Meinheit	CB201	51	E	Revise to read: R17.2.1 When if the strength of an anchor group is governed by a breakout cone breakage of concrete, the behavior …… Reason: We never talk about breakage, it is always breakout .
204.	McGlohn	CB201	550	A/C	To be consistent with changes made in line 279 change “Eq. (17.5.2.1) to “Eq. (17.5.2.1c)”
205.	Fick	CB201	560	A/C	Part of the sentence appears to be missing. Section 17.5.2.4 references 17.5.2.1 through 17.5.2.8.
206.	Lui	CB201	566	N	Revise "a group of anchors" to "an anchor group"
207.	McGlohn	CB201	575	A/C	Change the word breakout to “shear” since this is not considered breakout strength but tensile strength of the reinforcement.
208.	Ahlborn	CB201	62	A/C	Leave reference to core drill, lines 419-421 all for it.
209.	Darwin	CB201	62	A	Agree. Drop “core drill”
210.	Fuchs	CB201	62	N	'Core drilling' should not be dropped since ACI 355.4,3.2.1 (1) allows for core drilling as optional method.
211.	Wyllie	CB201	62	N	Where is core drilling not allowed?

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212.	Feldman	CB201	636	C	Research cannot indicate anything but a review of research results may indicate something. (This is obviously a pet peeve of mine.)
213.	McGlohn	CB201	686	A/C	Change the value 1.5 to "1.6" to be consistent.
214.	McGlohn	CB201	691	A/C	Consider deleting "strength of the anchor" and ending sentence with "regardless of the tensile to yield ratio".
215.	Feldman	CB201	695	C	Research cannot show anything but researchers can. 9There it is again!)
216.	Meinheit	CB201	695	E	Revise to read: Research has shown (Hoehler and Eligehausen 2008; Vitzileou and Eligehausen 1992) has have that is the steel of the anchor yields…
217.	McGlohn	CB201	703	A/C	New business. There is no reference to the stretch length figure 17.8.4.3 only when referencing the addition of leveling nuts. A good place would be in this line as "The stretch length of the anchor "(Fig. R17.8.4.3)" affects"
218.	Anderson	CB201	71	A/C	I can go either way on this. I do see where core drill is referenced later.
219.	McGlohn	CB201	718	A/C	Consider deleting the words "For option (b), as discussed in R17.2.38," and start next sentence "Care must be…" since this section is already discussing option b and the reference if for the entire section.
220.	Wyllie	CB201	72	N	Keep this sentence. We cannot say it too many times.
221.	Feldman	CB201	776	C	Should "cross-section" be hyphenated?
222.	Fick	CB201	79	A/C	"…in horizontal to upwardly inclined orientations" is unclear. Suggest "in horizontal and upwardly inclined." or "horizontal or upwardly inclined" as stated in 26.7.1
223.	Meinheit	CB201	895	E	I could not find the dashed lines in Figure 17.4.2.1(a) to compare to for this figure.
224.	Fick	CB201	921	A/C	17.5.2.8 instead of 17.52.8. Also, is it correct to reference a range that starts with a single equation and ends at a subsequent section?
225.	McGlohn	CB201	921	A/C	Use "Eq. (17.5.2.1c)" to be consistent with tension section and commentary.
226.	Wyllie	CB800	-	Y	I do not object to Chapter 17 inspection moving to Chapter 26.
227.	Wyllie	CB800	-	N	While I previously voted in favor to moving this material to Chapter 26, it is done so poorly that I change my vote to NO! Old 17.8 was so clear, this is so fragmented no one will know what to do. Rewrite!! Better yet, copy. I believe 26.7 and new parts of 26.13 should be in the same section.
228.	McGlohn	CB800	348	A/C	If item #1 (CB200) is accepted then delete reference to 17.1.3 and use only 17.1.2
229.	Fuchs	CB800	353	N	The given text is valid for all types of anchors. The following is proposed: (ed) For post-installed all types of anchors, parameters associated with the strength used for design, including anchor category, concrete strength, minimum age of concrete, and aggregate type.

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230.	Fuchs	CB800	355	N	Parameters associated with the anchorage mechanism of post—installed mechanical anchors ae not covered. The following new clause is recommended: (de) For post-installed expansion and undercut anchors, parameters associated with the resistance of the anchorage mechanism ensuring proper design in accordance with 17.4.5, including e.g. required installation torque and requirements for hole drilling and preparation. Renumber the following clauses
231.	McGlohn	CB800	360	A/C	Consider adding the word Location “and identification” of adhesive anchors for later cross referencing in inspection reports. Or just use “Identification of adhesive anchors.
232.	Wyllie	CB800	360	N	All anchors need to be located. What is important here is telling the Contractor is these anchors support sustained tension loads and that special adhesive qualifications are required and that the installation must be by specially certified installers.
233.	McGlohn	CB800	368	A/C	Same comment as for line 360
234.	Wyllie	CB800	368	N	The emphasis on location is all wrong. The emphasis should be on the testing as in ACI 318-14 17.8.2.1.
235.	Fuchs	CB800	373	A/C	Installation might not be only critical in case of adhesive anchors. Therefore the following is proposed: (a) Anchors shall be installed by qualified personnel. Adhesive anchors shall be installed by personnel trained to install adhesive anchors in accordance with the manufacturer’s product installation instructions (MPII). (b) Adhesive anchors installed in a horizontal or upwardly inclined orientation to support sustained tension loads shall be installed by certified installers. (b) Post-installed anchors shall be installed in accordance with the manufacturer’s instructions. Post installed adhesive anchors shall be installed in accordance with the Manufacturer’s Printed Installation Instructions (MPII). (c) Adhesive Post-installed anchors shall be installed in concrete having an age of at least 21 days at time of anchor installation. (d) Cast-in anchors shall be subjected up to the design load only if the age of the concrete serving as base material is at least 21 days.

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236.	McGlohn	CB800	379	A/C	Consider deleting this subsection (c) since minimum age is mentioned in line 356 under design information and if reference to 17.1.3 is maintained. Or consider adding it to 26.7.1 under design information. If considered a safeguard for installation compliance leave as is.
237.	Wyllie	CB800	602	N	This is the general section, so this should cover the scope of inspection for anchors as in ACI 318-14 17.8.2.
238.	Wyllie	CB800	602	N	I know we are to vote only on issues on anchors, but why do Inspection Reports in 26.13.2 come before what we inspect in 26.13.3? This is backwards.
239.	Lui	CB800	603	N	Revise language to be same as 17.8.2.4 “Adhesive anchors installed in horizontal or upwardly inclined orientations to resist sustained tension loads shall be continuously inspected during installation by an inspector specially approved for that purpose by the building official.”
240.	Anderson	CB800	604	A/C	I think the inspector is “specifically” approved, instead of “specially” approved.
241.	McGlohn	CB800	604	A/C	Delete the word loads to be consistent with other edits.
242.	Lui	CB800	621	C	From 17.8.2.4, the following has been lost: “The special inspector shall furnish a report to the licensed design professional and building official…” This could be new business for 26.13.2.
243.	Wyllie	CB800	634	N	This should come after Special Moment Frames, which is far more basic and important.
244.	Wyllie	CB800	634	N	And what do we inspect when adhesive anchors are installed? Does everyone know all in ACI 355.4? We need to tell them what to inspect.
245.	Wyllie	CB800	644	N	But old 17.8.2 told them what to inspect. Where do we tell them that?
246.	Lui	CB800	647	N	“including procedures and results of proof loading where required” should be in 2613.2.2. But this is probably new business.
247.	Anderson	CB801		A	
248.	Wyllie	CB801	-	N	Much of the old R.17.8 has been lost. Include all of it, as many in the concrete construction industry do not understand what is important regarding testing, design and inspection of anchors.
249.	Fuchs	CB801	473	N	Comment to proposed new clause: (de) Due to the sensitivity of the capacity of post-installed expansion and undercut anchors to installation quality, on-site quality control based on the relevant MPII is important. It should include but not be limited to the following parameters: (i) acceptable drilling methods and tools (ii) installation tools e.g. torque wrench, undercutting tool (iii) required hole cleaning procedure

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					iv) anchor type and length
250.	Fuchs	general			In the following also technical aspects are addressed which might be not necessarily part of this ballot. However, these items should not be forgotten and given the chance to be rated as 'New Business'. A further item recommended to be discussed is the inclusion of 'concrete screws' and 'post-installed torque controlled adhesive anchors' to Chapter 17.