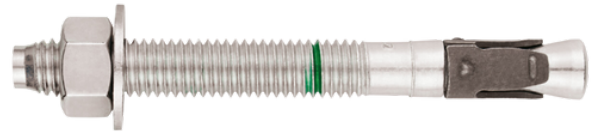


WAe-EI, Wedge Anchor, 304, Stainless Steel

Size Range

3/8" - 3/4"

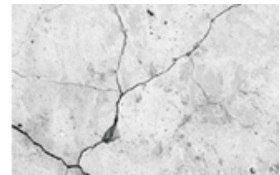


Characteristics

- > Installation by controlled torque.
- > Use for heavy-duty loads.
- > Nominal drill bit size is the same as the anchor diameter.
- > Anchor can be installed through standard fixture holes.
- > Ring marks for correct embedment depth indication: accurate installation depth.
- > Washer and nut pre-assembled.
- > Length ID code stamped on head of each anchor.
- > Anchor design allows for follow-up expansion after setting under tensile loading.
- > Suitable for static, wind and seismic loads.
- > Stainless steel AISI 304.

Base materials

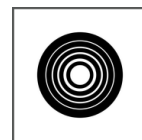
- Approved for
- > Cracked concrete
 - > Uncracked concrete



Applications

- > Structural connections, i.e.: beam and column anchorage.
- > Safety-related attachments.
- > Interior and outdoor applications.
- > Tension zone applications, i.e.: cable trays and strut, pipe supports, fire sprinklers.
- > Seismic and wind loading.
- > Indoor and outdoor structural fixings in concrete.
- > Safety barriers.
- > Fixing billboards, boilers, signals, advertising hoardings, etc.
- > Installation of sprinkler systems.

Approvals



Seismic

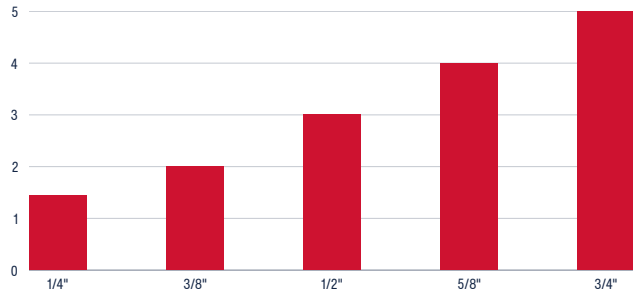


ESR-4870



AISI 304

Allowable tension loads for deep embedment depth in 2500 psi uncracked concrete with $a = 1.48$ [lb]



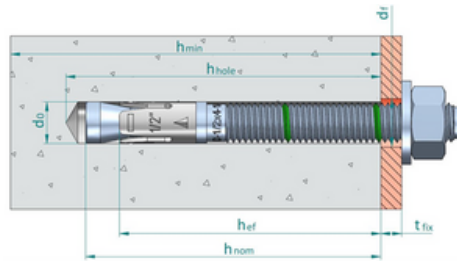
Application examples

- > Steel stairs
- > Industrial shelves
- > Facade scaffolds
- > Base plate anchorage
- > Safety elements

Range

Item	Code	Size	Photo	Components	Material
1	WAe-EI	3/8" - 3/4"		Bolt Clip Nut Washer	Stainless steel AISI 304

Installation data



Parameter	Symbol	Units	Nominal Anchor Diameter							
			3/8"	1/2	1/2	5/8"	5/8"	3/4"	3/4"	
Outside diameter	d0	in (mm)	3/8 (9.5)	1/2 (12.7)	1/2 (12.7)	5/8 (15.9)	5/8 (15.9)	3/4 (19.1)	3/4 (19.1)	
Nominal embedment depth	hnom	in (mm)	2.33 (59)	2.33 (59)	3.59 (91)	3.23 (82)	4.49 (114)	3.74 (95)	5.26 (134)	
Effective embedment depth	hef	in (mm)	2 (51)	2 (51)	3 1/4 (83)	2 3/4 (70)	4 (102)	3 1/4 (83)	4 3/4 (121)	
Minimum hole depth	hhole	in (mm)	2 5/8 (67)	2 5/8 (67)	4 (102)	3 1/2 (89)	4 3/4 (121)	4 (102)	5 3/4 (146)	
Maximum fixture clearance hole diameter	df	in (mm)	7/16 (11.1)	9/16 (14.3)	9/16 (14.3)	11/16 (17.5)	11/16 (17.5)	7/8 (22.2)	7/8 (22.2)	
Installation torque	Tinst	ft lbf (Nm)	20 (27)	45 (61)	45 (61)	80 (108)	80 (108)	150 (203)	150 (203)	
Minimum concrete thickness	hmin	in (mm)	4 (102)	4 (102)	6 (152)	5 1/2 (140)	6 1/2 (165)	6 (152)	8 (203)	
Critical edge distance	cac	in (mm)	6 1/2 (165)	6 1/2 (165)	7 1/2 (191)	7 (178)	8 1/2 (216)	9 (229)	12 (305)	
Minimum edge distance (Cmin) for edge distance (s ≥)	cmin	in (mm)	2 1/2 (64)	3 (76)	2 1/2 (64)	3 1/2 (89)	3 1/2 (89)	5 (127)	10 1/2 (267)	
	s ≥	in (mm)	6 1/2 (165)	6 (152)	6 (152)	8 (203)	6 (152)	4 (102)	5 (127)	
Minimum spacing (Smin) for edge distance (c ≥)	smin	in (mm)	2 1/2 (64)	2 3/4 (70)	2 1/2 (64)	4 1/2 (114)	4 (102)	5 (127)	4 (102)	
	c ≥	in (mm)	4 (102)	6 (152)	4 (102)	6 (142)	5 (127)	10 1/2 (267)	8 1/2 (216)	
Minimum overall anchor length	lanc	in (mm)	3 (76)	3 1/2 (89)	4 1/2 (114)	4 1/4 (108)	5 1/2 (140)	5 (127)	6 1/2 (165)	
Spanner	Sw	-	9/16	3/4		15/16		1-1/8		

For SI: 1 inch = 25.4 mm, 1 ft-lb = 1.356 Nm.

The embedment depth, hnom, is measured from the outside surface of the concrete member to the embedded end of the anchor prior to tightening. The listed minimum overall anchor length is based on anchor sizes commercially available at the time of publication compared with the requirements to achieve the minimum nominal embedment depth and possible fixture attachment.

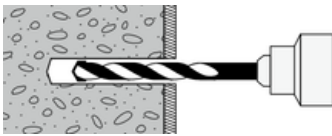
Holes in metal fixtures to be mounted should match the diameter specified in the table.

Caution: do not use impact wrench to set or tighten anchor.

Caution: oversized holes in base material will make it difficult to set the anchor and will reduce the anchors' load capacity.

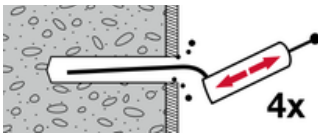
Length ID marking on stud	Units	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
Length of the anchor min ≥	in	2 1/2	3	3 1/2	4	4 1/1	5	5 1/2	6	6 1/2	7	7 1/2	8	8 1/2	9	9 1/2
Length of the anchor max >	in	3	3 1/2	4	4 1/1	5	5 1/2	6	6 1/2	7	7 1/2	8	8 1/2	9	9 1/2	10

Product installation



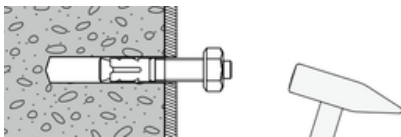
DRILLING

Drill a hole into that base material of the correct diameter and depth using a drill bit that means the requirements of ANSI B212.15.



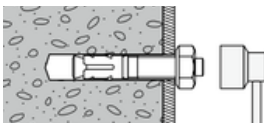
BLOW AND CLEAN

Remove dust and debris from hole using a hand pump, compressed air or a vacuum to remove loose particles left from drilling.



INSTALL

Position the washer on the anchor and thread on the nut. If installing through a fixture drive through the anchor through the fixture into the hole. Be sure the anchor is driven until the corresponding green mark depth is levelled with the base material surface. Use a hammer if necessary.



APPLY THE TORQUE

Tighten the anchor with a torque wrench by applying the required installation torque, Tins. Not: the threaded stud will draw up during tightening of the nut the expansion wedge (nut) remains in the original position. Once installed, the total length of the anchor may be checked using the letter on the head.

Installation accessories

Description	Box qty.	Image
Blow-up pump	1	
Cleaning brush	1	

Design information

Tension design information

Design characteristic	Notation	Units	Nominal anchor diameter							
			3/8"	1/2"	5/8"	3/4"	1"	1 1/4"	1 1/2"	
Nominal embedment depth	h _{nom}	in (mm)	2.33 (59)	2.33 (59)	3.59 (91)	3.23 (82)	4.49 (114)	3.74 (95)	5.26 (134)	
Anchor category	1, 2, or 3	-	1	1	1	1	1	1	1	
Steel strength in shear (ACI 318-14 17.4.1 or ACI 318-11 D.5.1)										
Minimum specified ultimate tensile strength (neck)	f _{ut}	psi (N/mm ²)	94,500 (650)	94,500 (650)	101,500 (700)	101,500 (700)	101,500 (700)	101,500 (700)	101,500 (700)	
Minimum specified yield strength (neck)	f _y	psi (N/mm ²)	81,000 (559)	81,000 (559)	87,500 (602)	87,500 (602)	87,500 (602)	87,500 (602)	87,500 (602)	
Effective tensile stress area (neck)	A _{se,N}	in ² (mm ²)	0.0614 (39.6)	0.1122 (72.4)	0.1638 (105.7)	0.1638 (105.7)	0.1638 (105.7)	0.2386 (153.9)	0.2386 (153.9)	
Steel strength in tension	N _{sa}	lb (kN)	6,229 (27.7)	11,388 (50.7)	16,627 (74.0)	16,627 (74.0)	16,627 (74.0)	24,218 (107.7)	24,218 (107.7)	
Safety factor for steel strength	φ _{sa}	-	0.75							
Pullout strength in tension (ACI 318-14 17.4.3 or ACI 318-11 D.5.3)										
Characteristic pullout strength, uncracked concrete (2,500 psi)	N _{p,uncr}	lb (kN)	3,299 (14.68)	3,723 (16.56)	6,257 (27.83)	-	9,977 (44.38)	-	-	
Characteristic pullout strength, cracked concrete (2,500 psi)	N _{p,cr}	lb (kN)	2,361 (10.50)	2,117 (9.42)	-	-	-	-	-	
Characteristic pullout strength, cracked concrete (2,500 psi), seismic	N _{p,eq}	lb (kN)	2,361 (10.50)	2,117 (9.42)	-	-	-	-	-	
Normalization exponent	Uncracked concrete	n	-	0.30	0.32	0.48	0.27	0.44	0.43	0.23
	Cracked concrete	n	-	0.45	0.50	0.49	0.50	0.50	0.27	0.47
Strength reduction factor for pullout strength in tension	φ _{cb}	-	0.65							
Pryout strength in tension (ACI 318-14 17.4.2 or ACI 318-11 D.5.2)										
Effective embedment	h _{ef}	in (mm)	2 (51)	2 (51)	3 1/4 (83)	2 3/4 (70)	4 (102)	3 1/4 (83)	4 3/4 (121)	
Effectiveness factor for uncracked concrete	K _{uncr}	-	24	24	24	24	24	27	24	
Effectiveness factor for cracked concrete	K _{cr}	-	17	17	17	21	17	21	21	
Critical edge distance	C _{ac}	in (mm)	6 1/2 (152)	6 1/2 (142)	7 1/2 (191)	7 (178)	8 1/2 (216)	9 (229)	12 (305)	
Strength reduction factor for pullout strength in tension	φ _p	-	0.65							
Axial stiffness in service load range	Uncracked concrete	β _{uncr}	lb/in (kN/mm)	99,669 (17,455)	177,031 (31,003)	45,481 (7,965)	179,362 (13,116)	74,892 (13,116)	282,916 (49,546)	209,464 (36,683)
	Cracked concrete	β _{cr}	lb/in (kN/mm)	38,385 (6,722)	70,569 (12,359)	41,385 (7,248)	71,270 (12,481)	43,709 (7,655)	154,605 (27,074)	120,824 (21,159)

For SI: 1 inch = 25.4 mm, 1 in² = 645 mm², 1 psi = 0,00689 N/mm²; 1 lb = 0,00445 kN, 1 lbf/in = 0,175 kN/mm

1. The data in this table is intended to be used with the design provisions of ACI 318-14 Chapter 17 or ACI 318 Appendix D, as applicable; for anchors resisting seismic load combinations the additional requirements of ACI 318-14 17.2.3 or ACI 318 D.3.3, as applicable, shall apply.
2. Installation must comply with published instructions and details.
3. Tabulated values for steel strength in tension are based on test results per ACI 355.2 and must be used for design.

(cont'd)

1. All values of ϕ were determined from the load combinations of IBC Section 1605.2, ACI 318-14 Section 5.3 or ACI 318-11 Section 9.2, as applicable. If the load combinations of ACI 318-11 Appendix C are used, then the appropriate value of ϕ must be determined in accordance with ACI 318-11 D.4.4. For reinforcement that meets ACI 318-14 Chapter 17 or ACI 318 Appendix D, as applicable, requirements for Condition A, see ACI 318-14 17.3.3 or ACI 318-11 D.4.3, as applicable, for the appropriate ϕ factor when the load combinations of IBC Section 1605.2, ACI 318-14 Section 5.3 or ACI 318-11 Section 9.2, as applicable, are used.
2. WAe-EI wedge anchor is considered a ductile steel element in tension as defined by ACI 318-14 2.3 or ACI 318 D.1, as applicable.
3. For concrete compressive strength greater than 2,500 psi, $N_{pn} = (\text{pullout strength value from table}) * (\text{specified concrete compressive strength} / 2500)$
4. Pullout strength does not control design of indicated anchors. Do not calculate pullout strength for indicated anchor size and embedment
5. Reported values for characteristic pullout strength in tension for seismic applications are based on test results per ACI 355.2, Section 9.5
6. Select appropriate effectiveness factor for cracked concrete (k_{cr}) or uncracked concrete (k_{ucr}).
7. Mean values shown; actual stiffness varies considerable depending on concrete strength, loading and geometry of application.
8. Anchors are permitted to be used in sand-lightweight concrete provided that N_b , N_{eq} and N_{pn} are multiplied by a factor of 0.60.

Shear design information

Design characteristic	Notation	Units	Nominal anchor diameter						
			3/8"	1/2"	5/8"	3/4"	3/4"	3/4"	3/4"
Nominal embedment depth	h _{nom}	in (mm)	2.33 (59)	2.33 (59)	3.59 (91)	3.23 (82)	4.49 (114)	3.74 (95)	5.26 (134)
Anchor category	1, 2, or 3	-	1	1			1		1
Steel strength in shear (ACI 318-14 17.4.1 or ACI 318-11 D.5.1)									
Minimum specified ultimate tensile strength (threads)	f _{uta}	psi (N/mm ²)	94,500 (650)	94,500 (650)			101,500 (700)		101,500 (700)
Minimum specified yield strength (threads)	f _y	psi (N/mm ²)	81,000 (559)	81,000 (559)			87,500 (602)		87,500 (602)
Effective tensile stress area (threads)	A _{se,V}	in ² (mm ²)	0.077 (49.7)	0.141 (91.0)	0.141 (91.0)	0.226 (145.8)	0.226 (145.8)	0.334 (215.5)	0.334 (215.5)
Steel strength in shear	V _{sa}	lb (kN)	4,007 (17.82)	4,745 (21.11)	6,617 (29.44)	10,168 (45.23)	10,168 (45.23)	14,813 (65.89)	14,813 (65.89)
Steel strength in shear, seismic (2500 psi)	V _{sa, eq}	lb (kN)	7,744 (34.45)	4,745 (21.11)	5,978 (26.59)	7,744 (34.45)	7,744 (34.45)	10,561 (46.98)	10,561 (46.98)
Safety factor for steel strength	ϕ_{sa}	-				0.65			
Concrete breakout strength in shear (ACI 318-14 17.5.2 or ACI 318-11 D.6.2)									
Nominal anchor diameter	d ₀	in (mm)	3/8 (9.5)	1/2 (12.7)	1/2 (12.7)	5/8 (15.9)	5/8 (15.9)	3/4 (19.1)	3/4 (19.1)
Load bearing length of anchor	l _e	in (mm)	2 (51)	2 (51)	3 1/4 (83)	2 3/4 (83)	4 (102)	3 1/4 (83)	4 3/4 (121)
Strength reduction factor for concrete strength in shear	ϕ_{cb}	-				0.70			
Pryout strength in shear (ACI 318-14 17.5.3 or ACI 318-11 D.6.3)									
Coefficient for pryout strength	K _{cp}	-	1.0	1.0	2.0	2.0	2.0	2.0	2.0
Effective embedment depth	h _{ef}	in (mm)	2 (51)	2 (51)	3 1/4 (83)	2 3/4 (83)	4 (102)	3 1/4 (83)	4 3/4 (121)
Reduction factor for pryout strength in shear	ϕ_{cp}	-				0.70			

For SI: 1 inch = 25.4 mm, 1 in² = 645 mm², 1 psi = 0,00689 N/mm²; 1 lb = 0,00445 kN

1. The data in this table is intended to be used with the design provisions of ACI 318-14 Chapter 17 or ACI 318 Appendix D, as applicable; for anchors resisting seismic load combinations the additional requirements of ACI 318-14 17.2.3 or ACI 318 D.3.3 shall apply, as applicable.
2. Installation must comply with published instructions and details.
3. Reported values for steel strength in shear are based on test results per ACI 355.2, Section 9.4 and shall be used for design.
4. WAe-EI is considered a ductile steel element as defined by ACI 318-14 2.3 or ACI 318-11 D.1, as applicable.
5. Reported values for steel strength in shear for seismic applications are based on test results per ACI 355.2, Section 9.6
6. All values of ϕ were determined from the load combinations of IBC Section 1605.2, ACI 318-14 Section 5.3 or ACI 318 Section 9.2. If the load combinations of ACI 318-11 Appendix C are used, then the appropriate value of Φ must be determined in accordance with ACI 318-11 D.4.4. For reinforcement that meets ACI 318-14 Chapter 17 or ACI 318-11 Appendix D, as applicable, requirements for Condition A, see ACI 318-14 17.3.3 or ACI 318-11 D.4.3, for the appropriate ϕ factor when the load combinations of IBC Section 1605.2, ACI 318-14 Section 5.3 or ACI 318 Section 9.2 are used.
7. Anchors are permitted to be used in sand-lightweight concrete provided that V_b and V_{cp} are multiplied by a factor of 0.60

Factored design strength calculated in accordance with ACI 318-14:

1. Tabular values are provided for illustration and are applicable for single anchors installed in normal weight concrete with minimum slab thickness, $h_a = h_{min}$, and with the following conditions:
 - a. Ca_1 is greater than or equal to the critical edge distance, Ca_c (table values based on $Ca_1 = Ca_c$).
 - b. Ca_2 is greater than or equal to 1.5 times Ca_1 .
2. Calculations were performed according to ACI 318-14. The load level corresponding to the controlling failure mode is listed. (e.g. For tension: steel, concrete breakout and pullout; For shear: steel, concrete breakout and pryout). Furthermore, the capacities for concrete breakout strength in tension and pryout strength in shear are calculated using the effective embedment values, h_{ef} , for the selected anchors as noted in the design information tables. Please also reference the installation specifications for more information.
3. Strength reduction factors (Φ) were based on ACI 318-14 section 17.3.3 for load combinations. Condition B is assumed. Condition B is applied where supplementary reinforcement is not supplied.
4. Tabular values are permitted for static loads only, seismic loading is not considered with these tables.
5. For designs that include combined tension and shear, the interaction of tension and shear loads must be calculated in accordance with ACI 318-14 section 17.6.
6. Interpolation is not permitted to be used with the tabular values. For intermediate base material compressive strengths please see ACI 318-14. For other design conditions including seismic considerations please see ACI 318-14.

Tension and shear design strengths for WAe-EI cracked concrete

Minimum concrete compressive strength

Nominal anchor diameter (in.)	Nominal embed. (in.)	f = 2,500 psi		f = 3,000 psi		f = 4,000 psi		f = 6,000 psi		f = 8,000 psi	
		ØN Tension (lbs.)	ØV Shear (lbs.)	ØN Tension (lbs.)	ØV Shear (lbs.)	ØN Tension (lbs.)	ØV Shear (lbs.)	ØN Tension (lbs.)	ØV Shear (lbs.)	ØN Tension (lbs.)	ØV Shear (lbs.)
3/8	2.33	1,535	1,683	1,666	1,844	1,896	2,129	2,276	2,605	2,590	2,605
1/2	2.33	1,376	1,683	1,507	1,844	1,741	2,129	2,132	2,607	2,462	3,010
	3.59	3,237	4,301	3,546	4,301	4,095	4,301	5,105	4,301	5,791	4,301
5/8	3.23	2,520	5,427	2,760	5,945	3,187	6,609	3,903	6,609	4,507	6,609
	4.49	4,420	6,609	4,842	6,609	5,591	6,609	6,847	6,609	7,907	6,609
3/4	3.74	3,999	8,613	4,380	9,435	5,058	9,628	6,195	9,628	7,153	9,628
	5.26	5,720	9,628	6,266	9,628	7,235	9,628	8,861	9,628	10,232	9,628
Colour code:		Pullout blue		Concrete / pryout green				Steel red			

Tension and shear design strengths for WAe-EI uncracked concrete

		Minimum concrete compressive strength									
		f = 2,500 psi		f = 3,000 psi		f = 4,000 psi		f = 6,000 psi		f = 8,000 psi	
Nominal anchor diameter (in.)	Nominal embed. (in.)	ØN Tension (lbs.)	ØV Shear (lbs.)	ØN Tension (lbs.)	ØV Shear (lbs.)	ØN Tension (lbs.)	ØV Shear (lbs.)	ØN Tension (lbs.)	ØV Shear (lbs.)	ØN Tension (lbs.)	ØV Shear (lbs.)
3/8	2.33	2,144	2,376	2,265	2,603	2,469	2,605	2,788	2,605	3,040	2,605
1/2	2.33	2,206	2,376	2,417	2,603	2,791	3,005	3,202	3,084	3,511	3,084
	3.59	4,067	4,301	4,439	4,301	5,096	4,301	6,191	4,301	7,108	4,301
5/8	3.23	3,557	6,609	3,897	6,609	4,499	6,609	5,511	6,609	6,363	6,609
	4.49	6,240	6,609	6,836	6,609	7,893	6,609	9,532	6,609	10,819	6,609
3/4	3.74	4,570	9,628	5,006	9,628	5,781	9,628	7,080	9,628	8,175	9,628
	5.26	8,075	9,628	8,846	9,628	10,214	9,628	12,510	9,628	14,445	9,628
Colour code:		Pullout blue				Concrete / pryout green				Steel red	

Converted allowable loads for WAE-EI

Tables shown before provide design information for load factor and characteristic resistance (LRFD), however allowable stress design (ASD) is still in use by some users. Translation of LRFD to ASD values is possible, however it is dependent on the levels of dead load and live load. Dead load is defined in the ACI 318 Building Code Requirements for Structural Concrete as "the weights of members, supported structure and permanent attachments that are likely to be present on a structure in service". Live load is defined in ACI 318-14 as "load that is not permanently applied to a structure, but is likely to occur during the service life of the structure (excluding environmental loads)". Examples of live loads are traffic on a walkway and non-permanent loads associated with usage of a structure. Live load values are stipulated in the building code for various loading conditions and parts of structures.

To facilitate the translation of LRFD characteristic values to ASD values, a scenario of dead load and live load level is used to conservatively address the most common application as follows: 30% dead load; 70% live load. ACI 318-14 Equation (5.3.1b) provides a conversion factor of 1,48 which is divided into the LRFD characteristic resistances and multiplied by a ϕ factor (according to the failure type) to determine an equivalent ASD load.

It is the responsibility of the user to select the appropriate ASD values based on the example loadings shown in this document or alternative dead versus live loading that may be applicable to the specific design.

The ASD values are provided in the following tables for tension and shear for different concrete strengths. Other installation and design provisions must be followed.

Converted allowable loads for WAE-EI in cracked concrete

Minimum concrete compressive strength

Nominal anchor diameter (in.)	Nominal embed. (in.)	f = 2,500 psi		f = 3,000 psi		f = 4,000 psi		f = 6,000 psi		f = 8,000 psi	
		T allowable ASD Tension (lb)	T allowable ASD Shear (lb)	T allowable ASD Tension (lb)	T allowable ASD Shear (lb)	T allowable ASD Tension (lb)	T allowable ASD Shear (lb)	T allowable ASD Tension (lb)	T allowable ASD Shear (lb)	T allowable ASD Tension (lb)	T allowable ASD Shear (lb)
3/8	2.33	1,137	1,137	1,126	1,246	1,281	1,438	1,538	1,760	1,750	1,760
1/2	2.33	930	1,137	1,019	1,246	1,176	1,438	1,440	1,762	1,663	2,034
	3.59	2,187	2,906	2,396	2,906	2,767	2,906	3,388	2,906	3,913	2,906
5/8	3.23	1,702	3,677	1,865	4,017	2,153	4,466	2,637	4,466	3,045	4,466
	4.49	2,986	4,466	3,272	4,466	3,778	4,466	4,627	4,466	5,342	4,466
3/4	3.74	2,702	5,819	2,960	6,375	3,418	6,506	4,186	6,506	4,833	6,506
	5.26	3,865	6,506	4,234	6,506	4,888	6,506	5,987	6,506	6,913	6,506

1. Allowable load values are calculated using a conversion factor, α , from factored design strengths.

2. Tabulated allowable load values assume 30% dead load and 70% live load, with controlling load combination 1,2D + 1,6L. Calculated weighted average for the conversion factor, $\alpha = 1,2*(0,3) + 1,6*(0,7) = 1,48$.

Converted allowable loads for WAe-EI in uncracked concrete

Minimum concrete compressive strength

Nominal anchor diameter (in.)	Nominal embed. (in.)	f = 2,500 psi		f = 3,000 psi		f = 4,000 psi		f = 6,000 psi		f = 8,000 psi	
		T allowable ASD Tension (lb)	T allowable ASD Shear (lb)	T allowable ASD Tension (lb)	T allowable ASD Shear (lb)	T allowable ASD Tension (lb)	T allowable ASD Shear (lb)	T allowable ASD Tension (lb)	T allowable ASD Shear (lb)	T allowable ASD Tension (lb)	T allowable ASD Shear (lb)
3/8	2.33	1,449	1,605	1,530	1,759	1,668	1,760	1,884	1,760	2,054	1,760
1/2	2.33	1,491	1,605	1,633	1,759	1,886	2,031	2,164	2,084	2,372	2,084
	3.59	2,748	2,906	2,999	2,906	3,443	2,906	4,183	2,906	4,803	2,906
5/8	3.23	2,403	4,466	2,633	4,466	3,040	4,466	3,723	4,466	4,299	4,466
	4.49	4,216	4,466	4,619	4,466	5,333	4,466	6,441	4,466	7,310	4,466
3/4	3.74	3,088	6,506	3,383	6,506	3,906	6,506	4,784	6,506	5,524	6,506
	5.26	5,456	6,506	5,977	6,506	6,901	6,506	8,452	6,506	9,760	4,466

1. Allowable load values are calculated using a conversion factor, α , from factored design strengths.
 2. Tabulated allowable load values assume 30% dead load and 70% live load, with controlling load combination 1,2D + 1,6L. Calculated weighted average for the conversion factor, $\alpha = 1,2*(0,3) + 1,6*(0,7) = 1,48$.