



SIMPSON STRONG-TIE COMPANY INC.
5956 West Las Positas Boulevard
Pleasanton, California 94588
(800) 999-5099
www.strongtie.com

STRONG-BOLT® 2 WEDGE ANCHORS IN MASONRY

CSI Division:
04 00 00—MASONRY
CSI Section:
04 05 19.16—Masonry Anchors

1.0 SCOPE OF EVALUATION

1.1 Compliance with the following codes & regulations:

- 2021, 2018, 2015, 2012, and 2009 International Building Code® (IBC)
- 2021, 2018, 2015, 2012, and 2009 International Residential Code® (IRC)
- 2023 City of Los Angeles Building Code (LABC) – attached Supplement
- 2023 City of Los Angeles Residential Code (LARC) – attached Supplement

1.2 Evaluated in accordance with:

- ICC-ES AC01

1.3 Properties assessed:

- Structural

2.0 PRODUCT USE

Simpson Strong-Tie® Strong-Bolt® 2 Wedge Anchors are expansion anchors used to resist static, wind, and seismic tension and shear loads in fully grouted uncracked, concrete masonry unit (CMU) construction.

Strong-Bolt 2 wedge anchors are alternatives to cast-in-place anchors described in Section [2107](#) of the IBC, and both Chapters 6 and 8 of 2016 and 2013 [TMS 402/ACI 530/ASCE 5](#), and Chapters 1 and 2 of 2011 and 2008 [TMS 402/ACI 530/ASCE 5](#), as applicable. Anchors are permitted to be used in structures regulated by the IRC, provided an engineered design is submitted in accordance with IRC Section [R301.1.3](#).

3.0 PRODUCT DESCRIPTION

3.1 Strong-Bolt 2

3.1.1 General: Strong-Bolt 2 wedge anchors are torque-controlled, mechanical expansion anchors consisting of an anchor body, expansion clip, nut, and washer. A typical anchor is shown in [Figure 1](#) of this report. The anchor body has a tapered mandrel formed on the installed end of the anchor and a threaded section at the opposite end. The taper of the mandrel increases in diameter toward the installed end of the anchor. The three-segment expansion clip wraps around the tapered mandrel. Before installation, this expansion clip is free to rotate about the mandrel. The anchor is installed in a predrilled hole. When the anchor is set by applying torque to the hex nut, the mandrel is drawn into the expansion clip, which engages the drilled hole and transfers the load to the base material.

3.1.2 Strong-Bolt 2 Carbon Steel: Anchor bodies are manufactured from carbon steel material with zinc plating conforming to [ASTM B633](#), Service Condition SC1 (Fe/Zn 5), Type III. Expansion clips are fabricated from carbon steel and conform to [ASTM A568](#). Hex nuts conform to [ASTM A563](#), Grade A. Washers conform to [ASTM F844](#). Anchor diameters recognized in this report are 1/4-inch, 3/8-inch, 1/2-inch, 5/8-inch, and 3/4-inch (6.4 mm, 9.5 mm, 12.7 mm, 15.9 mm, and 19.1 mm).

3.2 Materials

3.2.1 Grout-filled Concrete Masonry: When prism tests are required, the compressive strength of masonry, f'_m , at 28 days shall be a minimum of 1,500 psi (10.3 MPa). Concrete masonry shall be fully grouted and constructed from the following materials:

3.2.1.1 Concrete Masonry Units (CMUs): CMUs shall be lightweight, medium-weight, or normal-weight conforming to [ASTM C90](#). The minimum allowable nominal size of the CMU shall be 8 inches (203 mm) wide by 8 inches (203 mm) high by 16 inches (406 mm) long (i.e., 8×8×16).

3.2.1.2 Grout: Grout shall comply with IBC Section [2103.3](#) or IRC Section [R606.2.12](#) (2021 and 2018 IRC), [R606.11](#) (2015 IRC), or [R609](#) (2012 and 2009 IRC), as applicable. Alternatively, the grout shall have a minimum compressive strength when tested in accordance with [ASTM C1019](#) equal to its specified strength, f'_g , but not less than 2,000 psi (13.8 MPa).

The product described in this Uniform Evaluation Service (UES) Report has been evaluated as an alternative material, design or method of construction in order to satisfy and comply with the intent of the provision of the code, as noted in this report, and for at least equivalence to that prescribed in the code in quality, strength, effectiveness, fire resistance, durability and safety, as applicable, in accordance with IBC Section 104.11. This document shall only be reproduced in its entirety.





3.2.1.3 Mortar: Mortar shall be minimum Type N in compliance with IBC Section [2103.2](#) or IRC Section [R606.2.8](#) (2021 and 2018 IRC), [R606.2.7](#) (2015 IRC), or [R607.1](#) (2012 and 2009 IRC), as applicable.

4.0 DESIGN AND INSTALLATION

4.1 Design

4.1.1 General: Strong-Bolt® 2 wedge anchor capacities in this report are allowable load values for use in allowable stress design as set forth in Section 2107 of the IBC. For use under the IRC, an engineered design in accordance with IRC Section R301.1.3 shall be submitted to the building official for approval.

4.1.2 Design of Strong-Bolt 2 Wedge Anchors Installed in Fully Grouted Concrete Masonry: For installations in fully grouted uncracked concrete masonry, Strong-Bolt 2 wedge anchors are recognized to resist dead, live, wind, and earthquake loads.

Allowable tension and shear capacity values, embedment depths, critical and minimum edge, and end distances, and critical and minimum spacing requirements for anchors installed in fully-grouted concrete masonry unit construction are noted in [Table 2](#) of this report. Allowable load reduction factors for anchors installed at distances less than critical edge distance or critical spacing are noted in [Table 3](#) of this report. Allowable loads for anchors installed within 1¼ inches (31.7 mm) of the vertical head joint between CMUs of the concrete masonry unit construction are outside the scope of this report. [Figures 2](#) and [3](#) of this report provide additional details.

Allowable loads for the Strong-Bolt 2 wedge anchors installed in fully-grouted concrete masonry subjected to combined tension and shear forces shall be determined by the following equation:

$$\left(\frac{P_s}{P_t}\right)^{5/3} + \left(\frac{V_s}{V_t}\right)^{5/3} \leq 1.0$$

where:

- P_s = Applied service tension load.
- P_t = Allowable service tension load.
- V_s = Applied service shear load.
- V_t = Allowable service shear load.

4.2 Installation: Installation parameters are provided in [Table 2](#) and in [Figures 2](#) and [3](#) of this report. Anchor locations shall comply with this report and the plans and specifications approved by the building official. Strong-Bolt 2 wedge anchors shall be installed in accordance with the manufacturer’s published instructions and this report. Anchors shall be installed in holes drilled into the base

material using carbide-tipped drill bits conforming to [ANSI B212.15](#). Nominal drill bit diameters shall be equal to the nominal diameter of the anchors and holes shall be drilled to a depth allowing proper embedment. Drilled holes shall be cleaned, with all dust and debris removed using compressed air. Anchors, nuts, and washers shall be assembled so that the tops of the nuts are flushed with the top of the anchors. Anchors shall be driven into the hole using a hammer until the proper embedment depth is achieved. Nuts and washers shall be tightened against the base material or material to be fastened until the appropriate installation torque value specified in [Table 2](#) of this report is achieved.

4.3 Special Inspection:

4.3.1 Structural Observations: Structural Observations shall be provided where required in 2021, 2018, and 2015 IBC Section 1704.6, or 2012 IBC Section 1704.5, or 2009 IBC Section 1710.

4.3.2: 2021 and 2018 IBC: Continuous special inspection shall be performed in accordance with Sections 1704 and 1705 of the IBC. Quality assurance shall conform to Level 2 or Level 3, depending on the Risk Category and Design chapter, as set forth in TMS 402 and TMS 602.

4.3.3 2015 and 2012 IBC: Special inspection is required in accordance with IBC Sections 1705.4 (2015 IBC), or [1705.3](#) (2012 IBC). Quality assurance shall conform to Level A, Level B, or Level C, depending on the Risk Category and Design chapter, as set forth in TMS 402 and TMS 602.

4.3.4 2009 IBC: Special inspection is required in accordance with IBC Section [1704.5](#). Quality Assurance shall be in accordance with Level 1 or Level 2, depending on the Occupancy Category and design chapter, under Section [1704.5](#) of the IBC.

4.3.5 Duties: The special inspector shall make inspections during anchor installation as often as required by Section 4.3.2, Section 4.3.3, or Section 4.3.4 of this report to verify anchor type, anchor dimensions, masonry unit type and compliance with ASTM C90; grout and mortar compressive strengths, and (when required) masonry prism compressive strength; drill bit size and compliance with ANSI B212.15; and anchor type, size, embedment depth, spacing, edge distance, and end distance. The special inspector shall inspect and verify that the anchor installation complies with this evaluation report and the manufacturer’s published installation instructions. Additional requirements as set forth in Sections 1704, 1705, 1706, and 1707 of the IBC shall be observed, where applicable.



5.0 LIMITATIONS

Strong-Bolt 2 wedge anchors described in this report comply with, or are a suitable alternative to what is specified in, those codes listed in Section 1.1 of this report, subject to the following limitations:

5.1 Anchors are identified and installed in accordance with this report, the codes listed in Section 1.1 of this report, and the manufacturer’s published installation instructions. Where conflicts occur, the more restrictive governs.

5.2 Design of Strong-Bolt® 2 wedge anchors installed in fully grouted concrete masonry unit construction to resist dead, live, wind, and earthquake load applications shall be in accordance with Section 4.1 of this report.

5.3 When using the alternative allowable stress design (basic) load combinations from Section 1605.2 of the 2021 IBC or Section 1605.3.2 of the 2018, 2015, 2012, or IBC that include wind or earthquake loads, the allowable tension and shear loads given in Table 2 for Strong-Bolt® 2 wedge anchors installed in fully grouted concrete masonry may be adjusted in accordance with Table 1 of this report.

5.4 Anchors shall be installed in accordance with Section 4.2 of this report, and the holes for the anchors shall be predrilled with carbide-tipped masonry drill bits complying with ANSI B212.15, and have the same diameter as the nominal diameter of the anchor.

5.5 Since an acceptance criteria for evaluating data to determine the performance of anchors subjected to fatigue or shock loading is unavailable at this time, the use of these anchors under these conditions is outside the scope of this report.

5.6 Fire-resistance-rated Construction: Where not otherwise prohibited in the applicable code, anchors are permitted for use with fire-resistance-rated construction provided that at least one of the following conditions is fulfilled:

- Anchors are used to resist wind or seismic forces only.
- Anchors that support fire-resistance-rated construction or gravity load-bearing structural elements are within a fire-resistance-rated envelope or a fire-resistance-rated membrane, are protected by approved fire-resistance-rated materials, or have been evaluated for resistance to fire exposure in accordance with recognized standards.
- Anchors are used to support nonstructural elements.

5.7 Since acceptance criteria for evaluating the performance of expansion anchors in cracked masonry are unavailable at

this time, the use of anchors is limited to installation in uncracked masonry. Cracking occurs when $f_i > f_r$ due to service loads or deformations.

5.8 Calculations demonstrating that the applied loads are less than the allowable loads described in this report shall be submitted to the building official at the time of permit application. Calculations shall be prepared by a registered design professional where required by the statutes of the jurisdiction in which the project is to be constructed.

5.9 Special inspection shall be provided in accordance with Section 4.3 of this report.

5.10 Use of zinc-plated anchors is limited to dry, interior locations.

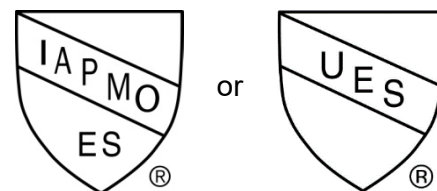
5.11 Strong-Bolt® 2 wedge anchors are manufactured by Simpson Strong-Tie under a quality control program.

6.0 EVIDENCE SUBMITTED

Testing and analytical data in accordance with the ICC-ES Acceptance Criteria for Expansion Anchors in Masonry Elements (AC01), approved March 2018, editorially revised December 2020. Test reports are from laboratories in compliance with ISO/IEC 17025.

7.0 IDENTIFICATION

Simpson Strong-Tie Company Inc., Strong-Bolt® 2 wedge anchors are identified in the field by dimensional characteristics and packaging. The packaging label notes the name and address of Simpson Strong-Tie Company Inc.; the manufacturing location; the anchor type, size, and length; and the IAPMO UES evaluation report number (ER-240). The threaded end of each Strong-Bolt 2 wedge anchor is stamped with a length identification code letter as indicated in Table 4 of this report. Either IAPMO UES Mark of Conformity below may also be used.



IAPMO UES ER-240

For additional information about this evaluation report please visit www.uniform-es.org or email at info@uniform-es.org



FIGURE 1—STRONG-BOLT® 2 WEDGE ANCHOR

TABLE 1—PERCENT ALLOWABLE LOAD INCREASE FOR WIND AND EARTHQUAKE LOADING CONDITIONS^{1,2}

ANCHOR	SUBSTRATE	PERCENT ALLOWABLE LOAD INCREASE FOR SHORT-TERM LOADING CONDITIONS	
		Tension	Shear
Strong-Bolt® 2 Wedge Anchor	Fully Grouted CMU	33 ¹ / ₃	33 ¹ / ₃

¹ When using the basic or alternative load combinations for allowable stress design in accordance with 2021 IBC Section [1605.1](#) ([ASCE 7-16](#) Section 2.4) or 2018, 2015, or 2012 IBC Sections 1605.3.1 and 3.2, or basic load combinations for allowable stress design in accordance with 2009 IBC Section 1605.3.1, allowable loads shall not be increased for wind or earthquake loading.

² When using the alternative basic load combinations for allowable stress design in 2009 IBC Section 1605.3.2 that include wind or earthquake loads, the allowable shear and tension loads for anchors may be increased by the tabulated percentage increases. Instead of increasing the allowable loads, the alternative basic load combinations for allowable stress design may be reduced by 0.75 when using 2009 IBC Section 1605.3.2, as applicable.



TABLE 2—ALLOWABLE TENSION AND SHEAR LOADS FOR THE STRONG-BOLT® 2 WEDGE ANCHORS INSTALLED IN FULLY GROUTED CMU CONSTRUCTION^{1,2,3}

ANCHORS INSTALLED IN THE FACE OF FULLY GROUTED CMU CONSTRUCTION										
ANCHOR DIAMETER (in.)	EMBEDMENT DEPTH ⁴ (in.)	INSTALLATION TORQUE (ft.-lbf.)	ANCHOR LOCATION ^{5,6} (inches)				ALLOWABLE LOADS FOR ANCHORS INSTALLED AT DISTANCES ≥ CRITICAL EDGE DISTANCE, <i>C_{crit}</i> , AND CRITICAL SPACING, <i>S_{crit}</i> (lbf.)			
			Edge / End Distance		Spacing		Tension ^{5,7}	Shear ^{5,7}		
			Critical, <i>C_{crit}</i>	Minimum, <i>C_{min}</i>	Critical, <i>S_{crit}</i>	Minimum, <i>S_{min}</i>				
1/4	1 3/4	4	12	2	8	4	230	300		
3/8	2 5/8	20	12	4	8	4	435	775		
1/2	3 1/2	35	12	4	8	4	530	1,010		
5/8	4 3/8	55	20	4	8	4	890	1,765		
3/4	5 1/4	100	20	4	8	4	1,050	2,490		
ANCHORS INSTALLED IN THE TOP OF FULLY GROUTED CMU CONSTRUCTION										
ANCHOR DIAMETER (in.)	EMBEDMENT DEPTH ⁹ (in.)	INSTALLATION TORQUE (ft.-lbf.)	ANCHOR LOCATION ⁸ (inches)					ALLOWABLE LOADS FOR ANCHORS INSTALLED AT DISTANCES ≥ CRITICAL END DISTANCE, <i>C_{crit}</i> , CRITICAL SPACING, <i>S_{crit}</i> , MINIMUM EDGE DISTANCE, <i>C_{edge}</i> (lbf.)		
			End Distance		Spacing		Edge Distance	Tension ^{7,8}	Shear Perpendicular to Wall ^{7,8}	Shear Parallel to Wall ^{7,8}
			Critical, <i>C_{crit}</i>	Minimum, <i>C_{min}</i>	Critical, <i>S_{crit}</i>	Minimum, <i>S_{min}</i>	Minimum, <i>C_{edge}</i>			
1/2	3 1/2	35	12	4	8	4	1 3/4	415	235	670
5/8	4 3/8	55	12	4	8	4	1 3/4	640	275	770

For SI: 1 inch = 25.4 mm, 1 psi = 6.89 kPa, 1 lbf = 4.48 N.

¹ Tabulated loads are for anchors installed in fully grouted CMU wall construction consisting of materials in compliance with [Section 3.2](#) of this report. The specified compressive strength of masonry, *f_m*, at 28 days shall be a minimum of 1,500 psi.

² Allowable loads are based on periodic special inspections being provided during anchor installation. Special inspection requirements shall comply with [Section 4.3](#) of this report.

³ Allowable loads may be increased in accordance with [Section 5.3](#) and [Table 1](#) of this report, or where permitted by the IBC or its referenced standards.

⁴ Embedment depth is measured from the outside face of the masonry to the end of the mandrel.

⁵ Critical and minimum edge distances and critical and minimum spacing shall comply with this table. [Figure 2](#) of this report illustrates permitted and prohibited anchor positions. Critical edge distance and critical spacing are valid for anchors resisting the tabulated allowable tension or shear loads. [Table 3](#) of this report tabulates allowable tension and shear load reduction factors for anchors installed between critical and minimum edge distances and spacing.

⁶ Anchors shall be installed a minimum of 1 1/4 inches from vertical head joints and T-joints. [Figure 2](#) of this report illustrates permitted and prohibited anchor installation positions. [Section 4.2](#) of this report provides additional installation details.

⁷ The tabulated allowable loads are based on a factor of safety of five (5).

⁸ Critical and minimum end distances, critical and minimum spacing, and minimum edge distance shall comply with this table and [Figure 3](#) of this report. Critical end distance and critical spacing are valid for anchors resisting the tabulated allowable tension or shear loads. [Table 3](#) of this report contains allowable tension and shear load reduction factors for anchors installed between critical and minimum end distances and spacing.

⁹ Embedment depth is measured from the top of the masonry wall to the end of the mandrel.



TABLE 3—LOAD REDUCTION FACTORS FOR STRONG-BOLT® 2 WEDGE ANCHORS INSTALLED IN FULLY GROUTED CMU CONSTRUCTION^{1,2,3}

ANCHORS INSTALLED IN THE FACE OF FULLY GROUTED CMU CONSTRUCTION							
ANCHOR DIAMETER (in.)	EMBEDMENT DEPTH ⁴ (in.)	Edge Distance			Spacing		
		Critical Edge Distance, <i>C_{crit}</i>	Minimum Edge/End Distance, <i>C_{min}</i>		Critical Spacing Distance, <i>S_{crit}</i>	Minimum Spacing, <i>S_{min}</i>	
			Tension or Shear	Tension		Shear	Tension or Shear
1/4	1 3/4	1.0	1.0	0.88	1.0	1.0	1.0
3/8	2 5/8	1.0	1.0	0.71	1.0	1.0	1.0
1/2	3 1/2	1.0	1.0	0.60	1.0	0.93	1.0
5/8	4 3/8	1.0	1.0	0.36	1.0	0.86	1.0
3/4	5 1/4	1.0	0.97	0.28	1.0	0.80	1.0

ANCHORS INSTALLED IN THE TOP OF FULLY GROUTED CMU CONSTRUCTION									
ANCHOR DIAMETER (in.)	EMBEDMENT DEPTH ⁵ (in.)	End Distance				Spacing			Minimum Edge Distance, <i>C_{edge}</i>
		Critical End Distance, <i>C_{crit}</i>	Minimum End Distance, <i>C_{min}</i>			Critical Spacing Distance, <i>S_{crit}</i>	Minimum Spacing, <i>S_{min}</i>		
			Tension or Shear	Tension	Shear Perp. To Wall		Shear Parallel to Wall	Tension or Shear	Tension
1/2	3 1/2	1.0	1.0	0.90	0.53	1.0	0.93	1.0	1.0
5/8	4 3/8	1.0	1.0	0.83	0.50	1.0	0.86	1.0	1.0

For SI: 1 inch = 25.4 mm.

¹ The load reduction factors in this table apply to the allowable loads shown in Table 2 of this report.

² Reduction factors are cumulative. Multiple reduction factors for more than one spacing or edge distance are calculated separately and multiplied together.

³ Load reduction factors for anchors loaded in tension or shear with edge distances, end distances, and spacing between critical and minimum are obtained by linear interpolation.

⁴ Embedment depth is measured from the outside face of the masonry to the end of the mandrel.

⁵ Embedment depth is measured from the top of the masonry wall to the end of the mandrel.

TABLE 4—LENGTH IDENTIFICATION HEAD MARKS ON STRONG-BOLT® 2 WEDGE ANCHORS (CORRESPONDS TO LENGTH OF ANCHOR – INCHES)

Mark	Units	A	B	C	D	E	F	G	H	I	J	K	L	M
From	in	1 1/2	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6	6 1/2	7	7 1/2
Up to But Not Including	in	2	2 1/2	3	3 1/2	4	4 1/2	5	5 1/2	6	6 1/2	7	7 1/2	8

Mark	Units	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
From	in	8	8 1/2	9	9 1/2	10	11	12	13	14	15	16	17	18
Up to But Not Including	in	8 1/2	9	9 1/2	10	11	12	13	14	15	16	17	18	19

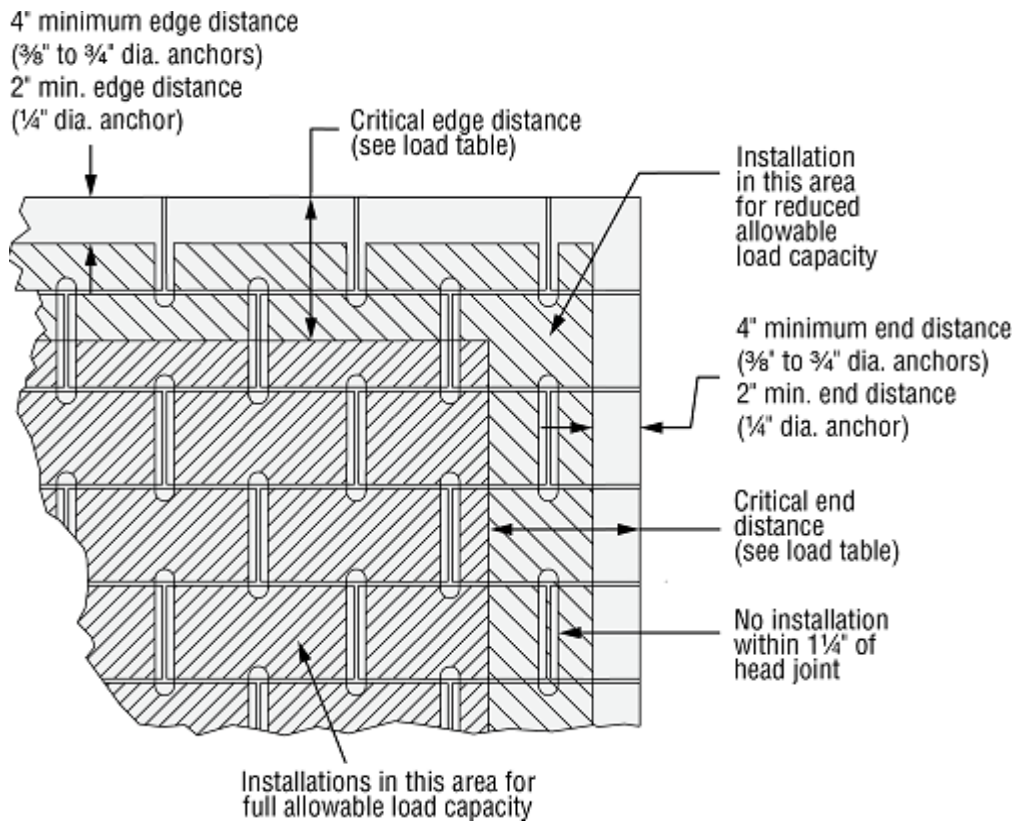


FIGURE 2—STRONG-BOLT® 2 WEDGE ANCHOR INSTALLED IN THE FACE OF FULLY GROUTED CMU CONSTRUCTION

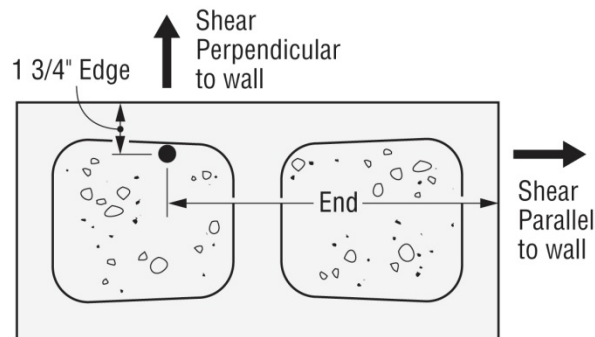


FIGURE 3—STRONG-BOLT® 2 WEDGE ANCHOR INSTALLED IN THE TOP OF FULLY GROUTED CMU CONSTRUCTION



CITY OF LOS ANGELES SUPPLEMENT

SIMPSON STRONG-TIE COMPANY INC.
5956 West Las Positas Boulevard
Pleasanton, California 94588
(800) 999-5099
www.strongtie.com

STRONG-BOLT® 2 WEDGE ANCHORS IN MASONRY

CSI Division:

04 00 00—MASONRY

CSI Section:

04 05 19.16—Masonry Anchors

1.0 RECOGNITION

The Simpson Strong-Tie® Strong-Bolt® 2 Wedge Anchors recognized in ER-240 have been evaluated for use to resist dead, live, wind, and seismic tension and shear loads in fully grouted uncracked, concrete-masonry unit (CMU) construction. The structural performance properties of the Simpson Strong-Tie® Strong-Bolt® 2 Wedge Anchors were evaluated for compliance with the following codes:

- 2023 City of Los Angeles Building Code (LABC)
- 2023 City of Los Angeles Residential Code (LARC)

2.0 LIMITATIONS

The Simpson Strong-Tie® Strong-Bolt® 2 Wedge Anchors described in IAPMO UES ER-240 comply with the 2023 LABC Chapter 21 and 2023 LARC subject to the following limitations:

2.1 The design, installation, conditions of use, and identification of the Simpson Strong-Tie® Strong-Bolt® 2 Wedge Anchors shall be in accordance with the 2021 International Building Code and the 2021 International Residential Code as noted in ER-240.

2.2 Prior to installation, calculations and details demonstrating compliance with this approval report and the 2023 LABC or 2023 LARC shall be submitted to the structural plan check section for review and approval. The calculations and details shall be prepared, stamped, and signed by a California registered design professional.

2.3 The design, installation, and inspection of the Simpson Strong-Tie® Strong-Bolt® 2 Wedge Anchors shall be in accordance with 2023 LABC Chapters 16 and 17, as applicable, due to local amendments to these chapters; or 2023 LABC Section 2114, as applicable.

2.4 Periodic special inspection shall be provided by the Registered Deputy Inspector in accordance with Section 1705 of the 2023 LABC during installations of the Simpson Strong-Tie® Strong-Bolt® 2 Wedge Anchors.

2.5 Under the 2023 LARC, a design in accordance with Section R301.1.3 shall be submitted.

2.6 The Simpson Strong-Tie® Strong-Bolt® 2 Wedge Anchors are not approved for unreinforced masonry walls.

2.7 This supplement expires concurrently with ER-240.

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org



FLORIDA SUPPLEMENT

SIMPSON STRONG-TIE COMPANY INC.

5956 West Las Positas Boulevard

Pleasanton, California 94588

(800) 925-5099

www.strongtie.com

STRONG-BOLT® 2 WEDGE ANCHORS IN MASONRY

CSI Division:

04 00 00—MASONRY

CSI Section:

04 05 19.16 —Masonry Anchors

1.0 RECOGNITION

The Simpson Strong-Tie® Strong-Bolt® 2 Wedge Anchors recognized in ER-240 have been evaluated for use to resist dead, live, wind, and seismic tension and shear loads in fully grouted uncracked, concrete-masonry unit (CMU) construction. The structural performance properties of the Simpson Strong-Tie® Strong-Bolt® 2 Wedge Anchors were evaluated for compliance with the following codes:

- 2023 Florida Building Code, Building, 8th Edition (FBC--Building)
- 2023 Florida Building Code, Residential, 8th Edition (FBC--Residential)

2.0 LIMITATIONS

The Simpson Strong-Tie® Strong-Bolt® 2 Wedge Anchors described in ER-240 complies with the 2023 FBC--Building and the 2023 FBC--Residential, subject to the following limitations:

2.1 The design and installation of the Simpson Strong-Tie® Strong-Bolt® 2 Wedge Anchors shall be in accordance with the 2021 International Building Code and the 2021 International Residential Code as noted in ER-240.

2.2 Load combinations shall be in accordance with Section [1605.2](#) of the FBC--Building.

2.3 Design wind loads shall be in accordance with Section [1609.1.1](#) of the FBC--Building or Section [R301.2.1.1](#) of the FBC--Residential, as applicable, and Section [1620](#) of the FBC--Building where used in High-velocity Hurricane Zones (HVHZ).

2.4 Use of Simpson Strong-Tie® Strong-Bolt® 2 Wedge Anchors in applications exposed to the weather within High-velocity Hurricane Zones (HVHZ) as set forth in the FBC--Building and the FBC--Residential is beyond the scope of this supplemental report.

2.5 Use of Simpson Strong-Tie® Strong-Bolt® 2 Wedge Anchors in High-velocity Hurricane Zones (HVHZ) as set forth in Section [2321.5.2](#) of the FBC--Building and Section [R4409](#) of the FBC--Residential to resist wind uplift is permitted. The anchors shall be designed to resist the uplift forces as required in Section [1620](#) (HVHZ) of the FBC--Building or 700 pounds (3114 N), whichever is greater, in accordance with FBC--Building Section [2321.7](#).

2.6 Use of Simpson Strong-Tie® Strong-Bolt® 2 Wedge Anchors in High-velocity Hurricane Zones (HVHZ) as set forth in Section [2122.7](#) of the FBC--Building and Section [R4407](#) of the FBC--Residential to resist wind forces is permitted. The anchors shall be designed to resist the horizontal forces as required in Section [1620](#) (HVHZ) of the FBC--Building or 200 pounds per lineal foot (2919 N/m) of wall, whichever is greater, in accordance with FBC--Building Section [2122.7.3](#).

2.7 For products falling under Section (5)(d) of Florida Rule 61G20-3.008, verification that the report holder's quality assurance program is audited by a quality assurance entity approved by the Florida Building Commission (or the building official when the report holder does not possess an approval by the Commission) is required to provide oversight and determine that the products are being manufactured as described in this evaluation report to establish continual product performance.

2.8 This supplement expires concurrently with ER-240.

For additional information about this evaluation report please visit www.uniform-es.org or email us at info@uniform-es.org