

DIVISION: 05 00 00—METALS

Section: 05 05 02—Metal Fastenings

REPORT HOLDER:

9.0 SEISMIC CO.

EVALUATION SUBJECT:

9.0 SEISMIC CO. BRACKETS AND ANCHORING KITS

1.0 EVALUATION SCOPE

Compliance with the following codes:

- 2018, 2015 and 2012 *International Building Code* (IBC)

For evaluation of compliance with codes adopted by the California Office of Statewide Health Planning and Development (OSHPD) and Division of State Architects (DSA), see [ESR-4233 CBC Supplement](#).

Property evaluated:

Structural

2.0 USES

9.0 Seismic Co. Brackets and Anchoring Kits described in this report are used for anchoring of nonstructural components (e.g. hospital equipment including: medical, special procedure room, lab, pharmacy, kitchen, office furniture, etc.) to resist seismic loads.

3.0 DESCRIPTION

3.1 General:

The 9.0 Seismic Co. Brackets described in this report consist of steel angles and steel bent plate (brackets) which are used to connect the nonstructural component (equipment) to the supporting wall or supporting concrete floor. The brackets are available in several thicknesses (1/4-, 3/8- and 1/2-inch thick), dimensions and for use in different applications. See Figure 1 of this report for different bracket configurations. Tables 1 through 5 indicate the bracket application, the bracket part numbers, bracket dimensions and load capacities. The brackets also come with predrilled holes used to connect the equipment to the supporting walls and floors. The brackets are fastened to the equipment and supporting cold-formed steel framed stud walls using screws described in Section 3.2.2 of this report and to supporting concrete floor using anchor bolts described in Section 3.2.3 of this report.

The 9.0 Seismic Co. Anchoring Kits consist of brackets and fasteners. The Anchoring Kits are used to anchor nonstructural component (equipment) to the supporting wall or supporting concrete floor. The Anchoring Kits brackets and fasteners included in the kits are described in Table 6 of this report.

3.2 Material:

3.2.1 Steel Angles and Bent Plate Brackets: Steel angle and bent plate brackets are made from ASTM A36 steel, having a minimum yield strength, F_y , of 36,000 psi (248 MPA) and a minimum tensile strength, F_u , of 58,000 psi (400 MPA).

3.2.2 Screws: The screws are Dril-Flex Self-Drilling Structural Fasteners complying with [ESR-3332](#); Model Nos. EAF816, EAF841, EAF846 (Type 6). The screws are 1/4-inch (6 mm) diameter, fine threaded screws with an indented hex washer head.

3.2.3 Anchors: Anchor bolts are Hilti Kwik Bolt TZ Carbon Steel complying with [ESR-1917](#). The 3/8-inch and 1/2-inch-diameter (9.5 mm and 12.7 mm) anchors may be installed in cracked and uncracked normal-weight and concrete-filled steel deck having a minimum specified compressive strength, f_c , of 3,000 psi (20.7 MPa).

4.0 DESIGN AND INSTALLATION

4.1 Design:

4.1.1 General: The tabulated load values for the bracket connection capacity are for use with the Load Resistance Factor Design (LRFD) methodology. The seismic forces induced by the connected equipment must be determined in accordance with IBC Section 1613 and must not exceed the tabulated load values shown in Tables 1 through 6 of this report.

4.2 Installation:

Installation of the Brackets and Anchoring Kits must be in accordance with this report, the approved plans and the manufacturer's published installation instructions. In the event of a conflict between this report and the manufacturer's published installation instructions, the more restrictive requirement governs.

5.0 CONDITIONS OF USE

The 9.0 Seismic Co. Brackets and Anchoring Kits described in this report comply with, or are suitable alternatives to what is specified in, those codes listed in

Section 1.0 of this report, subject to the following conditions:

- 5.1 The brackets must be manufactured, identified and installed in accordance with this report and the manufacturer's published installation instructions. A copy of the instructions must be available at the jobsite at all times during installation.
- 5.2 The capacity of the connected equipment to resist the applied loads is outside the scope of this report and must be determined by registered design professional.

6.0 EVIDENCE SUBMITTED

- 6.1 Calculations to establish bracket connection capacity.
- 6.2 Quality control documentation.

7.0 IDENTIFICATION

- 7.1 The 9.0 Seismic Co. Brackets and Anchoring Kits described in this report must be stamped with the model number and the company name and the ICC-ES evaluation report number (ESR-4233).
- 7.2 The report holder's contact information is the following:

9.0 SEISMIC CO
2340 WEST PARKSIDE LANE SUITE H-111
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TABLE 1—STANDARD FLOOR ¼-INCH THICK STEEL ANGLE BRACKETS DESIGN STRENGTH (LRFD) CAPACITY

Bracket Number	Bracket Dimensions ¹ (inches)			Bracket Predrilled Holes Quantity and Diameter (inches)		Bracket Fasteners Type and Quantity		Capacity (lbf) LRFD					
								Side A (Equipment) ^{4,6}		Side B (Concrete Floor) ^{4,6}			
	H	W	L	Side A	Side B	Quantity of No. 14 Screws Attached to Side A ² (equipment)	Quantity of 3/8-inch-diameter Anchor Bolt Attached to Side B ³ (concrete floor)	Screws Attach to Equipment Frame Having Minimum 0.048-inch-thick Steel ⁵		Anchor Bolts Attached to Minimum 4-inch-thick Concrete Floor ³		Anchor Bolts Attached to Top of Concrete Filled Steel Deck ³	
								Tension	Shear	Tension	Shear	Tension	Shear
33143A	3	3	3	2- ⁵ / ₁₆	1- ⁷ / ₁₆	2	1	420	1105	950	1105	390	440
33144A	3	3	4	2- ⁵ / ₁₆	1- ⁷ / ₁₆	2	1	420	1206	950	1322	390	440
33146A	3	3	6	4- ⁵ / ₁₆	2- ⁷ / ₁₆	4	2	840	2209	1275	2209	570	1100
33148A	3	3	8	5- ⁵ / ₁₆	3- ⁷ / ₁₆	5	3	1050	2945	1400	2945	650	1220
43143A	4	3	3	2- ⁵ / ₁₆	1- ⁷ / ₁₆	2	1	420	1105	950	528	390	440
43146A	4	3	6	4- ⁵ / ₁₆	2- ⁷ / ₁₆	4	2	840	2209	1275	1057	570	1057
63143A	6	3	3	4- ⁵ / ₁₆	1- ⁷ / ₁₆	4	1	347	1105	1105	347	650	347

For SI: 1 inch= 25.4 mm; 1 lbf= 4.45 N.

¹See Figure 1 for bracket configuration.

²Self-drilling screws must comply with Section 3.2.2 of this report. Screws must be installed in accordance with ESR-3332.

³Anchor bolts must comply with Section 3.2.3 of this report. Concrete must comply with Section 3.3.2 of this report. Anchor bolts must have an effective embedment depth of 2 inches and be installed in accordance with ESR-1917. The minimum concrete edge distance must not be less than 3 inches.

⁴See Figure 2 for load orientation.

⁵Equipment steel frame must have minimum yield strength 33,000 psi and minimum tensile strength 45,000 psi. The connection of the screws to the equipment frame must be determined by registered design professional. The equipment steel frame is an integral part of the supported nonstructural component(equipment) used as a connection point of the bracket.

⁶Seismic forces exerted by connected equipment must not exceed tabulated design values and must be determined by registered design professional.

TABLE 2—STANDARD WALL ¼-INCH THICK STEEL ANGLE BRACKETS DESIGN STRENGTH (LRFD) CONNECTION CAPACITY

Bracket Number	Bracket Dimensions ¹ (inches)			Bracket Predrilled Holes Quantity and Diameter (inches)		Bracket Fasteners Type and Quantity		Connection Capacity (lbf) LRFD			
								Side A (Supporting Wall) ³		Side B (Equipment) ³	
					Screws Attached to Cold-formed Steel Studs Having Minimum Steel Thickness of 0.048-inch ⁴		Screws Attached to Equipment Frame Having Minimum 0.048-inch-thick Steel ⁵				
	H	W	L	Side A	Side B	Quantity of No. 14 Screws Attached to Side A ² (supporting wall)	Quantity of No. 14 Screws Attached to Side B ² (equipment)	Tension	Shear	Tension	Shear
36143A	3	6	3	2- ⁵ / ₁₆	2- ⁵ / ₁₆	2	2	420	312	284	1105
36143B	3	6	3	2- ⁵ / ₁₆	4- ⁵ / ₁₆	2	4	420	347	347	1105
36143C	3	6	3	4- ⁵ / ₁₆	4- ⁵ / ₁₆	4	4	840	347	347	1105
36144A	3	6	4	2- ⁵ / ₁₆	2- ⁵ / ₁₆	2	2	420	415	388	1206
36146A	3	6	6	4- ⁵ / ₁₆	8- ⁵ / ₁₆	4	8	840	694	694	2209

For SI: 1 inch= 25.4 mm; 1 lbf= 4.45 N.

¹See Figure 1 for bracket configuration.

²Self-drilling screws must comply with Section 3.2.2 of this report. Screws must be installed in accordance with ESR-3332.

³See Figure 2 for load orientation.

⁴Cold-formed steel studs must have a minimum yield strength of 33,000 psi and minimum tensile strength of 45,000 psi. The capacity of the studs to support the applied loads must be determined by registered design professional.

⁵Equipment steel frame must have minimum yield strength 33,000 psi and minimum tensile strength 45,000 psi. The connection of the screws to the equipment frame must be determined by registered design professional. The equipment steel frame is an integral part of the supported nonstructural component(equipment) used as a connection point of the bracket.

TABLE 3—STANDARD FLOOR 3/8-INCH THICK STEEL ANGLE BRACKETS DESIGN STRENGTH (LRFD) CAPACITY

Bracket Number	Bracket Dimensions ¹ (inches)			Bracket Predrilled Holes Quantity and Diameter (inches)		Bracket Fasteners Type and Quantity		Capacity (lbf) LRFD					
								Side A (Equipment) ⁴		Side B (Concrete Floor) ⁴			
	H	W	L	Side A	Side B	Quantity of No. 14 Screws Attached to Side A ² (equipment)	Quantity of 1/2-inch-diameter Anchor Bolt Attached to Side B ³ (concrete floor)	Screws Attach to Equipment Frame Having Minimum 0.048-inch-thick Steel ⁵		Anchor Bolts Attached to Minimum 4-inch-thick Concrete Floor		Anchor Bolts Attached to Top of Concrete Filled Steel Deck	
							Tension	Shear	Tension	Shear	Tension	Shear	
33384A	3	3	4	3-5/16	1-9/16	3	1	630	1809	1000	1322	370	500
33386A	3	3	6	4-5/16	2-9/16	4	2	840	2412	1275	2552	670	1100
43384A	4	3	4	3-5/16	1-9/16	3	1	630	1809	1000	1322	370	500
43384B	4	3	4	4-5/16	1-9/16	4	1	840	2412	1000	1322	370	500
43386A	4	3	6	4-5/16	2-9/16	4	2	840	2412	1275	2552	670	1100
43388A	4	3	8	5-5/16	3-9/16	5	3	1050	3015	1400	3150	750	1240
63384A	6	3	4	3-5/16	1-9/16	3	1	630	1809	1000	947	370	500
63384B	6	3	4	4-5/16	1-9/16	4	1	840	2412	1000	1057	370	500
63388A	6	3	8	5-5/16	3-9/16	5	3	1050	3015	1400	3150	750	1240

For SI: 1 inch= 25.4 mm; 1 lbf= 4.45 N.

¹See Figure 1 for bracket configuration.

²Self-drilling screws must comply with Section 3.2.2 of this report. Screws must be installed in accordance with ESR-3332.

³Anchor bolts must comply with Section 3.2.3 of this report. Concrete must comply with Section 3.3.2 of this report. Anchor bolts must have an effective embedment depth of 2 inches and be installed in accordance with ESR-1917. The minimum edge distance must not be less than 3 inches.

⁴See Figure 2 for load orientation.

⁵Equipment steel frame must have minimum yield strength 33,000 psi and minimum tensile strength 45,000 psi. The connection of the screws to the equipment frame must be determined by registered design professional. The equipment steel frame is an integral part of the supported nonstructural component(equipment) used as a connection point of the bracket.

TABLE 4—STANDARD WALL 3/8-INCH THICK STEEL ANGLE BRACKETS DESIGN STRENGTH (LRFD) CONNECTION CAPACITY

Bracket Number	Bracket Dimensions ¹ (inches)			Bracket Predrilled Holes Quantity and Diameter (inches)		Bracket Fasteners Type and Quantity		Connection Capacity (lbf) LRFD			
								Side A (Supporting Wall) ³		Side B (Equipment) ³	
	Screws Attached to Cold-formed Steel Studs Having Minimum Steel Thickness of 0.048-inch ⁴		Screws Attached Equipment Frame Having Minimum 0.048-inch-thick Steel ⁵		Tension	Shear	Tension	Shear			
	H	W	L	Side A					Side B	Quantity of No. 14 Screws Attached to Side A ² (supporting wall)	Quantity of No. 14 Screws Attached to Side B ² (equipment)
36384A	3	6	4	3-5/16	3-5/16	3	3	630	947	630	1809
36384B	3	6	4	4-5/16	4-5/16	4	4	840	1057	840	2412
36388A	3	6	8	5-5/16	5-5/16	5	5	1050	1894	1050	3015
38384A	3	8	4	4-5/16	4-5/16	3	4	630	674	574	2412
38384B	3	8	4	4-5/16	4-5/16	4	4	840	722	722	2412
38388A	3	8	8	5-5/16	10-5/16	5	10	1050	1444	1423	6030
310386A	3	10	6	4-5/16	8-5/16	4	8	840	1216	1216	4824

For SI: 1 inch= 25.4 mm; 1 lbf= 4.45 N.

¹See Figure 1 for bracket configuration.

²Self-drilling screws must comply with Section 3.2.2 of this report. Screws must be installed in accordance with ESR-3332.

³See Figure 2 for load orientation.

⁴Cold-formed steel studs must have a minimum yield strength of 33,000 psi and minimum tensile strength of 45,000 psi. The capacity of the studs to support the applied loads must be determined by registered design professional.

⁵Equipment steel frame must have minimum yield strength 33,000 psi and minimum tensile strength 45,000 psi. The connection of the screws to the equipment frame must be determined by registered design professional. The equipment steel frame is an integral part of the supported nonstructural component(equipment) used as a connection point of the bracket.

TABLE 5—STANDARD FLOOR 1/2-INCH THICK STEEL ANGLE BRACKETS DESIGN STRENGTH (LRFD) CAPACITY

Bracket Number	Bracket Dimensions ¹ (inches)			Bracket Predrilled Holes Quantity and Diameter (inches)		Bracket Fasteners Type and Quantity		Capacity (lbf) LRFD					
								Side A (Equipment) ⁴		Side B (Concrete Floor) ⁴			
	H	W	L	Side A	Side B	Quantity of No. 14 Screws Attached to Side A ² (equipment)	Quantity of 1/2-inch-diameter Anchor Bolt Attached to Side B ³ (concrete floor)	Screws Attach to Equipment Frame Having Minimum 0.048-inch-thick Steel ⁵		Anchor Bolts Attached to Minimum 4-inch-thick Concrete Floor		Anchor Bolts Attached to Top of Concrete Filled Steel Deck	
							Tension	Shear	Tension	Shear	Tension	Shear	
33124A	3	3	4	3- ⁵ / ₁₆	1- ⁹ / ₁₆	3	1	630	1809	1000	1322	370	500
33126A	3	3	6	5- ⁵ / ₁₆	2- ⁹ / ₁₆	5	2	1050	3015	1275	2552	670	1100
63124A	6	3	4	3- ⁵ / ₁₆	1- ⁹ / ₁₆	3	1	630	1809	1000	1322	370	500
63126A	6	3	6	5- ⁵ / ₁₆	2- ⁹ / ₁₆	5	2	1050	3015	1275	2552	670	1100
63128A	6	3	8	10- ⁵ / ₁₆	3- ⁹ / ₁₆	10	3	2100	6030	1400	3150	750	1240
83124A	8	3	4	6- ⁵ / ₁₆	1- ⁹ / ₁₆	6	1	1260	3618	1000	1296	370	500
83126A	8	3	6	8- ⁵ / ₁₆	2- ⁹ / ₁₆	8	2	840	2412	1275	1944	670	1100
83128A	8	3	8	10- ⁵ / ₁₆	3- ⁹ / ₁₆	10	3	2100	3015	1400	2592	750	1240

For SI: 1 inch= 25.4 mm; 1 lbf= 4.45 N.

¹See Figure 1 for bracket configuration.

²Self-drilling screws must comply with Section 3.2.2 of this report. Screws must be installed in accordance with ESR-3332.

³Anchor bolts must comply with Section 3.2.3 of this report. Concrete must comply with Section 3.3.2 of this report. Anchor bolts must have an effective embedment depth of 2 inches and be installed in accordance with ESR-1917. The minimum concrete edge distance must not be less than 3 inches.

⁴See Figure 2 for load orientation.

⁵Equipment steel frame must have minimum yield strength 33,000 psi and minimum tensile strength 45,000 psi. The connection of the screws to the equipment frame must be determined by registered design professional. The equipment steel frame is an integral part of the supported nonstructural component(equipment) used as a connection point of the bracket.

TABLE 6—ANCHORING KITS CONNECTION DESIGN STRENGTH (LRFD)

KIT No.	NAME OF KIT	KIT COMPONENTS	Bracket Attachment to Equipment			Bottom Brackets Attachment to Concrete Floor				
			Quantity of No. of 14 Screws Per Bracket Connecting the Top of Equipment ⁵		Quantity of No. 14 Screws per Bracket Connecting the Bottom of the Equipment ⁵	Quantity and diameter of Anchor Bolt per Bracket Used to connect bracket to concrete floor ⁷	Bottom Brackets Connection Capacity (LRFD) to Concrete Floor (lbf)			
			Bracket Attached to Supporting Wall	Bracket Attached to Equipment			Over 4" Conc		Over Metal Deck	
					Tension	Shear	Tension	Shear		
DRF1006	Domestic Refrigerator Floor Anchorage Kit	(4) No. 33144A brackets (bottom) (4) 3/8-inch by 3 3/4-inch anchor bolts (8) No. 14 by 2-inch-long Screws ¹	N/A	N/A	2	(1) 3/8-inch	1900 ^{8,9}	4824 ^{8,10}	780 ^{8,9}	1760 ^{8,10}
DRWF1004	Domestic Refrigerator Wall & Floor Anchorage Kit	(2) No. 33144A brackets (bottom) (2) No. 36144A brackets (top) (2) 3/8-inch by 3 3/4-inch anchor bolts (4) No. 14 by 2-inch long screws (8) No. 14 by 1-inch-long screws ¹	2	2	2	(1) 3/8-inch	950 ^{8,9}	2644 ^{8,10}	390 ^{8,9}	880 ^{8,10}
HELM10-S	Helmer Scientific Refrigerator-Freezer Floor Anchorage Kit - 1 Door Kit	(2) 9.0 Seismic Co Front Bracket Assemblies (2) 9.0 Seismic Co Back Bracket Assemblies (8) 1/2-inch by 3 3/4-inch long anchor bolts (16) No. 14 by 1 1/2-inch-long (4) 1/4-inch by 1 1/4-inch-long A307 bolts with washer, lock washer and nuts ²	N/A	N/A	4	(2) 1/2-inch	1728 ^{8,11}	1024 ^{10,11}	1728 ^{8,11}	1024 ^{10,11}

TABLE 6—ANCHORING KITS CONNECTION DESIGN STRENGTH (LRFD) (Continued)

HELM10-D	Helmer Scientific Refrigerator-Freezer Floor Anchorage Kit – 2 Door Kit	(3) 9.0 Seismic Co Front Bracket Assemblies (3) 9.0 Seismic Co Back Bracket Assemblies (12) ½-inch by 3¾-inch long anchor bolts (24) No. 14 by 1½-inch-long (6) ¼-inch by 1¼-inch long A307 bolts with washer, lock washer and nuts ²	N/A	N/A	4	(2) ½ -inch	2592 ^{9,11}	1536 ^{10,11}	2592 ^{9,11}	1536 ^{10,11}
KBL1001	Leveling Leg Capture Anchorage Kit	(4) LFB55 Brackets (8) ¾-inch by 3¾-inch anchor bolts ³	N/A	N/A	N/A ⁶	(2) ¾-inch	1420 ^{6,9,11}	528 ^{6,10,11}	1420 ^{6,9,11}	528 ^{6,10,11}
LRF1005	Lab Freezer Floor Anchorage Kit	(4) L 3-inch-by-8-inch-by ½-inch-thick Brackets (4) ¾-inch by 3¾-inch-long anchor bolts (12) No. 14 by 2-inch-long Screws ⁴	N/A	N/A	3	(1) ¾-inch	2000 ^{9,11}	4800 ^{10,11}	740 ^{9,11}	2000 ^{10,11}

For SI: 1 inch= 25.4 mm; 1 lbf= 4.45 N.

¹Bracket must comply with Tables 1 and 2, applicable.

²Front and rear bracket must comply with Figure 3 of this report.

³Bracket No. LFB55 must comply with Figure 4 of this report. Bracket is made from ASTM A36 steel and is 0.25-inch-thick.

⁴Bracket L3x8x½ must comply with Figure 5 of this report. Bracket is made from ASTM A36 steel and is 0.5-inch-thick.

⁵Self-drilling screws must comply with Section 3.2.2 of this report. Screws must be installed in accordance with ESR-3332.

⁶Brackets secure equipment by engaging with equipment’s leveling screws (feet). Brackets must be installed in an alternating orientation to leveling screws to resist shear forces. Capacity of equipment leveling screws to resist applied forces outside scope of this report and must be established by registered design professional.

⁷Anchor bolts must comply with Section 3.2.3 of this report. Concrete must comply with Section 3.3.2 of this report. Anchor bolts must have an effective embedment depth of 2 inches and be installed in accordance with ESR-1917. The minimum concrete edge distance must not be less than 3 inches.

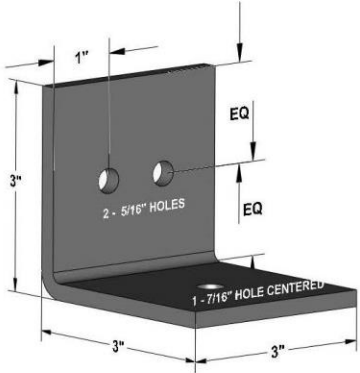
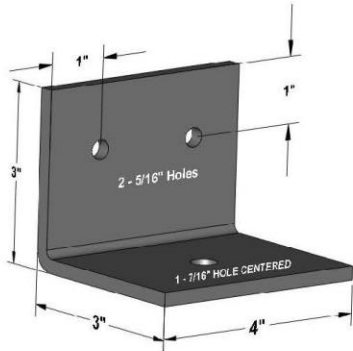
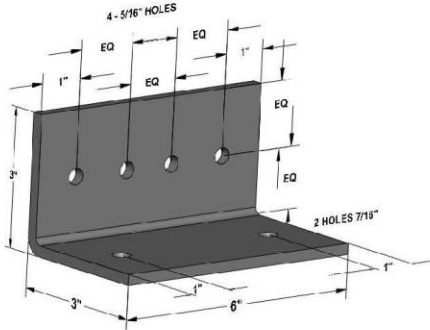
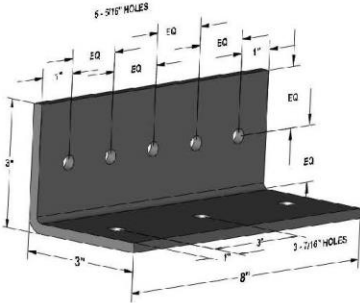
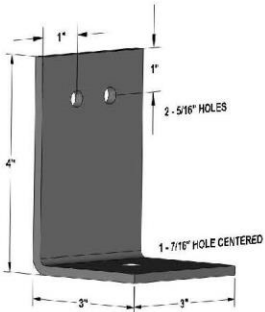
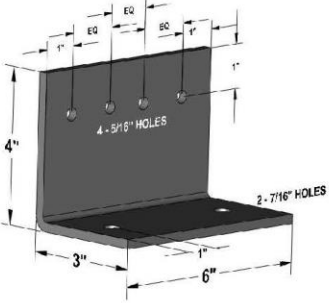
⁸Tabulated design values are based on capacity of bottom brackets anchored to concrete floor. Bracket capacity to connected equipment and/or supporting wall framing must not exceed the tabulated values in Tables 1 and 2 of this report, as applicable.

⁹Tension capacity is based on half the total quantity of bottom brackets resisting equipment overturning forces. Tension forces resulting from equipment resisting overturning forces must not exceed the tabulated values.

¹⁰Shear capacity is based on total number of brackets resisting shear forces exerted by the equipment. Shear forces exerted by the equipment must not exceed the tabulated values.

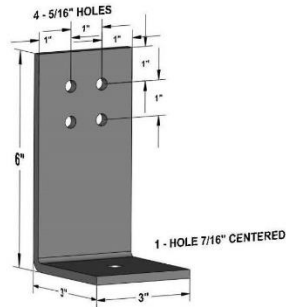
¹¹Tabulated design values are based on capacity of bottom brackets anchored to concrete floor. Bracket capacity to connected equipment must be determined by registered design professional and must not exceed the tabulated design values.

9.0 SeismicCo Brackets

1/4" Brackets		Floor Brackets	
 <p>Diagram of SeismicCo Bracket #331. It is a 3D view of a bracket with a vertical plate 3 inches high and 3 inches wide. The top edge is 1 inch thick. There are two 5/16 inch holes in the vertical plate, spaced equally (EQ) from the top and each other. A 7/16 inch hole is centered in the base. The base is 3 inches wide.</p>	<p>#331</p> <p>EAJ-816 x 3-3/4"</p>	 <p>Diagram of SeismicCo Bracket #33. It is a 3D view of a bracket with a vertical plate 3 inches high and 4 inches wide. The top edge is 1 inch thick. There are two 5/16 inch holes in the vertical plate, spaced equally (EQ) from the top and each other. A 7/16 inch hole is centered in the base. The base is 4 inches wide.</p>	<p>#33</p> <p>EAJ-816 x 3-3/4"</p>
 <p>Diagram of SeismicCo Floor Bracket #331. It is a 3D view of a floor bracket with a vertical plate 3 inches high and 6 inches wide. The top edge is 1 inch thick. There are four 5/16 inch holes in the vertical plate, spaced equally (EQ) from the top and each other. Two 7/16 inch holes are centered in the base. The base is 6 inches wide.</p>	<p>#33</p> <p>EAJ-816 x 3-3/4"</p>	 <p>Diagram of SeismicCo Floor Bracket #33. It is a 3D view of a floor bracket with a vertical plate 4 inches high and 3 inches wide. The top edge is 1 inch thick. There are two 5/16 inch holes in the vertical plate, spaced equally (EQ) from the top and each other. A 7/16 inch hole is centered in the base. The base is 3 inches wide.</p>	<p>#331</p> <p>EAJ-816 x 3-3/4"</p>
 <p>Diagram of SeismicCo Floor Bracket #431. It is a 3D view of a floor bracket with a vertical plate 4 inches high and 6 inches wide. The top edge is 1 inch thick. There are four 5/16 inch holes in the vertical plate, spaced equally (EQ) from the top and each other. Two 7/16 inch holes are centered in the base. The base is 6 inches wide.</p>	<p>#431</p> <p>EAJ-816 x 3-3/4"</p>	 <p>Diagram of SeismicCo Floor Bracket #431. It is a 3D view of a floor bracket with a vertical plate 3 inches high and 3 inches wide. The top edge is 1 inch thick. There are two 5/16 inch holes in the vertical plate, spaced equally (EQ) from the top and each other. A 7/16 inch hole is centered in the base. The base is 3 inches wide.</p>	<p>#431</p> <p>EAJ-816 x 3-3/4"</p>

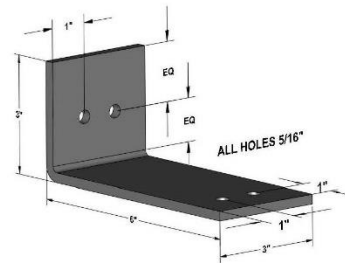
9.0 SeismicCo Brackets

1/4" Brackets

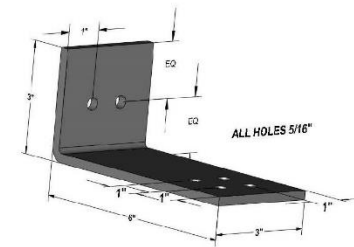


Kwik Flex #EAF-8
I KBTZ 3/8" x 3-3/8"

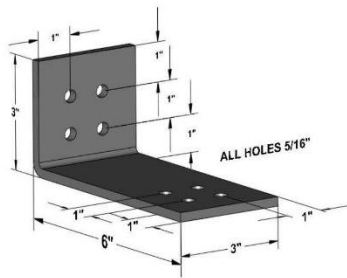
Floor & Wall Brackets



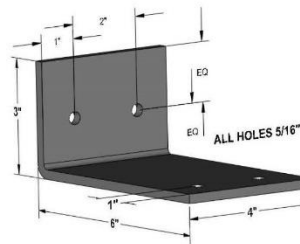
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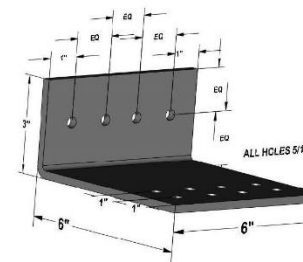
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i Kwik Flex #EAF-34
I Kwik Flex #EAF-31



ti Kwik Flex #EAF-346
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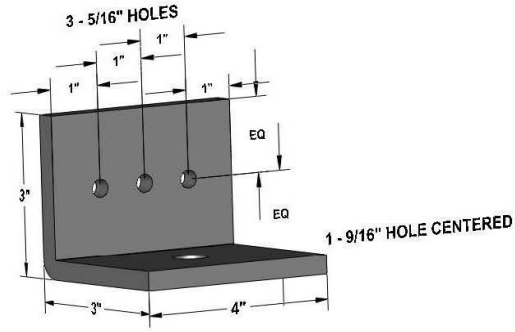


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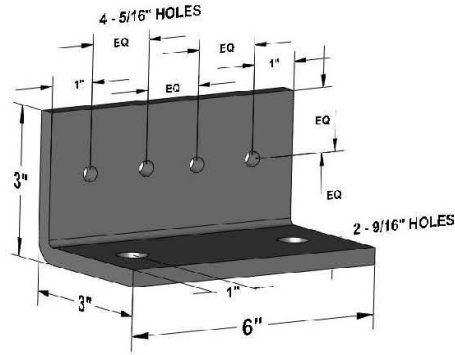
9.0 SeismicCo Brackets

3/8" Brackets

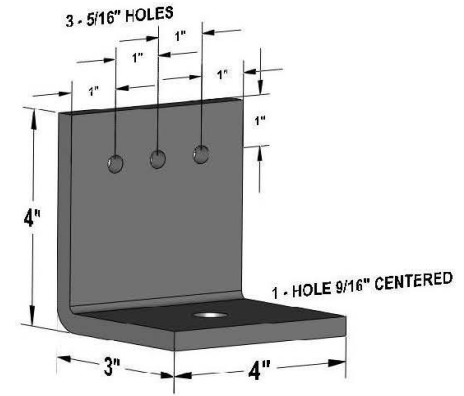
Floor Brackets



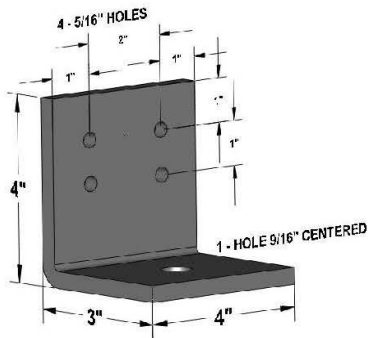
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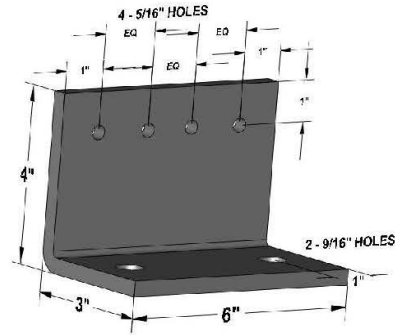
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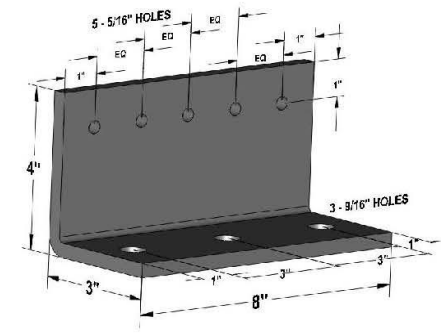
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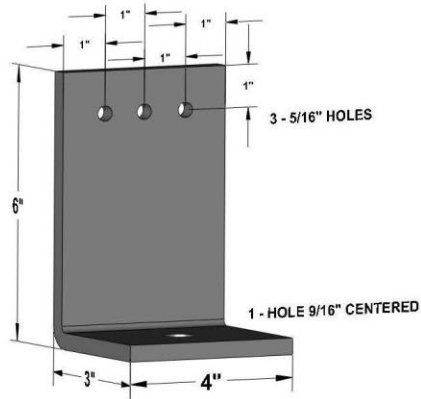
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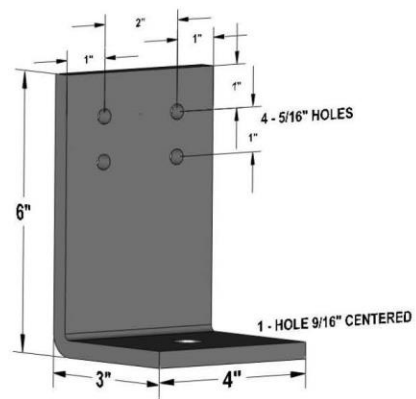
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9.0 SeismicCo Brackets

3/8" Brackets

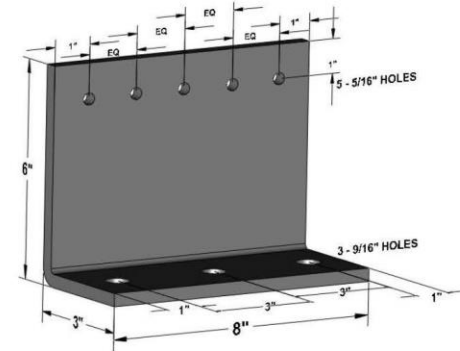


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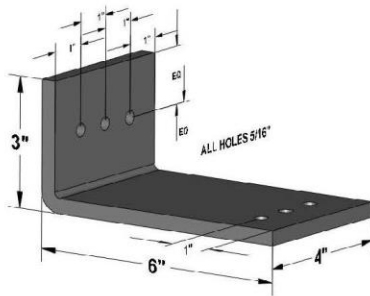
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Floor Brackets

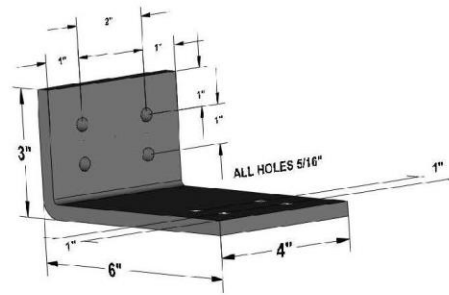


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3/8" Brackets

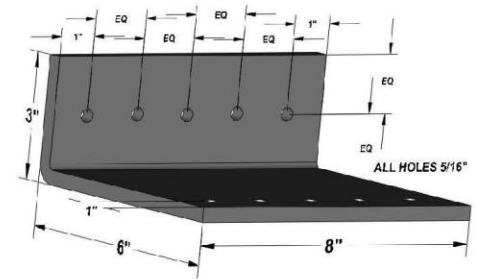


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Wall Brackets

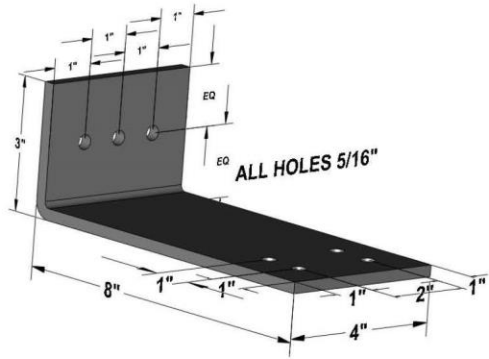


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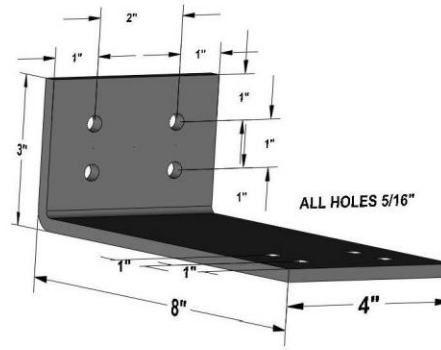
9.0 SeismicCo Brackets

3/8" Brackets

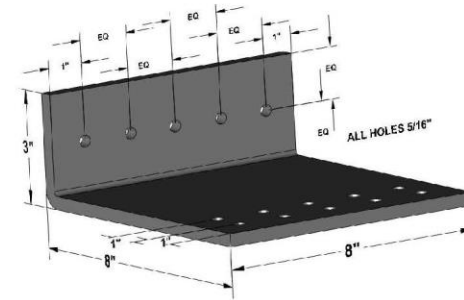
Wall Brackets



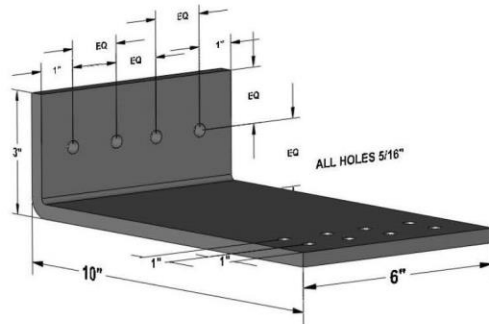
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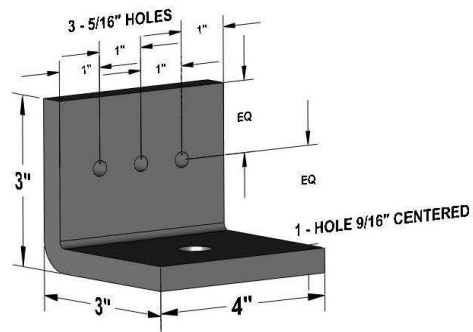


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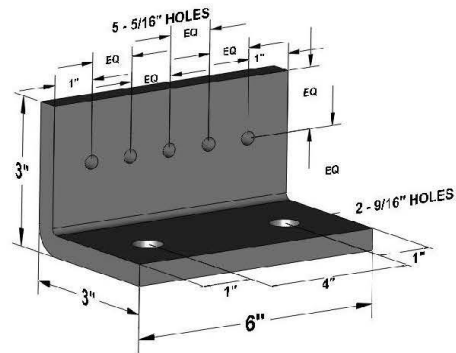
9.0 SeismicCo Brackets

1/2" Brackets

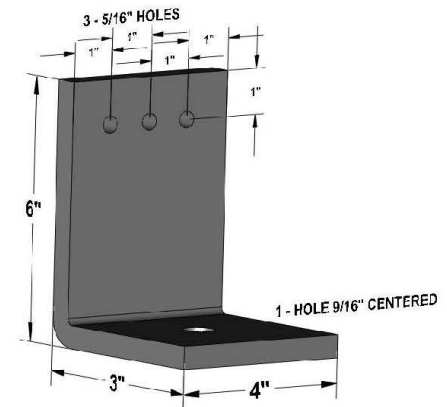
Floor Brackets



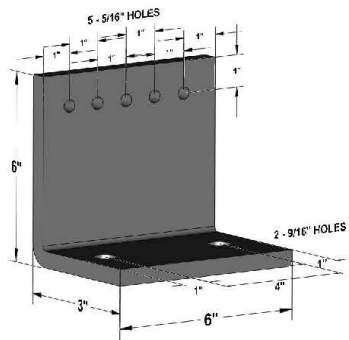
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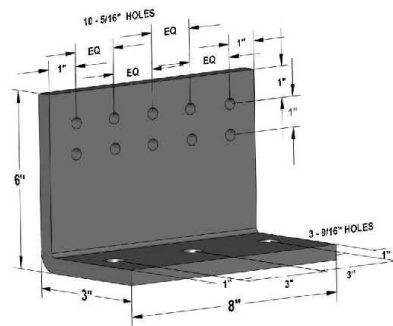
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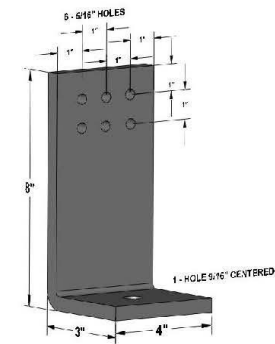
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63126A



63128A



83124A

9.0 SeismicCo Brackets

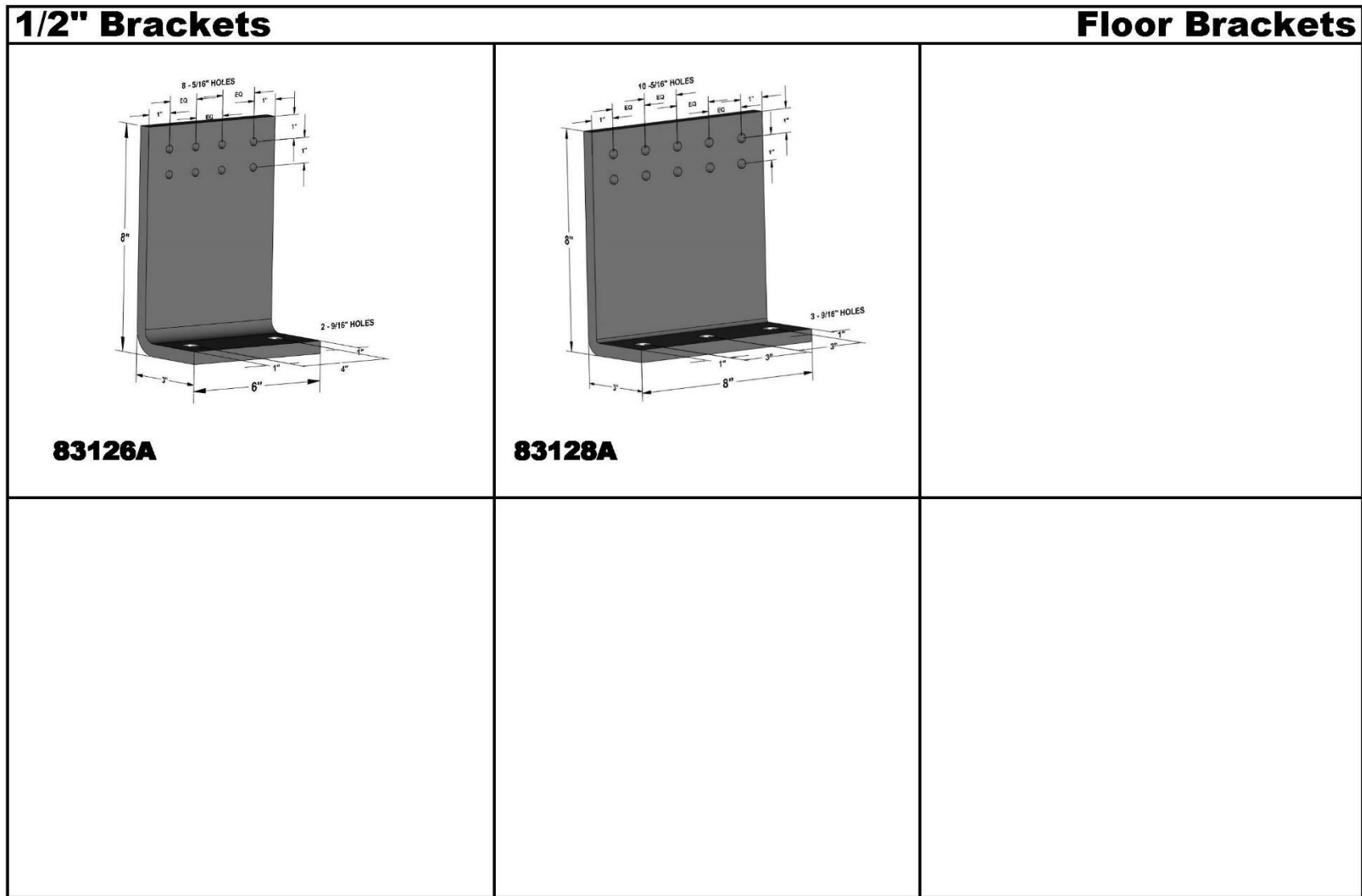


FIGURE 1—STEEL BRACKET CONFIGURATIONS

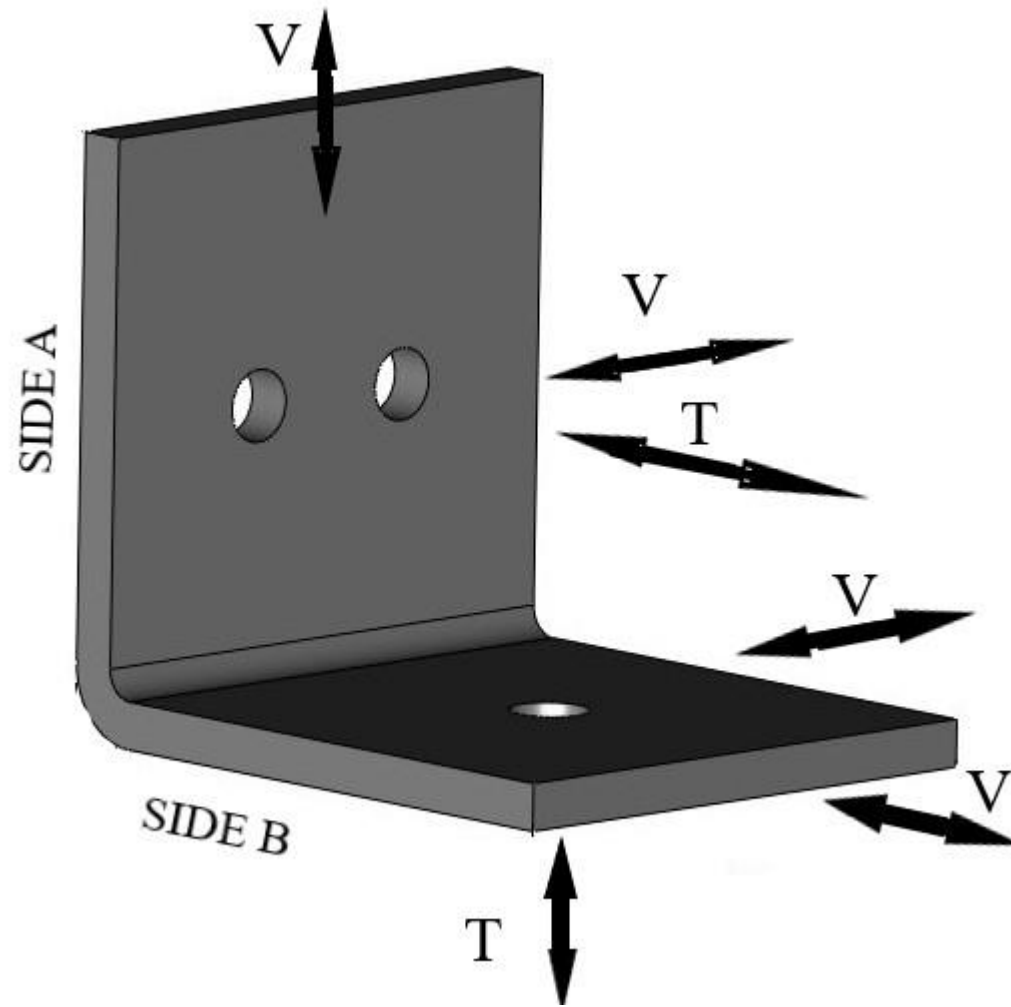


FIGURE 2—STEEL BRACKET LOAD ORIENTATION

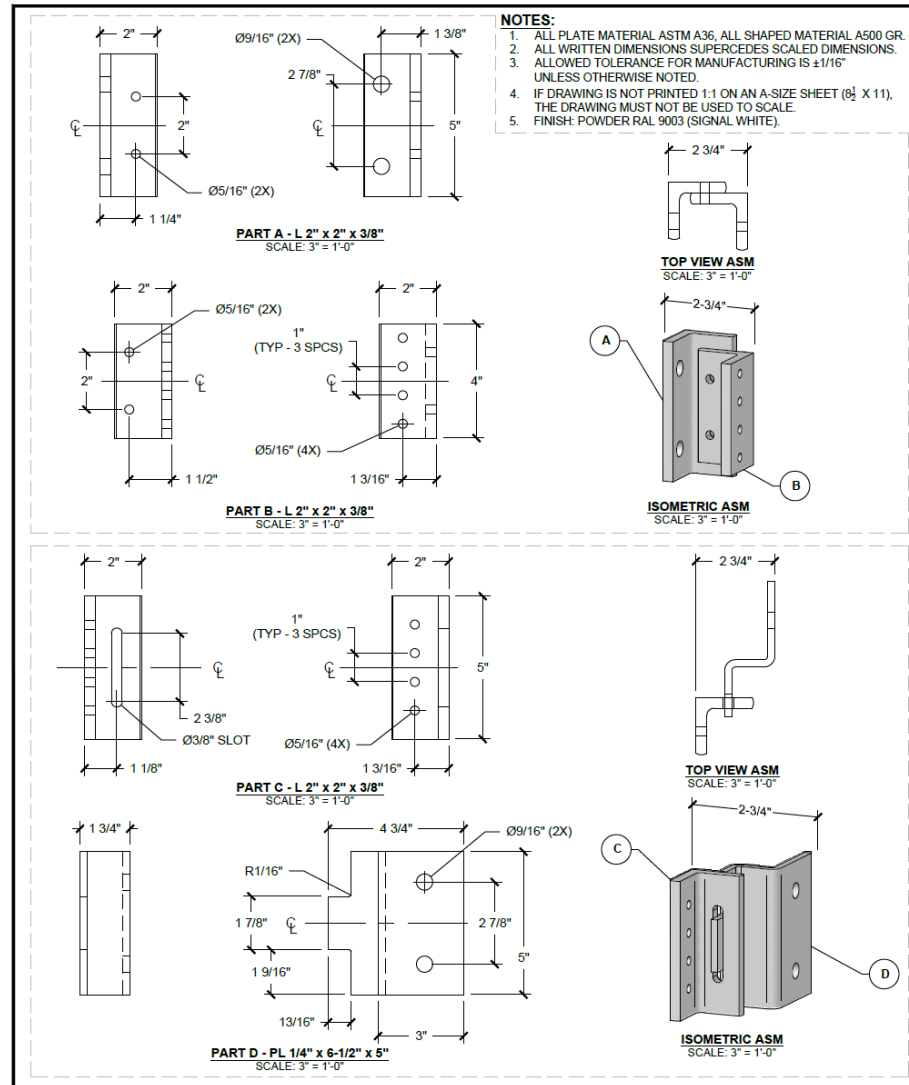


FIGURE 3—FRONT BRACKET (PARTS "A" AND "B") AND REAR BRACKET (PARTS "C" AND "D") FOR ANCHORING KIT NO. HELM10-S AND HELM10-D

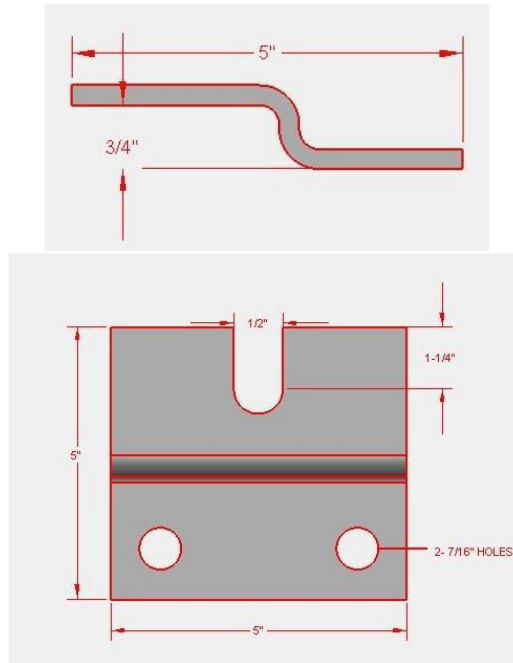


FIGURE 4—BRACKET NO. LFBB55 FOR ANCHORING KIT NO. KBL1001

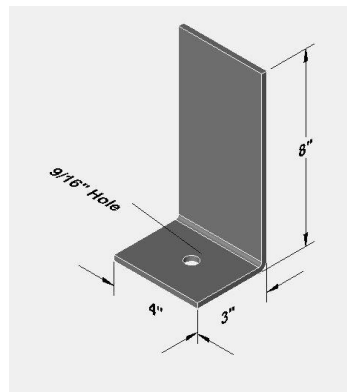


FIGURE 5—L3X8X1/2 BRACKET FOR ANCHORING KIT NO. LRF1005

DIVISION: 05 00 00—METALS**Section: 05 05 02—Metal Fastenings****REPORT HOLDER:**

9.0 SEISMIC CO.

EVALUATION SUBJECT:

9.0 SEISMIC CO. BRACKETS AND ANCHORING KITS

1.0 REPORT PURPOSE AND SCOPE**Purpose:**

The purpose of this evaluation report supplement is to indicate that the 9.0 Seismic Co. Brackets and Anchoring Kits, recognized in ICC-ES evaluation report ESR-4233, have also been evaluated for compliance with the code noted below.

Applicable code edition:

- 2019 *California Building Code* (CBC)

For evaluation of applicable chapters adopted by the California Office of Statewide Health Planning and Development (OSHPD) and Division of State Architect (DSA), see Sections 2.1 and 2.2 below.

2.0 CONCLUSIONS

The 9.0 Seismic Co. Brackets and Anchoring Kits, described in Sections 2.0 through 7.0 of the evaluation report ESR-4233, comply with CBC Chapters 19 and 22, provided the design and installation are in accordance with the 2018 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements of CBC Chapter 16, and 17, as applicable.

2.1 OSHPD:

The 9.0 Seismic Co. Brackets and Anchoring Kits, described in Sections 2.0 through 7.0 of the evaluation report ESR-4233, comply with the CBC amended Sections in Chapter 16, 17, 19 and 22, and Chapter 16A, 17A, 19A and 22A, provided the design and installation are in accordance with the 2018 *International Building Code*® (IBC) provisions noted in the evaluation report and the additional requirements in Sections 2.1.1 of this supplement:

2.1.1 Conditions of Use:

1. Loads applied to the brackets and anchoring kits shall be determined by registered design professional and shall comply with applicable loads from CBC amended sections in Chapter 16 and Chapter 16A.
2. Importance factor $I_p = 1.5$, in accordance with ASCE 7-16 Section 13.1.3, shall be used in determining the applicable seismic loads.
3. OSHPD requirements per Chapter 17 [OSHPD 1R, 2 and 5] and Chapter 17A [OSHPD 1 and 4] regarding special inspection of post-installed anchors complying with ICC-ES [ESR-1917](#) are outside the scope of this supplement.

2.1.2 Verification Test Requirements: Testing for seismic resistance of nonstructural components anchored with the 9.0 Seismic Co. Brackets and Anchoring Kits must be in accordance with CBC Sections 1705.13.2 and 1705.13.3 [OSHPD 1R, 2 & 5] and CBC Sections 1705A.13.2 and 1705A.13.3 [OSHPD 1 & 4], as applicable.

2.1.3 Special Inspection Requirements: Periodic special inspection is required in accordance with CBC Sections 1705.1 and 1705.2 [OSHPD 1R, 2 and 5], or Section 1705A.1 and 1705A.2 [OSHPD 1 and 4], as applicable.

2.2 DSA:

The 9.0 Seismic Co. Brackets and Anchoring Kits, described in Sections 2.0 through 7.0 of the evaluation report ESR-4233, comply with the CBC amended Sections in Chapter 16, 19 and 22, and Chapter 16A, 17A, 19A and 22A, provided the design and installation are in accordance with the 2018 International Building Code® (IBC) provisions noted in the evaluation report and the additional requirements in Sections 2.2.1 of this supplement:

2.2.1 Conditions of Use:

1. Loads applied to the brackets and anchoring kits shall be determined by registered design professional and shall comply with applicable loads from CBC amended sections in Chapter 16 and Chapter 16A.
2. Importance factor $I_p = 1.5$, in accordance with ASCE 7-16 Section 13.1.3, shall be used in determining the applicable seismic loads.
3. DSA requirements per Chapter 17A [DSA-SS & DSA-SS/CC] regarding special inspection of post-installed anchors complying with ICC-ES report [ESR-1917](#) are outside the scope of this supplement.

2.2.2 Verification Test Requirements: Testing for seismic resistance of nonstructural components anchored with the 9.0 Seismic Co. Brackets and Anchoring Kits must be in accordance with CBC Sections 1705A.13.2 and 1705A.13.3 [DSA-SS & DSA-SS/CC], as applicable.

2.2.3 Special Inspection Requirements: Periodic special inspection is required, in accordance with Section 1705A.1.1 and Table 1705A.3 [DSA-SS & DSA-SS/CC].

This supplement expires concurrently with the evaluation report, issued April 2020 and revised November 2020.