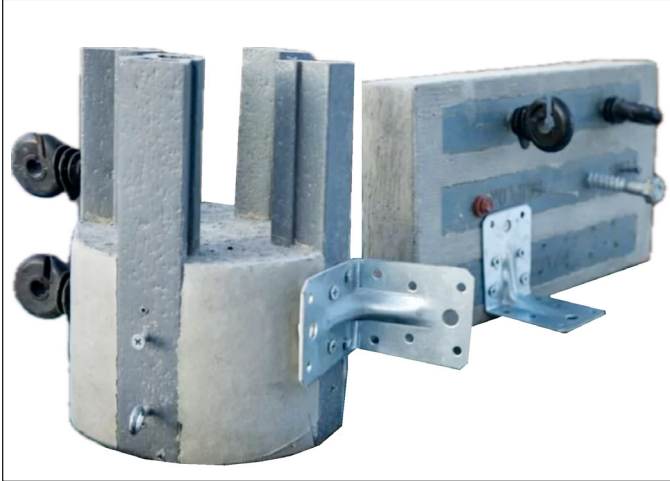


SureBuilt

Concrete Forms & Accessories



Precast Forming and Accessories

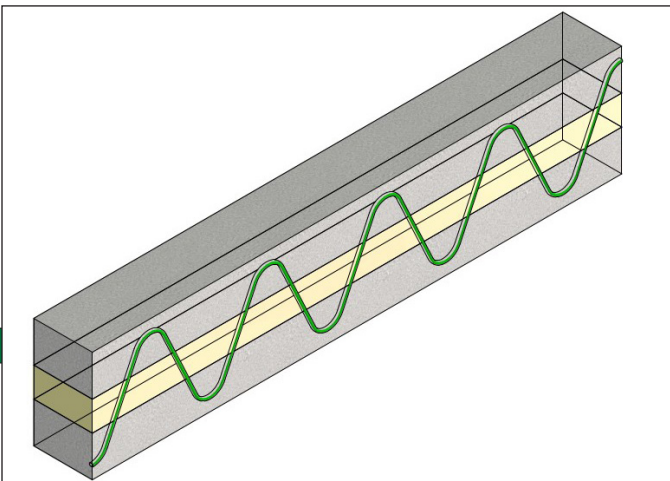


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Product specifications subject to change without notice.

Coil Inserts

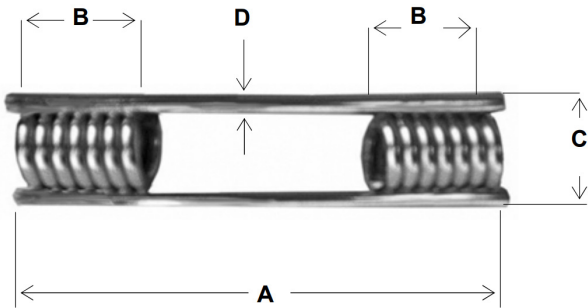


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Product specifications are subject to change without notice.

Coil Tie 2-Strut

- Used in situations when the ends of the tie be placed away from the face of the wall.
- Coils are welded to medium carbon steel wire struts for a consistently safe weld.
- Safe Working Load (SWL) based on 1/2” setback from face of concrete.
- Other sizes and finishes available on request.

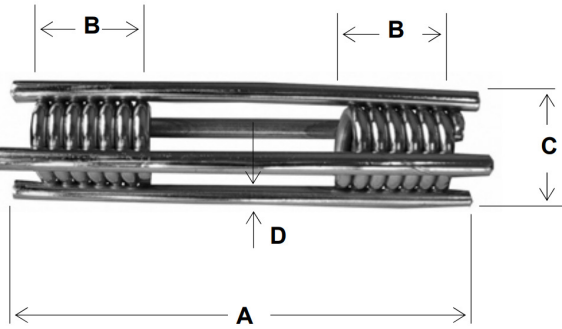


Coil Tie 2-Strut*							
P/N	Length (A)	Coil Length (B)	Insert Width (C)	Wire Dia. (D)	Bolt Dia	Min Edge Distance**	Tension***
SBSCT346	6"	1-3/4"	1-5/8"	.375	3/4"	8"	4,500 lbs
SBSCT347	7"	1-3/4"	1-5/8"	.375	3/4"	8"	4,500 lbs
SBSCT348	8"	1-3/4"	1-5/8"	.375	3/4"	8"	4,500 lbs
SBSCT349	9"	1-3/4"	1-5/8"	.375	3/4"	8"	4,500 lbs
SBSCT3410	10"	1-3/4"	1-5/8"	.375	3/4"	8"	4,500 lbs
SBSCT016	6"	2-1/16"	2-1/16"	.440	1"	8"	6,000 lbs
SBSCT017	7"	2-1/16"	2-1/16"	.440	1"	8"	6,000 lbs
SBSCT018	8"	2-1/16"	2-1/16"	.440	1"	8"	6,000 lbs
SBSCT019	9"	2-1/16"	2-1/16"	.440	1"	8"	6,000 lbs
SBSCT0110	10"	2-1/16"	2-1/16"	.440	1"	8"	6,000 lbs
SBSCT1146	6"	2-1/16"	2-1/2"	.440	1-1/4"	10"	7,500 lbs
SBSCT1147	7"	2-1/16"	2-1/2"	.440	1-1/4"	10"	7,500 lbs
SBSCT1148	8"	2-1/16"	2-1/2"	.440	1-1/4"	10"	7,500 lbs
SBSCT1149	9"	2-1/16"	2-1/2"	.440	1-1/4"	10"	7,500 lbs
SBSCT1140	10"	2-1/16"	2-1/2"	.440	1-1/4"	10"	7,500 lbs

* 2-Strut Inserts are not recommended for edge lifts.
* To order domestic product, add "D" at the end of the part number i.e. SBSCT346D
** Use additional tension bar if edge distance is less than the minimum specified.
*** Safe Working Load (SWL) based on a 4:1 safety factor in 3,000 psi concrete.

Coil Tie 4-Strut

- Used with heavy crane-handled forms or pre-cast concrete segments.
- Coils are welded to medium carbon steel wire struts for a consistently safe weld.
- Safe Working Load (SWL) based on 1/2” setback from face of concrete.
- Other sizes and finishes available on request.



HD Coil Tie 4-Strut								
P/N	Length (A)	Coil Length (B)	Insert Width (C)	Wire Dia. (D)	Bolt Dia	Min Edge Distance**	Tension*	Shear*
SBHCT3464S	6"	2-1/16"	1-5/8"	.375	3/4"	8"	6,000 lbs	6,000 lbs
SBHCT3474S	7"	2-1/16"	1-5/8"	.375	3/4"	8"	6,000 lbs	6,000 lbs
SBHCT3484S	8"	2-1/16"	1-5/8"	.375	3/4"	8"	6,000 lbs	6,000 lbs
SBHCT3494S	9"	2-1/16"	1-5/8"	.375	3/4"	8"	6,000 lbs	6,000 lbs
SBHCT34104S	10"	2-1/16"	1-5/8"	.375	3/4"	8"	6,000 lbs	6,000 lbs
SBHCT0164S	6"	2-1/16"	2-1/16"	.375	1"	10"	9,000 lbs	9,000 lbs
SBHCT0174S	7"	2-1/16"	2-1/16"	.375	1"	10"	9,000 lbs	9,000 lbs
SBHCT0184S	8"	2-1/16"	2-1/16"	.375	1"	10"	9,000 lbs	9,000 lbs
SBHCT0194S	9"	2-1/16"	2-1/16"	.375	1"	10"	9,000 lbs	9,000 lbs
SBHCT01104S	10"	2-1/16"	2-1/16"	.375	1"	10"	9,000 lbs	9,000 lbs
SBHCT01124S	12"	3"	2-1/2"	.440	1"	15"	13,500 lbs	12,000 lbs
SBHCT11464S	6"	3"	2-1/2"	.440	1-1/4"	15"	13,500 lbs	12,000 lbs
SBHCT11474S	7"	3"	2-1/2"	.440	1-1/4"	15"	13,500 lbs	12,000 lbs
SBHCT11484S	8"	3"	2-1/2"	.440	1-1/4"	15"	13,500 lbs	12,000 lbs
SBHCT11494S	9"	3"	2-1/2"	.440	1-1/4"	15"	13,500 lbs	12,000 lbs
SBHCT114104S	10"	3"	2-1/2"	.440	1-1/4"	15"	13,500 lbs	12,000 lbs

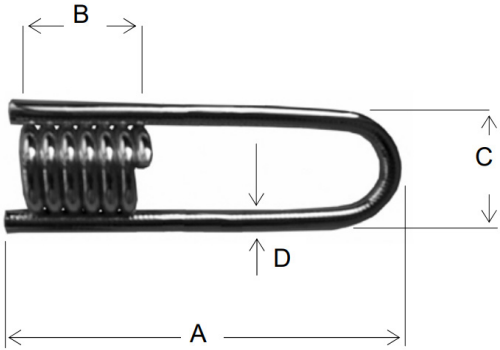
* Safe Working Load (SWL) based on a 4:1 safety factor in 3,000 psi concrete.
* To order domestic product, add "D" at the end of the part number i.e. SBHCT3464SD
** Use additional tension bar if edge distance is less than the minimum specified.

HD Coil Tie 6-Strut								
P/N	Length (A)	Coil Length (B)	Insert Width (C)	Wire Dia. (D)	Bolt Dia	Min Edge Distance**	Tension**	Shear**
SBHCT11486S	8"	3"	2-1/2"	.440	1-1/4"	16"	20,000 lbs	20,000 lbs
SBHCT11496S	9"	3"	2-1/2"	.440	1-1/4"	16"	20,000 lbs	20,000 lbs
SBHCT114106S	10"	3"	2-1/2"	.440	1-1/4"	16"	20,000 lbs	20,000 lbs
SBHCT114116S	11"	3"	2-1/2"	.440	1-1/4"	16"	20,000 lbs	20,000 lbs
SBHCT114126S	12"	3"	2-1/2"	.440	1-1/4"	16"	20,000 lbs	20,000 lbs

* Safe Working Load (SWL) based on a 4:1 safety factor in 3,000 psi concrete.
* To order domestic product, add "D" at the end of the part number i.e. SBHCT11486SD
** Use additional tension bar if edge distance is less than the minimum specified.

Coil Insert - Loop

- Helix coils are electrically welded to the struts resulting in a consistently safe weld
- Struts fabricated from medium carbon steel (available in stainless steel SS304 and SS216)
- SWL based on 1/2” setback from face of concrete

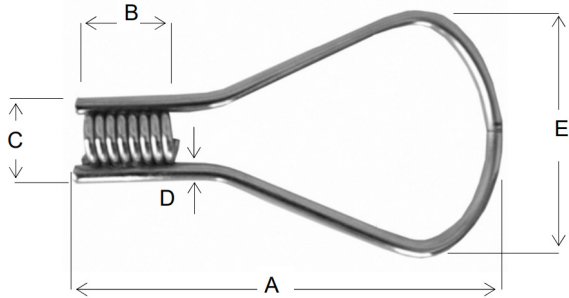


Coil Insert - Loop*							
P/N	Length (A)	Coil Length (B)	Insert Width (C)	Wire Dia. (D)	Bolt Dia	Min Edge Distance**	Tension***
SBCIL124	4"	1-3/16"	1-5/16"	.225	1/2"	8"	2,250 lbs
SBCIL126	6"	1-3/16"	1-3/8"	.306	1/2"	8"	3,600 lbs
SBCIL1344	4"	1-5/8"	1-5/8"	.306	3/4"	8"	3,750 lbs
SBCIL346	6"	1-5/8"	1-7/8"	.375	3/4"	8"	4,500 lbs
SBCIL14	4"	2"	2-1/16"	.375	1"	8"	3,750 lbs
SBCIL16	6"	2"	2-1/16"	.375	1"	8"	4,500 lbs
SBCIL18	8"	2"	2-1/16"	.375	1"	8"	4,500 lbs

* 1/2" Coil Insert - Loop are not recommended for edge lifts.
* To order domestic product, add "D" at the end of the part number i.e. SBCIL124D
** Safe Working Load (SWL) based on a 4:1 safety factor in 3,000 psi concrete.

Coil Insert - Flare

- Develops load in low strength concrete better than straight loops
- Develops load over a greater area of concrete than other inserts.
- Struts fabricated from medium carbon steel wire (available in stainless steel SS304 and SS216)
- Helix coils are electrically welded to the struts resulting in a consistently safe weld
- SWL based on 1/2” setback from face of concrete

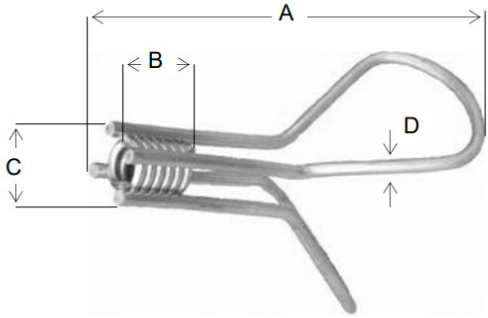


Coil Insert - Flare*							
P/N	Length (A)	Coil Length (B)	Insert Width (C)	Wire Dia. (D)	Loop Width (E)	Bolt Dia	Tension***
SBCIF346	6"	1-3/4"	1-3/4"	.375	3-1/2"	3/4"	4,750 lbs
SBCIF349	9"	1-3/4"	1-3/4"	.375	5-1/2"	3/4"	4,750 lbs
SBCIF19	9"	2-1/16"	2"	.375	5-1/2"	1"	4,750 lbs
SBHCIF19	9"	2-1/16"	2-1/2"	.440	5-3/4"	1"	8,000 lbs
SBCIF112	12"	2-1/16"	2"	.375	5-1/2"	1"	4,750 lbs
SBHCIF112	12"	2-1/16"	2-1/2"	.440	5-3/4"	1"	8,000 lbs
SBCIF114	12"	2-5/16"	2-1/2"	.375	5-3/4"	1-1/4"	4,750 lbs
SBHCIF114	12"	2-5/16"	2-1/2"	.440	5-3/4"	1-1/4"	8,000 lbs
SBCIFL1212	12"	2-5/16"	2-3/4"	.440	5-3/4"	1-1/2"	8,000 lbs

* 1/2" Coil Insert - Loop are not recommended for edge lifts.
* To order domestic product, add "D" at the end of the part number i.e. SBCIF346D
** Safe Working Load (SWL) based on a 4:1 safety factor in 3,000 psi concrete.

Coil Insert - Double Flare

- Primarily used for lifting precast sections
- Greater capacity than the single loop
- Second loop welded to same coil for extra strength
- Gives 2X the cross-sectional area of embedment while increasing shear cone surface area
- Gap between the two loops allows for the straddling of reinforcing steel.
- Minimum edge distance is 15 inches
- SWL based on 1/2” setback from face of concrete

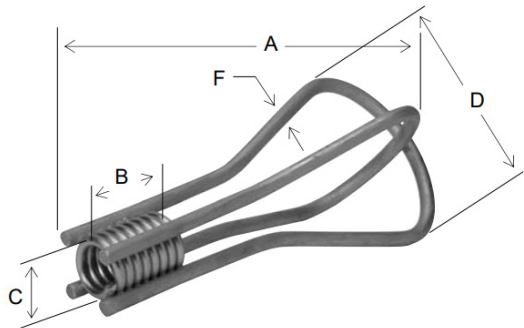


Coil Insert - Double Flare							
P/N	Insert Length (A)	Coil Length (B)	Coil Dia. (C)	Wire Dia. (D)	Loop Dia.	Bolt Dia.	Tension*
SBCIDF112	12"	2-1/16"	2-1/16"	.375	5-1/2"	1"	9,500 lbs
SBHCIDF112	12"	2-1/16"	2-1/4"	.440	5-3/4"	1"	13,500 lbs
SBCIDF11412	12"	2-1/16"	2-5/16"	.375	5-3/4"	1-1/4"	9,500 lbs
SBHCIDF11412	12"	2-1/16"	2-1/2"	.440	5-3/4"	1-1/4"	13,500 lbs
SBCIDF11212	12"	2-3/8"	2-9/16"	.375	5-3/4"	1-1/2"	9,500 lbs
SBHCIDF11212	12"	2-3/8"	2-3/4"	.440	5-3/4"	1-1/2"	13,500 lbs

* Safe Working Load (SWL) based on a 4:1 safety factor in 3,000 psi concrete.
* To order domestic product, add "D" at the end of the part number i.e. SBCIDF112D

Coil Insert - Criss Cross

- Primarily used for lifting precast sections
- More compact allowing for use in tighter situations
- Minimum edge distance is 15 inches
- SWL based on 1/2” setback from face of concrete

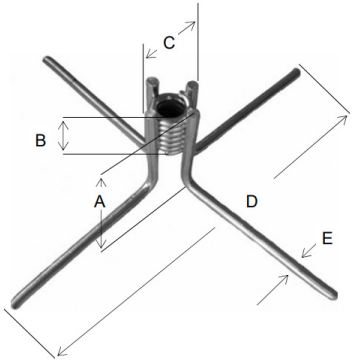


Coil Insert - Criss Cross							
P/N	Length (A)	Coil Length (B)	Insert Width (C)	Wire Dia. (D)	Loop Dia.	Bolt Dia.	Tension***
SBCICC11238	12-3/8"	2-1/16"	2-1/16"	.375	5-1/2"	1"	9,500 lbs
SBHCICC11212	12-1/2"	2-1/16"	2-1/4"	.440	5-3/4"	1"	13,500 lbs
SBCICC1141238	12-3/8"	2-1/16"	2-5/16"	.375	5-3/4"	1-1/4"	9,500 lbs
SBHCICC1141212	12-1/2"	2-1/16"	2-1/2"	.440	5-3/4"	1-1/4"	13,500 lbs
SBCICC1121238	12-3/8"	2-3/8"	2-9/16"	.375	5-3/4"	1-1/2"	9,500 lbs
SBHCICC1121212	12-1/2"	2-3/8"	2-3/4"	.440	5-3/4"	1-1/2"	13,500 lbs

* Safe Working Load (SWL) based on a 4:1 safety factor in 3,000 psi concrete.
* To order domestic product, add "D" at the end of the part number i.e. SBCICC11238D

Coil Insert - L-Leg

- Composed of a four strut insert
- Available in bolt diameters of 3/4 to 1-1/2 inches
- Struts fabricated from medium carbon steel wire
- Helix coils are electrically welded to the struts resulting in a consistently safe weld
- SWL based on 1/2” setback from face of concrete

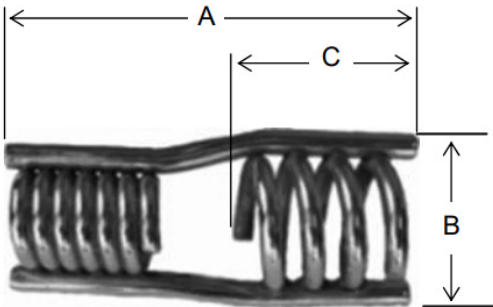


Coil Insert - L-Leg								
P/N	Insert Height (A)	Coil Length (B)	Coil Dia. (C)	Leg Length (D)	Wire Dia. (E)	Bolt Dia.	Min Edge Distance	Tension*
SBCILL343	3"	1-3/4"	1-5/8"	7-1/8"	.306	3/4"	9"	2,500 lbs
SBCILL14	4"	2-1/16"	1-7/8"	9-1/2"	.306	1"	12"	3,500 lbs
SBCILL1144	4"	2-1/16"	2-1/4"	9-3/4"	.375	1-1/4"	12"	4,000 lbs
SBCILL1124	4"	2-1/16"	2-1/2"	10"	.375	1-1/2"	12"	4,000 lbs

* Safe Working Load (SWL) based on a 4:1 safety factor in 3,000 psi concrete.
* To order domestic product, add "D" at the end of the part number i.e. SBCILL343D

Coil Insert - Open Coil

- Designed to give additional load strength in concrete
- without increasing the depth of the anchor
- Available in plain steel or electro-galvanized
- Available with 2, 4 or 6 struts
- Accompanying washers are available
- SWL based on 1/2” setback from face of concrete

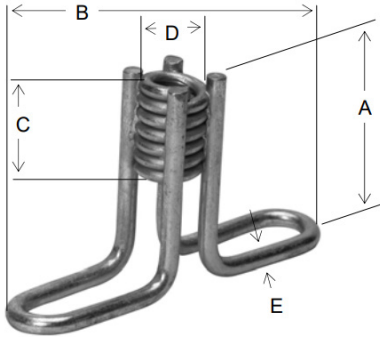


Coil Insert - Open Coil									
P/N	Insert Height (A)	Coil Dia. (B)	Coil Length (C)	Wire Dia	Struts*	Bolt Dia.	Min Edge Distance**	Tension***	Shear***
SBCIOC34412	4-1/2"	2-1/8"	1-1/2"	.375	2	3/4"	6"	4,250 lbs	4,250 lbs
SBCIOC1512	5-1/2"	2-1/2"	2-1/4"	.440	2	1"	7"	6,250 lbs	6,250 lbs
SBCIOC1712	7-1/2"	2-3/4"	2-3/4"	.440	4	1"	10"	10,000 lbs	12,000 lbs
SBCIOC114712	7-1/2"	3"	2-3/4"	.440	4	1-1/4"	10"	12,000 lbs	12,000 lbs
SBCIOC114912	9-1/2"	3"	3-5/8"	.440	6	1-1/4"	12"	16,000 lbs	16,000 lbs
SBCIOC1112912	9-1/2"	3-3/8"	3-5/8"	.440	6	1-1/2"	12"	16,000 lbs	16,000 lbs

* 2-Strut inserts are not recommended for edge lifts.
* To order domestic product, add "D" at the end of the part number i.e. SBCIOC34412D
** Use additional tension bar if edge distance is less than the minimum specified.
*** Safe Working Load (SWL) based on a 4:1 safety factor in 3,000 psi concrete.

Coil Insert - Thin Slab

- Designed for use in small sections or thin slabs where larger inserts will not fit
- Used for small loads only
- Fixing plate available
- SWL based on 1/2” setback from face of concrete

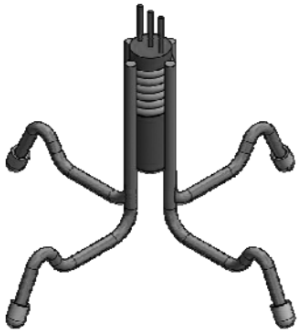


Coil Insert - Thin Slab*								
P/N	Insert Height (A)	Insert Width (B)	Length (C)	Coil Dia (D)	Wire Dia. (E)	Bolt Dia	Min Edge Distance	Tension**
SBCITS12214	2-1/4"	4-1/8"	1-1/8"	1-1/4"	.225	1/2"	4"	950 lbs
SBCITS34214	2-1/4"	5"	1-5/8"	1-5/8"	.306	3/4"	5"	2,000 lbs
SBCITS34312	3-1/2"	6"	2"	2"	.306	3/4"	6"	3,400 lbs
SBCITS1212	2-1/2"	6"	2"	2"	.306	1"	5"	2,000 lbs
SBCITS1412	4-1/2"	6"	2"	2"	.306	1"	8"	4,750 lbs

* Recommended for thin slabs only. Limited load capacity.
* To order domestic product, add "D" at the end of the part number i.e. SBCITS12214D
** Safe Working Load (SWL) based on a 4:1 safety factor in 3,000 psi concrete.

Pick-Up Insert

- Used for stripping and handling precast segments
- Swivel Lift Plates are recommended for lifting.
- Plastic feet to minimize surface corrosion
- Fractional sizes available on request
- Minimum distance from segment edge is 12"



Pick-Up Insert with Plug*							
P/N	Insert Height	Coil Size	Wire Dia.	Panel Thickness	Min Edge Distance	Tension**	Shear**
SBPUI344	4"	3/4"	0.375	4"	12"	2,270 lbs	4,539 lbs
SBPUI345	5"	3/4"	0.375	5"	12"	3,442 lbs	5,400 lbs
SBPUI346	6"	3/4"	0.375	6"	12"	4,766 lbs	5,400 lbs
SBPUI347	7"	3/4"	0.375	7"	12"	6,228 lbs	5,400 lbs
SBPUI348	8"	3/4"	0.375	8"	12"	7,820 lbs	5,400 lbs
SBPU14	4"	1"	0.375	4"	12"	2,270 lbs	4,539 lbs
SBPU15	5"	1"	0.375	5"	12"	3,442 lbs	5,520 lbs
SBPU16	6"	1"	0.375	6"	12"	4,766 lbs	5,520 lbs
SBPU17	7"	1"	0.375	7"	12"	6,228 lbs	5,520 lbs
SBPU18	8"	1"	0.375	8"	12"	7,820 lbs	5,520 lbs
SBPU1144	4"	1-1/4"	0.375	4"	12"	2,270 lbs	4,539 lbs
SBPU1145	5"	1-1/4"	0.375	5"	12"	3,442 lbs	5,520 lbs
SBPU1146	6"	1-1/4"	0.375	6"	12"	4,766 lbs	5,520 lbs
SBPU1147	7"	1-1/4"	0.375	7"	12"	6,228 lbs	5,520 lbs
SBPU1148	8"	1-1/4"	0.375	8"	12"	7,820 lbs	5,520 lbs
SBPU1124	4'	1-1/2"	0.375	4"	12"	2,270 lbs	4,539 lbs
SBPU1125	5"	1-1/2"	0.375	5"	12"	3,442 lbs	5,520 lbs
SBPU1126	6"	1-1/2"	0.375	6"	12"	4,766 lbs	5,520 lbs
SBPU1127	7"	1-1/2"	0.375	7"	12"	6,228 lbs	5,520 lbs
SBPU1128	8"	1-1/2"	0.375	8"	12"	7,820 lbs	5,520 lbs

* Not recommended for edge or end of concrete segments.
* To order domestic product, add "D" at the end of the part number i.e. SBPUI344D
** Safe Working Load (SWL) based on a 4:1 safety factor in 3,000 psi concrete.

Locator Plug

- Two-piece plastic design snaps together within coil
- Plug creates void for subsequent bolt engagement
- Antenna identifies plug location at concrete surface

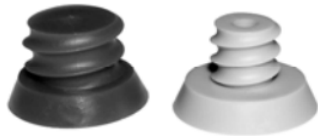
Locator Plug		
P/N	Description	Length Below Coil
SBLP34	Locator Plug 3/4" Coil	1-1/2"
SBLP1	Locator Plug 1" Coil	1-5/8"
SBP114	Locator Plug 1-1/4" Coil	1-3/4"



Threaded Plug

Threaded plugs can be used with coil inserts and anchors to keep the threads clean during concrete placement.

Threaded Plug	
P/N	Description
SBTPPC38	Threaded Plug 3/8" (10)
SBTPPC12	Threaded Plug 1/2" (13)
SBTPPC58	Threaded Plug 5/8" (16)
SBTppC34	Threaded Plug 3/4" (19)



Setting Plug

Setting plugs are used to position and fasten inserts to forms. The nail hole through the center of the plug provides access and quick attachment.

Setting Plug—Plastic	
P/N	Description
SBPSP12	Setting Plug 1/2"x2-1/2" Plastic
SBPSP34	Setting Plug 3/4"x3-3/4" Plastic
SBPSP1	Setting Plug 1"x5" Plastic



Setting Plug—Steel with Magnet	
P/N	Description
SBGB100126CR	Setting Plug 1/2"x6" wMagnet
SBGB100346CR	Setting Plug 3/4"x6" wMagnet
SBGB10016CR	Setting Plug 1"x6" wMagnet
SBGB1001146CR	Setting Plug 1-1/4"x6" wMagnet

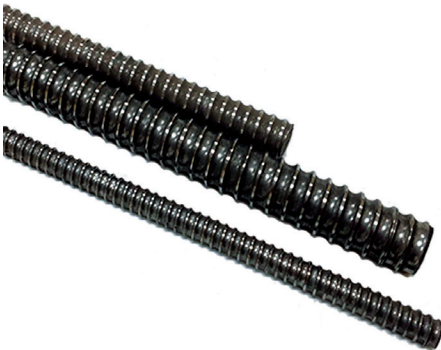
Coil Rod

Common uses for Coil Rod in precast concrete operations include:

- Anchors
- Coil Tie combination for variable wall thickness
- External tie method for corner or column forms

Coil Rod		
P/N	Description	Load Rating*
SBCR12	Coil Rod 1/2" x 12'	9,000 lbs
SBCR58	Coil Rod 5/8" x 12'	12,000 lbs
SBCR34	Coil Rod 3/4" x 12'	18,000 lbs
SBCR78	Coil Rod 7/8" x 12'	24,000 lbs
SBCR1	Coil Rod 1" x 12'	38,000 lbs
SBCR114	Coil Rod 1-1/4" x 12'	56,000 lbs
SBCR112	Coil Rod 1-1/2" x 12'	68,000 lbs

** To order domestic product, add "D" at the end of the part number i.e. SBCR12D*



Coil Bolts

Reusable, coarse thread, self-cleaning, grade 5 bolt for forming applications.

Coil Bolts					
Part No.	Description	Thread Length	Threads per inch	Ultimate Shear Load (lbs)	Ultimate Tension Load (lbs)
SBCB123	Coil Bolt 1/2"x3"	2-1/4"	6	12,000	18,000
SBCB124	Coil Bolt 1/2"x4"	3-1/4"	6	12,000	18,000
SBCB125	Coil Bolt 1/2"x5"	4-1/4"	6	12,000	18,000
SBCB126	Coil Bolt 1/2"x6"	5"	6	12,000	18,000
SBCB1212	Coil Bolt 1/2"x12"	11"	6	12,000	18,000
SBCB1224	Coil Bolt 1/2"x24"	23"	6	12,000	18,000
SBCB343	Coil Bolt 3/4"x3"	2-1/4"	4-1/2	26,500	40,000
SBCB344	Coil Bolt 3/4"x4"	3-1/4"	4-1/2	26,500	40,000
SBCB345	Coil Bolt 3/4"x5"	4-1/4"	4-1/2	26,500	40,000
SBCB346	Coil Bolt 3/4"x6"	5"	4-1/2	26,500	40,000
SBCB3424	Coil Bolt 3/4"x24"	23"	4-1/2	26,500	40,000
SBCB13	Coil Bolt 1"x3"	2"	3-1/2	48,400	72,500
SBCB14	Coil Bolt 1"x4"	3"	3-1/2	48,400	72,500
SBCB15	Coil Bolt 1"x5"	4"	3-1/2	48,400	72,500
SBCB16	Coil Bolt 1"x6"	5"	3-1/2	48,400	72,500
SBCB1143	Coil Bolt 1-1/4"x3"	2"	3-1/2	67,800	101,500
SBCB1144	Coil Bolt 1-1/4"x4"	3"	3-1/2	67,800	101,500
SBCB1145	Coil Bolt 1-1/4"x5"	4"	3-1/2	67,800	101,500
SBCB1146	Coil Bolt 1-1/4"x6"	5"	3-1/2	67,800	101,500

** To order domestic product, add "D" at the end of the part number i.e. SBCB123D*



Coil Rod Coupler

The coupler is used to maintain the load rating when joining two lengths of coil rod. The coupler is tapped from each end, providing a stop at the center to indicate full thread engagement.

Coil Rod Coupler				
P/N	Description	Length	Dia	Load Rating*
SBCRC12	Coil Rod Coupler 1/2"	2-3/4"	1/2"	9,000 lbs
SBCRC58	Coil Rod Coupler 5/8"	3-1/4"	5/8"	12,000 lbs
SBCRC34	Coil Rod Coupler 3/4"	3-1/4"	3/4"	18,000 lbs
SBCRC78	Coil Rod Coupler 7/8"	4-1/4"	7/8"	24,000 lbs
SBCRC1	Coil Rod Coupler 1"	4-1/2"	1"	38,000 lbs
SBCRC114	Coil Rod Coupler 1-1/4"	5-3/4"	1-1/4"	56,000 lbs
SBCRC112	Coil Rod Coupler 1-1/2"	7"	1-1/2"	68,000 lbs

* Load rating based on 2:1 safety factor.
* To order domestic product, add "D" at the end of the part number i.e. SBCRC12D



Coil Nut

Coil Nut					
P/N	Description	Height	Width at Flats	w/Single Nut*	w/Double Nut*
SBCN12	Coil Nut 1/2"	1/2"	7/8"	6,000 lbs	9,000 lbs
SBCN58	Coil Nut 5/8"	5/8"	1"	8,000 lbs	12,000 lbs
SBCN34	Coil Nut 3/4"	3/4"	1-1/8"	9,000 lbs	18,000 lbs
SBCN78	Coil Nut 7/8"	7/8"	1-3/8"	15,000 lbs	24,000 lbs
SBCN1	Coil Nut 1"	1"	1-5/8"	24,000 lbs	38,000 lbs
SBCN114	Coil Nut 1-1/4"	1-1/4"	2"	36,000 lbs	56,000 lbs
SBCN112	Coil Nut 1-1/2"	1-1/2"	2-3/8"	47,500 lbs	68,000 lbs
SBCN12HH	Coil Nut 1/2" Heavy Hex	1"	7/8"	9,000 lbs	--
SBCN58HH	Coil Nut 5/8" Heavy Hex	1-1/4"	1"	12,000 lbs	--
SBCN34HH	Coil Nut 3/4" Heavy Hex	1-1/2"	1-1/8"	18,000 lbs	--
SBCN78HH	Coil Nut 7/8" Heavy Hex	1-3/4"	1-3/8"	24,000 lbs	--
SBCN1HH	Coil Nut 1" Heavy Hex	2"	1-5/8"	38,000 lbs	--
SBCN114HH	Coil Nut 1-1/4" Heavy Hex	2-1/2"	2"	56,000 lbs	--
SBCN112HH	Coil Nut 1-1/2" Heavy Hex	3"	2-3/8"	68,000 lbs	--

* Load rating based on 2:1 safety factor
* To order domestic product, add "D" at the end of the part number i.e. SBCN12D

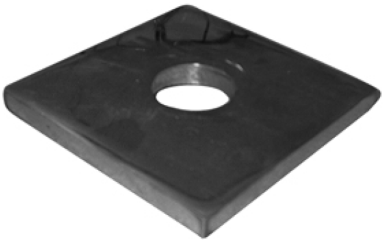


Flat Washer

Flat washers are used with all sizes of coil rod. The washers are designed to provide adequate bearing at walers or form joints.

Flat Washer			
P/N	Description	Bolt Size	Load Rating*
SBFW1434916	Flat Washer 1/4"x4"x3" with 9/16" hole	1/2"	1,800 lbs
SBFW14451316	Flat Washer 1/4"x4"x5" with 13/16" hole	3/4"	2,700 lbs
SBFW12551116	Flat Washer 1/2"x5"x5" with 1-1/16" hole	1"	7,200 lbs
SBFW12551516	Flat Washer 1/2"x5"x5" with 1-5/16" hole	1-1/4"	10,800 lbs
SBFW34551916	Flat Washer 3/4"x5"x5" with 1-9/16" hole	1-1/2"	15,000 lbs

* Load rating based on double waler channel at 2:1 safety factor.
* To order domestic product, add "D" at the end of the part number i.e. SBFW1434916D

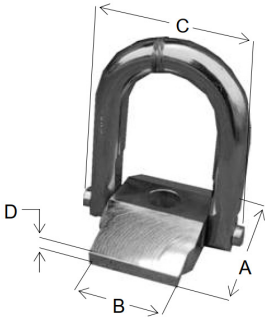


Swivel Lift Plate

- Designed for attaching to any type of single lift insert
- Available in 3/4" and 1" coil bolt sizes

Swivel Lift Plate							
P/N	A	B	C	D	Bolt Dia.	Min Bolt Length	Tension*
SBSLP34	5"	2-5/8"	5-1/8"	5/8"	3/4"	4"	7,000 lbs
SBSLP1	5"	2-5/8"	5-1/8"	5/8"	1"	5"	10,000 lbs

* Load rating based on 5:1 safety factor
* To order domestic product, add "D" at the end of the part number i.e. SBSLP34D

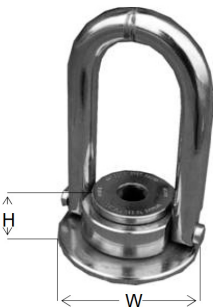


Double Swivel Lift Plate

- Permits rotation of the bail in the direction of the rigging and applied loading
- Bail portion of the lift plate rotates a full 360° in horizontal plane and will also swivel 180° in a vertical plane

Double Swivel Lift Plate					
P/N	H	W	Bolt Dia.	Min Bolt Length	Tension*
SBDSL34	1-1/2"	5"	3/4"	4-1/2"	7,000 lbs
SBDSL1	2"	5"	1"	5"	10,000 lbs
SBDSL114	2-3/4"	7"	1-1/4"	6"	15,000 lbs
SBDSL112	2-3/4"	7"	1-1/2"	6"	20,000 lbs

* Minimum 150ksi bolt required.
* To order domestic product, add "D" at the end of the part number i.e. SBDSL34
** Load rating based 5:1 safety factor.

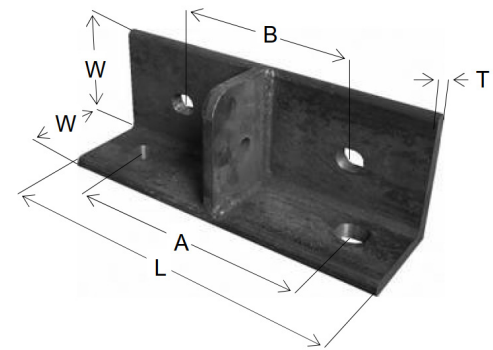


Lift Angle Bracket

The Lift Angle Bracket is generally used for face lifting tilt-up panels, but it can also be used for edge lift conditions when the panel thickness is 6” or greater. Cut washers are required under the head of each bolt.

Lifting Angle								
P/N	A	B	L	T	W	Bolt Dia.	Min Bolt Length	Tension*
SBLAB1	12”	-	21”	3/4”	6”	1”	4”	12,000 lbs
SBLAB114	-	15”	21”	3/4”	6”	1-1/4”	4”	18,000 lbs
SBLAB112	-	15”	21”	3/4”	6”	1-1/2”	4”	18,000 lbs

* Load rating based 5:1 safety factor.
* To order domestic product, add “D” at the end of the part number i.e. SBLAB1D

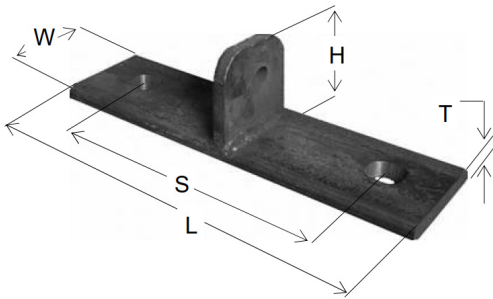


Edge Lift Plate

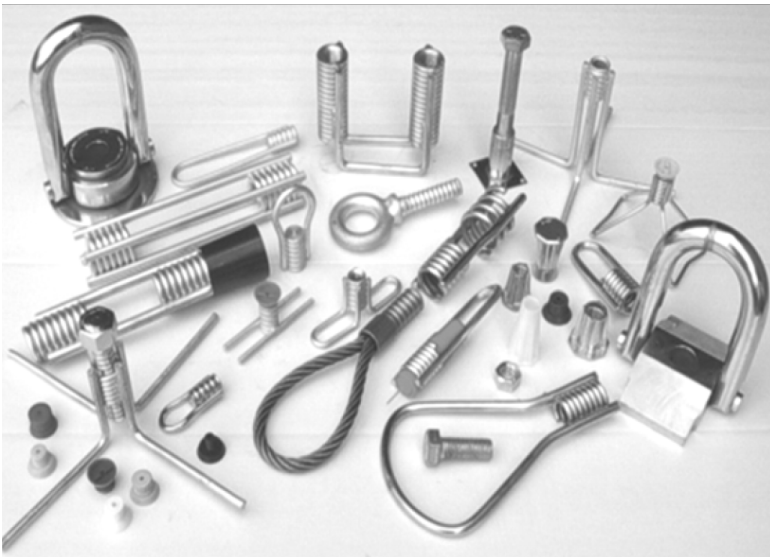
The Edge Lifting Plate is designed to be used with either the double edge or double end pick-up insert. Minimum coil bolt length to be used is 4”. Cut washers are required for each bolt.

Edge Lifting Plate								
P/N	H	L	S	T	W	Bolt Dia.	Min Bolt Length	Tension*
SBELP34	5-1/2”	18”	12”	1”	4”	3/4”	4”	8,800 lbs
SBELP1	5-1/2”	18”	12”	1”	4”	1”	4”	8,800 lbs

* Load rating based 5:1 safety factor.
* To order domestic product, add “D” at the end of the part number i.e. SBELP34



Ferrule Inserts



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Ferrule

The ferrule is made from solid bar stock and available in all bolt diameters. The bottom end of the ferrule is closed to prevent concrete from entering. The minimum bolt engagement for a ferrule is the bolt diameter plus 1/8” inch. Ferrules accept NC threaded bolts or rod. Bolt lengths are important because ferrules are closed at the bottom end.

A ferrule may be substituted in a coil product (see previous section). Ferrules and coils (of same diameter) will have the same load capacities.

Ferrule Only					
P/N	Description	Diameter (D)	Length (L)	Threads	Maximum Engagement
SBFO38PL	Ferrule Only 3/8”	9/16”	1-1/4”	16/inch	3/4”
SBFO12PL	Ferrule Only 1/2”	11/16”	1-3/8”	13/inch	1”
SBFO58PL	Ferrule Only 5/8”	7/8”	1-5/8”	11/inch	1-1/8”
SBFO34PL	Ferrule Only 3/4”	1”	1-5/8”	10/inch	1-1/8”
SBFO78PL	Ferrule Only 7/8”	1-3/8”	1-5/8”	9/inch	1-1/8”

* To order domestic product, add “D” at the end of the part number i.e. SBFO38PLD

Ferrule Insert - Loop

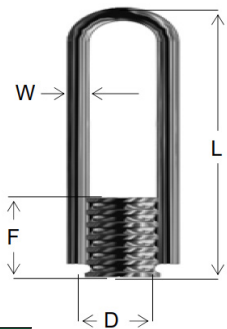
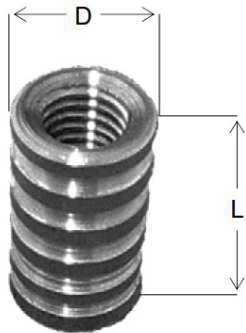
Ferrule Inserts are designed to permanently attach a precast panel to a building frame or as a mechanical connection for electrical trays, pipe hangers, sprinkler systems or other suspended items.

Ferrules accept NC threaded bolts or rod. Bolt lengths are important because ferrules are closed at the bottom end.

Ferrule Insert - Straight Loop							
P/N	Diameter (D)	Ferrule (F)	Length (L)	Wire (W)	Bolt Dia.	Min Edge Distance	Tension*
SBFIL124	11/16”	1-3/8”	4-1/8”	.225	1/2”	5”	3,000 lbs
SBFIL126	11/16”	1-3/8”	6-1/8”	.306	1/2”	8”	4,000 lbs
SBFIL584	7/8”	1-5/8”	4-1/8”	.225	5/8”	5”	3,000 lbs
SBFIL586	7/8”	1-5/8”	6-1/8”	.375	5/8”	8”	5,000 lbs
SBFIL344	1”	1-5/8”	4-1/8”	.225	3/4”	5”	3,000 lbs
SBFIL346	1”	1-5/8”	6-1/8”	.375	3/4”	9”	5,000 lbs
SBFIL786	1-3/8”	1-5/8”	6-1/8”	.375	7/8”	9”	5,000 lbs
SBFIL16	1-3/8”	1-5/8”	6-1/8”	.375	1”	9”	5,000 lbs
SBFIL18	1-3/8”	1-5/8”	8-1/8”	.375	1”	9”	6,000 lbs

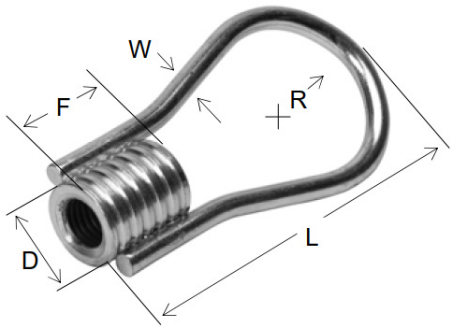
* Safe Working Load (SWL) based on 3:1 safety factor in 3,000 psi concrete with 1/2” set-back from surface.

* To order domestic product, add “D” at the end of the part number i.e. SBFIL124D



Ferrule Insert - Flare

The Flared Loop is designed to permanently attach a precast panel to a building frame or as a mechanical connection for electrical trays, pipe hangers, sprinkler systems or other suspended items. Ferrules accept NC threaded bolts or rod. Bolt lengths are important because ferrules are closed at the bottom end.



Ferrule Insert - Flare*								
P/N	Diame-ter (D)	Ferrule (F)	Length (L)	Radius (R)	Wire (W)	Bolt Dia	Min Edge Distance	Tension**
SBFIF38234	9/16”	1-1/4”	2-3/4”	9/16”	.243	3/8”	5”	2,000 lbs
SBFIF12234	11/16”	1-3/8”	2-3/4”	9/16”	.243	1/2”	5”	2,000 lbs
SBFIF58312	7/8”	1-5/8”	3-1/2”	13/16”	.262	5/8”	5”	2,300 lbs
SBFIF34312	1”	1-5/8”	3-1/2”	13/16”	.262	3/4”	5”	2,400 lbs
SBFIF786	1-1/4”	1-5/8’	6”	1-3/8”	.375	7/8”	8”	5,300 lbs
SBFIF16	1-3/8”	1-5/8”	6”	1-3/8”	.375	1”	8”	5,300 lbs

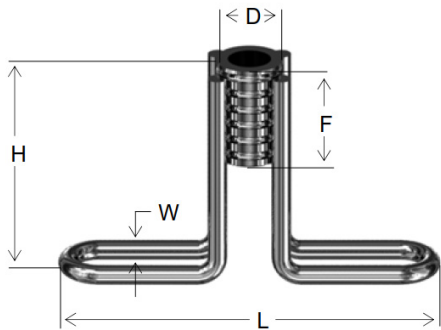
* Ferrule Insert - Flared Loop is not recommended as a lifting insert.

* To order domestic product, add “D” at the end of the part number i.e. SBFIF38234D

** Safe Working Load (SWL) based on 3:1 safety factor in 3,000 psi concrete with 1/2” set-back from surface

Ferrule Insert - Wing

The Wing Loop is designed for a limited concrete clearance when other inserts will not fit. The insert provides more capacity than standard inserts of the same height.



Ferrule Insert - Wing*								
P/N	Diameter (D)	Ferrule (F)	Height (H)	Length (L)	Wire (W)	Bolt Dia	Min Edge Distance	Tension**
SBFIW12134	11/16”	1-3/8	1-3/4”	4-1/2”	.225	1/2”	5”	1,200 lbs
SBFIW582716	7/8”	1-5/8	2-7/16”	4-3/4”	.306	5/8”	6”	2,500 lbs
SBFIWI342716	1”	1-5/8	2-7/16”	4-7/8”	.306	3/4”	6”	2,650 lbs
SBFIW34358	1-3/8”	1-5/8	3-5/8”	4-7/8”	.306	3/4”	8”	4,500 lbs
SBFIW12716	1-3/8”	1-5/8	2-7/16”	5-1/8”	.375	1”	6”	4,500 lbs
SBFIW1458	1-3/8”	1-5/8	4-5/8”	5-1/8”	.375	1”	9”	6,500 lbs

* Ferrule Insert - Flared Loop is not recommended as a lifting insert.

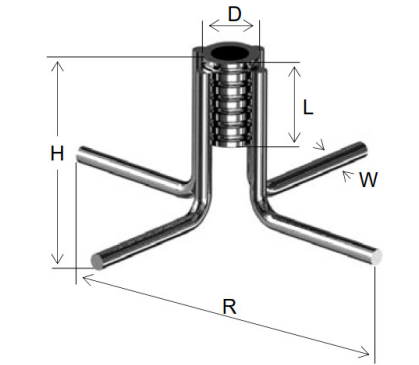
* To order domestic product, add “D” at the end of the part number i.e. SBFIW12134D

** Safe Working Load (SWL) based on 3:1 safety factor in 3,000 psi concrete with 1/2” set-back from surface.

Ferrule Insert - L-Leg

The L-Leg is designed to permanently attach a precast panel to a building frame or as a mechanical connection for electrical trays, pipe hangers, sprinkler systems or other suspended items.

Ferrules accept NC threaded bolts or rod. Bolt lengths are important because ferrules are closed at the bottom end.



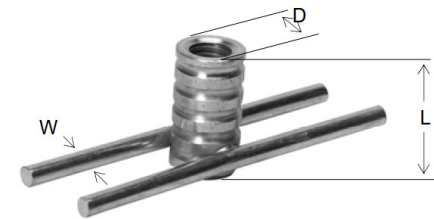
Ferrule Insert - L-Leg*								
P/N	Diameter (D)	Height (H)	Length (L)	Leg Length (R)	Wire Dia (W)	Bolt Dia	Min Edge Distance	Tension**
SBFILL34318	1"	3-1/8"	1-5/8"	7"	.306	3/4"	7"	3,500 lbs
SBFILL1418	1-3/8"	4-1/8"	1-5/8"	9-1/2"	.306	1"	9"	4,500 lbs

* When used as a lifting insert, the Safe Working Load (SWL) must be calculated on 4:1 safety factor
* To order domestic product, add "D" at the end of the part number i.e. SBFILL34318D
** Safe Working Load (SWL) based on 3:1 safety factor in 3,000 psi concrete with 1/2" set-back from surface.

Ferrule Insert - Thin Slab

The Thin Slab 2-Strut is designed for limited concrete clearance when no other insert type will fit. The 4" strut lengths are welded near the bottom of the ferrule.

Note: The capacity of this insert is limited and the working load should never be exceeded.

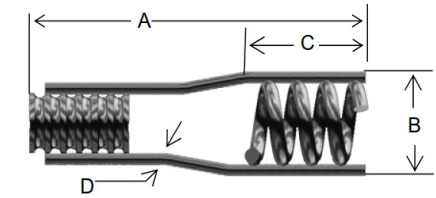


Ferrule Insert - Thin Slab					
P/N	Diameter (D)	Length (L)	Wire Dia (W)	Bolt Dia	Tension*
SBFITS38114	9/16"	1-1/4"	.261	3/8"	450 lbs
SBFITS12138	11/16"	1-3/8"	.261	1/2"	900 lbs
SBFITS58158	7/8"	1-5/8"	.261	5/8"	1,000 lbs
SBFITS34158	1"	1-5/8"	.261	3/4"	1,600 lbs
SBFITS78158	1-3/8"	1-5/8"	.261	7/8"	1,600 lbs
SBFITS1158	1-3/8"	1-5/8"	.261	1"	1,600 lbs

* Safe Working Load (SWL) based on 3:1 safety factor in 3,000 psi concrete with 1/2" set-back.
* To order domestic product, add "D" at the end of the part number i.e. SBFITS38114D

Ferrule Insert - Open Coil

- Designed to develop higher load capacities without increasing depth of insert
- Adequate vibration is necessary to assure concrete surrounds the open coil



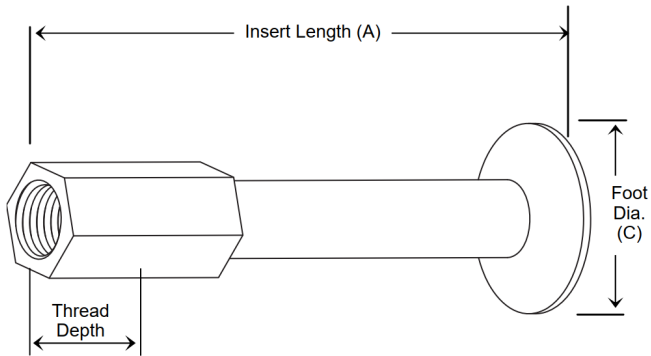
Ferrule Insert - Open Coil									
P/N	Length (A)	Coil Dia (B)	Coil (C)	Wire Dia (W)	Struts	Bolt Dia	Min Edge Distance	Tension*	Shear*
SBFIOC34458	4-5/8"	2-1/8"	1-1/2	.375	2	3/4" NC	6"	4,250 lbs	4,250 lbs
SBFIOC78618	6-1/8"	2-1/2"	2-1/4	.375	2	7/8" NC	7"	5,000 lbs	5,000 lbs
SBFIOC1558	5-5/8"	2-1/2"	2-1/4	.440	2	1" NC	7"	6,250 lbs	6,250 lbs
SBFIOC1758	7-5/8"	2-3/4"	2-3/4	.440	4	1" NC	10"	10,000 lbs	12,000 lbs
SBFIOC114758	7-5/8"	3"	2-3/4	.440	4	1-1/4" NC	10"	12,000 lbs	12,000 lbs
SBFIOC114958	9-5/8"	3"	3-5/8	.440	6	1-1/4" NC	12"	16,000 lbs	16,250 lbs
SBFIOC112958	9--5/8"	3-3/8"	3-5/8	.440	6	1-1/2" NC	12"	16,000 lbs	16,250 lbs

* Safe Working Load (SWL) based on 4:1 safety factor in 3,000 psi concrete with 1/2" set-back from surface.
* To order domestic product, add "D" at the end of the part number i.e. SBFIOC34458D

Ductile Ferrule Insert

The Ductile Ferrule Insert provides additional load strength in concrete segments. These inserts can be used for lifting, handling and mounting structural concrete components.

The foot creates a large shear area in the concrete. Couplers, bolts and nuts can be supplied in round or versions. Use with the Double Swivel Lift Plate for maximum capacity.

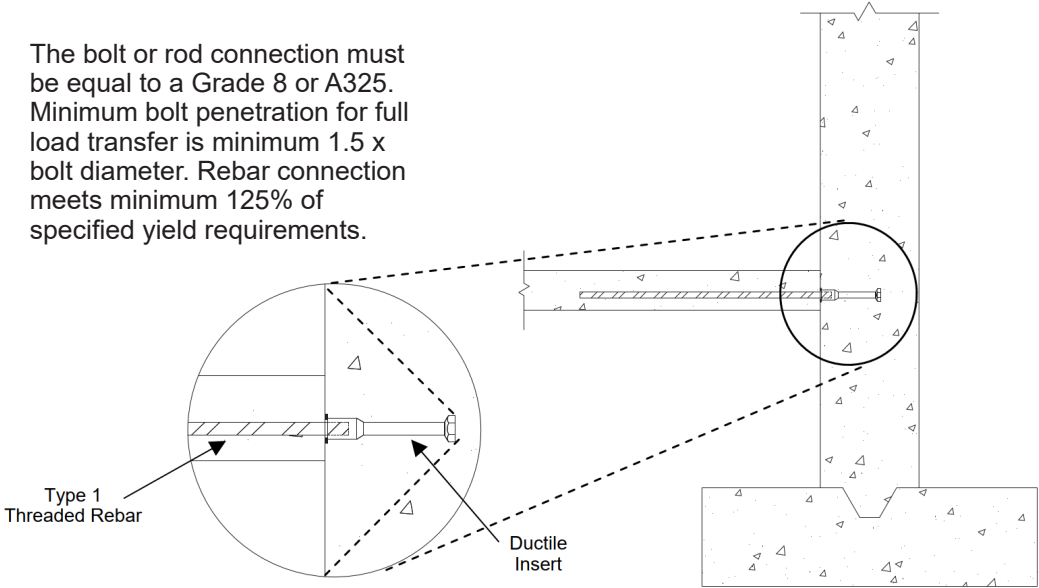


Also available in coil thread, example SBDC1125.

Ductile Insert*						
P/N	Length (A)	Foot Dia. (C)	Thread Depth	Bolt Dia	Min Edge Distance	Ultimate**
SBDFI125	5"	1	7/8"	1/2" NC	8"	18,000 lbs
SBDFI586	6"	1-1/4	1"	5/8" NC	10"	24,000 lbs
SBDFI347	7"	1-1/2	1-1/4"	3/4" NC	12"	34,600 lbs
SBDFI78712	7-1/2"	1-3/4	1-3/8"	7/8" NC	15"	43,000 lbs
SBDFI18	8"	2	1-1/2"	1" NC	16"	59,000 lbs
SBDFI11810	10"	2-1/4	1-3/4"	1-1/8"	20"	75,500 lbs
SBDFI11412	12"	2-1/2	2"	1-1/4"	24"	96,000 lbs

* When used as a lifting insert, the Safe Working Load (SWL) must be calculated using a 4:1 safety factor.
* When used as a permanent connection, the Safe Working Load (SWL) must be calculated at 3:1 safety factor.
* When used as a temporary connection, the Safe Working Load (SWL) must be calculated at 2:1 safety factor.
* To order domestic product, add "D" at the end of the part number i.e. SBDFI125D
** Ultimate strength based on 3,500 psi concrete.

The bolt or rod connection must be equal to a Grade 8 or A325. Minimum bolt penetration for full load transfer is minimum 1.5 x bolt diameter. Rebar connection meets minimum 125% of specified yield requirements.



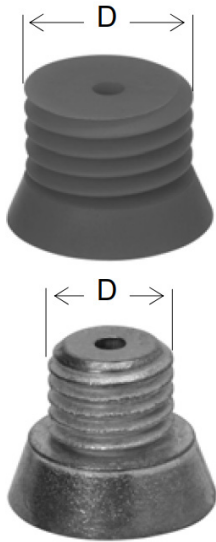
Threaded Plug - Plastic and Zinc

The Threaded Plug is designed to be threaded into a ferrule to keep concrete out and bolt holes clean.

It may also be used to attach the ferrule insert to the inside of a form by pre-nailing the plug to the form.

NC Threaded Plug—Plastic	
P/N	Dia (D)
SBTPP14	1/4" NC
SBTPP38	3/8" NC
SBTPP12	1/2" NC
SBTPP58	5/8" NC
SBTPP34	3/4" NC

NC Threaded Plug—Zinc	
P/N	Dia (D)
SBTPZ14	1/4" NC
SBTPZ38	3/8" NC
SBTPZ12	1/2" NC
SBTPZ58	5/8" NC
SBTPZ34	3/4" NC

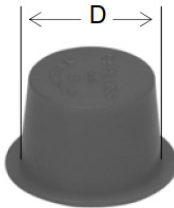


Plastic Plug

The Plastic Plug is designed to be pushed into the open end of a ferrule to keep concrete and bolt holes clean.

It may also be used to attach the ferrule insert to the inside of a form by pre-nailing the plug to the form.

Plastic Plug	
P/N	Dia (D)
SBPPPC38	3/4"
SBPPPC12	1/2"
SBPPPC58	5/8"
SBPPPC34	3/4"
SBPPPC1	1"

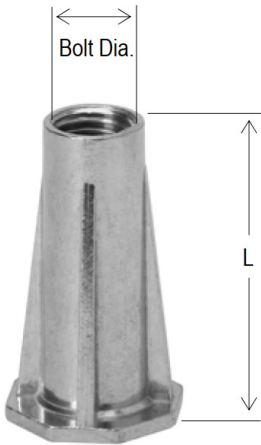


Precast Concrete Insert - Steel

- Threaded precast concrete insert
- Made from corrosion resistant zinc alloy
- Foot creates large shear cone in thin panels

NC Precast Concrete Insert - Steel				
P/N	Bolt Dia.	Length (L)	Threads	Safe Working Load*
SBPCIS14112	1/4"	1-1/2"	20/in	575 lbs
SBPCIS381	3/8"	1"	16/in	1,025 lbs
SBPCIS38138	3/8"	1-3/8"	16/in	1,200 lbs
SBPCIS12112	1/2"	1-1/2"	13/in	1,225 lbs
SBPCIS12278	1/2"	2-7/8"	13/in	2,025 lbs
SBPCIS581116	5/8"	1-11/16"	11/in	1,575 lbs
SBPCIS58278	5/8"	2-7/8"	11/in	2,500 lbs
SBPCIS3411116	3/4"	1-11/16"	10/in	1,725 lbs
SBPCIS34278	3/4"	2-7/8"	10/in	3,125 lbs

* Safe Working Load (SWL) based on 3:1 safety factor in 3000 psi concrete.
* To order domestic product, add "D" at the end of the part number i.e. SBPCIS14112D



Ring-Lift System



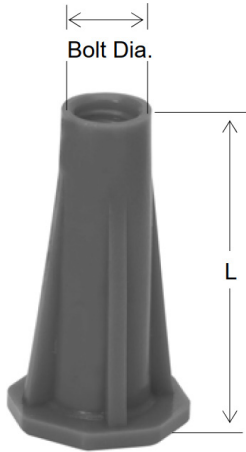
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Precast Concrete Insert - Plastic

- Threaded precast concrete insert
- Corrosion resistant plastic
- Foot creates large shear cone in thin panels

NC Precast Insert - Plastic			
P/N	Bolt Dia.	Length (L)	Tension*
SBPCIP38	3/8"	1-1/2"	600 lbs
SBPCIP12134	1/2"	1-3/4"	1,100 lbs
SBPCIP12234	1/2"	2-3/4"	1,880 lbs
SBPCIP58	5/8"	3"	2,250 lbs
SBPCIP34	3/4"	3"	2,800 lbs

* Safe Working Load (SWL) based on 3:1 safety factor in 3000 psi concrete.



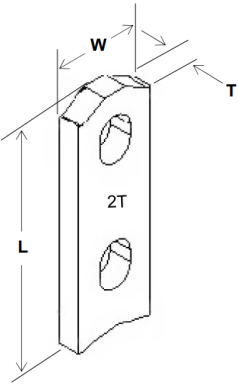
Two-Hole Anchor

The Two-Hole Anchor is used for stripping panels from tilt tables and handling panels. The anchor is also appropriate for high-tension loads that cannot be held with other anchors or panels constructed of lightweight concrete.

The full safe working load of the Two-Hole Anchor can be achieved in a thin slab or with low concrete strength by using a Tension Bar (see below). The wider distribution of shear forces allows for the raising thin or low compressive strength panels.

Available in black, galvanized (G) and hot-dip galvanized (HDG) finish.

Two-Hole Anchor						
P/N	Tons	Clutch ID	Length (L)	Width (W)	Thickness (T)	Tension*
SBTHA2T384	2T	2-2.5T	4"	1-1/4"	3/8"	4,000 lbs
SBTHA4T584	4T	4-5T	4"	1-1/2"	5/8"	8,000 lbs
SBTHA8T347	8T	8-10T	7"	2-1/2"	3/4"	16,000 lbs

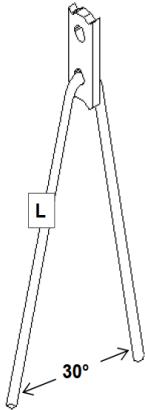


Tension Bar

The Tension Bar is used with the Erection Anchor to distribute tension loads into the precast segment.

Tension Bar Length (L) Requirement*					
P/N	Load	Rebar	Concrete Strength		
			2,000 psi	3,000 psi	5,000 psi
SBTB2T	2-2.5T	#4	2'-9"	2'-6"	1'-8"
SBTB4T	4-5T	#5	3'-6"	3'-0"	2'-2"
SBTB8T	6-8-10T	#6	5'-6"	4'-6"	3'-3"

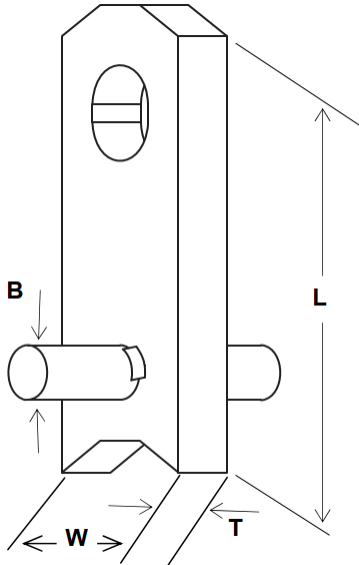
* Minimum reinforcing length (L) needed to develop the full strength of the anchor.



T-Bar Anchor

The T-Bar Anchor can be placed at the face, back or edge of precast panels to allow for back-stripping and rotation from horizontal-to-vertical.

Available in black, galvanized (G) and hot-dip galvanized (HDG) finish.



T-Bar Anchor*							
P/N	Tons	Length (L)	WIDTH (W)	Thickness (T)	Bar Dia (B)	Minimum Panel	Tension and Shear**
SBTBA2T434	2T	4"	1-1/4"	3/8"	1/2"	4-3/4"	4,000 lbs
SBTBA2T578	2T	5-1/2"	1-1/4"	3/8"	1/2"	5-7/8"	4,000 lbs
SBTBA4T458	4T	4-1/4"	1-1/2"	5/8"	1/2"	4-5/8"	5,500 lbs
SBTBA4T518	4T	4-3/4"	1-1/2"	5/8"	1/2"	5-1/8"	7,100 lbs
SBTBA4T558	4T	5-1/4"	1-1/2"	5/8"	1/2"	5-5/8"	8,000 lbs
SBTBA4T618	4T	5-3/4"	1-1/2"	5/8"	1/2"	6-1/8"	8,000 lbs
SBTBA4T658	4T	6-1/4"	1-1/2"	5/8"	1/2"	6-5/8"	8,000 lbs
SBTBA4T718	4T	6-3/4"	1-1/2"	5/8"	1/2"	7-1/8"	8,000 lbs
SBTBA4T758	4T	7-1/4"	1-1/2"	5/8"	1/2"	7-5/8"	8,000 lbs
SBTBA4T818	4T	7-3/4"	1-1/2"	5/8"	1/2"	8-1/8"	8,000 lbs
SBTBA8T1112	8T	6-1/8"	2-1/2"	3/4"	3/4"	11-1/2"	8,900 lbs
SBTBA8T1134	8T	11-1/8"	2-1/2"	3/4"	3/4"	11-3/4"	16,000 lbs

* Minimum edge distance is 2x embedded depth. Minimum anchor spacing is 4x embedded depth.

* To order domestic product, add "D" at the end of the part number i.e. SBTBA2T434D

** Safe Working Load based on a safety of 4:1 in 3,500 psi concrete.

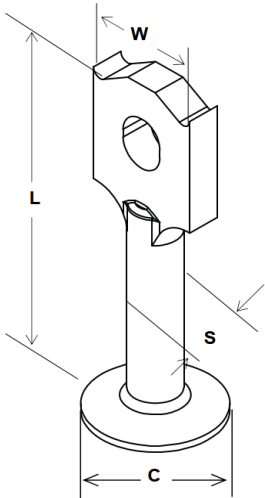
*** Handling panels requires sufficient sling or cable length., Sling angle inclination factors apply.

Foot Anchor

The drop-forged Foot Anchor handles most face lifting applications by developing a shear cone. The strong forged metal ensures structural integrity for consistently safe lifts.

The foot develops a high-tension, high-capacity shear cone in concrete slabs. It is available in many sizes and can handle most face lifting applications.

For reduced edge distance, spacing or low strength concrete, add additional rebar around the anchor.



Foot Anchor*								
P/N	Tons	Clutch	Length (L)	Width (W)	Shaft (S)	Foot Dia (C)	Min Edge Distance**	Tension and Shear***
SBRFA25312G	2.5T	2-2.5T	3-1/2"	1-5/16"	1/2"	1-1/2"	6"	3,900 lbs
SBRFA25512G	2.5T	2-2.5T	5-1/2"	1-5/16"	1/2"	1-1/2"	10-1/2"	4,510 lbs
SBRFA25612G	2.5T	2-2.5T	6-1/2"	1-5/16"	1/2"	1-1/2"	11"	5,000 lbs
SBRFA5312G	5T	4-5T	3-1/2"	1-13/16"	3/4"	2-1/4"	6"	4,400 lbs
SBRFA5512G	5T	4-5T	5-1/2"	1-13/16"	3/4"	2-1/4"	10-1/2"	8,500 lbs
SBRFA5712G	5T	4-5T	7-1/2"	1-13/16"	3/4"	2-1/4"	12-1/2"	9,000 lbs
SBRFA5912G	5T	4-5T	9-1/2"	1-13/16"	3/4"	2-1/4"	16"	11,000 lbs
SBRFA10512G	10T	8-10T	5-1/2"	2-5/8"	1-1/8"	2-7/8"	10"	8,800 lbs
SBRFA107G	10T	8-10T	7"	2-5/8"	1-1/8"	2-7/8"	12"	12,500 lbs
SBRFA1010G	10T	8-10T	10"	2-5/8"	1-1/8"	2-7/8"	17"	22,000 lbs

* Minimum spacing distance of 4x anchor depth.
** Minimum edge distance of 2x embedded anchor depth.
*** Safe Working Load (SWL) based on 4:1 safety factor in 3,500 psi concrete.

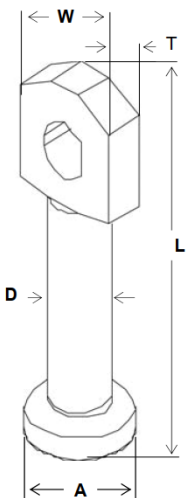


Uni-Anchor

The Uni-Anchor is used for back stripping and all types of face lifting. The foot designed for handling large anchoring forces in concrete.

The wider distribution of shear forces created by the Uni-Anchor allows for very thin-walled panels and concrete units that must be handled at low compressive strength.

Each anchor is produced in compliance with a quality control system and each batch is sampled and tested for safety.



Uni –Anchor								
P/N	Tons	Clutch ID	Shaft Dia. (D)	Length* (L)	Width (W)	Thickness (T)	Foot Dia. (A)	Tension**
SBRUA34512G	4T	4-5T	3/4"	5-1/2"	1-1/2"	5/8"	1.417"	6,000 lbs

* Minimum reinforcing length (L) needed to develop the full strength of the anchor.
** Safe Working Load (SWL) based on 4:1 safety factor in 3,500 psi concrete.

Straight Leg Insert

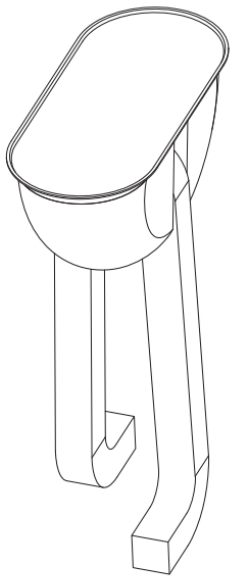
The Straight Leg Insert is designed for back-shipping and rotating segments using standard Ring-Lift hardware.

The L-shaped legs are designed for handling large anchoring forces in concrete segments. The insert can be further reinforced by adding rebar over the feet.

Each insert includes a one-time disposable plastic void former. An optional reusable steel void former is also available.

A wide-leg design, plastic feet, and galvanized finish are also available.

Available in black, galvanized (G) and hot-dip galvanized (HDG) finish.

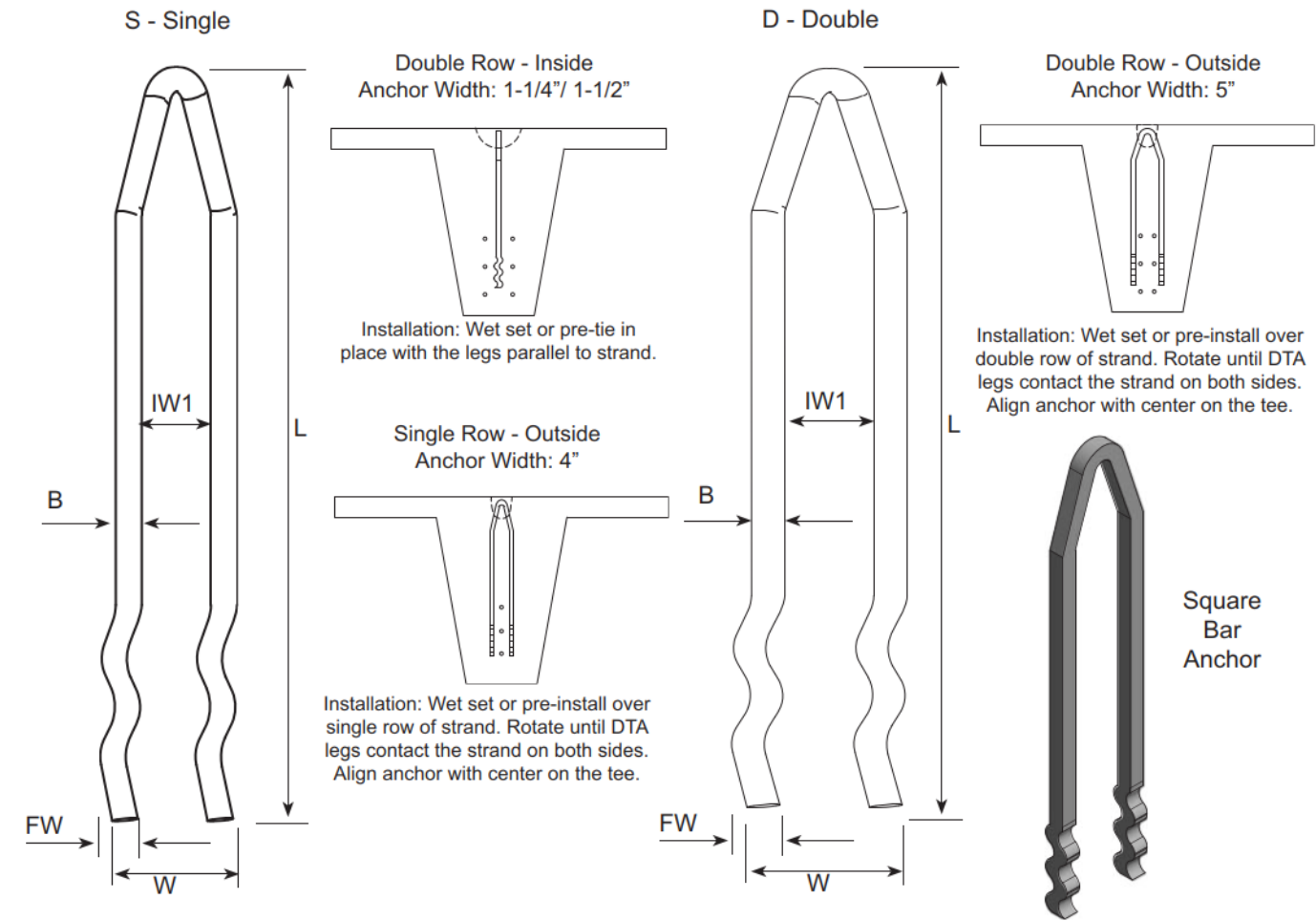


Straight Leg Insert					
P/N	Tons	Clutch ID	Height	Leg Thickness	Tension*
SBRSL2.5T312	2.5T	2-2.5T	3-1/2"	3/8"	3,900 lbs
SBRSL2.5T512	2.5T	2-2.5T	5-1/2"	3/8"	4,600 lbs
SBRSL5T312	5T	4-5T	3-1/2"	1/2"	4,400 lbs
SBRSL5T412	5T	4-5T	4-1/2"	1/2"	6,200 lbs
SBRSL5T512	5T	4-5T	5-1/2"	5/8"	8,000 lbs
SBRSL5T912	5T	4-5T	9-1/2"	5/8"	11,000 lbs
SBRSL10T512	10T	8-10T	5-1/2"	3/4"	8,800 lbs
SBRSL10T7	10T	8-10T	7"	3/4"	12,500 lbs
SBRSL10T9	10T	8-10T	9"	3/4"	20,000 lbs
SBRSL10T12	10T	8-10T	12"	3/4"	22,000 lbs

* Safe Working Load (SWL) based on 4:1 safety factor in 3,500 psi concrete.
* To order domestic product, add "D" at the end of the part number i.e. SBRSL2.5T312D
Based on full embedment, edge distance 1.5x height, and spacing 3x embedded depth.

Double Tee Anchor

The Double Tee Anchor is designed for lifting single or double tee precast concrete segments. The anchor is recessed to eliminate the removal costs associated with other lifting schemes. The design uses 5/8" square or 3/4" round bar for the 8T anchor and 3/4" square or 7/8" round bar for the 10T anchor. The wavy end of the anchor ensures proper engagement in the surrounding concrete.



Single and Double Tee Anchor*							
P/N	Tons	Thickness (B)	Width (FW)	Length (L)	Width (W)	Capacity**	Ultimate
SBDTA8T23 (S/D)	8T	3/4" Ø	1-1/4"	23"	5" (D) / 4" (S)	16,000 lbs	64,000 lbs
SBDTA10T23 (S/D)	10T	3/4" x 3/4"	1-1/2"	23"	5" (D) / 4" (S)	22,000 lbs	88,000 lbs

* Available in Single (S) and Double (D). Optional zinc finish.
* To order domestic product, add "D" at the end of the part number i.e. SBDTA8T23SD
** Safe Working Load (SWL) based on 4:1 safety factor in 6,000 psi concrete.
Based on minimum coverage of 3/4" from side of foot to edge of concrete and minimum spacing of 9" from end of beam.

Wavy Tail Anchor

The Wavy Tail Anchor is ideal for lifting pipes, tanks and other thin-wall concrete segments. Built for the 2.5T Ring-Lift lifting hardware.

The embedded tensile strength of the Wavy Tail Anchor in a slim wall section is noted below. The anchor must be in the center of the segment. Always secure the anchor to the reinforcing or form to maintain the position during concrete placement.

Wavy Tail Anchor					
P/N	Tons	Clutch ID	Length (L)	Width (W)	Capacity*
SBWTA14434	1T	2-2.5T	4-3/4"	1-1/4"	2,000 lbs

* Safe Working Load (SWL) based on 4:1 safety factor in 3,500 psi concrete.
* To order domestic product, add "D" at the end of the part number i.e. SBWTA14434D
Shear capacities are based on lifter casting bearing against concrete.

Note: When used as a "back-stripping" anchor, the minimum corner distance is 1.5x the anchor length and the minimum distance between adjacent anchors is 3x the anchor length.

Wavy Tail Anchor (Length 4-3/4") Capacity					
PANEL THICKNESS (T)	T / 2	T _c	Shear*	TENSION*	
				8"	12"
4"	2"	1.375"	403 lbs	1,400 lbs	1,600 lbs
5"	2-1/2"	1.875"	450 lbs	1,700 lbs	2,000 lbs
5 1/2"	2-9/16"	1.925"	550 lbs	2,000 lbs	2,000 lbs

* Safe Working Load (SWL) based on 4:1 safety factor in 3,500 psi concrete.
Minimum corner distance is 1.5x anchor length and minimum spacing is 3x anchor length.

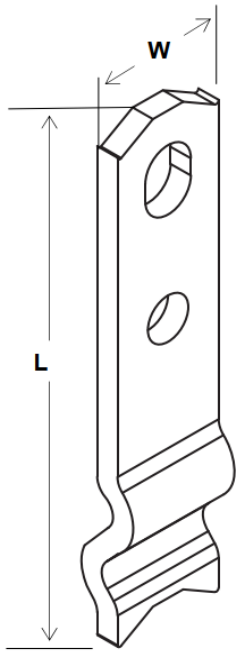


Plate Anchor

The Plate Anchor is used for face- and back-lifts of thin-walled segments. The low profile and wide, flat base provide excellent anchorage.

The welded horizontal plate at the bottom develops high pull-out strength in stripping, handling and erecting segments.

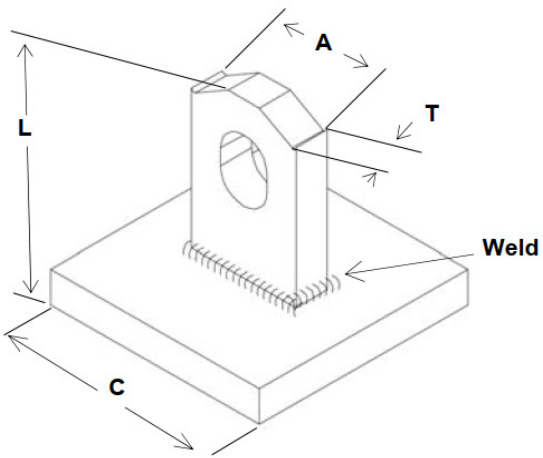
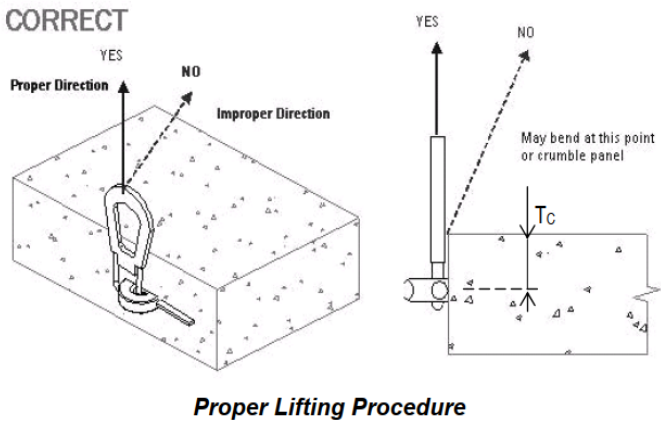
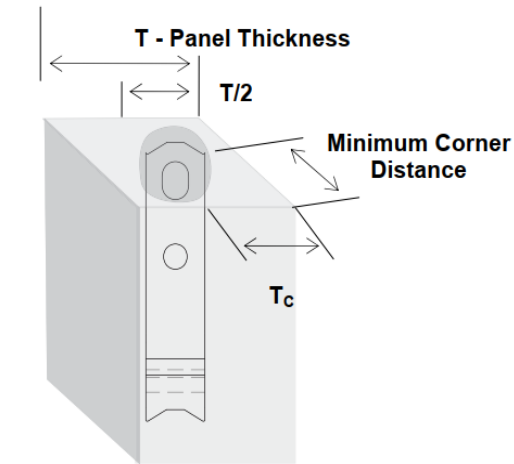


Plate Anchor*									
P/N	Tons	Clutch ID	Length (L)	Width (A)	Thick-ness (T)	Plate (C)	Min Edge Distance*	Shear**	Tension***
SBRPA38214G	2T	2-2.5T	2-1/4"	1-1/4"	3/8"	2-1/2"	4-1/2"	1,100 lbs	1,100 lbs
SBRPA583G	4T	4-5T	3"	1-1/2"	5/8"	3"	6"	3,800 lbs	3,500 lbs
SBRPA58312G	4T	4-5T	3-1/2"	1-1/2"	5/8"	3"	7"	4,700 lbs	4,700 lbs
SBRPA58438G	4T	4-5T	4-3/8"	1-1/2"	5/8"	4"	8"	5,200 lbs	5,200 lbs
SBRPA34512G	8T	8-10T	5-1/2"	2-1/2"	3/4"	4"	12"	6,350 lbs	6,350 lbs
SBRPA34718G	8T	8-10T	7-1/8"	2-1/2"	3/4"	4"	15"	10,000 lbs	10,000 lbs

* Minimum edge distance is 2x embedded depth.
* To order domestic product, add "D" at the end of the part number i.e. SBRPA38214DG
** Safe Working Load (SWL) based on 4:1 safety factor in 3,000 psi concrete.
Allowable shear face loads equal to or greater than unreinforced tension loads for anchors located at the minimum edge distance.
*** Safe Working Load (SWL) based on 4:1 safety factor in 3,500 psi concrete.

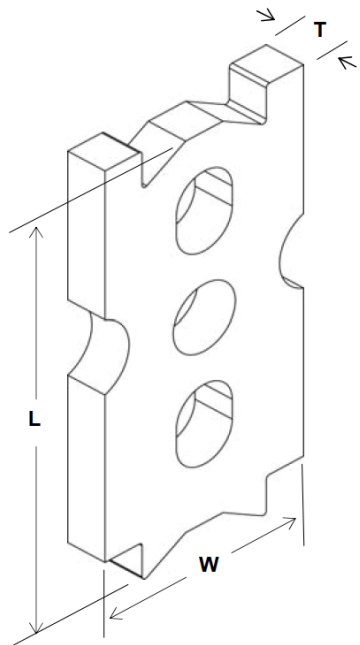


Erection Anchor

The Erection Anchor combines reinforcing capabilities with spall-free performance. It is ideal for an A-frame, tilt table or whenever the lift is not straight up.

While the shear capacity is less than a standard erection anchor because of the shorter length, the full safe working load can be achieved in thin slabs by using a reinforcement Tension Bar through the second hole.

The Erection Anchor head is equal to a standard erection anchor because of the length. The convex sides build better strength without any more material.



Erection Anchor						
P/N	Tons	Clutch ID	Length (L)	Width (W)	Thickness (T)	Tension w/ Tension Bar
SBDEA384G	2T	2-2.5T	4"	2"	3/8"	4,000 lbs
SBDEA587G	4T	4-5T	7"	2-1/2"	5/8"	8,000 lbs
SBDEA5876TG	6T	8-10T	7"	3-1/2"	5/8"	12,000 lbs
SBDEA347G	8T	8-10T	7"	3-1/2"	3/4"	16,000 lbs
SBDEA341312G	8T	8-10T	13-1/2"	3-1/2"	3/4"	16,000 lbs

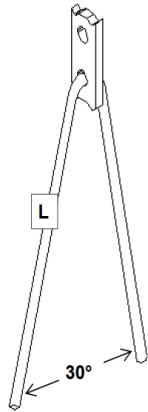
* To order domestic product, add "D" at the end of the part number i.e. SBDEA384DG

Tension Bar

The Tension Bar is used with the Erection Anchor to distribute tension loads into the precast segment.

Tension Bar Length (L) Requirement*					
P/N	Load	Rebar	Concrete Strength		
			2,000 psi	3,000 psi	5,000 psi
SBTB2T	2-2.5T	#4	2'-9"	2'-6"	1'-8"
SBTB4T	4-5T	#5	3'-6"	3'-0"	2'-2"
SBTB8T	6-8-10T	#6	5'-6"	4'-6"	3'-3"

* Minimum reinforcing length (L) needed to develop the full strength of the anchor.
* To order domestic product, add "D" at the end of the part number i.e. SBTB2TD



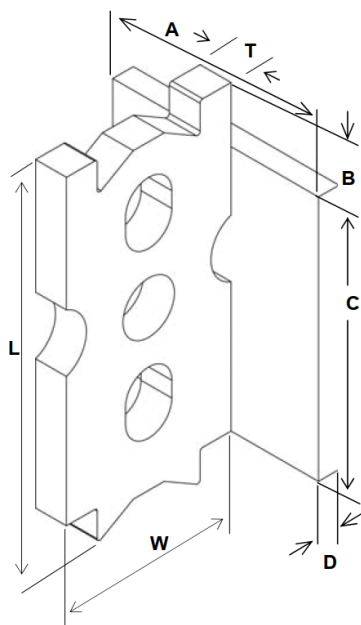
Erection Anchor with Shear Plate

The Erection Anchor combines reinforcing capabilities with spall-free performance. It is ideal for an A-frame, tilt table or whenever the lift is not straight up.

While the shear capacity is less than a standard erection anchor because of the shorter length, the full safe working load can be achieved in thin slabs by using a reinforcement Tension Bar through the second hole.

The Erection Anchor head is equal to a standard erection anchor because of the length. Convex sides build better strength without any added material.

The shear plate replaces the need for a shear bar making it easier to install.



Erection Anchor with Shear Plate										
P/N	Tons	Clutch ID	Anchor Dimension			Plate Dimension				Tension with Tension Bar*
			LENGTH (L)	WIDTH (W)	THICK (T)	WIDTH (A)	POSITION (B)	LENGTH (C)	THICK (D)	
SBDEA384SPG	2T	2-2.5T	4"	2"	3/8"	2-1/2"	3/4"	3"	1/4"	4,000 lbs
SBDEA38425TSPG	2.5T	2-2.5T	4"	2"	3/8"	2-1/2"	3/4"	3"	1/4'7"	5,000 lbs
SBDEA587SPG	4T	4-5T	7"	2-1/2"	5/8"	2-1/2"	1-1/4"	3"	3/8"	8,000 lbs
SBDEA347SPG	8T	8-10T	7"	3-1/2"	3/4"	3"	1-5/8"	3-1/2"	3/8"	16,000 lbs
SBDEA341312SPG	8T	8-10T	13-1/2"	3-1/2"	3/4"	3"	1-5/8"	3-1/2"	3/8"	16,000 lbs

* Safe Working Load (SWL) based on 4:1 safety factor in 3,500 psi concrete.
* To order domestic product, add "D" at the end of the part number i.e. SBDEA384SPDG

Note: There is load data on the following pages. If higher loads are desired, then a Tension Bar should be placed through the lower hole of the anchor. Consult the Tension Bar chart for rebar length, diameter and bend angle.

Erection Anchor with Shear Plate Load Table						
P/N	Tons	Clutch ID	Panel Thickness	Shear Load* with Shear Plate Transport Value	Shear Load* with Shear Plate Tilt-Up Value**	Tension Load* with Tension Bar
SBDEA3842TSPG	2T x 4"	2-2.5T	3-1/2" min	1,325 lbs	1,990 lbs	4,000 lbs
SBDEA3842TSPG	2T x 4"	2-2.5T	4"	1,525 lbs	2,290 lbs	4,000 lbs
SBDEA3842TSPG	2T x 4"	2-2.5T	5"	1,525 lbs	2,290 lbs	4,000 lbs
SBDEA3842TSPG	2T x 4"	2-2.5T	6"	1,750 lbs	2,630 lbs	4,000 lbs
SBDEA3842TSPG	2T x 4"	2-2.5T	7"	1,900 lbs	2,850 lbs	4,000 lbs
SBDEA3842TSPG	2T x 4"	2-2.5T	8"	2,075 lbs	3,120 lbs	4,000 lbs
SBDEA5874TSPG	4T x 7"	4-5T	5-1/2" min	2,025 lbs	3,045 lbs	8,000 lbs
SBDEA5874TSPG	4T x 7"	4-5T	6"	2,250 lbs	3,380 lbs	8,000 lbs
SBDEA5874TSPG	4T x 7"	4-5T	7"	2,600 lbs	3,900 lbs	8,000 lbs
SBDEA5874TSPG	4T x 7"	4-5T	8"	3,000 lbs	4,500 lbs	8,000 lbs
SBDEA5874TSPG	4T x 7"	4-5T	9"	3,375 lbs	5,075 lbs	8,000 lbs
SBDEA5874TSPG	4T x 7"	4-5T	10"	3,750 lbs	5,630 lbs	8,000 lbs
SBDEA3413128TSPG	8T x 13-1/2"	8-10T	7-1/2" min	4,010 lbs	6,030 lbs	16,000 lbs
SBDEA3413128TSPG	8T x 13-1/2"	8-10T	8"	4,010 lbs	6,030 lbs	16,000 lbs
SBDEA3413128TSPG	8T x 13-1/2"	8-10T	9"	4,120 lbs	6,190 lbs	16,000 lbs
SBDEA3413128TSPG	8T x 13-1/2"	8-10T	10"	4,280 lbs	6,430 lbs	16,000 lbs
SBDEA3413128TSPG	8T x 13-1/2"	8-10T	11"	4,420 lbs	6,645 lbs	16,000 lbs
SBDEA3413128TSPG	8T x 13-1/2"	8-10T	12"	4,550 lbs	6,845 lbs	16,000 lbs

* Safe Working Load (SWL) based on 4:1 safety factor with full embedment, reinforcement and 3,500 psi concrete.
** Tilt-Up values can be used for shear if an anchor is used only once for erecting the panel.

Shear Bar

The Shear Bar is used with the Erection Anchor to distribute tension loads into the precast segment. The bar is stronger, less expensive, and easier to use than fabricated rebar.



Shear Bar				
P/N	Tons	Clutch ID	Height	Min Panel Thickness
SBSB2T	2T	2-2.5T	2-1/2"	4"
SBSB4T	4T	4-5T	3-5/16"	5-1/2"
SBSB8T	8T	8-10T	4-15/16"	7-1/2"

* To order domestic product, add "D" at the end of the part number i.e. SBSB2TD

Note: During rotation the sling angle should be perpendicular to the surface. While the panel is being rotated on its edge, the load can usually be factored by 0.5. During this phase of the lift, the anchors are not bearing the full weight of the panel. The rated loads and minimum panel thicknesses can be found in the accompanying table. Once the panel has been rotated to vertical, the tension lift is initiated.

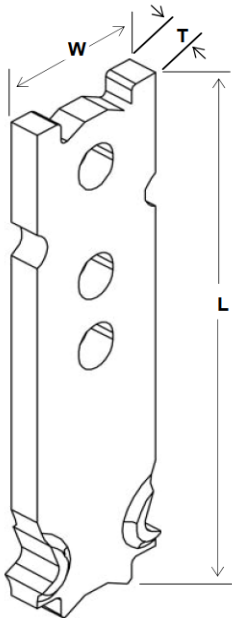
X-Foot Erection Anchor

The X-Foot Erection Anchor is designed for horizontal to vertical edge lifts and shear rotation of thin-walled units.

The specially designed head has two “ears” at the top protect against spalling. These ears hug either side of the ring clutch, restricting its rotation during lateral pulls. As a result, lateral forces are transmitted directly to the edges of the anchor instead of the concrete.

The body of the Erection Anchor is shaped to allow full reinforcement for secure support. Because of the stress caused by the shear lift of a thin panel, reinforcement is necessary in the direction of the lift.

The full safe working load can be achieved in thin slabs or when there is low concrete strength by using a Tension Bar in the second hole.



X-Foot Erection Anchor						
P/N	Tons	Clutch ID	Width (W)	Length (L)	Thickness (T)	Tension*
SBSFEA2TG	2T	2-2.5T	2"	8"	3/8"	4,000 lbs
SBSFEA4TG	4T	4-5T	2-1/2"	9-1/2"	5/8"	8,000 lbs
SBSFEA8TG	8T	8-10T	3-1/2"	13-1/2"	3/4"	16,000 lbs

* Safe Working Load (SWL) based on 4:1 safety factor in 3,500 psi concrete.
* To order domestic product, add "D" at the end of the part number i.e. SBSFEA8TDG

X-Foot Erection Anchor Load Table					
Tons	Clutch ID	Panel Thickness	Shear Load with Shear Bar	Tension Load w/o Tension Bar	Tension Load with Tension Bar
2T x 8"	2-2.5T	4" min	1,490 lbs	3,190 lbs	4,000 lbs
2T x 8"	2-2.5T	5"	2,110 lbs	3,900 lbs	4,000 lbs
2T x 8"	2-2.5T	5-1/2"	2,130 lbs	4,000 lbs	4,000 lbs
2T x 8"	2-2.5T	6"	2,520 lbs	4,000 lbs	4,000 lbs
2T x 8"	2-2.5T	7"	2,870 lbs	4,000 lbs	4,000 lbs
2T x 8"	2-2.5T	8"	3,160 lbs	4,000 lbs	4,000 lbs
2T x 8"	2-2.5T	9"	3,420 lbs	4,000 lbs	4,000 lbs
2T x 8"	2-2.5T	10"	3,640 lbs	4,000 lbs	4,000 lbs
2T x 8"	2-2.5T	11"	3,840 lbs	4,000 lbs	4,000 lbs
2T x 8"	2-2.5T	12"	4,000 lbs	4,000 lbs	4,000 lbs
4T x 9-1/2"	4-5T	5-1/2" min	2,670 lbs	4,970 lbs	8,000 lbs
4T x 9-1/2"	4-5T	6"	2,990 lbs	5,170 lbs	8,000 lbs
4T x 9-1/2"	4-5T	7"	3,170 lbs	6,030 lbs	8,000 lbs
4T x 9-1/2"	4-5T	8"	3,430 lbs	6,910 lbs	8,000 lbs
4T x 9-1/2"	4-5T	9"	3,650 lbs	7,750 lbs	8,000 lbs
4T x 9-1/2"	4-5T	10"	3,860 lbs	8,000 lbs	8,000 lbs
4T x 9-1/2"	4-5T	11"	3,930 lbs	8,000 lbs	8,000 lbs
4T x 9-1/2"	4-5T	12"	4,010 lbs	8,000 lbs	8,000 lbs
8T x 13-1/2"	8-10T	7-1/2" min	4,010 lbs	7,220 lbs	16,000 lbs
8T x 13-1/2"	8-10T	8"	4,010 lbs	7,690 lbs	16,000 lbs
8T x 13-1/2"	8-10T	9"	4,120 lbs	8,640 lbs	16,000 lbs
8T x 13-1/2"	8-10T	10"	4,280 lbs	9,580 lbs	16,000 lbs
8T x 13-1/2"	8-10T	11"	4,420 lbs	10,610 lbs	16,000 lbs
8T x 13-1/2"	8-10T	12"	4,550 lbs	11,680 lbs	16,000 lbs

* Safe Working Load (SWL) based on 4:1 safety factor with full embedment, reinforcement and 3,500 psi concrete.

X-Foot Erection Anchor with Shear Plate

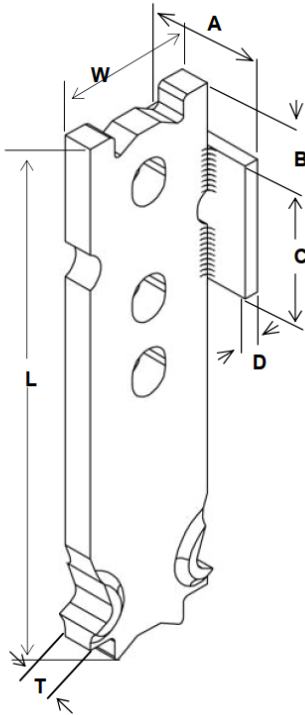
The X-Foot Erection Anchor with Shear Plate is designed for horizontal-to-vertical edge lifts and shear rotation of thin-walled units.

The welded shear plate replaces the need for a shear bar, reducing the number of components needed and making it easier to install. No special ring clutch is necessary.

The specially designed head has two “ears” at the top protect against spalling. These ears hug either side of the ring clutch, restricting its rotation during lateral pulls. As a result, lateral forces are transmitted directly to the edges of the anchor instead of the concrete.

The body of the Erection Anchor is shaped to allow full reinforcement for secure support. Because of the stress caused by the shear lift of a thin panel, reinforcement is necessary in the direction of the lift.

The full safe working load can be achieved in thin slabs or when there is low concrete strength by using a Tension Bar in the second hole.



X-Foot Erection Anchor w/ Shear Plate										
P/N	Tons	Clutch ID	X-Foot Dimension			Shear Plate Dimension				Tension
			Width(W)	Length (L)	Thick-ness (T)	Width (A)	From Top (B)	Length (C)	Thick-ness (D)	
SBSFEA2TPG	2T	2-2.5T	2"	8"	3/8"	2-1/2"	3/4"	3"	1/4"	4,000 lbs
SBSFEA4TPG	4T	4-5T	2-1/2"	9-1/2"	5/8"	2-1/2"	1-1/4"	3"	3/8"	8,000 lbs
SBSFEA8TPG	8T	8-10T	3-1/2"	13-1/2"	3/4"	3"	1-5/8"	3-1/2"	3/8"	16,000 lbs

* Safe Working Load (SWL) based on 4:1 safety factor in 3,500 psi concrete.
* To order domestic product, add "D" at the end of the part number i.e. SBSFEA8TPDG

Note: During rotation the sling angle should be perpendicular to the surface. While the panel is being rotated on its edge, the load can usually be factored by 0.5. During this phase of the lift, the anchors are not bearing the full weight of the panel. The rated loads and minimum panel thicknesses can be found in the accompanying table. Once the panel has been rotated to vertical, the tension lift is initiated.

X-Foot Erection Anchor w/ Shear Plate Load Table					
Tons	Clutch ID	Panel Thickness	Shear Load with Shear Plate	Tension Load w/o Tension Bar	Tension Load with Tension Bar
2T x 8"	2-2.5T	3-1/2" min	1,490 lbs	2,640 lbs	4,000 lbs
2T x 8"	2-2.5T	4"	1,940 lbs	3,190 lbs	4,000 lbs
2T x 8"	2-2.5T	5"	2,110 lbs	3,900 lbs	4,000 lbs
2T x 8"	2-2.5T	5-1/2"	2,130 lbs	4,000 lbs	4,000 lbs
2T x 8"	2-2.5T	6"	2,520 lbs	4,000 lbs	4,000 lbs
2T x 8"	2-2.5T	7"	2,870 lbs	4,000 lbs	4,000 lbs
2T x 8"	2-2.5T	8"	3,160 lbs	4,000 lbs	4,000 lbs
2T x 8"	2-2.5T	9"	3,420 lbs	4,000 lbs	4,000 lbs
2T x 8"	2-2.5T	10"	3,640 lbs	4,000 lbs	4,000 lbs
2T x 8"	2-2.5T	11"	3,840 lbs	4,000 lbs	4,000 lbs
2T x 8"	2-2.5T	12"	4,000 lbs	4,000 lbs	4,000 lbs
4T x 9-1/2"	4-5T	4" min	1,800 lbs	3,400 lbs	8,000 lbs
4T x 9-1/2"	4-5T	5-1/2"	2,670 lbs	4,970 lbs	8,000 lbs
4T x 9-1/2"	4-5T	6"	2,990 lbs	5,170 lbs	8,000 lbs
4T x 9-1/2"	4-5T	7"	3,170 lbs	6,030 lbs	8,000 lbs
4T x 9-1/2"	4-5T	8"	3,430 lbs	6,910 lbs	8,000 lbs
4T x 9-1/2"	4-5T	9"	3,650 lbs	7,750 lbs	8,000 lbs
4T x 9-1/2"	4-5T	10"	3,860 lbs	8,000 lbs	8,000 lbs
4T x 9-1/2"	4-5T	11"	3,930 lbs	8,000 lbs	8,000 lbs
4T x 9-1/2"	4-5T	12"	4,010 lbs	8,000 lbs	8,000 lbs
8T x 13-1/2"	8-10T	7" min	4,010 lbs	7,100 lbs	16,000 lbs
8T x 13-1/2"	8-10T	7-1/2"	4,010 lbs	7,220 lbs	16,000 lbs
8T x 13-1/2"	8-10T	8"	4,010 lbs	7,690 lbs	16,000 lbs
8T x 13-1/2"	8-10T	9"	4,120 lbs	8,640 lbs	16,000 lbs
8T x 13-1/2"	8-10T	10"	4,280 lbs	9,580 lbs	16,000 lbs
8T x 13-1/2"	8-10T	11"	4,420 lbs	10,610 lbs	16,000 lbs
8T x 13-1/2"	8-10T	12"	4,550 lbs	11,680 lbs	16,000 lbs

* Safe Working Load (SWL) based on 4:1 safety factor with full embedment, reinforcement and 3,500 psi concrete.

Mitered X-Foot Erection Anchor with Shear Plate

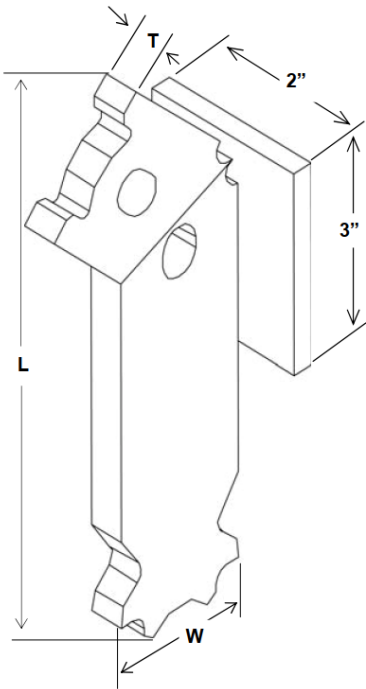
When the lifting edge is beveled at a 45° angle, the mitered X-Foot Erection Anchor with Shear Plate is needed.

The factory miter the concrete design and the and shear plate eliminates the need for any shear reinforcement. This makes it easier to install. No special clutch is necessary.

The specially designed head has two “ears” at the top protect against spalling. These ears hug either side of the ring clutch, restricting its rotation during lateral pulls. As a result, lateral forces are transmitted directly to the edges of the anchor instead of the concrete.

The body of the Erection Anchor is shaped to allow full reinforcement for secure support. Because of the stress caused by the shear lift of a thin panel, reinforcement is necessary in the direction of the lift.

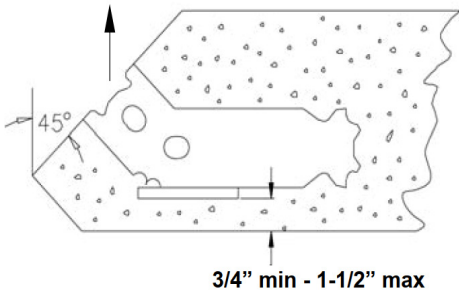
The full safe working load can be achieved in thin slabs or when there is low concrete strength by using a Tension Bar in the second hole.



X-Foot Erection Anchor w/ 45° Miter and Shear Plate*								
P/N	Tons	Clutch ID	Width (W)	Length (L)	Thickness (T)	Panel Thickness	Shear**	Tension** w/Tension Bar
SBSFEA2TMTRSPG	2T	2-2.5T	2"	8-1/2"	3/8"	6-1/2"	2,150 lbs	3,400 lbs
SBSFEA4TMTRSPG	4T	4-5T	2-1/2"	11-1/8"	5/8"	8"	3,500 lbs	5,400 lbs
SBSFEA8TMTRSPG	8T	8-10T	3-3/4"	13-3/4"	3/4"	8" min	3,500 lbs	6,200 lbs

* The concrete panel will not hang plumb when using the mitered anchor. Do not exceed the safe working load.
** Safe Working Load (SWL) based on 4:1 safety factor in 3,500 psi concrete.

Note: To install the X-Foot Erection Anchor with 45° Miter and Shear Plate, position the anchor a minimum of 3/4" and a maximum of 1-1/2" clear of the casting bed. After the anchor has been fastened in place, tension reinforcement may be added as needed. After the concrete has set, removal of the edge form and recess member will expose the head of the anchor for attachment of the lifting eye.



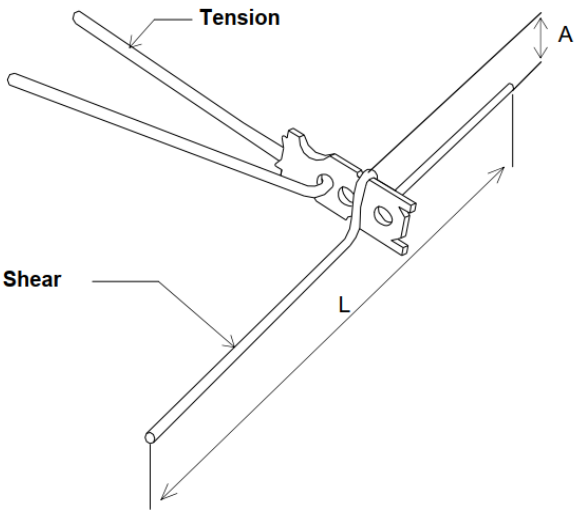
Shear Bar

The Shear Bar is used with the X-Foot Erection Anchor to distribute tension loads into the precast segment. The bar is stronger, less expensive, and easier to use than fabricated rebar.

The Shear Bar provides economical reinforcement for the X-Foot Erection Anchor during the rotation phase of edge lifts. The loop on the shear bar fits over the anchor to spread shear stress over a wide area and deep into the concrete.

Shear Bar					
P/N	Tons	Clutch ID	Height (A)	Length (L)	Min Panel Thickness
SBSB2T	2T	2-2.5T	2-1/2"	13-7/8"	4"
SBSB4T	4T	4-5T	3-5/16"	13-7/8"	5-1/2"
SBSB8T	8T	8-10T	4-15/16"	13-7/8"	7-1/2"

* To order domestic product, add "D" at the end of the part number i.e. SBSB2TD

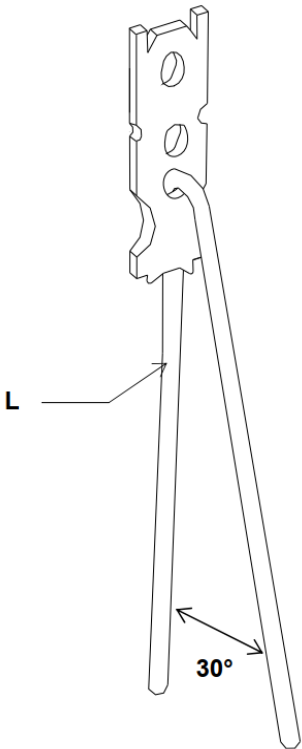


Tension Bar

The Tension Bar is used with the X-Foot Erection Anchor to distribute tension loads into the precast segment.

Tension Bar Length (L) Requirement*					
P/N	Load	Rebar	Concrete Strength		
			2,000 psi	3,000 psi	5,000 psi
SBTB2T	2T	#4	2-9"	2'-6"	1'-8"
SBTB4T	4T	#5	3'-6"	3'-0"	2'-2"
SBTB8T	8T	#6	5'-6"	4'-6"	3'-3"

* To order domestic product, add "D" at the end of the part number i.e. SBTB2TD



Drop-Forged Foot Erection Anchor

The Drop-Forged Foot Erection Anchor has a specially designed shape that make it easier to install without reducing the load capacity for concrete edge lifts.

The protrusions or “ears” at the top of the anchor restrict rotation during lifting, protecting the concrete from spalling. The body is shaped to allow for full panel reinforcement, providing support during lifting. The integrated foot eliminates the need for an additional shear bar, simplifying the anchor installation.

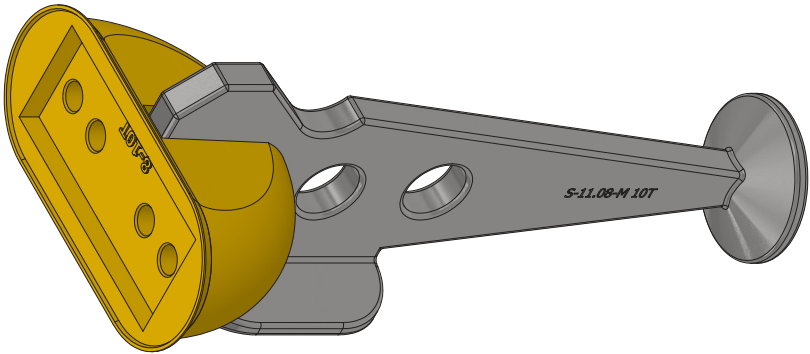
During panel rotation, the sling angle should always be perpendicular to the surface or the anchors will not be bearing the full weight of the panel.

Once the panel has been rotated to vertical, the tension is initiated. During this phase, the drop-forged foot at the bottom of the anchor, develops a tension load.



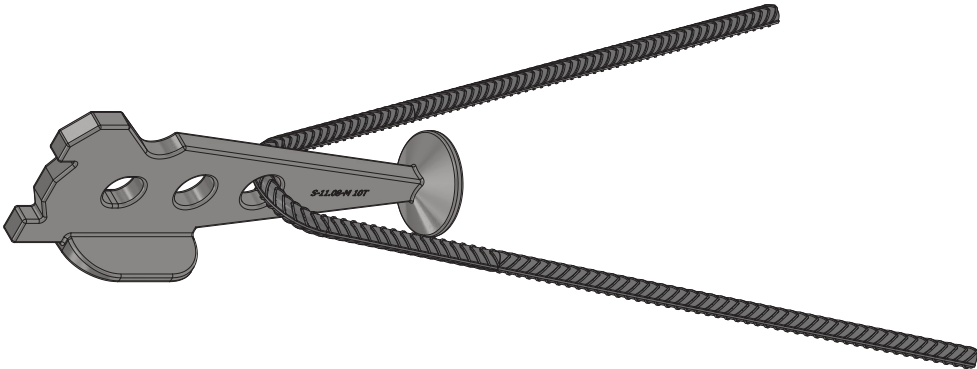
Drop-Forged Foot Erection Anchor*						
P/N	Anchor	Lifter	Width	Length	Plate	Tension**
SBDFFEA2.5TG	2.5 Ton	2.5 Ton	2-12"	8"	2-1/2"x3-1/2"	5,500 lbs
SBDFFEA5TG	5 Ton	4-5 Ton	3-1/2"	10"	3"x4"	11,000 lbs
SBDFFEA10TG	10 Ton	8-10 Ton	4-1/2"	12-1/2"	3-1/4"x4"	22,200 lbs

* Anchor is designed to match the capacity of the 5-Ton and 10-Ton Ring-Lift hardware.
** Safe Working Load (SWL) based on 4:1 safety factor in 3,500 psi concrete.



Drop-Forged Foot Erection Anchor Load Table						
Anchor	Lifter	Panel Thickness	Shear Load (no Shear Bar) Transport Value*	Shear Load (no Shear Bar) Tilt-Up Value**	Tension Load w/o Tension Bar*	Tension Load With Tension Bar***
2.5 Ton	2.5 Ton	4"	1,350 lbs	2,000 lbs	2,500 lbs	5,500 lbs
2.5 Ton	2.5 Ton	5"	1,650 lbs	2,500 lbs	3,100 lbs	5,500 lbs
2.5 Ton	2.5 Ton	6"	1,950 lbs	2,950 lbs	3,700 lbs	5,500 lbs
2.5 Ton	2.5 Ton	7"	2,250 lbs	3,450 lbs	4,300 lbs	5,500 lbs
2.5 Ton	2.5 Ton	8"	2,600 lbs	3,950 lbs	5,000 lbs	5,500 lbs
2.5 Ton	2.5 Ton	9"	2,950 lbs	4,400 lbs	5,300 lbs	5,500 lbs
2.5 Ton	2.5 Ton	10"	3,300 lbs	5,000 lbs	5,500 lbs	5,500 lbs
2.5 Ton	2.5 Ton	11"	3,650 lbs	5,550 lbs	5,500 lbs	5,500 lbs
2.5 Ton	2.5 Ton	12"	4,100 lbs	5,950 lbs	5,500 lbs	5,500 lbs
5 Ton	4-5 Ton	5-1/2" min	2,950 lbs	4,020 lbs	5,750 lbs	11,000 lbs
5 Ton	4-5 Ton	6"	3,200 lbs	4,200 lbs	7,200 lbs	11,000 lbs
5 Ton	4-5 Ton	7"	3,400 lbs	4,670 lbs	8,000 lbs	11,000 lbs
5 Ton	4-5 Ton	8"	3,800 lbs	5,454 lbs	10,200 lbs	11,000 lbs
5 Ton	4-5 Ton	9"	4,400 lbs	6,212 lbs	11,000 lbs	11,000 lbs
5 Ton	4-5 Ton	10"	4,800 lbs	6,818 lbs	11,000 lbs	11,000 lbs
5 Ton	4-5 Ton	11"	5,200 lbs	7,272 lbs	11,000 lbs	11,000 lbs
5 Ton	4-5 Ton	12"	6,100 lbs	7,575 lbs	11,000 lbs	11,000 lbs
10 Ton	8-10 Ton	7-1/2" min	4,600 lbs	6,363 lbs	17,500 lbs	22,000 lbs
10 Ton	8-10 Ton	8"	4,800 lbs	6,666 lbs	17,500 lbs	22,000 lbs
10 Ton	8-10 Ton	9"	5,450 lbs	7,272 lbs	18,000 lbs	22,000 lbs
10 Ton	8-10 Ton	10"	6,100 lbs	7,878 lbs	19,000 lbs	22,000 lbs
10 Ton	8-10 Ton	11"	6,800 lbs	8,333 lbs	20,000 lbs	22,000 lbs
10 Ton	8-10 Ton	12"	7,600 lbs	8,787 lbs	22,000 lbs	22,000 lbs

* Safe Working Load (SWL) based on 4:1 safety factor in 3,500 psi concrete.
** Tilt-Up Value can be used for shear if an anchor is used only once for erecting the panel.
*** Given full embedment, reinforcement and minimum compressive strength, the anchor should achieve pullout strength equal to the maximum tension strength with a Tension Bar. panel.

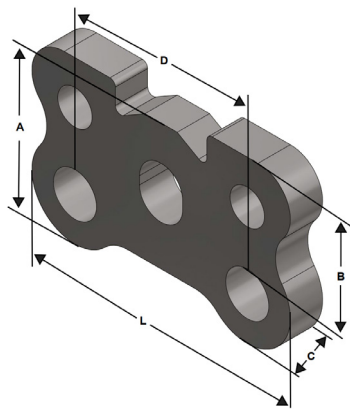


HD Sandwich Panel Erection Anchor

By delivering an even load distribution to both sides of a sandwich panel, the Sandwich Panel Erection Anchor transfers the highest loads on panel edge without shear bars.

The anchor is easy to install and the design absorbs shear loads without spalling concrete. Additional shear reinforcement can be added if necessary to increase the shear capacity.

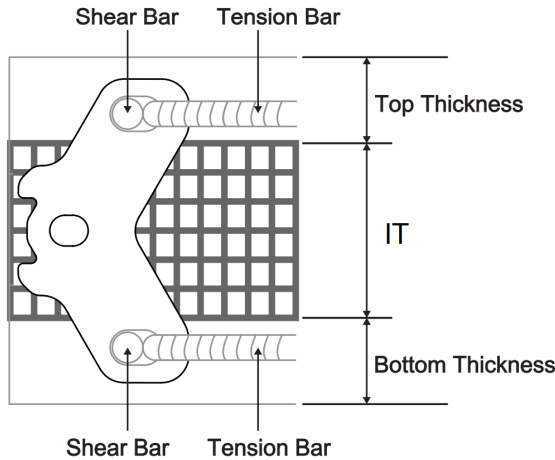
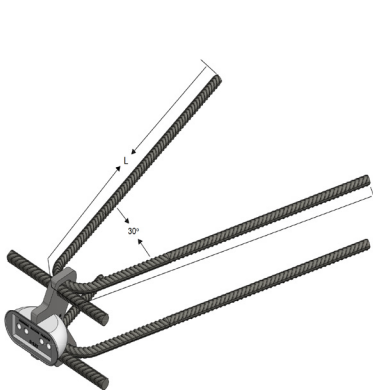
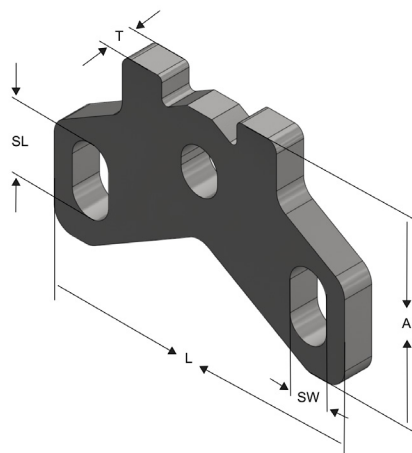
Given full embedment, reinforcement, and a minimum compressive strength of 4,500 psi, the 8T Sandwich Panel Erection Anchors will achieve a pullout strength equal to the ultimate strength when reinforced with two #6 x3'-6" long bent bars.



3/4" x 6" Sandwich Panel Erection Anchor

Drop-Forged HD Sandwich Panel Erection Anchor							
Part No.	Tons	Clutch ID	Dimensions				
			L	A	B	C	D
SBDFSPEA346G	10T	8-10T	6"	3-3/4"	2-29/32"	3/4"	4"

* To order domestic product, add "D" at the end of the part number i.e. SBDFSPEA346DG



3/4" x 6" Sandwich Panel Erection Anchor

Drop-Forged Heavy Duty Sandwich Panel Erection Anchor								
Part No.	Tons	Clutch ID	L	A	SL	SW	T	IT
SBDFSPEA347G	10T	8-10T	7"	4-13/16"	1-13/16"	1-1/8"	3/4"	3"
SBDFSPEA348G	10T	8-10T	8"	5"	1-13/16"	1-1/8"	3/4"	4"

* To order domestic product, add "D" at the end of the part number i.e. SBDFSPEA347DG



Scan for data sheet

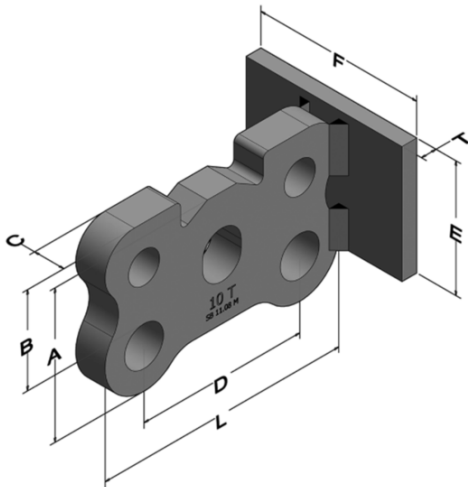
Product specifications are subject to change without notice.

HD Sandwich Panel Erection Anchor wShear Plate

By delivering an even load distribution to both sides of a sandwich panel, the Sandwich Panel Erection Anchor with Shear Plate transfers the highest loads on panel edge without shear bars.

The anchor is easy to install and the design absorbs shear loads without spalling concrete. Additional shear reinforcement can be added if necessary to increase the shear capacity.

Given full embedment, reinforcement, and a minimum compressive strength of 4,500 psi, the 10T Sandwich Panel Erection Anchors will achieve a pullout strength equal to the ultimate strength when reinforced with two #6 x3'-6" long bent bars.

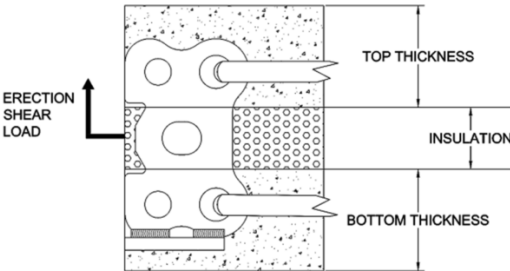


HD Sandwich Panel Erection Anchor wShear Plate									
P/N	Tons	Clutch ID	Dimensions						
			L	A	B	C	D	E	F
Plasma-Cut HD Sandwich Panel Erection Anchor wShear Plate 8T									
SBPCSPEA346SPG	8T	8-10T	6"	3-3/4"	2-29/32"	3/4"	4"	3"	3-1/2"
Drop-Forged HD Sandwich Panel Erection Anchor wShear Plate 10T									
SBDFSPEA346SPG	10T	8-10T	6"	3-3/4"	2-29/32"	3/4"	4"	3"	3-1/2"

* To order domestic product, add "D" at the end of the part number i.e. SBPCSPEA346SDG

HD Sandwich Panel Erection Anchor wShear Plate for 9" Panel (3"x3"x3")				
Tons	Tension	Shear Parallel to Thickness*	Shear Parallel to Thickness**	Shear Perpendicular to Thickness**
8T	17,600 lbs	5,700 lbs	4,200 lbs	9,400 lbs
10T	20,000 lbs	5,700 lbs	4,200 lbs	10,500 lbs

* Safe Working Load (SWL) based on 2.66:1 safety factor.
** Safe Working Load based on 4:1 safety factor with 24" rebar #5 through holes.



HD Sandwich Panel Erection Anchor wShear Plate for 10" Panel (4"x3"x3")				
Tons	Tension	Shear Parallel to Thickness*	Shear Parallel to Thickness**	Shear Perpendicular to Thickness**
8T	17,600 lbs	5,700 lbs	4,200 lbs	9,400 lbs
10T	20,000 lbs	7,200 lbs	4,800 lbs	10,500 lbs

* Safe Working Load (SWL) based on 2.66:1 safety factor.
** Safe Working Load based on 4:1 safety factor with 24" rebar #5 through holes.

Product specifications are subject to change without notice.

Sandwich Panel Erection Anchor

By delivering an even load distribution to both sides of a sandwich panel, the Sandwich Panel Erection Anchor eliminates the need for special lifting devices.

This easy-to-install anchor eliminates the need for special spreader bars, distributes the load evenly and absorbs shear loads without spalling concrete.

Drop-Forged Foot Erection Anchor*							
P/N	Ton	Clutch ID	L	A	B	C	D
SBSPEA586G	4T	4-5T	6"	3-1/2"	1-3/8"	5/8"	3-3/4"
SBSPEA346G	8T	8-10T	6"	3-3/4"	2-29/32"	3/4"	4"

* To order domestic product, add "D" at the end of the part number i.e. SBSPEA586DG

Sandwich Panel Erection Anchor for 8" Thickness (3"x2"x3")			
TONS	TENSION*	SHEAR PARALLEL TO THICKNESS**	SHEAR PERPENDICULAR TO THICKNESS*
4T	8,000 lbs	4,500 lbs	8,000 lbs
8T	16,000 lbs	5,170 lbs	9,400 lbs

* Safe Working Load (SWL) based on 4:1 safety factor in 3,500 psi concrete.

** Safe Working Load (SWL) based on 2.66:1 safety factor in 3,500 psi concrete.

Sandwich Panel Erection Anchor for 8" Thickness (4"x2"x2")			
TONS	TENSION*	SHEAR PARALLEL TO THICKNESS**	SHEAR PERPENDICULAR TO THICKNESS*
4T	8,000 lbs	4,950 lbs	8,000 lbs
8T	16,000 lbs	5,200 lbs	10,500 lbs

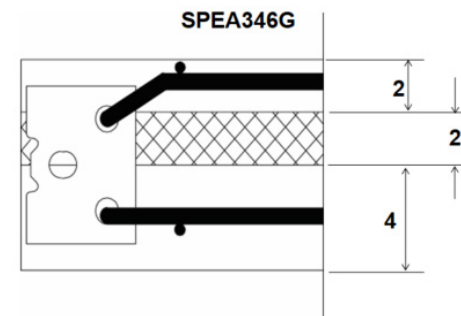
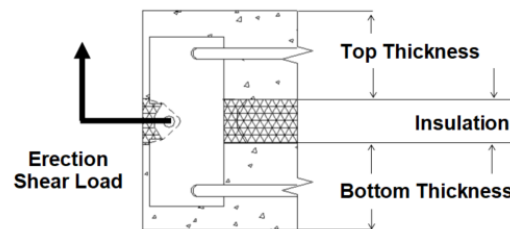
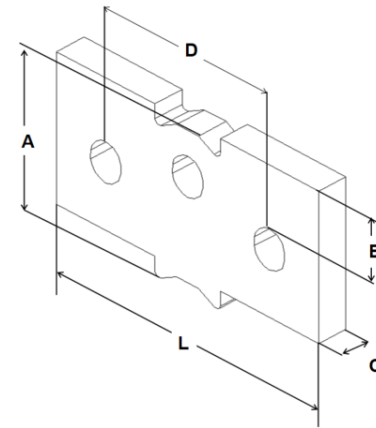
* Safe Working Load (SWL) based on 4:1 safety factor in 3,500 psi concrete.

** Safe Working Load (SWL) based on 2.66:1 safety factor in 3,500 psi concrete.

Notes:

1. The 4:1 safety factor is used with precast work and normally requires no increases except for cable magnification.
2. Given full embedment, reinforcement, and a minimum compressive strength of 3,300 psi, the 4-5 ton Sandwich Panel Erection Anchors should achieve a pullout strength equal to their Ultimate Mechanical Strength if reinforced with (2) #3 x2'-6" long bent.
3. Given full embedment, reinforcement, and a minimum compressive strength of 4,500 psi, the 8-10 ton Sandwich Panel Erection Anchors should achieve a pullout strength equal to their Ultimate Mechanical Strength if reinforced with (2) #5 x3'-6" long bent.
4. The 2.66:1 safety factor, is a 2:1 safety factor, which is commonly used when back shipping, increased 33% to compensate for initial bond and impact. Additional increases due to unusual live loads or cable magnification may be required for some applications.

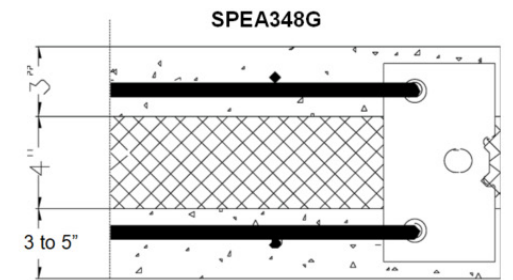
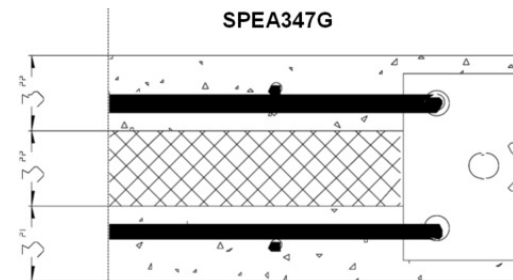
Product specifications are subject to change without notice.



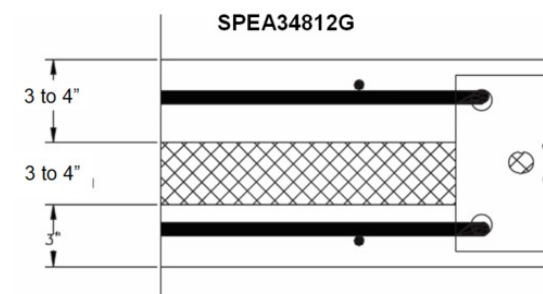
Sandwich Panel Erection Anchor - 8 Ton

P/N	PANEL THICK-NESS	LEVELS	L	B	C	D	E
SBSPEA346G	8"	3x2x3	6"	3"	3/4"	3-3/4"	3"
SBSPEA346G	8"	4x2x2	6"	3"	3/4"	3-3/4"	4"
SBSPEA347G	9"	3x3x3	7"	3"	3/4"	5"	3-3/4"
SBSPEA348G	10"	3x4x3	8"	3"	3/4"	6"	4-3/4"
SBSPEA34812G	10"	3x4x3	8-1/2"	3"	3/4"	6"	4-3/4"
SBSPEA34812G	10"	4x3x3	8-1/2"	3"	3/4"	6"	4-3/4"
SBSPEA34812G	10"	3x3x4	8-1/2"	3"	3/4"	6"	4-3/4"
SBSPEA34834G	12"	6x3x3	8-3/4"	2-7/8"	3/4"	6-1/4"	5-3/4"
SBSPEA34834G	12"	3x3x6	8-3/4"	2-7/8"	3/4"	6-1/4"	5-3/4"

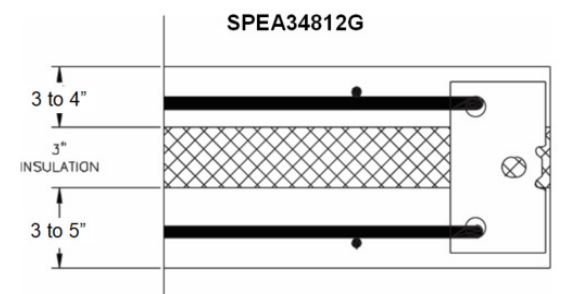
* To order domestic product, add "D" at the end of the part number i.e. SBSPEA346DG



Sandwich Panel Erection Anchor for 9" Thickness (3"x3"x3")			
Tons	Tension*	Shear Parallel to Thickness**	Shear Perpendicular to Thickness*
8T	16,000 lbs	5,170 lbs	9,400 lbs

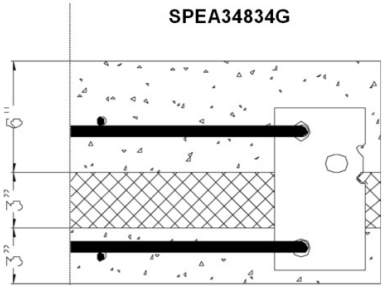


Sandwich Panel Erection Anchor for 10" Thickness (4"x3"x3")			
Tons	Tension*	Shear Parallel to Thickness**	Shear Perpendicular to Thickness*
8T	16,000 lbs	5,170 lbs	9,400 lbs

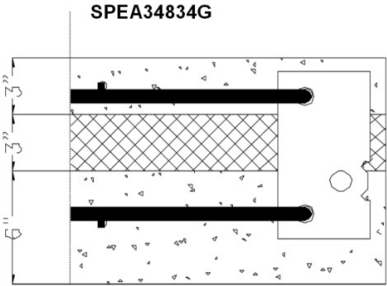


Sandwich Panel Erection Anchor for 10" Thickness (3"x3"x4")			
Tons	Tension*	Shear Parallel to Thickness**	Shear Perpendicular to Thickness*
8T	16,000 lbs	5,200 lbs	10,500 lbs

Product specifications are subject to change without notice.



Sandwich Panel Erection Anchor for 12" Thickness (6"x3"x3")			
Tons	Tension*	Shear Parallel to Thickness**	Shear Perpendicular to Thickness*
8T	16,000 lbs	5,170 lbs	10,900 lbs

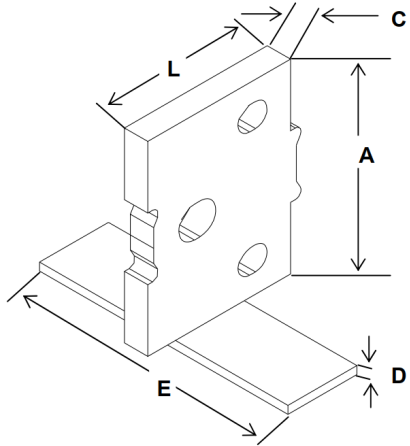
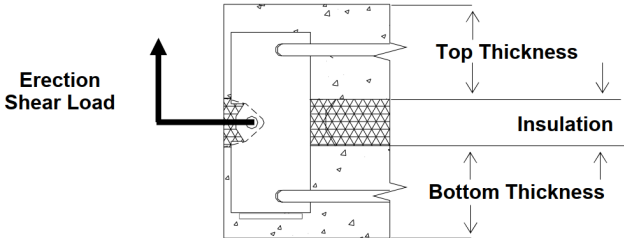


Sandwich Panel Erection Anchor for 12" Thickness (3"x3"x6")			
Tons	Tension*	Shear Parallel to Thickness**	Shear Perpendicular to Thickness*
8T	16,000 lbs	5,400 lbs	11,500 lbs

Sandwich Panel Erection Anchor with Shear Plate

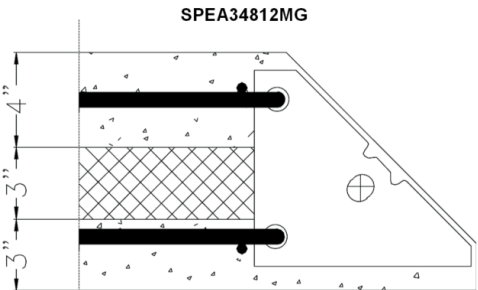
By delivering an even load distribution to both sides of a sandwich panel, the Sandwich Panel Erection Anchor eliminates the need for special lifting devices.

This easy-to-install anchor eliminates the need for special spreader bars, distributes the load evenly and absorbs shear loads without spalling concrete.

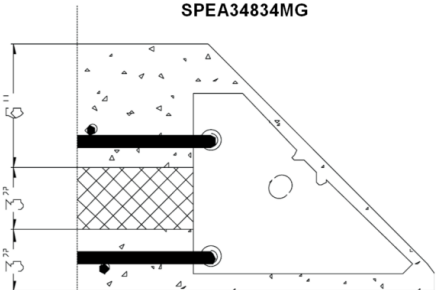


Sandwich Panel Erection Anchor with Shear Plate							
P/N	TONS	Clutch ID	AN-CHOR			PLATE	
			(A)	(L)	(C)	(D)	(E)
SBSPEA586SPG	4T	4-5T	6"	3-1/2"	5/8"	3/8"	3"x3"
SBSPEA346SPG	8T	8-10T	6"	3-3/4"	3/4"	3/8"	3"x4"

* To order domestic product, add "D" at the end of the part number i.e. SBSPEA586SPDG



Mitered Sandwich Panel Erection Anchor for 10" Thickness (4"x3"x3")			
Tons	Tension*	Shear Parallel to Thickness**	Shear Perpendicular to Thickness*
8T	16,000 lbs	5,170 lbs	9,400 lbs



Mitered Sandwich Panel Erection Anchor for 12" Thickness (6"x3"x3")			
Tons	Tension*	Shear Parallel to Thickness**	Shear Perpendicular to Thickness*
8T	16,000 lbs	5,170 lbs	11,500 lbs

Sandwich Panel Erection Anchor with Shear Plate for 8" Thickness (3"x2"x3")		
Tons	Erection Shear**	Tension*
4T	4,800 lbs	8,000 lbs
8T	5,300 lbs	16,000 lbs

Sandwich Panel Erection Anchor with Shear Plate for 9" Thickness (3"x3"x3")		
Tons	Erection Shear**	Tension*
4T	5,100 lbs	8,000 lbs
8T	5,700 lbs	16,000 lbs

Sandwich Panel Erection Anchor with Shear Plate for 10" Thickness (3-1/2"x3"x3-1/2")		
Tons	Erection Shear**	Tension*
4T	5,500 lbs	8,000 lbs
8T	6,500 lbs	16,000 lbs

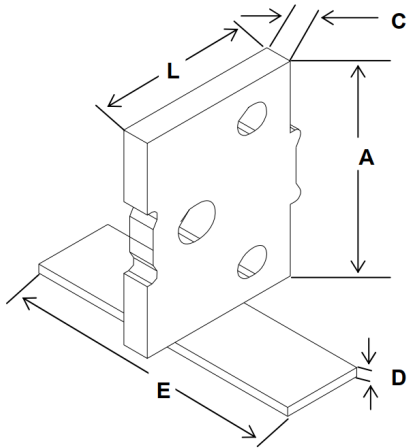
Sandwich Panel Erection Anchor with Shear Plate for 12" Thickness (4"x4"x4")		
Tons	Erection Shear**	Tension*
4T	5,800 lbs	8,000 lbs
8T	7,200 lbs	16,000 lbs

* Safe Working Load (SWL) based on 4:1 safety factor in 3,500 psi concrete.
** Safe Working Load (SWL) based on 2.66:1 safety factor in 3,500 psi concrete.

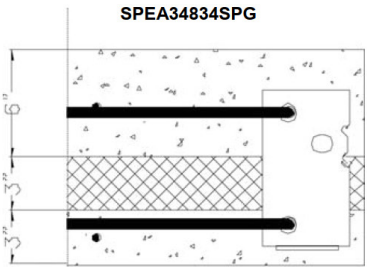
- Notes:
1. The 4:1 safety factor is used with precast work and normally requires no increases except for cable magnification.
 2. Given full embedment, reinforcement, and a minimum compressive strength of 3,300 psi, the 4-5 ton Sandwich Panel Erection Anchors should achieve a pullout strength equal to their Ultimate Mechanical Strength if reinforced with (2) #3 x2'-6" long bent.
 3. Given full embedment, reinforcement, and a minimum compressive strength of 4,500 psi, the 8-10 ton Sandwich Panel Erection Anchors should achieve a pullout strength equal to their Ultimate Mechanical Strength if reinforced with (2) #5 x3'-6" long bent.
 4. The 2.66:1 safety factor, is a 2:1 safety factor, which is commonly used when back shipping, increased 33% to compensate for initial bond and impact. Additional increases due to unusual live loads or cable magnification may be required for some applications.

* Safe Working Load (SWL) based on 4:1 safety factor in 3,500 psi concrete.
** Safe Working Load (SWL) based on 2.66:1 safety factor in 3,500 psi concrete.

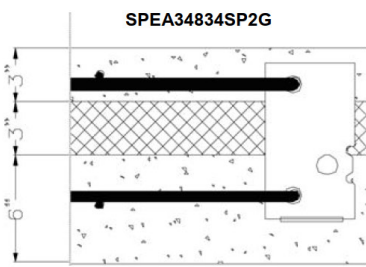
Sandwich Panel Erection Anchor - 8 Ton							
P/N	Panel Thickness	Levels	L	B	C	D	E
SBSPEA346G	8"	3x2x3	6"	3"	3/4"	3-3/4"	3"
SBSPEA346G	8"	4x2x2	6"	3"	3/4"	3-3/4"	4"
SBSPEA347G	9"	3x3x3	7"	3"	3/4"	5"	3-3/4"
SBSPEA348G	10"	3x4x3	8"	3"	3/4"	6"	4-3/4"
SBSPEA34812G	10"	3x4x3	8-1/2"	3"	3/4"	6"	4-3/4"
SBSPEA34812G	10"	4x3x3	8-1/2"	3"	3/4"	6"	4-3/4"
SBSPEA34812G	10"	3x3x4	8-1/2"	3"	3/4"	6"	4-3/4"
SBSPEA34834G	12"	6x3x3	8-3/4"	2-7/8"	3/4"	6-1/4"	5-3/4"
SBSPEA34834G	12"	3x3x6	8-3/4"	2-7/8"	3/4"	6-1/4"	5-3/4"



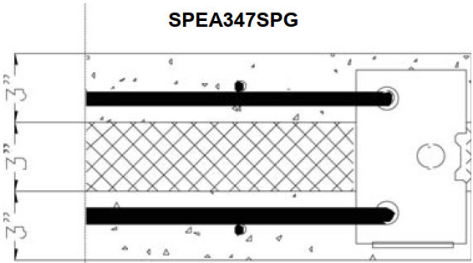
* To order domestic product, add "D" at the end of the part number i.e. SBSPEA346DG



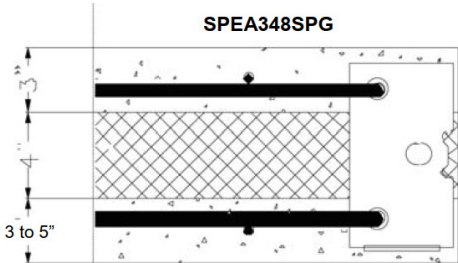
Sandwich Panel Erection Anchor with Shear Plate for 12" Thickness (6"x3"x3")			
Tons	Tension*	Shear Parallel to Thickness**	Shear Perpendicular to Thickness*
8T	16,000 lbs	5,700 lbs	11,500 lbs



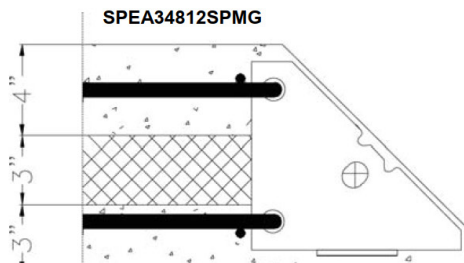
Sandwich Panel Erection Anchor with Shear Plate for 12" Thickness (3"x3"x6")			
Tons	Tension*	Shear Parallel to Thickness**	Shear Perpendicular to Thickness*
8T	16,000 lbs	7,200 lbs	11,500 lbs



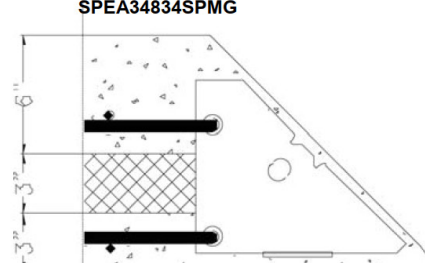
Sandwich Panel Erection Anchor with Shear Plate for 9" Thickness (3"x3"x3")			
Tons	Tension*	Shear Parallel to Thickness**	Shear Perpendicular to Thickness*
8T	16,000 lbs	5,700 lbs	9,400 lbs



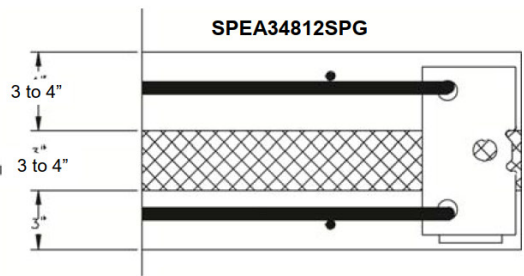
Sandwich Panel Erection Anchor with Shear Plate for 10" Thickness (3"x4"x3")			
Tons	Tension*	Shear Parallel to Thickness**	Shear Perpendicular to Thickness*
8T	16,000 lbs	5,700 lbs	9,400 lbs



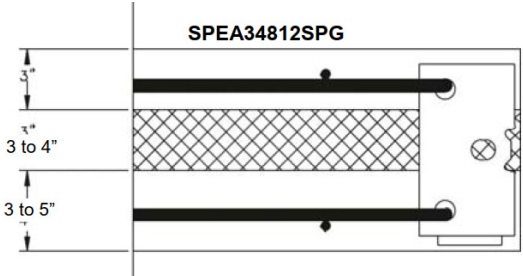
Mitered Sandwich Panel Erection Anchor with Shear Plate for 10" Thickness (4"x3"x3")			
Tons	Tension*	Shear Parallel to Thickness**	Shear Perpendicular to Thickness*
8T	16,000 lbs	5,400 lbs	9,400 lbs



Mitered Sandwich Panel Erection Anchor with Shear Plate for 12" Thickness (6"x3"x3")			
Tons	Tension*	Shear Parallel to Thickness**	Shear Perpendicular to Thickness*
8T	16,000 lbs	5,400 lbs	9,400 lbs



Sandwich Panel Erection Anchor with Shear Plate for 10" Thickness (3"x3"x3")			
Tons	Tension*	Shear Parallel to Thickness**	Shear Perpendicular to Thickness*
8T	16,000 lbs	5,700 lbs	10,500 lbs

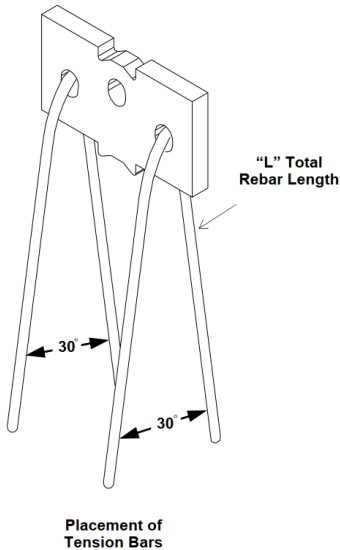
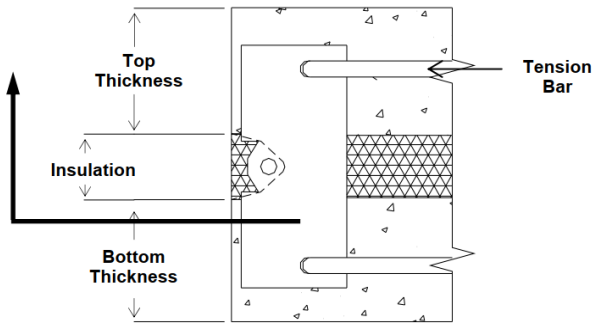


Sandwich Panel Erection Anchor with Shear Plate for 10" Thickness (3"x3"x3")			
Tons	Tension*	Shear Parallel to Thickness**	Shear Perpendicular to Thickness*
8T	16,000 lbs	5,700 lbs	10,500 lbs

* Safe Working Load (SWL) based on 4:1 safety factor in 3,500 psi concrete.
** Safe Working Load (SWL) based on 2.66:1 safety factor in 3,500 psi concrete.

Tension Bar for Sandwich Panel Erection Anchor

- Easy to use
- Cost efficient
- Distributes tension loads into the precast element
- Can be used with a variety of anchors



Sandwich Panel Erection Anchor Reinforcement*								
Tons	Panel Thickness	Panel Thickness			Reinforcement Required			
		Bottom Thickness	Insulation	Top Thickness	Rebar Size	Rebar Length	Bend Req. Bottom	Bend Req.
4T	8"	3"	2"	3"	#3	2'-6"	No	No
4T	8"	4"	2"	2"	#3	2'-6"	No	Yes
4T	6"	2"	2"	2"	#3	7'-0"	Yes	Yes
8T	8"	3"	2"	3"	#5	3'-6"	No	Yes
8T	8"	4"	2"	2"	#5	5'-6"	No	Yes

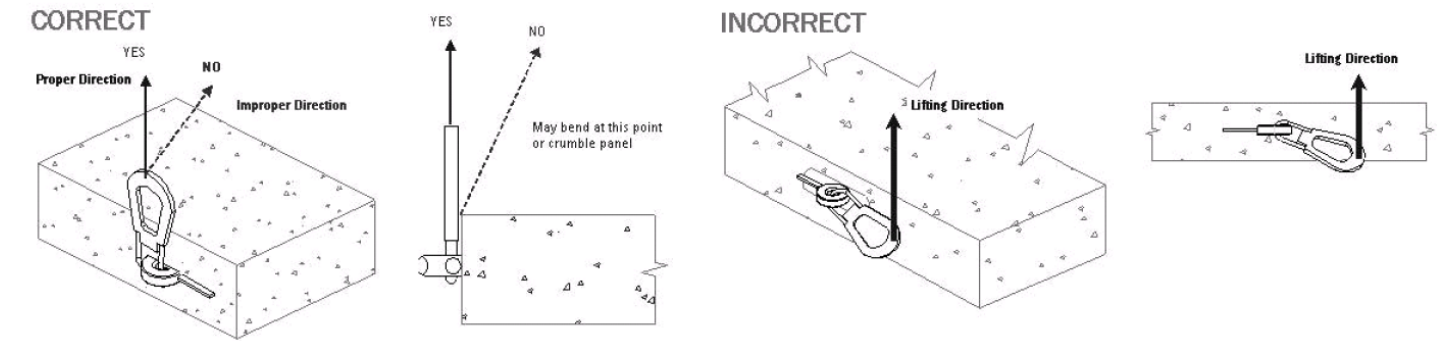
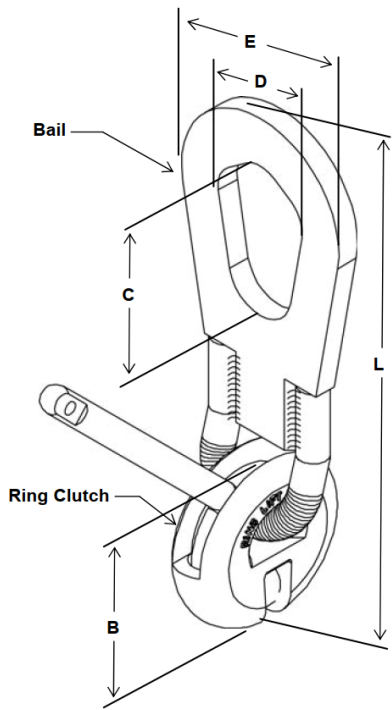
* Capacity based on 4:1 safety factor in 4,500 psi concrete.

Ring-Lift Lifter

- Configured with a curved and interlocking clutch body
- Bolt and a high-strength bail
- Attaches quickly and lifts smoothly
- Ring clutch rotates and locks onto anchor head
- Standard bail rotates 180° for spall-free lifting
- Once in locking position, the Ring Clutch cannot be released
- Capacity rated in metric tons
- All Lifters marked with individual ID number (per OSHA)

Ring-Lift Lifter*							
P/N	Tons	Load Range	L	B	C	D	E
SBRL25T	2.5T	2-2.5T	10-15/16"	3-1/8"	3-1/16"	2-5/32"	3-3/4"
SBRL5T	5T	3-5T	12-31/32"	4-1/16"	3-15/16"	2-15/32"	4-19/32"
SBRL10T	10T	8-10T	17-3/8"	5-7/8"	5-1/4"	3-3/8"	6-11/32"

* Capacity based on 5:1 safety factor.



Note: The bail, if positioned below the ring clutch, as shown, may lock itself in a position preventing free movement of the unit. In this position the bail might bend during lift. As the panel is lifted the clutch may bend. As the panel reaches a more vertical position the clutch will unlock itself resulting in an impact load.

Cable Lifter

A length of chain or cable, attached to a standard Ring-Lift Lifter, simplifies difficult “rotate-to-vertical” situations. Once in the locking position and supporting the full load, the ring clutch cannot be inadvertently released.

Both the Chain Lifter and Cable Lifter attach quickly and lift smoothly. The capacity of the Chain Lifter and Cable Lifter are designed to match the standard Ring-Lift Lifter rating, based on a 5:1 safety factor.

Ring-Lift Cable Lifter				
P/N	Clutch ID	Load Range	Total Length	Loop Length
SBRLCL25T	2.5T	2-2.5 Tons	24-1/2"	7"
SBRLCL5T	5T	4-5 Tons	26-1/2"	9"
SBRLCL10T	10T	8-10 Tons	37-1/2"	10-1/2"

* Capacity based on 5:1 safety factor.

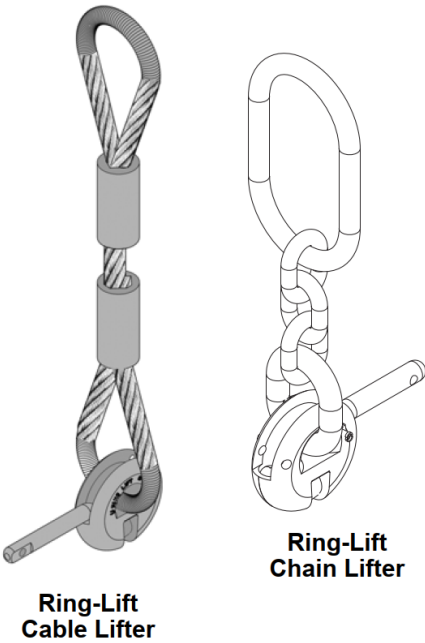
Ring-Lift Chain Lifter			
P/N	Clutch ID	Load Range	Total Length
SBRLCHL25T	2.5T	2-2.5 Tons	14-1/2"
SBRLCHL5T	5T	4-5 Tons	18"
SBRLCHL10T	10T	8-10 Tons	29-1/2"

* Capacity based on 5:1 safety factor.

Ring-Lift Lifter Safety Inspection Guidelines

1. Inspection - Always inspect newly purchased/received Lifters. Always inspect Lifters before each application. Always inspect the overall appearance for bends, kinks or other obvious damage.
2. Maintenance - Always inspect Lifters for bends, kinks, stress fractures, extreme wear or missing components after each application. Always check the bail and handle for smooth rotation from the closed to open position. Chain links should be inspected for weld fractures and cables should be inspected for raveling/ruptures.
3. Damage - If the chain, cable, crimp, or lifter is damaged, then it must be immediately segregated/removed from service. Any replacement part must be an equivalent (or larger) size and capacity. It should be replaced, tested and certified for load equal to 5 times the rated load.

Product specifications are subject to change without notice.

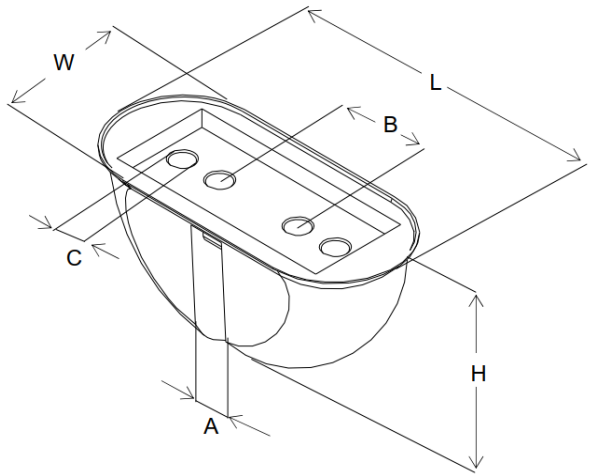


Recess Former - Reusable Urethane

The Recess Former is used with any of the Ring-Lift anchors. It provides a fast and accurate void, with a consistent shape for smooth lifter attachment. The former is made with a durable urethane for easy stripping and reusability.

A former is used when a hole in the formwork is undesirable. A mounting plate with four 3/16" diameter holes is used to fasten the anchor and former to the formwork by nailing, screwing, welding, or taping.

The anchor and former are attached to the mounting plate by sliding the assembly over the two protruding pins on the plate.

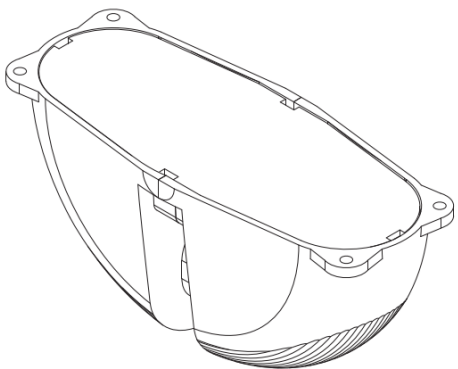


Recess Former - Reusable Urethane								
P/N	Clutch ID	Load Range	Length (L)	Height (H)	Width (W)	Slot (A)	Spacing (B)	Hole Dia (C)
SBRLF1T	2.5T	1T	3-3/4"	1-15/16"	1-11/16"	3/16"	1-1/16"	0.406"
SBRLF2T	2.5T	2T-2.5T	3-3/4"	1-15/16"	1-11/16"	3/8"	1-1/16"	0.406"
SBRLF5T	5T	4T-5T	4-7/8"	2-1/4"	2-3/16"	5/8"	1-3/8"	0.406"
SBRLF10T	10T	8T-10T	6-1/2"	3-1/4"	3-1/2"	3/4"	1-15/16"	0.406"

Each former has two optional connections; one coil thread and one NC thread.

Recess Former - Disposable Plastic

The Recess Former is used with any of the Ring-Lift anchors. It provides a fast and accurate void, with a consistent shape for smooth lifter attachment. The former is made with a durable urethane for easy stripping and reusability



Recess Former - Disposable Plastic			
P/N	Clutch ID	Load Range	Color
SBRLDF2T	2.5T	2-2.5 Tons	Green
SBRLDF4T	5T	4-5 Tons	Orange
SBRLDF8T	10T	8-10 Tons	Blue

Product specifications are subject to change without notice.

Recess Former - Reusable Steel

- Use with Ring-Lift anchors
- Fast, accurate installation that forms consistent shape around the anchor for better lifter attachment

Recess Former - Reusable Steel*		
P/N	Capacity	Clutch ID
SBRLSFH2T	2T	2T
SBRLSFH4T	4T	5T
SBRLSFH8T	8T	10T

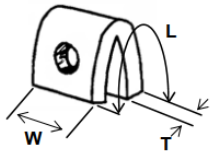
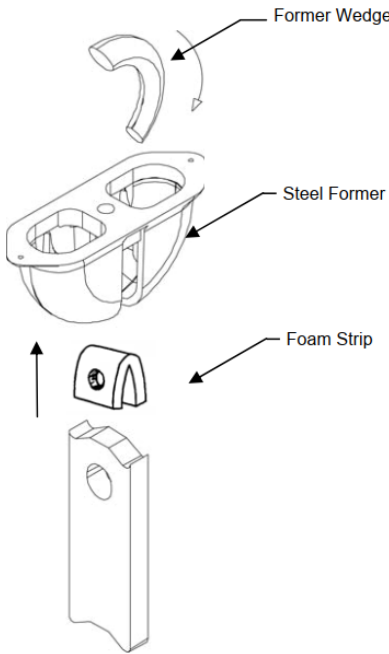
* Complete Recess Former assembly.

Steel Wedge Only*		
P/N	Capacity	Clutch ID
SBRLSFW2T	2T	2T
SBRLSFW4T	4T	5T
SBRLSFW8T	8T	10T

* Used to lock anchor in place.

Foam Strip Only*					
P/N	Capacity	Clutch ID	L	W	T
SBRLSFW2T	2T	2T	3"	2"	1/4"
SBRLSFW4T	4T	5T	4"	2-1/2"	1/4"
SBRLSFW8T	8T	10T	6"	3"	1/4"

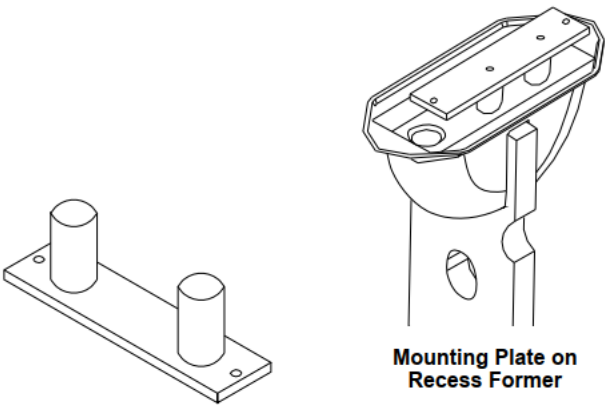
* Used to lock Steel Wedge and anchor in place.



Mounting Plate

- Two pins align the Recess Former
- Allows for easy stripping and multiple reuse

Mounting Plate			
P/N	Capacity	Clutch ID	Pin Diameter
SBRFFP12T	2T	2.5T	0.406"
SBRFFP34T	4T	5T	0.406"
SBRFFP68T	8T	10T	0.406"



Magnet Plates

- Reusable magnet for fastening transport anchors
- Magnet securely holds the lifting device
- Easily attached to any location along forming side rail
- Can be quickly removed, repositioned and reused

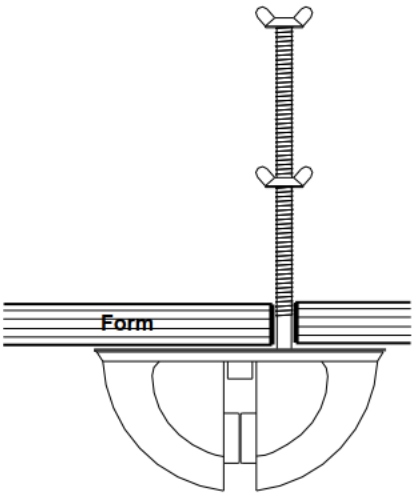
Magnet Plate		
P/N	Capacity	Clutch ID
SBGB4049	2T-2.5T	2.5T
SBGB4050	4T-5T	5T
SBGB4051	8T-10T	10T



Mounting Bolt and Wing Nut

Fastens Recess Former and Mounting Plate to form face.

Mounting Bolt and Wing Nut				
P/N	Capacity	Clutch ID	L	Coil Thread
SBAFR3863812TC	1T	2.5T	6-3/8"	3/8"
	2T	2.5T	6-3/8"	3/8"
	4T	5T	6-3/8"	3/8"
SBAFR12638810TC	8T	10T	6-3/8"	1/2"



Uni-Lift System



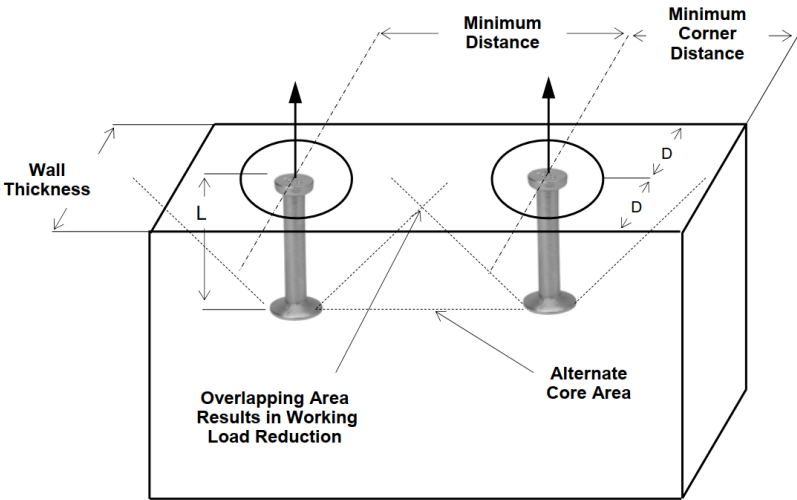
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Uni-Lift Anchor

The steel Uni-Lift Anchor remains ductile at low temperatures, making this anchor safe to use, even in freezing conditions. Each anchor is clearly marked for size and capacity.

The large, specially-formed head, provides more contact area, yet still fits most existing and commonly used lifting hardware. Anchors are sampled, examined and tested for conformance to specifications.

When using Uni-Lift Anchors in a face lift application, the capacity is determined by the full shear cone, the mechanical strength of the anchor, or in some cases induced stresses.



Uni-Lift Anchor Thin-Wall Installation:

Uni-Lift Anchors in thin wall applications must be properly positioned to avoid reduced load capacities. Anchors must be accurately positioned along the center line of the wall using spacers or rebar ties.

The Safe Working Load (SWL) tension (see table) is based on two or more anchors in thin walls, where the spacing between anchors is less than 4 x L, and the minimum corner distance is 2 x L (L= anchor length).

As with all Uni-Lift Anchor applications, the anchor must be located along the center line. The critical wall thickness will be 2 x L and the SWL must be reduced to that wall thickness.

When multiple anchors are used in thin walls, caution must be exercised to prevent anchor shear cones from overlapping. Using a spacing of 4L between anchors will prevent overlap and maximize tensile capacity (see table).

Proper positioning is extremely important. If the Uni-Lift Anchor foot is not in center, the SWL must be reduced to the critical wall thickness. Multiply the table values by the reduction factor to determine the allowable load.

Uni-Lift Anchor*									
P/N	Anchor Size	Former Size	Lifter Size	T x Length	Capacity	Safe Working Load (SWL) in Concrete**			
						@ 1,500 psi	@ 2,500 psi	@ 3,500 psi	@ 5,000 psi
SBULA382.5G	1T	1T	1-1.3T	1T x 2-1/2"	2,000 lbs	1,658 lbs	2,000 lbs	2,000 lbs	2,000 lbs
SBULA383.375G				1T x 3-3/8"	2,000 lbs	2,000 lbs	2,000 lbs	2,000 lbs	2,000 lbs
SBULA384.75G				1T x 4-3/4"	2,000 lbs	2,000 lbs	2,000 lbs	2,000 lbs	2,000 lbs
SBULA9162.187G	2T	1.5-2T	1.5-2.5T	2T x 2-3/16"	4,000 lbs	1,559 lbs	2,013 lbs	2,382 lbs	2,847 lbs
SBULA9162.5				2T x 2-1/2"	4,000 lbs	1,803 lbs	2,328 lbs	2,754 lbs	3,292 lbs
SBULA9162.75				2T x 2-3/4"	4,000 lbs	2,006 lbs	2,590 lbs	3,065 lbs	3,663 lbs
SBULA9163.375G				2T x 3-3/8"	4,000 lbs	2,546 lbs	3,286 lbs	3,888 lbs	4,000 lbs
SBULA9164.75G				2T x 4-3/4"	4,000 lbs	3,874 lbs	4,000 lbs	4,000 lbs	4,000 lbs
SBULA9165.5G				2T x 5-1/2"	4,000 lbs	4,000 lbs	4,000 lbs	4,000 lbs	4,000 lbs
SBULA9166.75G				2T x 6-3/4"	4,000 lbs	4,000 lbs	4,000 lbs	4,000 lbs	4,000 lbs
SBULA91611G				2T x 11"	4,000 lbs	4,000 lbs	4,000 lbs	4,000 lbs	4,000 lbs
SBULA343.75G	4T	4T	3-5T	4T x 3-3/4"	8,000 lbs	3,201 lbs	4,133 lbs	4,890 lbs	5,844 lbs
SBULA344.25G				4T x 4-1/4"	8,000 lbs	3,697 lbs	4,773 lbs	5,647 lbs	6,749 lbs
SBULA344.75G				4T x 4-3/4"	8,000 lbs	4,216 lbs	5,443 lbs	6,440 lbs	7,697 lbs
SBULA345.5G				4T x 5-1/2"	8,000 lbs	5,036 lbs	6,502 lbs	7,693 lbs	8,000 lbs
SBULA347.125G				4T x 7-1/8"	8,000 lbs	6,974 lbs	8,000 lbs	8,000 lbs	8,000 lbs
SBULA349.5G				4T x 9-1/2"	8,000 lbs	8,000 lbs	8,000 lbs	8,000 lbs	8,000 lbs
SBULA3413.375G				4T x 13-3/8"	8,000 lbs	8,000 lbs	8,000 lbs	8,000 lbs	8,000 lbs
SBULA118412G	8T	8T	6-10T	8T x 4-1/2"	16,000 lbs	4,210 lbs	5,435 lbs	6,431 lbs	7,687 lbs
SBULA1184.75G				8T x 4-3/4"	16,000 lbs	4,478 lbs	5,781 lbs	6,840 lbs	8,175 lbs
SBULA1186.75G				8T x 6-3/4"	16,000 lbs	6,807 lbs	8,788 lbs	10,398 lbs	12,428 lbs
SBULA11810G				8T x 10"	16,000 lbs	11,233 lbs	14,501 lbs	16,000 lbs	16,000 lbs
SBULA11813.375G				8T x 13-3/8"	16,000 lbs	16,000 lbs	16,000 lbs	16,000 lbs	16,000 lbs
SBULA11210G	20T	20T	12-20T	16/20T x 10"	40,000 lbs	11,770 lbs	15,196 lbs	17,980 lbs	21,490 lbs
SBULA11215G				16/20T x 15"	40,000 lbs	22,657 lbs	29,250 lbs	34,609 lbs	40,000 lbs
SBULA11220G				16/20T x 20"	40,000 lbs	35,983 lbs	40,000 lbs	40,000 lbs	40,000 lbs
SBULA211G	25T	32T	25-32T	25T x 9-7/8"	50,000 lbs	12,286 lbs	15,861 lbs	18,767 lbs	22,431 lbs
SBULA220G				25T x 19-5/8"	50,000 lbs	32,691 lbs	42,204 lbs	49,936 lbs	50,000 lbs

* Minimum distance between anchors is 4x the embedded depth. Minimum edge distance is 1.5x the embedded depth.

* To order domestic product, add "D" at the end of the part number i.e. SBULA382.5DG

** Safe Working Load (SWL) based on 4:1 safety factor in 4,500 psi concrete.

1 Ton Anchor*							
Ton x Length	Critical Wall Thickness	Actual Edge Thickness	Actual Corner Distance**				
			6 in.	12 in.	18 in.	24 in.	30 in.
1 Ton x 4-3/4"	2-1/2"	1-1/4"	1,000 lbs	1,200 lbs	1,300 lbs	1,300 lbs	1,300 lbs
	2-3/4"	1-3/8"	1,100 lbs	1,300 lbs	1,400 lbs	1,400 lbs	1,400 lbs
	3"	1-1/2"	1,200 lbs	1,400 lbs	1,600 lbs	1,600 lbs	1,600 lbs
	3-1/2"	1-3/4"	1,400 lbs	1,700 lbs	1,800 lbs	1,800 lbs	1,800 lbs
	4"	2"	1,600 lbs	1,900 lbs	2,000 lbs	2,000 lbs	2,000 lbs
	4-1/2"	2-1/4"	1,800 lbs	2,000 lbs	2,000 lbs	2,000 lbs	2,000 lbs

* Minimum distance between anchors is 4x the embedded depth. Minimum edge distance is 1.5x the embedded depth.
** Safe Working Load (SWL) based on 4:1 safety factor in 4,500 psi concrete.

2 Ton Anchor*							
Ton x Length	Critical Wall Thickness	Actual Edge Thickness	Actual Corner Distance**				
			6 in.	12 in.	18 in.	24 in.	30 in.
2 Ton x 6-3/4"	3"	1-1/2"	1,700 lbs	1,800 lbs	2,000 lbs	2,200 lbs	2,200 lbs
	3-1/4"	1-5/8"	1,900 lbs	2,000 lbs	2,200 lbs	12,500 lbs	13,200 lbs
	3-1/2"	1-3/4"	2,000 lbs	2,200 lbs	2,400 lbs	14,400 lbs	15,100 lbs
	4"	2"	2,300 lbs	2,500 lbs	2,700 lbs	3,000 lbs	3,000 lbs
	5"	2-1/2"	2,900 lbs	3,100 lbs	3,400 lbs	3,700 lbs	3,700 lbs
	6"	3"	3,500 lbs	3,700 lbs	4,000 lbs	4,000 lbs	4,000 lbs

* Minimum distance between anchors is 4x the embedded depth. Minimum edge distance is 1.5x the embedded depth.
** Safe Working Load (SWL) based on 4:1 safety factor in 4,500 psi concrete.

4 Ton Anchor*							
Ton x Length	Critical Wall Thickness	Actual Edge Thickness	Actual Corner Distance**				
			10 in.	15 in.	20 in.	24 in.	30 in.
4 Ton x 9-1/2"	3-3/4"	1-7/8"	2,900 lbs	3,200 lbs	3,400 lbs	3,500 lbs	3,800 lbs
	4"	2"	3,100 lbs	3,400 lbs	3,600 lbs	3,800 lbs	4,000 lbs
	5"	2-1/2"	3,800 lbs	4,300 lbs	4,600 lbs	4,800 lbs	5,100 lbs
	6"	3"	4,600 lbs	5,200 lbs	5,500 lbs	5,700 lbs	6,100 lbs
	7"	3-1/2"	5,400 lbs	6,000 lbs	6,400 lbs	6,700 lbs	7,200 lbs
	8"	4"	6,200 lbs	6,900 lbs	7,300 lbs	7,600 lbs	8,000 lbs

* Minimum distance between anchors is 4x the embedded depth. Minimum edge distance is 1.5x the embedded depth.
** Safe Working Load (SWL) based on 4:1 safety factor in 4,500 psi concrete.

8 Ton Anchor*							
Ton x Length	Critical Wall Thickness	Actual Edge Thickness	Actual Corner Distance**				
			10 in.	15 in.	20 in.	24 in.	30 in.
8 Ton x 6-3/4"	4-3/4"	2-3/8"	3,000 lbs	3,300 lbs	3,600 lbs	3,700 lbs	3,700 lbs
	5"	2-1/2"	3,200 lbs	3,500 lbs	3,800 lbs	3,900 lbs	3,900 lbs
	6"	3"	3,800 lbs	4,200 lbs	4,600 lbs	4,700 lbs	4,700 lbs
	7"	3-1/2"	4,500 lbs	4,900 lbs	5,400 lbs	5,500 lbs	5,500 lbs
	8"	4"	5,100 lbs	5,600 lbs	6,100 lbs	6,200 lbs	6,500 lbs
	10"	5"	6,300 lbs	6,900 lbs	7,500 lbs	7,700 lbs	7,700 lbs

* Minimum distance between anchors is 4x the embedded depth. Minimum edge distance is 1.5x the embedded depth.
** Safe Working Load (SWL) based on 4:1 safety factor in 4,500 psi concrete.

8 Ton Anchor*							
Ton x Length	Critical Wall Thickness	Actual Edge Thickness	Actual Corner Distance**				
			12 in.	18 in.	24 in.	36 in.	45 in.
8 Ton x 13-3/8"	5"	2-1/2"	4,500 lbs	5,500 lbs	5,900 lbs	6,500 lbs	7,000 lbs
	6"	3"	5,500 lbs	6,500 lbs	7,100 lbs	7,800 lbs	8,000 lbs
	7"	3-1/2"	6,500 lbs	7,600 lbs	8,300 lbs	9,100 lbs	10,000 lbs
	8"	4"	7,300 lbs	8,700 lbs	9,500 lbs	10,800 lbs	11,500 lbs
	10"	5"	9,100 lbs	11,000 lbs	12,000 lbs	13,500 lbs	14,000 lbs
	12"	6"	11,000 lbs	13,000 lbs	14,200 lbs	16,000 lbs	16,000 lbs

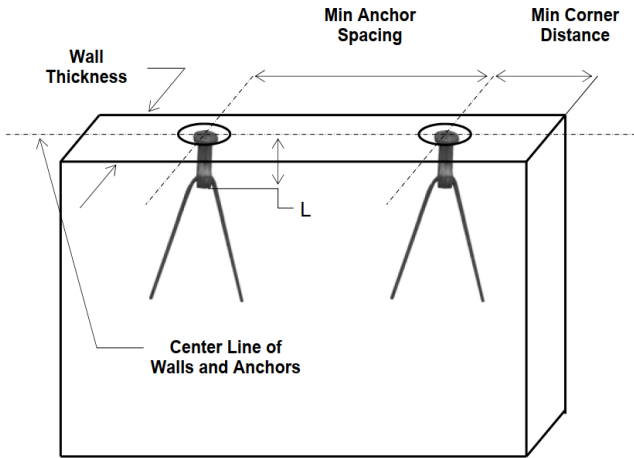
* Minimum distance between anchors is 4x the embedded depth. Minimum edge distance is 1.5x the embedded depth.
** Safe Working Load (SWL) based on 4:1 safety factor in 4,500 psi concrete.

16/20 Ton Anchor*							
Ton x Length	Critical Wall Thickness	Actual Edge Thickness	Actual Corner Distance**				
			12 in.	18 in.	24 in.	36 in.	45 in.
20 Ton x 20"	6-1/2"	3-1/4"	7,000 lbs	9,000 lbs	10,500 lbs	11,500 lbs	12,200 lbs
	7"	3-1/2"	8,000 lbs	10,000 lbs	11,500 lbs	12,500 lbs	13,200 lbs
	8"	4"	9,200 lbs	11,200 lbs	13,000 lbs	14,400 lbs	15,100 lbs
	10"	5"	11,500 lbs	14,300 lbs	16,000 lbs	18,000 lbs	19,000 lbs
	12"	6"	14,000 lbs	17,300 lbs	20,000 lbs	21,500 lbs	22,800 lbs
	14"	7"	16,200 lbs	20,200 lbs	23,000 lbs	25,000 lbs	26,600 lbs

* Minimum distance between anchors is 4x the embedded depth. Minimum edge distance is 1.5x the embedded depth.
** Safe Working Load (SWL) based on 4:1 safety factor in 4,500 psi concrete.

Uni-Eye Anchor with Rebar

The Uni-Eye Anchor with Rebar is used in conjunction with the segment reinforcing. A bar is installed through the anchor to develop deep tensile action. This combination allows anchors to develop greater working loads when used in thin concrete wall sections.

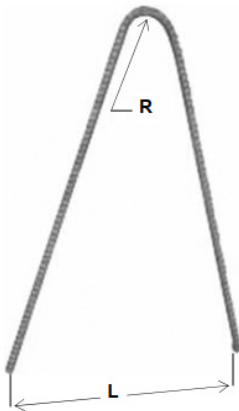


Uni-Eye Anchor with Rebar						
P/N	Load Rating	Length (L)	Min Panel Thickness	Min Corner Distance	Min Anchor Spacing*	Tension w/ Rebar**
SBULEA1TG	1T	2-5/8"	3"	8"	16"	2,000 lbs
SBULEA2TG	2T	3-1/2"	3"	4"	8"	4,000 lbs
SBULEA4TG	4T	4-3/4"	4"	6"	12"	8,000 lbs
SBULEA8T434G	8T	4-3/4"	5"	8"	16"	16,000 lbs
SBULEA8TG	8T	7-1/8"	5"	8"	16"	16,000 lbs
SBULEA16TG	16T	9-7/8"	6-1/2"	10"	18"	32,000 lbs
SBULEA25TG	25T	12"	7-7/8"	12"	24"	50,000 lbs

* Anchors must be centered when installed. Deviation will result in a reduced Safe Working Load..
** Safe Working Load (SWL) based on 4:1 safety factor with Tension Bar in 2,000 psi concrete minimum.



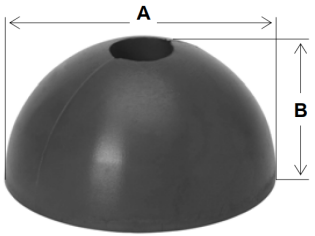
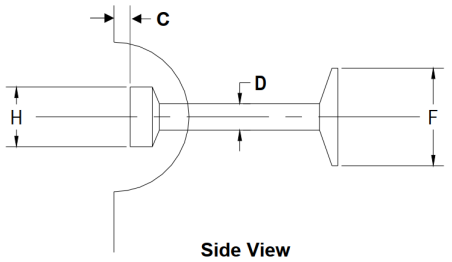
Tension Bar				
Load Rating	Rebar Grade 60	Overall Length (L)	Spread (L)	Bending Radius (R)
1T	#3	36"	12"	3/4"
2T	#3	24"	6"	1-1/4"
4T	#5	24"	7"	2"
8T	#6	48"	9"	2-1/2"
16T	#8	86"	12"	3"
25T	#10	100"	16"	4"



Recess Former

This Recess Former has a threaded hole plate located in the top for installation of a threaded stud that can be removed before form stripping. After removing the threaded stud, the concrete element is removed from the forms with the stripping anchors. The reusable urethane Recess Former can then be removed to expose the anchor.

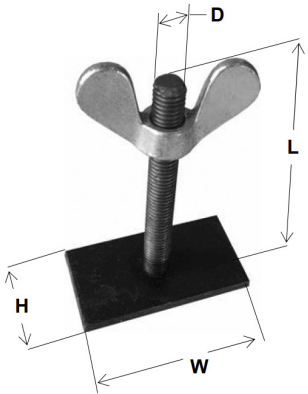
Recess Former							
P/N	Anchor Size	Shank (D)	Head (H)	Foot (F)	Cover (C)	Width (A)	Height (B)
SBRRF1T	1T	3/8"	11/16"	1	3/8"	2-3/8"	1-3/16"
SBRRF2T	2T	9/16"	31/32"	1-3/8	7/16"	3"	1-9/16"
SBRRF4T	4T	3/4"	1-11/32"	2	9/16"	3-3/4"	1-7/8"
SBRRF8T	8T	1-1/8"	1-7/8"	2-3/4	9/16"	4-3/4"	2-5/16"
SBRRF16/20T	16/20T	1-1/2"	2-3/4"	3-7/8	9/16"	6-3/8"	3-1/8"
SBRRF25T	25T	2"	3-15/32"	5-5/16	9/16"	8"	4"



Mounting Bolt and Wing Nut with Plate

Supplied as part of rubber former with permanent threaded stud. Available as a replacement part. Made with NC threads and welded to plate at bottom of stud.

Mounting Bolt and Wing Nut with Plate						
P/N	Anchor Size	Clutch ID	Length (W)	Bolt (D)	Width (W)	Height (H)
SBFP1TWN	1T	1.3T	6-3/8"	5/16-18 NC	1.187"	0.500"
SBFP2TWN	2T	2.5T	6-3/8"	5/16-18 NC	1.500"	0.781"
SBFP4TWN	4T	5T	6-3/8"	5/16-18 NC	1.875"	1.000"
SBFP8TWN	8T	10T	6-3/8"	3/8-16 NC	2.343"	1.187"
SBFP16/20TWN	16/20T	15-20T	6-3/8"	1/2-13 NC	3.031"	1.562"
SBFP25TWN	25T	32T	6-3/8"	5/8-11 NC	3.031"	1.562"



Recess Former with Mounting Bolt and Wing Nut

Rubber recess former with wing nut has a permanent threaded stud with one wing nut to tighten securely against form. The threaded stud is not removable and the form must be stripped before the anchor can be exposed for lifting



Mounting Plate

The Mounting Plate is used to accurately position the Recess Former and anchor in the precast form.

Mounting Plate Only			
P/N	Anchor Size	Clutch ID	Bolt Dia
SBUFFP1T	1T	1.3T	5/16-18 NC
SBUFFP2T	2T	2.5T	5/16-18 NC
SBUFFP4T	4T	5T	5/16-18 NC
SBUFFP8T	8T	10T	3/8-16 NC
SBUFFP16T	16T	15-20T	1/2-13 NC
SBUFFP25T	25T	32T	5/8-11 NC



Magnet Plate and Recess Former

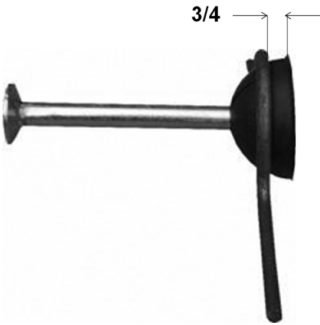
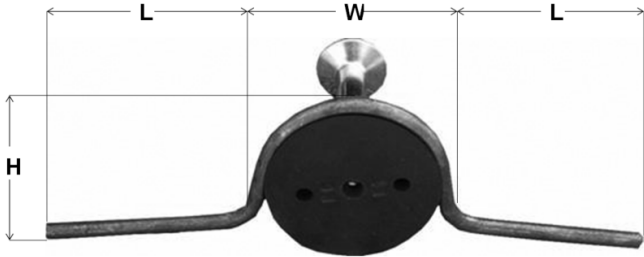
- Reusable magnet for fastening anchors
- Magnet securely holds the lifting device
- Easily attached to any location along steel forming side rail
- Can be quickly removed, repositioned and reused



Edge-Lift Shear Bar

When lifting a panel with an anchor in the panel edge from horizontal to vertical, Edge-Lift Shear Bars must be used. Without shear bars the load will likely bend the anchor head, allowing the Lifter to apply the load to the concrete above the anchor, which is very weak. The shear bars transfer a portion of the load back into the anchor and lower concrete area.

Edge-Lift Shear Bar				
P/N	Anchor Size	Length (L)	Width (W)	Height (H)
SBUSB1T	1T	8"	2-3/8"	2-1/2"
SBUSB2T	2T	8"	3"	3"
SBUSB4T	4T	12"	3-3/4"	3-3/4"
SBUSB8T	8T	14"	4-3/4"	3-3/4"



Edge-Lift Shear Bar Load					
Anchor Size	Min. Anchor Length	Min. Wall Thickness	Top Edge Distance	Min Corner Distance	Shear*
2T	6-3/4"	4"	2-1/2"	18"	3,000 lbs
	6-3/4"	5"	3"	24"	3,200 lbs
	6-3/4"	6"	3-1/2"	24"	3,500 lbs
4T	9-1/2"	6"	3-1/2"	24"	3,500 lbs
	9-1/2"	7"	4"	24"	4,000 lbs
8T	13-3/8"	7"	4"	24"	4,500 lbs
	13-3/8"	8"	4-1/2"	24"	5,000 lbs

* Safe Working Load (SWL) based on 4:1 safety factor in 4,500 psi concrete.



Uni-Lift Lifter

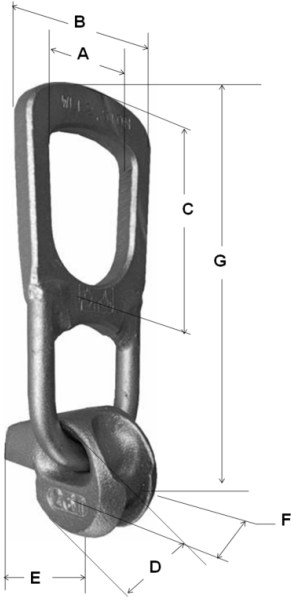
The Uni-Lift Lifter is specially-designed with a T-shaped slot that captures the anchor head.

The bail is a solid steel plate with a large hole to attach a cable clevis. The bail rotates from front to back in the lifting body. This action is an advantage over other systems as rigging does not need to be reversed when rotating a panel up and down.

All Uni-Lift Lifters are proof loaded to 2.5x the Safe Working Load (SWL) and marked with an individual ID number in compliance with OSHA regulations.

SureBuilt recommends regular inspection to identify excessive wear, damage, loading, misuse, modification or other factors which may affect lifting performance.

Under no circumstances should user modify, heat, weld or grind any part of the lifting hardware.



Uni-Lift Lifter									
P/N	Lifter ID	A	B	C	D	E	F	G	Capacity*
SBUL1.3T	1-1.3 T	1.87"	2.95"	2.80"	2.20"	2.17"	1.30"	6.48"	2,850 lbs
SBUL2.5T	2-2.5 T	2.52"	3.86"	3.35"	2.68"	2.76"	1.65"	8.09"	5,500 lbs
SBUL5T	3.0-5.0 T	2.76"	4.65"	3.45"	3.46"	3.39"	2.24"	9.33"	11,000 lbs
SBUL10T	6.0-10.0 T	3.74"	10.24"	4.76"	4.41"	4.61"	2.87"	13.72"	22,000 lbs
SBUL20T	12.0-20.0 T	4.65"	7.32"	5.91"	5.98"	6.10"	4.33"	17.36"	44,000 lbs
SBUL32T	25.0-32.0 T	6.89"	10.59"	7.44"	7.68"	8.43"	6.02"	22.99"	70,000 lbs

* Safe Working Load (SWL) based on 5:1 safety factor in 3,500 psi concrete.

Easy-Lift System



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Easy-Lift System

Economical alternative for stripping, handling, and setting panels

Versatile system - applicable to any precast element, can be used as pulling iron or lifting and pulling iron.

High strength - Up to 6 Tons (12,000 lb) Tension SWL with an approximate 4:1 safety factor.

Easy to install and use. Utilizes reusable rubber recess former - one size plug fits all anchor sizes.

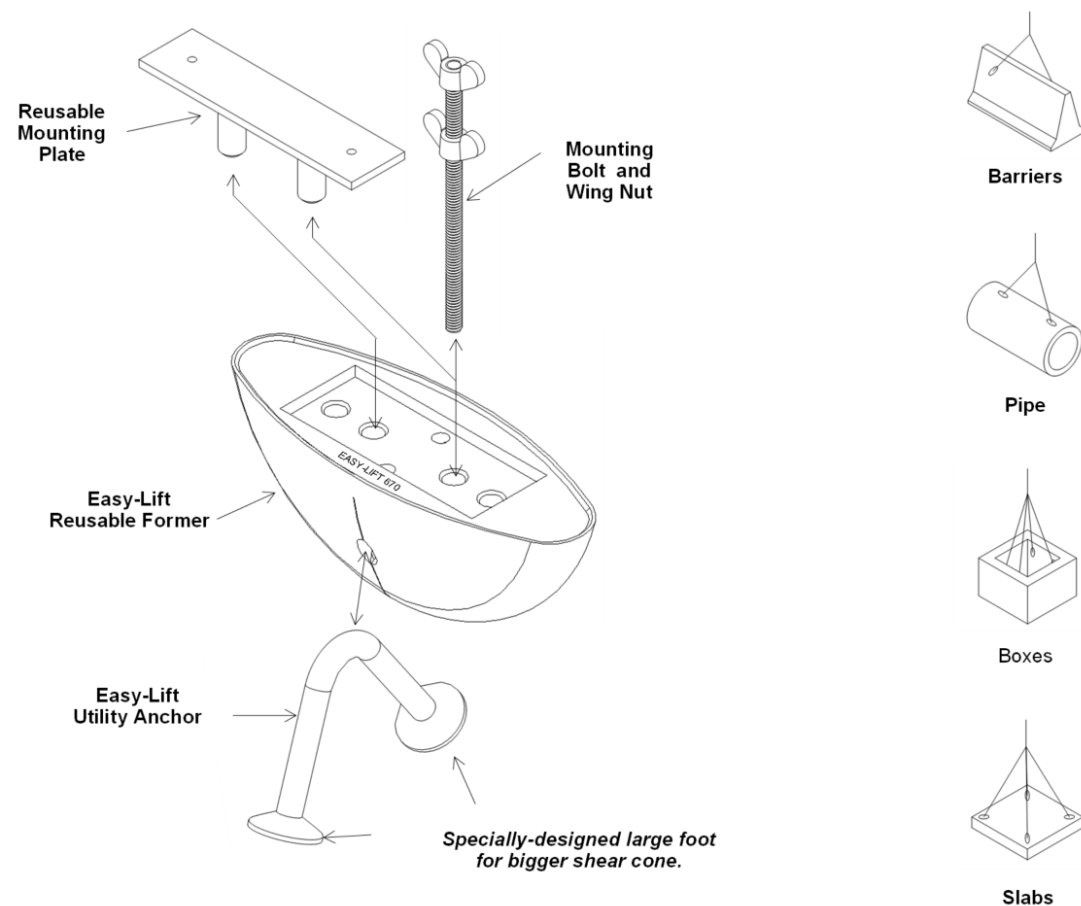
Used with a standard hook or clevis - no special lifting hardware required.

Eliminates "through holes" in the precast element.

The Easy Lift Utility Anchor Lifting System is designed to economically simplify the lifting and handling of precast concrete elements. Its economics, ease of use and versatility will be a welcome addition to your precast operations.

The Easy Lift can be utilized for removing the precast elements from their forms, handling the elements in the precast yard, loading for shipment and unloading and placement at the job site - all without any special lifting equipment or hardware. Use a standard hook or clevis to connect to the Utility Anchor for a safe lift.

An added benefit is a design feature that enables the unit to be used effectively as a pulling iron.

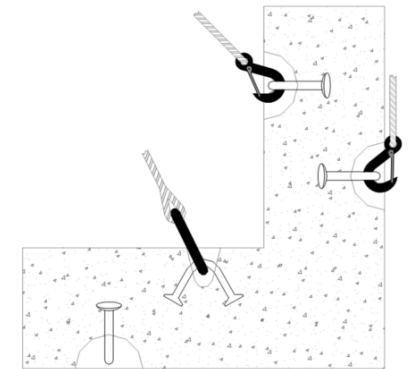


Caution: It is recommended when installing anchors to align recess formers with intended loading direction of cables (see drawing).

Easy-Lift Anchor Placement

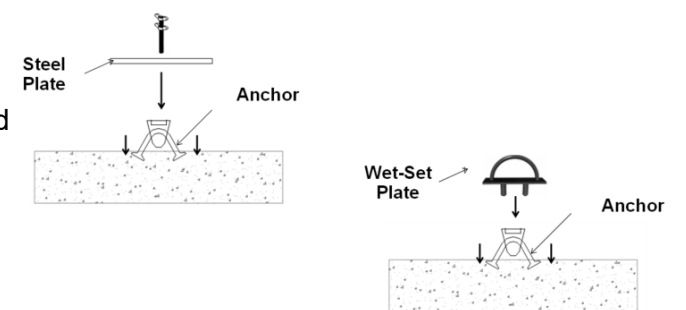
Placement of the Easy Lift anchor is dependent on the structural shape of the precast unit and/or the precast manufacturer's preference.

The anchors are not designed for thin edge installations. Always maintain minimum edge distances and adjust anchor capacities if concrete strengths other than those noted in the capacity chart are encountered.



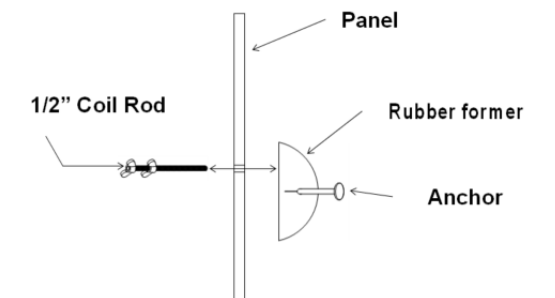
Wet-Setting

1. Assemble Easy Lift anchor with steel plate and nut and bolt assembly OR assemble Easy Lift anchor with wet-set plate inserted into holes.
2. Use duct tape to seal cavities in the setting plug.
3. Work the assembly down into the wet concrete until the top surface of the plug is flush with the surface of the concrete or use floating plate.



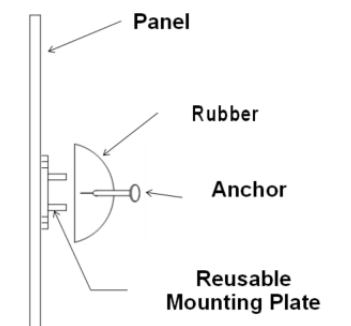
Through-Form Setting

1. Assemble recess former and Easy Lift anchor.
2. Insert holding coil rod through panel and line up former.
3. Finger tighten the holding rod and lock in place with the corresponding wing nut.



In-Form Setting

1. Assemble recess former and Easy Lift anchor.
2. Affix reusable mounting plate (nail, weld or double-sided tape) to form.
3. Push former onto the holding plate firmly against the panel.



Easy-Lift Utility Anchor

The Easy-Lift Utility Anchor is an efficient and economical way to handle precast segments. The 0.450 and 0.670 legs, in combination with the slab thickness, provide the necessary capacity for typical concrete shapes.

The anchor is always used in combination with a Recess Former. The former creates a void in the concrete for subsequent hooking and handling.

Easy-Lift Utility Anchor							
P/N	Thickness	A*	B	F	G	Shear**	Tension**
SBUA450318	4"	3-1/8"	5.281	0.450	1.375	1,800 lbs	1,200 lbs
SBUA450334	4-1/2"	3-3/4"	6.000	0.450	1.375	6,500 lbs	3,000 lbs
SBUA450434	5-1/2"	4-3/4"	7.122	0.450	1.375	8,000 lbs	4,000 lbs
SBUA450634	8"	6-3/4"	9.375	0.450	1.375	9,000 lbs	5,000 lbs
SBUEL4	4"	3-1/8"	5.300	0.670	1.340	2,500 lbs	2,000 lbs
SBUEL412	4-1/2"	3-3/4"	6.800	0.670	1.340	7,500 lbs	4,800 lbs
SBUEL512	5-1/2"	4-3/4"	7.400	0.670	1.340	10,000 lbs	7,200 lbs
SBUEL8	8"	6-3/4"	10.000	0.670	1.340	13,500 lbs	12,000 lbs

* Minimum edge distance in any direction is 2x anchor height.
* To order domestic product, add "D" at the end of the part number i.e. SBUA450318D
** Safe Working Load (SWL) based on 4:1 safety factor in 4,000 psi concrete.

Note: When the Easy-Lift Utility Anchor is used as a pulling iron, the SWL can be increased by 33%.

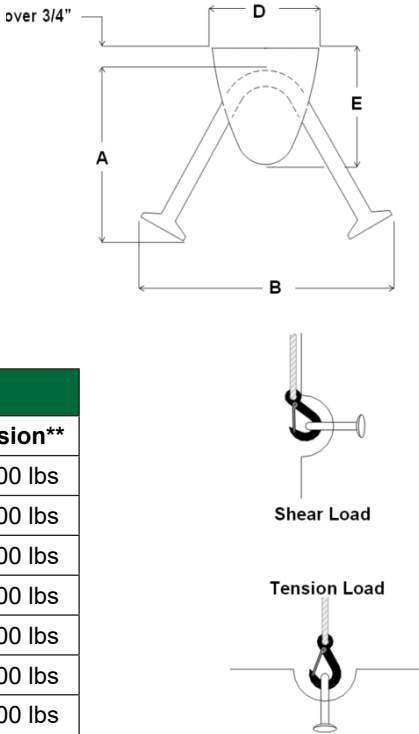
Easy-Lift Recess Former - Urethane

The Recess Former is used with any of the Ring-Lift anchors. It provides a fast and accurate void, with a consistent shape for smooth lifter attachment. The former is made with a durable urethane for easy stripping and reusability.

A former is used when a hole in the formwork is undesirable. A mounting plate with four 3/16" diameter holes is used to fasten the anchor and former to the formwork by nailing, screwing, welding, or taping.

The anchor and former are attached to the mounting plate by sliding the assembly over the two protruding pins on the plate.

Easy-Lift Recess Former					
P/N	Anchor Dia.	Color	C	D	E
SBUAF450	.450	Orange	8"	3"	3-1/4"
SBUELF670	.670	Green	10"	3"	3-1/4"
SBELF670L	.670	Black	10"	3"	3-1/4"



Easy-Lift Utility Anchor with Snap Wires

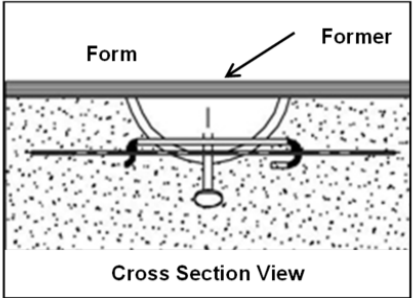
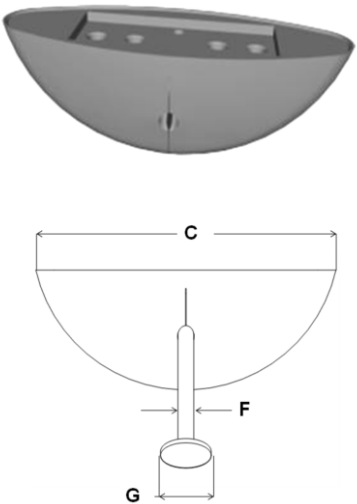
Easily attaches to wire mesh for side or vertical mounting

- Ideal for handling concrete pipes
- Available in .670 or .450 wire diameter
- Use with Easy Lift 670 green or 450 orange rubber former



Easy-Lift Utility Anchor with Snap Wire							
P/N	Thick-ness	A*	B	F	G	Shear**	Tension**
SBUA450318SW	4"	3-1/8"	5.281	0.450	1.375	1,800 lbs	1,200 lbs
SBUA450334SW	4-1/2"	3-3/4"	6.000	0.450	1.375	6,500 lbs	3,000 lbs
SBUA450434SW	5-1/2"	4-3/4"	7.122	0.450	1.375	8,000 lbs	4,000 lbs
SBUA450634SW	8"	6-3/4"	9.375	0.450	1.375	9,000 lbs	5,000 lbs
SBUEL4SW	4"	3-1/8"	5.300	0.670	1.340	2,500 lbs	2,000 lbs
SBUEL412SW	4-1/2"	3-3/4"	6.800	0.670	1.340	7,500 lbs	4,800 lbs
SBUEL512SW	5-1/2"	4-3/4"	7.400	0.670	1.340	10,000 lbs	7,200 lbs
SBUEL8SW	8"	6-3/4"	10.000	0.670	1.340	13,500 lbs	12,000 lbs

* Minimum edge distance in any direction is 2x anchor height.
* To order domestic product, add "D" at the end of the part number i.e. SBUA450318SWD
** Safe Working Load (SWL) based on 4:1 safety factor in 4,000 psi concrete

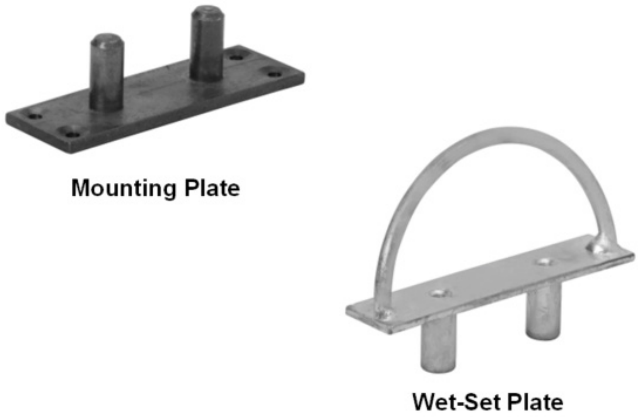


Mounting Plate

Two pins align the Recess Former

Allows for easy stripping and multiple reuse

Mounting Plate	
P/N	Type
SBRFFP68T	Form Attachment
SBWRFFP68T	Wet-Set Plate



Magnet Plate

Reusable magnet for fastening transport anchors

Magnet securely holds the lifting device

Easily attached to any location along forming side rail

Can be quickly removed, repositioned and reused

Magnet Plate	
P/N	Length
SBGB4055	10"



Mounting Bolt and Wing Nuts

Fastens Recess Former and Mounting Plate to form face.

Mounting Bolt and Wing Nuts*		
P/N	Thread (D)	Length
SBAFR12638810TC	1/2" Coil	6-3/8"



Easy-Lift Anchor 500

Applications

Ideal for flat concrete segments (ex. railroad crossings)

Suitable for wet-setting and through-form setting

Features

High-strength and quality material

Compatible with reusable Easy-Lift Former 500

Benefits

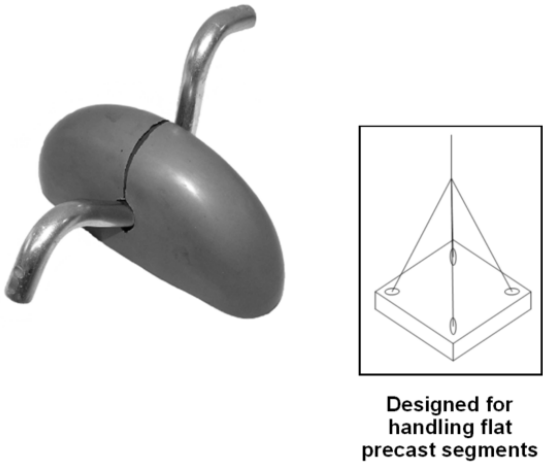
Can be placed in panels with thickness of 5" and up

Galvanized finish for corrosion protection

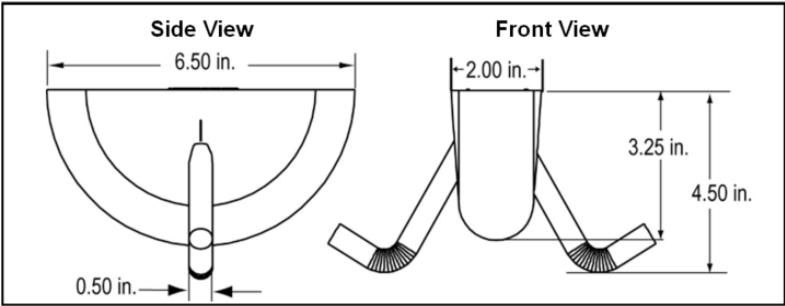
Small 2" wide void, no patching needed

Handle with standard hook or clevis

Easy-Lift Anchor 500				
P/N	Wire Dia	Width	Length	Tension
SBELA500	1/2"	3"	4-1/2"	3,500 lbs



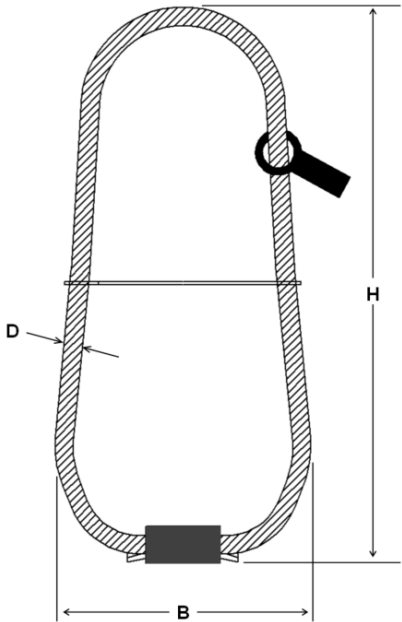
Recess Former - Anchor 500				
P/N	Wire Dia	Width	Length	Color
SBELF500	1/2"	2"	6-1/2"	Blue



Cable Loop Anchor

The Cable Loop Anchor is an efficient and economical method for handling precast concrete, including beams, ballast and walls.

- Ideal for precast concrete units with unexposed sides after lifting
- Capacities from 0.8 tons to 25 tons
- Protruding loops can be cut off or covered in concrete



Cable Loop Anchor*							
P/N	Load	Length	B	H	D	Tag Color	Tension**
SB8WRA	0.8 Tons	21"	3-3/4"	8"	0.236"	White	1,600 lbs
SB12WRA	1.2 Tons	24"	4"	9"	0.276"	Red	2,400 lbs
SB16WRA	1.6 Tons	26"	5"	10"	0.315"	Purple	3,200 lbs
SB20WRA	2.0 Tons	31"	5-1/4"	12"	0.354"	Green	4,000 lbs
SB25WRA	2.5 Tons	32-1/2"	5-1/2"	13"	0.394"	Dark grey	5,000 lbs
SB40WRA	3.8 Tons	37"	6-1/2"	14-1/2"	0.472"	Yellow	7,600 lbs
SB50WRA	5.0 Tons	38"	7"	15"	0.551"	Dark blue	10,000 lbs
SB63WRA	6.3 Tons	44"	9-1/4"	16-1/2"	0.630"	Light blue	12,600 lbs
SB80WRA	8.0 Tons	51"	9-1/4"	19"	0.709"	Light grey	16,000 lbs
SB99WRA	9.9 Tons	55-1/2"	10-1/4"	21"	0.787"	Pink	19,800 lbs
SB120WRA	12.0 Tons	60"	11"	23"	0.866"	Black	24,000 lbs
SB160WRA	16.0 Tons	71"	12-3/4"	26"	1.024"	Brown	32,000 lbs
SB180WRA	18.0 Tons	79"	15"	29-1/2"	1.102"	Orange	36,000 lbs
SB250WRA	25.0 Tons	89"	15-3/4"	33-1/2"	1.260"	Tan	50,000 lbs

* Recommended embedment is 2/3H to develop full working load.
** Safe Working Load (SWL) based on 4:1 safety factor in 4,000 psi concrete

Accessories



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Anchor Rail HD

The durable steel Anchor Rail HD provides a connecting channel in reinforced concrete. The channel is included in the forming plans and foam-filled to protect it during concrete placement. The foam is easily removed before positioning the subsequent anchors.

T-Straps and Bolt Straps fit into the Anchor Rail HD channel and move anywhere along the length of the rail. The straps are used to anchor pipe supports, electrical chases and mechanical equipment. The channel and straps support loads up to 3,750 lbs at a 3:1 safety factor.

The galvanized Anchor Rail HD resists corrosion and withstands concrete shrinkage or movement. It is ideal for installation in concrete compression and tensile stress areas.



Anchor Rail HD - Properties					
Load	Capacity	SWL*	Wind	Min Edge** Perpendicular	Min Edge** Parallel
Pull-Out	11,250 lbs	3,750 lbs	5,000 lbs	3"	4"
Shear	11,950 lbs	4,000 lbs	4,000 lbs	3"	4"

Anchor Rail HD - Dimensions				
Part No.	A	B	C	L
SBARHD8G	2"	1-1/4"	5-1/4"	8"

T-Strap* - Plain or Galvanized				
Part No.	Width	Length	Thickness	Weight
SBARTS8	2"	8"	3/8"	1.7 lbs
SBARTS10	2"	10"	3/8"	2.2 lbs
SBARTS12	2"	12"	3/8"	2.6 lbs

* Strap must be installed by certified welder.
* Strap must be at right angle to rail to meet published capacity.

Bolt Strap* - Plain or Galvanized				
Part No.	Width	Length	Thickness	Weight
SBARTRS8	2"	8"	3/8"	1.7 lbs
SBARTRS10	2"	10"	3/8"	2.2 lbs
SBARTRS12	2"	12"	3/8"	2.6 lbs

* Strap must be at right angle to rail to meet published capacity.

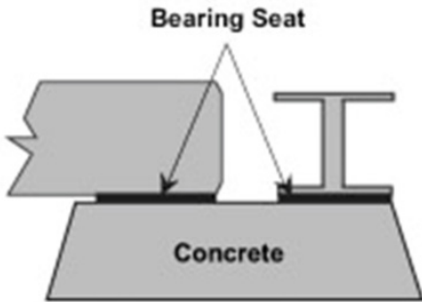
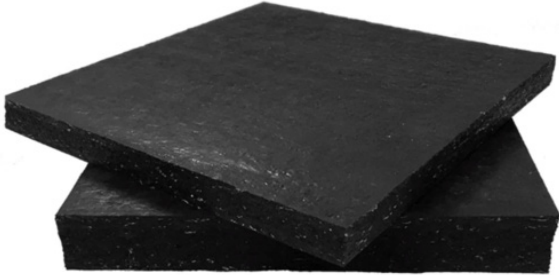
Rail Nut - Plain or Galvanized		
Part No.	Size	SWL
SBARRN34NC	3/4" NC	4,900 lbs

Product specifications are subject to change without notice.

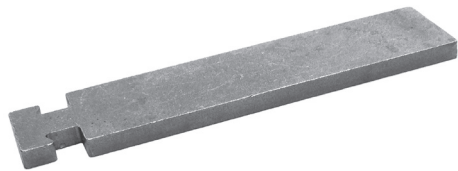
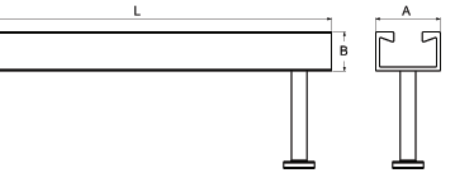
Bearing Pad

A unique combination of compressive strength, tear resistance, and cold weather flexibility makes this an exceptional material for concrete-to-concrete and concrete-to-steel bearing pads.

Typical applications for the Bearing Seat include precast concrete seats, shims, bumpers and isolators. The material is available in lengths up to 48", widths up to 48", and thicknesses from 1/4" to 1", to meet project specifications.



Bearing Pad Properties		
Property	Test Method	Value
Hardness (Shore A)	ASTM D-2240	80 +/- 5
Tensile Strength	ASTM D-2240-412 Die C	1,000 psi (+/- 10%)
Compression - Maximum Strength		10,000 psi
Compression - Initial Strength		40%
Tear Strength	ASTM D-624 Die B	400 psi
Heat Aging - Change in Tensile	ASTM D-573	25% Maximum
Heat Aging - Change in Elongation	ASTM D-573	25% Maximum
Heat Aging - Change in Hardness	ASTM D-471	10 Points Maximum
Oil Swell (increase in volume)	ASTM D-471	120% Maximum



For Galvanized T-Strap, add "G" at end of Part No.



For Galvanized Bolt-Strap, add "G" at end of Part No.

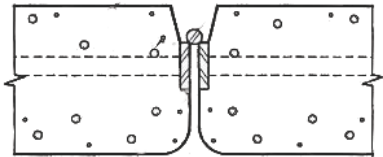


For Galvanized Rail Nut, add "G" at end of Part No.

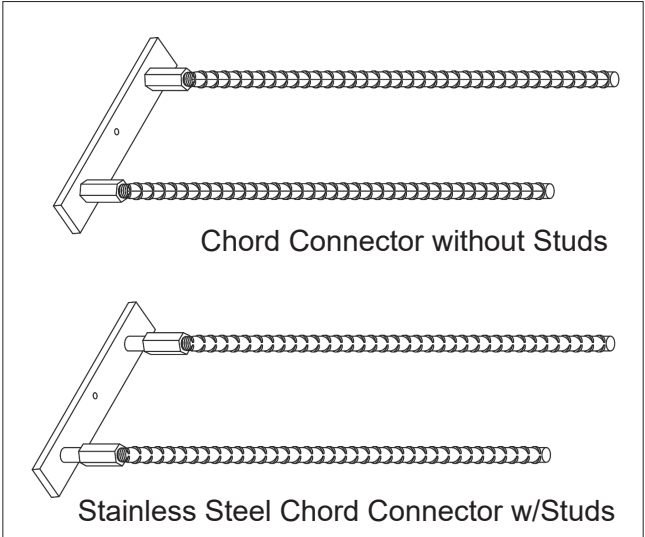
Chord Connector

The Chord Connector assembly is tied to rebar at a pre-engineered location, positioning the steel plate at the edge of a precast element for later welding.

The plates of adjoining precast elements are welded together to reinforce the structure. The minimum weld length is 7" using a 3/8"x8" weld slug, in accordance with American Welding Society (AWS) standards.



The Chord Connector is suitable for end-to-end and edge-to-edge welding in single tees, double tees and other precast elements.



Chord Connector locations are pre-engineered for optimal diaphragm reinforcement.

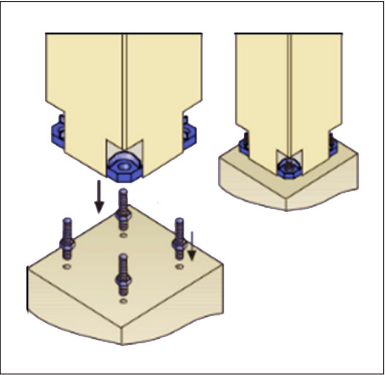
Column Base Connector

The pre-engineered assembly provides a moment connection at column-to-base and column-to-column locations. This bolted connection eliminates the need for temporary bracing and saves time.

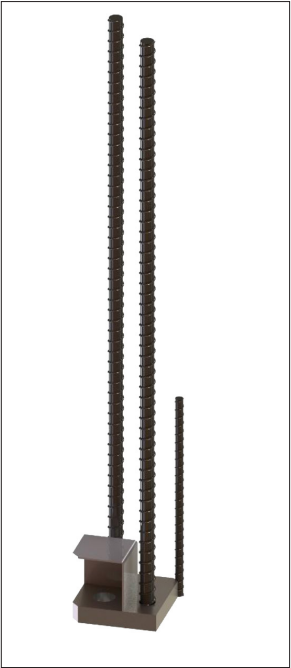
The Column Base Connector is designed for common anchor bolt sizes. An integrated box-out provides access at each bolt location. The plate and rebar are matched to load specifications.

Each Column Base Connector includes a steel plate (Grade 50) and rebar (A706) welded in accordance with American Welding Society (AWS) standards. An optional galvanized finish is also available.

Once the columns have been positioned and bolted, the column base must be grouted to provide bearing for the engineered load.

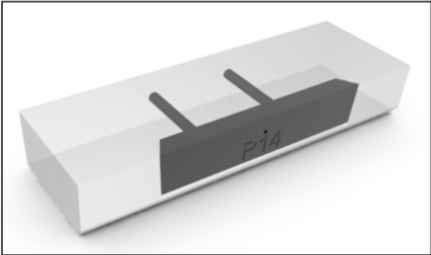
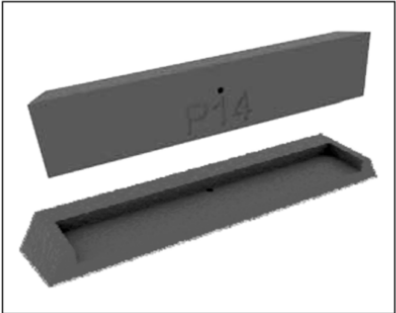


Site construction happens quickly when columns are immediately positioned and bolted into place.



Chord Connector* and Former (sold separately)			
Part No.	Description	Rebar	Capacity**
SBCC12212	SB Chord Connector 1/2"x2"x12"	#6 x30"	47,500 lbs
SBCC12212SS	SB Chord Connector 1/2"x2"x12" SS	#6 x30"	47,500 lbs
SBCC12212F	SB Chord Connector Former	--	--

* Capacity based on 5,000 psi concrete. Placement location must be approved by the Engineer of Record (EOR).
* To order domestic product, add "D" at the end of the part number i.e. SBCC12212D



Reusable rubber former to accurately position Chord Connector in precast form.

Column Base Connector*				
Type	SBCBC34	SBCBC1	SBCBC114	SBCBC112
Base plate	3-1/2"x3-1/2"	4"x4"	5"x5"	7"x7"
Plate thickness	3/4"	1-1/4"	1-3/4"	2"
Hole size	1-1/8"	1-3/8"	1-3/4"	2"
Rebar size/length	#5 x33"	#6 x42"	#8 x52"	#9 x70"
Shear (lbs)	9,500	17,000	27,000	47,000
Tension** (lbs)	19,000	34,000	54,000	95,000
Anchor bolt size	3/4"x16"	1"x17"	1-1/4"x20"	1-1/2"x30"
Anchor bolt F1554	Grade 55	Grade 55	Grade 55	Grade 90

* Moment connection must be approved by the Engineer of Record (EOR).
* To order domestic product, add "D" at the end of the part number i.e. SBCBC34D
** Tension based on 6,000 psi concrete.

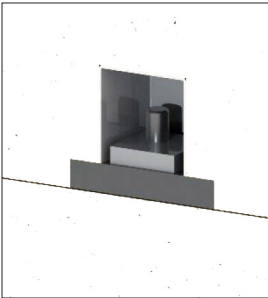
Wall Base Connector

The pre-engineered assembly provides a moment connection at wall-to-base and wall-to-wall locations. This bolted connection eliminates the need for temporary bracing and panel welding, saving time.

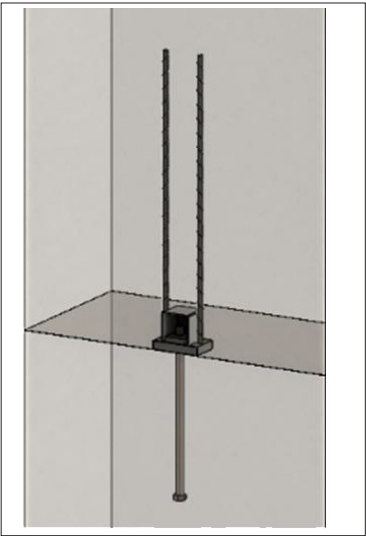
The Wall Base Connector is designed for common anchor bolt sizes. An integrated box-out provides access at each bolt location. The plate and rebar are matched to load specifications.

Each Wall Base Connector includes a steel plate (Grade 50) and rebar (A706) welded in accordance with American Welding Society (AWS) standards. An optional galvanized finish is also available.

Once the wall panels have been positioned and bolted, the base must be grouted to provide bearing for the engineered load.



Site construction happens quickly when wall panels are immediately positioned and bolted into place.



Wall Base Connector*				
Type	SBWBC34	SBWBC1	SBWBC114	SBWBC112
Base plate	3-1/2"x3-1/2"	4"x4"	5"x5"	7"x7"
Plate thickness	3/4"	1-1/4"	1-3/4"	2"
Hole size	1-1/8"	1-3/8"	1-3/4"	2"
Rebar size/length	#5 x33"	#6 x42"	#8 x52"	#9 x70"
Shear (lbs)	9,500	17,000	27,000	47,000
Tension** (lbs)	19,000	34,000	54,000	95,000
Anchor bolt size	3/4"x16"	1"x17"	1-1/4"x20"	1-1/2"x30"
Anchor bolt F1554	Grade 55	Grade 55	Grade 55	Grade 90

* Moment connection must be approved by the Engineer of Record (EOR).
* To order domestic product, add "D" at the end of the part number i.e. SBWBC34D
** Tension based on 6,000 psi concrete.

Panel Base Connectors

The Panel Base Connector is easy to position and fasten at the bottom edge of the form. It can be placed in either a face-up or face-down orientation depending on the forming and handling preference.

The high-strength, purpose designed drill-in 3/4"x10" screw anchor provides an immediate and secure connection when tightened. There is no grout set-up or wait time.

The connection is centered in the concrete panel, minimizing moment and eccentric forces in the design, and resisting in-plane tension and out-of-plane shear forces.

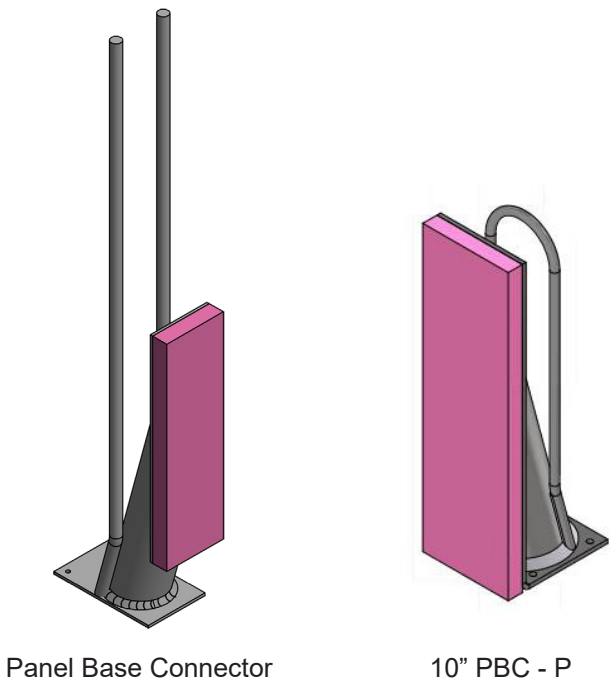
The connection provides a nominal capacity in excess of 10 Kips for shear and tension, meeting the applicable ACI requirements.

The relatively small access area is easy to grout, providing complete embedment and encapsulation for corrosion protection.

Meets ACI integrity requirements of ACI-318 -11 16.5.1.3(b) ACI318-14 16.2.4.3(b), ACI-318-19 16.2.4.3 (b), and ACI 551.2R-15 Chapter 8.

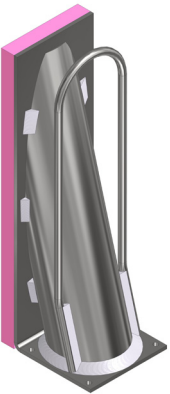
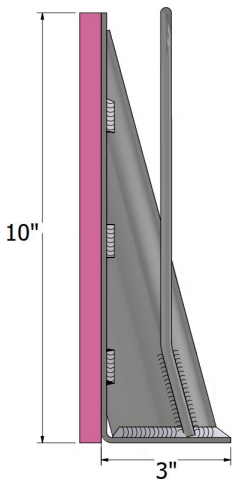
Panel Base Connector Kit	
Part No.	Description
SBPBC34HD10KIT	Panel Base Connector Kit w/ 3/4" x 10" Screw Anchor
SBPBC34HD12KIT	Panel Base Connector Kit w/ 3/4" x 12" Screw Anchor
SBPBC10-PKIT	10" Panel Base Connector - P Kit w/ 3/4" x 10" Screw Anchor
SBPBC12-PKIT	10" Panel Base Connector - P Kit w/ 3/4" x 12" Screw Anchor

* 12" Kit required when spacing between bottom of panel and footing is more than 2".
* To order domestic product, add "D" at the end of the part number i.e. SBPBC34HD10KITD



Panel Base Connector

10" PBC - P

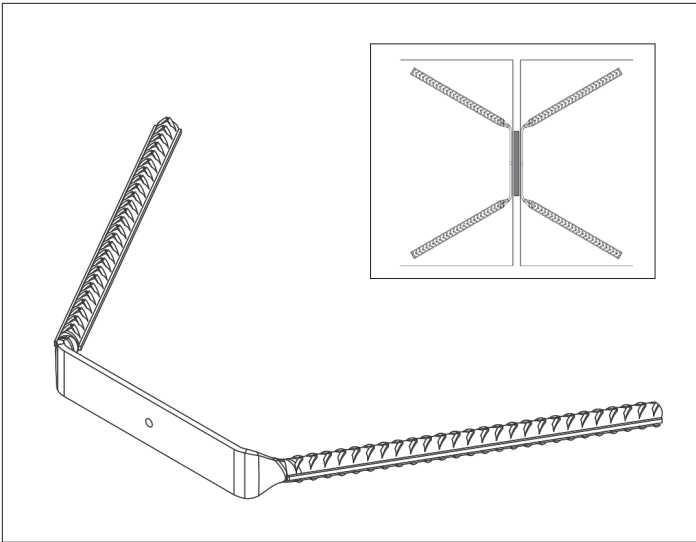


Edge Connector

The Edge Connector is a rebar-winged embed designed for precast concrete applications. The rebar “wing” is tied into the panel reinforcing steel, with the “flat” positioned at the panel edge for later welding.

The rectangular “flat” on the Edge Connector provides for a thicker, more reliable, field welding surface between adjoining precast panels. The rectangular shape exhibits greater weld strength, with less variability, compared to typical round slugs.

The Edge Connector exhibits excellent performance in Horizontal Shear, Tension and Vertical Shear, making it suitable for precast concrete applications, including parking garage floors, roof slabs, bridge decks and industrial walls.



Edge Connectors are used to join adjacent precast.

Edge Connector					
Part No.	Description	Type	Horizontal Shear*	Tension*	Vertical Shear*
SBEC4R	SB Edge Connector #4 w/1” Flange	A706	3,020 lbs	7,210 lbs	16,250 lbs
SBEC4RSS	SB Edge Connector #4 w/1” Flange	2304SS	3,020 lbs	9,340 lbs	18,960 lbs
SBEC5R	SB Edge Connector #5 w/1-1/2” Flange	A706	6,390 lbs	11,740 lbs	27,680 lbs
SBEC5RSS	SB Edge Connector #5 w/1-1/2” Flange	2304SS	6,390 lbs	12,590 lbs	32,670 lbs

* Ultimate load capacities.
* To order domestic product, add “D” at the end of the part number i.e. SBEC4RD

Edge Connector Former*	
Part No.	Description
SBEC4F	SB Edge Connector Former #4 1” (Red)
SBEC5F	SB Edge Connector Former #5 1-1/2” (Blue)

* Plastic Former accurately positions Edge Connector in form.



Edge Connector Former for positioning.

Wire Truss

A precast sandwich panel consists of a bottom layer of concrete, a middle layer of insulation, and a top layer of concrete. The Wire Truss connects these layers into a single, composite unit that is far more energy-efficient than a solid, concrete-only panel.

Wire Truss has the resiliency to expand and contract with the independent thermal-induced movements of the inner and outer concrete layers. This maintains the integrity of the panel and minimizes any thermal transfer between layers.

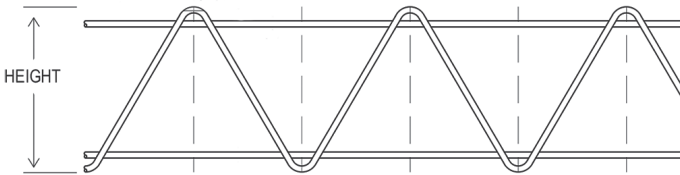
The design of the concrete and insulation layers will establish the overall panel thickness and truss spacing. The panel thickness will indicate the height of the Wire Truss. The truss spacing will determine the quantity needed.



Wire Truss is used to connect the bottom and top concrete layers in a precast “sandwich” panel. Foam insulation is placed between the Wire Truss to create an energy-efficient panel.

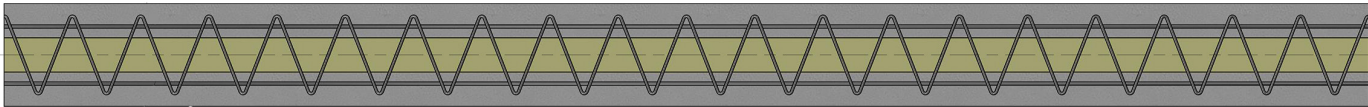
Wire Truss	
Part No.	Description
SBWT610M	SB Wire Truss 6”x10’
SBWT710M	SB Wire Truss 7”x10’
SBWT810M	SB Wire Truss 8”x10’
SBWT910M	SB Wire Truss 9”x10’

* Consult SureBuilt Engineering for design calculations
* To order domestic product, add “D” at the end of the part number i.e. SBWT610MD



Top Wire - Max .306 / Min .225 inch diameter
Bottom Wire - Max .306 / Min .225 inch diameter
Diagonal Wire - Max .243 / Min .192 inch diameter

The diagonal wire is welded at all the intersections of the top and bottom wires.



Wire Truss is easy to install. The truss can be pre-set or wet set with foam insulation. The insulation is placed between the lengths of truss, then sandwiched between the inside and outside concrete panels.

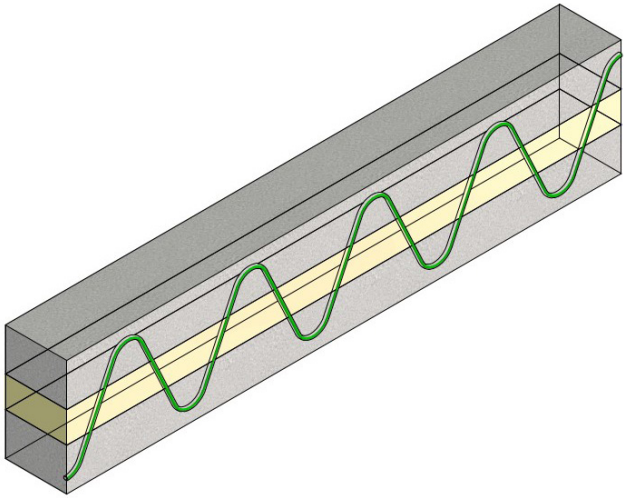
Installation

1. Position bottom mesh, rebar and/or pre-stressed cables in the form and tie in wire truss at pre-determined spacing.
2. Place “bottom” concrete and raise wire truss to a vertical position. About 2/3 of the truss should be exposed.
3. Install the insulation board strips between the wire truss, pressing the board in and around the diagonal wires.
4. Position top mesh, rebar and or pre-stressed cables and tie to wire truss. Place “top” concrete to complete panel.

FRP Truss - Precast

This FRP Truss - Precast develops strength and rigidity from a fiber reinforced design. Foam insulation is placed between lengths of FRP Truss and sandwiched between the inside and outside concrete panels to provide the following advantages:

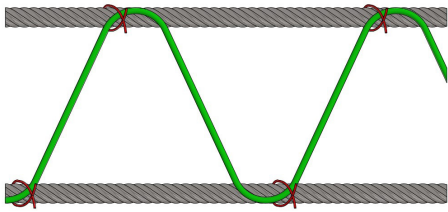
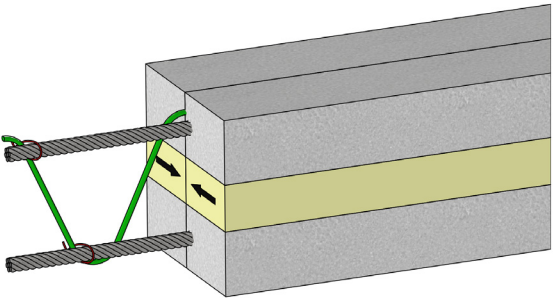
- Fiber reinforced material improves the thermal efficiency of panels and reduces cold bridging.
- Supports all working loads, including stripping, handling, transportation, installation, and service.
- Shape provides composite action between the inside and outside concrete panels.
- Durable and corrosion resistant material is 2.5 times stronger than steel and does not stain.
- Adapts to locally available foam insulation materials.



FRP Truss is easy to install. The truss can be pre-set or wet set with foam insulation. The insulation is placed between the lengths of truss, then sandwiched between the inside and outside concrete panels.

FRP Truss - Precast						
Part No.	Description	H	L	I	d	*Wythe Dimensions
SBFRPTP610	FRP Truss - Precast 6"x10'	6"	10'	8"	#2 rebar	3-2-3 / 3-3-3
SBFRPTP710	FRP Truss - Precast 7"x10'	7"	10'	8"	#2 rebar	3-3-3 / 3-4-3
SBFRPTP810	FRP Truss - Precast 8"x10'	8"	10'	8"	#2 rebar	3-4-3 / 3-5-3
SBFRPTP910	FRP Truss - Precast 9"x10'	9"	10'	8"	#2 rebar	3-5-3 / 3-6-3

H - Wave height (out-to-out) of the flexible coupling
L - Total truss length
I - Wave step
d - Diameter of the diagonal rod
* Common wythe dimesions, actual wythe and insulation dimentions can vary
Note: 2" minimum loop embedment without runners



FRP Truss can be wired to strand

FRP Truss	
Property	Min Value*
Tensile strength	145 ksi
Tensile strength at bend	130 ksi

* No safety factors applied.
Note: For use only with minimum 3,000 psi concrete and minimum 2" loop embedment



Scan for data sheet

Data available for sandwich wall design software

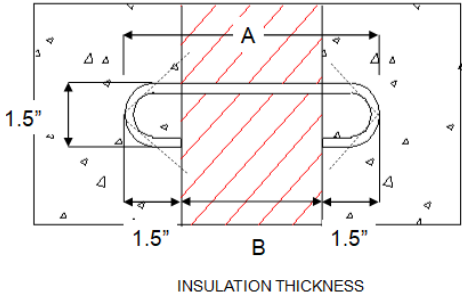
Product specifications are subject to change without notice.

C-Connector

The C-Connector is used in insulated precast concrete sandwich panels. The connectors are attached to the rigid insulation at the required spacing, then the assembly is placed and finished as part of the panel.

The wire (3 ga) C-Connector has an erection shear value of 440 lbs and tension value of 580 lbs (based on a safety factor of 3:1 in 3,000 psi concrete). The minimum spacing around panel edges and openings is 12".

C-Connector		
P/N	A	B
SBCC31	3"	1"
SBCC41	4"	1"
SBCC42	4"	2"
SBCC53	5"	3"
SBCC63	6"	3"
SBCC73	7"	3"
SBCC83	8"	3"

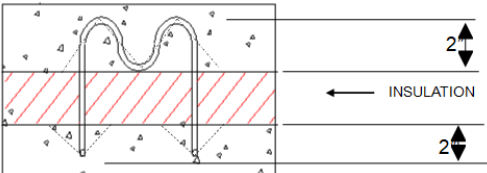


M-Connector

The M-Connector is used in insulated precast concrete sandwich panels. The connectors are attached to the rigid insulation at the required spacing, then the assembly is placed and finished as part of the panel.

The wire (3 ga) M-Connector has an erection shear value of 880 lbs and tension value of 1,100 lbs (based on a safety factor of 3:1 in 3,000 psi concrete). The minimum spacing around panel edges and openings is 12".

M-Connector	
P/N	Length
SBMC53G	5"
SBMC63G	6"
SBMC73G	7"
SBMC83G	8"



Product specifications are subject to change without notice.

H Chair

Lightweight plastic supports for rebar.

Uni Chair

Straddle lower level rebar and support upper mats.

Slab-on-Grade Chair

Integrated sand plate for support and stability.



Slab Bolster

Plastic slab bolster with end lock.

Plastic Slab Bolster (5' length)	
P/N	Description
SBSB34AP	Slab Bolster 3/4" Plastic
SBSB1AP	Slab Bolster 1" Plastic
SBSB112AP	Slab Bolster 1-1/2" Plastic
SBSB2AP	Slab Bolster 2" Plastic

Patch Caps

Caps are used to cover lifting and bracing insert holes.

Patch Caps	
P/N	Description
SBRLPC22KP	Patch Cap (5/8" Square Insert)
SBPATCHCAPBI	Patch Cap (3/4" Square Insert)

Shims

Plastic shims provide quick adjustment when installing panels on slightly uneven footings. Each pack contains six 4"x6" shims with an overall thickness of 1-1/16". There are three 1/4", two 1/8" and one 1/16" shims (8,000 psi minimum).

Patch Caps	
P/N	Description
SBSHIMPK	Shim Pack Set (6 pieces)

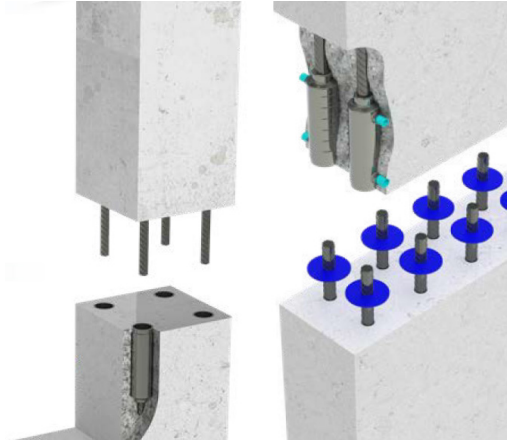


Groutec

Groutec is designed to connect the precast elements either horizontally or vertically by positioning the rebar inside coupler.

Groutec can also be used to make a transition between rebar of different sizes. Please refer to our installation instructions for the list of possible combinations.

Easily connect two precast elements with no requirement for in situ wet concrete joint.



Use either direction for Vertical Connections, the Groutec sleeve installed in the bottom element, the grout can simply be poured by gravity directly into the sleeve cavity.

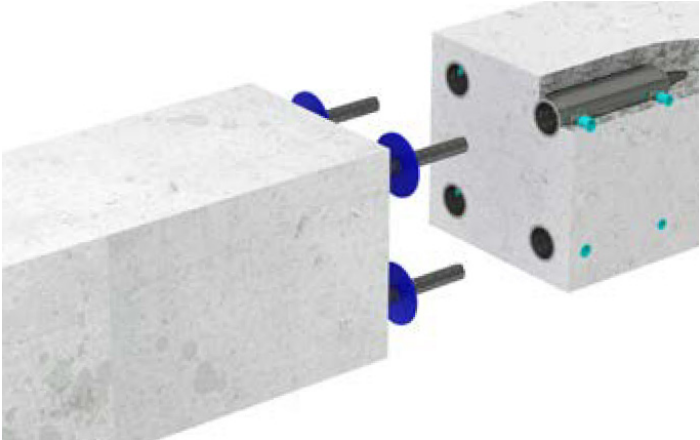
Part No.	Description
SBGSSF	Groutec Spice System Full

Groutec F

“F”, for Fully grouted, allows the connection of two rebars without the need of any threading procedure.



Groutec couplers are marked to trace raw materials and production batch data.



In horizontal applications and in vertical applications with the Groutec sleeve installed in the top element, the connection is achieved by injecting the grout through the inlet pipe.



Deformed GFRP Reinforcement Bar

Deformed glass fiber reinforced polymer (GFRP) Reinforcement Bar is 1/4th the weight of steel resulting in a 75% CO₂ footprint reduction.

All grade 3 (structural) GFRP bar is 3 times stronger than steel which equates to enhanced jobsite safety, with significant savings in transportation and handling costs.

Deformed GFRP bar is non-corrosive and non-conductive which makes it suited for any environmental exposure. It does not conduct electricity, is non-magnetic, does not interfere with RF signals, and is UV Stable.



Deformed GFRP Grade III Reinforcement Bar Specifications						
Part No.	Description	Use / Replace	Size	Weight	Mean Cross Sectional Area	Minimum Tensile Load
SBMSGFRP3	#3x20' Deformed Grade III GFRP Rebar	Structural / #3	3/8"	0.147 lb/ft	0.11 in ²	16,636 lbf
			10mm	0.22 kg/m	71 mm ²	73.4 kN
SBMSGFRP4	#4x20' Deformed Grade III GFRP Rebar	Structural / #4	1/2"	0.185 lb/ft	0.2 in ²	29,675 lbf
			13mm	0.275 kg/m	129 mm ²	132 kN
SBMSGFRP5	#5x20' Deformed Grade III GFRP Rebar	Structural / #5	5/8"	0.32 lb/ft	0.31 in ²	45,411 lbf
			16mm	0.476 kg/m	200 mm ²	202 kN
SBMSGFRP6	#6x20' Deformed Grade III GFRP Rebar	Structural / #6	3/4"	0.45 lb/ft	0.44 in ²	64,100 lbf
			20mm	0.7 kg/m	284 mm ²	285 kN
SBMSGFRP7	#7x20' Deformed Grade III GFRP Rebar	Structural / #7	7/8"	0.53 lb/ft	0.60 in ²	87,190 lbf
			22mm	0.79 kg/m	388 mm ²	388 kN
SBMSGFRP8	#8x20' Deformed Grade III GFRP Rebar	Structural / #8	1"	0.8 lb/ft	0.79 in ²	112,180 lbf
			25mm	1.19 kg/m	509 mm ²	499 kN
SBMSGFRP9	#9x20' Deformed Grade III GFRP Rebar	Structural / #9	1-1/8"	1.13 lb/ft	1.0 in ²	144,770 lbf
			29mm	1.68 kg/m	644 mm ²	644 kN
SBMSGFRP10	#10x20' Deformed Grade III GFRP Rebar	Structural / #10	1-1/4"	1.25 lb/ft	1.23 in ²	177,940 lbf
			32mm	1.86 kg/m	792 mm ²	792 kN



Scan for data sheet

Product specifications are subject to change without notice.

SureGrip

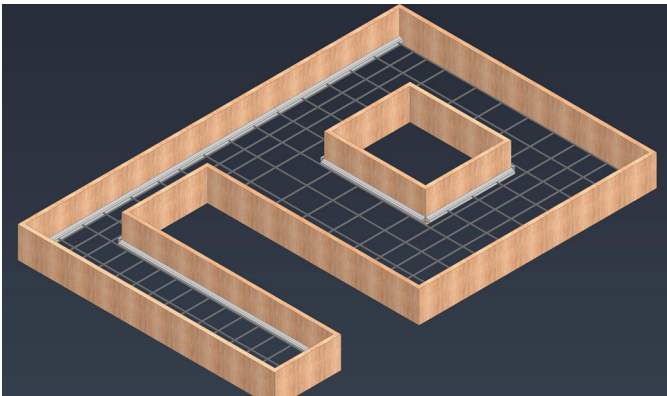
SureGrip provides anchoring for all types of bolted joints when embedded in concrete, even if the screws need to be removed and attached again.

SureGrip is an extruded plastic composite made from recycled plastics and designed to be a durable, maintenance-free alternative to using treated lumber.

The color pigments used in SureGrip provide an environmentally friendly UV protection that retains the original color for longer while also providing a 35-year guarantee against rot and cracks.

Solid concrete walls and concrete products can now use SureGrip to immediately secure bolts and screws for many applications as well as provide protection for the insulation in insulated concrete wall applications.

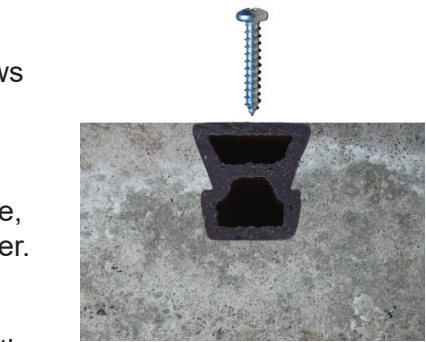
SureGrip embedment strips are cast into the concrete in precast forming applications. Some applications include fastening windows, doors, and parapet attachments to the SureGrip. It can also be fastened to edge forms adjacent to the insulation on the perimeter of insulated concrete panels to protect the insulation from damage.



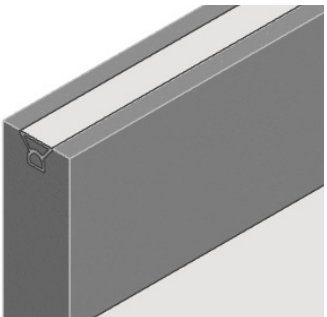
Fasten SureGrip to window and door openings, and parapet attachments as specified.

SureGrip					
Part No.	Description	Height	Width	Length	Density
SBSGES	SureGrip Embedment Strip	1-3/8"	1-3/8"	6' - 6-5/8"	59 lb/ft ³

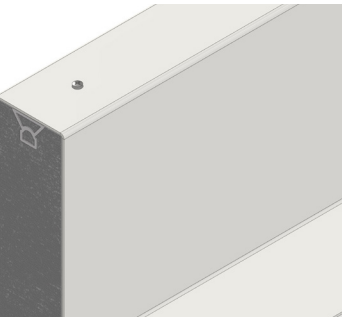
Full pallet contains 256 embedment strips



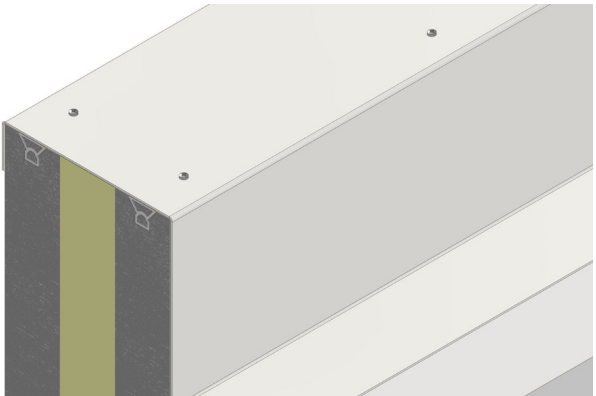
Cast SureGrip in concrete and anchor as needed.



SureGrip cast in solid precast wall for fastening



Flashing cap fastened to SureGrip using #14x1-1/2" Nova™ / Yukon™ fasteners.



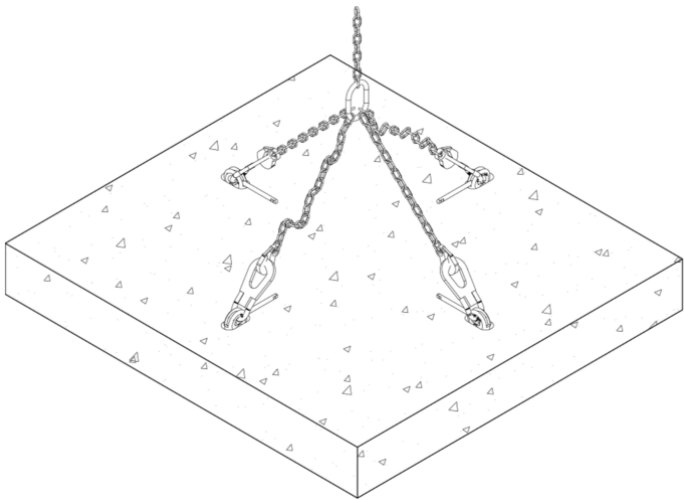
Flashing cap fastened to SureGrip using #14x1-1/2" Nova™ / Yukon™ fasteners.



Scan for data sheet

Product specifications are subject to change without notice.

Safety



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Coatings and Finishes

Products manufactured by SureBuilt can be supplied in several different coatings or finishes to meet your specific environment requirements. The standard finish will be supplied when a finish/coating is not specified on an order.

Plain

Uncoated steel commonly referred to as Plain, Black, Basic or Raw steel. Will corrode or rust when exposed in the environment.

Mechanical Plating

An effective means of applying zinc, tin, or other ductile metals or mixtures of ductile metals to metal substrates - usually steel. In the mechanical plating process, impact energy is transferred from a rotating open - ended oblique barrel through glass beads, resulting in the cold-welding of fine metal dust particles to the substrate. The resulting deposit is slightly porous, matte in finish, and provides corrosion protection to the articles so plated without introducing hydrogen embrittlement into the part. It is widely used to provide corrosion protection.

Electroplating

Can be a bright shiny or sometimes dull finish, generally .0002 to .001 inches thick zinc finish. Degree of corrosion protection will vary and is often dependent on the severity of the particular environment. SureBuilt electro-plated products comply with the ASTM B-633 standard.

ASTM B-633 Electroplate Coating of Zinc on Steel		
Service Condition	Exposure	Coating Thickness
SC-4	Very Severe	0.0010 in
SC-3	Severe	0.0005 in
SC-2	Moderate	0.0003 in
SC-1	Mild	0.0002 in

Warning: Any steel of significant high strength or high carbon is susceptible to hydrogen embrittlement during the electroplating process and must be baked after the coating is completed to drive out excessive hydrogen.

Hot-Dip Galvanized (HDG)

Semi-bright to a very dull finish, much heavier coating than the electroplating process. HDG provides a higher degree of corrosion protection than electroplating, but is not suitable for threaded products or any tight-fitting items. SureBuilt HDG protected products comply with ASTM A-123 or ASTM A-153 standards.

ASTM A-123 - Used for products that are fabricated from rolled, pressed, punched and forged steel shapes, plate, bar, wire or strips 0.125 inch thick and heavier. Zinc finish thickness will vary from 0.002 to 0.005 inches thick.

ASTM A-153 - A coating process for iron and steel products that utilizes a spinning technique to remove excess zinc. Bolts may be processed under this ASTM specification. Coating will vary in thickness from 0.002 to 0.006 inches depending on the “class” specified by the user.

ASTM A-123 Hot-Dip Galvanizing (HDG) on Iron and Steel		
Product Type	Product Thickness	Coating Thickness
Wire	0.142” to 0.186” dia.	0.002 in
Wire	0.187” to 0.249” dia.	0.003 in
Wire	0.250” dia. or larger	0.004 in
Steel or Plate	0.030” to 0.062” thick	0.002 in
Steel or Plate	0.063” to 0.124” thick	0.003 in
Steel or Plate	0.125” or thicker	0.004 in

ASTM A-153 Hot-Dip Galvanizing (HDG) on Iron or Steel Hardware		
Product Type	Product Thickness	Coating THickness
Casting	A	0.004 in
Steel—3/16” and thicker	B1	0.004 in
Steel—3/16” and thicker	B2	0.003 in

Epoxy Coating

A slick, shiny epoxy coating applied to a finished product by means of the electrostatic or fluidized bed method. Coating thickness will vary from .005 inches to .012 inches. Epoxy coatings are very effective corrosion protection in hostile environments such as around or over salt water, or high chemical contaminated areas.

Stainless Steel

Stainless steel offers high corrosion resistance in any environment. Type 304 stainless steel is generally used (unless otherwise specified) by SureBuilt. It is non-magnetic and can be painted without special preparation.

Caution: *Corrosion may occur on exposed metal products when architectural precast members are etched or acid washed. The amount of corrosion will be dependent on the acidity of the wash and/or the type of chemicals used.*

Safe Guarding Against Embrittlement

Carbon steels, cold-worked steels and heat treated steels are susceptible to embrittlement in both electroplating and hot-dip galvanizing operations. Any severely cold-worked steel must be stress-relieved from strain aging by baking prior to electro-plating or hot-dip galvanizing.

Warning: *Products manufactured from high carbon steel that is electro-plated or hot-dip galvanized must be properly heat treated to minimize embrittlement. Failure to properly heat treat these products may compromise their safe working loads and result in a premature failure of the product.*

Warning: *Any steel of significant high strength or high carbon is susceptible to hydrogen embrittlement during the electroplating process and must be baked after the coating is completed to drive out excessive hydrogen.*

Applicable ASTM documents:

- ASTM A-143 “Safe Guarding Against Embrittlement”
- ASTM A-153 “Zinc Coating (hot dip) on Iron and Steel Hardware”
- ASTM A-165 “Electro-Deposited Coatings of Cadmium on Steel”
- ASTM B-633 “Electro-Deposited Coatings of Zinc”

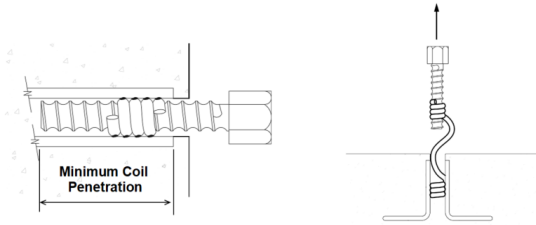
Example Coating Specifications:

Electro-Plate - “Electro-Plate to ASTM B-633 Specification. Service Condition SC-4. Provide embrittlement relief, if necessary.”

Hot Dip Galvanize - “Hot Dip Galvanize to ASTM A-153, Class A. Provide embrittlement relief, if necessary.”

Coil Bolt Penetration

The most common type of insert failure is caused by the lack of sufficient bolt penetration through the coil. Under load, inadequate bolt penetration will cause the upper part of the coil to “unwind” and pull out. This is commonly referred to as the “corkscrew” effect.



Coil Bolt Considerations:

- Failure to properly tighten a coil bolt can result in the inability of the coil bolt to fully penetrate the coil of the insert.
- Excessive insert setback in the concrete can result in the inability of the coil bolt to fully penetrate the coil of the insert.
- Worn threads on a coil bolt will render the bolt ineffective and will result in inadequate thread engagement.
- A coil bolt of inadequate length to fully penetrate the Insert coil will produce a corkscrew type of failure. The insert coil cannot carry the required load when only partially engaged.

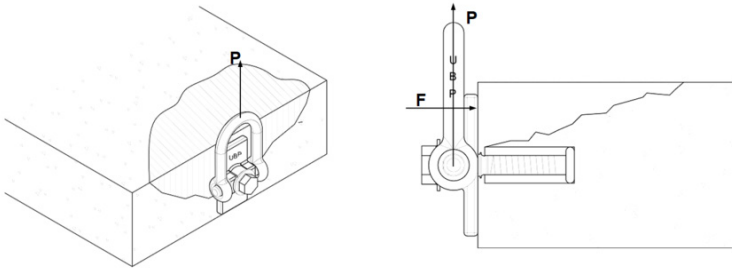
Reference the Minimum Coil Penetration Table on page 24.

Caution: Coil bolts should be periodically inspected and replaced for wear or bending. Worn or bent bolts should be discarded immediately. Never use a worn or bent bolt and never attempt to straighten a bent bolt.

Edge Lifting

When an insert/anchor is located in the edge of a concrete panel for the purpose of lifting and handling of the panel, the concrete on the topside of the insert/anchor will carry the entire applied load unless special provisions are implemented. The upward force on an insert, from the bolt and compressive force from the lifting plate, combine to quickly overload the concrete on the topside of the insert/anchor. The loss of the concrete above the insert/anchor can result in the insert breaking and loss of the panel.

One means of increasing edge lift capacity is to strengthen the concrete over the insert with shear bars or stirrup assemblies. This process will reinforce the concrete, preventing total loss of the concrete and allow the insert/anchor to remain in the panel. Always use the proper style and capacity insert/anchor for edge lifting. Never use a two-strut insert. A properly selected insert/anchor will not break if the concrete above it fails. This will allow the panel to be positioned with only minor patching required.



Lifting Hardware

All lifting hardware is subject to wear, abuse, bending, overloading, alterations and corrosion. The user must continually inspect the item to determine its usable condition. If the product shows any problem or is not in good working condition, then the item should be discarded or returned for repair and/or service. The frequency of inspection is determined by how often the product is used, length of use and the environment in which it is used.

Example:

When the Double Swivel Lift Plate (SBDSL1) with 1” bolt diameter is pulled at an angle producing 3,000 lbs. vertical load and 3,000 lbs.

horizontal load, then the following information applies:

$V = (2e/d) H = 1.0 (3,000) = 3,000 \text{ lbs. additional load on the insert}$

due to the horizontal force component.

$P_T = \text{Total applied load} = P_T$

$P_T = \text{Vertical component load} + (2e/d) H$

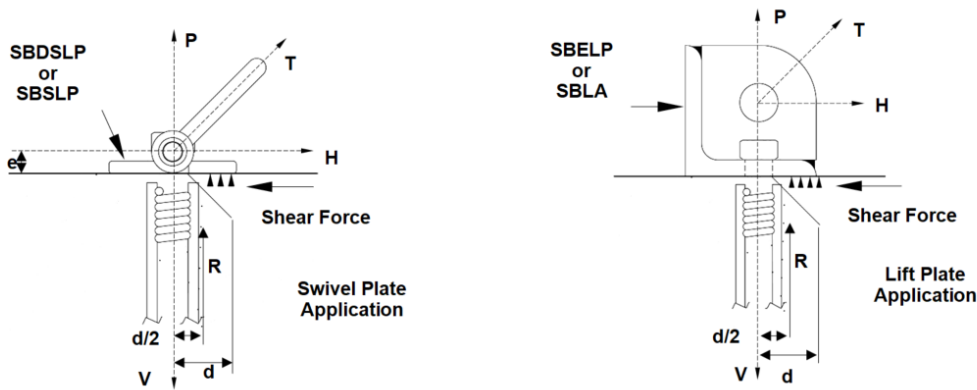
$P_T = 3,000 + 3,000 = 6,000 \text{ lbs. Total Tension Load}$

An insert with a Safe Working Load (SWL) greater than 6,000 lbs. is required.

Lifting Hardware		
P/N	Bolt Dia	(2e/d)
SBSLP34	3/4"	0.67
SBSLP1	1"	0.67
SBDSL1	1"	1.00
SBDSL114	1-1/4"	0.75
SBDSL112	1-1/2"	0.75
SBELP34	3/4"	3.00
SBELP1	1"	3.00
SBLA1	1"	2.00
SBLA114	1-1/4"	2.00
SBLA112	1-1/2"	2.00

LIFTING PLATES

When using a Lifting Plate in conjunction with cast-in-place inserts, a combination of forces with small lever arms become factors of concern. Reference the sketches shown below. Dimension “d” is an assumed constant subject to the location of “R”, the resultant force exerted by the reaction of the plate on the concrete.



Lifting Plate considerations:

- If the lifting plate is loosely tightened, the location of “R” will be at the extreme edge/corner of the plate and “d” becomes the plate width divided by 2.
- If the lifting plate is properly tightened with the attachment bolt, then the generally accepted stress pattern will be triangular or trapezoidal.
- During initial and low loads the “R” force moves from the toe of the plate towards the center of the plate. As the load increases, the plate attempts to flex. The maximum movement is most likely at the midpoint of the plate, between the bolt centerline and the toe of the plate. Taking a conservative approach, “d divided by 2” is the theoretical location of the “R” force, resulting in a higher load added to the vertical component load.

4. Using basic equations, a pair of force couples must be equal to zero:

$H(e) = V(d/2)$ and $V = (2e/d)H$

V = vertical force on the insert.

H =horizontal force on the lifting plate.

Lifting Plate example:

When the Double Swivel Lift Plate (SBDSLP1) with a 1” bolt diameter is pulled at an angle producing 3,000 lbs .vertical load and 3,000 lbs. horizontal load, then the following information applies:

$V = (2e/d) H = 1.0 \times 3,000 = 3,000$ lbs. additional load on the insert due to the horizontal force component.

Total applied load = P_T

$P_T = \text{Vertical component load} + (2e/d) H$

$P_T = 3,000 + 3,000 = 6,000$ lbs. Total Tension Load

In this example, an insert with a safe working load greater than 6,000 lbs. must be used.

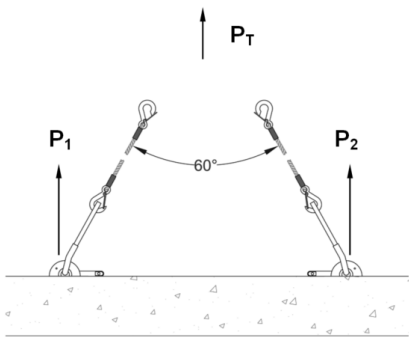
Inclined slings:

When rigging is selected where the sling lines are inclined, it is important to measure the angle b (beta). The angle will cause an increase in the anchor loading due to the horizontal force components.

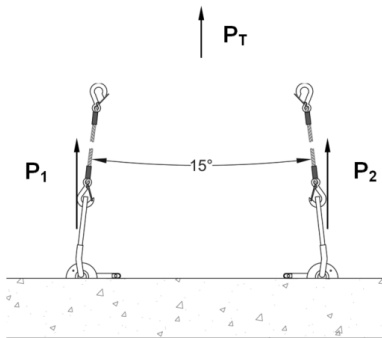
Reference the sketched examples:

1. The angle is 60° and from the table below, the load factor is 1.16.
Therefore, P1 load = 1.16 x weight of the concrete element divided by 2.
2. The angle is 15° and from the table below, the load factor is 1.01. Therefore, P1 load = 1.01 x weight of the concrete element divided by 2.

Sling Angle Load Factors								
Sling Angle b	120°	105°	90°	75°	60°	45°	30°	15°
Load Factor	2.00	1.64	1.41	1.26	1.16	1.08	1.04	1.01



b = 60°
60° Sling Angle



b = 15°
15° Sling Angle

Example 1 - Two-part chain slings:

Determine the anchor load, anchor size and concrete psi required for a rectangular concrete beam 12” deep, 3’ wide and 24’ long. The beam has form adhesion at the bottom surface only and a sling angle of 45°.

Concrete dead weight = 12” /12” x 3’ x 24’ x 150 lbs. = 10,800 lbs.

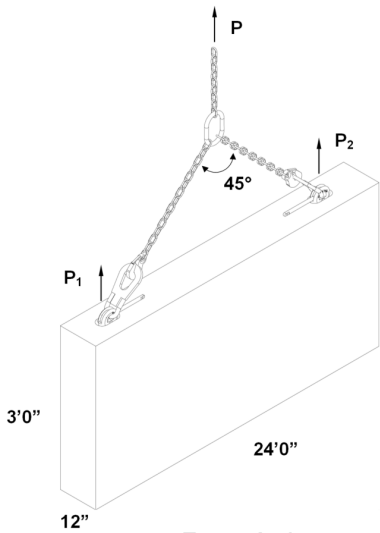
Form adhesion (steel form) = 12” /12” x 24’ x 25 lbs. = 600 lbs.

Total Load (P_T) = 11,400 lbs.

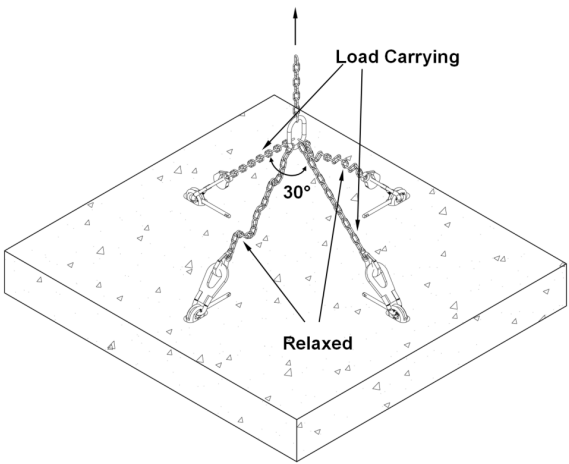
Now apply the load factor for the 45° sling angle and realizing that

$P_1 = P_2 = P_T$ then $P_1 = 11,400/2 \times 1.08 = 6,156$ lbs. per anchor

To adequately lift the beam would require an anchor like the 4 ton Two-Hole Anchor (P/N SBTHA584) with Tension Bar rated at 8,000 lbs. SWL in 3,000concrete.



Example 1



Example 2

Example 2 - Four slings attached at slab corners:

When four fixed length slings are used to lift and handle a concrete element, often one of the slings will be longer than the rest. This will force two of the embedded anchors to carry the total load and the other two anchors to do little more than keep the slab balanced.

Determine the anchor load, anchor size and concrete psi required for a slab 12’ x 11’ x 16” using a sling incline angle of 30° and having form adhesion at the bottom surface only.

Concrete dead weight = 12’ x 11’ x 16”/12” x 150 lbs. = 26,400 lbs.

Form adhesion (steel form) = 12’ x 11’ x 20 lbs. = 2,640 lbs.

Total Load (P_T) = 29,040 lbs.

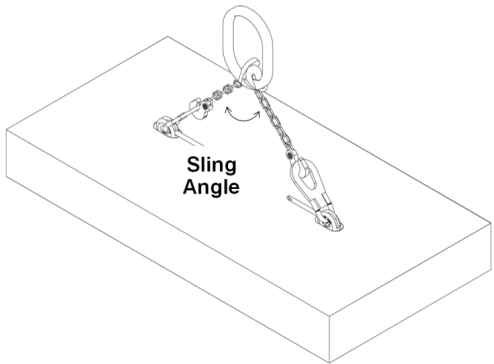
$P_1 = 29,040/2$ (only two anchors working) x 1.04 per anchor = 15,100 lbs. per anchor

To adequately lift and handle, the example slab would require an anchor like the 10 ton x 10” Ring-Lift Anchor (P/N SBDFFA3410) rated at 20,000 lb SWL in 3,500 psi concrete.

Sling Angle Factor

Additional forces come to bear on an anchor from oblique pulls caused by the sling angle. As the angles increases, the cable load increases and transfers an even larger load to the anchor. Angles greater than 90° are not safe and must not be used. To calculate the load on the anchor, refer to the accompanying table. Move across the table to the sling angle being used and multiply the corresponding magnification factor by the dead load of the precast element.

Sling Angle Load Factors								
Sling Angle b	120°	105°	90°	75°	60°	45°	30°	15°
Load Factor	2.00	1.64	1.41	1.26	1.16	1.08	1.04	1.01



Note: Additional factors to consider include sling length, crane type and jobsite conditions. Additional impact factors may apply.

Concrete Strength Adjustment Factors

To convert the allowable tension load for an unreinforced anchor from listed concrete strength of 3,500 psi to a greater or lesser concrete strength, multiply 3,500 psi by the factor indicated in the table.

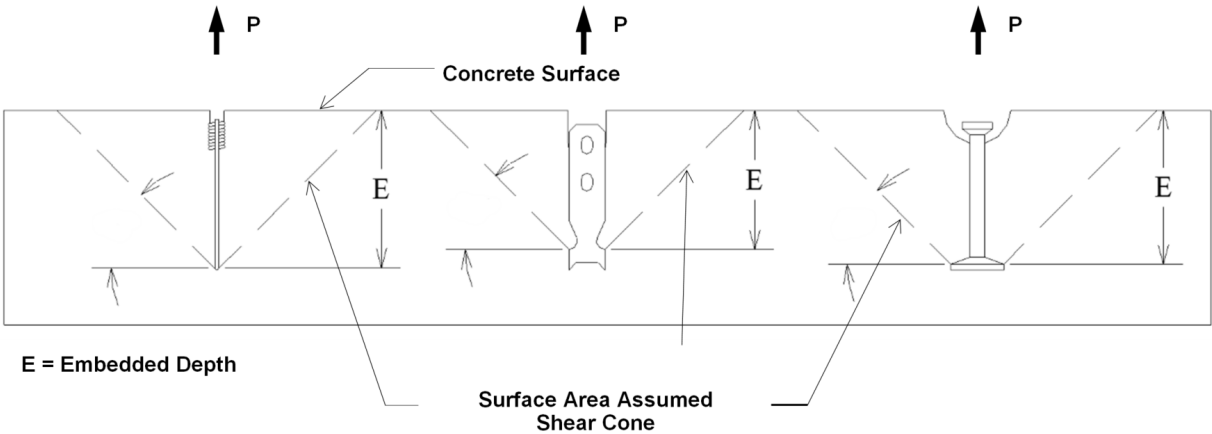
Note: These factors are for use with tension applications only. Do not use these factors for shear applications without consulting with SureBuilt to make sure there are no other limitations.

Note: To maintain the needed 4:1 safety factor the new value must be less than 25% of the listed ultimate mechanical value of the selected anchor.

Concrete Strength Adjustment Factors	
To Increase For Greater Concrete Strength	
Convert From	Multiply By
3,500 psi to 4,000 psi	1.07
3,500 psi to 4,500 psi	1.13
3,500 psi to 5,000 psi	1.19
To Decrease For Lesser Concrete Strength	
Convert From	Multiply By
3,500 psi to 3,000 psi	0.92
3,500 psi to 2,500 psi	0.84
3,500 psi to 2,000 psi	0.75

Concrete Shear Cone

The shear cone is that area of concrete around the anchor that withstands the stress during lifting.



Typical Wire Sizes and Strengths					
Nominal Wire Dia (inches)	Wire Grade	AISI and SAE Number	Approximate Min Yield Tension	Approximate Min Ultimate Tension	Approximate Min Shear
0.440	MHC	1040	13,000 lbs	15,000 lbs	10,200 lbs
0.375	LC	1018	8,250 lbs	9,350 lbs	6,360 lbs
0.375	LC	1008	6,500 lbs	8,250 lbs	5,700 lbs
0.306	LC	1018	5,400 lbs	6,200 lbs	4,240 lbs
0.306	LC	1008	4,400 lbs	5,450 lbs	3,750 lbs
0.283	LC	1018	4,700 lbs	5,400 lbs	6,650 lbs
0.262	LC	1008	2,700 lbs	3,500 lbs	2,400 lbs
0.223	MHC	1035	3,400 lbs	4,000 lbs	2,708 lbs
0.218	LC	1008	2,100 lbs	2,800 lbs	1,870 lbs

Safety Notes and Product Application

SureBuilt prioritizes safety in developing hardware for the precast industry, ensuring products from its manufacturing plants meet or exceed requirements for lifting, handling, and connecting precast concrete elements. Products in this hand-book were tested by SureBuilt and/or independent labs, with safe working loads determined based on these conditions:

1. Products are new or in “as new” condition.
2. Loads do not exceed the product’s safe working load.
3. Inserts are properly embedded in sound, normal-weight concrete, with the vertical axis perpendicular to the lifting sur-face.
4. Bolted hardware has full bearing on the concrete surface, with attachment bolts fully engaged and not subjected to side loading.
5. Erection and attachment bolts are correctly sized, tightened, and prevent slippage or bending.
6. Coil bolts have specified minimum penetration through the insert coil without bearing on the concrete.
7. Concrete compressive strength (f’c) at initial use matches or exceeds the insert selection chart.
8. Inserts are positioned to allow a full concrete shear cone, adhering to minimum edge distances in the selection chart.
9. Tensile loads, including axial and transverse effects from crane lines, are calculated.
- 10 Impact wrenches are not used to tighten lifting or connecting bolts.
11. Zinc-plated medium-high or high-carbon steel items are baked to prevent embrittlement.
12. No welding is performed on inserts or lifting hardware after leaving SureBuilt’s factory, as it may cause embrittlement and premature failure. SureBuilt does not guarantee products altered post-manufacture.

SureBuilt’s lifting systems are designed and tested for use exclusively with SureBuilt inserts and anchors. Using Sure-Built hardware with non-SureBuilt products is considered misuse, and SureBuilt is not liable for any resulting damages or injuries.

Safety Factors

The safety factor for a product varies based on the hazard or risk level in its application. In precast concrete construction, factors like increased loading or heightened risk can arise from conditions such as concrete adhesion to the form, crane jerking during lifting, using an inadequate crane, bouncing the lifted element, excessive handling, or transporting over rough surfaces. In these high-risk scenarios, the safety factor should be increased accordingly.

SureBuilt recommends adhering to the minimum safety factors outlined for determining a product’s safe working load, while strictly complying with OSHA (Occupational Safety and Health Administration Act, Part 1910) provisions.

If a different safety factor is needed, the following equation can be used to adjust the safe working load:

New Safe Working Load =
$$\frac{\text{Old Safe Working Load} \times \text{Old Safety Factor}}{\text{New Safety Factor}}$$

Safety Factor	Intended Use of Product
2 to 1	Brace Anchors
3 to 1	Permanent Connections
4 to 1	Inserts used for lifting and handling
5 to 1	Hardware used for lifting and handling

2-Hole Anchor	26
Anchor 500 (Easy-Lift)	77
Anchor Rail	80
Bar Chairs, Plastic.....	90
Bearing Pads.....	81
Bolt & Wing Nut (Easy-Lift).....	76
Bolt & Wing Nut (Ring-Lift)	59
Bolt & Wing Nut (Uni-Lift)	67
C-Connector Pin	89
Cable Lifter (Ring-Lift).....	56
Cable Loop Anchor	78
Chain Lifter (Ring-Lift)	56
Chord Connector	82
Coatings	94
Coil Insert - Criss Cross.....	8
Coil Insert - Double Flare	8
Coil Insert - Flare	7
Coil Insert - L-Leg	9
Coil Insert - Loop	6
Coil Insert - Open Coil	9
Coil Insert - Thin Slab.....	10
Coil Nut.....	14
Coil Rod.....	13
Coil Rod Coupler	13
Coil Tie 2-Strut	4
Coil Tie 4-Strut.....	5
Column Base Connector.....	83
Deformed GFRP Reinforcement Bar.....	92
Double Swivel Lift Plate	15
Double Tee Anchor	31
Drop-Forged Foot Erection Anchor	44
Ductile Ferrule Insert.....	22
Edge Connector.....	86
Edge Lift Bracket.....	16
Edge Lift Shear Bar	69
Edge Protector - Plastic	91
Erection Anchor.....	34
Erection Anchor w/Shear Plate	35
Ferrule Insert.....	18
Ferrule Insert - Flare.....	19
Ferrule Insert - L-Leg.....	20
Ferrule Insert - Loop.....	18
Ferrule Insert - Open Coil	21
Ferrule Insert - Thin Slab	20
Ferrule Insert - Wing.....	19
Flat Washer	14
Foot Anchor	28
FRP Truss.....	88
Groutec.....	91
HD Sandwich Panel Erection Anchor	46
HD Sandwich Panel Erection Anchor w/Shear Plate.....	47
Lift Angle Bracket.....	16
Lifter (Ring-Lift)	55

Lifter (Uni-Lift).....	70
Lifting Guidelines	97
Locator Plug.....	12
M-Connector Pin.....	89
Magnet Plate (Easy-Lift).....	76
Magnet Plate (Ring-Lift)	59
Magnet Plate (Uni-Lift)	68
Mounting Plate (Easy-Lift)	76
Mounting Plate (Ring-Lift).....	59
Mounting Plate (Uni-Lift).....	67
Panel Base Connectors	85
Patch Cap	91
Pick-Up Insert	11
Plastic Chair.....	90
Plastic Insert.....	24
Plastic Plug	23
Plate Anchor	33
Precast Insert.....	24
Recess Former (Easy-Lift)	74
Recess Former (Ring-Lift)	57
Recess Former (Uni-Lift).....	67
Ring-Lift Lifter.....	55
Safety.....	95, 104
Sandwich Panel Erection Anchor	46
Sandwich Panel Erection Anchor w/Shear Plate	47
Setting Plug.....	12
Shear Bar.....	42
Shear Cone.....	101
Shim Pack - Plastic.....	90
Slab Bolsters - Plastic.....	90
Sling Angle.....	100
Straight Leg Erection Anchor w/Shear Plate	43
Straight Leg Insert.....	30
SureGrip	93
Swivel Lift Plate	15
T-Bar Anchor.....	27
Tension Bar	42
Threaded Plug.....	12, 23
Truss (FRP)	88
Truss (Wire).....	87
Two-Hole Anchor	26
Uni-Anchor (Ring-Lift).....	29
Uni-Eye Anchor (Uni-Lift).....	66
Uni-Lift Anchor (Uni-Lift)	62
Uni-Lift Lifter.....	70
Utility Anchor (Easy-Lift)	74
Utility Anchor w/ Snap Wires (Easy-Lift)	75
Wall Base Connector.....	84
Wavy Tail Anchor	32
Wire Truss	87
X-Foot Erection Anchor	37
X-Foot Erection Anchor w/Shear Plate.....	39
X-Foot Erection Anchor w/45° and Shear Plate	41

Line Card

Bar Support *

Slab Bolster
Slab Bolster Upper
Individual High Chair
Continuous High Chair
Continuous High Chair Upper
Beam Bolster

Bridge Deck Forming

Bridge Overhang Bracket *
Curing Blankets
Exterior Hangers *
Exterior Half Hangers *
Interior Hangers *
Interior Half Hanger *
Adjustable Joist Hanger

Coil Rod *

1/2" Coil Rod
3/4" Coil Rod
1" Coil Rod
1-1/4" Coil Rod
15mm Coil Rod
20mm Coil Rod

Coil Ties *

1/2" Coil Ties
3/4" Coil Ties
1" Coil Ties
1-1/4" Coil Ties

Concrete Hoppers

Hoppers
Elephant Trunk
Tremie Pipe
Steel Collar

Floor Systems *

Dowel Basket
Taper Dowel
Steel Edge Nosing
VaporStop & Tape

Form Liners *

HIPS - Single Use
ABS - Up to 10 Uses
PE - Up to 40 - 50 Uses
PPE - Up to 100+ Uses

Form Ties *

HD Loop Ties
HD Gang Loop Ties
X-Flat Ties
Base Ties
Aluminum Form Ties

Heavy Forming *

SOLO Clamp Form 1500PSF
SureCurve Radius Form
Sure Beam
Articulated Waler
Steel Circular Column Form
Taper Ties
She-Bolts
Inner Units
Euro Taper Ties
Euro She-Bolts
Flat Washers

GFRP Reinforcement Bar *

#2-#11 Reinforcement Bar

Metal Rib *

Expanded Metal Mesh

Modular Braces *

Type 6-5/8"
Type 8-5/8"

Pipe Braces *

Plywood Forming *

Coil Ties
Pencil Rod and Clamps
Self-Centering Ties
Snap Ties

Precast

Anchor Rail HD
Coil Inserts *
Column Wall Edge Connector *
Ferrule Inserts *
Helical Ground Anchors *
Ring and Cable Lifters
Slant Anchor *
Straight Leg Anchor *
Wall Base Connector *
Wire / FRP Truss *

Rebar Safety Caps

Rebar Splicing

Groutec
Unitec

Self-Riser System *

Shoring *

Cross Braces
Frames
Post Shores
Screw Jacks

Snap Ties *

SPAN-X Beams *

Staybox Rebar Splicing *

Steel Stakes *

3/4" Stakes
7/8" Stakes

Stud Rail DSA & DSAR *

Thermal Break

SurePly™ Handset Forming *

Panels and Fillers
Hardware
HD Loop Ties
X-Flat Ties
Birch Plywood

Tilt-Up

Brace Inserts *
Helical Ground Anchors *
Lifting Hardware
ProLift Inserts *
Slant Anchor *
SureLift (SL) Inserts *
Edge Form Brackets
Construction Adhesive *
FRP Truss / Connectors *
XL Lift Inserts *

Walers *

Butt Plate
Double Channel

* Products are Made in the USA or available to be made in the USA

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Concrete Forms & Accessories

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