ANCHOR SIZE D	EDGE DISTANCE. E (INCHES) SHEAR ONLY 12D	11D	10D	9D	8D	7D	6D	5D
7/8	10-1/2	9-5/8	8-3/4	7-7/8	7	6-1/8	5-1/4	4-3/8
1	12	11	10	9	8	7	6	5
1-1/4	15	13-1/4	12-1/2	11-1/4	9	8-3/4	7-1/2	6-1/4
Re	**1.00**	**0.93**	**0.86**	**0.79**	**0.71**	**0.64**	**0.57**	**0.50**

APPROVALS AND LISTINGS

The following approvals and listings are for reference purposes. They should be reviewed by the design professional responsible for the product installation to verify approved sizes, base materials, and compliance with local codes.

ICBO ES Evaluation Report 5225

SBCCI Report No. 9943

COLA Research Report No. 24960

Factory Mutual Research Corporation J.I. OK4A9.AH, OH6A4.AH

Underwriters Laboratories File No. EX 1289 (N)

Metro-Dade pending

Federal Specification

Meets the descriptive requirements of FF-S-325C,

Group II, Type 4, Class I (superseded) and CID A-A-1923A, Type 4

SUGGESTED SPECIFICATIONS

CARBON STEEL POWER-STUD

Carbon steel expansion anchors shall have a one piece anchor body with a length identification code. The anchors shall have an expansion mechanism which consists of a pair of interlocking independent wedges. Carbon steel components shall be plated according to ASTM Specification B 633, SC1, Type III (Fe/Zn 5). Power-Stud anchors shall be as dimensioned and supplied by Powers Fasteners Inc.

MECHANICALLY GALVANIZED POWER-STUD

Carbon steel expansion anchors shall have a one piece anchor body with a length identification code. The anchors shall have an expansion mechanism which consists of a pair of interlocking independent stainless steel wedges. Carbon steel components shall be mechanically plated according to ASTM Specification B695, Class 65, Type I. Power-Stud anchors shall be as dimensioned and supplied by Powers Fasteners Inc.

304 / 316 STAINLESS STEEL POWER-STUD

Stainless steel expansion anchors shall have a one piece anchor body with a length identification code. The anchor bodies shall be manufactured from Type _____ stainless steel and shall have an expansion mechanism which consists of a pair of interlocking independent wedges. Power-Stud anchors shall be as dimensioned and supplied by Powers Fasteners Inc.

Lok/Bolt™

SLEEVE TYPE EXPANSION ANCHOR

BASE MATERIAL

Concrete, Block, Brick, Stone

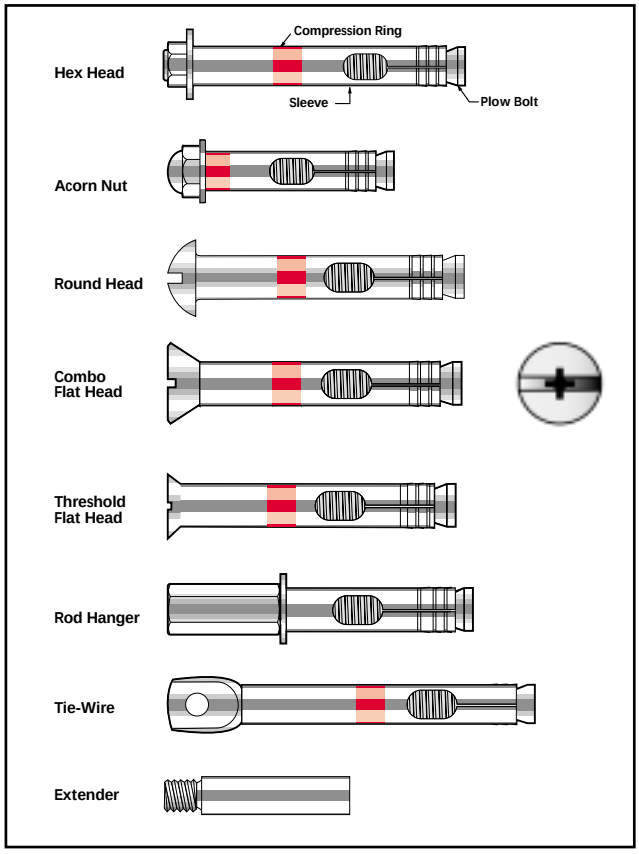
SIZE RANGE

1/4" x 5/8" to 3/4" x 7-1/2"

ANCHOR MATERIAL

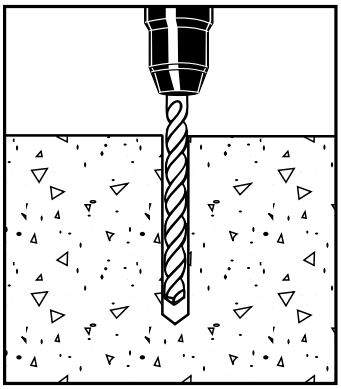
Carbon Steel & Stainless Steel

PRODUCT DESCRIPTION

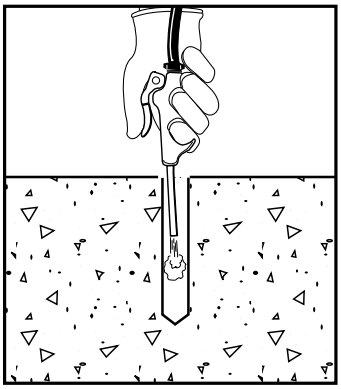


The Lok/Bolt is a pre-assembled single unit sleeve anchor available in carbon steel and stainless steel which can be used in concrete, block, brick, and stone. The Lok/Bolt is designed to draw the fixture into full bearing against the base material through the action of its unique and flexible compression ring. This helps to increase the resistance of the anchor to loosening when subjected to vibratory loads. As the anchor is being tightened, the nylon compression ring will compress if necessary, so that the fixture is tightly secured against the face of the base material. Under load, the specially tapered plow bolt is drawn further into the expansion sleeve to develop increased locking action against the walls of the hole. Extension sleeves are added for longer lengths.

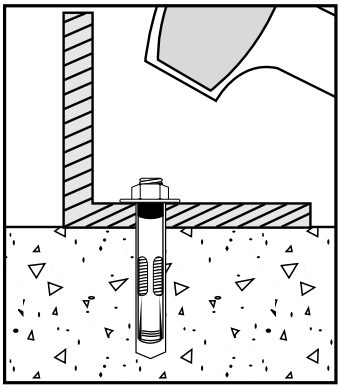
INSTALLATION PROCEDURES



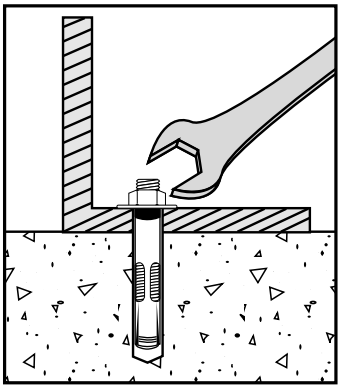
Using the proper diameter bit, drill a hole into the base material to a depth of at least 1/2" or one anchor diameter deeper than the embedment required. The tolerances of the drill bit used should meet the requirements of ANSI Standard B212.15.



Blow the hole clean of dust and other material. Do not expand the anchor prior to installation.



Drive the anchor through the fixture into the anchor hole until the head is firmly seated against the fixture. Be sure the anchor is driven to the required embedment depth.



Tighten the anchor by turning the nut or head 3 to 5 turns past finger tight or by applying the guide installation torque from the finger tight position.

ANCHOR SIZES AND STYLES

The following tables list the sizes and styles of Lok/Bolt anchors. To select the proper minimum anchor length, determine the embedment depth required to obtain the desired load capacity. Then add the thickness of the fixture, including any spacers or shims, to the embedment depth.

HEX NUT LOK/BOLT

CAT. NO.	SS	SIZE	DRILL DIA.	MIN. EMBED.	STD. BOX	STD. CTN.	WT./ 100
5005	-	5/16" x 1-1/2"	5/16"	1-3/8"	100	1000	4-1/4
5010	-	5/16" x 2-1/2"	5/16"	1-1/2"	100	500	5-3/4
5015	6152	3/8" x 1-7/8"	3/8"	1-5/8"	50	500	7
5020	6153	3/8" x 3"	3/8"	1-5/8"	50	500	10
5022	-	3/8" x 4"	3/8"	1-5/8"	50	500	16
5025	6156	1/2" x 2-1/4"	1/2"	2-1/8"	25	250	14
5030	6157	1/2" x 3"	1/2"	2-1/4"	25	250	17-1/4
5034	6160	1/2" x 4"	1/2"	2-1/4"	25	125	22
5033	-	1/2" x 5-1/4"	1/2"	2-1/4"	25	125	27
5032	-	1/2" x 6"	1/2"	2-1/4"	10	100	35
5035	-	5/8" x 2-1/4"	5/8"	2-1/8"	25	125	25-1/2
5038	-	5/8" x 3"	5/8"	2-3/4"	25	125	34
5040	6164	5/8" x 4-1/4"	5/8"	2-3/4"	10	100	41
5045	-	5/8" x 6"	5/8"	2-3/4"	10	100	49
5050	-	3/4" x 2-1/2"	3/4"	2-1/8"	10	100	46
5055	6168	3/4" x 4"	3/4"	3-3/8"	10	40	70
5060	-	3/4" x 5-3/4"	3/4"	3-3/8"	10	30	90
5065	-	3/4" x 7-1/2"	3/4"	3-3/8"	10	30	115

The published minimum length is measured from below the washer to the end of the anchor. Actual anchor lengths may be slightly larger.

ACORN NUT LOK/BOLT

CAT. NO.	SS	SIZE	DRILL DIA.	MIN. EMBED.	STD. BOX	STD. CTN.	WT./ 100
*5125	-	1/4" x 5/8"	1/4"	1/2"	100	1000	2
5150	6150	1/4" x 1-3/8"	1/4"	1-1/8"	100	1000	2-3/4
5175	-	1/4" x 2-1/4"	1/4"	1-1/8"	100	1000	3-1/4

The published minimum length is measured from below the washer to the end of the anchor. Actual anchor lengths may be slightly larger.

** This size does not have a compression ring.*

ROUND HEAD LOK/BOLT

CAT. NO.	SS	SIZE	DRILL DIA.	MIN. EMBED.	STD. BOX	STD. CTN.	WT./ 100
*5205	-	1/4" x 1-1/8"	1/4"	1"	100	1000	2
5210	6180	1/4" x 2"	1/4"	1-1/8"	100	1000	2-3/4
5215	-	1/4" x 2-3/4"	1/4"	1-1/8"	100	1000	3-3/4
5220	-	1/4" x 3-3/4"	1/4"	1-1/8"	100	1000	4-3/4
5225	-	5/16" x 2-3/8"	5/16"	1-1/2"	100	1000	4-3/4
5230	-	5/16" x 3-3/8"	5/16"	1-1/2"	100	500	6-1/2
5235	-	3/8" x 2-1/2"	3/8"	1-5/8"	50	500	8
5240	-	3/8" x 3-3/4"	3/8"	1-5/8"	50	250	10-3/4

The published length is the minimum overall length of the anchor.

** This size does not have a compression ring.*

COMBO FLAT HEAD LOK/BOLT

CAT. NO.	SS	SIZE	DRILL DIA.	MIN. EMBED.	STD. BOX	STD. CTN.	WT./ 100
*5305	-	1/4" x 1-1/8"	1/4"	1"	100	1000	2
5310	6170	1/4" x 2"	1/4"	1-1/8"	100	1000	2-3/4
5315	6172	1/4" x 3"	1/4"	1-1/8"	100	1000	3-3/4
5320	-	1/4" x 4"	1/4"	1-1/8"	100	500	4-1/2
5325	-	1/4" x 5-1/4"	1/4"	1-1/8"	100	500	6-1/2
5330	-	5/16" x 2-1/2"	5/16"	1-1/2"	100	1000	4-1/2
5335	-	5/16" x 3-1/2"	5/16"	1-1/2"	100	500	6-1/4
5340	-	3/8" x 2-3/4"	3/8"	1-5/8"	50	500	7-1/2
5345	6174	3/8" x 4"	3/8"	1-5/8"	50	250	10-3/4
5350	6175	3/8" x 5"	3/8"	1-5/8"	50	250	14
5360	6176	3/8" x 6"	3/8"	1-5/8"	50	250	16

The published length is the minimum overall length of the anchor.
** This size does not have a compression ring.*

ROD HANGER LOK/BOLT

CAT. NO.	SIZE	DRILL DIA.	MIN. EMBED	STD. BOX	STD. CTN.	WT./ 100
5810	*3/8" x 1-1/2"	5/16"	1-1/2"	50	250	5-1/2
5815	*3/8" x 1-7/8"	3/8"	1-5/8"	50	250	9
5825	*1/2" x 2-1/4"	1/2"	2-1/4"	25	125	21

**These sizes do not have a compression ring.*

THRESHOLD FLAT HEAD LOK/BOLT

CAT. NO.	SIZE	DRILL DIA.	MIN. EMBED	STD. BOX	STD. CTN.	WT./ 100
5500	1/4" x 2"	1/4"	1-1/8"	100	1000	2-1/2

TIE-WIRE LOK/BOLT

CAT. NO.	SIZE	DRILL DIA.	MIN. EMBED	STD. BOX	STD. CTN.	WT./ 100
5700	5/16" x 1-1/2"	5/16"	1-1/2"	100	1000	5-1/4

LOK/BOLT MULTIPLE USE KIT

Multiple use kits contain expansion sleeves, expansion cones, nuts, and washers for use with 3/8" diameter rod.

CAT. NO.	SIZE	DRILL DIA.	MIN. EMBED	STD. BOX	STD. CTN.	WT./ 100
5660	1/2"	1/2"	2-1/4"	25	250	10

LOK/BOLT EXTENDERS

CAT. NO. CARB.	SS	SIZE	DRILL DIA.	MIN. EMBED	STD. BOX	STD. CTN.	WT./ 100
5680	5687	1/4" x 1	1/4"	1-1/8"	100	1000	3
5681	-	5/16" x 1-1/8"	5/16"	1-1/2"	100	1000	3
5684	5689	3/8" x 1"	3/8"	1-5/8"	50	500	3
5685	5690	1/2" x 1-3/8"	1/2"	2-1/4"	25	125	3

These are used for added length for all head styles.

INSTALLATION SPECIFICATIONS

ACORN NUT AND HEX HEAD LOK/BOLT

ANCHOR SIZE	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"
ANSI Drill Bit Size	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"
Fixture Clearance Hole	5/16"	3/8"	7/16"	9/16"	11/16"	15/16"
Plow Bolt Size	10-24	1/4-20	5/16-18	3/8-16	1/2-13	5/8-11
Nut Height	13/16"	7/32"	17/64"	21/64"	7/16"	35/64"
Washer O.D.	1/2"	5/8"	13/16"	1"	1-3/8"	1-3/4"
Wrench Size	3/8"	7/16"	1/2"	9/16"	3/4"	15/16"

ROUND HEAD LOK/BOLT

ANCHOR SIZE	1/4"	5/16"	3/8"
ANSI Drill Bit Size	1/4"	5/16"	3/8"
Fixture Clearance Hole	5/16"	3/8"	7/16"
Plow Bolt Size	10-24	1/4-20	5/16-18
Head Height	11/64"	13/64"	15/64"
Head Width	29/64"	9/16"	43/64"

COMBO FLAT HEAD LOK/BOLT

ANCHOR SIZE	1/4"	5/16"	3/8"
ANSI Drill Bit Size	1/4"	5/16"	3/8"
Fixture Clearance Hole	5/16"	3/8"	7/16"
Plow Bolt Size	10-24	1/4-20	5/16-18
Head Height	5/32"	3/16"	15/64"
Head Width	1/2"	5/8"	3/4"

ROD HANGER LOK/BOLT

ANCHOR SIZE	1/4'	3/8"	1/2"
ANSI Drill Bit Size	5/16"	3/8"	1/2"
Plow Bolt Size	1/4-20	5/16-18	3/8-16
Coupling Height	7/8"	1"	1-1/4"
Washer O.D.	5/8"	13/16"	1"
Coupling Wrench Size	7/16"	1/2"	11/16"

THRESHOLD LOK/BOLT

ANCHOR SIZE	1/4"
ANSI Drill Bit Size	1/4"
Fixture Clearance Hole	5/16"
Plow Bolt Size	10-24
Head Height	5/64"
Head Width	23/64"

TIE-WIRE LOK/BOLT

ANCHOR SIZE	5/16"
ANSI Drill Bit Size	5/16"
Tie-Wire Hole Size	1/4"
Plow Bolt Size	1/4-20
Head Height	1-9/16"
Head Width	31/64"

MATERIAL SPECIFICATIONS

GENERAL LOK/BOLT COMPONENTS

ANCHOR COMPONENT	COMPONENT MATERIAL CARBON STEEL	COMPONENT MATERIAL STAINLESS STEEL
Plow Bolt	AISI 1010 / 1018	Type 18 - 8 SS
Expansion Sleeve	AISI 1010 / 1020	Type 304 SS
Extension Sleeve	AISI 1010 / 1020	Type 304 SS
Compression Ring	Nylon	Nylon
Zinc Plating	ASTM B 633, SC1, Type III (Fe/Zn 5)	N / A

LOK/BOLT HEAD COMPONENTS

ANCHOR COMPONENT	COMPONENT MATERIAL CARBON STEEL	COMPONENT MATERIAL STAINLESS STEEL
Hex Nut	ASTM A 563 Grade A	Type 304 SS
Acorn Nut	AISI 1010 / 1018	Type 304 SS
Washer	ASTM F 844	Type 18 - 8 SS
Round Head	AISI 1010 / 1018	Type 304 SS
Flat Head	AISI 1010 / 1018	Type 304 SS
Rod Coupling	AISI 12L14	Type 18 - 8 SS
Threshold	AISI 1010 / 1018	N / A
Tie-Wire	AISI 1010 / 1018	N / A
Zinc Plating	ASTM B 633, SC1, Type III (Fe/Zn 5)	N / A

PERFORMANCE DATA

The following load capacities are based on testing conducted according to ASTM Standard E 488.

ULTIMATE LOAD CAPACITIES LOK/BOLT (CARBON AND STAINLESS STEEL) - CONCRETE

ANCHOR SIZE (IN)	EMBED. DEPTH (IN)	GUIDE TORQUE (FT-LBS) CS	GUIDE TORQUE (FT-LBS) SS	2,000 PSI CONCRETE TENSION (LBS)	2,000 PSI CONCRETE SHEAR (LBS)	4,000 PSI CONCRETE TENSION (LBS)	4,000 PSI CONCRETE SHEAR (LBS)	6,000 PSI CONCRETE TENSION (LBS)	6,000 PSI CONCRETE SHEAR (LBS)
1/4	5/8	4	3	540	1,000	620	1,200	680	1,200
1/4	1-1/8	4	3	1,190	1,520	1,440	1,630	1,730	1,670
5/16	1-1/2	8	-	2,070	2,015	2,070	2,015	2,070	2,105
3/8	1-5/8	16	11	2,450	3,070	2,700	3,070	2,700	3,070
1/2	2-1/4	28	20	4,770	4,210	5,015	4,210	5,275	4,210
5/8	2-1/4	60	42	3,270	7,200	5,860	7,200	6,250	7,200
5/8	2-3/4	60	42	6,060	7,810	6,620	7,810	6,800	7,810
3/4	2-1/4	90	60	4,480	9,840	8,420	11,670	8,940	11,670
3/4	3-3/8	90	60	6,790	12,600	8,720	12,600	8,940	12,600

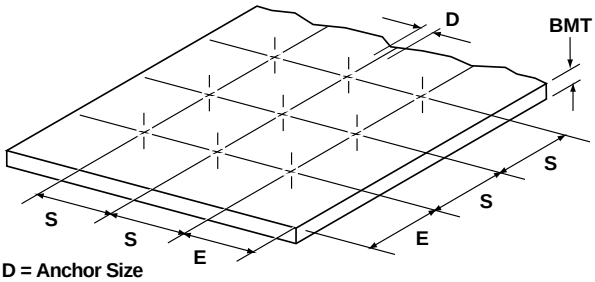
NOTE: In the guide torque column above, the abbreviation CS = Carbon Steel and SS = Stainless Steel. The values listed above are ultimate load capacities and should be reduced by a minimum safety factor of 4 or greater to determine the allowable working load.

ULTIMATE LOAD CAPACITIES - C-90 BLOCK AND RED BRICK

ANCHOR SIZE	EMBED. DEPTH	GUIDE TORQUE (FT-LBS)	C-90 HOLLOW BLOCK TENSION (LBS.)	C-90 HOLLOW BLOCK SHEAR (LBS.)	SOLID RED BRICK TENSION (LBS.)	SOLID RED BRICK SHEAR (LBS.)
1/4"	5/8"	1-3	230	1,000	800	1,120
1/4"	1-1/8"	1-3	1,200	1,270	950	1,120
5/16"	1-1/2"	4-6	1,430	1,970	1,230	1,120
3/8"	1-1/2"	8-11	1,700	2,180	1,860	1,260
1/2"	1-1/2"	16-20	2,460	2,840	3,520	4,010

NOTE: Depending upon anchor application and governing building code, ultimate load capacities should be reduced by a minimum safety factor of 4 or greater to determine the allowable working load. The design professional familiar with the actual product installation should be consulted. Please refer to the general section entitled Evaluation of Test Data that appears earlier in this manual for current industry standards. The consistency of hollow block and brick varies greatly. The load capacities listed above should be used as guidelines only. Job site tests should be conducted to verify base material consistency, proper installation torque values and actual anchor performance. The 1/2" size will consistently fail hollow block. The 5/8" or 3/4" sizes can be used, but the ultimate capacities will be no higher than those for the 1/2" size.

DESIGN CRITERIA



D = Anchor Size
S = Spacing
E = Edge Distance
BMT = Base Material Thickness

BASE MATERIAL THICKNESS

The minimum recommended thickness of base material, BMT, when using the Lok/Bolt is 125% of the embedment to be used. For example, when installing an anchor to a depth of 4", the base material thickness should be 5". This does not apply to the thickness of the face shell in a hollow block wall.

SPACING BETWEEN ANCHORS

To obtain the maximum load in tension or shear, a spacing, S, of 10 anchor diameters (10D) or greater should be used. The minimum recommended anchor spacing, S, is 5 anchor diameters (5D) at which point the load should be reduced by 50%. Anchor spacing closer or less than 5 diameters (5D) needs to be field tested. Actual base material conditions will determine any applicable reduction factor. The following table lists the load reduction factor, Rs, for each anchor diameter, D, based on the center to center anchor spacing.

ANCHOR SIZE D	ANCHOR SPACING, S (INCHES) TENSION AND SHEAR 10D	9D	8D	7D	6D	5D
1/4	2-1/2	2-1/4	2	1-3/4	1-1/2	1-1/4
5/16	3-1/8	2-7/8	2-1/2	2-1/4	1-7/8	1-5/8
3/8	3-3/4	3-3/8	3	2-5/8	2-1/4	1-7/8
1/2	5	4-1/2	4	3-1/2	3	2-1/2
5/8	6-1/4	5-5/8	5	4-3/8	3-3/4	3-1/8
3/4	7-1/2	6-3/4	6	5-1/4	4-1/2	3-3/4
Rs	**1.00**	**0.90**	**0.80**	**0.70**	**0.60**	**0.50**

EDGE DISTANCE - TENSION

For tension loads, an edge distance, E, of 12 diameters (12D) or greater should be used to obtain the maximum tension load. The minimum recommended edge distance, E, is 5 diameters (5D) at which point the tension load should be reduced by 20%. Edge distances closer or less than 5 diameters (5D) need to be field tested. Actual base material conditions will determine any applicable reduction factor. The following table lists the load reduction factor, Re, for each anchor diameter, D, based on the anchor center to edge distance.

ANCHOR SIZE D	EDGE DISTANCE, E (INCHES) TENSION ONLY 12D	11D	10D	9D	8D	7D	6D	5D
1/4	3	2-3/4	2-1/2	2-1/4	2	1-3/4	1-1/2	1-1/4
5/16	3-3/4	3-1/2	3-1/8	2-7/8	2-1/2	2-1/4	1-7/8	1-5/8
3/8	4-1/2	4-1/8	3-3/4	3-3/8	3	2-5/8	2-1/4	1-7/8
1/2	6	5-1/2	5	4-1/2	4	3-1/2	3	2-1/2
5/8	7-1/2	6-7/8	6-1/4	5-5/8	5	4-3/8	3-3/4	3-1/8
3/4	9	8-1/4	7-1/2	6-3/4	6	5-1/4	4-1/2	3-3/4
Re	**1.00**	**0.97**	**0.94**	**0.91**	**0.89**	**0.86**	**0.83**	**0.80**

EDGE DISTANCE - SHEAR

For shear loads, an edge distance, E, of 12 anchor diameters (12D) or greater should be used to obtain the maximum load. The minimum recommended edge distance, E, is 5 anchor diameters (5D) at which point the shear load should be reduced by 50%. Edge distances closer or less than 5 diameters (5D) need to be field tested. Actual base material conditions will determine any applicable reduction factor. The following table lists the load reduction factor, Re, for each anchor diameter, D, based on the anchor center to edge distance.

ANCHOR SIZE D	EDGE DISTANCE, E (INCHES) SHEAR ONLY 12D	11D	10D	9D	8D	7D	6D	5D
1/4	3	2-3/4	2-1/2	2-1/4	2	1-3/4	1-1/2	1-1/4
5/16	3-3/4	3-1/2	3-1/8	2-7/8	2-1/2	2-1/4	1-7/8	1-5/8
3/8	4-1/2	4-1/8	3-3/4	3-3/8	3	2-5/8	2-1/4	1-7/8
1/2	6	5-1/2	5	4-1/2	4	3-1/2	3	2-1/2
5/8	7-1/2	6-7/8	6-1/4	5-5/8	5	4-3/8	3-3/4	3-1/8
3/4	9	8-1/4	7-1/2	6-3/4	6	5-1/4	4-1/2	3-3/4
Re	**1.00**	**0.93**	**0.86**	**0.79**	**0.71**	**0.64**	**0.57**	**0.50**

APPROVALS AND LISTINGS

The following approvals and listings are for reference purposes. They should be reviewed by the design professional responsible for the product installation to verify approved base materials, sizes, and compliance with local codes.

SBCCI Report No. 9944
Factory Mutual Research Corporation
Serial No. 26692, J.I. OJ8A1.AH, J.I. OJ9A9.AH
Underwriters Laboratories File No. EX 1289 (N)
Federal Specification
Meets the descriptive requirements of FF-S-325C,
Group II, Type 3, Class 3 (superseded)

SUGGESTED SPECIFICATIONS

CARBON STEEL LOK/BOLT

Carbon steel expansion anchors shall be a pre-assembled sleeve style anchor with a _____ head. The anchors shall have a nylon compression ring and a triple tined expansion sleeve. Carbon steel components shall be plated according to ASTM Specification B633, SC1, Type III (Fe/Zn 5) Lok/Bolt anchors shall be as dimensioned and supplied by Powers Fasteners Inc.

STAINLESS STEEL LOK/BOLT

Stainless steel expansion anchors shall be a pre-assembled sleeve style anchor with a _____ head. The anchors shall have a nylon compression ring and a triple tined expansion sleeve. Lok/Bolt anchors shall be as dimensioned and supplied by Powers Fasteners Inc.

Set-Bolt™

BASE MATERIAL

Concrete, Stone

SIZE RANGE

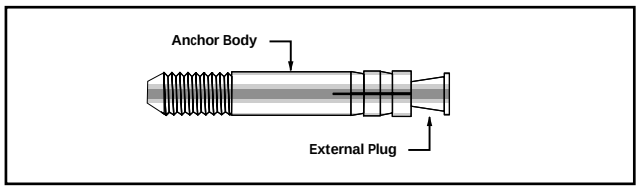
1/4" x 1-3/4" to 1/2" x 5-1/4"

ANCHOR MATERIAL

Carbon Steel

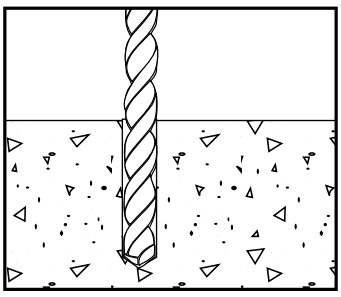
PRODUCT DESCRIPTION

The Set-Bolt is a one piece, stud style anchor with an external bottom-bearing expansion plug. It is available in carbon steel for use in concrete, stone and solid masonry units.

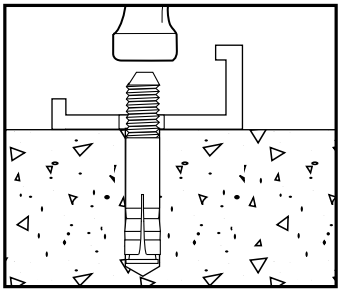


The design of the Set-Bolt provides an anchor which is ideal for applications in which it is desirable to minimize the clamping force on a fixture. The nut may be placed on finger tight if required to prevent damage to light duty fixtures such as aluminum extrusions or stone facades. Jacking or leveling equipment can easily be accomplished with the Set-Bolt.

INSTALLATION PROCEDURES



Drill a hole into the base material to a depth that equals the embedment required. The tolerances of the drill bit used should meet the requirements of ANSI Standard B212.15. Do not over drill the hole. Blow the hole clean of dust and other material.



Insert the anchor through the fixture into the hole. Set the anchor by driving the anchor body over the plug. Be sure the anchor is driven to the required embedment depth. A nut and washer (to be supplied separately) is applied to secure the fixture.