

Hex Nut Lok / Bolt™

Cat. No.		Size	Drill Dia.	Min. Embed.	Std. Box	Std. Ctn.	Wt./ 100
Carb.	SS						
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 length is measured from below the washer to the end of the anchor.

Acorn Nut Lok / Bolt™

Cat. No.		Size	Drill Dia.	Min. Embed.	Std. Box	Std. Ctn.	Wt./ 100
Carb.	SS						
*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 length is measured from below the washer to the end of the anchor.

* This size does not have a compression ring.

Round Head Lok / Bolt™

Cat. No.		Size	Drill Dia.	Min. Embed.	Std. Box	Std. Ctn.	Wt./ 100
Carb.	SS						
*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

* This size does not have a compression ring.

Flat Head Lok / Bolt™

Cat. No.		Size	Drill Dia.	Min. Embed.	Std. Box	Std. Ctn.	Wt./ 100
Carb.	SS						
*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

* This size does not have a compression ring.

Rod Hanger Lok / Bolt™

Cat. No.	Size	Drill Dia.	Min. Depth	Std. Box	Std. Ctn.	Wt./ 100
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. Depth	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. Depth	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. Depth	Std. Box	Std. Ctn.	Wt./ 100
5660	1/2"	1/2"	2-1/4"	25	250	10

Lok / Bolt™ Extenders

Cat. No.		Size	Drill Dia.	Min. Depth	Std. Box	Std. Ctn.	Wt./ 100
Carb.	SS						
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.

25.5 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"

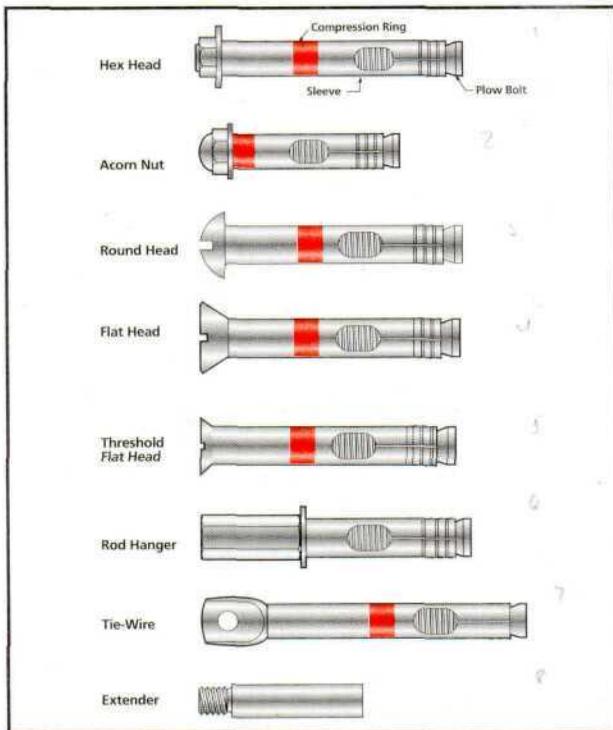
25.0 Lok / Bolt™

25.1 Introduction

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.

25.2 Product Description

The Lok/Bolt anchor diameter is the same as that for the hole which eliminates layout or hole spotting. The anchor consists of a threaded plow bolt which has a cone shaped end. Precision stamped tubular expansion sleeves are assembled over the plow bolt and butted

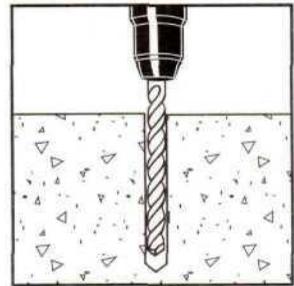


against the cone. A nylon compression ring is added, then one of seven head styles is assembled onto the plow bolt to complete the anchor: hex nut/washer, acorn nut/washer, round head post nut, flat head post nut, threshold flat head post nut, tie-wire post nut, or rod coupling. Extension sleeves are added for longer lengths.

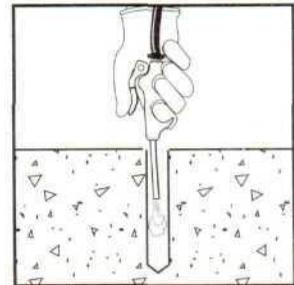
The Lok/Bolt is designed to draw the fixture into full bearing against the base material through the action of its unique, flexible, compression ring. This helps to increase the resistance of the anchor to loosening when subjected to vibratory loads. As the anchor is being tightened, the nylon compression 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.

25.3 Installation Procedures

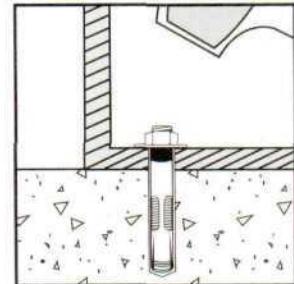
Using the proper diameter drill bit, drill a hole into the base material to a depth of at least 1/2" or one anchor diameter deeper than the embedment required. The tolerances of the drill bit used should meet the requirements of ANSI Standard B212.15.



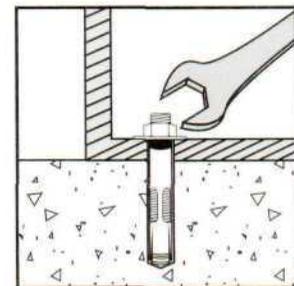
Blow the hole clean of dust and other material. Do not expand the anchor prior to installation.



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 4 turns or by applying the guide installation torque from the finger tight position.



25.4 Anchor Sizes and Styles

The following tables list the sizes and styles of Lok/Bolt anchors. To select the proper length for the hex nut, acorn nut, round head, and flat head styles, 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. This will be the minimum anchor length required.

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

25.6 Material Specifications

General Lok / Bolt™ Components

Anchor Component	Component Material	
	Carbon Steel	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	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

25.7 Performance Data

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

Ultimate Load Capacities - Concrete

Anchor Size	Embed. Depth	Guide Torque (ft-lbs)		2,000 psi Concrete		4,000 psi Concrete		6,000 psi Concrete	
		CS	SS	Tension (lbs.)	Shear (lbs.)	Tension (lbs.)	Shear (lbs.)	Tension (lbs.)	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	-	1,590	2,015	1,750	2,015	2,110	2,105
3/8"	1-5/8"	16	11	2,200	3,070	2,700	3,250	3,300	3,365
1/2"	2-1/4"	28	20	3,500	4,050	5,015	6,372	5,275	6,145
5/8"	2-1/4"	60	42	3,270	9,200	5,860	9,480	6,250	9,670
5/8"	2-3/4"	60	42	4,060	9,950	6,345	10,255	8,725	10,620
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	5,530	11,800	9,135	12,800	11,900	13,500

NOTE: In the guide torque column above, the abbreviation CS = Carbon Steel and SS = Stainless Steel.

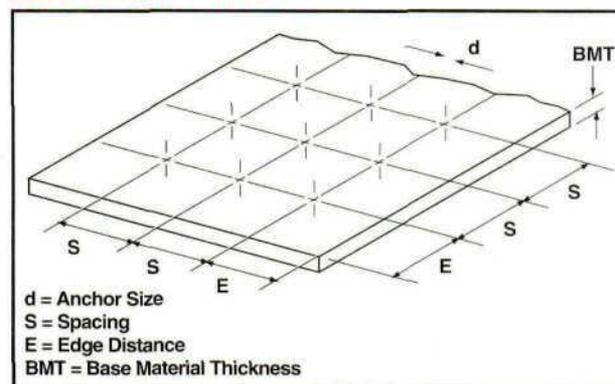
The values listed above are ultimate load capacities and should be reduced by minimum safety factor of 4 or greater to determine the allowable working load. Refer to the section on Anchor Selection Guidelines for details.

Ultimate Load Capacities - C-90 Block and Red Brick

Anchor Size	Embed. Depth	Guide Torque (ft-lbs)	C-90 Hollow Block		Solid Red Brick	
			Tension (lbs.)	Shear (lbs.)	Tension (lbs.)	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: The values listed above are ultimate load capacities in pounds which should be reduced by minimum safety factor of 4 or greater to determine the allowable working load. Refer to the section on Anchor Selection Guidelines for details. 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 determine the actual load capacities and proper installation torque values. 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.

25.8 Design Criteria



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.