



Fiberplug™

BASE MATERIAL

Concrete, Block, Brick, Stone, Plaster

SIZE RANGE

No. 6 x 3/4" to 3/8" x 3"

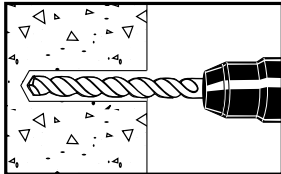
ANCHOR MATERIAL

Jute Fiber with Lead Liner

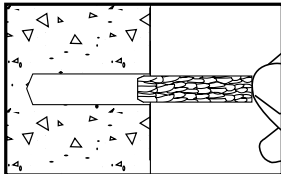
PRODUCT DESCRIPTION

The Fiberplug is a jute fiber screw style anchor designed for use in concrete, block, brick, and stone. The Fiberplug is an anchor designed for use with wood, sheet metal, and lag screws. It is formed of braided jute fiber which is bound into a tubular shape. A lead lining on the sheet metal and wood screw sizes makes it possible for the screw to reproduce its own thread, and keeps the jute fibers from being cut by the screw.

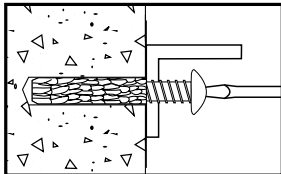
INSTALLATION PROCEDURES



Drill a hole into the base material to a minimum depth equal to the anchor length. 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. Insert the anchor into the hole until it is flush with the surface.



Insert the tip of the screw through the fixture into the Fiberplug and tighten. Be sure screw fully engages the Fiberplug.

ANCHOR SIZES AND STYLES

Use a Fiberplug only as long as the threaded portion of the screw. If using sheet metal screws (threaded to the head), the Fiberplug can be the length of the screw minus the thickness of the fixture to be fastened. If the shoulder of a wood screw is longer than the thickness of the fixture to be fastened, countersink the Fiberplug deep enough so that the shoulder will not enter. The shoulders of wood or lag screws should not enter the Fiberplug as forcing the shoulder may bind or cause the screw head to shear off.

CAT. NO.	SIZE	DRILL DIA.	STD. BOX	STD. CTN.	MASTER CTN.	WT./1000
9003	6 x 3/4"	5/32"	100	1000	5000	1-1/4
9005	6 x 1"	5/32"	100	1000	5000	1-3/4
9011	8 x 3/4"	11/64"	100	1000	5000	1-3/4

CAT. NO.	SIZE	DRILL DIA.	STD. BOX	STD. CTN.	MASTER CTN.	WT./1000
9013	8 x 1"	11/64"	100	1000	5000	2-1/4
9015	8 x 1-1/4"	11/64"	100	1000	5000	2-3/4
9017	8 x 1-1/2"	11/64"	100	1000	5000	3-1/2
9024	10 x 3/4"	3/16"	100	1000	5000	2
9026	10 x 1"	3/16"	100	1000	5000	2-1/2
9028	10 x 1-1/4"	3/16"	100	1000	5000	3
9030	10 x 1-1/2"	3/16"	100	1000	5000	2-1/2
9039	12 x 1"	1/4"	100	1000	5000	3-1/2
9041	12 x 1-1/4"	1/4"	100	1000	5000	4-1/2
9043	12 x 1-1/2"	1/4"	100	1000	5000	5
9045	12 x 2"	1/4"	100	1000	5000	6-3/4
9050	14 x 1"	9/32"	100	1000	5000	4-1/4
9052	14 x 1-1/4"	9/32"	100	1000	5000	4-3/4
9054	14 x 1-1/2"	9/32"	100	1000	5000	5-3/4
9056	14 x 2"	9/32"	100	1000	5000	7
9063	16 x 1-1/2"	5/16"	50	500	2500	7-1/2
9072	20 x 1-1/2"	3/8"	50	500	2500	9-1/2
9074	20 x 2"	3/8"	50	500	2500	11

LAG SCREW SIZES

CAT. NO.	SIZE	DRILL DIA.	STD. BOX	STD. CTN.	WT./1000
9080	3/8" x 2"	7/16"	25	250	11
9082	3/8" x 2-1/2"	7/16"	25	250	16
9084	3/8" x 3"	7/16"	25	250	22

KITS

CAT. NO.	KIT NO.	SCREW SIZE	ANCHORS & SCREWS	STD. CTN.	WT./CTN.
8982	R-10	10 x 1"	100	10	13
8987	R-12	12 x 1-1/4"	100	10	18

INSTALLATION SPECIFICATIONS

ANCHOR SIZE	6	8	10	12	14	16	20
ANSI Drill Bit Size	5/32	11/64	3/16	1/4	9/32	5/16	3/8

MATERIAL SPECIFICATIONS

ANCHOR COMPONENT	COMPONENT MATERIAL
Anchor Body	Jute Fiber
Liner	Antimonial Lead

PERFORMANCE DATA

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

ANCHOR SIZE	EMBED. DEPTH	2,000 PSI CONCRETE		4,000 PSI CONCRETE		6,000 PSI CONCRETE	
		TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)
6	3/4"	315	180	390	180	390	180
6	1"	560	180	640	180	640	180
8	3/4"	340	240	580	240	580	240
8	1"	680	240	1,190	240	1,190	240
10	3/4"	370	280	660	280	660	280
10	1"	770	280	1,300	280	1,300	280
12	1"	1,280	350	1,800	350	1,800	350
14	1"	1,330	420	2,200	420	2,200	420
16	1-1/2"	1,480	660	2,400	660	2,400	660
20	1-1/2"	1,480	890	2,620	890	2,620	890
3/8"	2-1/2"	1,480	1,500	3,225	1,500	3,225	1,500

The values listed above are ultimate load capacities which should be reduced by a minimum safety factor of 4 or greater to determine the allowable working load. The type and strength of screw will affect performance.



ULTIMATE LOAD CAPACITIES FOR C-90 HOLLOW BLOCK AND SOLID RED BRICK

ANCHOR SIZE D	EMBED. DEPTH (INCHES)	C-90 HOLLOW BLOCK	
		TENSION (LBS.)	SHEAR (LBS.)
6	*3/4"	140	180
8	*3/4"	220	240
10	*3/4"	360	280
12	*1"	585	350
14	*1"	620	420
16	*1-1/2"	710	660
20	*1-1/2"	750	890

* Anchors were installed flush to face shell surface.

ANCHOR SIZE	EMBED. DEPTH (INCHES)	SOLID RED BRICK	
		TENSION (LBS.)	SHEAR (LBS.)
6	3/4	185	180
8	3/4	310	240
10	3/4"	420	280
12	1	460	350
14	1	760	420
16	1-1/2	780	660
20	1-1/2	820	890

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 C-90 hollow block and solid red 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 and actual anchor performance. The type and strength of the screw used will affect performance.

DESIGN CRITERIA

BASE MATERIAL THICKNESS

The minimum recommended thickness of base material, BMT, when using the Fiberplug is 125% of the embedment to be used. For example, when installing an anchor to a depth of 3", the base material thickness should be 4".

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					
	10	9	8	7	6	5
6	1-3/8	1-1/4	1-1/8	1	7/8	3/4
8	1-5/8	1-1/2	1-3/8	1-1/8	1	7/8
10	1-7/8	1-3/4	1-1/2	1-3/8	1-1/8	1
12	2-1/8	2	1-3/4	1-5/8	1-1/4	1-1/8
14	2-3/8	2-1/8	1-7/8	1-3/4	1-1/2	1-1/4
16	2-5/8	2-3/8	2-1/8	1-7/8	1-5/8	1-3/8
18	2-7/8	2-5/8	2-3/8	2	1-3/4	1-1/2
20	3-1/4	2-7/8	2-1/2	2-1/4	1-7/8	1-5/8
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 8 diameters (8D) at which point the tension load should be reduced by 20%. Edge distances closer or less than 8 diameters (8D) 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
6	1-5/8	1-1/2	1-3/8	1-1/4	1-1/8
8	2	1-3/4	1-5/8	1-1/2	1-3/8
10	2-1/4	2	1-7/8	1-3/4	1-1/2
12	2-5/8	2-3/8	2-1/8	2	1-3/4
14	2-7/8	2-5/8	2-3/8	2-1/8	1-7/8
16	3-1/4	3	2-5/8	2-3/8	2-1/8
18	3-1/2	3-1/4	2-7/8	2-5/8	2-3/8
20	3-7/8	3-1/2	3-1/4	2-7/8	2-1/2
Re	1.00	0.95	0.90	0.85	0.80

EDGE DISTANCE - SHEAR

For shear loads, an edge distance, E, of 12 diameters (12D) or greater should be used to obtain the maximum shear load. The minimum recommended edge distance, E, is 8 diameters (8D) at which point the shear load should be reduced by 50%. Edge distances closer or less than 8 diameters (8D) 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
6	1-5/8	1-1/2	1-3/8	1-1/4	1-1/8
8	2	1-3/4	1-5/8	1-1/2	1-3/8
10	2-1/4	2	1-7/8	1-3/4	1-1/2
12	2-5/8	2-3/8	2-1/8	2	1-3/4
14	2-7/8	2-5/8	2-3/8	2-1/8	1-7/8
16	3-1/4	3	2-5/8	2-3/8	2-1/8
18	3-1/2	3-1/4	2-7/8	2-5/8	2-3/8
20	3-7/8	3-1/2	3-1/4	2-7/8	2-1/2
Re	1.00	0.88	0.75	0.63	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.

Federal Specification

Meets the descriptive requirements of FF-S-325C, Group IV, Type 2 (superseded).