

# Umbrella Inserts and Stubby Screens

**High Performance Adhesive Systems for Fastening to Hollow Base Materials**



A7-28

C6-18



HB 14-2

HBU-38

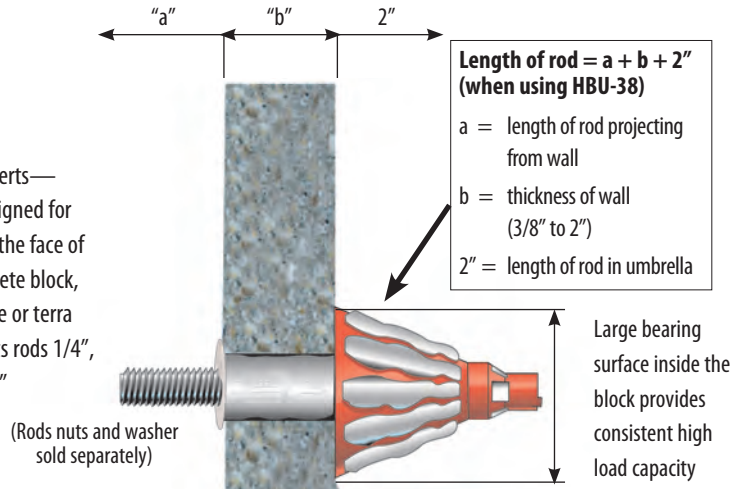
HBU-FS

## DESCRIPTION/ADVANTAGES

### Hollow Block Fastening with A7 and C6 Adhesive

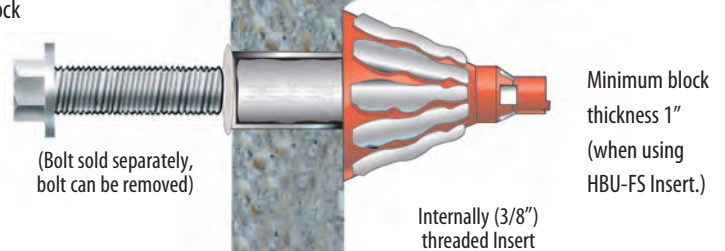
#### HBU-38

Umbrella Inserts—specially designed for fastening to the face of hollow concrete block, brick, clay tile or terra cotta. Accepts rods 1/4", 3/8" and 1/2"



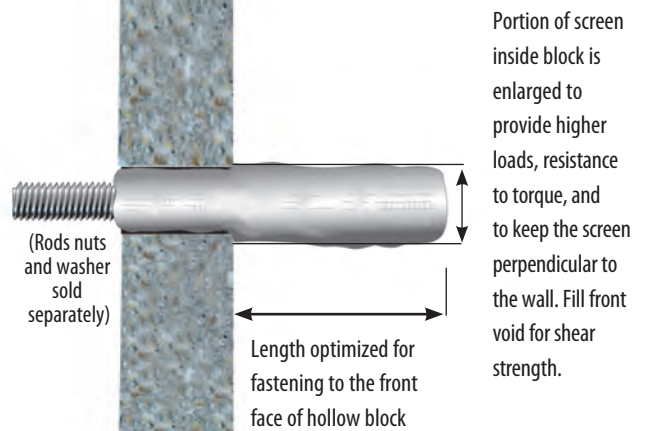
#### HBU-FS

Umbrella Inserts with 3/8" internally threaded sleeve. Removable fastening to concrete block



#### STUBBY SCREENS

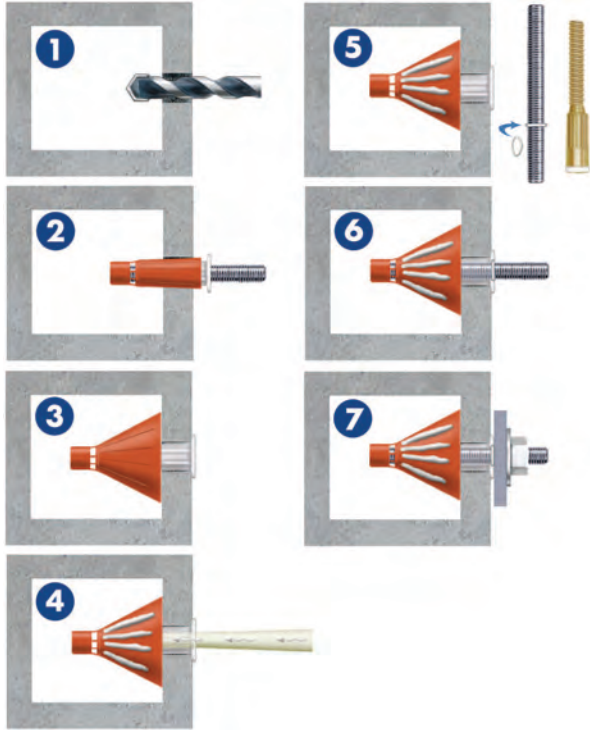
Specially designed stainless steel screens provide maximum performance for a screen in the front face of hollow concrete block. Screens available for rods 1/4" to 5/8"



Section View—Concrete Block

# Umbrella Inserts and Screens

## INSTALLATION STEPS





1. Drill 3/4" diameter hole, 3-3/4" deep using rotation only drilling mode and carbide tipped drill bit. Clean out hole with forced air. Complete hole preparation with use of a brush and repeat cleaning with compressed air (leave no dust or slurry).
2. Place umbrella on piece of threaded rod, stretch umbrella over the rod by pulling the white collar back approximately 1". Squeeze orange portion of umbrella and push umbrella into hole.
3. Push umbrella body through the hole and completely into void. Remove threaded rod. (Do not use in solid base materials. For anchoring into block web, ends and mortar joints, use screens.)
4. Dispense and discard a sufficient amount of adhesive from new cartridge until a uniform adhesive mix is achieved. Inject approximately 1-1/2 fl. oz. of adhesive into umbrella (7 to 8 pumps using manual dispenser) to completely fill umbrella.
5. 3/8" rod uses a centering ring (supplied with inserts) to keep rod perpendicular to the wall.
6. Insert rod into the filled umbrella using a slow, soft twisting motion until it contacts the back of umbrella.
7. Wait for appropriate temperature/cure time before tightening fixture to the recommended torque of 10 ft./lbs.

Installation instructions for stubby screens provided on page 46.

## SELECTION CHART

### Umbrella Inserts



DESCRIPTION	PART NO.	BOX CONTENTS
Umbrella Anchor 	HBU-38	20 Umbrellas 20 Centering Rings
3/8" Internally Threaded Insert with Umbrella 	HBU-FS	10 Umbrellas 10 Flush Sleeve Insert

## SELECTION CHART

### Stubby Screens



PART NO.	DESCRIPTION	QTY/BOX
HB 14-2	1/4" x 2" Stainless Screen	100
HB 38-312	3/8" x 3-1/2" Stainless Screen	100
HB 12-312	1/2" x 3-1/2" Stainless Screen	50
HB 58-412	5/8" x 4-1/2" Stainless Screen	50

## ESTIMATING TABLE

### Umbrella Inserts *Number of Anchoring Installations Per Cartridge\* Using Threaded Rod and Umbrella Inserts with A7 and C6 Adhesives in Hollow Base Material*

ROD In (mm)	DRILL HOLE DIA. INCHES	VOLUME OF CARTRIDGE	UMBRELLA INSERT WITH EMBEDMENT OF 3-3/4"
3/8 (9.5)	3/4	A7 5 fluid oz.	3
		A7 8 fluid oz.	5
		A7 10 fluid oz.	6
		A7 28 fluid oz.	17
		C6 18 fluid oz.	11

\* These estimates do not account for waste.

## ESTIMATING TABLE

### Stubby Screens

**Number of Anchoring Installations Per Cartridge\* Using Threaded Rod and Stubby Screens with A7 and C6 Adhesives in Hollow Base Material**

ROD In (mm)	DRILL HOLE DIA. INCHES	VOLUME OF CARTRIDGE	SCREEN LENGTH PLUS 1 DIAMETER (INCHES)		
			2"	3-1/2"	4-1/2"
1/4 (6.4)	3/8	A7 8 fluid oz.	39		
		A7 10 fluid oz.	48		
		A7 28 fluid oz.	135		
		C6 18 fluid oz.	87		
3/8 (9.5)	1/2	A7 8 fluid oz.		17	
		A7 10 fluid oz.		21	
		A7 28 fluid oz.		62	
		C6 18 fluid oz.		40	
1/2 (12.7)	5/8	A7 8 fluid oz.		12	
		A7 10 fluid oz.		15	
		A7 28 fluid oz.		43	
		C6 18 fluid oz.		28	
5/8 (15.9)	3/4	A7 8 fluid oz.			7
		A7 10 fluid oz.			11
		A7 28 fluid oz.			24
		C6 18 fluid oz.			16

\* These estimates do not account for waste.

## PERFORMANCE TABLE

### Load Values<sup>1,2</sup> Using A7 in Hollow Concrete Block

	ROD DIA. In. (mm)	MAX CLAMPING FORCE AFTER PROPER CURE Ft.-Lbs. (Nm)	DRILL HOLE DIA. In. (mm)	EMBEDMENT (SCREEN LENGTH) In. (mm)	ULTIMATE TENSION Lbs. (Kn)	ULTIMATE SHEAR Lbs. (Kn)
Umbrella	3/8 (9.5)	10 (13)	3/4 (19.1)	3-3/4 (95.3)	3,558 (15.8)	3,109 (13.8)
Stubby Screens	1/4 (6.4)	4 (5)	3/8 (9.5)	2-1/4 (57.1)	1,550 (6.9)	1,900 (8.5)
	3/8 (9.5)	7 (9)	1/2 (12.7)	3-7/8 (98.4)	1,661 (7.4)	2,071 (9.2)
	1/2 (12.7)	10 (13)	5/8 (15.9)	4 (101.6)	2,458 (10.9)	4,467 (19.9)
	5/8 (15.9)	13 (17)	3/4 (19.1)	5-1/8 (130.2)	2,543 (10.9)	5,047 (22.4)

1 Allowable working loads should not exceed 25% ultimate capacity. Based upon testing using ASTM A193, Grade B7 rod.

2 The tabulated values are for anchors installed at a minimum 12 inch edge distance and minimum 8 inch spacing.

## PERFORMANCE TABLE

### Load Values<sup>1,2</sup> Using C6 in Hollow Concrete Block

	ROD DIA. In. (mm)	MAX CLAMPING FORCE AFTER PROPER CURE Ft.-Lbs. (Nm)	DRILL HOLE DIA. In. (mm)	EMBEDMENT (SCREEN LENGTH) In. (mm)	ULTIMATE TENSION Lbs. (Kn)	ULTIMATE SHEAR Lbs. (Kn)
Umbrella	3/8 (9.5)	10 (13)	3/4 (19.1)	3-3/4 (95.3)	1,875 (8.3)	2,200 (9.8)
Stubby Screens	1/4 (6.4)	4 (5)	3/8 (9.5)	2 (50.8)	1,550 (6.9)	1,900 (8.5)
	3/8 (9.5)	7 (9)	1/2 (12.7)	3-1/2 (88.9)	1,661 (7.4)	2,071 (9.2)
	1/2 (12.7)	10 (13)	5/8 (15.9)	3-1/2 (88.9)	1,873 (8.3)	2,242 (10.0)
	5/8 (15.9)	13 (17)	3/4 (19.1)	4-1/2 (114.3)	1,970 (8.8)	3,554 (15.8)

1 Allowable working loads should not exceed 25% ultimate capacity. Based upon testing using ASTM A193, Grade B7 rod.

2 The tabulated values are for anchors installed at a minimum 12 inch edge distance and minimum 8 inch spacing.

# Screen Tubes

**Quality Adhesive Systems for Fastening Through Block and for Brick Pinning Applications**



A7-28

C6-18

Nylon Screens

Stainless Screens

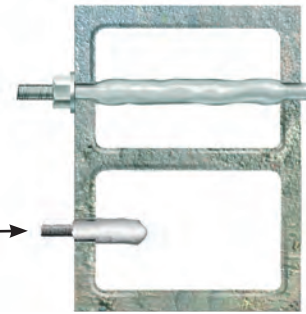
## DESCRIPTION/SUGGESTED SPECIFICATIONS

### Screens Used with A7 and C6

#### HOLLOW CONCRETE BLOCK

Maximum holding strength in concrete block can be obtained by fastening to both the front and back of the block using an adhesive screen tube and threaded rod.

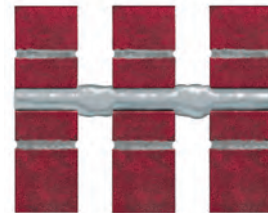
For attachments to single face of block, see page 43 for information on "umbrella anchors" and "stubby screens"



Top View

#### BRICK WALL

Systems designed for Seismic Retrofit, Brick Pinning or fastening to brick—various lengths and diameters available to accommodate site conditions.



Section

The no-drip feature of A7 adhesive makes it particularly well suited for brick pinning applications.

## ADVANTAGES

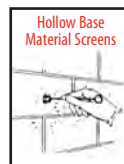
### HBP SERIES—NYLON SCREENS

- 30%-50% savings from stainless steel screens
- Comparable performance values
- Easier to insert and span across voids
- Flexible material is less susceptible to damage from crushing

### HB SERIES—STAINLESS SCREENS

- Corrosion resistant
- Available in 1/4" to 3/4" diameters
- Special version, "dosage control" available for overhead and underwater installations

## INSTALLATION STEPS

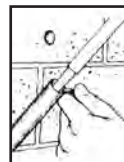


Hollow Base Material Screens

1. Drill hole to the length of the screen plus 1 diameter, using rotation-only drilling mode. Clean out hole with forced air. Complete hole preparation with use of a brush and repeat cleaning with forced air (leave no dust or slurry).



3. Insert the filled screen completely into the hole (subflush).



2. When starting new cartridge or new nozzle, dispense and discard enough adhesive until uniform adhesive mix is achieved. Insert the nozzle into the bottom of the screen and fill screen completely full (use extension tube if needed to reach bottom of screen).



4. While holding the tab of the screen against the wall, hand insert the selected rod slowly into the screen tube with a slow twisting motion. Pull screen flush to face and coat with adhesive. Wait for appropriate cure time before torquing fixture in place.

## SELECTION CHART

### Screen Tubes

**HB Stainless Screen**

**HBP Nylon Screen**

ROD DIA. In. (mm)	SCREEN LENGTH In. (mm)	STAINLESS STEEL SCREENS		NYLON SCREENS	
		PART NO.	QTY/BOX	PART NO.	QTY/BOX
1/4 (6.4)	6 (152.4)	HB 14-6	100	N/A	N/A
1/4 (6.4)	8 (203.2)	HB 14-8	100	N/A	N/A
1/4 (6.4)	10 (254.0)	HB 14-10	100	N/A	N/A
3/8 (9.5)	6 (152.4)	HB 38-6	50	HBP 38-6	50
3/8 (9.5)	8 (203.2)	HB 38-8	25	HBP 38-8	25
3/8 (9.5)	10 (254.0)	HB 38-10	25	HBP 38-10	25
1/2 (12.7)	6 (152.4)	HB 12-6	50	HBP 12-6	50
1/2 (12.7)	8 (203.2)	HB 12-8	25	HBP 12-8	25
1/2 (12.7)	10 (254.0)	HB 12-10	25	HBP 12-10	25
5/8 (15.9)	6 (152.4)	HB 58-6	25	HBP 58-6	40
5/8 (15.9)	8 (203.2)	HB 58-8	20	HBP 58-8	40
5/8 (15.9)	10 (254.0)	HB 58-10	20	HBP 58-10	40
3/4 (19.1)	8 (203.2)	HB 34-8	20	N/A	N/A
3/4 (19.1)	10 (254.0)	HB 34-10	10	HBP 34-10	20
3/4 (19.1)	13 (330.2)	HB 34-13	10	HBP 34-13	20

\*Not available in standard strength nylon screens. Longer screens available through specials.

## ESTIMATING TABLE

### Screen Tubes

**Number of Holes Per Cartridge\* Using Threaded Rod and Screen Tubes with A7 and C6 Adhesives in Hollow Base Material**

ROD In (mm)	DRILL HOLE DIA. INCHES	VOLUME OF CARTRIDGE	SCREEN LENGTH (INCHES)			
			6"	8"	10"	13"
1/4 (6.4)	3/8	A7 8 fluid oz.	13	10	8	
		A7 10 fluid oz.	16	12	10	
		A7 28 fluid oz.	45	35	28	
		C6 18 fluid oz.	29	22	18	
3/8 (9.5)	1/2	A7 8 fluid oz.	10	8	6	
		A7 10 fluid oz.	12	10	7.5	
		A7 28 fluid oz.	37	29	23	
		C6 18 fluid oz.	24	19	15	
1/2 (12.7)	5/8	A7 8 fluid oz.	7	5	4	
		A7 10 fluid oz.	9	6	5	
		A7 28 fluid oz.	26	18	14	
		C6 18 fluid oz.	17	12	9	
5/8 (15.9)	3/4	A7 8 fluid oz.	5	4	3	
		A7 10 fluid oz.	6	5	4	
		A7 28 fluid oz.	18	14	10	
		C6 18 fluid oz.	12	9	7	
3/4 (19.1)	7/8	A7 8 fluid oz.		2.5	2	1
		A7 10 fluid oz.		3	2.5	1.75
		A7 28 fluid oz.		9	6	5
		C6 18 fluid oz.		6	4	3

\* These estimates do not account for waste.

# Screen Tubes



## PERFORMANCE TABLE

### Load Values

**Average Ultimate Loads for HBP (nylon) or HB (stainless) Screens Used with A7 in Hollow Concrete Block<sup>1</sup>**

ROD DIA. In. (mm)	DRILL HOLE DIA. In. (mm)	MAX CLAMPING FORCE AFTER PROPER CURE Ft.-Lbs. (Nm)	SCREEN EMBEDMENT (LENGTH) In. (mm)	ULTIMATE TENSION Lbs. (kN)	ULTIMATE SHEAR Lbs. (kN)
1/4 (6.4)	3/8 (9.5)	5 (6)	8 (203.2)	2,072 (9.2)	2,264 (10.1)
3/8 (9.5)	1/2 (12.7)	12 (16)	8 (203.2)	2,360 (10.5)	2,668 (11.9)
1/2 (12.7)	5/8 (15.9)	19 (25)	8 (203.2)	2,647 (11.8)	2,668 (11.9)
5/8 (15.9)	3/4 (19.1)	26 (35)	8 (203.2)	2,647 (11.8)	3,578 (15.9)
3/4 (19.1)	7/8 (22.2)	28 (37)	8 (203.2)	2,647 (11.8)	4,573 (20.3)

<sup>1</sup> Allowable working loads should not exceed 25% of ultimate capacity. Loads based upon testing with ASTM A193, Grade B7 rods.

For grout filled, concrete block or solid red brick units, see page 27.



## PERFORMANCE TABLE

### Load Values

**Average Ultimate Loads for HBP (nylon) or HB (stainless) Screens Used with C6 in Hollow Concrete Block<sup>1</sup>**

ROD DIA. In. (mm)	DRILL HOLE DIA. In. (mm)	MAX CLAMPING FORCE AFTER PROPER CURE Ft.-Lbs. (Nm)	SCREEN EMBEDMENT (LENGTH) In. (mm)	ULTIMATE TENSION Lbs. (kN)	ULTIMATE SHEAR Lbs. (kN)
1/4 (6.4)	3/8 (9.5)	5 (6)	8 (203.2)	2,072 (9.2)	2,264 (10.1)
3/8 (9.5)	1/2 (12.7)	12 (16)	8 (203.2)	2,800 (12.5)	2,466 (10.9)
1/2 (12.7)	5/8 (15.9)	19 (25)	8 (203.2)	3,487 (15.5)	2,668 (11.9)
5/8 (15.9)	3/4 (19.1)	26 (35)	8 (203.2)	3,487 (15.5)	3,578 (15.9)
3/4 (19.1)	7/8 (22.2)	28 (37)	8 (203.2)	3,487 (15.5)	4,573 (20.3)

<sup>1</sup> Allowable working loads should not exceed 25% of ultimate capacity. Loads based upon testing with ASTM A193, Grade B7 rods.



## PERFORMANCE TABLE

### Load Values

**Average Ultimate Loads for HBP (nylon) Screens Used with C6 in Brick and Concrete Block<sup>1</sup>**

NYLON SCREEN PART NO.	DRILL HOLE DIA. In. (mm)	SINGLE BRICK		DOUBLE BRICK		BRICK AND HOLLOW BLOCK ULTIMATE TENSION Lbs. (kN)
		ULTIMATE TENSION Lbs. (kN)	ULTIMATE SHEAR Lbs. (kN)	ULTIMATE TENSION Lbs. (kN)	ULTIMATE SHEAR Lbs. (kN)	
HBP 38-6	1/2 (12.7)	2,150 (9.6)	N/A	4,675 (20.8)	1,917 (8.5)	3,659 (16.3)
HBP 38-8	1/2 (12.7)	2,200 (9.8)	1,143 (5.1)	6,175 (27.5)	1,743 (7.8)	3,659 (16.3)
HBP 38-10	1/2 (12.7)	2,000 (8.9)	950 (4.2)	3,272 (14.6)	2,498 (11.1)	2,498 (11.1)
HBP 12-6	5/8 (15.9)	3,800 (16.9)	N/A	6,369 (28.3)	2,498 (11.1)	5,595 (24.9)
HBP 12-8	5/8 (15.9)	1,750 (7.8)	N/A	7,530 (33.5)	2,305 (10.3)	3,500 (15.6)
HBP 12-10	5/8 (15.9)	2,618 (11.6)	N/A	2,885 (12.8)	2,305 (10.3)	2,498 (11.1)

<sup>1</sup> Allowable working loads should not exceed 25% of ultimate capacity. Loads based upon testing with ASTM A193, Grade B7 rods.