

2005

Fastening Handbook

FOR ANCHORING TO ALL BASE MATERIALS



Thank you for using the Powers 2005 Fastening Handbook. Originally founded as The Rawlplug Company, Powers has been a leader in the concrete and masonry fastening industry since 1921. Today, Powers Fasteners is an international fastening products company with extensive manufacturing and engineering expertise in anchoring, drilling, chemical and powder-actuated products.

The Powers Fastening Handbook is the latest of many technical publications from Powers Fasteners. The Fastening Handbook is designed as a convenient, quick reference source for the end user. It is small enough to carry just about anywhere: the tool box, job-site trailer, truck, etc.. Although compact, the Handbook contains the entire Powers product line along with useful information including:

- Product Descriptions
- Installation Instructions
- Part Numbers
- Performance Data
- Product Approvals

If you require additional information, please refer to the other Powers Fasteners publications including the Powers Specification & Design Manual, and the Powers Fasteners Buyers Guide. Additionally, we invite you to take advantage of many of the services offered by Powers Fasteners including jobsite testing, on-site installation instructions and our in-house technical support department staffed by Powers Fasteners engineers. This detailed product information can also be found on our website, www.powers.com.

If you should have any questions or feedback, please contact customer service and the technical support department at (914) 235-6300. We look forward to working with you and thank you for your interest in Powers Fasteners.

Best regards,
POWERS FASTENERS, INC.

Powers Fasteners 2 Powers Square, New Rochelle, NY 10801 U.S.A.

Powers Fasteners 11 Doansburg Road, Brewster, NY 10509

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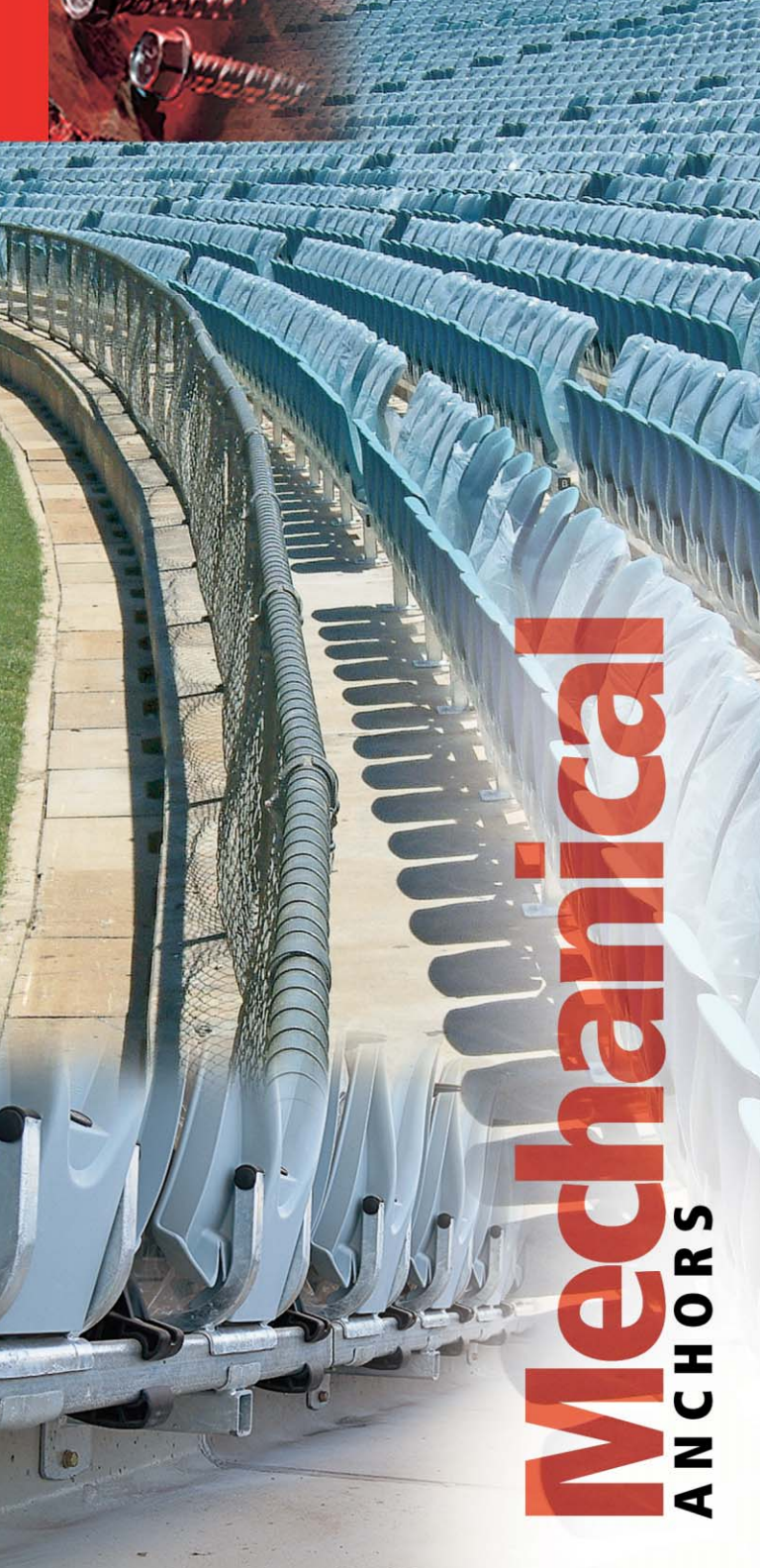
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Mechanical **ANCHORS**



Wedge-Bolt®

BASE MATERIAL

Concrete, Block, Brick, Stone

SIZE RANGE

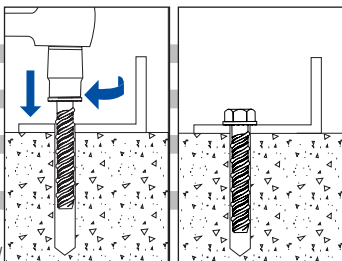
1/4" x 1-1/4" to 3/4" x 8"

ANCHOR MATERIAL

Heat Treated, High Strength Carbon Steel

PRODUCT DESCRIPTION

The Wedge-Bolt® anchor is a one piece heavy duty anchor with a finished hex head. It is easy to identify, removable and vibration-resistant.



ANCHOR SIZES

CARBON STEEL HEX HEAD WEDGE-BOLT

CAT. NO.	SIZE	MIN. EMBED.	THREAD LENGTH	STD. BOX	STD. CTN.	WT./ 100
7204	1/4" x 1-1/4"	1"	1-1/8"	100	500	2-1/2
7206	1/4" x 1-3/4"	1"	1-5/8"	100	500	3-1/4
7208	1/4" x 2-1/4"	1"	2"	100	500	4-1/4
7210	1/4" x 3"	1"	2-3/4"	100	500	5-1/2
7220	3/8" x 1-3/4"	1-1/2"	1-1/2"	50	250	8
7222	3/8" x 2-1/2"	1-1/2"	2-1/4"	50	250	11
7224	3/8" x 3"	1-1/2"	2-3/4"	50	250	12
7226	3/8" x 4"	1-1/2"	3-3/4"	50	250	15
7240	1/2" x 2"	1-3/4"	1-3/4"	50	200	14
7242	1/2" x 2-1/2"	1-3/4"	2-1/4"	50	200	15-1/2
7244	1/2" x 3"	1-3/4"	2-3/4"	50	150	21
7246	1/2" x 4"	1-3/4"	3-3/4"	50	150	25
7248	1/2" x 5"	1-3/4"	3-3/4"	25	100	28
7250	1/2" x 6"	1-3/4"	3-3/4"	25	75	34
7260	5/8" x 3"	2-1/2"	2-3/4"	25	100	28
7262	5/8" x 4"	2-1/2"	3-3/4"	25	100	30
7264	5/8" x 5"	2-1/2"	3-3/4"	25	75	39
7266	5/8" x 6"	2-1/2"	3-3/4"	25	75	47
7280	3/4" x 3"	2-1/2"	2-3/4"	20	60	48
7282	3/4" x 4"	2-1/2"	3-3/4"	20	60	56
7284	3/4" x 5"	2-1/2"	3-3/4"	20	60	70
7286	3/4" x 6"	2-1/2"	3-3/4"	20	60	86
7288	3/4" x 8"	2-1/2"	3-3/4"	10	40	100

410 STAINLESS STEEL WEDGE-BOLT® SCREW ANCHOR

STAINLESS STEEL HEX HEAD

CAT. NO.	DIAMETER SIZE & LENGTH	CLEARANCE HOLE DIA.	MIN. EMBED.	THREAD LENGTH	BOX QTY.	CTN. QTY.
7701	1/4" x 1-3/4"	5/16"	1"	1-5/8"	100	500
7705	3/8" x 2-1/2"	7/16"	1-1/2"	2-1/4"	50	250
7706	3/8" x 3"	7/16"	1-1/2"	2-3/4"	50	250
7710	1/2" x 3"	9/16"	1-3/4"	2-3/4"	50	150
7711	1/2" x 4"	9/16"	1-3/4"	3-3/4"	50	150
7715	5/8" x 4"	11/16"	2-1/2"	3-3/4"	25	100
7722	3/4" x 6"	13/16"	2-1/2"	3-3/4"	20	60

For proper performance, the Wedge-Bolt® anchor must be installed with a Wedge-Bit™. The Wedge-Bit™ has a special matched tolerance range designed to provide optimum performance for the anchor. The available shank styles and sizes are listed below.

WEDGE-BIT TOLERANCES

WEDGE-BOLT SIZE	WEDGE-BIT SIZE	WEDGE-BIT SIZE RANGE
1/4"	1/4"	0.255" - 0.259"
3/8"	3/8"	0.385" - 0.389"
1/2"	1/2"	0.490" - 0.495"
5/8"	5/8"	0.600" - 0.605"
3/4"	3/4"	0.720" - 0.725"

SDS-PLUS WEDGE-BIT™

CAT. NO.	DRILL SIZE (IN.)	USABLE LENGTH (IN.)	OVERALL LENGTH (IN.)	STD. POUCH	WT./ DOZEN
1312	1/4	2	4	1	1
1314	1/4	4	6	1	1-1/4
1316	3/8	4	6	1	2
1318	3/8	6	8	1	2-1/2
1320	1/2	4	6	1	2-3/4
1322	1/2	8	10	1	4-1/4
1324	5/8	6	8	1	4-1/2
1326	5/8	10	12	1	6-1/4
1328	3/4	6	8	1	5
1330	3/4	10	12	1	6-3/4

HEAVY DUTY STRAIGHT SHANK WEDGE-BIT™

CAT. NO.	DRILL SIZE (IN.)	USABLE LENGTH (IN.)	OVERALL LENGTH (IN.)	STD. POUCH	WT./ DOZEN
1370	1/4	2-3/4	4	1	1
1372	1/4	4	6	1	1-1/4
1380	3/8	4	6	1	2
1384	3/8	11	13	1	2-1/2
1390	1/2	4	6	1	2-3/4
1394	1/2	11	13	1	4-1/4
1396	5/8	11	13	1	6-1/4
1397	3/4	11	13	1	6-3/4

SPLINE WEDGE-BIT

CAT. NO.	DRILL SIZE (IN.)	USABLE LENGTH (IN.)	OVERALL LENGTH (IN.)	STD. TUBE	WT./DOZEN
1340	1/2	8	13	1	11
1344	5/8	8	13	1	12-1/2
1348	3/4	8	13	1	15

SDS-MAX WEDGE-BIT

CAT. NO.	DRILL SIZE (IN.)	USABLE LENGTH (IN.)	OVERALL LENGTH (IN.)	STD. TUBE	WT./DOZEN
1354	1/2	8	13	1	12
1356	5/8	8	13	1	13
1358	3/4	8	13	1	15

INSTALLATION SPECIFICATIONS
CARBON STEEL AND 410 SS WEDGE-BOLT

ANCHOR SIZE	1/4"	3/8"	1/2"	5/8"	3/4"
Wedge-Bit Drill Size	*1/4"	*3/8"	*1/2"	*5/8"	*3/4"
Fixture Clearance Hole	5/16"	7/16"	9/16"	11/16"	13/16"
Head Washer Height	7/32"	21/64"	7/16"	1/2"	19/32"
Washer O.D.	9/16"	47/64"	1"	1-3/16"	1-13/32"
Wrench Size	7/16"	9/16"	3/4"	15/16"	1-1/8"

* For proper performance, a Wedge-Bit must be used.

ANSI DRILL BIT REDUCTION FACTORS

WEDGE-BOLT DIAMETER	WEDGE-BIT	ANSI BIT	ANSI LOAD REDUCTION	INSTALLATION TORQUE
1/4"	1/4"	1/4"	20%	-
3/8"	3/8"	3/8"	15%	-
1/2"	1/2"	7/16"	0	++
5/8"	5/8"	9/16"	0	+
3/4"	3/4"	11/16"	0	+

No reduction factor is required when Wedge-Bits are used with Wedge-Bolts. When installing larger diameter Wedge-Bolts with ANSI bits, an electric impact wrench is recommended.

MAXIMUM CLAMPING TORQUE
MAXIMUM CLAMPING TORQUE (FT. - LBS.)

BASE MATERIAL	ANCHOR DIAMETER				
	1/4"	3/8"	1/2"	5/8"	3/4"
2,000 psi Concrete	5	30	45	75	150
4,000 psi Concrete	10	40	60	95	200
6,000 psi Concrete	10	40	60	95	200
3,000 psi Lightweight	10	15	40	60	70
Grout Filled Block	10	15	40	60	70
Solid Red Brick	10	30	45	75	100

MATERIAL SPECIFICATIONS**CARBON STEEL WEDGE-BOLT**

ANCHOR COMPONENT	COMPONENT MATERIAL
Anchor Body	Case Hardened Carbon Steel
Zinc Plating	ASTM B 633, SC1, Type III (Fe/Zn 5)

410 STAINLESS STEEL WEDGE-BOLT

ANCHOR COMPONENT	COMPONENT MATERIAL
Anchor Body	Type 410 stainless steel
Finish	Passivated

PERFORMANCE DATA**ULTIMATE LOAD CAPACITIES IN CONCRETE FOR CARBON AND 410 SS WEDGE BOLTS**

ANCHOR SIZE	EMBED. DEPTH	2,000 PSI CONCRETE TENSION (LBS.)	CONCRETE SHEAR (LBS.)	4,000 PSI CONCRETE TENSION (LBS.)	CONCRETE SHEAR (LBS.)	6,000 PSI CONCRETE TENSION (LBS.)	CONCRETE SHEAR (LBS.)
1/4"	1"	920	1,030	1,550	2,090	1,650	2,440
1/4"	2"	2,800	2,780	4,230	2,780	4,980	3,360
1/4"	3"	4,940	3,080	5,880	3,080	6,480	3,660
3/8"	1-1/2"	2,140	3,600	2,660	4,870	3,030	7,340
3/8"	2-1/2"	4,460	5,110	5,550	5,110	7,340	7,340
3/8"	3-1/2"	7,900	7,290	10,390	7,440	12,440	7,610
1/2"	2"	3,625	6,570	3,930	7,420	4,780	9,000
1/2"	3"	5,910	7,700	8,400	8,730	9,960	9,260
1/2"	4"	7,620	8,650	13,820	9,600	14,580	9,600
5/8"	2-1/2"	4,950	7,790	6,800	11,320	8,240	13,610
5/8"	3-1/2"	8,650	12,360	11,400	14,160	13,600	15,000
5/8"	5"	13,440	16,480	18,220	17,750	20,850	17,750
3/4"	3"	5,880	12,270	9,085	15,500	11,390	18,770
3/4"	3-1/2"	7,655	13,945	12,570	19,255	14,345	20,795
3/4"	4"	9,430	15,620	14,800	22,820	17,300	22,820
3/4"	5"	13,500	21,825	18,705	26,780	21,525	27,500
3/4"	6"	17,570	28,030	22,610	30,550	25,750	32,180

APPROVALS AND LISTINGS

ICBO ES Evaluation Report No. 5788	SBCCI Report No. 2124
City of Los Angeles Research Report No. 25415	Miami-Dade - NOA 00-0229.04
Federal Specification	Florida Statewide Approval No. 2209.10
Meets the proof load requirements of FF-S-325C Group II, Type 4, Class 1 (superseded) and CID A-A1923A, Type 4	



Wedge-Bolt® OT

PRODUCT DESCRIPTION

The Carbon Steel Wedge-Bolt OT screw anchor is a specifically engineered part for the racking, storage and material handling industry. This unique and universal anchor is available in a finished hex head design and can be easily installed with either an impact wrench or conventional hand socket. This anchor, unlike Blue tip Wedge-Bolt, can be installed with regular ANSI standard carbide drill bits with larger clearance holes.

Orange Tip (OT) = ANSI Bit

WEDGE-BOLT® OT SCREW ANCHOR

CARBON STEEL HEX HEAD OT

CAT. NO.	DIAMETER SIZE & LENGTH	ANSI BIT DIA.	CLEARANCE HOLE DIA.	MIN. EMBED.	THREAD LENGTH	BOX QTY.	CTN. QTY.
7215	1/4" x 3"	1/4"	3/8"	1"	2-3/4"	100	500
7216	3/8" x 4"	3/8"	1/2"	1-1/2"	3-3/4"	50	250
7217	1/2" x 4"	1/2"	5/8"	1-3/4"	3-3/4"	50	150
7218	1/2" x 5"	1/2"	5/8"	1-3/4"	3-3/4"	25	100
7219	5/8" x 4"	5/8"	3/4"	2-1/2"	3-3/4"	25	100
7221	5/8" x 5"	5/8"	3/4"	2-1/2"	3-3/4"	25	75

PERFORMANCE DATA

ULTIMATE LOAD CAPACITIES IN CONCRETE

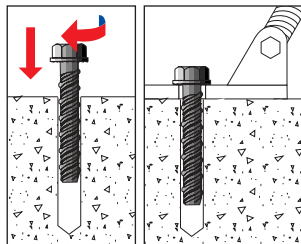
ANCHOR SIZE	EMBED. DEPTH	2,000 PSI CONCRETE TENSION (LBS.)	CONCRETE SHEAR (LBS.)	4,000 PSI CONCRETE TENSION (LBS.)	CONCRETE SHEAR (LBS.)	6,000 PSI CONCRETE TENSION (LBS.)	CONCRETE SHEAR (LBS.)
1/4"	1"	920	1,030	1,550	2,090	1,650	2,440
1/4"	2"	2,800	2,780	4,230	2,780	4,980	3,360
1/4"	3"	4,940	3,080	5,880	3,080	6,480	3,660
3/8"	1-1/2"	2,140	3,600	2,660	4,870	3,030	7,340
3/8"	2-1/2"	4,460	5,110	5,550	5,110	7,340	7,340
3/8"	3-1/2"	7,900	7,290	10,390	7,440	12,440	7,610
1/2"	2"	3,625	6,570	3,930	7,420	4,780	9,000
1/2"	3"	5,910	7,700	8,400	8,730	9,960	9,260
1/2"	4"	7,620	8,650	13,820	9,600	14,580	9,600
5/8"	2-1/2"	4,950	7,790	6,800	11,320	8,240	13,610
5/8"	3-1/2"	8,650	12,360	11,400	14,160	13,600	15,000
5/8"	5"	13,440	16,480	18,220	17,750	20,850	17,750
3/4"	3"	5,880	12,270	9,085	15,500	11,390	18,770
3/4"	3-1/2"	7,655	13,945	12,570	19,255	14,345	20,795
3/4"	4"	9,430	15,620	14,800	22,820	17,300	22,820
3/4"	5"	13,500	21,825	18,705	26,780	21,525	27,500
3/4"	6"	17,570	28,030	22,610	30,550	25,750	32,180



Tilt Wall Wedge-Bolt®

PRODUCT DESCRIPTION

Ideal for brace shoes used to support tilt up wall panels. The Powers Tilt Wall Wedge-Bolt anchors are specifically engineered for high load Tilt-up applications.



ANCHOR SIZES

CAT. NO.	SIZE	THREAD LENGTH	STD. CTN.	STD.
7296	3/4" x 6" Tilt Wall WB	5"	20	60
7298	3/4" x 8" Tilt Wall WB	6"	10	40
7295*	3/4" x 6" (ANSI)	5"	20	60
7297*	3/4" x 8" (ANSI)	6"	10	40

*New Parts Available June 2005

PERFORMANCE DATA

ANCHOR SIZE (IN)	EMBED. DEPTH (LBS)	2,000 PSI CONCRETE			4,000 PSI CONCRETE		
		TENSION (LBS)	SHEAR (LBS)	60° COMB. LOAD (LBS)	TENSION (LBS)	SHEAR (LBS)	60° COMB. LOAD (LBS)
3/4" x 6"	5	13,500	21,825	14,780	18,705	26,780	16,150
3/4" x 8"	7	17,570	28,030	22,750	22,610	30,550	24,855

WEDGE-BIT™ SIZES AND STYLES

CAT. NO.	DRILL SIZE	USABLE LENGTH	OVERALL LENGTH	STD. POUCH.
SDS-PLUS WEDGE-BIT				
1328	3/4"	6"	8"	1
1330	3/4"	10"	12"	1
SPLINE WEDGE-BIT				
1348	3/4"	8"	13"	1
SDS-MAX WEDGE-BIT				
1358	3/4"	8"	13"	1
HEAVY DUTY STRAIGHT SHANK WEDGE-BIT				
1397	3/4"	11"	13"	1

APPROVALS

Meadow Burke Approved

Install a Tilt-Up Brace Shoe and Lift Plates by anchoring with the Powers Tilt Wall Wedge-Bolt



VERTIGO™

BASE MATERIAL

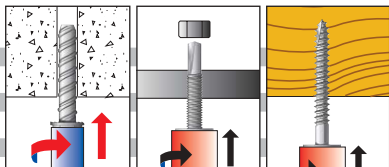
Steel, Wood, Concrete

SIZE RANGE

1/4" – 1/2"

ANCHOR MATERIAL

Carbon Steel



PRODUCT DESCRIPTION

VERTIGO is a one-piece, all steel threaded fastening system for suspending steel threaded rod vertically overhead in pipe hanging, fire protection, electrical conduit and cable-tray applications. VERTIGO can be installed in a variety of base materials including steel bar joists and beams, wood frame columns and beams, as well as concrete ceilings, beams and columns. Steel threaded rods in 1/4", 3/8" and 1/2" diameters can be vertically suspended with VERTIGO. In wood and steel base materials, VERTIGO is also offered in a side mount style for lateral installation of 1/4" and 3/8" diameter steel threaded rods onto joists, columns and trusses. For all steel and wood VERTIGO fasteners, a VERTIGO Socket Driver is recommended to provide proper installation with a screw gun or hammer drill. Concrete VERTIGO fasteners should be installed with the appropriate size standard drive sockets and adjustable torque, battery powered screw gun or hammer drill.

FASTENER SIZES & STYLES



STEEL VERTICAL HANGER

STEEL CAT NO.	ROD SIZE	SCREW SHANK SIZE & LENGTH	POINT STYLE	BOX	CARTON
#3 FOR PURLINS					
7155	1/4"	1/4"-20 x 1"	#3	100	500
7157	3/8"	1/4"-20 x 2"	#3	100	500
7158	3/8"	1/4"-20 x 1" (w/nuts)	#3	100	500
7159	3/8"	1/4"-20 x 1-1/2"	#3	100	500
7160	3/8"	1/4"-20 x 1-1/2" (w/nuts)	#3	100	500
#5 FOR BEAMS					
7152	1/4"	12-24 x 1-1/2"	#5	100	500
7154	3/8"	12-24 x 1-1/2" (w/nuts)	#5	100	500
7161	1/2"	12-24 x 1-1/2" (w/nuts)	#5	100	500



WOOD VERTICAL HANGER

WOOD CAT NO.	ROD SIZE	SCREW SHANK SIZE & LENGTH	POINT STYLE	BOX	CARTON
7163	1/4"	1/4" x 2"	Type 17	100	500
7203	3/8"	1/4" x 1"	Type 17	100	500
7165	3/8"	1/4" x 2"	Type 17	100	500
7167	3/8"	1/4" x 3"	Type 17	100	500
7169	3/8"	1/4" x 4"	Type 17	100	500
7162	3/8"	3/8" x 2-1/2"	Type 17	100	500



CONCRETE VERTICAL HANGER

CONCRETE CAT NO.	ROD SIZE	SCREW SHANK SIZE & LENGTH	THREAD STYLE	BOX	CARTON
7171	1/4"	1/4" x 1-1/4"	WB thread	100	500
7173	3/8"	1/4" x 1-1/2"	WB thread	100	500
7175	1/2"	3/8" x 2-3/4"	WB thread	50	250



STEEL SIDE HANGER

STEEL CAT NO.	ROD SIZE	SCREW SHANK SIZE & LENGTH	POINT STYLE	BOX	CARTON
#3 FOR PURLINS					
7183	1/4"	1/4"-20 x 1"	#3	100	500
7184	3/8"	1/4"-20 x 1" (w/nuts)	#3	100	500
7186	3/8v	1/4"-20 x 1-1/2" (w/nuts)	#3	100	500
7188	3/8"	1/4"-20 x 2" (w/nuts)	#3	100	500
#5 FOR BEAMS					
7200	1/4"	12-24 x 1-1/2"	#5	100	500
7201	3/8"	12-24 x 1-1/2" (w/nuts)	#5	100	500



WOOD SIDE HANGER

WOOD CAT NO.	ROD SIZE	SCREW SHANK SIZE & LENGTH	POINT STYLE	BOX	CARTON
7185	1/4"	1/4" x 1"	Type 17	100	500
7205	3/8"	1/4" x 1"	Type 17	100	500
7170	3/8"	1/4" x 2"	Type 17	100	500
7156	3/8"	3/8" x 2-1/2"	Type 17	100	500



ACCESSORIES

NUT DRIVER CAT NO.	SOCKET DESCRIPTION	COLOR	BOX	CARTON
7187	Universal Steel & Wood Socket	Red ■	5	25
7195	1/4" concrete Socket	Blue ■	5	25
7197	3/8" concrete Socket	Blue ■	5	25
7198	1/2" concrete Socket	Blue ■	5	25

POLE TOOL

7166	6'-12' Pole Tool (includes three Jaw Chuck)	1	1
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3000 TOOL

5865	SDS Driver Kit- 1/4" and 3/8" Concrete Vertigo Use 1/4" x 6" SDS Hex Bit (Cat. No. 5866)	1	10
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APPROVALS AND LISTINGS

Factory Mutual Research Corporation (FM Approvals) - File No. J.I. 3015153

Underwriters Laboratories (UL) - File No. EX1289

STEEL VERTIGO - ULTIMATE LOAD CAPACITIES IN TENSION FOR STEEL (PURLINS AND BEAMS)

ANCHOR SIZE/ ROD DIA.	MOUNT DIRECTION	SCREW SHANK SIZE & LENGTH	STEEL GAGE (THICKNESS)						
			20 0.036" (lbs)	18 0.048" (lbs)	16 0.060" (lbs)	14 0.075" (lbs)	12 0.105" (lbs)	1/4" 0.250" (lbs)	
1/4"	Vertical	1/4-20 x 1" (w/nuts)	1,550	1,550	1,775	1,775	2,050	3,850	5,040
1/4"	Side	1/4-20 x 1" (w/nuts)	1,550	1,550	1,775	1,775	2,050	3,850	2,050
3/8"	Vertical	1/4-20 x 1" (w/nuts)	1,550	1,550	1,775	1,775	2,050	3,850	5,040
3/8"	Side	1/4-20 x 1-1/2" (w/nuts)	1,550	1,550	1,775	1,775	2,050	3,850	2,050
3/8"	Vertical	1/4-20 x 1-1/2"	405	620	985	1,160	1,560	3,205	5,040
3/8"	Side	1/4-20 x 1-1/2"	405	620	985	1,160	1,560	1,965	1,965
3/8"	Vertical	1/4-20 x 2" (w/nuts)	1,550	1,550	1,775	1,775	2,050	3,850	5,040
1/2"	Vertical	12-24 x 1-1/2"	495	710	920	1,560	3,280	5,040	

STEEL VERTIGO - ULTIMATE LOAD CAPACITIES IN SHEAR FOR STEEL (PURLINS AND BEAMS)

ANCHOR SIZE/ ROD DIA.	MOUNT DIRECTION	SCREW SHANK SIZE & LENGTH	STEEL GAGE (THICKNESS)	
			20 0.036"	1/4" (lbs)
1/4"	Vertical	1/4-20 x 1" (w/nuts)	1,550 lbs	
1/4"	Side	1/4-20 x 1" (w/nuts)	1,550 lbs	
3/8"	Vertical	1/4-20 x 1-1/2" (w/nuts)	1,550 lbs	
3/8"	Side	1/4-20 x 1-1/2" (w/nuts)	1,550 lbs	

Steel Vertigo is recommended to be installed with the appropriate Steel/Wood Nut Driver.

WOOD VERTIGO - ULTIMATE LOAD CAPACITIES IN WOOD BASE MATERIALS (STRUCTURAL WOOD AND TIMBER)

ANCHOR SIZE/ ROD DIA.	MOUNT DIRECTION	SCREW SHANK SIZE & LENGTH	EMBEDMENT DEPTH	FIR (lbs)	PINE (lbs)	SPRUCE (lbs)
1/4"	Vertical	1/4" x 1"	1"	685	650	650
1/4"	Side	1/4" x 1"	1"	685	650	650
3/8"	Vertical	1/4" x 2"	2"	1,510	1,510	1,510
3/8"	Side	1/4" x 2"	2"	1,800	1,800	1,800
3/8"	Vertical	1/4" x 3"	3"	2,075	1,510	1,510
3/8"	Vertical	1/4" x 4"	4"	2,075	1,510	1,510
3/8"	Vertical	3/8" x 2-1/2"	2-1/2"	2,670	3,110	3,110
3/8"	Side	3/8" x 2-1/2"	2-1/2"	1,450	1,530	1,380
1/2"	Vertical	3/8" x 2-1/2"	2-1/2"	2,670	3,110	3,110

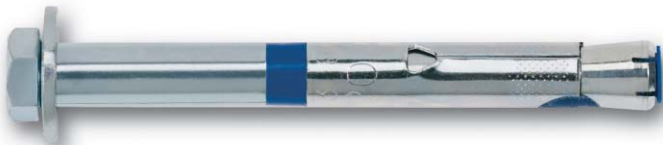
*Timber/joist manufacturers may require pre-drilled holes with wood depending on the location of the anchor installation. Consult with the truss/joist manufacturer for details. Wood Vertigo is recommended to be installed with the appropriate Steel/Wood Nut Driver.

CONCRETE VERTIGO - ULTIMATE LOAD CAPACITIES IN NORMAL WEIGHT CONCRETE

ANCHOR SIZE/ ROD DIA.	MOUNT DIRECTION	SCREW SHANK SIZE & LENGTH	ANSI DRILL BIT DIAMETER	EMBEDMENT DEPTH	MAX. CLAMPING TORQUE	2,000 PSI CONCRETE		4,000 PSI CONCRETE		6,000 PSI CONCRETE	
						TENSION (lbs)	SHEAR (lbs)	TENSION (lbs)	SHEAR (lbs)	TENSION (lbs)	SHEAR (lbs)
1/4"	Vertical	1/4" x 1-1/4"	1/4"	1-1/4"	8 ft. - lbs.	1,390	1,810	1,950	2,440	2,070	2,570
3/8"	Vertical	1/4" x 1-1/2"	1/4"	1-1/2"	8 ft. - lbs.	1,760	2,580	2,595	2,640	2,770	2,700
1/2"	Vertical	3/8" x 2-3/4"	3/8"	2-3/4"	35 ft. - lbs.	5,320	5,250	6,050	6,330	8,620	7,410

Concrete Vertigo is recommended to be installed with the appropriate concrete nut driver.

Data is in accordance with latest acceptance criteria and ASTM Standards. NFPA 13 Fire Protection requirements are 5 times the weight of the liquid (water) filled pipe plus 250 lbs. Depending on fastener application and governing building code, ultimate load capacities should be reduced by a minimum safety factor to determine the allowable working load.



Power-Bolt®

HEAVY DUTY, SELF-UNDERCUTTING SLEEVE TYPE ANCHOR

BASE MATERIAL

Concrete, Block, Brick, Stone

SIZE RANGE

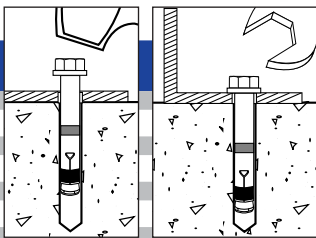
1/4" x 1" to 3/4" x 8-1/4"

ANCHOR MATERIAL

Carbon Steel & Type 304 Stainless Steel

PRODUCT DESCRIPTION

The Power-Bolt™ anchor is a heavy duty sleeve style undercut anchor which is vibration resistant and removable. It is available with a finished hex head or flat head with a hex key insert and can be used in concrete, block, brick, or stone



ANCHOR SIZES AND STYLES

CARBON STEEL HEX HEAD POWER-BOLT

CAT. NO.	SIZE	DRILL DIA.	MIN. EMBED	STD. BOX	STD. CTN.	WT./ 100
6900	1/4" x 1"	1/4"	7/8"	100	600	2
6902	1/4" x 1-3/4"	1/4"	1-1/4"	100	600	3
6906	1/4" x 3"	1/4"	1-1/4"	100	600	5
6907	5/16" x 1-3/4"	5/16"	1-1/2"	100	600	5
6908	5/16" x 2-1/2"	5/16"	1-1/2"	50	300	6
6909	5/16" x 3-1/2"	5/16"	1-1/2"	50	300	8
6910	3/8" x 2-1/4"	3/8"	2"	50	300	8
6911*	3/8" x 1-7/8"	3/8"	1-1/4"	100	600	6
6913	3/8" x 3"	3/8"	2"	50	300	11
6914	3/8" x 3-1/2"	3/8"	2"	50	300	12
6916	3/8" x 4"	3/8"	2"	50	300	14
6930	1/2" x 2-3/4"	1/2"	2-1/2"	50	200	16
6932	1/2" x 3-3/4"	1/2"	2-1/2"	25	150	21
6934	1/2" x 4-3/4"	1/2"	2-1/2"	25	150	26
6936	1/2" x 5-3/4"	1/2"	2-1/2"	25	150	32
6940	5/8" x 3"	5/8"	2-3/4"	20	120	28
6942	5/8" x 4"	5/8"	2-3/4"	15	90	40
6944	5/8" x 5"	5/8"	2-3/4"	15	90	47
6945	5/8" x 6"	5/8"	2-3/4"	15	90	57
6947	5/8" x 8-1/2"	5/8"	2-3/4"	10	40	77
6950	3/4" x 3-1/4"	3/4"	3"	15	90	47
6952	3/4" x 4-1/4"	3/4"	3"	10	60	58
6954	3/4" x 5-1/4"	3/4"	3"	10	60	70
6956	3/4" x 7-1/4"	3/4"	3"	10	40	105
6957	3/4" x 8-1/4"	3/4"	3"	10	40	110

The published length is measured from below the washer to the end of the anchor.

CARBON STEEL FLAT HEAD POWER-BOLT

CAT. NO.	SIZE	DRILL DIA.	MIN. EMBED	STD. BOX	STD. CTN.	WT./ 100
6981	3/8" x 3-3/4"	3/8"	2"	50	300	14
6982	3/8" x 5"	3/8"	2"	50	300	17
6983	3/8" x 6"	3/8"	2"	50	300	20
6984	1/2" x 5"	1/2"	2-1/2"	25	150	26
6987	5/8" x 5-1/2"	5/8"	2-3/4"	15	90	57

STAINLESS STEEL HEX HEAD POWER-BOLT

CAT. NO.	SIZE	DRILL DIA.	MIN. EMBED	STD. BOX	STD. CTN.	WT./ 100
5900	1/4" x 1"	1/4"	7/8"	100	600	2
5902	1/4" x 1-3/4"	1/4"	1-1/4"	100	600	3
5906	1/4" x 3"	1/4"	1-1/4"	100	600	5
5910	3/8" x 2-1/4"	3/8"	2"	50	300	10
5914	3/8" x 3-1/2"	3/8"	2"	50	300	12
5916	3/8" x 4"	3/8"	2"	50	300	14
5930	1/2" x 2-3/4"	1/2"	2-1/2"	50	200	16
5934	1/2" x 4-3/4"	1/2"	2-1/2"	25	150	26
5944	5/8" x 5"	5/8"	2-3/4"	15	90	47
5946	5/8" x 7"	5/8"	2-3/4"	15	60	67
5954	3/4" x 5-1/4"	3/4"	3"	15	60	70
5957	3/4" x 8-1/4"	3/4"	3"	10	40	110

PERFORMANCE DATA

ULTIMATE LOAD CAPACITIES - CONCRETE - CARBON STEEL AND STAINLESS STEEL

ANCHOR EMBED.		GUIDE	2,000 PSI CONCRETE		4,000 PSI CONCRETE		6,000 PSI CONCRETE	
SIZE	DEPTH	TORQUE	TENSION	SHEAR	TENSION	SHEAR	TENSION	SHEAR
(IN)	(IN)	(FT-LBS)	(LBS)	(LBS)	(LBS)	(LBS)	(LBS)	(LBS)
1/4	1-1/4	3 - 4	1,975	2,070	2,380	2,130	2,450	2,130
1/4	1-3/4	3 - 4	1,975	2,110	2,380	2,540	2,450	2,540
1/4	2-1/2	3 - 4	2,300	2,110	2,400	3,385	2,500	3,385
5/16	1-1/2	10 - 15	2,320	2,800	2,540	3,200	2,620	3,200
5/16	3	10 - 15	3,280	4,240	3,780	5,380	4,260	5,380
3/8	2	25 - 35	3,895	4,980	4,585	6,425	5,920	7,875
3/8	3-1/2	25 - 35	4,400	4,980	6,150	8,660	7,550	8,770
1/2	2-1/2	45 - 60	5,380	8,545	7,325	9,675	7,485	9,675
1/2	3-1/2	45 - 60	7,745	10,150	10,245	10,690	10,775	12,005
1/2	5	45 - 60	8,060	11,930	10,855	12,320	11,460	12,320
5/8	2-3/4	80 - 100	6,560	9,960	8,440	14,965	9,250	15,005
5/8	4	80 - 100	7,085	14,065	10,950	19,290	13,110	20,540
5/8	6	80 - 100	10,200	19,545	13,665	20,895	16,955	22,055
3/4	3	95 - 120	10,460	18,170	10,475	20,140	10,780	20,140
3/4	5	95 - 120	12,610	25,175	15,700	28,705	18,050	30,905
3/4	7	95 - 120	14,170	29,725	18,210	33,125	24,070	33,155

APPROVALS AND LISTINGS

ICC-ES Evaluation Service Report No. 1532

SBCCI Report No. 9943A

Underwriters Laboratories File No. EX 1289

Federal Specification

Meets the proof load requirements of FF-S-325C,
Group II, Type 3, Class 3 (superceded)

City of Los Angeles Research Report No. 24960

Factory Mutual Research Corporation J.I. 1K8A3.AH

Miami-Dade NOA 03-0303.14

Florida Statewide Approval No. FLO2209.4



Power-Stud™

BASE MATERIAL

Concrete, Stone

SIZE RANGE

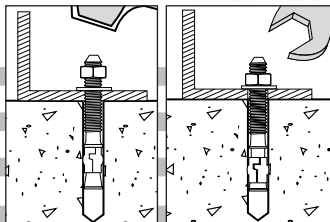
1/4" x 1-3/4" to 1-1/4" x 12"

ANCHOR MATERIAL

Carbon Steel & Type 304 or 316 Stainless Steel

PRODUCT DESCRIPTION

The Power-Stud™ anchor is a one piece fully threaded, wedge style anchor available in carbon steel and stainless steel. Threaded, Rod Hanger and Tie-Wire versions are designed for use in solid concrete. The drill bit diameter needed for proper installation is the same as the anchor diameter.



ANCHOR SIZES AND STYLES

CARBON STEEL POWER-STUD

CAT. NO.	SIZE	MIN. EMBED.	THREAD LENGTH	STD. BOX	STD. CTN.	WT./ 100
7400	1/4" x 1-3/4"	1-1/8"	3/4"	100	500	3
7402	1/4" x 2-1/4"	1-1/8"	1-1/4"	100	500	3-1/2
7404	1/4" x 3-1/4"	1-1/8"	2-1/4"	100	500	4-3/4
7410	3/8" x 2-1/4"	1-5/8"	1-1/4"	50	250	8-3/4
7412	3/8" x 2-3/4"	1-5/8"	1-5/8"	50	250	9-1/2
7413	3/8" x 3"	1-5/8"	1-7/8"	50	250	10-3/4
7414	3/8" x 3-1/2"	1-5/8"	2-3/8"	50	250	12
7415	3/8" x 3-3/4"	1-5/8"	2-5/8"	50	250	12-3/4
7416	3/8" x 5"	1-5/8"	3-7/8"	50	250	15-1/2
7417	3/8" x 7"	1-5/8"	5-7/8"	50	200	21
7420	1/2" x 2-3/4"	2-1/4"	1-3/8"	50	200	18
7422	1/2" x 3-3/4"	2-1/4"	2-3/8"	50	200	23
7423	1/2" x 4-1/2"	2-1/4"	3-1/8"	50	200	28
7424	1/2" x 5-1/2"	2-1/4"	4-1/8"	50	150	32
7426	1/2" x 7"	2-1/4"	5-5/8"	25	100	44
7427	1/2" x 8-1/2"	2-1/4"	7-1/8"	25	100	46
7430	5/8" x 3-1/2"	2-3/4"	2"	25	100	40
7432	5/8" x 4-1/2"	2-3/4"	3"	25	100	54
7433	5/8" x 5"	2-3/4"	3-1/2"	25	100	57
7434	5/8" x 6"	2-3/4"	4-1/2"	25	75	64
7436	5/8" x 7"	2-3/4"	5-1/2"	25	75	72
7438	5/8" x 8-1/2"	2-3/4"	7"	25	75	84
7439	5/8" x 10"	2-3/4"	8-1/2"	25	75	100
7440	3/4" x 4-1/4"	3-3/8"	2-3/8"	20	60	70
7441	3/4" x 4-3/4"	3-3/8"	2-7/8"	20	60	76
7442	3/4" x 5-1/2"	3-3/8"	3-5/8"	20	60	85
7444	3/4" x 6-1/4"	3-3/8"	4-3/8"	20	60	95
7446	3/4" x 7"	3-3/8"	5-1/8"	20	60	105
7448	3/4" x 8-1/2"	3-3/8"	6-5/8"	10	40	120
7449	3/4" x 10"	3-3/8"	8-1/8"	10	30	135

CARBON STEEL POWER-STUD CONTINUED

CAT. NO.	SIZE	MIN. EMBED.	THREAD LENGTH	STD. BOX	STD. CTN.	WT./ 100
7451	3/4" x 12"	3-3/8"	10-1/8"	10	30	155
7450	7/8" x 6"	3-7/8"	2-3/4"	10	40	120
7452	7/8" x 8"	3-7/8"	4-3/4"	10	40	160
7454	7/8" x 10"	3-7/8"	6-3/4"	10	30	200
7461	1" x 6"	4-1/2"	2-3/8"	10	30	170
7463	1" x 9"	4-1/2"	5-3/8"	10	30	240
7465	1" x 12"	4-1/2"	8-3/8"	5	15	300
7473	1-1/4" x 9"	5-5/8"	4-3/4"	5	15	360
7475	1-1/4" x 12"	5-5/8"	7-3/4"	5	15	480

MECHANICALLY GALVANIZED POWER-STUD ASTM B695, CLASS 65

CAT. NO.	SIZE	MIN. EMBED.	THREAD LENGTH	STD. BOX	STD. CTN.	WT./ 100
7720	1/2" x 2-3/4"	2-1/4"	1-3/8"	50	200	18
7723	1/2" x 4-1/2"	2-1/4"	3-1/8"	50	200	30
7724	1/2" x 5-1/2"	2-1/4"	4-1/8"	50	150	34
7726	1/2" x 7"	2-1/4"	5-5/8"	25	100	34
7730	5/8" x 3-1/2"	2-3/4"	2"	25	100	40
7734	5/8" x 6"	2-3/4"	4-1/2"	25	75	64
7741	3/4" x 4-3/4"	3-3/8"	2-7/8"	20	60	76
7742	3/4" x 5-1/2"	3-3/8"	3-5/8"	20	60	85
7748	3/4" x 8-1/2"	3-3/8"	6-5/8"	10	40	120
7750	7/8" x 6"	3-7/8"	2-3/4"	10	40	120
7752	7/8" x 8"	3-7/8"	4-3/4"	10	40	160
7763	1" x 9"	4-1/2"	5-3/8"	10	30	240

TYPE 304 STAINLESS STEEL POWER-STUD

CAT. NO.	SIZE	MIN. EMBED.	THREAD LENGTH	STD. BOX	STD. CTN.	WT./ 100
7300	1/4" x 1-3/4"	1-1/8"	3/4"	100	500	3
7302	1/4" x 2-1/4"	1-1/8"	1-1/4"	100	500	3-1/2
7304	1/4" x 3-1/4"	1-1/8"	2-1/4"	100	500	4-3/4
7310	3/8" x 2-1/4"	1-5/8"	1-1/4"	50	250	8-3/4
7312	3/8" x 2-3/4"	1-5/8"	1-5/8"	50	250	9-1/2
7313	3/8" x 3"	1-5/8"	1-7/8"	50	250	10-3/4
7314	3/8" x 3-1/2"	1-5/8"	2-3/8"	50	250	12
7315	3/8" x 3-3/4"	1-5/8"	2-5/8"	50	250	12-3/4
7316	3/8" x 5"	1-5/8"	3-1/8"	50	250	15-1/2
7320	1/2" x 2-3/4"	2-1/4"	1-3/8"	50	200	18
7322	1/2" x 3-3/4"	2-1/4"	2-3/8"	50	200	23
7323	1/2" x 4-1/2"	2-1/4"	3-1/8"	50	200	30
7324	1/2" x 5-1/2"	2-1/4"	4-1/8"	50	150	34
7326	1/2" x 7"	2-1/4"	5-5/8"	25	100	44
7330	5/8" x 3-1/2"	2-3/4"	2"	25	100	40
7332	5/8" x 4-1/2"	2-3/4"	3"	25	100	54
7333	5/8" x 5"	2-3/4"	3-1/2"	25	100	57
7334	5/8" x 6"	2-3/4"	4-1/2"	25	75	64
7336	5/8" x 7"	2-3/4"	5-1/2"	25	75	72
7338	5/8" x 8-1/2"	2-3/4"	7"	25	75	84
7340	3/4" x 4-1/4"	3-3/8"	2-3/8"	20	60	70

TYPE 304 STAINLESS STEEL POWER-STUD CONTINUED

CAT. NO.	SIZE	MIN. EMBED.	THREAD LENGTH	STD. BOX	STD. CTN.	WT./100
7341	3/4" x 4-3/4"	3-3/8"	2-7/8"	20	60	76
7342	3/4" x 5-1/2"	3-3/8"	3-5/8"	20	60	85
7344	3/4" x 6-1/4"	3-3/8"	4-3/8"	20	60	95
7346	3/4" x 7"	3-3/8"	5-1/8"	20	60	105
7348	3/4" x 8-1/2"	3-3/8"	6-5/8"	10	40	120
7349	3/4" x 10"	3-3/8"	8-1/8"	10	30	135
7352	7/8" x 8"	3-7/8"	4-3/4"	10	40	160
7361	1" x 6"	4-1/2"	2-3/8"	10	30	170
7363	1" x 9"	4-1/2"	5-3/8"	10	30	240
7365	1" x 12"	4-1/2"	8-3/8"	5	15	300

TYPE 316 STAINLESS STEEL POWER-STUD

CAT. NO.	SIZE	MIN. EMBED.	THREAD LENGTH	STD. BOX	STD. CTN.	WT./100
7600	1/4" x 1-3/4"	1-1/8"	3/4"	100	500	3-1/4
7602	1/4" x 2-1/4"	1-1/8"	1-1/4"	100	500	3-3/4
7604	1/4" x 3-1/4"	1-1/8"	2-1/4"	100	500	5-1/4
7610	3/8" x 2-1/4"	1-5/8"	1-1/4"	50	250	8-3/4
7612	3/8" x 2-3/4"	1-5/8"	1-5/8"	50	250	10-1/2
7613	3/8" x 3"	1-5/8"	1-7/8"	50	250	11
7614	3/8" x 3-1/2"	1-5/8"	2-3/8"	50	250	12
7615	3/8" x 3-3/4"	1-5/8"	2-5/8"	50	250	13
7616	3/8" x 5"	1-5/8"	3-7/8"	50	250	17-1/4
7620	1/2" x 2-3/4"	2-1/4"	1-3/8"	50	200	18
7622	1/2" x 3-3/4"	2-1/4"	2-3/8"	50	200	24
7623	1/2" x 4-1/2"	2-1/4"	3-1/8"	50	200	30
7624	1/2" x 5-1/2"	2-1/4"	4-1/8"	50	150	34
7626	1/2" x 7"	2-1/4"	5-5/8"	25	100	44
7630	5/8" x 3-1/2"	2-3/4"	2"	25	100	40
7632	5/8" x 4-1/2"	2-3/4"	3"	25	100	54
7633	5/8" x 5"	2-3/4"	3-1/2"	25	100	57
7634	5/8" x 6"	2-3/4"	4-1/2"	25	75	64
7636	5/8" x 7"	2-3/4"	5-1/2"	25	75	72
7638	5/8" x 8-1/2"	2-3/4"	7"	25	75	84
7640	3/4" x 4-1/4"	3-3/8"	2-3/8"	20	60	70
7641	3/4" x 4-3/4"	3-3/8"	2-7/8"	20	60	76
7642	3/4" x 5-1/2"	3-3/8"	3-5/8"	20	60	85
7644	3/4" x 6-1/4"	3-3/8"	4-3/8"	20	60	95
7646	3/4" x 7"	3-3/8"	5-1/8"	20	60	105
7648	3/4" x 8-1/2"	3-3/8"	6-5/8"	10	40	120

ROD HANGER POWER-STUD

CAT. NO.	ROD SIZE	ANCHOR SIZE	DRILL DIA.	MIN. EMBED.	THREAD DEPTH	STD. BOX	STD. CTN.	WT./100
7806	3/8"	1/2" x 2-3/8"	1/2"	2-1/4"	9/16"	50	250	18
7808	1/2"	5/8" x 2-1/2"	5/8"	2-3/4"	3/4"	25	125	40
7810	5/8"	7/8" x 3-1/4"	7/8"	3-7/8"	15/16"	10	50	120

TIE-WIRE POWER-STUD

CAT. NO.	SIZE	TIE-WIRE HOLE SIZE	MIN. EMBED.	STD. BOX	STD. CTN.	WT./100
7409	1/4" x 2"	9/32"	1-1/8"	100	500	3-3/4

PERFORMANCE DATA

ULTIMATE LOAD CAPACITIES - CONCRETE

ANCHOR SIZE (IN)	EMBED. DEPTH (IN)	GUIDE TORQUE (FT-LBS)	2,000 PSI CONCRETE		4,000 PSI CONCRETE		6,000 PSI CONCRETE	
			TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)
1/4	1-1/2	6 - 8	1,635	1,580	2,100	1,620	2,195	1,620
1/4	2-3/4	6 - 8	2,340	1,655	2,550	2,070	2,535	2,080
3/8	2	28 - 35	2,800	3,560	3,850	3,760	4,075	3,760
3/8	4-1/4	28 - 35	5,045	3,840	6,020	5,185	6,025	5,185
1/2	3	60 - 70	6,920	6,540	8,895	6,800	9,875	6,800
1/2	4	60 - 70	7,250	6,540	9,115	6,800	10,160	6,800
1/2	6	60 - 70	7,910	7,025	9,550	7,190	10,730	7,190
5/8	4	90 - 100	9,710	9,280	10,825	11,900	13,495	11,900
5/8	5	90 - 100	10,640	9,280	12,510	11,900	16,410	11,900
5/8	7	90 - 100	12,500	9,760	15,880	12,170	16,410	12,170
3/4	5	175 - 190	11,045	13,475	14,630	15,060	17,265	15,060
3/4	6	175 - 190	12,465	13,475	17,080	15,060	20,180	15,060
3/4	8	175 - 190	16,620	14,660	22,770	17,110	24,905	17,110
7/8	4-1/2	250 - 260	11,165	17,960	15,620	24,160	20,075	24,160
7/8	5-3/4	250 - 260	14,140	17,960	19,880	24,160	25,625	24,160
7/8	8	250 - 260	17,115	18,630	20,440	25,710	31,180	25,710
1	5-1/2	300 - 325	12,770	26,420	20,280	31,100	27,795	31,100
1	8	300 - 325	22,360	26,420	27,040	31,100	44,220	31,100
1	9	300 - 325	26,195	27,020	34,205	32,370	44,220	32,370
1-1/4	7	450 - 460	25,360	40,820	35,410	40,820	44,845	40,820
1-1/4	10	450 - 460	33,160	40,820	52,280	40,820	60,690	40,820

ULTIMATE LOAD CAPACITIES - LIGHTWEIGHT CONCRETE

ANCHOR SIZE	EMBED. DEPTH	GUIDE TORQUE (FT.-LBS.)	2,000 PSI LIGHTWEIGHT CONCRETE	
			TENSION (LBS.)	SHEAR (LBS.)
1/4"	1-1/8"	4	1,120	1,450
1/4"	2"	4	1,350	1,540
3/8"	1-5/8"	20	2,310	3,470
3/8"	2-1/2"	20	2,945	4,130
1/2"	2-1/4"	30	3,070	5,960
1/2"	4"	30	4,860	7,280
5/8"	2-3/4"	65	4,240	9,760
5/8"	5"	65	5,980	11,800
3/4"	3-3/8"	90	6,330	11,440
3/4"	5"	90	8,690	16,450

APPROVALS AND LISTINGS

ICC-ES Evaluation Service Report No. 1532

SBCCI Report No. 9943A

City of Los Angeles Research Report No. 24960

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

Underwriters Laboratories File No. EX 1289

Miami-Dade NOA 03-0311.08

Federal Specification

Meets the descriptive requirements of FF-S-325C, Group II, Type 4, Class I (superseded) and CID A-A-1923A, Type 4

Florida Statewide Approval No. FL2209.6



Lok-Bolt™

SLEEVE TYPE EXPANSION ANCHOR

BASE MATERIAL

Concrete, Block, Brick, Stone

SIZE RANGE

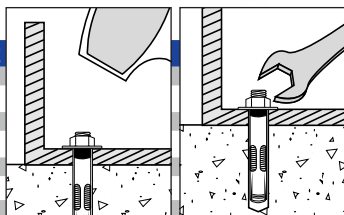
1/4" x 5/8" to 3/4" x 7-1/2"

ANCHOR MATERIAL

Carbon Steel & Stainless Steel

PRODUCT DESCRIPTION

The Lok-Bolt™ anchor 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. Extension sleeves are added to create longer lengths.



ANCHOR SIZES AND STYLES

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

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

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

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

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

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 EXTENDERS

CAT. NO.	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

PERFORMANCE DATA

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

ANCHOR SIZE (IN)	EMBED. DEPTH (IN)	GUIDE TORQUE (FT-LBS)		2,000 PSI CONCRETE TENSION (LBS)		4,000 PSI CONCRETE SHEAR (LBS)		6,000 PSI CONCRETE TENSION (LBS)		CONCRETE SHEAR (LBS)	
		CS	SS								
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		

ULTIMATE LOAD CAPACITIES - C-90 BLOCK AND RED BRICK

ANCHOR SIZE	EMBED. DEPTH	GUIDE TORQUE (FT-LBS)	C-90 HOLLOW BLOCK TENSION (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		

APPROVALS AND LISTINGS

SBCCI Report No. 9944A
 Factory Mutual Research Corporation Serial
 No. 26692, J.I. OJ8A1.AH, J.I. OJ9A9.AH
 Miami-Dade NOA 03-0311.08

Underwriters Laboratories File No. EX 1289
 Federal Specification Meets the descriptive requirements
 of FF-S-325C, Group II, Type 3, Class 3 (superseded)
 Florida Statewide Approval No. 2209.3



Set-Bolt™

BASE MATERIAL

Concrete, Stone

SIZE RANGE

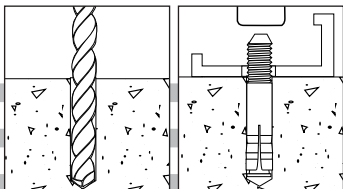
1/4" x 1-3/4" to 1/2" x 5-1/4"

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.



ANCHOR SIZES AND STYLES

CAT. NO.	SIZE	MIN. DEPTH	THREAD LENGTH	STD. BOX	STD. CTN.	WT./100
7101	1/4" x 1-3/4"	1-3/8"	5/8"	100	1000	2-1/4
7103	1/4" x 2-1/4"	1-3/8"	7/8"	100	500	2-3/4
7107	1/4" x 3-1/4"	1-3/8"	1"	100	500	4-1/4
7123	3/8" x 2-1/4"	1-5/8"	5/8"	50	250	6-1/2
7126	3/8" x 3"	1-5/8"	1-3/8"	50	250	8-1/2
7129	3/8" x 3-3/4"	1-5/8"	1-3/8"	50	250	11
7134*	3/8" x 6"	1-5/8"	2-1/2"	50	50	16-1/2
7145	1/2" x 2-3/4"	1-7/8"	7/8"	50	250	14
7151	1/2" x 4-1/4"	1-7/8"	1-7/8"	25	125	24
7153	1/2" x 5-1/4"	1-7/8"	2"	25	25	28

PERFORMANCE DATA

ULTIMATE LOAD CAPACITIES

ANCHOR SIZE (IN)	EMBED. DEPTH (IN)	2,000 PSI CONCRETE		4,000 PSI CONCRETE		6,000 PSI CONCRETE	
		TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)
1/4	1-3/8	1,725	1,780	2,900	2,070	3,480	2,070
3/8	1-5/8	3,910	3,705	5,400	4,185	5,775	4,185
1/2	1-7/8	5,390	5,140	7,500	6,000	7,895	6,000

APPROVALS AND LISTINGS

Factory Mutual J.I. OK4A9.AH

Federal Specification

Meets the descriptive requirements of FF-S-325C, Group VIII, Type 2 (superseded) and CID A-A-55614, Type 2



SPIKE®

BASE MATERIAL

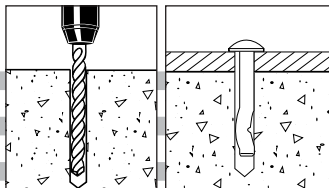
Concrete, Block, Brick, Stone

SIZE RANGE

3/16" x 1" to 1/2" x 6-1/2"

ANCHOR MATERIAL

Carbon Steel and Type 316 Stainless Steel



PRODUCT DESCRIPTION

The SPIKE® anchor is a patented, one-piece, tamper-proof vibration resistant anchor for use in concrete, block, brick or stone. Several head styles and anchor materials are available. The SPIKE® anchor is formed with an "s" shaped configuration at the working end of the anchor to create an expansion mechanism. Since the anchor is pre-expanded, there is no secondary tightening operation required which greatly reduces the overall cost of an anchor installation.

ANCHOR SIZES AND STYLES

MUSHROOM HEAD CARBON STEEL SPIKE (TAMPERPROOF)

CAT. NO.	SIZE	DRILL DIA.	MIN. EMBED.	STD. BOX	STD. CTN.	WT./ 100
5502	3/16" x 1"	3/16"	7/8"	100	1000	1-1/4
5503	3/16" x 1-1/4"	3/16"	7/8"	100	1000	1-1/2
5504	3/16" x 1-1/2"	3/16"	1-1/4"	100	1000	1-3/4
5506	3/16" x 2"	3/16"	1-1/4"	100	1000	2
5508	3/16" x 2-1/2"	3/16"	1-1/4"	100	1000	2
5510	3/16" x 3"	3/16"	1-1/4"	100	1000	2-1/2
5511	3/16" x 3-1/2"	3/16"	1-1/4"	100	1000	3-1/2
5512	3/16" x 4"	3/16"	1-1/4"	100	500	4
5522	1/4" x 1"	1/4"	7/8"	100	1000	1-1/2
5523	1/4" x 1-1/4"	1/4"	1"	100	1000	2-1/4
5524	1/4" x 1-1/2"	1/4"	1-1/4"	100	1000	2-1/2
5526	1/4" x 2"	1/4"	1-1/4"	100	1000	3
5528	1/4" x 2-1/2"	1/4"	1-1/4"	100	1000	4
5530	1/4" x 3"	1/4"	1-1/4"	100	1000	4-1/2
5531	1/4" x 3-1/2"	1/4"	1-1/4"	100	1000	5
5532	1/4" x 4"	1/4"	1-1/4"	100	500	6
5546	3/8" x 2"	3/8"	1-3/4"	25	250	7-1/2
5548	3/8" x 2-1/2"	3/8"	1-3/4"	25	250	9
5550	3/8" x 3"	3/8"	1-3/4"	25	250	10
5551	3/8" x 3-1/2"	3/8"	1-3/4"	25	250	11
5552	3/8" x 4"	3/8"	1-3/4"	25	250	12
5554	3/8" x 5"	3/8"	1-3/4"	25	250	18
5556	3/8" x 6"	3/8"	1-3/4"	25	250	20
5569	1/2" x 2-3/4"	1/2"	2-1/2"	50	200	18
5571	1/2" x 3-1/2"	1/2"	2-1/2"	50	200	22
5572	1/2" x 4"	1/2"	2-1/2"	25	150	27
5574	1/2" x 5"	1/2"	2-1/2"	25	150	31
5577	1/2" x 6-1/2"	1/2"	2-1/2"	25	150	42

MUSHROOM HEAD TYPE 316 STAINLESS STEEL SPIKE (TAMPERPROOF)

CAT. NO.	SIZE	DRILL DIA.	MIN. EMBED.	STD. BOX	STD. CTN.	WT./ 100
6602	3/16" x 1"	3/16"	7/8"	100	1000	1-1/4
6603	3/16" x 1-1/4"	3/16"	7/8"	100	1000	1-1/2

MUSHROOM HEAD TYPE 316 STAINLESS STEEL SPIKE (TAMPERPROOF), CONTINUED

CAT. NO.	SIZE	DRILL DIA.	MIN. EMBED.	STD. BOX	STD. CTN.	WT./100
6693*	3/16" x 1-1/4"	3/16"	7/8"	100	1000	1-1/2
6604	3/16" x 1-1/2"	3/16"	1-1/4"	100	1000	1-3/4
6606	3/16" x 2"	3/16"	1-1/4"	100	1000	2
6608	3/16" x 2-1/2"	3/16"	1-1/4"	100	1000	2-1/4
6622	1/4" x 1"	1/4"	7/8"	100	1000	1-1/2
6623	1/4" x 1-1/4"	1/4"	1"	100	1000	2-1/4
6624	1/4" x 1-1/2"	1/4"	1-1/4"	100	1000	2-1/2
6626	1/4" x 2"	1/4"	1-1/4"	100	1000	3
6628	1/4" x 2-1/2"	1/4"	1-1/4"	100	1000	4
6630	1/4" x 3"	1/4"	1-1/4"	100	1000	4-1/2
6631	1/4" x 3-1/2"	1/4"	1-1/4"	100	1000	5
6632	1/4" x 4"	1/4"	1-1/4"	100	500	6
6646	3/8" x 2"	3/8"	1-3/4"	25	250	7-1/2
6648	3/8" x 2-1/2"	3/8"	1-3/4"	25	250	9
6650	3/8" x 3"	3/8"	1-3/4"	25	250	10
6652	3/8" x 4"	3/8"	1-3/4"	25	250	12
6654	3/8" x 5"	3/8"	1-3/4"	25	250	18
6656	3/8" x 6"	3/8"	1-3/4"	25	250	20
6669	1/2" x 2-3/4"	1/2"	2-1/2"	50	200	18
6671	1/2" x 3-1/2"	1/2"	2-1/2"	50	200	22
6672	1/2" x 4"	1/2"	2-1/2"	25	150	27
6674	1/2" x 5"	1/2"	2-1/2"	25	150	31
6677	1/2" x 6-1/2"	1/2"	2-1/2"	25	150	42

FLAT HEAD CARBON STEEL SPIKE (TAMPERPROOF)

CAT. NO.	SIZE	DRILL DIA.	MIN. EMBED.	STD. BOX	STD. CTN.	WT./100
5608	3/16" x 2-1/2"	3/16"	1-1/4"	100	1000	2
5610	3/16" x 3"	3/16"	1-1/4"	100	1000	2-1/2
5612	3/16" x 4"	3/16"	1-1/4"	100	1000	4
5624	1/4" x 1-1/2"	1/4"	1-1/4"	100	1000	2-1/2
5626	1/4" x 2"	1/4"	1-1/4"	100	1000	3
5628	1/4" x 2-1/2"	1/4"	1-1/4"	100	1000	3-3/4
5630	1/4" x 3"	1/4"	1-1/4"	100	1000	4-1/2
5631	1/4" x 3-1/2"	1/4"	1-1/4"	100	1000	5
5632	1/4" x 4"	1/4"	1-1/4"	100	500	5-3/4

The published length is measured from below the head to the end of the anchor.

*Supplied with EPDM Sealing Washer

SPECIAL APPLICATION SPIKE ANCHORS

ROD HANGING

PIPE SPIKE

CAT. NO.	HEAD SIZE	SHANK DIA.	MIN. EMBED.	STD. BOX	STD. CTN.	WT./100
3755	1/4"	3/16"	1-1/4"	100	1000	4
3758	3/8"	1/4"	1-3/4"	50	500	6

CONCRETE FORMING

FORMING SPIKE

CAT. NO.	SIZE	DRILL DIA.	MIN. EMBED.	STD. BOX	STD. CTN.	WT./100
3795	3/16" x 1-1/2"	3/16"	1-1/4"	100	1000	2-1/2
3796	3/16" x 2"	3/16"	1-1/4"	100	1000	3
3797	3/16" x 2-3/4"	3/16"	1-1/4"	100	1000	4
3794	1/4" x 2-3/4"	1/4"	1-1/4"	100	1000	

SUSPENDED CEILING

TIE-WIRE SPIKE

CAT. NO.	SIZE	DRILL DIA.	MIN. EMBED.	TIE-WIRE HOLE SIZE	STD. BOX	STD. CTN.	WT./ 100
3756	3/16"	3/16"	1-1/8"	3/16"	100	500	2
3759	1/4"	1/4"	1-1/8"	9/32"	100	500	2-1/2

SPIKE TOOLS

CAT. NO.	DESCRIPTION	GUIDE I.D.	STD. BOX	WT./ EACH
3790	SPIKE Driver 1000	1/2"	1	1/4
3791	SPIKE Driver 2000	1/2"	1	1/4
3891*	SPIKE Driver 3000	9/16"	1	1/4
3894*	SPIKE Driver 6000	1"	1	1/4
3760	Pipe SPIKE Tool	5/16"	1	1
3752	SPIKE Puller	1/4"	1	1

PERFORMANCE DATA

ULTIMATE LOAD CAPACITIES - CONCRETE AND C-90 GROUT FILLED BLOCK (CARBON STEEL)

ANCHOR SIZE (IN)	EMBED. DEPTH (IN)	2,000 PSI CONCRETE		4,000 PSI CONCRETE		C-90 BLOCK	
		TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)
3/16"	7/8"	520	1,080	860	1,310	280	540
3/16"	1"	540	1,230	980	1,860	410	590
3/16"	1-1/4"	780	1,800	1,260	2,155	740	2,090
1/4"	7/8"	680	1,405	945	1,870	440	1,650
1/4"	1"	720	1,585	1,135	2,160	670	1,840
1/4"	1-1/4"	830	1,815	1,410	2,220	800	2,100
3/8"	1-3/4"	1,785	3,645	2,630	5,025	-	-
1/2"	2-1/2"	3,215	5,345	4,015	10,320	-	-

ULTIMATE LOAD CAPACITIES - CONCRETE FOR PIPE SPIKE

ANCHOR SIZE (IN)	DRILL BIT (IN)	EMBED. DEPTH (IN)	2,000 PSI CONCRETE		3,000 PSI CONCRETE		4,000 PSI CONCRETE	
			TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)
1/4"	3/16"	1-1/4"	780	975	1,210	975	1,250	975
3/8"	1/4"	1-3/4"	1,100	1,815	1,650	2,020	1,985	2,100

ULTIMATE LOAD CAPACITIES - CONCRETE FOR TIE-WIRE SPIKE

ANCHOR SIZE (IN)	DRILL BIT (IN)	EMBED. DEPTH (IN)	3,000 PSI CONCRETE		4,000 PSI CONCRETE	
			TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)
1/4"	3/16"	1-1/8"	975	950	1,050	950
3/8"	1/4"	1-1/8"	1,075	1,310	1,150	1,310

ULTIMATE LOAD CAPACITIES - CONCRETE FOR FORMING SPIKE

ANCHOR SIZE (IN)	DRILL BIT (IN)	EMBED. DEPTH (IN)	2,000 PSI CONCRETE		3,000 PSI CONCRETE		4,000 PSI CONCRETE	
			TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)
3/16"	3/16"	1-1/4"	780	1,800	1,000	2,000	1,260	2,155
1/4"	1/4"	1-1/4"	830	1,815	1,200	2,020	1,410	2,220

APPROVALS AND LISTINGS

ICC-ES Evaluation Service Report No. 1532

SBCCI - Report No. 9943A

Factory Mutual Research Corporation - Pipe SPIKE J.I. ON5A1.AH

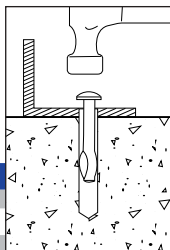
Federal Specification

Meets the proof load requirements of FF-S-325, Group VI

(Carbon steel and stainless steel, mushroom head versions) - superseded.

Miami-Dade NOA 03-0303.14

Florida Statewide Approval No. FL2209.7



Drive®

SPLIT DRIVE TYPE ANCHOR

BASE MATERIAL	SIZE RANGE	ANCHOR MATERIAL
Concrete, Stone	3/16" x 1" to 1/2" x 3"	Carbon Steel

PRODUCT DESCRIPTION

The Drive® is a one piece tamper-proof, pre-expanded anchor available in carbon steel for use in concrete and stone. Tie-Wire Drive® anchors are used for suspended ceiling applications. The flat head (counter-sunk) style is particularly suited for wood-to-concrete anchoring. The round head style is for all other applications requiring fast, permanent installations.

ANCHOR SIZES AND STYLES

ROUND HEAD DRIVE

CAT. NO.	SIZE	DRILL DIA.	MIN. DEPTH	STD. BOX	STD. CTN.	WT./ 100
3031	3/16" x 1"	3/16"	7/8"	100	1000	1
3091	3/16" x 1-1/2"	3/16"	7/8"	100	1000	1-1/4
3211	1/4" x 1-1/4"	1/4"	1-1/8"	100	1000	1-3/4
3241	1/4" x 1-1/2"	1/4"	1-1/8"	100	1000	2-1/2
3271	1/4" x 2"	1/4"	1-1/8"	100	1000	3
3301	1/4" x 2-1/2"	1/4"	1-1/8"	100	1000	3-3/4
3601	3/8" x 2"	3/8"	1-7/8"	25	250	7-1/2
3631	3/8" x 2-1/2"	3/8"	1-7/8"	25	250	8-1/2
3691	3/8" x 3-1/2"	3/8"	1-7/8"	25	250	11-3/4
3781	1/2" x 3"	1/2"	2-5/8"	25	125	25

FLAT HEAD DRIVE

CAT. NO.	SIZE	DRILL DIA.	MIN. DEPTH	STD. BOX	STD. CTN.	WT./ 100
3092	3/16" x 1-1/2"	3/16"	7/8"	100	1000	1-1/4
3122	3/16" x 2"	3/16"	7/8"	100	1000	1-3/4
3152	3/16" x 2-1/2"	3/16"	7/8"	100	1000	2
3162	3/16" x 3"	3/16"	7/8"	100	1000	2-1/2
3242	1/4" x 1-1/2"	1/4"	1-1/8"	100	1000	2-1/2
3272	1/4" x 2"	1/4"	1-1/8"	100	1000	3
3302	1/4" x 2-1/2"	1/4"	1-1/8"	100	1000	3-3/4
3332	1/4" x 3"	1/4"	1-1/8"	100	1000	4-1/2
3362	1/4" x 3-1/2"	1/4"	1-1/8"	100	1000	5
3392	1/4" x 4"	1/4"	1-1/8"	100	500	5-3/4

TIE-WIRE DRIVE (13/64" TIE-WIRE HOLE)

CAT. NO.	SIZE	DRILL DIA.	MIN. DEPTH	STD. BOX	STD. CTN.	WT./ 100
3244	1/4" x 1-3/4" Master Pack	1/4"	1-1/8"	500	500	2-1/2
3245	1/4" x 1-3/4"	1/4"	1-1/8"	100	500	2-1/2
3250	Tie-Wire Setting Tool			1	1	1/4

PERFORMANCE DATA

ULTIMATE LOAD CAPACITIES - CONCRETE

ANCHOR SIZE (IN)	EMBED. DEPTH (IN)	2,000 PSI CONCRETE		4,000 PSI CONCRETE		6,000 PSI CONCRETE	
		TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)
3/16"	7/8"	700	1,100	1,080	1,365	1,080	1,370
1/4"	1-1/8"	1,320	1,665	1,760	2,090	1,760	2,090
3/8"	1-7/8"	2,275	5,580	4,240	7,030	4,240	7,030
1/2"	2-5/8"	2,560	7,945	4,960	10,205	4,960	10,205

APPROVALS AND LISTINGS

Factory Mutual Research Corporation J.I. 1M4A5.AM, J.I. 0K4A2.AM
 Underwriters Laboratories File No. EX 1289 Federal Specification
 Meets the descriptive requirements of FF-S-325C, Group VI (superseded)



Zamac Hammer-Screw®

BASE MATERIAL

Concrete, Block, Brick, Stone

SIZE RANGE

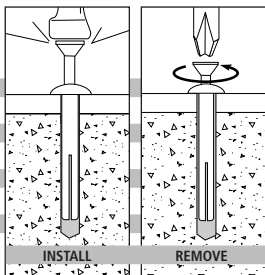
1/4" x 3/4" to 1/4" x 3"

ANCHOR MATERIAL

Zamac Alloy with Carbon or Stainless Steel Drive Screw

PRODUCT DESCRIPTION

The Zamac Hammer-Screw® is a unique, one-step drive anchor featuring a Phillips type head and a screw thread for use in concrete, block, brick or stone. With a body formed from corrosion resistant Zamac alloy and a carbon or stainless steel drive screw, this anchor has been developed by Powers as an improvement over standard nailin anchors. Traditionally, Zamac Nailin® anchors have been used for light duty, non-engineered applications and have not been recommended for use overhead. In order to overcome these problems, the new Zamac Hammer-Screw® has been designed to provide a removable anchor with 40% higher tension load capacities when installed in concrete. The Zamac Hammer-Screw® can be used overhead provided it is part of an engineered system designed by an engineer who will take the proper design considerations and safety factors into account.



ANCHOR SIZES AND STYLES

MUSHROOM HEAD WITH NO. 2 PHILLIPS TYPE SCREW

CAT. NO.	SS	ANCHOR SIZE	DRILL DIA.	STD. BOX	STD. CTN.	WT./ 100
2839	2859*	1/4" x 3/4"	1/4"	100	500	1-1/2
2840	2841*	1/4" x 1"	1/4"	100	500	1-3/4
2842	2843*	1/4" x 1-1/4"	1/4"	100	500	2-1/4
2844	2845*	1/4" x 1-1/2"	1/4"	100	500	2-1/2
2846	2847	1/4" x 2"	1/4"	100	500	3
2848	-	1/4" x 2-1/4"	1/4"	100	500	3-1/2
2850	-	1/4" x 3"	1/4"	100	500	4-1/4

MASTER PACK

CAT. NO.	ANCHOR SIZE	DRILL DIA.	STD. BOX	STD. CTN.	WT./ 100
2939	1/4" x 3/4"	1/4"	1000	1000	1-1/2
2940	1/4" x 1"	1/4"	1000	1000	1-3/4
2942	1/4" x 1-1/4"	1/4"	1000	1000	2-1/4
2944	1/4" x 1-1/2"	1/4"	1000	1000	2-1/2
2946	1/4" x 2"	1/4"	1000	1000	3
2948	1/4" x 2-1/4"	1/4"	1000	1000	3-1/2
2949	1/4" x 3"	1/4"	1000	1000	4-1/4

MUSHROOM HEAD PERMA-SEAL WITH NO. 2 PHILLIPS TYPE SCREW

CAT. NO.	ANCHOR SIZE	DRILL DIA.	STD. BOX	STD. CTN.	WT./ 100
2817	1/4" x 1-1/4"	1/4"	100	500	2-1/4
2818 Master Pack	1/4" x 1-1/4"	1/4"	1000	1000	2-1/4

INSTALLATION SPECIFICATIONS

ANCHOR SIZE	1/4" MH
ANSI Drill Bit Size	1/4"
Fixture Clearance Hole	5/16"
Head Height	9/64"
Head Width	35/64"

MATERIAL SPECIFICATIONS

ANCHOR COMPONENT	COMPONENT MATERIAL	
	MUSHROOM HEAD CS SCREW	MUSHROOM HEAD SS SCREW
Drive Screw	AISI 1018	Type 304 SS
Anchor Body	Zamac Alloy	Zamac Alloy
Screw Plating	ASTM B 633, SC1, Type III (Fe/Zn 5)	N/A
Screw Coating	Perma-Seal Fluoropolymer	N/A

PERFORMANCE DATA

ANCHOR SIZE	2,000 PSI CONCRETE EMBED. DEPTH	4,000 PSI CONCRETE		6,000 PSI CONCRETE		TENSION (LBS.)	SHEAR (LBS.)
		TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)		
1/4"	5/8"	675	650	850	880	890	880
1/4"	3/4"	790	805	1,135	1,115	1,190	1,115
1/4"	7/8"	930	990	1,205	1,230	1,250	1,230
1/4"	1-1/8"	1,220	1,365	1,350	1,470	1,450	1,470
1/4"	1-3/8"	1,325	1,555	1,450	1,645	1,530	1,645
1/4"	1-3/4"	1,480	1,840	1,600	1,910	1,660	1,910
1/4"	1-7/8"	1,480	1,840	1,600	1,910	1,660	1,910

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

ANCHOR SIZE	EMBED. DEPTH	C-90 HOLLOW BLOCK		SOLID RED BRICK	
		TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)
1/4"	5/8"	420	1,160	680	1,400
1/4"	3/4"	825	1,215	930	1,600
1/4"	1"	1,000	1,265	990	1,600
1/4"	1-1/8"	1,090	1,290	1,040	1,600
1/4"	1-3/8"	1,145	1,345	1,150	1,600
1/4"	1-1/2"	1,145	1,345	1,260	1,600

APPROVALS AND LISTINGS

SBCCI Report No. 9944A

Federal Specification

Meets the descriptive requirements of FF-S-325C, Group V, Type 2, Class 3 (superseded) and CID A-A-1925A, Type 1.



Zamac Nailin®

DRIVE PIN TYPE ANCHOR

BASE MATERIAL

Concrete, Block, Brick, Stone

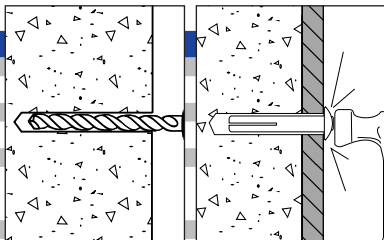
SIZE RANGE

3/16" x 7/8" to 1/4" x 2"

ANCHOR MATERIAL

Zamac Alloy with Carbon or Stainless
Steel Drive Pin

PRODUCT DESCRIPTION



The Zamac Nailin® is a tamper-proof nail drive anchor which has a body formed from Zamac alloy.

Nails are available in carbon or stainless steel. The anchor can be used in concrete, block, brick or stone.

This anchor is not recommended for applications overhead.

ANCHOR SIZES AND STYLES

MUSHROOM HEAD ZAMAC NAILIN - CARBON STEEL NAIL

CAT. NO.	SIZE	DRILL DIA.	STD. BOX	STD. CTN.	WT./ 100
2802	3/16" x 7/8"	3/16"	100	500	3/4
2806	1/4" x 3/4"	1/4"	100	500	1-1/2
2808	1/4" x 1"	1/4"	100	500	1-3/4
2814	1/4" x 1-1/4"	1/4"	100	500	2-1/4
2820	1/4" x 1-1/2"	1/4"	100	500	2-1/2
2826	1/4" x 2"	1/4"	100	500	3

FLAT HEAD ZAMAC NAILIN - CARBON STEEL NAIL

CAT. NO.	SIZE	DRILL DIA.	STD. BOX	STD. CTN.	WT./ 100
2836	1/4" x 1-1/2"	1/4"	100	500	2-1/2
2838	1/4" x 2"	1/4"	100	500	3

MASTER PACK MUSHROOM HEAD ZAMAC NAILIN CARBON STEEL NAIL

CAT. NO.	SIZE	DRILL DIA.	STD. BOX	STD. CTN.	WT./ 100
2803	3/16" x 7/8"	3/16"	-	1000	3/4
2807	1/4" x 3/4"	1/4"	-	1000	1-1/2
2809	1/4" x 1"	1/4"	-	1000	1-3/4
2815	1/4" x 1-1/4"	1/4"	-	1000	2-1/4
2821	1/4" x 1-1/2"	1/4"	-	1000	2-1/2
2827	1/4" x 2"	1/4"	-	1000	3

MUSHROOM HEAD ZAMAC NAILIN TYPE 304 STAINLESS STEEL NAIL

CAT. NO.	SIZE	DRILL DIA.	STD. BOX	STD. CTN.	WT./ 100
2858	1/4" x 1"	1/4"	100	500	1-3/4
2864	1/4" x 1-1/4"	1/4"	100	500	2-1/4
2870	1/4" x 1-1/2"	1/4"	100	500	2-1/2
2876	1/4" x 2"	1/4"	100	500	3

INSTALLATION SPECIFICATIONS

ANCHOR SIZE	3/16" MH	1/4" MH	1/4" FH
ANSI Drill Bit Size	3/16"	1/4"	1/4"
Fixture Clearance Hole	1/4"	5/16"	5/16"
Head Height	7/64"	9/64"	3/16"
Head Width	13/32"	35/64"	35/64"

MATERIAL SPECIFICATIONS

ANCHOR COMPONENT	COMPONENT MATERIAL		
	MUSHROOM HEAD CS NAIL	FLAT HEAD CS NAIL	MUSHROOM HEAD SS NAIL
Drive Nail	AISI 1018	AISI 1018	Type 304 SS
Anchor Body	Zamac Alloy	Zamac Alloy	Zamac Alloy
Nail Plating	ASTM B 633, SC1, Type III (Fe/Zn 5)		N/A

PERFORMANCE DATA

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.)
3/16"	3/4"	460	520	500	700	580	700
1/4"	5/8"	480	550	600	820	640	820
1/4"	3/4"	655	755	1,045	1,065	1,045	1,065
1/4"	7/8"	780	800	1,070	1,115	1,070	1,115
1/4"	1-1/8"	1,030	900	1,120	1,215	1,120	1,215
1/4"	1-3/8"	1,085	1,105	1,150	1,460	1,230	1,460
1/4"	1-3/4"	1,165	1,420	1,200	1,825	1,260	1,825
1/4"	1-7/8"	1,165	1,420	1,300	1,825	1,365	1,825

LOAD CAPACITIES IN C-90 BLOCK AND SOLID BRICK

ANCHOR SIZE	EMBED. DEPTH	C-90 HOLLOW BLOCK		SOLID RED BRICK	
		TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)
3/16"	3/4"	270	860	460	920
1/4"	5/8"	360	1,040	570	1,250
1/4"	3/4"	735	1,075	790	1,400
1/4"	1"	835	1,130	820	1,400
1/4"	1-1/8"	1,040	1,250	865	1,400
1/4"	1-3/8"	1,090	1,275	950	1,400
1/4"	1-1/2"	1,090	1,275	1,015	1,400

APPROVALS AND LISTINGS

SBCCI Report No. 9944A

Factory Mutual Research Corporation J.I. 1K6A7.AM

Federal Specification

Meets the descriptive requirements of FF-S-325C, Group V, Type 2, Class 3 (superseded) and

CID A-A-1925A, Type 1 (mushroom head) & Type 2 (flat head)

Miami-Dade NOA 03-0311.08

Florida Statewide Approval No. FL2209.11



Nylon Nailin®

PLASTIC DRIVE PIN TYPE ANCHOR

BASE MATERIAL

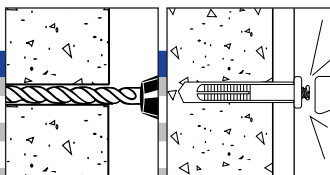
Concrete, Block, Brick,

SIZE RANGE

3/16" x 1" to 1/4" x 6"

ANCHOR MATERIAL

Engineered Nylon with Carbon or Stainless Steel Drive Pin



PRODUCT DESCRIPTION

The Nylon Nailin® is a pin drive anchor with a body formed from engineered nylon and nails available in carbon and stainless steel. The anchor can be used in concrete, block, or brick. This anchor is not recommended for applications overhead.

ANCHOR SIZES AND STYLES

ROUND HEAD NYLON NAILIN - STEEL NAIL

CAT. NO.	SIZE	DRILL DIA.	STD. BOX	STD. CTN.	WT./ 100
2431	3/16" x 1"	3/16"	100	1000	1/2
2451	3/16" x 1-1/2"	3/16"	100	1000	3/4
2521	1/4" x 1"	1/4"	100	1000	3/4
2541	1/4" x 1-1/2"	1/4"	100	1000	1
2561	1/4" x 2"	1/4"	100	1000	1

FLAT HEAD NYLON NAILIN- STEEL NAIL

CAT. NO.	SIZE	DRILL DIA.	STD. BOX	STD. CTN.	WT./ 100
2432	3/16" x 1"	3/16"	100	1000	1/2
2452	3/16" x 1-1/2"	3/16"	100	1000	3/4
2522	1/4" x 1"	1/4"	100	1000	3/4
2542	1/4" x 1-1/2"	1/4"	100	1000	1
2562	1/4" x 2"	1/4"	100	1000	1

MUSHROOM HEAD NYLON NAILIN

CAT. NO.	STEEL NAIL	STAINLESS NAIL	SIZE	DRILL DIAM.	STD. BOX	STD. CTN.	WT./ 100
2433	-	-	3/16" x 1"	3/16"	100	1000	1/2
2513	-	-	1/4" x 3/4"	1/4"	100	1000	1/2
2523	-	2528	1/4" x 1"	1/4"	100	1000	3/4
2543	-	2548	1/4" x 1-1/2"	1/4"	100	1000	1
2563	-	-	1/4" x 2"	1/4"	100	1000	1
2573	-	-	1/4" x 3"	1/4"	100	1000	2-1/4
2583	-	-	1/4" x 4"	1/4"	100	1000	2-3/4
2593	-	-	1/4" x 6"	1/4"	100	400	4

MUSHROOM HEAD BODIES ONLY

CAT. NO.	SIZE	DRILL DIA.	STD. BOX	STD. CTN.	WT./ 100
2574	1/4" x 3"	1/4"	2500	2500	1/2

INSTALLATION SPECIFICATIONS
ROUND HEAD NYLON NAILIN

ANCHOR SIZE	3/16"			1/4"		
	RH	FH	MH	RH	FH	MH
ANSI Drill Bit Size	3/16"	3/16"	3/16"	1/4"	1/4"	1/4"
Fixture Clearance Hole	1/4"	1/4"	1/4"	5/16"	5/16"	5/16"
Head Height	1/8"	1/8"	1/8"	1/8"	1/8"	1/8"
Head Width	3/8"	3/8"	9/16"	7/16"	7/16"	9/16"

MATERIAL SPECIFICATIONS
NYLON NAILIN

ANCHOR COMPONENT	COMPONENT MATERIAL			
	ROUND HEAD	FLAT HEAD	MUSHROOM HEAD CS	SS
Drive Nail	AISI 1018	AISI 1018	AISI 1018	Type 304 SS
Anchor Body	Nylon	Nylon	Nylon	Nylon
Nail Plating	ASTM B 633, SC1, Type III (Fe/Zn 5)			N/A

PERFORMANCE DATA

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.)
3/16"	3/4"	180	280	195	320	200	320
3/16"	1"	200	280	220	320	230	320
1/4"	5/8"	120	320	140	500	180	500
1/4"	3/4"	220	320	240	500	245	500
1/4"	1"	230	320	250	500	260	500
1/4"	1-1/2"	240	320	270	500	280	500
1/4"	2"	255	320	285	500	300	500

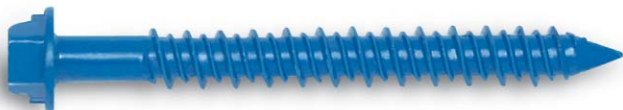
ULTIMATE LOAD CAPACITIES IN C-90 BLOCK AND RED BRICK

ANCHOR SIZE	EMBED. DEPTH	C-90 HOLLOW BLOCK		SOLID RED BRICK	
		TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)
3/16"	3/4"	170	280	155	320
3/16"	1"	180	280	170	320
1/4"	5/8"	110	320	150	500
1/4"	3/4"	160	320	200	500
1/4"	1"	170	320	220	500
1/4"	1-1/4"	180	320	240	500
1/4"	1-1/2"	200	320	250	500

APPROVALS AND LISTINGS

Federal Specification

Meets the descriptive requirements of FF-S-325C, Group V, Type 2, Class 4 (superseded) and CID A-A-1925A Type 3 (mushroom head), Type 4 (flat head) and Type 5 (round head).



TAPPER®

CONCRETE SCREW

BASE MATERIAL

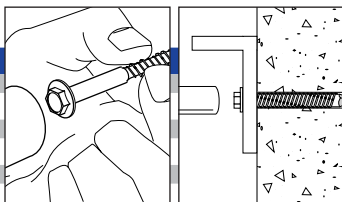
Concrete, Block, Brick Applications

SIZE RANGE

3/16" x 1-1/4" to 3/8" x 6"

ANCHOR MATERIAL

Carbon Steel, Type 304 and
410 Stainless Steel



PRODUCT DESCRIPTION

The TAPPER™ Anchoring System is a family of screw anchors, specially designed drill bits and installation tools designed to meet the needs of most light to medium duty applications in concrete, block and brick. The TAPPER™ concrete screw anchor is produced in either hex washer head or Phillips flat head styles from Perma-Seal™ coated or zinc plated carbon steel and Type 304 stainless steel. For heavy duty applications, the 3/8" size is made in zinc plated carbon steel.

ANCHOR SIZES AND STYLES

INSTALLATION TOOLS FOR 3/16" AND 1/4" TAPPER

CAT. NO.	DESCRIPTION	MAX SCREW LENGTH	MAX. BIT LENGTH	STD. BOX	WT./ EACH
2791	Combo TAPPER 1000 Tool	4"	5-1/2"	1	3/4
2792	CONDRIVE®* 2000	2-3/4"	4-1/2"	1	3/4
2795	1000 SDS Extension (8")	6"	7-1/2"	1	1/2
2791	Combo 1/4" TAPPER 1000 Tool	4"	5-1/2"	1	3/4

* CONDRIVE® is a Registered Trademark of Illinois Tool Works. This tool cannot be used with SDS Drill Bits or PFH screws.

INSTALLATION TOOL FOR 3/8" TAPPER

CAT. NO.	DESCRIPTION	MAX SCREW LENGTH	MAX. BIT LENGTH	STD. BOX	WT./ EACH
5865	TAPPER 3000 Tool	4"	5-1/2"	1	3/4
5867	3000 Extension (8")	6"	7-1/2"	1	1/2

BLUE PERMA-SEAL TAPPER

CAT. NO. HEX	PFH	SIZE	STD. BOX	STD. CTN.	WT./ 100	DRILL REFERENCES STRAIGHT	SDS HEX
2700	2740	3/16" x 1-1/4"	100	500	3/4	2781	2793
2702	2742	3/16" x 1-3/4"	100	500	1	2781	2793
2704	2744	3/16" x 2-1/4"	100	500	1-1/4	2782	2793
2706	2746	3/16" x 2-3/4"	100	500	1-1/2	2782	2793
2708	2748	3/16" x 3-1/4"	100	500	1-3/4	2783	2794
2710	2750	3/16" x 3-3/4"	100	500	2-1/4	2783	2794
2712	2752	3/16" x 4"	100	500	2-1/2	2783	2794
2720	2760	1/4" x 1-1/4"	100	500	1-1/2	2785	2796
2722	2762	1/4" x 1-3/4"	100	500	1-3/4	2785	2796
2724	2764	1/4" x 2-1/4"	100	500	2	2786	2796
2726	2766	1/4" x 2-3/4"	100	500	2-3/4	2786	2796
2728	2768	1/4" x 3-1/4"	100	500	3-1/4	2787	2797
2730	2770	1/4" x 3-3/4"	100	500	3-3/4	2787	2797
2732	2772	1/4" x 4"	100	500	4-1/2	2787	2797
-	2774	1/4" x 5"	100	100	4-1/2	2788	-
-	2776	1/4" x 6"	100	100	5-1/2	2789	-

WHITE PERMA-SEAL TAPPER

CAT. NO. HEX	PFH	SIZE	STD. BOX	STD. CTN.	WT./ 100	DRILL REFERENCES	
						STRAIGHT	SDS HEX
2440		3/16" x 1-1/4"	100	500	1-1/2	2781	2793
2442		3/16" x 1-3/4"	100	500	1-1/2	2781	2793
2444		3/16" x 2-1/4"	100	500	1-1/2	2782	2793
2446		3/16" x 2-3/4"	100	500	1-1/2	2782	2793
2448		3/16" x 3-1/4"	100	500	1-1/2	2783	2794
2450		3/16" x 3-3/4"	100	500	1-1/2	2783	2794
2449		3/16" x 4"	100	500	1-1/2	2783	2794
2420	2460	1/4" x 1-1/4"	100	500	1-1/2	2785	2796
2422	2462	1/4" x 1-3/4"	100	500	1-3/4	2785	2796
2424	2464	1/4" x 2-1/4"	100	500	2	2786	2796
2426	2466	1/4" x 2-3/4"	100	500	2-3/4	2786	2796
2428	2468	1/4" x 3-1/4"	100	500	3-1/4	2787	2797
2430	2470	1/4" x 3-3/4"	100	500	3-3/4	2787	2797
2435	2472	1/4" x 4"	100	500	4-1/2	2787	2797

COATED SILVER TAPPER

CAT. NO. HEX	PFH	SIZE	STD. BOX	STD. CTN.	WT./ 100	DRILL REFERENCES	
						STRAIGHT	SDS HEX
2498		3/16" x 1-1/4"	100	500	1-1/2	2781	2793
2500		3/16" x 1-3/4"	100	500	1-1/2	2781	2793
2501		3/16" x 2-1/4"	100	500	1-1/2	2782	2793
2502		3/16" x 2-3/4"	100	500	1-1/2	2782	2793
2503		3/16" x 3-1/4"	100	500	1-1/2	2783	2794
2504		3/16" x 3-3/4"	100	500	1-1/2	2783	2794
2505		3/16" x 4"	100	500	1-1/2	2783	2794
2486	2506	1/4" x 1-1/4"	100	500	1-1/2	2785	2796
2488	2507	1/4" x 1-3/4"	100	500	1-3/4	2785	2796
2490	2508	1/4" x 2-1/4"	100	500	2	2786	2796
2492	2509	1/4" x 2-3/4"	100	500	2-3/4	2786	2796
2494	2510	1/4" x 3-1/4"	100	500	3-1/4	2787	2797
2495	2511	1/4" x 3-3/4"	100	500	3-3/4	2787	2797
2496	2512	1/4" x 4"	100	500	4-1/2	2787	2797

ZINC PLATED CARBON STEEL TAPPER

CAT. NO. HEX	PFH	SIZE	STD. BOX	STD. CTN.	WT./ 100	DRILL REFERENCES	
						STRAIGHT	SDS HEX
5826*	5830	1/4" x 1-1/4"	100	500	1-3/4	2785	2796
5827*	5831	1/4" x 1-3/4"	100	500	2-1/4	2785	2796
5828*	5832	1/4" x 2-1/4"	100	500	2-1/2	2786	2796
5829*	5833	1/4" x 2-3/4"	100	500	3	2786	2796
5804	-	3/8" x 2"	100	500	5-1/4	5860	5866
5806	5852	3/8" x 3"	100	500	8-1/4	5860	5866
5808	5854	3/8" x 4"	100	500	11-1/2	5861	5868
-	5856	3/8" x 5"	100	100	13	5862	5868
-	5858	3/8" x 6"	100	100	15-1/2	5863	5868

*3/8" Hex Head

TYPE 304 STAINLESS STEEL TAPPER

CAT. NO. HEX	PFH	SIZE	STD. BOX	STD. CTN.	WT./ 100	DRILL REFERENCES	
						STRAIGHT	SDS HEX
2880	2887	1/4" x 1-1/4"	100	500	1-1/2	2894	2790
2881	2888	1/4" x 1-3/4"	100	500	1-3/4	2894	2790
2882	2889	1/4" x 2-1/4"	100	500	2	2895	2790
2883	2890	1/4" x 2-3/4"	100	500	2-3/4	2895	2790

TYPE 410 STAINLESS STEEL TAPPER

CAT. NO. HEX	PFH	SIZE	STD. BOX	STD. CTN.	WT./ 100	DRILL REFERENCES	
						STRAIGHT	SDS HEX
4110	4118	1/4" x 1-1/4"	100	500	1-1/2	2785	2796
4112	4120	1/4" x 1-3/4"	100	500	1-3/4	2785	2796
4114	4123	1/4" x 2-1/4"	100	500	2	2786	2796
4116	4124	1/4" x 2-3/4"	100	500	2-3/4	2786	2796

BRONZE TAPPER

CAT. NO. FLANGE HEX	PFH	SIZE	STD. BOX	STD. CTN.	WT./ 100	DRILL REFERENCES	
						STRAIGHT	SDS HEX
9977	9975	1/4" x 1-3/4"	100	500	1-3/4	2785	2796
9978	9976	1/4" x 2-1/4"	100	500	2	2786	2796



TAPPER™ DRILL BITS

TAPPER Drill Bits in the diameters listed are nominal size. 3/16" and 1/4" Perma-Seal TAPPER anchors must be installed with special tolerance TAPPER drill bits. 1/4" Stainless Steel TAPPER anchors require the use of specific tolerance TAPPER drill bits, which are gold or silver colored, to denote the standard size and special application size for harder materials. 3/8" diameter TAPPER anchors should be installed with a 1/4" ANSI drill bit.

CARBIDE DRILL BITS FOR PERMA-SEAL AND 410 SS TAPPER

STRAIGHT SHANK

CAT. NO.	SIZE	USABLE LENGTH	STD. TUBE	WT./ 10
2781	5/32" x 3-1/2"	2	10	1/4
2782	5/32" x 4-1/2"	3	10	1/4
2783	5/32" x 5-1/2"	4	10	1/4
2785	3/16" x 3-1/2"	2	10	1/4
2786	3/16" x 4-1/2"	3	10	1/4
2787	3/16" x 5-1/2"	4	10	1/2
2788	3/16" x 6-1/2"	5	10	1/2
2789	3/16" x 7-1/2"	6	10	1/2

HEX SHANK SDS-PLUS

CAT. NO.	SIZE	USABLE LENGTH	STD. TUBE	WT./ 10
2793	5/32" x 5"	3	1	1
2794	5/32" x 7"	5	1	1
2796	3/16" x 5"	3	1	1
2797	3/16" x 7"	5	1	1

CARBIDE DRILL BITS FOR TYPE 304 SS TAPPER

STRAIGHT SHANK

CAT. NO.	SIZE	USABLE LENGTH	STD. TUBE	WT./ 10
2894	3/16" x 3-1/2"	2	10	1/4
2895	3/16" x 4-1/2"	3	10	1/4

HEX SHANK SDS-PLUS

CAT. NO.	SIZE	USABLE LENGTH	STD. TUBE	WT./ 10
2790	3/16" x 5"	3	1	1

CARBIDE DRILL BITS FOR 3/8" TAPPER
STRAIGHT SHANK

CAT. NO.	SIZE	USABLE LENGTH	STD. TUBE	WT./10
5860	1/4" x 4-1/2"	3	5	1/2
5861	1/4" x 5-1/2"	4	5	1/2
5862	1/4" x 6-1/2"	5	5	3/4
5863	1/4" x 7-1/2"	6	5	3/4

SDS HEX

CAT. NO.	SIZE	USABLE LENGTH	STD. TUBE	WT./10
5866	1/4" x 6"	4	1	1-1/2
5868	1/4" x 8"	6	1	1-3/4

INSTALLATION SPECIFICATIONS
PERMA-SEAL CARBON STEEL HEX HEAD TAPPER

ANCHOR SIZE	3/16"	1/4"
TAPPER Drill Bit Size	5/32"	3/16"
Fixture Clearance Hole	1/4"	5/16"
Thread Size	11-16	1/4-15
Coating	Perma-Seal Fluoropolymer	

PERMA-SEAL CARBON STEEL FLAT HEAD TAPPER

ANCHOR SIZE	3/16"	1/4"
TAPPER Drill Bit Size	5/32"	3/16"
Fixture Clearance Hole	1/4"	5/16"
Thread Size	11-16	1/4-15
Phillips Bit Size	2	3
Coating	Perma-Seal Fluoropolymer	

3/8" ZINC PLATED CARBON STEEL TAPPER®

ANCHOR SIZE	3/8" HEX	3/8" PFH
TAPPER Drill Bit Size	1/4"	1/4"
Fixture Clearance Hole	5/16"	5/16"
Thread Size	5/16 -18	5/16 -18
Zinc Plating	ASTM B 633, SC1, Type III (Fe/Zn 5)	

304 STAINLESS STEEL HEX HEAD TAPPER

ANCHOR SIZE	1/4" HEX	1/4" PFH
TAPPER Drill Bit Size	3/16"	3/16"
Fixture Clearance Hole	5/16"	5/16"
Thread Size	1/4 -14	1/4 -14

410 STAINLESS STEEL TAPPER

ANCHOR SIZE	1/4" HEX	1/4" PFH
TAPPER Drill Bit Size	3/16"	3/16"
Fixture Clearance Hole	5/16"	5/16"
Thread Size	1/4 -14	1/4 -14

1/4" ZINC PLATED CARBON STEEL TAPPER

ANCHOR SIZE	1/4" HEX	1/4" PFH
Drill Bit Size	5/16"	5/16"
Fixture Clearance Hole	5/16"	5/16"
Head Size / Phillips Bit Size	3/8"	#3

PERFORMANCE DATA

ULTIMATE LOAD CAPACITIES - CONCRETE (CARBON STEEL)

ANCHOR SIZE (IN)	EMBED. DEPTH (IN)	2,000 PSI TENSION (LBS)	CONCRETE SHEAR (LBS)	4,000 PSI TENSION (LBS)	CONCRETE SHEAR (LBS)	6,000 PSI TENSION (LBS)	CONCRETE SHEAR (LBS)
3/16"	1"	330	700	615	775	710	980
3/16"	1-1/4"	520	840	695	960	840	1,090
3/16"	1-3/8v	700	910	855	1,010	1,060	1,135
3/16"	1-1/2"	880	980	1,055	1,060	1,275	1,180
3/16"	1-3/4"	1,180	1,000	1,500	1,060	1,570	1,290
1/4"	1"	620	830	1,060	1,015	1,140	1,320
1/4"	1-1/4"	810	1,130	1,345	1,490	1,445	1,630
1/4"	1-3/8"	905	1,280	1,485	1,560	1,615	1,805
1/4"	1-1/2"	1,000	1,430	1,630	1,635	1,770	1,980
1/4"	1-3/4"	1,630	1,480	1,750	1,635	2,195	2,260
3/8"	1"	700	960	760	1,170	1,055	1,200
3/8"	1-1/4"	905	1,475	1,150	1,950	1,570	2,000
3/8"	1-1/2"	1,110	1,990	1,540	2,655	2,120	2,700
3/8"	1-3/4"	1,530	2,330	2,170	2,915	2,590	2,950

ULTIMATE LOAD CAPACITIES - C-90 HOLLOW BLOCK (CARBON STEEL)

ANCHOR SIZE (IN)	EMBED. DEPTH (IN)	TENSION (LBS)	ASTM C-90 HOLLOW BLOCK SHEAR (LBS)
3/8"	1"	840	1,150
3/8"	1-1/4"	1,020	1,270
3/8"	1-1/2"	1,250	1,680
3/8"	1-3/4"	1,480	1,825

ULTIMATE LOAD CAPACITIES - C-90 HOLLOW BLOCK AND SOLID RED BRICK (CARBON STEEL)

ANCHOR SIZE (IN)	EMBED. DEPTH (IN)	TENSION (LBS)	ASTM C-90 HOLLOW BLOCK SHEAR (LBS)
3/16v	1"	445	920
3/16"	1-1/4"	530	1,020
3/16"	1-3/8"	610	1,225
3/16"	1-1/2v	610	1,225
3/16"	1-3/4"	610	1,225
1/4"	1"	720	1,150
1/4"	1-1/4"	880	1,270
1/4"	1-3/8"	1,205	1,825
1/4"	1-1/2"	1,205	1,825
1/4"	1-3/4"	1,205	1,825

ANCHOR SIZE (IN)	EMBED. DEPTH (IN)	TENSION (LBS)	SOLID RED BRICK SHEAR (LBS)
3/16"	1"	620	980
3/16"	1-1/4"	1,070	1,090
3/16"	1-3/8"	1,145	1,160
3/16"	1-1/2"	1,220	1,230
3/16"	1-3/4"	1,330	1,340
1/4"	1"	940	1,720
1/4"	1-1/4"	1,160	1,840
1/4"	1-3/8"	1,240	1,885
1/4"	1-1/2"	1,320	1,930
1/4"	1-3/4"	1,420	2,130
3/8"	1"	1,020	1,820
3/8"	1-1/4v	1,380	2,360
3/8"	1-1/2"	1,560	2,620
3/8"	1-3/4"	1,640	2,740

PERFORMANCE DATA
ULTIMATE LOAD CAPACITIES - CONCRETE (STAINLESS STEEL)

ANCHOR SIZE (IN)	EMBED. DEPTH (IN)	2,000 PSI CONCRETE TENSION (LBS)	CONCRETE SHEAR (LBS)	4,000 PSI CONCRETE TENSION (LBS)	CONCRETE SHEAR (LBS)	6,000 PSI CONCRETE TENSION (LBS)	CONCRETE SHEAR (LBS)
1/4"	1"	570	1,190	710	1,270	825	1,270
1/4"	1-1/4"	855	1,265	1,015	1,400	1,215	1,400
1/4"	1-1/2"	1,140	1,340	1,320	1,530	1,580	1,530
1/4"	1-3/4"	1,940	1,710	1,720	1,710	1,975	1,710

ULTIMATE LOAD CAPACITIES - C-90 HOLLOW BLOCK AND SOLID RED BRICK (STAINLESS STEEL)

ANCHOR SIZE (IN)	EMBED. DEPTH (IN)	TENSION (LBS)	ASTM C-90 HOLLOW BLOCK SHEAR (LBS)
1/4"	1"	575	920
1/4"	1-1/4"	590	1,020
1/4"	1-1/2"	720	1,225
1/4v	1-3/4"	720	1,225

ANCHOR SIZE (IN)	EMBED. DEPTH (IN)	TENSION (LBS)	SOLID RED BRICK SHEAR (LBS)
1/4"	1"	580	1,150
1/4"	1-1/4"	640	1,320
1/4"	1-1/2"	760	1,380
1/4"	1-3/4"	760	1,380

APPROVALS AND LISTINGS

ICC-ES Evaluation Report No. 5878

Miami-Dade NOA 03-0303.14

Florida Statewide Approval No. 2209.9

SBCCI Report No. 9944A

City of Los Angeles Research Report No. 25548



3/16" Wedge-Bolt®

BASE MATERIAL

Concrete, Block, Brick, Stone

SIZE RANGE

3/16" x 1-1/4" to 3/16" x 2-3/4"

ANCHOR MATERIAL

Heat Treated, Carbon Steel

PRODUCT DESCRIPTION

The 3/16" Wedge-Bolt® anchor is a one-piece screw anchor with either a finished hex head or countersunk Phillips flat. head. It is easy to identify, removable and vibration-resistant.

CARBON STEEL HEX HEAD 3/16" WEDGE-BOLT

CAT. NO.	SIZE	MIN. EMBED.	THREAD LENGTH	STD. BOX	STD. CTN.	WT./ 100
7000*	3/16" x 1-1/4"	1"	1-3/8"	100	500	1-3/4
7002*	3/16" x 1-3/4"	1"	1-5/8"	100	500	2-1/4
7004*	3/16" x 2-1/4"	1"	2"	100	500	2-1/2
7006*	3/16" x 2-3/4"	1"	2-1/2"	100	500	3

CARBON STEEL PHILLIPS FLAT HEAD 3/16" WEDGE-BOLT

CAT. NO.	SIZE	MIN. EMBED.	THREAD LENGTH	STD. BOX	STD. CTN.	WT./ 100
7100*	3/16" x 1-1/4"	1"	1"	100	500	1-1/4
7102*	3/16" x 1-3/4"	1"	1-1/2"	100	500	1-3/4
7104*	3/16" x 2-1/4"	1"	2"	100	500	2
7106*	3/16" x 2-3/4"	1"	2-1/2"	100	500	3-1/2

The published length is the overall length of the anchor.

* 3/16" Wedge-Bolt anchors do not have a Blue Tip. Use 3/16" Tapper Bits for installation.

PERFORMANCE DATA

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

ANCHOR SIZE	EMBED. DEPTH	2,000 PSI CONCRETE		3,000 PSI CONCRETE		4,000 PSI CONCRETE		5,000 PSI CONCRETE		6,000 PSI CONCRETE	
		TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)
3/16"	1"	660	1,300	800	1,465	945	1,630	1,090	1,800	1,250	1,920
3/16"	1-1/8"	775	1,485	970	1,590	1,170	1,700	1,370	1,810	1,475	1,920
3/16"	1-1/4"	895	1,675	1,155	1,725	1,385	1,775	1,650	1,825	1,700	1,930
3/16"	1-3/8"	1,010	1,840	1,315	1,840	1,620	1,840	1,930	1,840	1,930	1,930
3/16"	1-1/2"	1,130	1,955	1,465	1,955	1,800	1,955	2,140	1,955	2,140	2,025
3/16"	1-5/8"	1,345	2,075	1,680	2,075	2,015	2,075	2,355	2,075	2,355	2,120
3/16"	1-3/4"	1,560	2,165	1,895	2,175	2,230	2,185	2,570	2,195	2,570	2,200
3/16"	1-7/8"	1,775	2,220	-	-	-	-	-	-	-	-
3/16"	2"	1,990	2,280	-	-	-	-	-	-	-	-

Ultimate load values should be reduced by a minimum safety factor of 4 or greater to determine the allowable working load. All anchors were installed in holes drilled with 3/16" diameter (TAPPER) drill bits that have a tolerance range of 0.202" to 0.204". All anchors were installed using the TAPPER 1000 Installation (Combo Kit) Tool - Catalog Number 2791. To avoid installation problems in denser concrete base materials having compressive strengths over 2,000 psi, select an anchor length that results in an embedment depth that does not exceed 1-3/4".



NEW!

Snake™

BASE MATERIAL

Concrete

SIZE RANGE

1/4" and 3/8"

ANCHOR MATERIAL

Carbon Steel

PRODUCT DESCRIPTION

The Snake™ anchor is an all-steel, self-tapping, machine bolt anchor designed for use in concrete and is suitable for overhead applications. The anchor can be installed with a wrench or with a power tool and mechanically interlocks with the base material. A hammer is not required for installation.

ANCHOR SIZES

CARBON STEEL SNAKE ANCHOR

CAT. NO.	SIZE	DRILL DIA.	MIN. EMBED.	THREAD DEPTH	STD. BOX	STD. CTN.
6400	1/4"	5/16"	1-1/8"	1/4"	100	1000
6401	3/8"	1/2"	1-3/8"	5/16"	50	500

SETTING TOOL FOR SNAKE ANCHOR

CAT. NO.	SIZE	STD. BOX	STD. CTN.
6402	1/4"	1	100
6403	3/8"	1	250

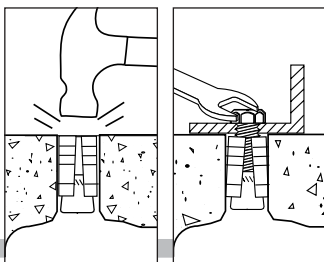
INSTALLATION SPECIFICATIONS

Anchor Size	1/4"	3/8"
ANSI Drill Bit Size	5/16"	1/2"
Max. Clamping Torque	4	8
Internal Thread Size	1/4" - 20"	3/8" - 16"

PERFORMANCE DATA

AVERAGE ULTIMATE LOAD CAPACITIES

ANCHOR SIZE (IN)	EMBED. DEPTH (IN)	2,000 PSI CONCRETE TENSION (LBS)	CONCRETE SHEAR (LBS)	3,000 PSI CONCRETE TENSION (LBS)	CONCRETE SHEAR (LBS)	4,000 PSI CONCRETE TENSION (LBS)	CONCRETE SHEAR (LBS)
1/4"	1-1/8"	980	1,250	1,180	1,450	1,250	1,650
3/8"	1-3/8"	1,565	2,850	1,845	3,535	2,230	4,220



Hollow-Set™ Dropin

BASE MATERIAL

Concrete, Block, Brick,
Precast Hollow Core Plank, Stone

SIZE RANGE

1/4" to 5/8"

ANCHOR MATERIAL

Zamac Alloy with Carbon Steel or Stainless Steel Cones

PRODUCT DESCRIPTION

The Hollow-Set™ Dropin anchor is designed for anchoring in hollow base materials such as hollow concrete block, brick with weep holes and hollow core pre-cast concrete plank. It can also be used in solid base materials. Hollow masonry materials often have a minimum outer wall thickness of 1-1/2". During the drilling process, spalling on the back side of the wall often decreases the wall thickness available for anchoring to 1" or less. The design of the Hollow-Set™ Dropin overcomes this problem.

ANCHOR SIZES

CAT. NO. CS	SS	ANCHOR SIZE	DRILL DIA.	OVERALL LENGTH	SLEEVE LENGTH	STD. BOX	STD. CTN.	WT./ 100
9320	9420	1/4"	3/8"	7/8"	5/8"	100	1000	1-3/4
9330	-	5/16"	5/8"	1-5/16"	15/16"	100	500	5-1/2
9340	9440	3/8"	5/8"	1-5/16"	15/16"	100	500	5-1/2
9350	-	1/2"	3/4"	1-3/4"	1-1/4"	100	100	9-1/2
9360	-	5/8"	1"	2"	1-1/2"	100	100	21

SETTING TOOLS

ANCHOR	1/4"	5/16"	3/8"	1/2"	5/8"
Hollow Tool	9323	9333	9343	9353	9363
Solid Tool	9322	9332	9342	9352	9362

INSTALLATION SPECIFICATIONS

ANCHOR SIZE	1/4"	5/16"	3/8"	1/2"	5/8"
ANSI Drill Bit Size	3/8"	5/8"	5/8"	3/4"	1"
Max Torque (ft.-lbs.)	5	7	10	20	40
Thread Size (UNC)	1/4-20	5/16-18	3/8-16	1/2-13	5/8-11
Thread Length in cone	3/8"	5/8"	5/8"	3/4"	1"

MATERIAL SPECIFICATIONS

ANCHOR COMPONENT	CARBON STEEL	STAINLESS STEEL
Anchor Body	Zamac Alloy	Zamac Alloy
Cone	AISI 12L14	Type 304 SS
Plating (Cone)	ASTM B633, SC1, Type III (Fe/Zn 5)	N/A

PERFORMANCE DATA

ULTIMATE LOAD CAPACITIES - CONCRETE (CARBON AND STAINLESS STEEL CONE)

ANCHOR SIZE (IN)	DRILL BIT (IN)	EMBED. DEPTH (IN)	2,000 PSI CONCRETE TENSION (LBS)	CONCRETE SHEAR (LBS)	4,000 PSI CONCRETE TENSION (LBS)	CONCRETE SHEAR (LBS)	6,000 PSI CONCRETE TENSION (LBS)	CONCRETE SHEAR (LBS)
1/4	3/8	3/4	760	1,200	1,140	1,200	1,440	1,200
1/4	3/8	7/8	1,000	1,440	1,305	1,440	2,045	1,440
5/16	5/8	3/4	840	1,840	1,240	1,840	1,500	1,840
5/16	5/8	1	1,120	1,980	1,680	1,980	2,200	1,980
5/16	5/8	1-1/2	2,710	2,740	3,405	2,740	5,110	2,740
3/8	5/8	3/4	960	2,230	1,460	2,230	1,660	2,230
3/8	5/8	1	1,370	2,550	2,070	2,550	2,290	2,550
3/8	5/8	1-1/2	3,010	3,145	4,315	3,145	5,085	3,145
1/2	3/4	1-1/2	2,140	4,015	4,025	4,015	7,285	4,015
1/2	3/4	2	3,420	4,020	5,370	4,020	9,705	4,020
5/8	1	2-1/4	5,725	6,400	9,660	6,400	12,745	6,400

ULTIMATE LOAD CAPACITIES - HOLLOW CONCRETE PLANK (CARBON AND STAINLESS STEEL CONE)

ANCHOR SIZE (IN)	DRILL BIT (IN)	EMBED. DEPTH (IN)	5,000 PSI CONCRETE TENSION (LBS)	CONCRETE PLANK SHEAR (LBS)
1/4	3/8	7/8	1,190	1,440
5/16	5/8	1-1/2	2,280	2,740
3/8	5/8	3/4	2,525	2,740
3/8	5/8	1-1/2	3,620	3,145
1/2	3/4	1-1/2	5,420	5,580
5/8	1	1-1/2	9,660	8,320

ULTIMATE LOAD CAPACITIES - C-90 BLOCK AND SOLID BRICK

ANCHOR SIZE	EMBED. DEPTH	C-90 HOLLOW BLOCK	
		TENSION (LBS.)	SHEAR (LBS.)
1/4"	*7/8"	650	1,575
5/16"	*1-1/2"	1,050	1,815
3/8"	*1-1/2"	1,050	2,485
1/2"	*1-1/2"	1,275	3,655
5/8"	*1-1/2"	1,540	3,740

ANCHOR SIZE	EMBED. DEPTH	SOLID RED BRICK	
		TENSION (LBS.)	SHEAR (LBS.)
1/4"	7/8"	880	1,640
5/16"	1-1/2"	1,460	2,230
3/8"	1-1/2"	1,860	2,980
1/2"	1-1/2"	3,240	4,230
5/8"	2-1/4"	4,680	6,420

APPROVALS AND LISTINGS

ICC-ES Evaluation Service Report No. 1532

City of Los Angeles Research Report No. 24960

Underwriters Laboratories File EX 1289

Federal Specification

Meets the proof load requirements of FF-S-325C, Group II, Type 3, Class 1 (superseded)



DROPINS



Steel Dropin

BASE MATERIAL

Solid Concrete, Solid Block, Hard Stone

SIZE RANGE

1/4" to 3/4" Standard Thread, 1/2" & 3/4" in Coil Thread

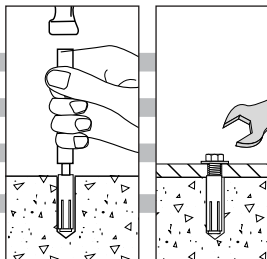
ANCHOR MATERIAL

Carbon Steel and Type 303 or 316 Stainless Steel

PRODUCT DESCRIPTION

The Steel Dropin is an all-steel, machine bolt anchor available in carbon steel and two types of stainless steel.

It can be used in solid concrete, hard stone, and solid block. A coil-thread version for forming applications is also available.



ANCHOR SIZES AND STYLES

CARBON STEEL - SMOOTH WALL DROPIN

CAT. NO.	SIZE	DRILL DIA.	MIN. HOLE DEPTH	THREAD DEPTH	STD. BOX	STD. CTN.	WT./ 100
6304	1/4"	3/8"	1"	7/16"	100	1000	2
6306	3/8"	1/2"	1-9/16"	5/8"	50	500	6
6308	1/2"	5/8"	2"	13/16"	50	250	12
6320	5/8"	7/8"	2-1/2"	1-3/16"	25	125	32
6312	3/4"	1"	3-3/16"	1-3/8"	10	50	48

CARBON STEEL FLANGED DROPIN (LIPPED)

CAT. NO.	SIZE	DRILL DIA.	MIN. HOLE DEPTH	THREAD DEPTH	STD. BOX	STD. CTN.	WT./ 100
6324	1/4"	3/8"	1"	7/16"	100	1000	2
6326	3/8"	1/2"	1-9/16"	5/8"	50	500	6
6328	1/2"	5/8"	2"	13/16"	50	250	12

TYPE 303 STAINLESS STEEL DROPIN

CAT. NO.	SIZE	DRILL DIA.	MIN. HOLE DEPTH	THREAD DEPTH	STD. BOX	STD. CTN.	WT./ 100
6204	1/4"	3/8"	1"	7/16"	100	1000	2
6206	3/8"	1/2"	1-9/16"	5/8"	50	500	6
6208	1/2"	5/8"	2"	13/16"	50	250	12
6210	5/8"	7/8"	2-1/2"	1-3/16"	25	125	32
6212	3/4"	1"	3-3/16"	1-3/8"	10	50	48

TYPE 316 STAINLESS STEEL DROPIN

CAT. NO.	SIZE	DRILL DIA.	MIN. HOLE DEPTH	THREAD DEPTH	STD. BOX	STD. CTN.	WT./ 100
6224	1/4"	3/8"	1"	7/16"	100	1000	2
6226	3/8"	1/2"	1-9/16"	5/8"	50	500	6
6228	1/2"	5/8"	2"	13/16"	50	250	12
6230	5/8"	7/8"	2-1/2"	1-3/16"	25	125	32
6232	3/4"	1"	3-3/16"	1-3/8"	10	50	48

CARBON STEEL COIL THREAD DROPIN

CAT. NO.	SIZE	DRILL DIA.	MIN. HOLE DEPTH	THREAD DEPTH	STD. BOX	STD. CTN.	WT./ 100
6330	1/2"	5/8"	2"	13/16"	50	250	12
6332	3/4"	1"	3-3/16"	1-3/8"	10	50	48

SETTING TOOLS FOR INTERNAL PLUG DROPIN

CAT. NO.	6305	6307	6309	6311	6313
Size	1/4"	3/8"	1/2"	5/8"	3/4"
Pin Length	.615"	.955"	1.184"	1.312"	1.950"

INSTALLATION SPECIFICATIONS

ANCHOR SIZE	1/4"	3/8"	1/2"	1/2" COIL THREAD	5/8"	3/4"	3/4" COIL THREAD
ANSI Drill Bit Size	3/8"	1/2"	5/8"	5/8"	7/8"	1"	1"
Max Torque (ft.-lbs.)	5	10	20	20	40	80	80
Thread Size	1/4-20	3/8-16	1/2-13	1/2-6	5/8-11	3/4-10	3/4 - 4 1/2
*Flange Size	7/16"	9/16"	45/64"	-	-	-	-

MATERIAL SPECIFICATIONS

ANCHOR COMPONENT	CARBON STEEL	TYPE 303 SS STEEL	TYPE 316 SS STEEL
Anchor Body	AISI 12L14	Type 303 SS	Type 316 SS
Plug	AISI 1018	Type 303 SS	Type 316 SS
Plating	ASTM B633, SC1, Type III (Fe/Zn 5)	N/A	N/A

PERFORMANCE DATA

ULTIMATE LOAD CAPACITIES - CONCRETE (CARBON AND STAINLESS STEEL)

ANCHOR SIZE (IN)	DRILL BIT (IN)	EMBED. DEPTH (IN)	2,000 PSI CONCRETE TENSION (LBS)	CONCRETE SHEAR (LBS)	4,000 PSI CONCRETE TENSION (LBS)	CONCRETE SHEAR (LBS)	6,000 PSI CONCRETE TENSION (LBS)	CONCRETE SHEAR (LBS)
1/4	3/8	1	1,140	2,120	1,985	2,120	2,080	2,120
3/8	1/2	1-9/16	2,180	4,585	4,180	4,585	4,950	4,585
1/2	5/8	2	4,105	6,400	5,760	6,400	6,585	6,400
5/8	7/8	2-1/2	5,670	10,460	7,440	12,380	10,920	12,380
3/4	1	3-3/16	8,580	15,680	14,405	15,680	17,300	15,680

ULTIMATE LOAD CAPACITIES - LIGHTWEIGHT CONCRETE

ANCHOR SIZE	EMBED. DEPTH	3000 PSI LIGHTWEIGHT CONCRETE	
		TENSION (LBS.)	SHEAR (LBS.)
1/4"	1"	1,890	1,420
3/8"	1-9/16"	3,060	3,790
1/2"	2"	3,960	5,740
5/8"	2-1/2"	5,240	10,860
3/4"	3-3/16"	7,970	14,800

APPROVALS AND LISTINGS

ICC-ES Evaluation Service Report No. 1532

City of Los Angeles Research Report No. 24960

SBCCI Report No. 9943A

Factory Mutual Research Corporation J.I. OK4A9.AH

Underwriters Laboratories File EX 1289

Federal Specification

Meets the descriptive requirements of FF-S-325C, Group VIII, Type 1 (superseded).

Miami-Dade NOA 03-0311.08

Florida Statewide Approval No. FL2209.8



Mini Dropin

BASE MATERIAL

Precast Hollow Core Plank, Concrete

SIZE RANGE

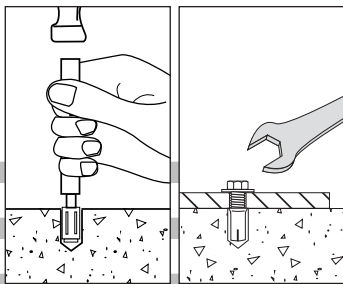
1/4", 3/8" and 1/2"

ANCHOR MATERIAL

Carbon Steel

PRODUCT DESCRIPTION

The Mini Dropin is a carbon steel, machine bolt anchor for use in shallow embedment applications. Besides, solid concrete and hollow core concrete plank, it can be used in hard stone and solid block. It may also be used in overhead applications.



ANCHOR SIZES AND STYLES

CARBON STEEL MINI DROPIN

CAT. NO.	SIZE	DRILL DIA.	MIN. DEPTH	THREAD DEPTH	STD. BOX	STD. CTN.
6335	1/4"	3/8"	5/8"	3/8"	100	1000
6322	3/8"	1/2"	3/4"	13/32"	100	1000
6337	1/2"	5/8"	1"	5/8"	50	500

SETTING TOOL FOR MINI DROPIN

CAT. NO.	SIZE	STD. BOX	STD. CTN.
6336	1/4"	1	50
6323	3/8"	1	50
6338	1/2"	1	50

INSTALLATION SPECIFICATIONS

ANCHOR SIZE	1/4"	3/8"	1/2"
ANSI Drill Bit Size	3/8	1/2	5/8"
Max Torque (ft.-lbs.)	3	5	10
Thread Size	1/4"-20	3/8"-16	1/2"-13

PERFORMANCE DATA

AVERAGE ULTIMATE LOAD CAPACITIES

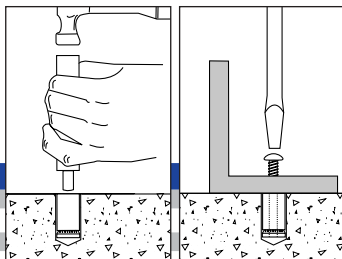
ANCHOR SIZE	EMBED. DEPTH	2,000 PSI CONCRETE		4,000 PSI CONCRETE		6,000 PSI CONCRETE	
		TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)
1/4"	5/8"	550	1,250	1,105	1,650	1,300	1,650
3/8"	3/4"	1,380	2,850	2,120	4,220	2,270	4,220
1/2"	1"	1,950	3,900	3,055	4,875	3,750	4,875

APPROVALS AND LISTINGS

Factory Mutual Research Corporation- J.I. 3002071

Federal Specification

Meets the descriptive requirements of FF-S-325C, Group VIII, Type 1 (superseded)



Calk-In™

MACHINE SCREW ANCHOR

BASE MATERIAL

Concrete, Block, Brick, Stone

SIZE RANGE

6 - 32 to 3/4" - 10

ANCHOR MATERIAL

Zamac Alloy and Lead

PRODUCT DESCRIPTION

The Calk-In™ is a pre-assembled precision cast calking type machine bolt anchor which can be used in concrete, block, brick or stone. The anchor consists of an antimonial lead alloy calking sleeve and a Zamac alloy internally-threaded expander cone.

ANCHOR SIZES

CAT. NO.	SIZE	DRILL DIA.	MIN. HOLE DEPTH	STD. BOX	STD. CTN.	WT./100
9200*	6-32	5/16"	1/2"	100	1000	1
9205	8-32	5/16"	1/2"	100	1000	1
9210	10-24	3/8"	5/8"	100	1000	1-3/4
9220	1/4-20	1/2"	7/8"	100	1000	4-1/2
9225	5/16-18	5/8"	1"	50	250	7-3/4
9230	3/8-16	3/4"	1-1/4"	50	250	14
9240	1/2-13	7/8"	1-1/2"	50	250	19
9245	5/8-11	1-1/8"	2"	50	50	39
9250	3/4-10	1-1/4"	2-1/4"	50	50	55

SETTING TOOLS

CAT. NO.	9201	9211	9221	9226	9231	9241	9246	9251
Size	6 & 8	10	1/4	5/16	3/8	1/2	5/8	3/4

INSTALLATION SPECIFICATIONS

ANCHOR SIZE	6-32	8-32	10-24	1/4"	
ANSI Drill Bit Size	5/16"	5/16"	3/8"	1/2"	
Max Torque (in.-lbs.)	10	15	20	60	
Thread Length in Cone	13/32"	13/32"	15/32"	19/32"	
ANCHOR SIZE	5/16"	3/8"	1/2"	5/8"	3/4"
ANSI Drill Bit Size	5/8"	3/4"	7/8"	1-1/8"	1-1/4"
Max Torque (ft.-lbs.)	7	10	15	25	40
Thread Length in Cone	3/4"	1"	1-1/8"	1-9/32"	1-1/4"

PERFORMANCE DATA

ULTIMATE LOAD CAPACITIES - CONCRETE

ANCHOR SIZE	DRILL BIT (IN)	EMBED. DEPTH (IN)	2,000 PSI CONCRETE TENSION (LBS)	CONCRETE SHEAR (LBS)	4,000 PSI CONCRETE TENSION (LBS)	CONCRETE SHEAR (LBS)	6,000 PSI CONCRETE TENSION (LBS)	CONCRETE SHEAR (LBS)
6 - 32	5/16	1/2	610	180	770	220	820	220
8 - 32	5/16	1/2	840	565	915	655	950	655
10 - 24	3/8	5/8	960	885	1,215	940	1,380	940
1/4" - 20	1/2	7/8	1,870	1,355	2,340	1,410	2,440	1,410
5/16" - 18	5/8	1	2,250	1,880	2,445	2,070	3,030	2,070
3/8" - 16	3/4	1-1/4	2,625	2,700	3,105	3,305	3,600	3,305
1/2" - 13	7/8	1-1/2	4,260	3,995	4,370	4,545	4,895	4,545
5/8" - 11	1-1/8	2	7,385	8,340	8,485	9,930	8,900	9,930
3/4" - 10	1-1/4	2-1/4	7,810	10,385	8,975	12,170	9,325	12,170

APPROVALS AND LISTINGS

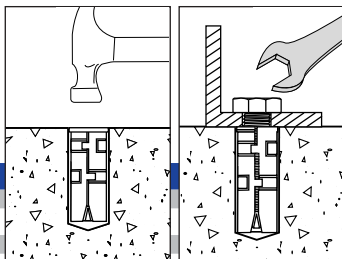
SBCCI Report No. 9944A

Federal Specification

Miami-Dade NOA 03-0311.08

Meets the descriptive requirements of FF-S-325C, Group I, Type 1, Class 1 (superseded) & CID A-A-1922A, Type 1.

Florida Statewide Approval No. FL2209.1



Single™

SINGLE EXPANSION ANCHOR

BASE MATERIAL

Concrete, Block, Brick and Stone

SIZE RANGE

1/4" to 3/4"

ANCHOR MATERIAL

Zamac Alloy

PRODUCT DESCRIPTION

The Single™ is a machine bolt anchor designed for use in concrete, and some block, brick and stone base materials. The anchor consists of a pre-assembled set of expansion shields and an expander cone formed from Zamac alloy.

ANCHOR SIZES

CAT. NO.	SIZE	ANCHOR LENGTH	DRILL DIA.	MIN. HOLE DEPTH	STD. BOX	STD. CTN.	WT./100
9650	1/4"	1-5/16"	1/2"	1-3/8"	50	250	3-3/4
9655	5/16"	1-1/2"	5/8"	1-5/8"	50	250	5-1/2
9665	3/8"	1-1/2"	5/8"	1-5/8"	50	250	5-1/4
9675	1/2"	2-1/16"	7/8"	2-1/2"	25	125	15-1/4
9685	5/8"	2-5/8"	1"	2-3/4"	25	125	24
9695	3/4"	2-3/4"	1-1/4"	2-7/8"	10	100	43

INSTALLATION SPECIFICATIONS

ANCHOR SIZE	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"
ANSI Drill Bit Size	1/2"	5/8"	5/8"	7/8"	1"	1-1/4"
Max Torque (ft.-lbs.)	5	7	10	20	30	40
Thread Size	1/4-20	5/16-18	3/8-16	1/2-13	5/8-11	3/4-10
Thread Length in Cone	5/16"	5/16"	5/16"	7/16"	5/8"	11/16"

PERFORMANCE DATA

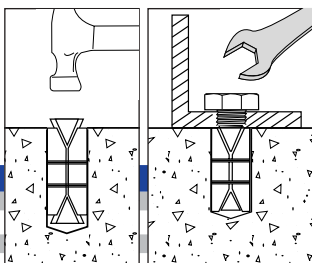
ULTIMATE LOAD CAPACITIES - CONCRETE

ANCHOR SIZE (IN)	DRILL BIT (IN)	EMBED. DEPTH (IN)	2,000 PSI CONCRETE TENSION (LBS)	CONCRETE SHEAR (LBS)	4,000 PSI CONCRETE TENSION (LBS)	CONCRETE SHEAR (LBS)	6,000 PSI CONCRETE TENSION (LBS)	CONCRETE SHEAR (LBS)
1/4	1/2	1-3/8	885	1,585	2,000	1,620	2,310	1,910
5/16	5/8	1-5/8	1,380	2,045	2,100	2,375	2,460	2,535
3/8	5/8	1-5/8	1,660	3,590	2,900	3,795	3,370	5,375
1/2	7/8	2-1/2	2,990	5,345	4,900	6,155	5,100	9,900
5/8	1	2-3/4	4,950	10,710	8,200	11,410	8,830	12,870
3/4	1-1/4	2-7/8	6,415	14,560	10,600	17,775	11,040	19,310

APPROVALS AND LISTINGS

Federal Specification

Meets the descriptive requirements of FF-S-325C, Group II, Type 2, Class 2, Style 1 (superseded) and CID A-A-1923A, Type 2.



Double™

DOUBLE™ EXPANSION ANCHOR

BASE MATERIAL

Concrete, Block, Brick, Stone, Cindercrete

SIZE RANGE ANCHOR MATERIAL

1/4" to 3/4" Zamac Alloy

PRODUCT DESCRIPTION

The Double™ is a dual expansion machine bolt anchor particularly suited for materials of questionable strength. It can be used in solid concrete and some block, brick and stone base materials.

ANCHOR SIZES AND STYLES

CAT. NO.	SIZE	ANCHOR LENGTH	DRILL DIA.	MIN. HOLE DEPTH	STD. BOX	STD. CTN.	WT./ 100
9510	1/4"	1-3/8"	1/2"	1-1/4"	50	500	4
9515	5/16"	1-5/8"	5/8"	1-1/2"	50	500	7-1/2
9520	3/8"	2"	3/4"	1-3/4"	50	250	12-1/2
9525	1/2"	2-1/2"	7/8"	2-1/4"	25	250	18
9530	5/8"	2-3/4"	1"	2-1/2"	25	100	25-1/2
9535	3/4"	3-15/16"	1-1/4"	3-1/2"	10	50	54-1/2

INSTALLATION SPECIFICATIONS

ANCHOR SIZE	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"
ANSI Drill Bit Size	1/2"	5/8"	3/4"	7/8"	1"	1-1/4"
Max Torque (ft.-lbs.)	5	7	10	20	30	60
Sleeve Length	1"	1-3/16"	1-9/16"	2"	2-1/4"	3-1/4"
Thread Size	1/4-20	5/16-18	3/8-16	1/2-13	5/8-11	3/4-10
Thread Length in Cone	1/2"	1/2"	5/8"	3/4"	7/8"	1-1/8"

PERFORMANCE DATA

ULTIMATE LOAD CAPACITIES - CONCRETE

ANCHOR SIZE (IN)	DRILL BIT (IN)	EMBED. DEPTH (IN)	2,000 PSI CONCRETE TENSION (LBS)	CONCRETE SHEAR (LBS)	4,000 PSI CONCRETE TENSION (LBS)	CONCRETE SHEAR (LBS)	6,000 PSI CONCRETE TENSION (LBS)	CONCRETE SHEAR (LBS)
1/4	1/2	1-1/4	1,290	1,585	1,650	1,620	2,220	1,910
5/16	5/8	1-1/2	1,610	2,040	2,200	2,375	2,540	2,535
3/8	3/4	1-3/4	2,275	3,590	3,500	4,000	4,115	5,370
1/2	7/8	2-1/4	4,710	5,345	6,500	6,155	6,635	9,900
5/8	1	2-1/2	5,045	10,710	7,000	11,410	7,660	12,870
3/4	1-1/4	3-1/2	10,005	14,565	14,000	17,775	15,350	19,310

ULTIMATE LOAD CAPACITIES - C-90 HOLLOW BLOCK & SOLID RED BRICK

ANCHOR SIZE (IN)	DRILL BIT (IN)	EMBED. DEPTH* (IN)	ASTM C-90 HLW BLK TENSION (LBS)	HLW BLK SHEAR (LBS)	SOLID RED BRICK TENSION (LBS)	SOLID RED BRICK SHEAR (LBS)
1/4	1/2	1-1/4	885	1,350	1,175	1,585
5/16	5/8	1-1/2	1,295	1,635	1,585	2,040
3/8	3/4	1-1/2	1,575	2,160	1,830	3,590
1/2	7/8	1-1/2	2,710	3,130	3,420	5,185
5/8	1	-	-	-	5,245	6,055
3/4	1-1/4	-	-	-	7,055	7,935

APPROVALS AND LISTINGS

Federal Specification

Meets the descriptive requirements of FF-S-325C Group II, Type 2, Class 2, Style 2 (superseded) & CID A-A-1923A, Type 3.



Lag Shield™

BASE MATERIAL

Concrete and Mortar Joints of Block and Brick

SIZE RANGE

1/4" to 3/4"

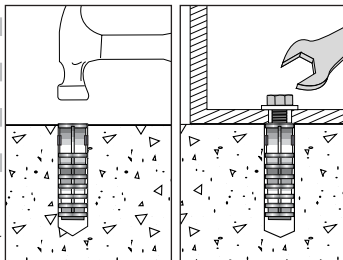
ANCHOR MATERIAL

Zamac Alloy

PRODUCT DESCRIPTION

The Lag Shield™ is a screw style anchor designed for use with lag bolts. It is suitable for use in concrete and the mortar joints of block or brick walls. Lag Shield™ anchors are formed

from Zamac alloy. In harder masonry materials, short style Lag Shields are used to reduce drilling time. The long style version is used in soft or weak masonry to better develop strength.



ANCHOR SIZES

CAT. NO.	SIZE	THREAD LENGTH	DRILL DIA.	MIN. EMBED.	STD. BOX	STD. CTN.	WT./ 100
1051	1/4" Short	1/2"	1/2"	1"	50	500	3
1055	1/4" Long	1"	1/2"	1-1/2"	50	500	4
1101	5/16" Short	3/4"	1/2"	1-1/4"	50	500	3
1105	5/16" Long	1"	1/2"	1-3/4"	50	500	4-1/4
1151	3/8" Short	1"	5/8"	1-3/4"	50	500	6-3/4
1155	3/8" Long	1-1/2"	5/8"	2-1/2"	50	250	9-1/2
1201	1/2" Short	1-1/8"	3/4"	2"	50	500	9-1/4
1205	1/2" Long	1-7/8"	3/4"	3"	50	200	14-1/4
1251	5/8" Short	1"	7/8"	2"	25	125	13
1255	5/8" Long	2-1/4"	7/8"	3-1/2"	25	125	22
1301	3/4" Short	1-1/8"	1"	2"	25	125	16
1305	3/4" Long	2-1/4"	1"	3-1/2"	25	100	24-1/2

INSTALLATION SPECIFICATIONS

ANCHOR SIZE	1/4"	5/16"	3/8"	1/2"	5/8"	3/4"
ANSI Drill Bit Size	1/2"	1/2"	5/8"	3/4"	7/8"	1"
Max Torque (ft.-lbs.)	5	7	10	20	30	60
Lag Thread Size	1/4-10	5/16-9	3/8-7	1/2-6	5/8-5	3/4-4-1/2

PERFORMANCE DATA

ULTIMATE LOAD CAPACITIES - CONCRETE

ANCHOR SIZE	DRILL BIT (IN)	EMBED. DEPTH (IN)	2,000 PSI TENSION (LBS)	CONCRETE SHEAR (LBS)	4,000 PSI TENSION (LBS)	CONCRETE SHEAR (LBS)	6,000 PSI TENSION (LBS)	CONCRETE SHEAR (LBS)
1/4" Short	1/2	1	220	880	315	1,025	415	1,025
1/4" Long	1/2	1-1/2	435	880	635	1,025	750	1,025
5/16" Short	1/2	1-1/4	370	1,105	600	1,485	780	1,485
5/16" Long	1/2	1-3/4	535	1,105	785	1,485	820	1,485
3/8" Short	5/8	1-3/4	845	1,305	1,225	1,620	1,345	1,620
3/8" Long	5/8	2-1/2	1,060	1,305	1,545	1,620	1,840	1,620
1/2" Short	3/4	2	1,145	1,780	1,700	2,140	1,810	2,140
1/2" Long	3/4	3	2,085	1,780	3,015	2,140	3,390	2,140
5/8" Short	7/8	2	1,220	2,220	1,760	2,520	1,935	2,520
5/8" Long	7/8	3-1/2	2,470	2,220	3,800	2,520	4,265	2,520
3/4" Short	1	2	1,325	2,355	2,200	2,680	2,345	2,680
3/4" Long	1	3-1/2	2,925	2,355	4,000	2,680	4,195	2,680

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

ANCHOR SIZE	DRILL BIT (IN)	EMBED. DEPTH (IN)	ASTM C-90 HOLLOW BLOCK TENSION (LBS)	BLOCK SHEAR (LBS)
1/4" Short	1/2	*1	230	720
5/16" Short	1/2	*1-1/4	360	1,025
3/8" Short	5/8	*1-1/2	795	1,125
1/2" Short	3/4	*1-1/2	1,025	1,600

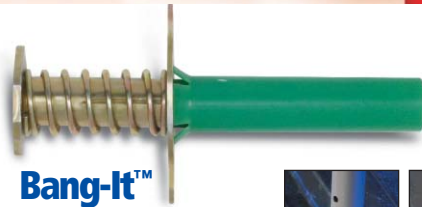
ANCHOR SIZE (IN)	DRILL BIT (IN)	EMBED. DEPTH (IN)	SOLID RED BRICK TENSION (LBS)	SHEAR (LBS)
1/4	1/2	1	240	1,025
5/16	1/2	1-1/4	425	1,485
3/8	5/8	1-3/4	1,190	1,620
1/2	3/4	2	1,230	2,140

APPROVALS AND LISTINGS

Federal Specification

Meets the descriptive requirements of FF-S-325C, Type I, Class 1 (Long) or

Class 2C (Short). - (superseded) & CID A-A-1923A, Type 1.



Bang-It™

BASE MATERIAL

Concrete, Lightweight Concrete

SIZE RANGE

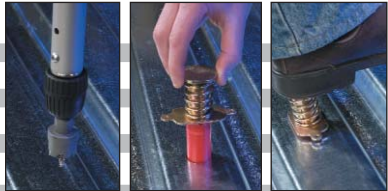
1/4" to 3/4"

ANCHOR MATERIAL

Carbon Steel and Engineered Plastic

PRODUCT DESCRIPTION

Bang-It Concrete Inserts are designed for installation through pre-drilled metal composite deck (i.e. "pan deck") used to support a newly poured concrete floor or roof slab. Depending upon the size/color chosen, the protective sleeve protrudes below the surface of the deck allowing overhead attachment of steel threaded rod in sizes ranging from 1/4" to 7/8" in diameter. The protective sleeve prevents sprayed fireproofing material and acoustical dampening products from clogging the internal threads of the insert inside, burying, masking or losing the insert location. The unique, six-sided impact plate offers resistance to rotation within the concrete as a steel threaded rod is being installed.



BANG-IT™

CAT. NO.	DESCRIPTION	PRE DRILLED HOLE	STD. BOX	PALLET QTY.
7540	1/4" Brown Bang-It™	13/16"	100	4,000
7542	3/8" Green Bang-It™	13/16"	100	4,000
7544	1/2" Yellow Bang-It™	13/16"	100	4,000
7546	5/8" Red Bang-It™	1-3/16"	50	2,400
7548	3/4" Purple Bang-It™	1-3/16"	50	2,400
7549	7/8" Black Bang-It™	1-3/16"	50	2,400

ACCESSORIES

CAT. NO.	DESCRIPTION	BOX QTY.
7560	Bang-It Deck Driller	1
7562	13/16" Carbide Hole Saw for 1/4", 3/8" and 1/2"	1
7564	1-3/16" Carbide Hole Saw for 5/8", 3/4" and 7/8"	1
7566	Carbide Hole Saw Center Bit	1

INSTALLATION SPECIFICATIONS

INSERT SIZE (IN)	1/4	3/8	1/2	5/8	3/4	7/8
Metal Hole Saw Diameter (in)	13/16	13/16	13/16	1-3/16	1-3/16	1-3/16
Drilling Speed (rpm)	800	800	800	600	600	600
Height of Spring (in)	2	2	2	2	2	2
Insert Thread Length (in)	3/8	5/8	11/16	15/16	1-1/8	1-5/16
Length of Sleeve (in)	3-3/8	3-3/8	3-3/8	3-3/8	3-3/8	3-3/8
Thread Size (UNC)	1/4-20	3/8-16	1/2-13	5/8-11	3/4-10	7/8-8
Overall Length (in)	5-5/16	5-5/16	5-5/16	5-5/16	5-5/16	5-5/16
Steel Flange Thickness (in)	5/64	5/64	5/64	5/64	5/64	5/64

BANG-IT™ PERFORMANCE DATA

ANCHOR SIZE	ANCHOR LOCATION IN FLUTE	EMBED. DEPTH	INSERT SPACING	END DISTANCE	TENSION LOAD	SHEAR LOAD
1/4"	Upper	2"	9"	12"	4,250 lbs	2,725 lbs
1/4"	Lower	2"	9"	12"	3,250 lbs	2,725 lbs
3/8"	Upper	2"	9"	12"	6,200 lbs	3,450 lbs
3/8"	Lower	2"	9"	12"	3,250 lbs	3,450 lbs
1/2"	Upper	2"	9"	12"	7,150 lbs	3,450 lbs
1/2"	Lower	2"	9"	12"	3,250 lbs	3,450 lbs
5/8"	Upper	2"	9"	12"	8,150 lbs	3,450 lbs
5/8"	Lower	2"	9"	12"	4,250 lbs	3,450 lbs
5/8"	Lower	2"	12"	12"	4,250 lbs	4,150 lbs
3/4"	Upper	2"	9"	12"	8,150 lbs	3,450 lbs
3/4"	Lower	2"	9"	12"	4,250 lbs	3,450 lbs
3/4"	Lower	2"	12"	12"	4,250 lbs	5,000 lbs
7/8"	Upper	2"	9"	12"	8,150 lbs	3,450 lbs
7/8"	Lower	2"	9"	12"	4,250 lbs	3,450 lbs
7/8"	Lower	2"	12"	12"	4,250 lbs	5,000 lbs

APPROVALS AND LISTINGS

Factory Mutual (FM Approvals) – File No. J.I. 3015153

Underwriters Laboratories (UL) File No. EX1289

Suitable for Seismic and Wind Load Applications

Acceptable for Applications in DOT Projects



Wood-Knocker™

BASE MATERIAL

Concrete, Lightweight Concrete

SIZE RANGE

1/4" to 3/4"

ANCHOR MATERIAL

Carbon Steel and Engineered Plastic

PRODUCT DESCRIPTION

Wood-Knocker Concrete Inserts are installed onto wooden forms used to support a newly poured concrete floor slabs, roof slabs or walls. When the forms are stripped, the color-coded flange is easily seen embedded in the concrete surface allowing attachment of steel threaded rod or threaded bolts in sizes ranging from 1/4" to 3/4" in diameter. The unique six-sided impact plate offers resistance to rotation within the concrete as a steel threaded rod or threaded bolt is being installed.



WOOD-KNOCKER™

CAT. NO.	DESCRIPTION	STD. BOX	PALLET QTY.
7550	1/4" Brown Wood-Knocker™	200	9,600
7552	3/8" Green Wood-Knocker™	200	9,600
7554	1/2" Yellow Wood-Knocker™	200	9,600
7556	5/8" Red Wood-Knocker™	150	6,000
7558	3/4" Purple Wood-Knocker™	150	6,000
7567	1/2" Coil Thread Wood-Knocker™	200	9,600
7568	3/4" Coil Thread Wood-Knocker™	150	6,000

INSERT SIZE (IN)	1/4	3/8	1/2	5/8	3/4
Metal Hole Saw Diam. (in)	13/16	13/16	13/16	1-3/16	1-3/16
Insert Thread Length (in)	3/8	5/8	11/16	15/16	1-1/8
Plastic Flange Diam. (in)	1-3/8	1-3/8	1-3/8	1-5/8	1-5/8
Plastic Flange Thickness (in)	7/64	7/64	7/64	7/64	7/64
Thread Size (UNC)	1/4" - 20	3/8" - 16	1/2" - 13	5/8" - 11	3/4" - 10
Overall Length (in)	1-7/8	1-7/8	1-7/8	1-7/8	1-7/8
Break-off Nail Length (in)	3/4	3/4	3/4	3/4	3/4

WOOD-KNOCKER™ PERFORMANCE DATA IN 3000 PSI NORMAL WEIGHT CONCRETE

ANCHOR SIZE	EMBED. DEPTH	INSERT SPACING	END DISTANCE	TENSION LOAD	SHEAR LOAD
1/4"	2"	9"	6"	4,250 lbs	2,725 lbs
3/8"	2"	9"	6"	4,250 lbs	5,275 lbs
1/2"	2"	9"	6"	4,250 lbs	7,175 lbs
5/8"	2"	9"	6"	4,500 lbs	6,000 lbs
5/8"	2"	12"	6"	4,500 lbs	7,500 lbs
3/4"	2"	9"	6"	4,500 lbs	6,000 lbs
3/4"	2"	12"	6"	4,500 lbs	7,500 lbs

APPROVALS AND LISTINGS

Factory Mutual Research Corporation (FMRC)
Suitable for Seismic and Wind Load Applications

Underwriters Laboratories (UL) File No. EX1289
Acceptable for Applications in DOT Projects



Adhesive AND FOAM



AC100 PLUS™

ALL WEATHER ADHESIVE

BASE MATERIAL

Solid Concrete, Block, Brick, Stone or Hollow Masonry

SIZE RANGE

3/8" to 1-1/4" anchor rod, No. 3 to No. 11 reinforcing bar

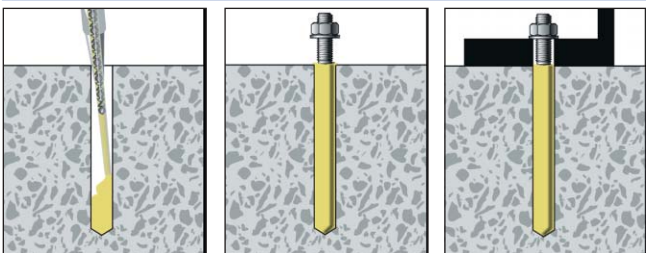
ANCHOR MATERIAL

Epoxy Acrylate

PRODUCT DESCRIPTION

The AC100 Plus Adhesive is a high strength, non-sag, anchoring mortar for bonding threaded rod and reinforcing bar into concrete and masonry. The proprietary characteristics are reflected in the chemical nature of the "PLUS" range, allowing us to create an epoxy acrylate that is styrene free with 0% volatile organic compounds (VOC's) and cures without conditioning in base material temperatures as low as -4°F (-20°C). Other inherent properties of our material and its convenient proportioned delivery through existing manual and pneumatic dispensing tools currently on the market, make high load concrete anchoring cost-effective and time efficient.

INSTALLATION PROCEDURE



AC100 PLUS™ CARTRIDGES

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.
8480	8 oz. Cartridge	12	12
8486	12 oz. Cartridge	12	12
8490	30 oz. Cartridge	12	12
8478	10 oz. Quik Shot Cartridge	12	36
8462	5.5 oz. Pusher Cartridge	12	36
8464	5.5 oz. Twister Cartridge	12	36



A mixing nozzle is packed with each Cartridge

CARTRIDGE SYSTEM NOZZLE

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.
8482	Extra nozzle for 8 & 12oz. AC100 Plus (8480, 8486, 8478)	12	144
8498	Extra nozzle for 30 oz. AC100 Plus (8490)	24	242


NEW!


8444

8463

8484

8494

8485

8495

AC100PLUS™ DELIVERY SYSTEM

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.
8444	30 oz. AC100 Plus Battery Tool	1	3
8461	Caulking Gun (8462, 8464)	1	12
8463	High Performance Caulking Gun (8478)	1	6
8484	8 oz. STD all Metal Manual Tool (8480)	1	6
8493	30 oz. High Performance Pneumatic Tool	1	?
8494	30 oz. STD all metal Manual Tool (8490)	1	1
8485	8 & 12 oz. High Performance Manual Tool (8480, 8486)	1	20
8495	30 oz. High Performance Manual Tool (8490)	1	20

APPLICATIONS

- Heavy duty anchoring such as rebars, threaded anchor rods, and threaded bolts (e.g. Chem-Bolts) in solid concrete, grout filled block, stone etc.
- Used in wet environments at very low temperatures and whenever solvent or styrene fumes are not acceptable.
- Anchoring with screen tubes in hollow block or brick.

PRODUCT DESCRIPTION

- Exclusive Styrene-free system
- Solvent free
- Non flammable (no methyl-methacrylate)
- Rapid curing - cures below 0°F (-18°C)
- Suitable in wet environment
- Suitable in diamond drilled holes

TECHNICAL DATA

SETTING TIMES

TEMPERATURE*	WORKING TIME	CURING TIME
-4°F (-20°C)	12 hr	72 hr
-0°F (-18°C)	8 hr	24 hr
14°F (-10°C)	4 hr	12 hr
23°F (-5°C)	2 hr	6 hr
32°F (0°C)	60 min	4 hr
41°F (5°C)	20 min	2 hr
68°F (20°C)	7 min	30 min
86°F (30°C)	4 min	25 min
104°F (40°C)	2 min	15 min

PERFORMANCE DATA
AVERAGE ULTIMATE LOAD CAPACITIES FOR INSTALLATIONS USING THREADED ANCHOR ROD IN CONCRETE

ANCHOR SIZE (IN)	DRILL DIAM. (IN)	EMBED. DEPTH (IN)	MAX. TORQUE RANGE (FT-LBS)	2,000 PSI CONCRETE TENSION (LBS)	2,000 PSI CONCRETE SHEAR (LBS)	3,000 PSI CONCRETE TENSION (LBS)	3,000 PSI CONCRETE SHEAR (LBS)	4,000 PSI CONCRETE TENSION (LBS)	4,000 PSI CONCRETE SHEAR (LBS)	5,000 PSI CONCRETE TENSION (LBS)	5,000 PSI CONCRETE SHEAR (LBS)
3/8	7/16	3-1/2	10 - 20	8,110	6,960	9,620	6,960	11,130	6,960	11,345	6,960
1/2	9/16	4-1/4	20 - 40	12,085	10,615	13,355	10,615	14,625	10,615	15,895	10,615
5/8	11/16 or 3/4	5	50 - 90	13,400	17,635	18,510	17,635	23,620	17,635	24,290	17,635
3/4	13/16 or 7/8	6-5/8	100 - 160	19,135	25,180	24,490	25,180	29,845	25,180	30,355	25,180
7/8	15/16 or 1	7-1/2	180 - 200	21,590	31,400	28,680	31,400	35,770	31,400	42,650	31,400
1	1-1/16 or 1-1/8	8-1/4	250 - 300	30,505	36,705	37,425	36,705	44,350	36,705	46,520	36,705
1-1/4	1-3/8	10-1/2	350 - 500	45,830	57,560	49,760	57,560	53,695	57,560	57,630	57,560

AVERAGE ULTIMATE LOAD CAPACITIES FOR INSTALLATIONS USING REINFORCING BAR IN CONCRETE

ANCHOR SIZE	APPROX. DIAM. (IN)	DRILL DIAM. (IN)	EMBED. DEPTH (IN)	2,000 PSI (LBS)	3,000 PSI (LBS)	4,000 PSI (LBS)	5,000 PSI (LBS)	GRADE 60 REBAR YIELD (LBS)	STRENGTH ULT. TENSILE (LBS)
No.3	7/16 or 3/8	1/2	1-1/2	3,890	4,125	4,360	4,605	6,600	9,900
No.3	7/16 or 3/8	1/2	4-1/2	7,770	9,970	12,175	14,375	6,600	9,900
No.4	9/16 or 1/2	5/8	2	6,740	10,935	15,135	17,330	12,000	18,000
No.4	9/16 or 1/2	5/8	7-1/2	18,505	18,750	19,000	19,245	12,000	18,000
No.5	11/16 or 5/8	3/4	2-1/2	9,645	11,550	18,460	20,265	18,600	27,900
No.5	11/16 or 5/8	3/4	9-1/2	25,580	28,310	31,040	33,575	18,600	27,900

AVERAGE ULTIMATE LOAD CAPACITIES FOR INSTALLATIONS USING REINFORCING BAR IN CONCRETE

ULTIMATE LOAD CAPACITIES IN TENSION, CONTINUED

ANCHOR SIZE	APPROX. DIAM. (IN)	DRILL DIAM. (IN)	EMBED. DEPTH (IN)	2,000 PSI (LBS)	3,000 PSI (LBS)	4,000 PSI (LBS)	5,000 PSI (LBS)	YIELD (LBS)	GRADE 60 REBAR STRENGTH ULT. TENSILE (LBS)
No. 6	3/4	7/8	3-1/2	15,830	16,145	21,465	25,760	26,400	39,600
No. 6	3/4	7/8	11-1/4	36,915	42,110	47,305	52,135	26,400	39,600
No. 7	7/8	1	3-3/4	24,200	27,570	30,945	34,145	36,000	54,000
No. 7	7/8	1	13-1/4	45,030	48,870	52,715	56,285	36,000	54,000
No. 8	1	1-1/8	4	27,830	29,435	32,040	37,560	47,400	71,100
No. 8	1	1-1/8	15	46,060	62,700	79,340	94,815	47,400	71,100
No. 9	1-1/8	1-3/8	5	36,015	41,570	47,125	52,400	60,000	90,000
No. 9	1-1/8	1-3/8	16-7/8	59,560	76,670	93,785	100,400	60,000	90,000
No. 10	1-1/4	1-1/2	6	43,230	45,285	47,340	55,560	76,200	114,300
No. 10	1-1/4	1-1/2	19	81,445	92,795	104,145	117,495	76,200	114,300
No. 11	1-3/8	1-5/8	7	51,675	57,305	62,935	68,570	93,600	140,400
No. 11	1-3/8	1-5/8	19	89,785	100,495	111,210	121,925	93,600	140,400

ULTIMATE LOAD CAPACITIES - ASTM C-90 HOLLOW BLOCK

ANCHOR DIAM. (IN)	DRILL DIAM. (IN)	EMBED. DEPTH (IN)	TENSION (LBS)	ASTM C-90 BLOCK SHEAR (LBS)
3/8	1/2	3-1/2	1,365	1,560
1/2	5/8	3-1/2	1,860	2,190
5/8	3/4	4-1/2	2,320	3,185

ULTIMATE LOAD CAPACITIES - SOLID RED BRICK

ANCHOR DIAM. (IN)	DRILL DIAM. (IN)	EMBED. DEPTH (IN)	TENSION (LBS)	SOLID RED BRICK SHEAR (LBS)
3/8	1/2	3-1/2	7,100	5,415
3/8	1/2	6	10,790	5,415
1/2	5/8	3-1/2	8,745	6,865
1/2	5/8	6	11,340	6,865
5/8	3/4	4-1/2	9,355	9,855
5/8	3/4	6	13,385	9,855
3/4	7/8	4-1/2	17,060	17,950
3/4	7/8	6	20,210	17,950

ULTIMATE LOAD CAPACITIES - GROUT FILLED ASTM C-90 BLOCK

ANCHOR DIAM. (IN)	DRILL DIAM. (IN)	EMBED. DEPTH (IN)	TENSION (LBS)	GROUT FILLED BLOCK SHEAR (LBS)
3/8	7/16	1-3/4	4,850	6,175
3/8	7/16	3-1/2	9,265	6,175
1/2	9/16	2-1/8	8,070	8,815
1/2	9/16	4-1/4	12,555	8,815
5/8	3/4	2-1/2	9,475	9,690
5/8	3/4	5	17,025	9,690
3/4	7/8	3-3/8	14,965	16,400
3/4	7/8	6-5/8	24,175	16,400

ADHESIVE INSTALLATION ACCESSORIES
INSTALLATION ACCESSORIES

CAT. NO.	DESCRIPTION	STD. BAG	WT./100
7914	Extension Tubing (25 feet)	1	10
7930*	Blow Out Bulb	1	25
7931	1/2" x 8-1/2" brush	1	2-1/2
7932	3/4" x 8-1/2" brush	1	2-1/2
7933	1" x 12" brush	1	8
7934	1-1/4" x 13" brush	1	8-1/2
7935	1-1/2" x 16" brush	1	10

* Blow out bulbs typically do not create enough air pressure to properly clean most larger diameter and deeper embedment depth anchor holes. They are only appropriate for smaller diameter anchors with shallow embedment depths.

ANCHOR SEAL PLUGS

CAT. NO.	DESCRIPTION	PLUG DEPTH	HOLE SIZE	STD. BAG	WT./100
7936	3/8" Anchor Seal Plug	3/8"	7/16"	25	1/4
7937	1/2" Anchor Seal Plug	1/2"	9/16"	25	1/4
7938	5/8" Anchor Seal Plug	9/16"	3/4"	20	1/2
7939	3/4" Anchor Seal Plug	3/4"	7/8"	20	5/8
7940	7/8" Anchor Seal Plug	3/4"	1"	10	3/4
7941	1" Anchor Seal Plug	3/4"	1-1/8"	10	7/8
7942	1-1/4" Anchor Seal Plug	7/8"	1-3/8"	10	1

STAINLESS STEEL SCREEN TUBES

CAT. NO.	DESCRIPTION	HOLE SIZE	STD. CTN.	WT./100
7960*	1/4" x 2" Screen Tube	3/8"	25	1
7862*	1/4" x 6" Screen Tube	3/8"	25	3
7864*	1/4" x 8" Screen Tube	3/8"	25	4
7866*	1/4" x 10" Screen Tube	3/8"	25	4-1/2
7961	3/8" x 3-1/2" Screen Tube	1/2"	25	2
7962*	3/8" x 6" Screen Tube	1/2"	25	3
7963*	3/8" x 8" Screen Tube	1/2"	25	4
7964*	3/8" x 10" Screen Tube	1/2"	25	4-1/2
7959*	3/8" x 12" Screen Tube	1/2"	25	6
7965	1/2" x 3-1/2" Screen Tube	5/8"	25	3
7966	1/2" x 6" Screen Tube	5/8"	25	4
7967*	1/2" x 8" Screen Tube	5/8"	25	5
7968*	1/2" x 10" Screen Tube	5/8"	25	6
7969	5/8" x 4-1/2" Screen Tube	3/4"	20	3-3/4
7970	5/8" x 6" Screen Tube	3/4"	20	4
7971*	5/8" x 8" Screen Tube	3/4"	20	5
7972*	5/8" x 10" Screen Tube	3/4"	10	7-1/2
7976	5/8" x 8" Combo Kit- Includes ten 15/16" x 8" screens and ten steel insert tubes with a plastic plug.	1"	10	40
7973	3/4" x 6" Screen Tube	7/8"	10	6-1/2
7977	3/4" x 8" Screen Tube	7/8"	10	8
7974	3/4" x 10" Screen Tube	7/8"	10	10
7975	3/4" x 13" Screen Tube	7/8"	10	13
7978*	3/4" x 17" Screen Tube	7/8"	10	14
7979*	3/4" x 21" Screen Tube	7/8"	10	18

PLASTIC SCREEN TUBES

CAT. NO.	DESCRIPTION	DRILL DIA.	STD. CTN
8470	1/4" x 1-3/4" Screen Tube	1/2"	25
8473	3/8" x 2-3/4" Screen Tube	9/16"	25
8474	3/8" x 3-1/2" Screen Tube	9/16"	25
8475	1/2" x 3-1/4" Screen Tube	5/8"	25
8476	1/2" x 4" Screen Tube	5/8"	25

APPROVALS AND LISTINGS

ICC-ES Evaluation Service Report No. 1686

Miami-Dade NOA 04-0823.06



Power-Fast®+

BASE MATERIAL

Solid Concrete, Block, Brick, Stone or Hollow Masonry

SIZE RANGE

1/4" x to 1-1/2" anchor rod, No. 3 to No. 11 Reinforcing Bar, Smooth Dowels

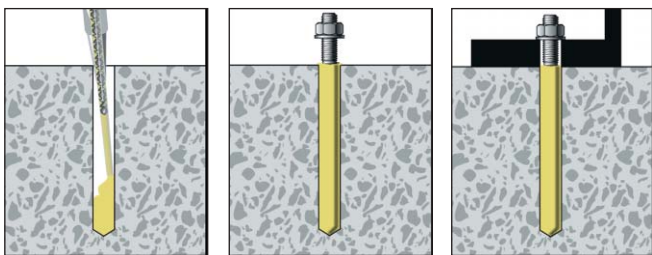
ANCHOR MATERIAL

Epoxy Standard Set and Fast Set

PRODUCT DESCRIPTION

The Power-Fast+ Epoxy Adhesive is a two-component structural epoxy which is packaged in specially designed engineered plastic cartridges. It is used with either a manual, pneumatically or power-operated injection tool and proportioned through a static-element mixing nozzle. The epoxy used is an odorless, premium, high strength epoxy which meets or exceeds industry standards as an anchoring and bonding adhesive. Power-Fast+ Epoxy Adhesive is designed for use in anchoring threaded rods, bolts, reinforcing bars, and smooth dowels into concrete and masonry.

INSTALLATION PROCEDURE



POWER-FAST®+ CARTRIDGES

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.
8424	10 oz. Quik-Shot Cartridge - Fast Set	1	12
8402	15 oz. Cartridge - Fast Set	1	12
8422	22 oz. Cartridge - Fast Set	1	12
8403	15 oz. Cartridge - Standard Set	1	12
8423	22 oz. Cartridge - Standard Set	1	12
8443	44 oz. Jumbo Cartridge - Standard Set	1	6
8436	56 oz. Jumbo Cartridge - Standard Set	1	6

A mixing nozzle is packed with each standard cartridge (not included with Jumbo)



CARTRIDGE SYSTEM NOZZLE

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.
7908	1/2" Nozzle/Nut Assembly	2	24
7919	1/2" Nozzle/Nut Assembly (Bulk)	400	400
8498	Turbo Nozzle for Jumbo Power-Fast®+	2	24



POWER-FAST+ MANUAL AND BATTERY INJECTION TOOLS

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.
8437	10 oz. Standard Caulking Gun	1	6
8463	10 oz. High Performance Caulking Gun	1	12
8416	15 oz. Standard all metal Manual Tool	1	6
8415	15 oz. High Performance Manual Tool	1	10
8409	22 oz. Standard all metal Manual Tool	1	6
8421	22 oz. High Performance Manual Tool	1	10
8442	22 oz. PowerFast+ Battery Tool	1	1



PNEUMATIC INJECTION TOOL

Pneumatic injection tools are designed for large jobs. The main cylinder is formed using top quality aluminum to provide a lightweight, durable tool. The dispensing trigger is designed to provide instant pressure relief from the cartridge which reduces waste. The tool also has a reverse button feature for fast and easy removal of cartridges during use.

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.
8407	15 oz. High Performance Pneumatic Tool	1	1
8413	22 oz. High Performance Pneumatic Tool	1	1
8445	44 oz. High Performance Pneumatic Tool	1	1
8438	56 oz. High Performance Pneumatic Tool	1	1

Maximum Operating Pressure - 125 psi Normal Operating Range - 80 to 100 psi
 Maximum Free Air Required - 1 CFM based on average use



ADHESIVE INSTALLATION ACCESSORIES

The following accessories are designed to provide a dispenser or mixing nozzle extension when required and to aid in the preparation of the anchor hole.

CAT. NO.	DESCRIPTION	STD. BAG
7914	Extension Tubing (25 feet)	1
7930	Blow Out Bulb	1
7931	1/2" x 8-1/2" brush	1
7932	3/4" x 8-1/2" brush	1
7933	1" x 12" brush	1
7934	1-1/4" x 13" brush	1
7935	1-1/2" x 16" brush	1



ANCHOR SEAL PLUGS

CAT. NO.	DESCRIPTION	PLUG DEPTH	HOLE SIZE	STD. BAG
7936	3/8" Anchor Seal Plug	3/8"	7/16"	25
7937	1/2" Anchor Seal Plug	1/2"	9/16"	25
7938	5/8" Anchor Seal Plug	9/16"	3/4"	20
7939	3/4" Anchor Seal Plug	3/4"	7/8"	20
7940	7/8" Anchor Seal Plug	3/4"	1"	10
7941	1" Anchor Seal Plug	3/4"	1-1/8"	10
7942	1-1/4" Anchor Seal Plug	7/8"	1-3/8"	10

POWER-FAST MATERIAL PROPERTIES

POWER-FAST PHYSICAL PROPERTY DATA

Shelf Life	2 years for components
Storage Conditions	Store dry at 40° to 90° F.
Injection Temperature	For best results, condition material to 60° minimum
Color	Component A - White Component B - Dark Gray Mixed Epoxy - Uniform Gray
Mixing Ratio	1 to 1 by volume
Consistency	Smooth, non-sag paste
Shore Hardness (ASTM D2240)	D 86 - 90
Compressive Strength (ASTM D 695)	11,125 psi, 1 day 14,740 psi, 7 days
Tensile Strength (ASTM-D 638)	7,250 psi, Fast Set 7,400 psi, Standard Set
Flexural Strength (ASTM D 790)	6,200 psi, Fast Set 6,700 psi, Standard Set
Slant Shear Strength (ASTM D 732)	4,900 psi, Fast Set - 1 day 6,700 psi, Standard Set - 14 days
Water Absorption (ASTM D 570)	Less than 1% (0.59%)
Bond Strength (Dry Cure)	3,000 psi, concrete to concrete. 3,000 psi, steel to concrete
Shrinkage (ASTM D 2566)	Not measurable

POWER-FAST EPOXY SETTING TIME

BASE MATERIAL TEMP.(F°)	MAXIMUM GEL TIME (MINUTES)		MINIMUM CURING TIME (HOURS)		FULL CURING TIME (HOURS)	
	FAST SET	STANDARD SET	FAST SET	STANDARD SET	FAST SET	STANDARD SET
40	30	60	8	16	36	48
60	20	45	3	7	24	36
75	15	35	2	6	24	24
90	10	20	1-1/2	4	16	24

POWER-FAST DISPENSING GUIDELINES

POWER-FAST CARTRIDGE VOLUME

CARTRIDGE SIZE	VOLUME OF EPOXY
10 Fluid Ounce Cartridge	18 Cubic Inches
15 Fluid Ounce Cartridge	27 Cubic Inches
22 Fluid Ounce Cartridge	39.7 Cubic Inches
44 Fluid Ounce Cartridge	79.4 Cubic Inches
56 Fluid Ounce Cartridge	101.7 Cubic Inches

ANCHOR INSTALLATION TABLES

THREADED ANCHOR ROD

ROD SIZE	HOLE SIZE	EPOXY PER INCH OF EMBEDMENT
1/4"	5/16"	0.056 cu. in.
3/8"	7/16"	0.094 cu. in.
1/2"	9/16"	0.133 cu. in.
5/8"	3/4"	0.260 cu. in.
3/4"	7/8"	0.326 cu. in.
7/8"	1"	0.390 cu. in.
1"	1-1/8"	0.478 cu. in.
1-1/8"	1-1/4"	0.539 cu. in.
1-1/4"	1-3/8"	0.625 cu. in.
1-3/8"	1-1/2"	0.694 cu. in.
1-1/2"	1-5/8"	0.797 cu. in.

REINFORCING BAR

REBAR SIZE	HOLE SIZE	EPOXY PER INCH OF EMBEDMENT
No. 3	1/2"	0.111 cu. in.
No. 4	5/8"	0.142 cu. in.
No. 5	3/4"	0.176 cu. in.
No. 6	7/8"	0.220 cu. in.
No. 7	1"	0.252 cu. in.
No. 8	1-1/8"	0.294 cu. in.
No. 9	1-3/8"	0.594 cu. in.
No. 10	1-1/2"	0.616 cu. in.
No. 11	1-5/8"	0.642 cu. in.

THREADED ROD / SCREEN TUBE

ROD/SCREEN SIZE	HOLE SIZE	EPOXY PER INCH OF EMBEDMENT
1/4"	3/8"	0.102 cu. in.
3/8"	1/2"	0.173 cu. in.
1/2"	5/8"	0.278 cu. in.
5/8"	3/4"	0.407 cu. in.
3/4"	7/8"	0.561 cu. in.

ADHESIVE INSTALLATION ACCESSORIES
INSTALLATION ACCESSORIES

CAT. NO.	DESCRIPTION	STD. BAG	WT./100
7914	Extension Tubing (25 feet)	1	10
7930*	Blow Out Bulb	1	25
7931	1/2" x 8-1/2" brush	1	2-1/2
7932	3/4" x 8-1/2" brush	1	2-1/2
7933	1" x 12" brush	1	8
7934	1-1/4" x 13" brush	1	8-1/2
7935	1-1/2" x 16" brush	1	10

ANCHOR SEAL PLUGS

CAT. NO.	DESCRIPTION	PLUG DEPTH	HOLE SIZE	STD. BAG	WT./100
7936	3/8" Anchor Seal Plug	3/8"	7/16"	25	1/4
7937	1/2" Anchor Seal Plug	1/2"	9/16"	25	1/4
7938	5/8" Anchor Seal Plug	9/16"	3/4"	20	1/2
7939	3/4" Anchor Seal Plug	3/4"	7/8"	20	5/8
7940	7/8" Anchor Seal Plug	3/4"	1"	10	3/4
7941	1" Anchor Seal Plug	3/4"	1-1/8"	10	7/8
7942	1-1/4" Anchor Seal Plug	7/8"	1-3/8"	10	1

STAINLESS STEEL SCREEN TUBES

CAT. NO.	DESCRIPTION	HOLE SIZE	STD. CTN.	WT./100
7960	1/4" x 2" Screen Tube †	3/8"		25
7862	1/4" x 6" Screen Tube †	3/8"		25
7864	1/4" x 8" Screen Tube †	3/8"		25
7866	1/4" x 10" Screen Tube †	3/8"		25
7961	3/8" x 3-1/2" Screen Tube †	1/2"		25
7962	3/8" x 6" Screen Tube †	1/2"		25
7963	3/8" x 8" Screen Tube †	1/2"		25
7964	3/8" x 10" Screen Tube †	1/2"		25
7959	3/8" x 12" Screen Tube †	1/2"		25
7965	1/2" x 3-1/2" Screen Tube	5/8"		25
7966	1/2" x 6" Screen Tube	5/8"		25
7967	1/2" x 8" Screen Tube †	5/8"		25
7968	1/2" x 10" Screen Tube †	5/8"		25
7969	5/8" x 4-1/2" Screen Tube	3/4"		20
7970	5/8" x 6" Screen Tube	3/4"		20
7971	5/8" x 8" Screen Tube †	3/4"		20
7972	5/8" x 10" Screen Tube †	3/4"		10
7976	5/8" Seismic Combo Kit- Includes 10 Adhesive Shear Tubes (steel sleeve) and 10 15/16" x 8" screen tubes	1"		10
7973	3/4" x 6" Screen Tube	7/8"		10
7977	3/4" x 8" Screen Tube	7/8"		10
7974	3/4" x 10" Screen Tube	7/8"		10
7975	3/4" x 13" Screen Tube	7/8"		10
7978*	3/4" x 17" Screen Tube †	7/8"		10
7979*	3/4" x 21" Screen Tube †	7/8"		10
7865	15/16" x 8" Screen Tube	1"		10
7867	15/16" x 13" Screen Tube	1"		10
7869†	15/16" x 17" Screen Tube	1"		10

PERFORMANCE DATA

ULTIMATE LOAD CAPACITIES - THREADED ANCHOR ROD IN CONCRETE

ANCHOR SIZE (IN)	DRILL BIT (IN)	EMBED. DEPTH (IN)	MAX. TORQUE RANGE (FF-LBS)	2,000 PSI CONCRETE		3,000 PSI CONCRETE		4,000 PSI CONCRETE		5,000 PSI CONCRETE		6,000 PSI CONCRETE	
				TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)
1/4	5/16	2	5 - 10	2,370	2,465	2,660	2,465	2,950	2,465	3,685	2,465	4,420	2,465
3/8	7/16	3-3/8	10 - 20	9,560	6,000	11,040	6,000	11,780	6,000	12,520	6,000	13,385	6,000
3/8	7/16	5-1/4	10 - 20	14,000	6,480	15,380	6,480	15,560	6,480	15,640	6,480	16,720	6,480
1/2	9/16	4-1/2	20 - 40	12,980	12,800	14,520	12,800	18,860	12,800	21,760	12,800	22,380	12,800
1/2	9/16	7	20 - 40	20,880	12,800	24,380	12,800	26,440	12,800	28,500	12,800	29,310	12,800
5/8	3/4	5	50 - 90	16,850	20,160	19,445	20,160	20,600	20,160	21,765	20,160	27,810	20,160
5/8	3/4	8-3/4	50 - 90	30,820	22,800	34,480	22,800	36,760	22,800	38,280	22,800	45,190	22,800
3/4	7/8	6-3/4	100 - 160	28,160	25,600	33,480	25,600	37,520	25,600	43,080	25,600	47,670	25,600
3/4	7/8	10-1/2	100 - 160	39,760	29,250	45,520	29,250	47,680	29,250	49,800	29,250	55,105	29,250
7/8	1	7-7/8	180 - 200	32,680	36,800	38,400	36,800	42,160	36,800	45,900	36,800	52,030	36,800
7/8	1	12-1/4	180 - 200	52,360	36,800	61,440	36,800	67,240	36,800	73,000	36,800	84,425	36,800
1	1-1/8	9	250 - 300	39,760	50,000	48,520	50,000	56,740	50,000	64,920	50,000	67,430	50,000
1	1-1/8	14	250 - 300	58,900	53,135	68,760	53,135	74,600	53,135	80,420	53,135	100,740	53,135
1-1/4	1-3/8	11-1/4	350 - 600	52,920	72,000	66,800	72,000	83,920	72,000	100,900	72,000	105,710	72,000
1-1/4	1-3/8	17-1/2	350 - 600	91,480	83,450	109,240	83,450	123,280	83,450	137,240	83,450	157,645	83,450
1-3/8	1-1/2	12-3/8	350 - 600	68,250	78,905	82,375	78,905	96,500	78,905	111,490	78,905	126,480	78,905

PERFORMANCE DATA
ULTIMATE LOAD CAPACITIES - THREADED ANCHOR ROD IN CONCRETE, CONTINUED

ANCHOR SIZE (IN)	DRILL BIT (IN)	EMBED. DEPTH (IN)	MAX. TORQUE RANGE (F-FT-LBS)	2,000 PSI CONCRETE			3,000 PSI CONCRETE			4,000 PSI CONCRETE			5,000 PSI CONCRETE			6,000 PSI CONCRETE		
				TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)	
1-3/8	1-1/2	16-1/2	350 - 600	90,995	97,460	109,825	97,460	128,660	97,460	148,650	97,460	168,640	97,460	182,810	97,460	112,780	149,105	91,305
1-1/2	1-5/8	13-1/2	350 - 600	80,455	91,305	97,105	91,305	113,760	91,305	131,430	91,305	149,105	91,305	182,810	91,305	112,780	149,105	91,305
1-1/2	1-5/8	18	350 - 600	107,275	112,780	129,475	112,780	151,680	112,780	167,245	112,780	182,810	112,780	214,440	112,780	143,835	93,600	140,400

PERFORMANCE DATA
ULTIMATE TENSION LOAD CAPACITIES FOR INSTALLATIONS USING REINFORCING BARS IN CONCRETE
ULTIMATE LOAD CAPACITIES - REINFORCING BAR IN CONCRETE

ANCHOR SIZE	APPROX. DIAM. (IN)	DRILL DIAM. (IN)	EMBED. DEPTH (IN)	ULTIMATE BOND STRENGTH			GRADE 60 REBAR			
				2,000 PSI (LBS)	3,000 PSI (LBS)	4,000 PSI (LBS)	5,000 PSI (LBS)	6,000 PSI (LBS)	YIELD STRENGTH (LBS)	ULT. TENSILE STRENGTH (LBS)
No. 3	3/8	1/2	3-3/8	11,140	13,885	16,630	17,415	18,200	6,600	9,900
No. 4	1/2	5/8	4-1/2	14,440	18,000	21,560	22,575	23,590	12,000	18,000
No. 5	5/8	3/4	5-5/8	20,120	25,080	30,040	31,455	32,870	18,600	27,900
No. 6	3/4	7/8	6-3/4	26,320	32,805	39,295	41,145	43,000	26,400	39,600
No. 7	7/8	1	7-7/8	33,320	41,530	49,745	52,090	54,435	36,000	54,000
No. 8	1	1-1/8	9	48,340	60,255	72,170	75,570	78,975	47,400	71,100
No. 9	1-1/8	1-3/8	10-1/8	55,720	69,455	83,190	87,115	91,035	60,000	90,000
No. 10	1-1/4	1-1/2	11-1/4	74,060	92,315	110,570	115,780	120,995	76,200	114,300
No. 11	1-3/8	1-5/8	12-3/8	88,040	109,740	131,440	137,635	143,835	93,600	140,400

ULTIMATE LOAD CAPACITIES - ASTM C-90 HOLLOW BLOCK

ANCHOR DIAM. (IN)	DRILL DIAM (IN)	SCREEN TUBE LENGTH (IN)	TENSION (LBS)	ASTM C-90 BLOCK SHEAR (LBS)
1/4	3/8	2	1,080	1,740
3/8	1/2	3-1/2	1,830	3,480
1/2	5/8	3-1/2	2,630	4,460
5/8	3/4	4-1/2	3,020	5,320
3/4	7/8	6	4,060	6,040

ULTIMATE LOAD CAPACITIES - SOLID RED BRICK

ANCHOR DIAM. (IN)	DRILL DIAM (IN)	EMBED. DEPTH (IN)	TENSION (LBS)	SOLID RED BRICK SHEAR (LBS)
1/4	3/8	2	2,730	1,830
3/8	1/2	3-1/2	4,395	4,500
3/8	1/2	6	7,430	4,500
1/2	5/8	3-1/2	8,905	6,455
1/2	5/8	6	11,250	6,455
5/8	3/4	4-1/2	9,435	8,470
5/8	3/4	6	12,580	8,470
3/4	7/8	6	10,865	10,850
3/4	7/8	8	14,600	10,850

ULTIMATE LOAD CAPACITIES - GROUT FILLED ASTM C-90 BLOCK

ANCHOR DIAM. (IN)	DRILL DIAM (IN)	EMBED. DEPTH (IN)	TENSION (LBS)	GROUT FILLED BLOCK SHEAR (LBS)
1/4	5/16	2	2,730	1,880
3/8	7/16	3-1/2	6,910	4,500
1/2	9/16	4-1/4	9,630	6,455
5/8	3/4	5	13,910	9,460
3/4	7/8	6-5/8	15,940	11,840

APPROVALS AND LISTINGS

ICC-ES Evaluation Service Report No. 1531

City of Los Angeles Research Report No. 25230

City of Los Angeles Research Report No. 24979 - URM

SBCCI Report No. 9943A

Various North American Departments of Transportation

Meets ASTM C881

Meets AASHTO M235

ANSI/NSF 61 Compliant

Miami-Dade NOA 04-0823.06

Florida Statewide Approval No. FL2209.5



Chem-Stud®

SPIN TYPE CAPSULE ADHESIVE

BASE MATERIAL

Solid Concrete

SIZE RANGE

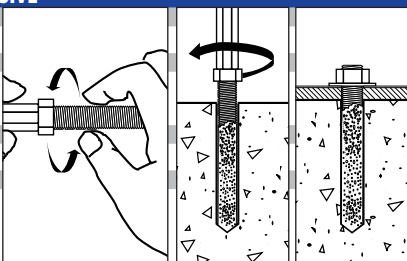
3/8" to 1-1/4" Anchor Rod,
No. 3 to No.10 Reinforcing Bar

ANCHOR MATERIAL

Ester Based Resin

PRODUCT DESCRIPTION

The Chem-Stud® Anchor System consists of self contained two-part glass capsules and matching chisel pointed anchor rods which are installed using a rotary hammer drill and rod adapters. The Chem-Stud® adhesive is an ester based resin material packaged in single use glass capsules. These are designed for use in the installation of 3/8" through 1-1/4" threaded rod in solid concrete and masonry materials. It can also be used for reinforcing bars.



CHEM-STUD CAPSULE PHYSICAL PROPERTY DATA

Shelf Life	2 years
Storage Conditions	Store dry at 40° to 90° F. Condition to 60° F before use.
Color	Mixed adhesive mortar - amber
Consistency	Paste mortar

CAT. NO.	CAPSULE SIZE	CAPSULE DIAM.	CAPSULE LENGTH	MORTAR VOLUME	MORTAR VOLUME
6502	3/8"	0.43"	3.15"	0.35 in ³	0.19 fl. oz.
6503	1/2"	0.51"	3.75"	0.55 in ³	0.30 fl. oz.
6504	5/8"	0.67"	3.75"	0.95 in ³	0.52 fl. oz.
6505	3/4"	0.87"	6.63"	2.55 in ³	1.40 fl. oz.
6506	7/8"	0.87"	6.89"	3.25 in ³	1.79 fl. oz.
6507	1"	0.95"	8.25"	4.65 in ³	2.56 fl. oz.
6508	1-1/4"	1.30"	10.50"	11.70 in ³	6.44 fl. oz.

CHEM-STUD RECOMMENDED SETTING TIME

BASE MATERIAL TEMPERATURE	SETTING TIME
68° F. & over	20 minutes
50° F. to 68° F.	30 minutes
32° F. to 50° F.	1 hour
23° F. to 32° F.	5 hours
14° F. to 23° F.	10 hours
5° F. to 14° F.	18 hours
0° F. to 5° F.	24 hours

Cure Time should be doubled for wet concrete.

CHEM-STUD SELECTION GUIDE

CHEM-STUD CAPSULES

CAT. NO.	SIZE	*DRILL DIA.	MIN. DEPTH	STD. BOX	STD. CTN.	WT./ 100
6502	3/8"	7/16"	3-1/2"	10	500	4
6503	1/2"	9/16"	4-1/4"	10	200	5
6504	5/8"	11/16"	5"	10	200	9
6505	3/4"	7/8"	6-5/8"	5	50	19
6506	7/8"	1"	7"	5	50	20
6507	1"	1-1/8"	8-1/4"	5	50	32
6508	1-1/4"	1-1/2"	10-1/4"	5	25	84



A307 STANDARD CARBON STEEL, ZINC PLATED (ASTM B 633)

CAT. NO.	SIZE	DRILL DIA.	MIN. DEPTH	STD. BOX	STD. CTN.	WT./ 100
6512	3/8" x 5-1/8"	7/16"	3-1/2"	10	50	12
6513	1/2" x 6-1/2"	9/16"	4-1/4"	10	50	28
6514	5/8" x 7-1/2"	11/16"	5"	10	40	51
6515	3/4" x 9-5/8"	7/8"	6-5/8"	10	40	96
6516*	7/8" x 10-1/4"	1"	7"	-	10	140
6517	1" x 12"	1-1/8"	8-1/4"	-	10	213
6518	1-1/4" x 15	1-1/2"	10-1/4"	-	5	433

* Mechanically Galvanized

ASTM A193 GRADE B7 HIGH-STRENGTH CARBON, ZINC PLATED (ASTM B 633 YELLOW DICHROMATE)

CAT. NO.	SIZE	DRILL DIA.	MIN. DEPTH	STD. BOX	STD. CTN.	WT./ 100
6522	3/8" x 5-1/8"	7/16"	3-1/2"	10	50	12
6523	1/2" x 6-1/2"	9/16"	4-1/4"	10	50	28
6524	5/8" x 7-1/2"	11/16"	5"	10	40	51
6525	3/4" x 9-5/8"	7/8"	6-5/8"	10	40	96
6526	7/8" x 10-1/4"	1"	7"	-	10	40
6527	1" x 12"	1-1/8"	8-1/4"	-	10	213
6528	1-1/4" x 15	1-1/2"	10-1/4"	-	5	433

304 STAINLESS STEEL (PASSIVATED)

CAT. NO.	SIZE	DRILL DIA.	MIN. DEPTH	STD. BOX	STD. CTN.	WT./ 100
6542	3/8" x 5-1/8"	7/16"	3-1/2"	10	50	12
6543	1/2" x 6-1/2"	9/16"	4-1/4"	10	50	28
6544	5/8" x 7-1/2"	11/16"	5"	10	40	51
6545	3/4" x 9-5/8"	7/8"	6-5/8"	10	40	96
6546	7/8" x 10-1/4"	1"	7"	-	10	140
6547	1" x 12"	1"	8-1/4"	-	10	213

CARBON STEEL INTERNALLY THREADED INSERTS, ZINC PLATED (ASTM B 633)

CAT. NO.	SIZE	O.D.	DRILL DIA.	MIN. DEPTH	THR. LENGTH	STD. BOX	STD. CTN.	WT./ 100
6592	3/8" x 3-1/2"	0.55"	5/8"	3-1/2"	1-1/2"	10	40	20
6593	1/2" x 4-1/4"	0.65"	11/16"	4-1/4"	1-5/8"	10	40	44
6594	5/8" x 5"	0.90"	1"	5"	2-3/8"	10	40	68
6595	3/4" x 6-5/8"	1.00"	1-1/8"	6-5/8"	2-3/4"	10	40	125

CHEM-STUD INSTALLATION TOOLS
THREADED ROD INSTALLATION TOOLS
COUPLERS FOR THREADED ROD

CAT. NO.	SIZE	STD. BOX	STD. CTN.
6562	3/8"	1	10
6563	1/2"	1	10
6564	5/8"	1	10
6565	3/4"	1	5
6566	7/8"	1	5
6567	1"	1	5
6568	1-1/4"	1	5

DRIVERS FOR THREADED ROD COUPLERS - HEX

CAT. NO.	HEX SIZE	FITS COUPLER SIZE	STD. BOX	STD. CTN.
6570	1/4"	3/8" to 5/8"	1	10
6572	3/8"	3/4" to 1-1/4"	1	10

DRIVERS FOR THREADED ROD COUPLERS - SDS-PLUS

CAT. NO.	HEX SIZE	FITS COUPLER SIZE	STD. BOX	STD. CTN.
6574	1/4"	3/8" to 5/8"	1	10
6576	3/8"	3/4" to 1-1/4"	1	10

DRIVERS FOR THREADED ROD COUPLERS - SPLINE

CAT. NO.	HEX SIZE	FITS COUPLER SIZE	STD. BOX	STD. CTN.
6580	1/4"	3/8" to 5/8"	1	10
6582	3/8"	3/4" to 1-1/4"	1	10

DRIVERS FOR THREADED ROD COUPLERS - SDS-MAX

CAT. NO.	HEX SIZE	FITS COUPLER SIZE	STD. BOX	STD. CTN.
6559	1/4"	3/8" to 5/8"	1	10
6561	3/8"	3/4" to 1-1/4"	1	10

REINFORCING BAR INSTALLATION TOOLS
CHEM-STUD REBAR COUPLERS AND DRIVERS

CAT. NO.	SIZE	STD. BOX	STD. CTN.
6533	#3 Coupler	1	10
6534	#4 Coupler	1	10
6535	#5 Coupler	1	10
6536	#6 Coupler	1	1
6537	#7 Coupler	1	1
6538	#8 Coupler	1	1
6539	#9 Coupler	1	1
6540	#10 Coupler	1	1
6589	Skil 726 Driver	1	1
6590	Spline Driver	1	1
6596	SDS-Max Driver	1	1

INTERNALLY THREADED INSERT TOOLS*

CAT. NO.	SIZE	STD. BOX	STD. CTN.
6862	3/8"	1	10
6863	1/2"	1	10
6864	5/8"	1	10
6865	3/4"	1	10

*Use with drivers for threaded rod.

INSTALLATION SPECIFICATIONS

SPECIFICATIONS FOR THREADED ROD

ROD SIZE	DRILL DIA.	CAPSULE SIZE	EMBED. DEPTH	MAX. TORQUE (FT.-LBS.)	MORTAR PER INCH (CU. IN.)
3/8"	7/16"	3/8"	3-1/2"	20	0.094
1/2"	9/16"	1/2"	4-1/4"	40	0.133
5/8"	11/16"	5/8"	5"	90	0.184
3/4"	7/8"	3/4"	6-5/8"	160	0.326
7/8"	1"	7/8"	7"	200	0.390
1"	1-1/8"	1"	8-1/4"	300	0.478
1-1/4"	1-1/2"	1-1/4"	10-1/4"	500	0.917
1-3/8"	1-5/8"	1-1/4"	10-1/4"	500	1.042
1-1/2"	1-3/4"	1-1/4"	10-1/4"	500	1.133

SPECIFICATIONS FOR REINFORCING BARS

REBAR SIZE	REBAR SIZE	DRILL DIA.	CAPSULE SIZE	EMBED. DEPTH	*MORTAR PER INCH (CU. IN.)
No. 3	3/8"	1/2"	3/8"	3-1/2"	0.111
No. 4	1/2"	5/8"	1/2"	4-1/2"	0.142
No. 5	5/8"	3/4"	5/8"	5"	0.176
No. 6	11/16"	7/8"	3/4"	7"	0.220
No. 7	7/8"	1"	7/8"	7"	0.252
No. 8	1"	1-1/4"	1"	8-1/2"	0.537
No. 9	1-1/8"	1-3/8"	1"	9"	0.594
No. 10	1-1/4"	1-5/8"	1-1/4"	10"	0.932
No. 11	1-3/8"	1-3/4"	1-1/4"	10"	0.961

PERFORMANCE DATA
ULTIMATE LOAD CAPACITIES - THREADED ROD IN CONCRETE

ANCHOR SIZE (IN)	DRILL BIT (IN)	EMBED. DEPTH (IN)	MAX. TORQUE RANGE (FT-LBS)	CAPSULES REQUIRED	2,000 PSI CONCRETE		3,000 PSI CONCRETE		4,000 PSI CONCRETE		5,000 PSI CONCRETE		6,000 PSI CONCRETE	
					TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)
3/8	7/16	3-1/2	10 - 20	One 3/8"	6,300	6,660	7,540	6,660	8,760	6,660	10,880	6,660	11,220	6,660
3/8	7/16	5-1/4	10 - 20	Two 3/8"	9,450	6,660	11,295	6,660	13,140	6,660	14,985	6,660	16,830	6,660
3/8	7/16	7	10 - 20	Two 3/8"	12,600	6,660	15,060	6,660	17,520	6,660	19,980	6,660	22,440	6,660
1/2	9/16	4-1/4	20 - 40	One 1/2"	10,040	11,655	11,800	11,655	13,560	11,655	17,080	11,655	18,380	11,655
1/2	9/16	6-3/8	20 - 40	One 1/2" & One 3/8"	15,060	11,655	17,700	11,655	20,340	11,655	23,955	11,655	27,570	11,655
1/2	9/16	8-1/2	20 - 40	Two 1/2"	20,080	11,655	23,600	11,655	27,120	11,655	31,940	11,655	36,760	11,655
5/8	11/16	5	50 - 90	One 5/8"	13,840	18,745	16,240	18,745	18,620	18,745	23,400	18,745	25,160	18,745
5/8	11/16	7-1/2	50 - 90	One 5/8" & One 1/2"	20,760	18,745	24,345	18,745	27,930	18,745	32,350	18,745	36,770	18,745
5/8	11/16	10	50 - 90	Two 5/8"	27,680	18,745	32,460	18,745	37,240	18,745	43,130	18,745	49,025	18,745
3/4	7/8	6-5/8	100 - 160	One 3/4"	22,300	30,060	26,100	30,060	28,540	30,060	34,780	30,060	37,020	30,060
3/4	7/8	10	100 - 160	One 3/4" & One 5/8"	33,660	30,060	38,235	30,060	42,810	30,060	49,345	30,060	55,880	30,060
3/4	7/8	13-1/4	100 - 160	Two 3/4"	44,600	30,060	50,840	30,060	57,080	30,060	65,560	30,060	74,040	30,060
7/8	1	7	180 - 200	One 7/8"	23,480	36,065	28,020	36,065	32,560	36,065	41,640	36,065	44,780	36,065
7/8	1	10-1/4	180 - 200	Two 3/4"	35,220	36,065	42,030	36,065	48,840	36,065	58,005	36,065	67,170	36,065
7/8	1	14	180 - 200	Two 7/8"	46,960	36,065	56,040	36,065	65,120	36,065	77,340	36,065	89,560	36,065
1	1-1/8	8-1/4	250 - 300	One 1"	32,360	53,135	39,540	53,135	46,700	53,135	61,040	53,135	65,620	53,135
1	1-1/8	12-3/8	250 - 300	One 1" & One 7/8"	48,530	53,135	59,290	53,135	70,050	53,135	84,240	53,135	98,430	53,135
1	1-1/8	16-1/2	250 - 300	Two 1"	64,700	53,135	79,050	53,135	93,400	53,135	112,320	53,135	131,240	53,135
1-1/4	1-1/2	10-1/4	350 - 500	One 1-1/4"	58,380	68,000	64,900	68,000	71,400	68,000	82,240	68,000	88,420	68,000
1-1/4	1-1/2	15	350 - 500	One 1-1/4" & One 1"	85,435	68,000	94,355	68,000	103,280	68,000	111,240	68,000	119,200	68,000
1-1/4	1-1/2	20-1/2	350 - 500	Two 1-1/4"	116,760	68,000	129,780	68,000	140,200	68,000	141,390	68,000	142,580	68,000

CHEM-STUD ULTIMATE TENSION LOAD CAPACITIES FOR INSTALLATIONS USING REINFORCING BARS IN CONCRETE									
REBAR SIZE (IN)	DRILL DIA. (IN)	EMBED. DEPTH (IN)	NUMBER AND SIZE OF CAPSULE (S) REQUIRED	2,000 PSI CONCRETE	ULTIMATE BOND STRENGTH (LBS.)	4,000 PSI CONCRETE	6,000 PSI CONCRETE	YIELD (LBS.)	GRADE 60 REBAR UTS (LBS.)
No. 3 (3/8)	1/2	3-1/2	One - 3/8	7,400	13,300	13,300	13,300	6,600	9,900
No. 3 (3/8)	1/2	5-1/4	Two - 3/8	11,100	19,950	19,950	19,950	6,600	9,900
No. 3 (3/8)	1/2	7	Two - 3/8	14,800	26,600	26,600	26,600	6,600	9,900
No. 4 (1/2)	5/8	4-1/2	One - 1/2	10,450	16,650	17,450	17,450	12,000	18,000
No. 4 (1/2)	5/8	6-3/4	One - 1/2 & One - 3/8	15,675	24,975	26,175	26,175	12,000	18,000
No. 4 (1/2)	5/8	9	Two - 1/2	20,900	33,300	34,900	34,900	12,000	18,000
No. 5 (5/8)	3/4	5	One - 5/8	15,460	26,200	26,200	26,200	18,600	27,900
No. 5 (5/8)	3/4	7-1/2	One - 5/8 & One - 1/2	23,190	39,300	39,300	39,300	18,600	27,900
No. 5 (5/8)	3/4	10	Two - 5/8	30,920	52,400	52,400	52,400	18,600	27,900
No. 6 (3/4)	7/8	7	One - 3/4	22,760	33,020	36,780	36,780	26,400	39,600
No. 6 (3/4)	7/8	10-1/2	One - 3/4 & One - 5/8	34,140	49,530	55,170	55,170	26,400	39,600
No. 6 (3/4)	7/8	14	Two - 3/4	45,520	66,040	73,560	73,560	26,400	39,600

CHEM-STUD ULTIMATE TENSION LOAD CAPACITIES FOR INSTALLATIONS USING REINFORCING BARS IN CONCRETE CONTINUED									
REBAR SIZE (IN)	DRILL DIA. (IN)	EMBED. DEPTH (IN)	NUMBER AND SIZE OF CAPSULE (S) REQUIRED	2,000 PSI CONCRETE	4,000 PSI CONCRETE	6,000 PSI CONCRETE	YIELD (LBS)	GRADE 60 REBAR UTS (LBS)	
No. 7 (7/8)	1	7	One - 7/8	26,500	37,000	42,330	36,000	54,000	
No. 7 (7/8)	1	10-1/2	Two - 3/4	39,750	55,500	63,495	36,000	54,000	
No. 7 (7/8)	1	14	Two - 7/8	53,000	74,000	84,660	36,000	54,000	
No. 8 (1)	1-1/4	8-1/2	One - 1	36,650	53,500	56,840	47,400	71,100	
No. 8 (1)	1-1/4	12-3/4	One - 1 & One - 3/4	54,975	80,250	85,260	47,400	71,100	
No. 8 (1)	1-1/4	17	Two - 1	73,300	107,000	113,680	47,400	71,100	
No. 9 (1-1/8)	1-3/8	9	One - 1	49,440	63,850	75,700	60,000	90,000	
No. 9 (1-1/8)	1-3/8	13-1/2	One - 1 & One - 7/8	74,160	95,775	113,550	60,000	90,000	
No. 9 (1-1/8)	1-3/8	18	Two - 1	98,880	127,700	151,400	60,000	90,000	
No. 10 (1-1/4)	1-5/8	10	One - 1-1/4	57,000	72,470	92,400	76,200	114,300	
No. 10 (1-1/4)	1-5/8	15	One - 1-1/4 & One - 7/8	85,500	108,705	126,000	76,200	114,300	

APPROVALS AND LISTINGS

ICBO ES Evaluation Report No. 4514

SBCCI Report No. 9943A

Various north American Departments of Transportation

Miami-Dade NOA 04-0823.06

Florida Statewide Approval No. FL2209.7



Hammer-Capsule®

BASE MATERIAL

Solid Concrete

SIZE RANGE

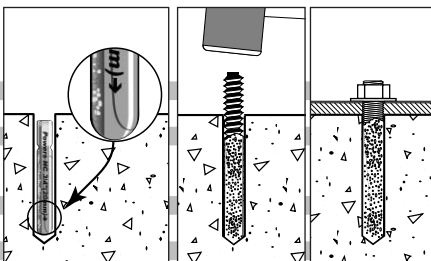
3/8" to 1" Anchor Rod,
No. 3 to No. 8 Reinforcing Bar

ANCHOR MATERIAL

Ester Based Resin

PRODUCT DESCRIPTION

The Hammer-Capsule® System consists of a self contained, single use, two-part glass capsule into which threaded anchor rod or reinforcing bars can be directly driven without the need for a chisel point or spinning action. It is designed for use in the installation of 3/8" through 1" diameter threaded rod in solid concrete and masonry materials. It can also be used to install reinforcing bars.



HAMMER CAPSULE SPECIFICATIONS

Shelf Life	2 years
Storage Conditions	Store dry at 40° to 90° F. Condition to 60° F. before use.
Color	Mixed adhesive mortar - amber
Consistency	Paste mortar

CAT. NO.	CAPSULE SIZE	CAPSULE DIAM.	CAPSULE LENGTH	MORTAR VOLUME	MORTAR VOLUME
6702	3/8"	0.43"	3.50"	0.40 in ³	0.22 fl. oz.
6703	1/2"	0.51"	4.30"	0.70 in ³	0.39 fl. oz.
6704	5/8"	0.67"	5.00"	1.40 in ³	0.77 fl. oz.
6705	3/4"	0.78"	5.50"	2.05 in ³	1.13 fl. oz.
6706	7/8"	0.87"	6.89"	3.25 in ³	1.79 fl. oz.
6707	1"	0.95"	8.25"	4.50 in ³	2.48 fl. oz.

HAMMER-CAPSULE RECOMMENDED SETTING TIME

BASE MATERIAL TEMPERATURE SETTING TIME

68° F. & over	1 hour
50° F. to 68° F.	2 hours
32° F. to 50° F.	5 hours
23° F. to 32° F.	10 hours
14° F. to 23° F.	24 hours

Cure time should be doubled for wet concrete. Capsules should be conditioned to 60°F minimum prior to use

HAMMER-CAPSULE SELECTION GUIDE

CAT. NO.	SIZE	*DRILL DIA.	MIN. DEPTH	STD. BOX	STD. CTN.	WT./ 100
6702	3/8"	7/16"	3-1/2"	10	500	4
6703	1/2"	9/16"	4-1/4"	10	200	5
6704	5/8"	11/16"	5"	10	200	9
6705	3/4"	7/8"	6"	5	50	11
6706	7/8"	1"	7"	5	50	14
6707	1"	1-1/8"	8-1/4"	5	50	50

* The drill bit diameters and depths listed are for installations using threaded rod.
Refer to the load tables for hole size to be used with reinforcing bars.

INSTALLATION SPECIFICATIONS
SPECIFICATIONS FOR THREADED ROD

ROD SIZE	DRILL DIA.	CAPSULE SIZE	EMBED. DEPTH	MAX. TORQUE (FT.-LBS.)	MORTAR PER INCH (CU. IN.)
3/8"	7/16"	3/8"	3-1/2"	10	0.094
1/2"	9/16"	1/2"	4-1/4"	15	0.133
5/8"	11/16"	5/8"	5"	35	0.184
3/4"	7/8"	3/4"	6"	75	0.326
7/8"	1"	7/8"	7"	100	0.390
1"	1-1/8"	1"	8-1/4"	150	0.478

SPECIFICATIONS FOR REINFORCING BARS

REBAR SIZE	REBAR SIZE	DRILL DIA.	CAPSULE SIZE	EMBED. DEPTH	*MORTAR PER INCH (CU. IN.)
No. 3	3/8"	1/2"	3/8"	3-1/2"	0.111
No. 4	1/2"	5/8"	1/2"	4-1/4"	0.142
No. 5	5/8"	3/4"	5/8"	5"	0.176
No. 6	3/4"	7/8"	3/4"	6"	0.220
No. 7	7/8"	1"	7/8"	7"	0.252
No. 8	1"	1-1/8"	1"	8-1/4"	0.537

*Actual adhesive mortar volume required will be less due to raised deformations on reinforcing bars.

PERFORMANCE DATA

HAMMER-CAPSULE ULTIMATE LOAD CAPACITIES - THREADED ROD IN CONCRETE

ANCHOR SIZE (IN)	DRILL BIT (IN)	EMBED. DEPTH (IN)	MAX. TORQUE RANGE (FT-LBS)	CAPSULES REQUIRED	2,000 PSI CONCRETE TENSION (LBS)	2,000 PSI CONCRETE SHEAR (LBS)	3,000 PSI CONCRETE TENSION (LBS)	3,000 PSI CONCRETE SHEAR (LBS)	4,000 PSI CONCRETE TENSION (LBS)	4,000 PSI CONCRETE SHEAR (LBS)	5,000 PSI CONCRETE TENSION (LBS)	5,000 PSI CONCRETE SHEAR (LBS)	6,000 PSI CONCRETE TENSION (LBS)	6,000 PSI CONCRETE SHEAR (LBS)
3/8"	7/16	3-1/2	5 - 10	One 3/8"	4,920	4,440	5,880	4,440	6,120	4,440	7,175	4,440	8,210	4,440
3/8"	7/16	7	5 - 10	Two 3/8"	9,840	4,440	11,760	4,440	12,240	4,440	14,350	4,440	16,420	4,440
1/2	9/16	4-1/4	10 - 15	One 1/2"	8,235	10,720	10,335	10,720	11,480	10,720	12,840	10,720	14,200	10,720
1/2	9/16	8-1/2	10 - 15	Two 1/2"	16,470	10,720	20,670	10,720	22,960	10,720	25,680	10,720	28,400	10,720
5/8	11/16	5	30 - 35	One 5/8"	10,160	17,160	13,080	17,160	15,160	17,160	17,410	17,160	19,660	17,160
5/8	11/16	10	30 - 35	Two 5/8"	20,320	17,160	26,160	17,160	30,320	17,160	34,820	17,160	39,320	17,160
3/4	7/8	6	70 - 75	One 3/4"	13,080	24,990	17,125	24,990	17,990	24,990	19,190	24,990	20,390	24,990
3/4	7/8	12	70 - 75	Two 3/4"	26,160	24,990	34,250	24,990	35,980	24,990	38,380	24,990	40,780	24,990
7/8	1	7	90 - 100	One 7/8"	16,265	35,600	21,065	35,600	24,640	35,600	28,425	35,600	32,210	35,600
7/8	1	14	90 - 100	Two 7/8"	32,530	35,600	42,130	35,600	49,280	35,600	56,850	35,600	64,420	35,600
1	1-1/8	8-1/4	130 - 150	One 1"	28,720	46,840	32,265	46,840	32,495	46,840	35,205	46,840	37,920	46,840
1	1-1/8	16-1/2	130 - 150	Two 1"	57,440	46,840	64,530	46,840	64,990	46,840	70,410	46,840	75,840	46,840
1-1/4	1-3/8	16	130 - 150	Two 1"	58,160	49,500	64,775	49,500	65,680	49,500	71,100	49,500	76,100	49,500

PERFORMANCE DATA
HAMMER CAPSULE ULTIMATE LOAD CAPACITIES - REINFORCING BAR IN CONCRETE

REBAR SIZE	APPROX. DIAM. (IN)	DILL BIT (IN)	EMBED. DEPTH (IN)	CAPSULES REQUIRED	2,000 PSI (LBS)	3,000 PSI (LBS)	4,000 PSI (LBS)	5,000 PSI (LBS)	6,000 PSI (LBS)	YIELD STRENGTH (LBS)	ULT. TENSILE STRENGTH (LBS)
No. 3	3/8	1/2	3-1/2	One 3/8"	7,840	10,520	13,200	13,200	13,200	6,600	9,900
No. 3	3/8	1/2	7	Two 3/8"	15,680	21,040	26,400	26,400	26,400	6,600	9,900
No. 4	1/2	5/8	4-1/2	One 1/2"	12,720	14,125	15,190	15,190	15,190	12,000	18,000
No. 4	1/2	5/8	9	Two 1/2"	25,440	28,250	30,380	30,380	30,380	12,000	18,000
No. 5	5/8	3/4	5	One 5/8"	16,160	18,280	20,280	21,840	23,400	18,600	27,900
No. 5	5/8	3/4	10	Two 5/8"	32,320	36,560	40,560	43,680	46,800	18,600	27,900
No. 6	3/4	7/8	7	One 3/4"	18,840	20,480	21,220	28,600	34,330	26,400	39,600
No. 6	3/4	7/8	14	Two 3/4"	37,680	40,960	42,440	57,200	68,660	26,400	39,600
No. 7	7/8	1-1/8	7	One 7/8"	21,200	22,660	25,730	34,920	38,400	36,000	54,000
No. 7	7/8	1-1/8	14	Two 7/8"	42,400	45,320	51,460	69,840	76,800	36,000	54,000
No. 8	1	1-1/4	8-1/2	One 1"	22,520	26,290	35,070	38,905	47,600	47,400	71,100
No. 8	1	1-1/4	16	Two 1"	45,040	52,580	70,140	77,810	95,200	47,400	71,100

APPROVALS AND LISTINGS

ICBO ES Evaluation Report - Pending
various North American Department of Transportation

Powerfoam™ and TriggerFoam™

BASE MATERIAL

Concrete, Masonry, Wood, Metal, Foamboard, PVC

SIZE RANGE

12 oz., 29 oz., 31 oz.

MATERIAL

Polyurethane

PRODUCT DESCRIPTION

Powerfoam and TriggerFoam are one-part polyurethane expanding foams that set and cure into their final form by reacting to moisture and humidity present in the air. Their exceptional ability to bond allows Powerfoam and TriggerFoam to be applied to ... and fill...various building elements including the surfaces of concrete, brick, block, wood, steel, aluminum and other miscellaneous metals. Powerfoam and TriggerFoam are safe to use, containing no CFC's, no PCB's and no Urea Formaldehyde. As they are being dispensed, Powerfoam and TriggerFoam have a neutral odor. Cured foam is physiologically harmless. Foam products are offered in standard yellow and UV-resistant black.

Powerfoam and TriggerFoam are water resistant, reduce sound transmission and act as insulation draft protection. Foam can be cut, sanded and painted after cure.

**POWERFOAM**

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN	STD. PALLET
8130	Powerfoam 12 oz.	12	12	1,152
8132	Powerfoam 29 oz.	12	12	612

**TRIGGERFOAM**

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN	STD. PALLET
8136	TriggerFoam 29 oz.	12	12	612

**BLACK TRIGGERFOAM**

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN	STD. PALLET
8148	TriggerFoam Black 31 oz.	12	12	1,152

FOAM STARTER KIT

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN	STD. PALLET
8129	Foam Starter Kit	1	1	



8139



8140

TOOLS AND ACCESSORIES

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN	STD. PALLET
8137	TriggerFoam Gun with 22" Extension	1	1	-
8138	TriggerFoam Gun Pro	1	1	-
8139	TriggerFoam Plastic Gun	1	1	-
8140	TriggerFoam Gun HD	1	1	-
8141	TriggerFoam Gun replacement brass tip	1	10	-
8142	TriggerFoam Cleaner 16 oz.	12	12	816

MATERIAL / INSTALLATION SPECIFICATIONS

Color:	Yellowish / Black
Powerfoam Contents:	12 oz. (340 g) / 29 oz (822 g)
Powerfoam Volume:	0.6 ft ³ (17 liters) / 1.4-1.6 ft ³ (40-45 liters)
TriggerFoam Contents:	29 oz. (822 g) / 31oz. (879 g)
TriggerFoam Volume:	1.4-1.6 ft ³ (40-45 liters) / 1.5-1.7 ft ³ (42-48 liters)

CURING PROPERTIES AT 73° F (23° C) & 55% RELATIVE AIR HUMIDITY

Non-tacky surface:	Approximately 5 - 10 minutes
Surface can be cut:	Approximately 15 - 20 minutes (still moist below surface)
Initial Drying Time:	Approximately 1 - 4 hours (very little moisture at core)
Fully Cured:	Approximately 12 - 15 hours
Application Temperature:	25° to 95° F (-4° to + 35° C)
Application Temperature (Bulk):	65° to 100° F (5° to 38° C)
Ideal Storage Temperature:	50° to 70° F (10° to 21° C)
Stability Temperature (cured foam):	-20° F to 180° F (-29° to 82° C)
Shelf Life:	12 months (foam) / 12 months (cleaner)

THEORETICAL YIELDS

POWERFOAM - 12 OZ 12 OZ.	POWERFOAM / TRIGGERFOAM 29 OZ.	TRIGGERFOAM BLACK 31 OZ.
1/4" Bead = 2,072 lineal ft.	1/4" Bead = 4,662 lineal ft.	1/4" Bead = 4,800 lineal ft.
3/8" Bead = 921 lineal ft.	3/8" Bead = 2,072 lineal ft.	3/8" Bead = 2,150 lineal ft.
1/2" Bead = 518 lineal ft.	1/2" Bead = 1,166 lineal ft.	1/2" Bead = 1,200 lineal ft.

Actual yields may vary depending on job site installation procedures and waste.

APPROVALS & LISTINGS

Underwriters Laboratories - File Numbers 9KX2 & 39P2
 DIN Std. 4102 Part 1, Section 6.2.5.2 - Test Certificates PZ IV/00-063 & PZ IC/00-068
 Classified as Class B2 Flame retardant
 STC Rating of 69
 ASTM E 90 (49 of 50)
 ASTM C 518 5.0 R-Factor


NEW!


PowerStick

BASE MATERIAL

Plywood, OSB, Particle Board, Concrete, Masonry, Metals, Formica, Polystyrene, Fiberglass

SIZE RANGE

10 oz. and 7oz.

MATERIAL

Proprietary Polymer

PRODUCT DESCRIPTION

An easy-to-use polymer in a convenient cartridge system and aerosol can, PowerStick is an all-purpose adhesive and sealant that revolutionizes the industry. PowerStick can be used for most interior and exterior applications whether it's concrete, brick, block, metal or wood. This powerful high-tack adhesive resists expansion and contraction due to weather, creating a durable air and moisture-tight seal. The presspack dispenses a smooth and consistent bead from its aerosol top without messy overflow, and the 7oz. can is easy to work with in confined spaces. PowerStick is odor-free and solvent-free and is mildew-resistant when cured. It can be painted over with latex or oil-based paints and cleans up easily with a damp cloth.

POWERSTICK

CAT. NO.	DESCRIPTION	DISPENSER	STD. BOX	STD. CTN.
8166	10oz. White	Caulk Gun	12	36
8168	10oz. Gray	Caulk Gun	12	36
8170	7oz. White	Press Pack	12	36
8172	7oz. Gray	Press Pack	12	36

TOOLS AND ACCESSORIES

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.
8437	Manual Caulking Gun	1	1

TECHNICAL CHARACTERISTICS

Base	MS® Polymer
Curing System	Moisture Cure
Full Cure**	Bonding: less than 24 hours (full cure of bonding layer of 0.0788 inch) Sealing: approx. 5 days (full cure of joint of 0.4 inch x 0.4 inch)
Tack Free Time	10 minutes
Skin Time	5 to 7 minutes
Freeze /Thaw Stability	No impact on sealant by frost
Application Temperature	41°F to 95°F (5°C to 35°C)
Stability Temperature (Cured product)	-40°F to 194°F (-40°C to 90°C)
Storage Temperature	41°F to 86°F (5°C to 30°C)

TECHNICAL CHARACTERISTICS CONTINUED

Weight per Gallon	5.5645 lbs./gal
Shelf Life	At least 12 months from production date
Density	0.94 oz./in ³ (1.62 g/ml)
Shore A Hardness	45 ± 5
Elasticity Modulus	109 psi (0.75 N/mm ₂)
Tear Strength	290 psi (2.0 N/mm ₂)
Max. Elongation	20%

BOND STRENGTH

METALS	PSI (N/MM₂)
Normal steel	127 (0.87)
Aluminum	109 (0.75)
Copper	144 (0.99)
Brass	81 (0.56)
Galvanized steel	116 (0.80)

PLASTICS	PSI (N/MM₂)
Epoxy (TYP.)	118 (0.81)
Polystyrene	112 (0.77)
Makrolon (PC)	128 (0.88)
PVC	76 (0.52)
PA6	123 (0.85)
PMMA	95 (0.66)
ABS	119 (0.82)

WOOD	PSI (N/MM₂)
Oak	131 (0.90)
Beech	134 (0.92)

Wall Anchors





Fiberplug™

BASE MATERIAL

Concrete, Block, Brick, Stone, Plaster

SIZE RANGE

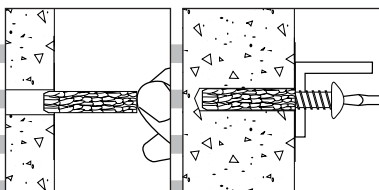
No.6 x 3/4" to 3/8" x 3"

ANCHOR MATERIAL

Jute Fiber with Lead Liner

PRODUCT DESCRIPTION

The Fiberplug™ is a jute fiber screw style anchor (formerly known as the Rawlplug) designed for use in concrete, block, brick, stone, and plaster. Designed for use with wood, sheet metal and lag screws.



ANCHOR SIZES AND STYLES

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
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

ULTIMATE LOAD CAPACITIES - CONCRETE

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

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

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

APPROVALS AND LISTINGS

Federal Specification

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



Scru-Lead™

LEAD SCREW ANCHOR

BASE MATERIAL

Concrete, Block, Brick

SIZE RANGE

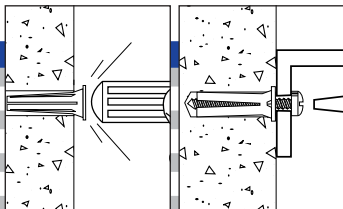
No. 6-8 x 3/4" to No. 16-18 x 1-1/2"

ANCHOR MATERIAL

Lead Alloy

PRODUCT DESCRIPTION

The Scru-Lead™ anchor is designed for use with sheet metal or wood screws in concrete, block or brick. The anchor is made entirely of lead alloy which is soft enough for easy installation, yet hard enough to give sure, secure holding power. The performance of this product depends on the integrity of the base material. The anchor is recommended for light duty applications where holding power is not a critical factor. It should not be used overhead.



ANCHOR SIZES AND STYLES

CAT. NO.	SIZE	DRILL DIA.	MIN. HOLE DEPTH	STD. BOX	STD. CTN.	WT./100
9409	6-8 x 3/4"	1/4"	3/4"	100	500	1-1/4
9414	6-8 x 1"	1/4"	1"	100	500	1-1/2
9419	6-8 x 1-1/2"	1/4"	1-1/2"	100	500	2
9429	10-14 x 1"	5/16"	1"	100	500	2
9439	10-14 x 1-1/2"	5/16"	1-1/2"	100	500	3
9460	16-18 x 1-1/2"	3/8"	1-1/2"	25	250	4-1/2
9430 (bulk)	10-14 x 1"	5/16"	1"	-	1000	2

INSTALLATION SPECIFICATIONS

ANCHOR SIZE	6-8	10-14	16-18
ANSI Drill Bit Size	1/4"	5/16"	3/8"
Flange Size	25/64"	1/2"	37/64"
Screw Size Range	6 - 8	10 - 14	16 - 18

PERFORMANCE DATA

ULTIMATE LOAD CAPACITIES - CONCRETE

ANCHOR SIZE	EMBED. DEPTH	2,000 PSI CONCRETE TENSION (LBS.)	CONCRETE SHEAR (LBS.)	4,000 PSI CONCRETE TENSION (LBS.)	CONCRETE SHEAR (LBS.)	6,000 PSI CONCRETE TENSION (LBS.)	CONCRETE SHEAR (LBS.)
6-8	3/4"	160	215	280	215	280	215
6-8	1"	220	215	345	215	345	215
6-8	1-1/2"	350	215	460	215	460	215
10-14	1"	580	575	810	575	810	575
10-14	1-1/2"	800	575	1,000	575	1,000	575
16-18	1-1/2"	920	1,200	1,260	1,200	1,260	1,200

ULTIMATE LOAD CAPACITIES FOR C-90 BLOCK AND SOLID BRICK

ANCHOR SIZE	EMBED. DEPTH	C-90 HOLLOW BLOCK		SOLID RED BRICK	
		TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)
6-8	*3/4"	70	200	95	200
10-14	*1"	410	520	340	520
16-18	*1-1/2"	740	1,000	890	1,000

APPROVALS AND LISTINGS

Federal Specification

Meets the descriptive requirements of FF-S-325C, Group IV, Type 1 (superseded).

BANTAM PLUG



Bantam Plug™

BASE MATERIAL

Concrete, Block, Brick, Wallboard

SIZE RANGE

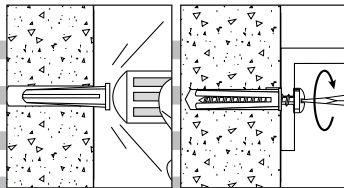
No. 6-8 x 3/4" to No. 14-16 x 1-1/2"

ANCHOR MATERIAL

Plastic

PRODUCT DESCRIPTION

The Bantam Plug™ anchor is a plastic anchor designed for use with lightweight fixtures with a sheet metal or wood screw. The anchor is recommended for light duty static applications where holding power is not a critical factor. It should not be used overhead.



ANCHOR SIZES AND STYLES

CAT. NO.	SIZE	DRILL DIA.	MIN. HOLE DEPTH	STD. BOX	STD. CTN.	MASTER CTN.	WT./ 1000
7559	6-8 x 3/4"	3/16"	3/4"	100	1000	5000	1
7569	8-10 x 7/8"	3/16"	7/8"	100	1000	5000	1-1/2
7579	10-12 x 1"	1/4"	1"	100	1000	5000	3
7589	14-16 x 1-1/2"	5/16"	1-1/2"	50	500	2500	6

KITS SLOTTED / PHILLIPS SHEET METAL SCREWS

CAT. NO.	KIT NO.	ANCHOR SIZE	SCREW SIZE	MIN. HOLE DEPTH	ANCHORS & SCREWS	STD. CTN.	WT./ 100
8934	B-8	8-10	#8 x 1"	7/8"	100	10	9-12
8936	B-10	10-12	#10 x 1"	1"	100	10	12
8938	B-12	10-12	#12 x 1"	1"	100	10	14

INSTALLATION SPECIFICATIONS

ANCHOR SIZE	6-8	8-10	10-12	14-16
ANSI Drill Bit Size	3/16"	3/16"	1/4"	5/16"
Flange Size	19/64"	19/64"	3/8"	7/16"
Screw Size Range	6-8	8-10	10-12	14-16

PERFORMANCE DATA

ULTIMATE LOAD CAPACITIES - CONCRETE

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.)
6-8	3/4"	185	215	210	240	225	240
8-10	7/8"	300	235	440	280	520	280
10-12	1"	350	280	550	350	640	350
14-16	1-1/2"	840	530	840	575	900	575

LOAD CAPACITIES FOR C-90 BLOCK AND SOLID BRICK

ANCHOR SIZE	EMBED. DEPTH	C-90 HOLLOW BLOCK		SOLID RED BRICK	
		TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)
6-8	3/4"	180	215	100	230
8-10	7/8"	290	235	160	260
10-12	1"	350	280	280	320
14-16	1-1/2"	840	530	880	500



Fluted Plastic

BASE MATERIAL

Concrete, Block, Brick, Stone

SIZE RANGE

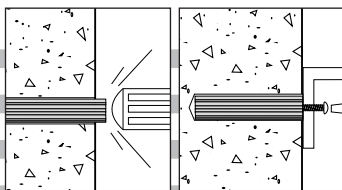
No. 4-6 x 1" to No. 14 x 1-1/2"

ANCHOR MATERIAL

Plastic

PRODUCT DESCRIPTION

The Fluted Plastic Anchor is designed for light duty fastening applications with sheet metal or wood screws. Longitudinal ribs on the anchor body prevent it from turning during tightening of the screw. This inexpensive plastic screw anchor comes color-coded by diameter for easy application. The anchor is recommended for light duty static applications where holding power is not a critical factor. It should not be used overhead.



ANCHOR SIZES

CAT. NO.	SIZE	COLOR	DRILL DIA.	MIN. HOLE DEPTH	STD. BOX	STD. CTN.	WT./1000
7500	4-6 x 1"	White	3/16"	1"	100	1000	1
7505	7-9 x 1"	Red	7/32"	1"	100	1000	2
7510	10-12 x 1"	Green	1/4"	1"	100	1000	2
7515	10-12 x 1-1/4"	Green	1/4"	1-1/4"	100	1000	2
7520	10-12 x 1-1/2"	Green	1/4"	1-1/2"	100	1000	3
7525	14 x 1"	Blue	5/16"	1"	100	1000	2
7530	14 x 1-1/2"	Blue	5/16"	1-1/2"	100	1000	4

INSTALLATION SPECIFICATIONS

ANCHOR SIZE	4-6	7-9	10-12	14
ANSI Drill Bit Size	3/16"	7/32"	1/4"	5/16"
Screw Size Range	4-6	7-9	10-12	14

MATERIAL SPECIFICATIONS

ANCHOR COMPONENT	COMPONENT MATERIAL
Anchor Body	Engineered Plastic

PERFORMANCE DATA

ULTIMATE LOAD CAPACITIES - CONCRETE

ANCHOR SIZE	EMBED. DEPTH	2,000 PSI CONCRETE TENSION (LBS.)	CONCRETE SHEAR (LBS.)	4,000 PSI CONCRETE TENSION (LBS.)	CONCRETE SHEAR (LBS.)	6,000 PSI CONCRETE TENSION (LBS.)	CONCRETE SHEAR (LBS.)
4-6	3/4"	120	200	140	215	160	215
7-9	7/8"	220	230	235	240	250	240
10-12	1"	440	280	490	350	540	350
10-12	1-1/4"	490	280	540	350	590	350
10-12	1-1/2"	520	280	610	350	680	350
14	1"	520	530	570	575	620	575
14	1-1/2"	540	530	615	575	690	575



Strap-Toggle™

HOLLOW WALL ANCHOR

BASE MATERIAL

Hollow Wallboard or Hollow Block

SIZE RANGE

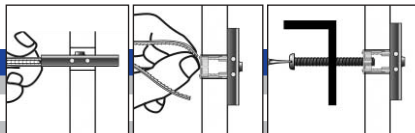
3/16" x 4" to 1/2" x 4"

ANCHOR MATERIAL

Plastic

PRODUCT DESCRIPTION

The Strap-Toggle™ is a pre-assembled anchor consisting of a carbon steel wing and a locking cap / ratchet leg assembly molded from engineered plastic. When compared to traditional toggles, this unique anchor can be installed through a smaller hole and does not require a fixture or screw to set it.



ANCHOR SIZES

CAT. NO.	SIZE	DRILL DIA.	WALL THICKNESS	STD. BOX	STD. CTN.	WT./100
4052	3/16" x 4"	1/2"	3/8" – 2-1/2"	50	300	3.5
4054	1/4" x 4"	1/2"	3/8" – 2-1/2"	50	300	3.5
4056	3/8" x 4"	3/4"	3/8" – 2-1/2"	25	150	5
4058	1/2" x 4"	3/4"	3/8" – 2-1/2"	25	150	5

INSTALLATION SPECIFICATIONS

ANCHOR SIZE	3/16"	1/4"	3/8"	1/2"
ANSI Drill Bit Size	*1/2"	*1/2"	**3/4"	**3/4"
Cap Size	5/8"	5/8"	1"	1"
Grip Range	2-1/2"	2-1/2"	2-1/2"	2-1/2"
Thread Size	3/16"-24	1/4"-20	3/8"-16	1/2"-13
Max. Torque (ft.-lbs.)	5	5	5	5
Minimum Clearance	1-7/8"	1-7/8"	1-7/8"	1-7/8"

MATERIAL SPECIFICATIONS

ANCHOR COMPONENT	COMPONENT MATERIAL
Wing	AISI C1010
Zinc Plating	ASTM B633, SC1, Type III, (Fe/Zn 5)
Cap / Strap	Engineered Plastic

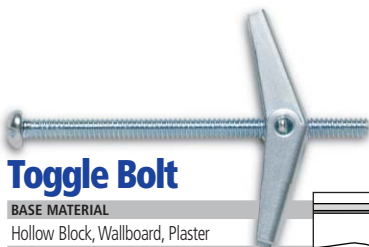
PERFORMANCE DATA

	SIZE	DRILL DIA.	WALLBOARD THICKNESS				C-90 HOLLOW BLOCK
			3/8"	1/2"	5/8"	3/4"	
Tension (lbs.)	3/16"	1/2"	120	130	195	205	1,080
	1/4"	1/2"	130	145	210	215	1,355
	3/8"	3/4"	135	150	220	230	1,435
	1/2"	3/4"	140	150	220	230	1,720
Shear (lbs.)	3/16"	1/2"	240	285	380	440	740
	1/4"	1/2"	270	295	420	470	1,420
	3/8"	3/4"	275	300	420	475	2,330
	1/2"	3/4"	290	355	430	485	2,980

APPROVALS AND LISTINGS

Federal Specification

The Strap-Toggle meets the descriptive requirements of FF-B-588D, Type V for a captive toggle (superseded).



Toggle Bolt

BASE MATERIAL

Hollow Block, Wallboard, Plaster

SIZE RANGE

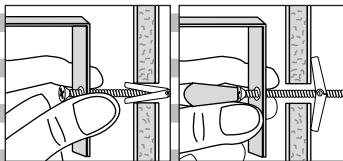
1/8" x 2" to 1/2" x 6"

ANCHOR MATERIAL

Carbon Steel

PRODUCT DESCRIPTION

The Toggle Bolt is a spring wing type hollow wall anchor designed for use in block, wallboard and other hollow base materials. The Toggle Bolt is a two-part assembly consisting of a machine screw and a spring wing toggle. Sizes range from 1/8" x 2" to 1/2" x 6" with combo round, flat, mushroom, tie-wire or slotted hex head styles.



ANCHOR SIZES AND STYLES

CAT. NO. MUSH.	SHH	SIZE	DRILL DIA.	STD. BOX	STD. CTN.	WT./ 100
4023	4028	1/8" x 2"	3/8"	50	500	1-1/4
4033	4038	1/8" x 3"	3/8"	50	500	1-1/2
4043	-	1/8" x 4"	3/8"	50	500	2
4133	-	3/16" x 3"	1/2"	50	500	4
4143	-	3/16" x 4"	1/2"	50	500	5
4233	-	1/4" x 3"	5/8"	50	500	6-1/2
4243	-	1/4" x 4"	5/8"	50	500	7-1/2

CAT. NO. ROUND	FLAT	SIZE	DRILL DIA.	STD. BOX	STD. CTN.	WT./ 100
4021	-	1/8" x 2"	3/8"	50	500	1-1/4
4031	4033	1/8" x 3"	3/8"	50	500	1-1/2
4041	4042	1/8" x 4"	3/8"	50	500	2
4121	-	3/16" x 2"	1/2"	50	500	3-1/4
4131	4132	3/16" x 3"	1/2"	50	500	4
4141	4142	3/16" x 4"	1/2"	50	500	5
4151	-	3/16" x 5"	1/2"	50	500	5-1/2
4161	-	3/16" x 6"	1/2"	50	500	6-1/4
4231	4232	1/4" x 3"	5/8"	50	500	6-1/2
4241	4242	1/4" x 4"	5/8"	50	500	7-1/2
4251	-	1/4" x 5"	5/8"	50	500	8-1/2
4261	-	1/4" x 6"	5/8"	50	500	9-1/2
4331	-	5/16" x 3"	7/8"	25	250	13
4341	-	5/16" x 4"	7/8"	25	250	14
4351	-	5/16" x 5"	7/8"	25	250	16
4361	-	5/16" x 6"	7/8"	25	250	18
4431	-	3/8" x 3"	7/8"	25	250	16
4441	-	3/8" x 4"	7/8"	25	250	18
4451	-	3/8" x 5"	7/8"	25	125	20
4461	-	3/8" x 6"	7/8"	25	125	23
4541	-	1/2" x 4"	1-1/4"	25	25	42
4561	-	1/2" x 6"	1-1/4"	25	25	50

TOGGLE WINGS ONLY

CAT. NO.	SIZE	DRILL DIA.	STD. BOX	STD. CTN.	WT./ 100
4000	1/8"	3/8"	100	500	1
4020	3/16"	1/2"	100	1000	2
4220	1/4"	5/8"	100	1000	3
4330	5/16"	7/8"	50	500	7
4430	3/8"	7/8"	50	500	7
4540	1/2"	1-1/4"	25	25	19

TIE-WIRE ACOUSTICAL TOGGLE

CAT. NO.	SIZE	TIE WIRE HOLE SIZE	DRILL DIA.	STD. BOX	STD. CTN.	WT./ 100
4247	1/4" x 4"	7/32"	5/8"	100	100	9
4257	1/4" x 5"	7/32"	5/8"	100	100	12

INSTALLATION SPECIFICATIONS

STANDARD TOGGLE

ANCHOR SIZE	1/8"	3/16"	1/4"	5/16"	3/8"	1/2"
ANSI Drill Bit Size	3/8"	1/2"	5/8"	7/8"	7/8"	1-1/4"
Wing Clearance	1-1/16"	1-3/8"	1-1/2"	2-1/8"	2-1/8"	3"
Thread Size	6-32	10-24	1/4-20	5/16-18	3/8-16	1/2-13

MATERIAL SPECIFICATIONS

ANCHOR COMPONENT	COMPONENT MATERIAL
Wing Body	AISI 1010
1/8"-3/8" Trunnion Nut	AISI 1010
1/2" Trunnion Nut	Zamac Alloy
Bolt	SAE Grade 1 Carbon Steel - ANSI B18.6.3
Zinc Plating	ASTM B633, SC 1, Type III (Fe/Zn 5)

PERFORMANCE DATA

LOAD CAPACITIES IN GYPSUM WALLBOARD

ANCHOR SIZE (INCHES)	3/8" WALLBOARD		1/2" WALLBOARD		5/8" WALLBOARD		3/4" WALLBOARD	
	TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)
1/8"	150	180	200	205	250	265	290	310
3/16"	170	210	245	280	315	350	385	420
*1/4"	285	310	310	350	350	385	420	445
5/16"	320	360	330	420	365	450	425	510
3/8"	325	370	340	440	385	470	450	530
1/2"	340	410	435	470	520	560	555	600

LOAD CAPACITIES FOR C-90 HOLLOW BLOCK

ANCHOR SIZE	DRILL DIA.	C-90 HOLLOW BLOCK	
		TENSION (LBS.)	SHEAR (LBS.)
1/8"	3/8"	270	270
3/16"	1/2"	340	530
*1/4"	5/8"	560	890
5/16"	7/8"	775	1,020
3/8"	7/8"	825	1,060
1/2"	1-1/4"	1,305	1,200

APPROVALS AND LISTINGS

Federal Specification

Standard Toggle Bolt anchors meet the descriptive requirements of FF-B-588D, Type 1, Class A, Style 1 (superseded).

Tie Wire Toggle Bolt anchors meet the descriptive requirements of FF-B-588D, Type 1, Class A, Style 3 (superseded).



Polly™

HOLLOW WALL ANCHOR

BASE MATERIAL

Plaster, Wallboard, Block, Hollow Tile, Plywood

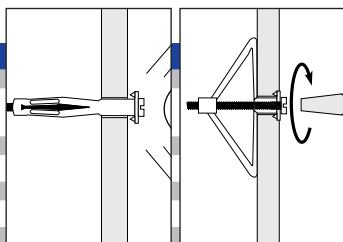
SIZE RANGE

1/8" Extra Short to 1/4" Extra Long

ANCHOR MATERIAL

Carbon Steel

PRODUCT DESCRIPTION



The Polly™ is a sleeve type hollow wall anchor designed for use in base materials such as plaster, wallboard, concrete block, hollow tile or plywood.

ANCHOR SIZES AND STYLES

COMBINATION SLOTTED PHILLIPS HEAD POLLY

CAT. NO.	SIZE	SCREW LENGTH	DRILL DIA.	WALL THICKNESS	STD. BOX	STD. CTN.	WT./100
2100	1/8" Ex. Short	1-1/16"	5/16"	1/8" to 1/4"	100	500	1
2101	1/8" Short	1-3/4"	5/16"	3/8" to 1/2"	100	500	1-1/2
2102	1/8" Long	2-1/4"	5/16"	5/8" to 1"	100	500	2
2103	1/8" Ex. Long	2-11/16"	5/16"	1-1/4" to 1-1/2"	50	250	2-1/2
2111	3/16" Short	2"	3/8"	3/8" to 5/8"	50	250	3-1/2
2112	3/16" Long	2-1/2"	3/8"	3/4" to 1-1/8"	50	250	4
2113	3/16" Ex. Long	3"	3/8"	1-1/4" to 1-3/4"	25	125	5-1/4
2121	1/4" Short	2-1/4"	7/16"	3/8" to 1/2"	50	250	5
2122	1/4" Long	2-3/4"	7/16"	5/8" to 1-1/8"	50	250	6-1/4
2123	1/4" Ex. Long	3-3/8"	7/16"	1-1/4" to 1-3/4"	25	125	7-1/2

SLOTTED HEX HEAD POLLY

CAT. NO.	SIZE	SCREW LENGTH	DRILL DIA.	WALL THICKNESS	STD. BOX	STD. CTN.	WT./100
2105	1/8" Short	1-3/4"	5/16"	3/8" to 1/2"	100	500	1-1/2

DRIVE POLLY

CAT. NO.	SIZE	SCREW LENGTH	DRILL DIA.	WALL THICKNESS	STD. BOX	STD. CTN.	WT./100
2180	1/8" Ex. Short	1-3/8"	-	1/8" to 1/4"	100	500	1
2182	1/8" Short	2"	-	3/8" to 1/2"	100	500	1-1/2
2184	1/8" Long	2-3/8"	-	1/2" to 3/4"	100	500	2

POLLY SETTING TOOL (FITS ALL SIZES)

CAT. NO.	STD. BOX	STD. CTN.	WT./EACH
2150	1	1	2

INSTALLATION SPECIFICATIONS

ANCHOR SIZE	1/8"	3/16"	1/4"
ANSI Drill Bit Size	5/16"	3/8"	7/16"
Collar Diameter	1/2"	5/8"	11/16"
Body Diameter	17/64"	3/8"	7/16"
Thread Size	6-32	10-24	1/4-20

MATERIAL SPECIFICATIONS

ANCHOR COMPONENT	COMPONENT MATERIAL
Anchor Body	AISI 1010
Machine Screw	Carbon Steel - ANSI B18.6.3
Zinc Plating	ASTM B633, SC1, Type III, (Fe/Zn 5)

PERFORMANCE DATA

ULTIMATE LOAD CAPACITIES FOR GYPSUM WALLBOARD

	POLLY SIZE	DRILL DIA.	WALLBOARD THICKNESS			
			3/8"	1/2"	5/8"	3/4"
Tension (lbs.)	1/8"	5/16"	80	150	160	170
	3/16"	3/8"	90	175	190	210
	1/4"	7/16"	95	200	220	245
Shear Load (lbs.)	1/8"	5/16"	110	170	195	210
	3/16"	3/8"	130	180	210	220
	1/4"	7/16"	150	200	220	250

ULTIMATE LOAD CAPACITIES FOR PLYWOOD

	POLLY SIZE	DRILL DIA.	PLYWOOD THICKNESS				
			1/8"	1/4"	3/8"	1/2"	5/8"
Tension (lbs.)	1/8"	5/16"	110	125	200	300	420
	3/16"	3/8"	-	-	320	420	500
	1/4"	7/16"	-	-	400	480	560
Shear Load (lbs.)	1/8"	5/16"	100	450	450	450	450
	3/16"	3/8"	-	-	580	610	640
	1/4"	7/16"	-	-	720	830	900

ULTIMATE LOAD CAPACITIES FOR C-90 HOLLOW BLOCK

POLLY SIZE	DRILL DIA.	ASTM C-90 HOLLOW BLOCK TENSION (LBS.)	ASTM C-90 HOLLOW BLOCK SHEAR (LBS.)
1/8" XL	5/16"	160	170
3/16" XL	3/8"	190	210
1/4" XL	7/16"	220	245

APPROVALS AND LISTINGS

Federal Specification

The Standard Polly meets the descriptive requirements of FF-B-588D, Type III, Class A (superseded)

The Drive Polly meets the descriptive requirements of FF-B-588D, Type III, Class B (superseded)



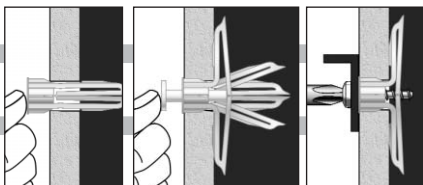
Pop-Toggle™

BASE MATERIAL

Gypsum Wallboard, Plaster and Hollow Masonry

SIZE RANGE

Wall thickness from 1/8" to 3/4", No. 6 to No. 14 wood or sheet metal screws



ANCHOR MATERIAL

Plastic

PRODUCT DESCRIPTION

Pop-Toggle™ fasteners are hollow wall anchors ideal for static applications requiring light to medium load performance. Installation is very fast, needing a pre-drilled 5/16" diameter hole. The fastener pre-installs without a screw, allowing for easy placement and removal of the fixture. Pop-Toggle™ fasteners are not recommended for use overhead or applications where holding values are critical.

ANCHOR SIZES

CAT NO.	DESCRIPTION	STD. BOX	STD. CTN.	WT./100
4060	Pop-Toggle Small	100	1000	
4062	Pop-Toggle Medium	100	1000	
4064	Pop-Toggle Large	100	1000	

INSTALLATION SPECIFICATIONS

Recommended Screw Size	No. 6 to No. 14 (3.5mm-6mm diameter)
Anchor Length	2-1/8" (54mm)

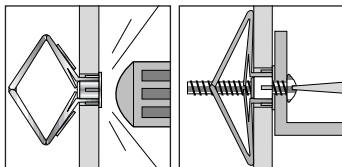
MATERIAL SPECIFICATIONS

ANCHOR COMPONENT	COMPONENT MATERIAL
Fastener Body	Engineered Plastic

PERFORMANCE DATA

ULTIMATE LOAD CAPACITIES - PLYWOOD & GYPSUM WALLBOARD

ANCHOR SIZE	DRILL BIT (IN)	GRIP RANGE (IN)	1/4" PLYWOOD		3/8" WALLBOARD		1/2" WALLBOARD		5/8" WALLBOARD	
			TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)	TENSION (LBS)	SHEAR (LBS)
Small	5/16	1/8-1/4	125	265						
Medium	5/16	3/8-1/2	175	125	95	125	145	165	100	215
Large	5/16	5/8-3/4	-	-	-	-	-	-	160	235



Poly-Toggle®

PLASTIC HOLLOW WALL ANCHOR

BASE MATERIAL	SIZE RANGE	ANCHOR MATERIAL
Wallboard or Solid Masonry	1/8" to 1" Wall Thickness	Plastic

PRODUCT DESCRIPTION

The Poly-Toggle™ is a screw actuated hollow wall anchor for use in paneling, wallboard and solid masonry available in 6 sizes to match the most common wall thicknesses. In solid base materials, the anchor can be used by removing the outer wings. The performance of this product depends on the integrity of the base material in which it is installed. The anchor is recommended for light duty static application where holding power is not a critical factor.

ANCHOR SIZES

CAT. NO.	SIZE	WALL THICKNESS	DRILL DIA.	SCREWS	STD. BOX	STD. CTN.	WT./ 1000
2302	Mini	1/8"	5/16"	-	100	1000	3
2303	Short	3/8"	5/16"	-	100	1000	5
2304	Medium	1/2"	5/16"	-	100	1000	5
2305	Long	5/8"	5/16"	-	100	1000	6
2306	Extra Long	3/4"	5/16"	-	100	1000	7
2307	Super Long	1"	5/16"	-	100	1000	8
2324	Medium	1/2"	5/16"	#10 x 1-1/4"	100	1000	15
2325	Long	5/8"	5/16"	#10 x 1-1/2"	100	1000	18

INSTALLATION SPECIFICATIONS

ANCHOR SIZE	MINI	SHORT	MEDIUM	LONG	EXTRA LONG	SUPER LONG
ANSI Drill Bit Size	5/16"	5/16"	5/16"	5/16"	5/16"	5/16"
Minimum Screw Length	1"	1-1/4"	1-1/4"	1-1/2"	1-3/4"	2"
Screw Size Range	6-12	6-12	6-12	6-12	6-12	6-12
Flange Size	29/64"	1/2"	1/2"	1/2"	1/2"	1/2"
Embed. (Solid Materials)	5/8"	1-1/8"	1-1/4"	1-3/8"	1-1/2"	1-3/4"

PERFORMANCE DATA

ULTIMATE LOAD CAPACITIES - GYPSUM WALLBOARD & ASTM C90 HOLLOW BLOCK

	DRILL SIZE	THICKNESS DIA.	WALLBOARD TENSION (LBS.)	WALLBOARD SHEAR (LBS.)	CONCRETE BLOCK TENSION (LBS.)	CONCRETE BLOCK SHEAR (LBS.)
Mini	5/16"	1/8"	120	100	-	-
Short	5/16"	3/8"	135	165	240	220
Medium	5/16"	1/2"	150	220	280	230
Long	5/16"	5/8"	170	250	350	230
Extra Long	5/16"	3/4"	180	250	400	240
Super Long	5/16"	1"	220	250	450	250

APPROVALS AND LISTINGS

Federal Specification

Meets the descriptive requirements of F-F-B-588D, Type IV (superseded).



Zip-It®

BASE MATERIAL

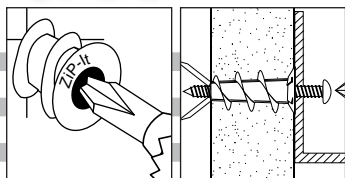
Wallboard

SIZE RANGE

Use with No. 6 or No. 8 screw

ANCHOR MATERIAL

Engineered Nylon or Zamac Alloy



PRODUCT DESCRIPTION

The Zip-It® anchor is a one piece self drilling anchor designed for use in hollow gypsum wallboard for light duty loads. It is available in both engineered nylon and Zamac alloy for use with either a No. 6 or No. 8 screws in 3/8" to 1" wallboard. The Zip-It® Jr. is formed from engineered nylon for use with No. 6 screws in 3/8" to 5/8" wallboard.

ANCHOR SIZES AND STYLES

NYLON ZIP-IT

CAT. NO.	WALL THICKNESS	DESCRIPTION	STD. BOX	STD. CTN.	WT./ 100
2345	3/8" to 1"	Std. box, no screws	100	1000	1/2
2348	3/8" to 1"	Std. box, No. 8 x 1" screws	100	1000	1-1/4
2355	3/8" to 1"	Master carton, no screws	-	5000	1/2

ZINC ZIP-IT

CAT. NO.	WALL THICKNESS	DESCRIPTION	STD. BOX	STD. CTN.	WT./ 100
2346	3/8" to 1"	Std. Box, (No screws)	100	1000	2
2349	3/8" to 1"	Std. Box, No. 8 x 1" screws	100	1000	2-1/2
2356	3/8" to 1"	Master Ctn., (No screws)	-	1000	1-3/4

CORE ZIP-IT

CAT. NO.	WALL THICKNESS	DESCRIPTION	STD. BOX	STD. CTN.	WT./ 100
2370	3/8" to 1"	Nylon Core Zip-It	100	1000	1/2
2371	3/8" to 1"	Zinc Core Zip-It	100	1000	1-1/4
2390	3/8" to 5/8"	Nylon Core Jr. Zip-It	100	1000	1/4

Core Zip-It available in Canada ONLY

ZIP-IT KITS

CAT. NO.	WALL THICKNESS	DESCRIPTION	STD. BOX	STD. CTN.	WT./ 100
2368	Nylon	50 Anchors, No. 8 x 1" screws, & No. 2 Phillips Driver Bit	1	10	7
2369	Zinc	50 Anchors & No. 8 x 1" screws & No. 2 Phillips Driver Bit	1	10	13-1/4

NYLON ZIP-IT JR.

CAT. NO.	WALL THICKNESS	DESCRIPTION	STD. BOX	STD. CTN.	WT./ 100
2350	3/8"-5/8"	Std. Box (No screws)	100	1000	1/4
2351	3/8"-5/8"	Std. Box, No. 6 x 1" screws	100	1000	3/4

ZINC ZIP-IT JR.

CAT. NO.	WALL THICKNESS	DESCRIPTION	STD. BOX	STD. CTN.	WT./100
2362	3/8" -5/8"	Std. Box (No screws)	100	1000	1
2364	3/8" -5/8"	Std. Box, No. 6 x 1" screws	100	1000	3
2363	3/8" -5/8"	Master Ctn. (No screws)	-	5000	1

ZIP-IT JR. KITS

CAT. NO.	MATERIAL	DESCRIPTION	STD. BOX	STD. CTN.	WT. CTN.
2367	Nylon	50 Anchors, No. 6 x 1" screws, and No. 2 Phillips Driver Bit	1	10	7
2361	Zinc	50 Anchors, No. 6 x 1" screws, and No. 2 Phillips Driver Bit	1	10	13-1/4

INSTALLATION SPECIFICATIONS

	NYLON/ZINC ZIP-IT	NYLON/ZINC ZIP-IT JR.
Collar Size	9/16"	15/32"
Screw Size Range (No.)	6-8*	*6-8
Thread Length	15/16"	47/64"
Point Length	3/4"	37/64"
Anchor Length	1-11/16"	1-5/16"

MATERIAL SPECIFICATIONS

ANCHOR COMPONENT	COMPONENT MATERIAL	
	NYLON ZIP-IT / ZIP-IT JR.	ZINC ZIP-IT / ZIP-IT JR.
Anchor Body	Nylon	Zamac Alloy

PERFORMANCE DATA

LOAD CAPACITIES FOR ZIP-IT ANCHOR

	3/8"	WALLBOARD THICKNESS		
		1/2"	5/8"	3/4"
Tension Load (lbs.)	50	65	80	85
Shear Load (lbs.)	60	70	100	100

LOAD CAPACITIES FOR ZIP-IT JR. ANCHOR

	3/8"	WALLBOARD THICKNESS		
		1/2"	5/8"	3/4"
Tension Load (lbs.)	45	55	70	75
Shear Load (lbs.)	50	55	70	80



Zip-Toggle®

BASE MATERIAL

Wallboard

SIZE RANGE

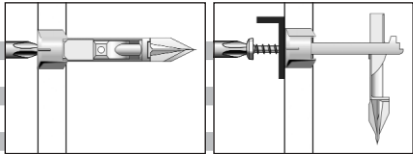
3/8" to 1-1/4"

ANCHOR MATERIAL

Engineered Nylon or Zamac Alloy

PRODUCT DESCRIPTION

The Zip-Toggle™ is a hollow gypsum wallboard anchor designed to provide superior performance without the need to pre-drill larger diameter holes. The Zip-Toggle™ is packaged with its own No. 6 x 2" lubricated screw.



ANCHOR SIZES

CAT. NO.	SIZE	SCREWS	STD. BOX	STD. CTN.	WT./100
2290	Nylon Zip-Toggle™ with screws	No.6 x 2"	50	250	
2295	Zinc Zip-Toggle™ with screws	No.6 x 2"	50	250	

INSTALLATION SPECIFICATIONS

Recommended Screw Size	No. 6 x 2" (lubricated)
Threaded Length	21/64"
Point Length	5/8"
Anchor Length	2-1/8"

MATERIAL SPECIFICATIONS

ANCHOR COMPONENT	COMPONENT MATERIAL
Fastener Body	Nylon/Zamac
Screw	Carbon Steel - ANSI 18.6.4
Screw Plating	ASTM B 633, SCI, Type III (Zn/Fe 5)

PERFORMANCE DATA

	WALLBOARD THICKNESS		
	3/8"	1/2"	5/8"
Tension (lbs.)	75	140	180
Shear (lbs.)	180	265	300



LEGS®

HOLLOW WALL ANCHOR

BASE MATERIAL

Wallboard

SIZE RANGE

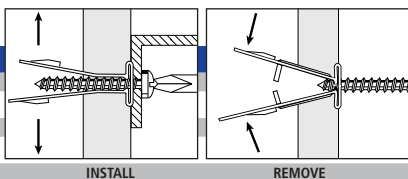
Use with No. 6 or No. 8 screw

ANCHOR MATERIAL

Carbon Steel

PRODUCT DESCRIPTION

The LEGS® anchor is a fast, easy to use expansion anchor designed for use in wallboard. The anchor has a pierce point, requiring no pre-drilling. Removal of the anchor, if required, is easy. Once removed, the anchor leaves a small slit in the wallboard.



ANCHOR SIZE AND STYLE

LEGS DRYWALL ANCHOR

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.	WT./ 100
2336	Legs Wallboard Anchor	100	1000	3/4
2335	Legs Anchor w/ No. 8 x 1" Screw	100	1000	1-3/4

MASTER PACK

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.	WT./ 100
2338	Legs Wallboard Anchor	-	5000	3/4
2337	Legs Wallboard Anchor	-	5000	3/4

LEGS ANCHOR KIT

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.	WT./ CTN.
2360	Legs Wallboard Anchor Kit 50 Anchors and No. 8 x 1" Screws	1	10	9

MATERIAL SPECIFICATIONS

ANCHOR COMPONENT

Anchor Body

COMPONENT MATERIAL

Heat Treated Spring Steel

PERFORMANCE DATA

ULTIMATE LOAD CAPACITIES FOR LEGS ANCHOR

WALLBOARD THICKNESS	3/8"	1/2"	5/8"	3/4"
Tension Load (lbs.)	60	70	95	100
Shear Load (lbs.)	85	115	165	170



Wall-Dog™

SIZE RANGE

3/16" Diameter x 1-1/4" Length

BASE MATERIAL

Wallboard (1/2", 5/8" & double wallboard), Plywood, Concrete, Hollow or Grout Filled Block, Brick, Plaster

ANCHOR MATERIAL

Case Hardened Steel

PRODUCT DESCRIPTION

The Powers Wall-Dog™ is the industry's first all steel one-piece screw anchor, which features high-profile threads for easy fastening into wallboard and other masonry base materials. Its deep cutting, corkscrew-like threads provide for smooth entry and a powerful hold, and when removed the Wall-Dog leaves a much smaller hole than toggles or other systems. For fastening into wallboard or wood, no pre-drilling is required. Fastening into concrete, hollow or grout filled block, brick and plaster requires a pre-drilled 3/16" ANSI hole.

OVAL HD

WALL-DOG™ LIGHT DUTY ANCHOR

CAT NO.	DESCRIPTION	STD. BOX	STD. CTN.	MASTER CARTON
2314	Wall-Dog Chrome	100	1000	5000
2328	Wall-Dog White Head	100	1000	5000

PAN HD

CAT NO.	DESCRIPTION	STD. BOX	STD. CTN.	MASTER CARTON
2316	Wall-Dog Chrome	100	1000	5000
2330	Wall-Dog White Head	100	1000	5000

OVAL HD MASTER PACK

CAT NO.	DESCRIPTION	STD. BOX	STD. CTN.
2317	Wall-Dog Chrome Master Pack	5000	5000
2329	Wall-Dog White Head Master Pack	5000	5000

PAN HD MASTER PACK

CAT NO.	DESCRIPTION	STD. BOX	STD. CTN.
2315	Wall-Dog Chrome Master Pack	5000	5000
2331	Wall-Dog White Head Master Pack	5000	5000

WALL-DOG™ KIT (SCREWDRIVER)

PACKAGED WITH 100 CHROME PANHEAD ANCHORS AND 1 PHILLIPS® SCREWDRIVER

CAT NO.	DESCRIPTION	STD. BOX	STD. CTN.
2289	Wall-Dog Kit with Screwdriver	1	10

WALL-DOG™ KIT (BIT)

PACKAGED WITH 100 CHROME PANHEAD ANCHORS AND 3/16" STRAIGHT SHANK BIT

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.
2332	Wall-Dog Kit with Drill Bit	1	10

ULTIMATE LOAD CAPACITIES - WALLBOARD AND PLYWOOD

ANCHOR DIAMETER in.	1/2" WALLBOARD		5/8" WALLBOARD		1/2" PLYWOOD	
	TENSION lbs.	SHEAR lbs.	TENSION lbs.	SHEAR lbs.	TENSION lbs.	SHEAR lbs.
1/4	85	245	135	360	255	600

ULTIMATE LOAD CAPACITIES - NORMAL WEIGHT CONCRETE

ANCHOR DIAMETER in.	EMBEDMENT DEPTH in.	MINIMUM CONCRETE COMPRESSIVE STRENGTH $f'_c \geq 4000$ psi (27.6 MPa)	
		TENSION lbs.	SHEAR lbs.
1/4	3/4	350	1,030
1/4	1	700	1,070

ULTIMATE LOAD CAPACITIES - GROUT FILLED AND HOLLOW CONCRETE MASONRY AND STRUCTURAL BRICK MASONRY

ANCHOR DIA. IN.	EMBED. DEPTH IN.	ANCHOR LOCATION	GROUT FILLED CMU		HOLLOW CMU		STRUCTURAL BRICK MASONRY $F'M \geq 1500$ PSI (10.3 MPa)	
			ASTM C-90 BLOCK		ASTM C-90 BLOCK		F'M ≥ 1500 PSI (10.3 MPa)	
			TENSION LBS.	SHEAR LBS.	TENSION LBS.	SHEAR LBS.	TENSION LBS.	SHEAR LBS.
1/4	3/4	Center of Masonry Unit	–	–	–	–	400	650
1/4	3/4	T-Joint	–	–	–	–	350	600
1/4	1	Center of Masonry Unit	305	825	305	825	600	900
1/4	1	T-Joint	290	915	290	915	380	825

Concrete masonry units must be a minimum Grade N, Type II units conforming to ASTM Standard C90.



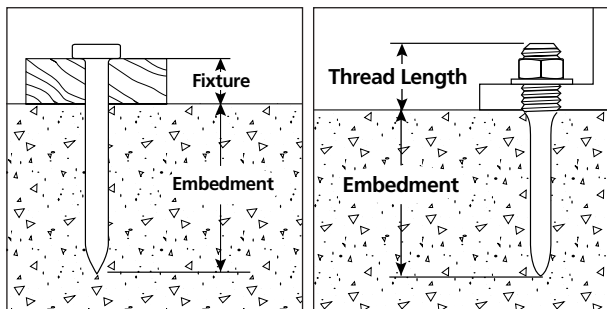
POWDER ACTUATED

Powder Actuated Fasteners

LENGTH SELECTION

For permanent applications using pins in concrete, first determine the thickness of the fixture to be fastened. To this, add the required embedment or penetration into the base material. This will be the fastener shank length required. For applications in the face shell of masonry block, select a fastener length which will not exceed the thickness of the face shell.

INSTALLATION PROCEDURE



For removable applications with threaded studs, the shank length required is equal to the embedment depth required. To determine the minimum threaded length, add the thickness of the fixture and the nut / washer thickness. The nut and washer thickness is equal to the nominal thread diameter. For applications where 3/8" threaded studs are used at an embedment depth of 1-3/8", the fasteners were driven up to the threaded portion of the part. Do not over tighten threaded parts. Maximum tightening torque values are listed in the table below. Use of a nut setter is recommended to reduce the possibility of over tightening the fasteners. For critical applications, perform a job site test.

MAXIMUM TORQUE
FOR 1/4" STUD (FT.-LBS.)

2

MAXIMUM TORQUE
FOR 3/8" STUD (FT.-LBS.)

4

LENGTH SELECTION

BASE STEEL THICKNESS (IN)	MAXIMUM TORQUE FOR 1/4" STUD (FT.-LBS.)	MAXIMUM TORQUE FOR 3/8" STUD (FT.-LBS.)
1/8"	2	4
3/16"	4	6
1/4"	6	10
3/8"	8	12

PERFORMANCE DATA

ULTIMATE LOAD CAPACITIES

ULTIMATE LOADS IN NORMAL WEIGHT CONCRETE

DESCRIPTION	EMBED. DEPTH (IN)	2000 PSI CONCRETE		3000 PSI CONCRETE		4000 PSI CONCRETE		5000 PSI CONCRETE	
		TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)
Ballistic Point Pin (.150" Shank)	5/8	370	590	610	810	610	800	590	780
	3/4	480	770	660	940	680	980	700	1,020
	1	690	1,130	770	1,200	820	1,350	870	1,500
	1-1/4	810	1,460	1,130	1,490	1,380	1,680	1,620	1,890
	1-1/2	920	1,780	1,490	1,780	1,930	2,020	2,370	2,250

ULTIMATE LOADS IN NORMAL WEIGHT CONCRETE CONTINUED

DESCRIPTION	EMBED. DEPTH (IN)	2000 PSI CONCRETE		3000 PSI CONCRETE		4000 PSI CONCRETE		5000 PSI CONCRETE	
		TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)
		.300 Head Drive Pin	5/8	370	590	610	810	610	800
8mm Head Drive Pin	3/4	480	770	660	940	680	980	700	1,020
1/4-20 Threaded Stud (0.145" Shank)	1	690	1,130	770	1,200	820	1,350	870	1,500
	1-1/4	810	1,460	1,130	1,490	1,380	1,680	1,620	1,890
	1-1/2	920	1,780	1,490	1,780	1,930	2,020	2,370	2,250
3/8 Head Drive Pin	1-1/4	930	1,780	1,160	2,120	1,310	2,120	1,600	2,120
(0.171" Shank)	1-1/2	1,470	2,540	2,040	2,540	2,040	2,540	2,040	2,540
3/8-16 Threaded Stud	1	770	1,250	990	1,320	1,300	1,700	1,300	1,700
(0.205" Shank)	1-1/4	1,340	2,090	1,340	2,170	1,690	2,560	1,690	2,560
	1-3/8	1,840	2,210	2,190	2,590	2,340	3,150	2,340	3,150
Ceiling Clips - Standard	3/4	320	600	500	600	525	975	540	1,170
(0.145" Shank)	1	410	960	670	990	700	1,180	720	1,280
Ceiling Clips - Economy	3/4	250	610	330	760	520	1,030	570	1,170
(0.145" Shank)	1	440	960	440	1,190	690	1,195	820	1,200
Ceiling Clips - Ladd Pin	1-1/8	630	810	750	1,100	955	1,225	1,060	1,290
(0.152" Shank)									

ULTIMATE LOADS IN LIGHTWEIGHT CONCRETE

DESCRIPTION	EMBED. DEPTH (IN)	3000 PSI LTWT. CONCRETE		3000 PSI LTWT. OVER 20 G DECK		3500 PSI LTWT. CONCRETE		3500 PSI LTWT. OVER 20 G DECK	
		TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)
		Ballistic Point Pin	3/4	560	600	350	1,310	600	650
(0.150" Shank)	1	570	1,000	550	1,350	610	1,080	590	1,460
	1-1/4	810	1,220	700	1,380	870	1,320	760	1,490
	1-1/2	1,040	1,440	840	1,400	1,120	1,560	920	1,510
.300 Head Drive Pin	3/4	560	600	350	1,310	600	650	380	1,410
8mm Head Drive Pin	1	570	1,000	550	1,350	610	1,080	590	1,460
1/4-20 Threaded Stud	1-1/4	810	1,220	700	1,380	870	1,320	760	1,490
(0.145" Shank)	1-1/2	1,040	1,440	840	1,400	1,120	1,560	920	1,510
3/8 Head Drive Pin	1-1/4	650	1,540	620	1,830	700	1,660	670	1,980
(0.171" Shank)	1-1/2	1,210	1,620	860	1,930	1,310	1,750	930	2,090
3/8-16 Threaded Stud	1	910	1,250	530	1,310	980	1,350	570	1,420
(0.205" Shank)	1-1/4	1,350	2,110	670	1,810	1,460	2,280	720	1,960
Ceiling Clips - Standard	3/4	410	440	270	980	440	480	300	1,060
(0.145" Shank)	1	480	790	360	980	520	850	390	1,060
Ceiling Clips - Economy	3/4	280	440	270	1,060	300	480	300	1,140
(0.145" Shank)	1	420	940	460	1,060	460	1,020	500	1,140
Ceiling Clips - Ladd Pin	1-1/8	730	1,130	440	1,000	790	1,220	480	1,080
(0.152" Shank)									

ULTIMATE LOADS - SILL PLATES IN NORMAL WEIGHT CONCRETE

DESCRIPTION	EMBED.	2000 PSI CONCRETE OR GREATER		
	DEPTH (IN)	TENSION (LBS.)	SHEAR PERPENDICULAR TO CONCRETE EDGE (LBS)	SHEAR (LBS.)
Ballistic Point Pin (0.150" Shank)	1-1/2	1,010	1,060	1,200
.300 Head Drive Pin 8mm Head Drive Pin (0.145" Shank)	1-1/2	1,010	1,060	1,200
3/8" Head Drive Pin (0.171" Shank)	1-1/2	940	960	1,150

ULTIMATE LOADS IN CONCRETE MASONRY UNITS

DESCRIPTION	EMBED. DEPTH (IN)	HOLLOW CMU				GROUT FILLED CMU			
		FACE		MORTAR JOINT		FACE		MORTAR JOINT	
		TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)
Ballistic Point Pin (0.150" Shank)	1	320	740	-	-	570	900	510	960
.300 Head Drive Pin 8mm Head Drive Pin 1/4-20 Threaded Stud (0.145" Shank)	1	320	740	-	-	570	900	510	960
3/8" Head Drive Pin (0.171" Shank)	1	-	-	-	-	740	850	-	-
3/8-16 Threaded Stud (0.205" Shank)	1	160	670	-	-	860	1,460	1,060	1,030

ULTIMATE LOADS IN A36 STEEL

DESCRIPTION	SHANK TYPE	1/8" STEEL		3/16" STEEL		1/4" STEEL		3/8" STEEL	
		TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)
Ballistic Point Pin (0.150" Shank)	Smooth	590	2,090	910	3,030	1,310	3,030	2,410	2,620
.300 Head Drive Pin 8mm Head Drive Pin 1/4-20 Thrd Stud (0.145" Shank)	Knurled	1,100	990	1,630	1,370	2,160	1,750	2,160	1,750
3/8 Head Drive Pin (0.171" Shank)	Smooth	590	2,090	910	3,030	1,310	3,030	2,410	2,620
3/8-16 Thrd Stud (0.205" Shank)	Knurled	1,100	2,230	1,630	2,770	2,160	3,300	2,560	3,760
Ceiling Clips - Std. (0.145" Shank)	Smooth	950	2,700	1,490	3,700	1,820	3,890	3,020	4,230
Ceiling Clips - Econ. (0.145" Shank)	Smooth	1,120	2,770	2,700	5,460	3,730	8,090	-	-
Ceiling Clips - Ladd (0.152" Shank)	Smooth	1,030	1,190	1,090	1,190	1,090	1,190	1,090	1,190
	Smooth	950	1,290	1,090	1,290	1,090	1,290	1,090	1,290
	Smooth	1,180	1,200	1,180	1,200	1,180	1,200	1,180	1,200

ALLOWABLE LOADS IN NORMAL WEIGHT CONCRETE

DESCRIPTION	EMBED. DEPTH (IN)	2000 PSI CONCRETE		3000 PSI CONCRETE		4000 PSI CONCRETE		5000 PSI CONCRETE	
		TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)
Ballistic Point Pin (0.150" Shank)	5/8	45	75	75	100	75	100	75	100
	3/4	60	95	85	120	85	125	90	130
	1	85	140	95	150	105	170	110	190
	1-1/4	100	185	140	185	175	210	205	240
	1-1/2	115	225	185	225	240	255	295	280
.300 Head Drive Pin	5/8	45	75	75	100	75	100	75	100
8mm Head Drive Pin	3/4	60	95	85	120	85	125	90	130
1/4-20 Thrd Stud (0.145" Shank)	1	85	140	95	150	105	170	110	190
	1-1/4	100	185	140	185	175	210	205	240
	1-1/2	115	225	185	225	240	255	295	280
3/8" Head Drive Pin (0.171" Shank)	1-1/4	110	220	145	265	165	265	200	265
	1-1/2	185	320	255	320	255	320	255	320
3/8-16 Thrd Stud (0.205" Shank)	1	95	155	125	165	165	215	165	215
	1-1/4	170	260	170	270	210	320	210	320
	1-3/8	230	275	275	325	290	395	290	395
Ceiling Clips - Std (0.145" Shank)	3/4	40	75	65	75	65	120	70	145
	1	50	120	85	125	90	150	90	160
Ceiling Clips - Econ. (0.145" Shank)	3/4	30	75	40	95	65	130	70	145
	1	55	120	55	150	85	150	105	150
Ceiling Clips - Ladd Pin (0.152" Shank)	1-1/8	80	100	95	140	120	155	135	160

ALLOWABLE LOADS IN LIGHTWEIGHT CONCRETE

DESCRIPTION	EMBED. DEPTH (IN)	3000 PSI LTWT. CONCRETE		3000 PSI LTWT. OVER 20 G DECK		3500 PSI LTWT. CONCRETE		3500 PSI LTWT. OVER 20 G DECK	
		TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)	TENSION (LBS.)	SHEAR (LBS.)
Ballistic Point Pin (0.150" Shank)	3/4	60	75	45	160	70	80	50	175
	1	70	125	70	165	75	135	75	180
	1-1/4	100	155	85	170	110	165	95	185
	1-1/2	130	180	105	175	140	195	115	190
.300 Head Drive Pin	3/4	60	75	45	160	70	80	50	175
8mm Head Drive Pin	1	70	125	70	165	75	135	75	180
1/4-20 Threaded Stud (0.145" Shank)	1-1/4	100	155	85	170	110	165	95	185
	1-1/2	130	180	105	175	140	195	115	190
3/8" Head Drive Pin (0.171" Shank)	1-1/4	80	195	80	230	90	210	85	250
	1-1/2	150	205	110	240	165	220	115	260
3/8-16 Threaded Stud (0.205" Shank)	1	115	155	65	165	125	170	70	180
	1-1/4	170	265	85	225	185	285	90	245
Ceiling Clips - Standard (0.145" Shank)	3/4	50	55	35	125	55	60	40	135
	1	60	100	45	125	65	105	50	135
Ceiling Clips - Economy (0.145" Shank)	3/4	35	55	35	135	40	60	40	145
	1	55	120	60	135	60	130	65	145
Ceiling Clips - Ladd Pin (0.152" Shank)	1-1/8	90	140	55	125	100	150	60	135

POWDER ACTUATED TOOLS

Always operate the tool according to the published tool operation instructions. The instructions should be kept with the tool. Never attempt to override the safety features of the tool.

TOOL SAFETY

Only properly trained and licensed operators as described in ANSI Standard A 10.3 and/or in conformance with local regulations may operate powder actuated tools. Powers' distributors offer complete training programs for end users. Contact your local Powers Branch office or distributor for complete details. The powder actuated tool summaries in the following sections of the manual, are for general information only. Reading this manual does not qualify an individual to operate a powder actuated tool.

GENERAL SAFETY PRECAUTIONS

The following is a condensed summary of general safety precautions. Refer to the individual instruction manuals published for each Powers tool for complete details.

1. Always operate the tool according to the published tool operation instructions. The instructions should be kept with the tool. Never attempt to override the safety features of the tool.
2. Never place your hand or other body parts over the front muzzle end of the tool. The fastener or piston can cause serious injury in the event of an accidental discharge
3. Use only genuine Powers fasteners, powder loads, and tool parts. Use of other materials not providing the same level of safety as genuine Powers components can cause improper and unsafe functioning of the tool.
4. Operators and bystanders must wear eye and hearing protection along with hard hats. Other appropriate personal safety gear that may be required should also be used.
5. Always post warning signs which state "Powder Actuated Tool in Use" within 50 feet of the area where tools are used.
6. Prior to using a tool, make sure it is unloaded and perform a proper function test. Check the functioning of the unloaded tool as described in the published tool operation instructions.
7. Do not guess before fastening into any base material. Always perform a Center Punch Test.
8. Always make a test firing into a suitable base material with the lowest power level recommended for the tool being used. If this does not properly set the fastener, try the next higher power level. Continue this procedure until the proper fastener penetration is obtained.
9. Always point the tool away from operators or bystanders.
10. Never use the tool in an explosive or flammable area.
11. Never leave a loaded tool unattended. Do not load the tool until you are prepared to complete the fastening. Should you decide not to make a fastening after the tool has been loaded, always remove the powder load first, then the fastener. Always unload the tool before cleaning, servicing, when changing parts, prior to work breaks, and when storing the tool.
12. Always hold the tool perpendicular to the work surface and use the spall guard or stop spall whenever possible.
13. Always follow the required spacing, edge distance, and base material thickness requirements.
14. Never fire through an existing hole or into a weld area.
15. In the event of a misfire, always hold the tool depressed against the work surface for at least 30 seconds. If the tool still does not fire, follow the published tool instructions. Never carelessly discard, or throw unfired powder loads into a trash receptacle.
16. Always store the powder loads and unloaded tool under lock and key.

APPROVALS, LISTINGS, AND EVALUATIONS

ICBO ES Evaluation Report No. 5330

COLA Research Report No. 25304

FMRC J.I. 3002070

3/8" Threaded Studs (Cat. No.'s 50340 and 50344)



Ballistic Point™ Drive Pins

POWER POINT TYPE FASTENERS

PRODUCT DESCRIPTION

Premium drive pins with a .300 diameter head have a specially designed point to allow more consistent penetration into harder base materials. Will reduce failures in dense concrete and steel. Drive Pins are manufactured with a 0.150" diameter shank in various lengths. A plastic flute is mounted over the point to retain the drive pin in the fastener guide of the tool providing guidance during the driving operation.

DRIVE PIN SIZES

BALLISTIC POINT DRIVE PINS (BLACK)

CAT. NO.	SHANK LENGTH	STD. BOX	STD. CTN.	HEAD DIA.	SHANK DIA.	WT./100
50052	1/2"	100	1000	.300	.150	.5
50053	5/8"	100	1000	.300	.150	.5
50054	3/4"	100	1000	.300	.150	.5
50055	1"	100	1000	.300	.150	.6

BALLISTIC POINT STEP SHANK DRIVE PINS (BLACK)

CAT. NO.	SHANK LENGTH	STD. BOX	STD. CTN.	HEAD DIA.	SHANK DIA.	WT./100
50056	1-1/4"	100	1000	.300	.181/.150	.6
50057	1-7/8"	100	1000	.300	.181/.150	.6



Threaded Studs

PRODUCT DESCRIPTION

Threaded studs are available in 1/4"-20 and 3/8"-16 thread diameters with a variety of thread and shank lengths for use in concrete, some types of masonry, and A36 structural steel. They are used for applications where it may be desirable to remove the fixture, where shimming may be required. The shank diameter for the threaded studs is 0.145" for the 1/4"-20 diameter and 0.205" for the 3/8"-16 diameter. Knurled shank designs are available to increase performance in steel base materials. A plastic flute is mounted over the point to retain the drive pin in the fastener guide of the tool providing guidance during the driving operation. On the 1/4"-20 threaded studs, a plastic cap is also provided to protect the threads of the fastener during the driving process.

THREADED STUDS SIZES

1/4" -20 THREADED STUDS

CAT. NO.	THREAD LENGTH	SHANK LENGTH	STD. BOX	STD. CTN.	HEAD DIA.	SHANK DIA.	WT./100
50320	1/2"	1/2" K	100	5000	1/4"	.145	.8
50322	3/4"	1/2" K	100	1000	1/4"	.145	1.1
50326	3/4"	3/4"	100	1000	1/4"	.145	1.2
50328	1/2"	1"	100	1000	1/4"	.145	1.2
50330	3/4"	1"	100	1000	1/4"	.145	1.4
50334	1/2"	1-1/4"	100	1000	1/4"	.145	1.4
50336	3/4"	1-1/4"	100	1000	1/4"	.145	1.5

3/8" -16 THREADED STUDS

CAT. NO.	THREAD LENGTH	SHANK LENGTH	STD. BOX	STD. CTN.	HEAD DIA.	SHANK DIA.	WT./100
50340	1-1/4"	3/4" K	100	1000	3/8"	.205	3.3
50342	1-1/4"	1"	100	1000	3/8"	.205	3.9
50344	1-1/4"	1-1/4"	100	1000	3/8"	.205	4.2

K-knurled



.300 Head Drive Pins

STANDARD PINS

PRODUCT DESCRIPTION

Drive pins with a .300 diameter head are designed for permanently fastening a fixture to concrete, some types of masonry and A36 structural steel. Drive pins are manufactured with a 0.145" diameter shank in various lengths. Knurled shank designs are available to increase performance in steel base materials. A plastic flute is mounted over the point to retain the drive pin in the fastener guide of the tool providing guidance during the driving operation.

DRIVE PIN SIZES

.300 HEAD DRIVE PINS

CAT. NO.	SHANK LENGTH	STD. BOX	STD. CTN.	HEAD DIA.	SHANK DIA.	WT./100
50012	1/2" K	100	5000	.300	.145	.5
50016	5/8" K	100	5000	.300	.145	.5
50022	3/4"	100	5000	.300	.145	.5
50026	1"	100	5000	.300	.145	.6
50030	1-1/8"	100	1000	.300	.145	.7
50032	1-1/4"	100	1000	.300	.145	.8
50034	1-1/2"	100	1000	.300	.145	.9
50036	1-3/4"	100	1000	.300	.145	1.1
50038	2"	100	1000	.300	.145	1.2
50040	2-1/4"	100	1000	.300	.145	1.2
50042	2-3/8"	100	1000	.300	.145	1.3
50044	2-1/2"	100	1000	.300	.145	1.4
50046	2-3/4"	100	1000	.300	.145	1.6
50048	3"	100	1000	.300	.145	1.9

K - knurled

.300 HEAD STEP SHANK PINS

CAT. NO.	SHANK LENGTH	STD. BOX	STD. CTN.	HEAD DIA.	SHANK DIA.	WT./100
50158	3/4" Step Shank	100	1000	.300	.145/.130	.5
50159	1" Step Shank	100	1000	.300	.145/.130	.6

.300 HEAD DRIVE PINS WITH TOP HAT

CAT. NO.	SHANK LENGTH	STD. BOX	STD. CTN.	HEAD DIA.	SHANK DIA.	WT./100
50136	1/2" K	100	5000	.300	.145	.5
50138	5/8" K	100	5000	.300	.145	.5
50140	3/4"	100	5000	.300	.145	.5
50144	1"	100	5000	.300	.145	.6

K - knurled

.300 HEAD DRIVE PINS - MASTER PACK

CAT. NO.	SHANK LENGTH	STD. BOX	STD. CTN.	HEAD DIA.	SHANK DIA.	WT./100
50980	1/2" K	1000	5000	.300	.145	.5
53300	5/8" K	1000	5000	.300	.145	.5
53400	5/8" K Top Hat	1000	5000	.300	.145	.5
51040	3/4"	1000	5000	.300	.145	.5
51100	1"	1000	5000	.300	.145	.6
51160	1-1/4"	1000	5000	.300	.145	.8
51340	1/2" K Top Hat	1000	5000	.300	.145	.5
51400	3/4" Top Hat	1000	5000	.300	.145	.5
51520	1" Top Hat	1000	5000	.300	.145	.6

K - knurled

.300 HEAD DRIVE PINS WITH 3/4" WASHER

CAT. NO.	SHANK LENGTH	STD. BOX	STD. CTN.	HEAD DIA.	SHANK DIA.	WT./100
50070	3/4"	100	1000	.300	.145	1.6
50080	2-1/2"	100	1000	.300	.145	2.5
50082	3"	100	1000	.300	.145	2.8

.300 HEAD DRIVE PINS WITH 7/8" WASHER

CAT. NO.	SHANK LENGTH	STD. BOX	STD. CTN.	HEAD DIA.	SHANK DIA.	WT./100
50090	1"	100	1000	.300	.145	1.9
50092	1-1/4"	100	1000	.300	.145	2.0
50094	1-1/2"	100	1000	.300	.145	2.1
50096	2"	100	1000	.300	.145	2.4
50098	2-1/2"	100	1000	.300	.145	2.7
50100	3"	100	1000	.300	.145	3.0

.300 HEAD DRIVE PINS WITH 1" WASHER

CAT. NO.	SHANK LENGTH	STD. BOX	STD. CTN.	HEAD DIA.	SHANK DIA.	WT./100
50108	1-1/4"	100	1000	.300	.145	2.2
50110	1-1/2"	100	1000	.300	.145	2.3
50112	2"	100	1000	.300	.145	2.6
50114	2-1/2"	100	1000	.300	.145	2.9
50116	3"	100	1000	.300	.145	3.2

.300 HEAD DRIVE PINS WITH 1-7/16" INSULATION WASHER

CAT. NO.	SHANK LENGTH	STD. BOX	STD. CTN.	HEAD DIA.	SHANK DIA.	WT./100
50122	1-1/2"	100	1000	.300	.145	2.1
50126	2-1/2"	50	500	.300	.145	2.7



DX A40, DX A41, DX460 Pins

DX A40, DX A41, DX460 PINS

10 FASTENER MAGAZINE

CAT. NO.	SHANK LENGTH (INCHES)	SHANK LENGTH (MM)	STD. BOX	STD. CTN.	HEAD DIAMETER	SHANK DIA.
50250	1-7/8"	47	500	2500	8mm	.145
50258	2"	52	500	2500	8mm	.145
50260	2-1/4"	57	500	2500	8mm	.145
50262	2-1/2"	62	500	2500	8mm	.145
50264	2-7/8"	72	500	2500	8mm	.145



8mm Head Drive Pins

X-DN TYPE PINS

PRODUCT DESCRIPTION

Drive pins with an 8mm diameter head are designed for permanently fastening a fixture to concrete, some types of masonry and A36 structural steel. Drive pins are manufactured with a 0.145" diameter shank in various lengths. Knurled shank designs are available to increase performance in steel base materials. An 8mm plastic washer is mounted over the point to retain the drive pin in the fastener guide of the tool providing guidance during the driving operation.

DRIVE PIN SIZES

8MM HEAD DRIVE PINS

CAT. NO.	SHANK LENGTH	STD. BOX	STD. CTN.	HEAD DIA.	SHANK DIA.	WT./100
50180	16mm K -5/8"	100	5000	8mm	.145	.5
50182	19mm K -3/4"	100	5000	8mm	.145	.5
50184	22mm -7/8"	100	5000	8mm	.145	.5
50186	27mm -1"	100	5000	8mm	.145	.6
50188	32mm -1-1/4"	100	1000	8mm	.145	.8
50190	37mm -1-1/2"	100	1000	8mm	.145	.9
50192	42mm -1-5/8"	100	1000	8mm	.145	1.0
50194	47mm -1-7/8"	100	1000	8mm	.145	1.1
50196	52mm -2"	100	1000	8mm	.145	1.2
50198	57mm -2-1/4"	100	1000	8mm	.145	1.2
50200	62mm -2-1/2"	100	1000	8mm	.145	1.4
50202	72mm -2-7/8"	100	1000	8mm	.145	1.6

K - knurled

8MM HEAD DRIVE PINS WITH TOP HAT

CAT. NO.	SHANK LENGTH	STD. BOX	STD. CTN.	HEAD DIA.	SHANK DIA.	WT./100
50210	16mm K -5/8"	100	5000	8mm	.145	.5
50214	22mm -7/8"	100	5000	8mm	.145	.5
50216	27mm -1"	100	5000	8mm	.145	.7

K - knurled

8MM HEAD DRIVE PINS - MASTER PACK

CAT. NO.	DESCRIPTION SHANK LENGTH	STD. BOX	STD. CTN.	HEAD DIA.	SHANK DIA.	WT./100
51700	16mm K Top Hat	1000	5000	8mm	.145	.5
51750	22mm Top Hat	1000	5000	8mm	.145	.5

K - knurled

8MM HEAD DRIVE PINS WITH 1" WASHER

CAT. NO.	SHANK LENGTH	STD. BOX	STD. CTN.	HEAD DIA.	SHANK DIA.	WT./100
50220	27mm -1"	100	1000	8mm	.145	1.9
50222	32mm -1-1/4"	100	1000	8mm	.145	2.0
50224	37mm -1-1/2"	100	1000	8mm	.145	2.1
50226	52mm -2"	100	1000	8mm	.145	2.4
50228	62mm -2-1/2"	100	1000	8mm	.145	2.7
50230	72mm -2-7/8"	100	1000	8mm	.145	3.0



10mm Head Drive Pins

PRODUCT DESCRIPTION

Drive pins with a 10mm diameter head are designed for permanently fastening a fixture to concrete, some types of masonry, and A36 structural steel. The pins are manufactured with a 0.177" diameter shank in various lengths. Knurled shank designs are available to increase performance in steel base materials. A 10mm plastic washer is mounted over the point to retain the drive pin in the fastener guide of the tool providing guidance during the driving operation.

DRIVE PIN SIZES

10MM HEAD DRIVE PINS

CAT. NO.	SHANK LENGTH	STD. BOX	STD. CTN.	HEAD DIA.	SHANK DIA.
50846	19mm - 3/4"	100	5000	10mm	.177
50848	22mm - 7/8"	100	5000	10mm	.177
50850	27mm - 1"	100	5000	10mm	.177
50852	32mm - 1-1/4"	100	5000	10mm	.177
50854	42mm - 1-5/8"	100	5000	10mm	.177
50856	52mm - 2"	100	5000	10mm	.177
50858	62mm - 2-1/2"	100	1000	10mm	.177
50860	72mm - 2-7/8"	100	1000	10mm	.177
50862	82mm - 3-1/4"	100	1000	10mm	.177



3/8" Head Drive Pins

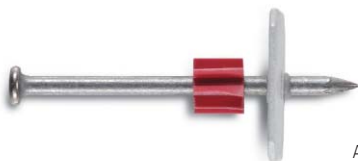
PRODUCT DESCRIPTION

Drive pins with a 3/8" diameter head are designed for permanently fastening a fixture to concrete, some types of masonry and A36 structural steel. The pins are manufactured with a 0.172" diameter shank in various lengths. A plastic flute is mounted over the point to retain the drive pin in the fastener guide of the tool providing guidance during the driving operation.

DRIVE PIN SIZES

3/8" HEAD DRIVE PINS

CAT. NO.	SHANK LENGTH	STD. BOX	STD. CTN.	HEAD DIA.	SHANK DIA.	WT./100
50162	1"	100	1000	3/8"	.172	1.1
50164	1-1/4"	100	1000	3/8"	.172	1.3
50166	1-1/2"	100	1000	3/8"	.172	1.4
50170	2"	100	1000	3/8"	.172	1.8
50172	2-1/2"	100	1000	3/8"	.172	2.1
50174	3"	100	1000	3/8"	.172	2.5
50176	3-1/8" (w/step shank)	100	1000	3/8"	.216/.188	2.3



A plastic diaphragm protects PTZ pins triple zinc coating from being scraped off as it travels down and through the washer.

PTZ Drive Pins

PRODUCT DESCRIPTION

The Powers PTZ Powder Actuated Fasteners are designed for fastening through pressure treated lumber into concrete and grout filled masonry. The fasteners are manufactured to provide a minimum level of corrosion resistance equivalent to hot dipped galvanized fasteners available for pressure treated lumber applications. The fasteners are available with either a round or square washer for increased pullover resistance.

DRIVE PIN SIZES

PTZ .300 HEAD PIN WITH 7/8" WASHER

CAT. NO.	SHANK LENGTH	STD. BOX	STD. CTN.
50097	2-1/2"	100	1000
50101	3"	100	1000

PTZ .300 HEAD PIN WITH 1" WASHER

CAT. NO.	SHANK LENGTH	STD. BOX	STD. CTN.
50113	2-1/2"	100	1000
50115	3"	100	1000

PTZ .300 HEAD PIN WITH 1" SQUARE WASHER

CAT. NO.	SHANK LENGTH	STD. BOX	STD. CTN.
50119	3"	100	1000

PTZ .300 HEAD PIN (NO WASHER)

CAT. NO.	SHANK LENGTH	STD. BOX	STD. CTN.
50045	2-1/2"	100	1000
50047	3"	100	1000

PTZ 8MM HEAD PIN WITH 1" WASHER

CAT. NO.	SHANK LENGTH	STD. BOX	STD. CTN.
50229	72mm	100	1000

PTZ 8MM HEAD PIN WITH 1" SQUARE WASHER

CAT. NO.	SHANK LENGTH	STD. BOX	STD. CTN.
50231	72mm	100	1000

APPROVALS, LISTINGS, AND EVALUATIONS

ICC- ES Evaluation Report No. 5330

City of Los Angeles Research Report No. 25304

Assemblies & Accessories

PRODUCT DESCRIPTION

Assemblies are combinations of drive pins and stamped steel clips designed for specific applications. The pins are held within the clip using either a dome mechanism or a metal top hat.

CEILING CLIP ASSEMBLIES

.300 HEAD PINS WITH CEILING CLIPS

CAT. NO.	SHANK LENGTH	STD. BOX	STD. CTN.	HEAD DIA.	SHANK DIA.	WIRE HOLE	WT./100
50363**	1"	100	1000	.300	.145	0.278"	3.5
50364	1"	100	1000	.300	.145	0.278"	3.5
50368	1-1/8"	100	1000	.300	.145	0.278"	3.0
50370	1-1/4"	100	1000	.300	.145	0.278"	3.7
50374*	1-1/4"	100	1000	.300	.145	0.278"	3.2

*Economy Clip ** No Dome

8MM HEAD DRIVE PINS WITH CEILING CLIPS

CAT. NO.	DESCRIPTION SHANK LENGTH	STD. BOX	STD. CTN.	HEAD DIA.	SHANK DIA.	WIRE HOLE	WT./100
50272	27mm w/CC	100	1000	8mm	.145	0.278"	3.5
50274	32mm w/CC	100	1000	8mm	.145	0.278"	3.7

PRE-ASSEMBLED PIN AND CLIP FOR LADD TOOL

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.	HEAD DIA.	SHANK DIA.	WIRE HOLE	WT./100
50438	Pre-assembled Pin & Clip (Ladd)	100	1000	.310	.155	0.278"	4.5

Pin & Clip (Ladd)



BX AND CONDUIT CLIP ASSEMBLIES

.300 HEAD DRIVE PINS WITH BX CABLE STRAPS

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.	HEAD DIA.	SHANK DIA.	WT./100
50150	1"	100	1000	.300	.145	3.5
50152	1-1/4"	100	1000	.300	.145	3.7

.300 HEAD DRIVE PINS WITH CONDUIT CLIPS

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.	HEAD DIA.	SHANK DIA.	WT./100
50380	1/2" EMT 1-1/4"	100	1000	.300	.145	3.4
50381*	1/2" EMT 1" pin	100	1000	.300	.145	3.3
50382	1/2" EMT 1" pin	100	1000	.300	.145	3.3
50384	3/4" EMT 1-1/4"	100	1000	.300	.145	3.5
50386	3/4" EMT 1" pin	100	1000	.300	.145	3.3
50388	1" EMT 1" pin	25	250	.300	.145	3.2

* With Top Hat

8MM HEAD DRIVE PINS WITH CONDUIT CLIPS

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.	HEAD DIA.	SHANK DIA.	WT./100
50276	27mm w/1/2" EMT	100	1000	8mm	.145	3.2
50278	27mm w/3/4" EMT	100	500	8mm	.145	3.3
50280	27mm w/1" EMT	25	250	8mm	.145	6.2

BALLISTIC POINT DRIVE PIN WITH CEILING CLIP

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.	HEAD DIA.	SHANK DIA.
50058	1-1/4" with ceiling clip	100	1000	.300	.181/.150

8MM DIAMETER HEAD PINS WITH ROD HANGER CLIP

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.	SHANK DIA.
50219	32mm (1-1/4") pin with 1/4 - 20 rod hanger	100	1000	.145
50221	32mm (1-1/4") pin with 3/8 - 16 rod hanger	100	1000	.145

**REBAR BASKET ASSEMBLIES****8MM HEAD DRIVE PINS WITH REBAR BASKET CLIP**

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.	HEAD DIA.	SHANK DIA.	WT./100
50702	32mm w/ basket clip	100	100	8mm	.145	4.0
50704	37mm w/ basket clip	100	100	8mm	.145	4.1
50710	47mm w/ basket clip	100	100	8mm	.145	4.3
50712	52mm w/ basket clip	100	100	8mm	.145	4.4
50716	62mm w/ basket clip	100	100	8mm	.145	4.6
50718	72mm w/ basket clip	100	100	8mm	.145	4.8

**FORMING PIN**

CAT. NO.	SHANK LENGTH	STD. BOX	STD. CTN.	HEAD DIA.	SHANK DIA.	WT./100
50789	44mm - 1-3/4"	100	1000	.205	.145	1.4
50790	62mm - 2-1/2"	100	1000	.205	.145	1.4

**FASTENER ACCESSORIES**

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.
50400	Ceiling Clip (no pin) 9/32" and 5/16" holes	100	1000
50404	1/4"-20 thrd. coupling	100	1000
50408	3/8"-16 thrd. coupling	100	1000
50414	1/4"-20 eye coupling (1/4" Wire Hole)	100	1000
50416	3/4" metal washer - 14 gage	100	1000
50418	7/8" metal washer - 14 gage	100	1000
50420	1" metal washer - 14 gage	100	1000
50439	LADD Clip - No pin	100	1000
50365	Domed Ceiling Clip - No pin	100	1000
50375	Economy Ceiling Clip - No pin	100	1000



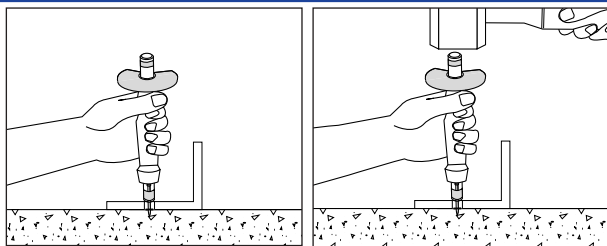
Hammer Drive® Pins

NO POWDER LOADS REQUIRED

PRODUCT DESCRIPTION

Hammer Drive® pins are designed for permanently fastening a fixture to concrete and some types of masonry. This fastener is designed for use in a standard hand tool and should not be used in a powder actuated tool. The pins are formed with a 1/4" diameter head on one end and a 0.140" diameter shank in various lengths. A 3/8" diameter steel washer is mounted over the point to retain the drive pin in the fastener guide of the tool providing guidance during the driving operation. This fastener is recommended for light duty static load applications where holding power is not a critical factor. It should not be used overhead.

INSTALLATION PROCEDURE



PIN SIZES

1/4" HEAD HAMMER DRIVE PINS

CAT. NO.	SHANK LENGTH	STD. BOX	STD. CTN.	HEAD DIA.	SHANK DIA.	WT./100
50294	3/4"	100	1000	1/4"	.140	.5
50296	1"	100	1000	1/4"	.140	.7
50298	1-1/4"	100	1000	1/4"	.140	.8
50300	1-1/2"	100	1000	1/4"	.140	.9
50302	2"	100	1000	1/4"	.140	1.2
50304	2-1/2"	100	1000	1/4"	.140	1.4
50306	3"	100	1000	1/4"	.140	1.9

HAMMER DRIVE SETTING TOOL

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.
50310	Hammer Drive Tool - Standard	1	1

PERFORMANCE DATA - ULTIMATE LOAD CAPACITIES

LOAD (LBS.)	PIN SIZE	EMBED. DEPTH	3,000 PSI CONCRETE	4,000 PSI CONCRETE	CONCRETE BLOCK
Tension	1/4"	1/2"	415	465	380
	1/4"	3/4"	610	610	490
Shear	1/4"	1/2"	450	480	395
	1/4"	3/4"	650	650	520

APPROVALS AND LISTINGS

Federal Specification

Meets the descriptive requirements of FF-P-395 C (superseded)



P1000™

SIZE RANGE

1/2" to 3" lengths, .22 caliber

PRODUCT DESCRIPTION

Hammer actuated, professional grade powder actuated tool. Engineered for high reliability, low maintenance and speed. This tool uses four levels of power; grey through yellow loads (levels 1-4) and .300, 8mm head fasteners with lengths of 1/2" through 3" and 1/4"-20 threaded studs.

TECHNICAL DATA

TOOL BODY	PIN LENGTH
Precision Moulded Rubber	1/2" to 3" Total Length
TOOL LENGTH	LOAD TYPE
13"	.22 Caliber
TOOL WEIGHT	POWER LEVEL
3 lbs.	Gray (1), Brown (2), Green (3), Yellow (4)

PIN TYPE

Ballistic Point Drive Pin, .300 Head Drive Pin, 8mm Head Drive Pin, 1/4"-20 Threaded Stud

TOOL OPERATION

Powder actuated tools may be used only by properly trained and licensed operators as described in ANSI Standard A 10.3. For complete tool operation details, contact your local Powers branch office or distributor for training.

TYPICAL APPLICATIONS

Remodeling	Electricians
Maintenance	Telecommunications

SELECTION GUIDE

CAT NO.	DESCRIPTION	STD. CTN.
52013	P1000 Tool	1

For additional spare parts please reference our Buyers Guide and Engineering Manual



P2201™

SIZE RANGE

1/2" to 3" pin lengths, .22 caliber

PRODUCT DESCRIPTION

The P2201™ is a low velocity, single shot, .22 caliber tool which can be used to install .300 head drive pins, 8mm head drive pins and 1/4"-20 threaded studs, up to 3" in total length. The P2201™ is designed for maintenance or residential contractors.

TECHNICAL DATA

TOOL BODY	PIN LENGTH
Engineered Plastic	1/2" to 3" Total Length
TOOL LENGTH	LOAD TYPE
12-1/2"	.22 Caliber Crimped "A" Load
TOOL WEIGHT	POWER LEVEL
4.3 lbs.	Gray (1), Brown (2), Green (3), Yellow (4)
PIN TYPE	
Ballistic Point Drive Pin, .300 Head Drive Pin, 8mm Head Drive Pin, 1/4"-20 Threaded Stud	

TOOL OPERATION

Powder actuated tools may be used only by properly trained and licensed operators as described in ANSI Standard A 10.3. For complete tool operation details, contact your local Powers branch office or distributor for training.

TYPICAL APPLICATIONS

TRADE	APPLICATION
Drywall	Metal track
Forming	Concrete forms
Electrical	Boxes, conduit clip assemblies
Mechanical	Duct straps
Residential	Sill plates

SELECTION GUIDE

CAT NO.	DESCRIPTION	STD. CTN.
52006	P2201 Tool Kit (Deluxe Kit)	1
52522	Piston	1
52510	Nose Piece	1
52512	Piston Reset Pin	1
52007	P2201 (Blister Pack)	1

For additional spare parts please reference our Buyers Guide and Engineering Manual



P3801™

SIZE RANGE

1/4" to 3/8" Threaded Studs and 3/8" Headed Drive Pins

PRODUCT DESCRIPTION

Powerful and reliable heavy-duty powder actuated tool, for installing 3/8" threaded studs into concrete and steel. This tool features an easy load ejector and has a low re-coil for greater operator comfort. The P3801 is independent of any external power source saving you time and money.

TECHNICAL DATA

TOOL BODY	PIN LENGTH
Precision Cast Aluminum	1/2" to 3" Total Length
TOOL LENGTH	LOAD TYPE
14"	.27 Caliber Short and Long
TOOL WEIGHT	POWER LEVEL
7 lbs.	Red (5), Purple (6)
PIN TYPE	
1/4" to 3/8" threaded studs and 3/8" Headed Drive Pins	

TOOL OPERATION

Powder actuated tools may be used only by properly trained and licensed operators as described in ANSI Standard A 10.3. For complete tool operation details, contact your local Powers branch office or distributor for training.

TYPICAL APPLICATIONS

Hanging sprinkler pipe
 Heavy duty applications for steel and concrete
 Electricians
 Tele communications

SELECTION GUIDE

CAT NO.	DESCRIPTION	STD. CTN.	WT. EACH
52008	P3801 Tool (Deluxe Kit)	1	18

For additional spare parts please reference our Buyers Guide and Engineering Manual



P7201™

SIZE RANGE

1/2" to 1-1/2" pin lengths, .22 caliber

PRODUCT DESCRIPTION

The P7201 is a low velocity, single shot .22 caliber tool which can be used to install .300" head drive pins, 8mm head drive pins and 1/4"-20 threaded studs up to 1-1/2" in total length. The P7201 is commonly used in the drywall trade.

TECHNICAL DATA

TOOL BODY	PIN LENGTH
Precision Cast Aluminum	1/2" to 1-1/2" Total Length
TOOL LENGTH	LOAD TYPE
13-1/2"	.22 Caliber Crimped "A" Load
TOOL WEIGHT	POWER LEVEL
4.3 lbs.	Gray (1), Brown (2), Green (3), Yellow (4)
PIN TYPE	
Ballistic Point Drive Pin, .300 Head Drive Pin, 8mm Head Drive Pin, 1/4"-20 Threaded Stud	

TOOL OPERATION

Powder actuated tools may be used only by properly trained and licensed operators as described in ANSI Standard A 10.3. For complete tool operation details, contact your local Powers branch office or distributor for training.

TYPICAL APPLICATIONS

TRADE	APPLICATION
Acoustical	Ceiling clip assemblies
Drywall	Metal track
Electrical	Boxes, conduit clip assemblies
Mechanical	Duct straps

SELECTION GUIDE

CAT NO.	DESCRIPTION	STD. CTN.
52004	P7201 Tool (Deluxe Kit)	1
52005	P7201 Tool (Blister pack)	1
52300	Piston	1
52306	Barrel Extension 5/16"	1
52308	Barrel Stop Pin	
6' AND 8' DI-ELECTRIC POLE TOOLS FOR FASTENING CEILING CLIPS OVERHEAD		
50060	6' Di-electric Pole Tool	1
50063	8' Di-electric Pole Tool	

For additional spare parts please reference our Buyers Guide and Engineering Manual



P3500™

SIZE RANGE

1/2" to 3" pin lengths, .27 caliber

PRODUCT DESCRIPTION

The P3500™ is a low velocity, semi-automatic .27 caliber tool which can be used to install .300 head drive pins, 8mm head drive pins and 1/4"-20 threaded studs, up to 3" in total length. The P3500™ is designed for high speed and repetitive volume applications.

TECHNICAL DATA

TOOL BODY	PIN LENGTH
Precision Cast Aluminum	1/2" to 3" Total Length
TOOL LENGTH	LOAD TYPE
13-5/8"	.27 Caliber in a 10 Load Strip
TOOL WEIGHT	POWER LEVEL
5 lbs.	Brown (2), Green (3), Yellow (4), Red (5)

PIN TYPE

Ballistic Point Drive Pin, .300 Head Drive Pin, 8mm Head Drive Pin, 1/4"-20 Threaded Stud

TYPICAL APPLICATIONS

TRADE	APPLICATION
Acoustical	Ceiling clip assemblies
Drywall	Metal track, door frames
Forming	Concrete forms, basket clips, forming pins
Electrical	Boxes, conduit clip assemblies
Mechanical	Duct straps
Residential	Sill plates

SELECTION GUIDE

CAT NO.	DESCRIPTION	STD. CTN.
52000	P3500 Powder Tool (Deluxe Kit)	1
52001	P3500 Powder Tool (Blister Pack)	1
52102	Piston Flat End w/ Ring	1
52108	Guide 2/F-3	1
52110	Base Plate 2/S-13	1
52120	Shear Clip	1
52112	Piston Stop	1
52122	Steel Annular Ball	1

PISTON FOR INSTALLING 8MM HEAD DRIVE PINS

52100	Piston 2/DN-1 (for 8mm Head Drive Pins)	1
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FOR APPLICATIONS IN TIGHT AREAS, A LIMITED ACCESS BASE PLATE/GUIDE IS AVAILABLE.

52114	Guide 2/F-4 Limited Access	1
52116	Baseplate 2/F-14-1 Limited Access	1

6' AND 8' DI-ELECTRIC POLE TOOLS FOR FASTENING CEILING CLIPS OVERHEAD

50065	6' Di-electric Pole Tool	1
50066	8' Di-electric Pole Tool	1



PA3500™

SIZE RANGE

1/2" to 3" pin lengths, .27 caliber

PRODUCT DESCRIPTION

The PA3500™ is a modified version of the P3500 that includes a power adjuster, allowing the operator to effectively decrease the power level of the load being used. A red load can be toned down to a lower power level.

TECHNICAL DATA

TOOL BODY	PIN LENGTH
Precision Cast Aluminum	1/2" to 3" Total Length
TOOL LENGTH	LOAD TYPE
13-5/8"	.27 Caliber in a 10 Load Strip
TOOL WEIGHT	POWER LEVEL
5 lbs.	Brown (2), Green (3), Yellow (4), Red (5)
PIN TYPE	
Ballistic Point Drive Pin, .300 Head Drive Pin, 8mm Head Drive Pin, 1/4"-20 Threaded Stud	

TYPICAL APPLICATIONS

TRADE	APPLICATION
Acoustical	Ceiling clip assemblies
Drywall	Metal track, door frames
Forming	Concrete forms, basket clips, forming pins
Electrical	Boxes, conduit clip assemblies
Mechanical	Duct straps
Residential	Sill plates

SELECTION GUIDE

CAT NO.	DESCRIPTION	STD. CTN.
52019	PA3500 Powder Tool (Deluxe Kit)	
52025	PA3500 Powder Tool (Blister Pack)	1
52103	PA Piston Flat End with Ring	1
52108	Guide 2/F-3	1
52110	Base Plate 2/S-13	1
52112	Piston Stop	1
52120	Shear Clip	1
52122	Steel Annular Ball	1

PISTON FOR INSTALLING 8MM HEAD DRIVE PINS

52100	Piston 2/DN-1 (for 8mm Head Drive Pins)	1
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FOR APPLICATIONS IN TIGHT AREAS, A LIMITED ACCESS BASE PLATE/GUIDE IS AVAILABLE.

52114	Guide 2/F-4 Limited Access	1
52116	Baseplate 2/F-14-1 Limited Access	1

6' AND 8' DI-ELECTRIC POLE TOOLS FOR FASTENING CEILING CLIPS OVERHEAD

50065	6' Di-electric Pole Tool	1
50066	8' Di-electric Pole Tool	1

For additional spare parts please reference our Buyers Guide and Engineering Manual



P35s™

SIZE RANGE

1/2" to 1-1/2" pin lengths, .25 caliber

PRODUCT DESCRIPTION

The P35s™ is specially designed for acoustical and drywall contractors. It is a low velocity, semi-automatic, tool which can be used to install .300 head drive pins, 8mm head drive pins and 1/4"-20 threaded studs up to 1-1/2" in total length. The P35s™ is designed for high speed and repetitive volume applications. The standard version of the tool is supplied with a flat end piston and a full size baseplate/guide. A limited access baseplate/guide assembly is also available.

TECHNICAL DATA

TOOL BODY	PIN LENGTH
Precision Cast Aluminum	1/2" to 1-1/2" Total Length
TOOL LENGTH	LOAD TYPE
11-1/4"	.25 Caliber in a 10 Load Strip
TOOL WEIGHT	POWER LEVEL
4.25 lbs.	Green (3), Yellow (4), Red (5)
PIN TYPE	
Ballistic Point Drive Pin, .300 Head Drive Pin, 8mm Head Drive Pin, 1/4"-20 Threaded Stud	
PIN LENGTH	

TOOL OPERATION

Powder actuated tools may be used only by properly trained and licensed operators as described in ANSI Standard A 10.3. For complete tool operation details, contact your local Powers branch office or distributor for training.

TYPICAL APPLICATIONS

TRADE	APPLICATION
Acoustical	Ceiling clip assemblies
Drywall	Metal track, door frames
Electrical	Boxes, conduit clip assemblies
Mechanical	Duct straps

SELECTION GUIDE

CAT NO.	DESCRIPTION	STD. CTN.	WT. EACH
52002	P35s Tool (Deluxe Kit)	1	16 1/2
52023	P35s Tool (Blister Pack)	1	16 1/2
52200	Piston Standard 21/SDF		1
52204	Guide 21/F3-1		1
52206	Baseplate 21/S1		1
6' AND 8' DI-ELECTRIC POLE TOOLS FOR FASTENING CEILING CLIPS OVERHEAD			
50065	6' Di-electric Pole Tool		1
50066	8' Di-electric Pole Tool		1

For fastening ceiling clips overhead, 6' and 8' di-electric pole tools are available.



PA351™

SIZE RANGE

5/8" to 1-5/8" 8mm head pin 10 fastener magazine, .27 caliber

PRODUCT DESCRIPTION

Lightweight, fully automatic powder actuated tool with 10 fastener magazine for high volume applications. This tool fastens up to 700 nails per hour for increased productivity. Easy drop in magazine for one handed operation. A power adjuster provides variable power choices and drives a wide variety of fasteners

TECHNICAL DATA

TOOL BODY	PIN LENGTH
Precision Cast Aluminum	5/8" to 1-5/8" Total Length
TOOL LENGTH	LOAD TYPE
17"	.27 Caliber
TOOL WEIGHT	POWER LEVEL
8 lbs.	Brown (2), Green (3), Yellow (4), Red (5)
PIN TYPE	

10 fastener magazine

TOOL OPERATION

Powder actuated tools may be used only by properly trained and licensed operators as described in ANSI Standard A 10.3. For complete tool operation details, contact your local Powers branch office or distributor for training.

TYPICAL APPLICATIONS

TRADE	APPLICATION
Acoustical	Ceiling clip assemblies
Drywall	Metal track, door frames
Forming	Concrete forms, basket clips, forming pins
Electrical	Boxes, conduit clip assemblies
Mechanical	Duct straps
Residential	Sill plates

SELECTION GUIDE

CAT NO.	DESCRIPTION	STD CTN.
50266	PA351 Tool (Deluxe Kit)	1

PA351 PINS

8MM HEAD DRIVE PINS							
CAT. NO.	SHANK LENGTH (INCHES)	SHANK LENGTH (MM)	STD. BOX	STD. CTN.	HEAD DIA.	SHANK DIA.	WT./100
50240	5/8" K	16	500	2500	8mm	.145	.5
50242	3/4" K	19	500	2500	8mm	.145	.5
50244	3/4"	19	500	2500	8mm	.145	.5
50246	7/8"	22	500	2500	8mm	.145	.5
50248	1"	27	500	2500	8mm	.145	.6
50250	1-1/4"	32	500	2500	8mm	.145	.7
50252	1-1/2"	37	500	2500	8mm	.145	.8
50254	1-5/8"	42	500	2500	8mm	.145	.9



NEW!

P3600™

SIZE RANGE

Up to 3" (76mm) in length. 10mm Head Pins, 3/8" Threaded Studs, 3/8" Headed Drive Pins (.27 caliber)

PRODUCT DESCRIPTION

The P3600™ is a powerful, heavy-duty, low velocity, semi-automatic .27 caliber tool, which can be used to install 10mm head .177 diameter shank drive pins, 3/8"-16 threaded studs, and 3/8" headed drive pins. The P3600™ is designed for applications where more power is needed, such as attaching 2x4 to hard aggregate or steel. The tool utilizes a red (5) or purple (6) .27 caliber strip.

TECHNICAL DATA

TOOL BODY	PIN LENGTH
Precision Cast Aluminum	Up to 3" (76mm) Total Length
TOOL LENGTH	LOAD TYPE
13-5/8" (346mm)	.27 Caliber in a 10 Load Strip
TOOL WEIGHT	POWER LEVEL
5 lbs. (2.25 kg)	Red (5), Purple (6)
PIN TYPE	
10mm Head Pins, 3/8" Threaded Studs, 3/8" Headed Drive Pins	

TOOL OPERATION

Powder actuated tools may be used only by properly trained and licensed operators as described in ANSI Standard A 10.3. For complete tool operation details, contact your local Powers branch office or distributor for training.

TYPICAL APPLICATIONS

TRADE	APPLICATION
Acoustical	Ceiling clip assemblies
Drywall	Metal track, door frames
Forming	Concrete forms, basket clips, forming pins
Electrical	Boxes, conduit clip assemblies
Mechanical	Duct Straps
Residential	Sill Plates

SELECTION GUIDE

CAT. NO.	DESCRIPTION	STD. CTN.
52010	PA3600 Tool (Deluxe Kit)	1

10MM HEAD DRIVE PINS

CAT. NO.	SHANK LENGTH	STD. BOX	STD. CTN.	HEAD DIA.	SHANK DIA.
50846	19mm - 3/4"	100	5000	10mm	.177
50848	22mm - 7/8"	100	5000	10mm	.177
50850	27mm - 1"	100	5000	10mm	.177
50852	32mm - 1-1/4"	100	5000	10mm	.177
50854	42mm - 1-5/8"	100	5000	10mm	.177
50856	52mm - 2"	100	5000	10mm	.177
50858	62mm - 2-1/2"	100	1000	10mm	.177
50860	72mm - 2-7/8"	100	1000	10mm	.177
50862	82mm - 3-1/4"	100	1000	10mm	.177

DRIVE PIN SIZES

3/8" HEAD DIAMETER DRIVE PINS

CAT. NO.	SHANK LENGTH	STD. BOX	STD. CTN.	SHANK DIA.
50162	1"	100	1000	.171
50164	1-1/4"	100	1000	.171
50166	1-1/2"	100	1000	.171
50170	2"	100	1000	.171
50172	2-1/2"	100	1000	.171
50174	3"	100	1000	.171

Powder Loads

Powers offers high quality powder loads, produced by the largest manufacturer in the United States, with unsurpassed quality and reliability. Specific load types are designed for each unique powder actuated tool. They are offered as single units for single shot tools and collated in groups of 10 into plastic strips or metal discs for semi-automatic tools.



.22 CALIBER "A" LOW VELOCITY LOADS FOR POWERS P7200, P2200, RAMSET® 721 AND M70, HILTI® DXE37 AND DXE72

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.	MASTER CTN.	WT./100
50500	Gray, .22A	100	5000	20000	.2
50502	Brown, .22A	100	5000	20000	.2
50504	Green, .22A	100	5000	20000	.2
50506	Yellow, .22A	100	5000	20000	.2



.22 CALIBER LOADS FOR LADD CEILING MASTER TOOL (L1600)

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.	MASTER CTN.	WT./100
50514	Green - Ladd	100	5000	20000	.2
50516	Yellow - Ladd	100	5000	20000	.2
50518	Red - Ladd	100	5000	20000	.2
50520	Purple - Ladd	100	5000	20000	.2



.25 CALIBER DISK LOADS FOR RAMSET® D45, D60, D60L

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.	MASTER CTN.	WT./100
50530	Gray, .25 disk	100	1000	10000	.4
50532	Brown, .25 disk	100	1000	10000	.4
50534	Green, .25 disk	100	1000	10000	.4
50536	Yellow, .25 disk	100	1000	10000	.4

.25 CALIBER RED DISK LOADS FOR RAMSET® MODEL D45

50538	Red, .25 disk	100	1000	10000	.4
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.25 CALIBER SINGLE LOADS FOR HILTI® DX100, DX200

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.	MASTER CTN.	WT./100
50560	Green, .25 single	100	5000	20000	.2
50562	Yellow, .25 single	100	5000	20000	.2
50564	Red, .25 single	100	5000	20000	.2
50566	Purple, .25 single	100	5000	20000	.2


.27 CALIBER SINGLE LOADS FOR HILTI® DX400

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.	MASTER CTN.	WT./100
50582	Brown, .27 single	100	5000	20000	.3
50584	Green, .27 single	100	5000	20000	.3
50586	Yellow, .27 single	100	5000	20000	.3
50588	Red, .27 single	100	5000	20000	.3
50590	Purple, .27 single	100	5000	20000	.3


.27 CALIBER LONG LOADS FOR RAMSET® MD380 AND HILTI® DX600N

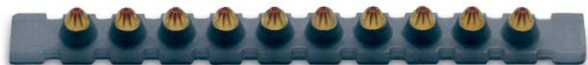
CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.	MASTER CTN.	WT./100
50608	Green, .27 long	100	2500	10000	.35
50610	Yellow, .27 long	100	2500	10000	.35
50612	Red, .27 long	100	2500	10000	.35
50614	Purple, .27 long	100	2500	10000	.35


.25 CALIBER 10 LOAD STRIPS FOR POWERS P355 / FA355 AND HILTI® DX35

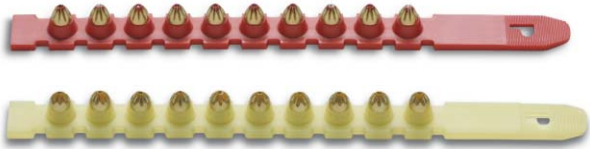
CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.	MASTER CTN.	WT./100
50570	Green, .25 strip	100	1000	20000	.28
50574	Yellow, .25 strip	100	1000	20000	.28
50578	Red, .25 strip	100	1000	20000	.28

.25 CALIBER 10 LOAD STRIPS - MASTER PACK

50572	Green, .25 strip		1000	20000	2.7
50576	Yellow, .25 strip		1000	20000	2.7
50580	Red, .25 strip		1000	20000	2.7


.27 CALIBER 10 LOAD STRIPS FOR HILTI® MODEL DX451

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.	MASTER CTN.	WT./100
50606	Purple, .27 strip	100	1000	20000	.33



Safety Strip®

.27 CALIBER SAFETY STRIP® FOR POWERS P3500 / PA3500, RAMSET® SA270, VIPER, HILTI® DX350, DX351, DX36M, AND DX451

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.	WT./100
50620	Brown, .27 safety strip	100	20000	.3
50622	Green, .27 safety strip	100	20000	.3
50626	Yellow, .27 safety strip	100	20000	.3
50630	Red, .27 safety strip	100	20000	.3

.27 CALIBER SAFETY STRIP LOADS - MASTER PACK

50624	Green, .27 safety strip	100	20000	2.7
50628	Yellow, .27 safety strip	100	20000	2.7
50632	Red, .27 safety strip	100	20000	2.7



Gas Fastening SYSTEMS

Trak-It®

USE IN

Concrete, Block and A36 Steel

SIZE RANGE

1/2" to 1-1/2" Pin Lengths

ANCHOR MATERIAL

Carbon Steel



55011

PRODUCT DESCRIPTION

Trak-It® Fasteners and Blue Nailer-Gas Fuel Cells are designed to be used with the Powers Trak-It® Tool* and can also be installed with the ITW Ramset® TrakFast® tool. Ten fasteners are collated on each patented, plastic top hat-style strip. Use for light duty static applications such as drywall track to concrete, block or steel, lath to concrete or block, furring strips to concrete or block, and plywood to concrete or block base materials. The fuel cell, with its unique right angle metering valve, contains enough gas to install up to 1200 fasteners. Each package contains 1000 fasteners and 1 fuel cell.

TRAK-IT® TOOL

CAT. NO.	DESCRIPTION	STD. BOX
55011	Trak-It® Tool C3	1

Trak-It® Accessories



I-BEAM 1/2" PIN (ROLLED AND STEP SHANK)

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.
55020	1/2" Steel Pin	1000	5000



STANDARD PINS (ROLLED POINT)

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.
55022	3/4" Zinc	1000	5000
55024	1" Zinc	1000	5000
55026	1 1/4" Zinc	1000	5000
55028	1 1/2" Zinc	1000	5000



BREAK-FREE (ROLLED POINT)

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.
55032	3/4"	1000	5000
55037	3/4" Zinc	1000	5000
55033	1" Zinc	1000	5000
55034	1-1/4" Zinc	1000	5000



PLYWOOD TO STEEL (SPIRAL PIN)

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.
55036	1-3/8" mechanical zinc	1000	5000



TRAK-IT GAS

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.
55010	■ Trak-It Fuel Cell	20	80

APPROVALS AND LISTINGS

ICC-Es Evaluation Report No. 6157

City of Los Angeles Report No. 25523



NAILER-GAS™ FUEL CELLS

USE IN

Powers and ITW Paslode Impulse Finish Nailers and Framing Nailers

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.
55013	■ Yellow Nailer Gas (Finish Nailers)		10
55015	■ Red Nailer-Gas (Framing Nailers)		10

NOTE:

1. All pins come packaged 1,000 per box, with one fuel cell.
2. Powers Trak-It pins, fuel, and tools are fully interchangeable with ITW TrakFast® products.

STICK-E™



55002

TRAK-IT® TOOL

CAT. NO.	DESCRIPTION	STD. BOX
55002	Trak-It® Tool C3 ST (short track)	1

Stick-E™ Accessories

PRODUCT DESCRIPTION

Stick-E Accessories snap directly in the nose of the Trak-It Tool and are held in place while shooting.



STICK-E PIN (KNURLED AND STEP SHANK)

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.
55080	780 Step Shank Pin	1000	5000
55087	730 Step Shank Pin	1000	5000
55085	680 Step Shank Pin	1000	5000



STICK-E MINI CONDUIT CLIP

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.
55064	Mini Conduit Clip 1/2"	100	1000
50066	Mini Conduit Clip 3/4"	100	1000
55068	Mini Conduit Clip 1"	100	1000



STICK-E CABLE TIE DONUT

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.
55076	Cable Tie Donut	100	1000

**STICK-E CONDUIT CLIP**

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.
55058	1/2"	100	1000
55060	3/4"	100	1000

**STICK-E BX CLIP**

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.
55054	STICK-E 3/8" BX Clips	100	1000

**STICK-E STRAP WASHER WASHER**

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.
55062	1/2"	100	1000

**STICK-E BRIDAL RING**

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.
55094	Bridal Ring 1-1/4"	100	1000
50095	Bridal Ring 1-1/2"	100	1000
55096	Bridal Ring 2"	100	1000

**STICK-E ROD HANGER**

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.
55050	1/4"	100	1000
55052	3/8"	100	1000

**STICK-E REBAR**

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.
55070	#3 & #4 Bar	100	1000

**STICK-E NYLON WASHER**

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.
55044	1" Nylon Washer	100	1000

**STICK-E INSULATION WASHER**

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.
55042	1-7/16" Insulation Washer	100	1000

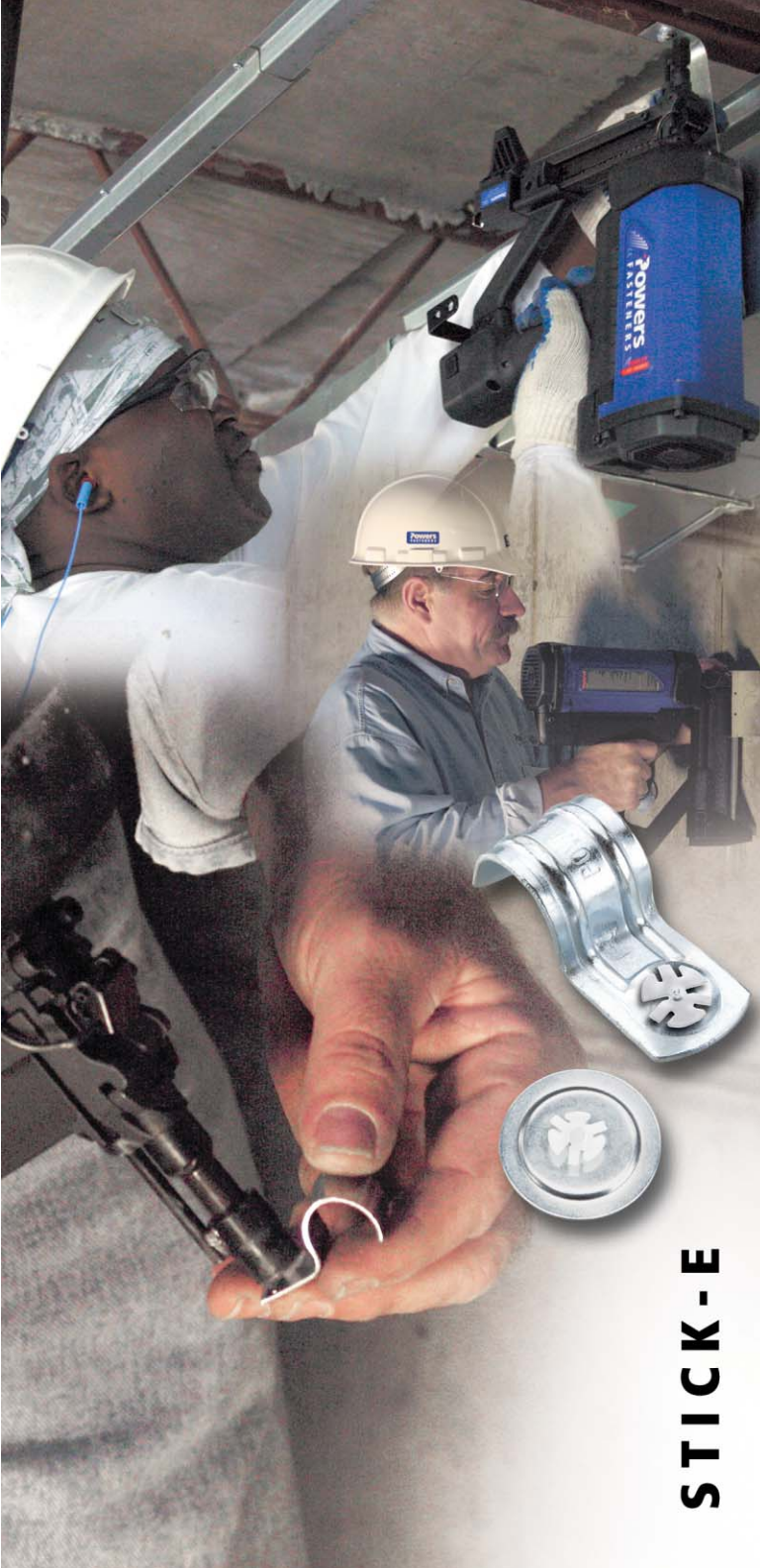
**STICK-E LATHING WASHER**

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.
55040	1" with Holes	100	1000

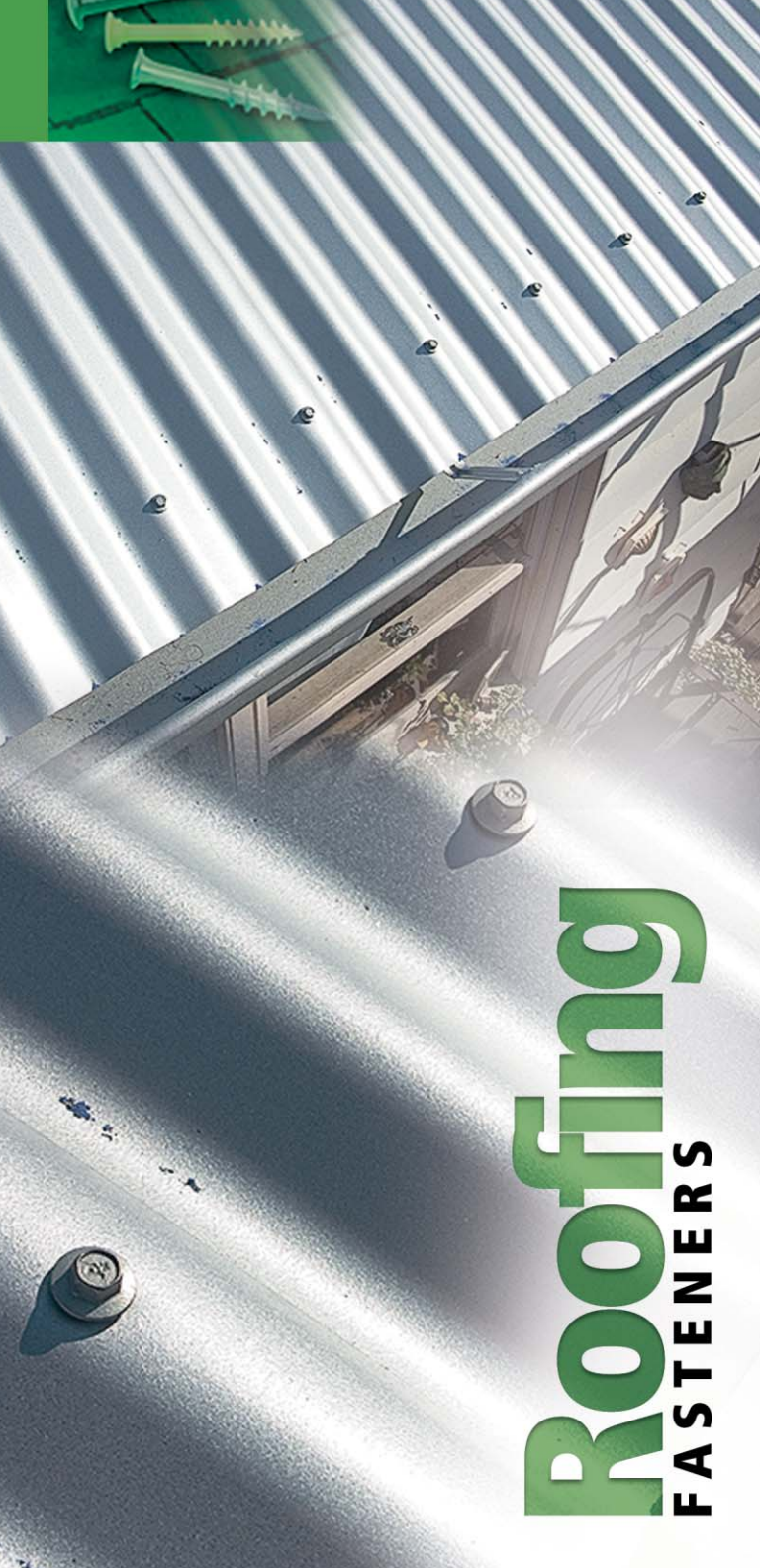
TRAK-IT GAS

CAT. NO.	DESCRIPTION	STD. BOX	STD. CTN.
55010	■ Trak-It Fuel Cell	20	80





STICK-E



Roofing FASTENERS





Deck Screws™

ROOFING SCREWS

BASE MATERIAL

Steel, Wood or Concrete Roof Decks

SIZE RANGE

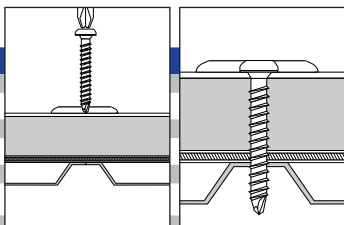
No. 12 x 1-5/8" to No. 15 x 16"

SCREW MATERIAL

Perma-Seal™ Coated Carbon Steel

PRODUCT DESCRIPTION

Deck Screws™ are designed for attaching rigid insulation board, single ply membrane, and wood blocking to steel and wood decks. Some sizes can also be used in concrete decks. Available sizes include No. 12, No. 14, and No. 15 diameters in carbon steel with either hex washer or Phillips-style heads. The Deck Screws™ are used in conjunction with insulation or membrane plates and can also be used with batten bar. For corrosion protection the screws are coated with Perma-Seal™ coating, a proprietary fluoropolymer, which meets the requirements of Factory Mutual Standard 4470.



DECK SCREW SIZES AND STYLES

PERMA-SEAL COATED NO.12 PH DECK SCREW

CAT. NO.	SIZE	THREAD LENGTH	INSULATION THICKNESS	STD. BOX	STD. CTN.	WT./ 1000
2613	No. 12 x 1-5/8"	1-1/2"	1/8" to 7/8"	1000	1000	11
2618	No. 12 x 2-1/4"	2"	1/4" to 1-1/2"	1000	1000	14
2624	No. 12 x 2-7/8"	2-5/8"	1/4" to 2-1/8"	1000	1000	19
2530	No. 12 x 3-1/4"	3"	3/4" to 2-1/2"	1000	1000	22
2632	No. 12 x 3-3/4"	3"	3/4" to 3"	1000	1000	25
2636	No. 12 x 4-1/2"	3"	1-1/2" to 3-3/4"	1000	1000	27
2640	No. 12 x 5"	3"	2" to 4-1/4"	1000	1000	29
2648	No. 12 x 6"	4"	2" to 5-1/4"	500	500	40
2656	No. 12 x 7"	4"	3" to 6-1/4"	500	500	44
2664	No. 12 x 8"	4"	4" to 7-1/4"	500	500	48

PERMA-SEAL COATED NO.12 HWH DECK SCREW

CAT. NO.	SIZE	THREAD LENGTH	INSULATION THICKNESS	STD. BOX	STD. CTN.	WT./ 1000
3550	No. 12 x 1-5/8"	1-1/2"	1/8" to 7/8"	1000	1000	11
3552	No. 12 x 2-1/4"	2"	1/4" to 1-1/2"	1000	1000	14
3554	No. 12 x 2-7/8"	2-5/8"	1/4" to 2-1/8"	1000	1000	19
3556	No. 12 x 3-3/4"	3"	3/4" to 3"	1000	1000	25
3558	No. 12 x 4-1/2"	3"	1-1/2" to 3-3/4"	1000	1000	27
3560	No. 12 x 5"	3"	2" to 4-1/4"	1000	1000	29
3562	No. 12 x 6"	4"	2" to 5-1/4"	500	500	40
3564	No. 12 x 7"	4"	3" to 6-1/4"	500	500	44
3566	No. 12 x 8"	4"	4" to 7-1/4"	500	500	48

PERMA-SEAL COATED NO. 14 PH DECK SCREW

CAT. NO.	SIZE	THREAD LENGTH	INSULATION THICKNESS	STD. BOX	STD. CTN.	WT./ 1000
3679	No. 14 x 1-5/8"	1-5/8"	1/8" to 7/8"	1000	1000	14
3683	No. 14 x 2-1/4"	2-1/4"	1/8" to 1-1/2"	1000	1000	19
3685	No. 14 x 2-7/8"	2-7/8"	1/8" to 2-1/8"	1000	1000	23
3686	No. 14 x 3-3/4"	3"	3/4" to 3"	1000	1000	29
3687	No. 14 x 4-1/2"	3"	1-1/2" to 3-3/4"	1000	1000	33
3688	No. 14 x 5"	3"	2" to 4-1/4"	1000	1000	37

DECK SCREWS

PERMA-SEAL COATED NO. 14 PH DECK SCREW CONTINUED

CAT. NO.	SIZE	THREAD LENGTH	INSULATION THICKNESS	STD. BOX	STD. CTN.	WT./1000
3689	No. 14 x 6"	4"	2" to 5-1/4"	1000	1000	43
3690	No. 14 x 7"	4"	3" to 6-1/4"	500	500	50
3692	No. 14 x 8"	4"	4" to 7-1/4"	500	500	57
3694	No. 14 x 10"	4"	6" to 9-1/4"	500	500	79
3696	No. 14 x 12"	4"	8" to 11-1/4"	500	500	96

PERMA-SEAL COATED NO. 15 PH DECK SCREW

CAT. NO.	SIZE	THREAD LENGTH	INSULATION THICKNESS	STD. BOX	STD. CTN.	WT./1000
2679	No. 15 x 1-1/4"	1-1/4"	1/8" to 1/2"	1000	1000	16
2683	No. 15 x 2"	2"	1/8" to 1-1/4"	1000	1000	23
2685	No. 15 x 3"	3"	1/8" to 2-1/4"	1000	1000	32
2687	No. 15 x 4"	3"	1" to 3-1/4"	1000	1000	42
2688	No. 15 x 5"	3"	2" to 4-1/4"	1000	1000	51
2689	No. 15 x 6"	4"	2" to 5-1/4"	1000	1000	60
2690	No. 15 x 7"	4"	3" to 6-1/4"	500	500	70
2691	No. 15 x 8"	4"	4" to 7-1/4"	500	500	79
2692	No. 15 x 10"	4"	6" to 9-1/4"	500	500	98
2693	No. 15 x 12"	4"	8" to 11-1/4"	500	500	117
2694	No. 15 x 14"	4"	10" to 13-1/4"	500	500	135
2695	No. 15 x 16"	4"	12" to 15-1/4"	500	500	154

INSTALLATION SPECIFICATIONS

SCREW SIZE	NO. 12 CS	NO. 12 CS - HWH	NO. 14 CS	NO. 15 CS
Driver Bit Size	3	1/4"	3	3
Head Style	PH	HWH	FTH	PH
Head Height	1/8"	3/16"	7/64"	1/8"
Head Width	7/16"	1/4"	7/16"	7/16"
Washer O.D.	-	3/8"	-	-
Thread Size	12 - 13	12 - 13	14 - 13	15 - 12
Point Style	R	DT	DT	R

Head Style: PH = Phillips Head, HWH = Hex Washer Head, FTH = Phillips Flat Truss Head

Point Type: R = Ricoh "S" Point, DT = Drill Type Point

MATERIAL SPECIFICATIONS

ANCHOR COMPONENT	COMPONENT MATERIAL		
	NO. 12 CS	NO. 14 CS	NO. 15 CS
Screw Body	Case Hardened AISI 1018 - 1022		
Coating	Perma-Seal Fluoropolymer		

PERFORMANCE DATA

LOAD CAPACITIES FOR NO.12 DECK SCREW

TENSION (LBS.)							
STEEL DECK (ASTM A 446 GRADE C)							
NOMINAL GAGE	16	18	20	22	24	26	28
No.12 Diameter	930	725	655	550	335	190	185
PLYWOOD (CD EXTERIOR GRADE 2)							
THICKNESS	3/8"	1/2"	5/8"	3/4"			
No.12 Diameter	285	415	605	710			

NOTE: Test data above represents average ultimate tension load sustained in base material indicated with 3/4" penetration. Apply appropriate safety factors.

LOAD CAPACITIES FOR NO.14 DECK SCREW
TENSION (LBS.) STEEL DECK (ASTM A 446 GRADE C)

NOMINAL GAGE	16	18	20	22	24	26	28
No.14 Diameter	1,200	735	630	505	470	200	190

For installations thicker steel deck materials up to No. 12 gage deck, the following pre-drilled hole diameters are recommended. A job site test should be performed to verify proper performance.

NOMINAL GAGE	16	14	12
Pre-drill size	5/32"	5/32"	7/32"
No. 14	1,070	1,100	1,130

PLYWOOD (CD EXTERIOR GRADE 2)

THICKNESS	3/8"	1/2"	5/8"	3/4"
No.14 Diameter	335	435	590	730

NOTE: Test data above represents average ultimate tension load sustained in base material indicated with 3/4" penetration. Apply appropriate safety factors.

TENSION AND SHEAR (LBS.) 4000 PSI CONCRETE

ANSI DRILL SCREW SIZE	TENSION EMBED.	SHEAR DIAMETER	LOAD	LOAD
No.14 Diameter	1-1/2"	7/32"	960	1,120

NOTE: Test data above represents the average ultimate tension load sustained in 4000 psi concrete with 1-1/2" embedment. Shear load is based on testing with fixture attached flush with the surface of the base material. Apply appropriate safety factors.

LOAD CAPACITIES FOR NO.15 DECK SCREW
TENSION (LBS.) STEEL DECK (ASTM A 446 GRADE C)

NOMINAL GAGE	16	18	20	22	24	26	28
No.15 Diameter	920	800	690	485	395	255	230

For installations thicker steel deck materials up to 3/8", the following pre-drilled hole diameters are recommended. A job site test should be performed to verify proper performance.

NOM. GAGE	16	14	12	10	1/4"	5/16"	3/8"
Pre-drill size	3/16"	#7 (.201)	#1 (.228)	D (.246)	D (.246)	D (.246)	1/4"

No. 15	1,000	1,500	1,520	1,520	2,730	4,225	4,225
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PLYWOOD (CD EXTERIOR GRADE 2)

THICKNESS	3/8"	1/2"	5/8"	3/4"
No.15 Diameter	350	500	655	720

NOTE: Test data above represents average ultimate tension load sustained in base material indicated with 3/4" penetration. Apply appropriate safety factors.

TENSION AND SHEAR (LBS.) 4000 PSI CONCRETE

SCREW SIZE	EMBED. DEPTH	ANSI DRILL DIAMETER	TENSION LOAD	SHEAR LOAD
No.15 Diameter	1-1/2"	7/32"	1,015	1,520

NOTE: Test data above represents the average ultimate tension load sustained in 4000 psi concrete with 1-1/2" embedment. Shear load is based on testing with fixture attached flush with the surface of the base material. Apply appropriate safety factors.

ULTIMATE STRENGTHS FOR DECK SCREWS ONLY
DOES NOT CONSIDER BASE MATERIAL

SCREW SIZE (IN.-LBS.)	ULTIMATE TORSIONAL STRENGTH (LBS.)	ULTIMATE TENSILE STRENGTH (LBS.)	ULTIMATE SHEAR STRENGTH
No.12	76	2,410	1,815
No.14	115	3,350	2,630
No.15	209	4,530	3,700

LATERAL LOADS BASED ON BENDING

Deck screws are normally used to fasten insulation to a roof deck. In most applications, the lateral load applied to the screw will produce a bending load, not a shear load. The allowable load in bending is based on several factors including the insulation thickness and the material strength of the screw used. These loads should be calculated by a design professional. A typical calculation is shown for reference purposes.

MATERIAL TYPE: HEAT TREATED CARBON STEEL

UTS of the steel = 170,000 psi (Based on testing)

Yield Stress of the steel, $F_y = 130,000$ psi (estimated)

Allowable Bending Stress, $F_b (0.66 \times F_y) = 85,800$ psi

NOMINAL	DIAMETER OF DECK SCREW (INCHES)		
	NO. 12	NO. 14	NO. 15
Root	0.124	0.142	0.168

CALCULATED ALLOWABLE LATERAL LOADS

$$\text{Allowable Load} = \frac{\text{Allowable Stress} \times \text{Section Modulus}}{\text{Moment Arm}}$$

MOMENT ARM (INCHES)	MAXIMUM ALLOWABLE LATERAL LOAD (POUNDS)		
	NO. 12	NO. 14	NO. 15
0.10	160.52	241.06	399.20
0.25	64.21	96.43	159.68
0.50	32.10	48.21	79.84
1.00	16.05	24.11	39.92
1.50	10.70	16.07	26.61
2.00	8.03	12.05	19.96
2.50	6.42	9.64	15.97
3.00	5.35	8.04	13.31
3.50	4.59	6.89	11.41
4.00	4.01	6.03	9.98
4.50	3.57	5.36	8.87
5.00	3.21	4.82	7.98
5.50	2.92	4.38	7.26
6.00	2.68	4.02	6.65
7.00	2.29	3.44	5.70
8.00	2.01	3.01	4.99
9.00	1.78	2.68	4.44
10.00	1.61	2.41	3.99
11.00	1.46	2.19	3.63
12.00	1.34	2.01	3.33
13.00	1.23	1.85	3.07
14.00	1.15	1.72	2.85

APPROVALS AND LISTINGS**STEEL AND WOOD**

No. 12 Perma-Seal Deck Screw – J.I. OK4A2.AM, J.I. 1M4A5.AM J.I. 1M2A4.AM

No. 14 Perma-Seal Deck Screw – J.I. 1N2A5.AM

RECOVER CONSTRUCTION

Powers Deck Screw – J.I. 1N2A4.AM

ALL DECK TYPES

Fully Adhered Single-Ply and Modified Bitumen Roof Coverings – J.I. IT9A4.AM



Stress Plates

BASE MATERIAL

Insulation, Single-Ply Roofing Materials

SIZE RANGE

2" and 3" Round

SCREW MATERIAL

Stainless Steel, Galvalume, or Engineered Plastic

PRODUCT DESCRIPTION

Stress plates are designed for use with Deck Screws™, SPIKE® anchors, and Speed Lock toggles.

PLATE AND WASHER SIZES

INSULATION PLATES - FOR PH SCREWS

CAT. NO.	SIZE	PLATE THICKNESS	MATERIAL	STD. CTN.	WT./100
3880	3" round	.019"	Galvalume	500	4
3881	3" round	.019"	Stainless Steel	500	4
3864	3" round	N/A	Polymer	500	2

INSULATION PLATE - FOR HWH SCREWS

CAT. NO.	SIZE	PLATE THICKNESS	MATERIAL	STD. CTN.	WT./100
3580	3" round	.019"	Galvalume	500	4

MEMBRANE PLATES

CAT. NO.	SIZE	PLATE THICKNESS	MATERIAL	STD. CTN.	WT./100
3878	2" round barbed	.034"	Galvalume	1000	3

FLASHING AND TERMINATION WASHERS EPDM SEALING WASHER FOR USE WITH 1/4" ANCHORS

CAT. NO.	SIZE	STD. BOX	STD. CTN.	WT./100
2896	1/4" (ID) x 1-1/8" (OD)	100	1000	1-1/4

FLASHING AND TERMINATION WASHERS PLASTIC WASHER FOR USE WITH 1/4" ANCHORS

CAT. NO.	SIZE	STD. BOX	STD. CTN.	WT./100
3994	1/4" (ID) x 1-1/2" (OD) Poly	1000	5000	3-1/2

PERFORMANCE DATA

PLATE PULLOVER CAPACITIES (LBS.)

PLATE TYPE	3/16" SPIKE	1/4" SPIKE	#12 DECK SCREW	#14 DECK SCREW	#15 DECK SCREW	1/4" S.L. TOGGLE
3" Round Galvalume	635	720	720	740	780	740
3" Round Plastic	530	570	540	550	570	570
3" Round Stainless	1,140	1,150	1,190	1,240	1,280	1,335
2" Round Galvalume	1,350	1,450	1,380	1,410	1,460	1,510

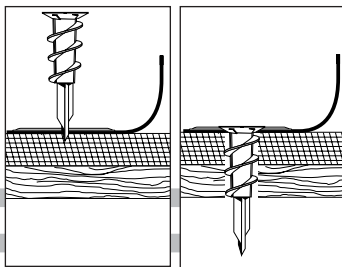
APPROVALS AND LISTINGS

STEEL, WOOD AND STRUCTURAL CONCRETE DECKS

Powers Stress Plates J.I. 1RA3A.1AM

RECOVER CONSTRUCTION

Powers Stress Plates J.I. 1P3A9.AM



Woodie®

BASE MATERIAL

Insulation, Single-Ply Roofing Materials

SIZE RANGE

1-3/4" to 4-3/4"

ANCHOR MATERIAL

Zamac Alloy

PRODUCT DESCRIPTION

The Woodie® and specially designed Woodie® plates are used to attach single-ply membrane and insulation directly to wood roof decks which are made of oriented strand board (OSB) or plywood.

WOODIE SIZES

WOODIE SELECTION GUIDE

CAT. NO.	DESCRIPTION	APPLICATION TO WOOD
4562	Woodie Short (1-3/4")	Membrane & slipsheet directly to wood
4563	Woodie Medium (2-1/2")	Membrane and/or 1/2" to 3/4" insulation
4564	Woodie Long (3-1/4")	Membrane and/or 1" to 1-1/2" insulation
4556	Woodie 4"	Membrane and/or 1-3/16" to 2-1/4" insulation
4557	Woodie 4-3/4"	Membrane and/or 1-3/4" to 3" insulation

WOODIE FASTENERS

CAT. NO.	DESCRIPTION	OVERALL LENGTH	STD. CTN.	WT./ 100
4562	Woodie 1-3/4"	1-3/4"	1000	1-1/2
4563	Woodie 2-1/2"	2-1/2"	1000	2-1/2
4564	Woodie 3-1/4"	3-1/4"	1000	4
4556	Woodie 4"	4"	1000	5
4557	Woodie 4-3/4"	4-3/4"	1000	6

WOODIE PLATES

CAT. NO.	DESCRIPTION	PLATE SIZE	STD. CTN.	WT./ 100
4569	Woodie Membrane Plate	2" Barbed	1000	3
4570	Woodie Insulation Plate	3" Barbed	1000	4

WOODIE DRIVER BIT

CAT. NO.	DESCRIPTION	DRIVER TYPE	STD. CTN.	WT./ 100
4560	Driver Bit	Square	1	1

MATERIAL SPECIFICATIONS

FASTENER COMPONENT	COMPONENT MATERIAL
Anchor Body	Zamac Alloy
Plate	Galvalume

PERFORMANCE DATA

ULTIMATE TENSION LOAD CAPACITIES FOR WOODIE ANCHOR

BASE MATERIAL / THICKNESS	7/16"	1/2"	5/8"	3/4"
OSB Oriented Strand Board	440	463	569	594
Plywood CD Ext. Grade	416**	447	540	591

APPROVALS AND LISTINGS

Factory Mutual Research Corporation Wood Decks
Woodie J.I. 0V1Q9.AM, J.I. 1W6A2.AM



PERMA-SEAL™ SPIKE®

BASE MATERIAL

Concrete

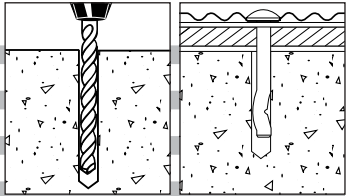
SIZE RANGE

3/16" x 1" to 1/4" x 14"

ANCHOR MATERIAL

Perma-Seal™ Coated Carbon Steel

PRODUCT DESCRIPTION



For roofing applications, the SPIKE® is a one-piece, vibration resistant anchor available in 3/16" and 1/4" diameters for use in fastening insulation, single-ply membrane, wood, and metal to structural concrete roof decks. This version of the SPIKE® has a Perma-Seal™ coating a proprietary fluoropolymer which meets the corrosion resistance requirements of FMRC Standard 4470. It is designed for use in conjunction with Powers insulation or membrane stress plates.

ANCHOR SIZES AND STYLES

PERMA-SEAL SPIKE

CAT. NO.	SIZE	DRILL DIA.	MIN. EMBED.	STD. BOX	STD. CTN.	WT./100
3800*	3/16" x 1"	3/16"	7/8"	500	500	1-1/4
3801*	3/16" x 1-1/4"	3/16"	7/8"	500	500	1-1/2
3703*	3/16" x 1-1/2"	3/16"	1-1/4"	500	500	1-1/2
3705*	3/16" x 2"	3/16"	1-1/4"	500	500	2
3707*	3/16" x 2-1/2"	3/16"	1-1/4"	500	500	2-1/2
3709*	3/16" x 3"	3/16"	1-1/4"	500	500	2-3/4
3711*	3/16" x 3-1/2"	3/16"	1-1/4"	500	500	3-1/4
3713*	3/16" x 4"	3/16"	1-1/4"	500	500	3-1/2
3715*	3/16" x 4-1/2"	3/16"	1-1/4"	500	500	4
3717*	3/16" x 5"	3/16"	1-1/4"	500	500	4-1/2
3719*	3/16" x 5 1/2"	3/16"	1-1/4"	500	500	5
3721*	3/16" x 6"	3/16"	1-1/4"	250	250	5-1/2
3425*	3/16" x 7"	3/16"	1-1/4"	250	250	6-1/2
3429*	3/16" x 8"	3/16"	1-1/4"	250	250	7
3433*	3/16" x 9"	3/16"	1-1/4"	250	250	7-1/2
3437*	3/16" x 10"	3/16"	1-1/4"	250	250	8
3810	1/4" x 1"	1/4"	7/8"	500	500	2-1/4
3811	1/4" x 1-1/4"	1/4"	7/8"	500	500	2-1/2
3723	1/4" x 1-1/2"	1/4"	1-1/4"	500	500	2-1/2
3725	1/4" x 2"	1/4"	1-1/4"	500	500	3
3727	1/4" x 2-1/2"	1/4"	1-1/4"	500	500	4
3729	1/4" x 3"	1/4"	1-1/4"	500	500	4-1/2
3731	1/4" x 3-1/2"	1/4"	1-1/4"	500	500	5
3733	1/4" x 4"	1/4"	1-1/4"	500	500	6
3735	1/4" x 4-1/2"	1/4"	1-1/4"	500	500	6-1/2
3737	1/4" x 5"	1/4"	1-1/4"	500	500	7
3739	1/4" x 5-1/2"	1/4"	1-1/4"	500	500	7-1/2
3741	1/4" x 6"	1/4"	1-1/4"	250	250	8
3743	1/4" x 6-1/2"	1/4"	1-1/4"	250	250	8-1/2
3745	1/4" x 7"	1/4"	1-1/4"	250	250	9-1/2
3747	1/4" x 7-1/2"	1/4"	1-1/4"	250	250	10-1/2

PERMA-SEAL SPIKE

CAT. NO.	SIZE	DRILL DIA.	MIN. EMBED.	STD. BOX	STD. CTN.	WT./100
3749	1/4" x 8"	1/4"	1-1/4"	250	250	11
3753	1/4" x 9"	1/4"	1-1/4"	250	250	12
3757	1/4" x 10"	1/4"	1-1/4"	250	250	13
3765	1/4" x 11"	1/4"	1-1/4"	100	100	14
3769	1/4" x 12"	1/4"	1-1/4"	100	100	15
3773	1/4" x 13"	1/4"	1-1/4"	100	100	16
3777	1/4" x 14"	1/4"	1-1/4"	100	100	17

* Discontinued item once current stock exhausted.

SPIKE INSTALLATION TOOLS FOR ROOFING APPLICATIONS



1000



Puller



2000

CAT. NO.	DESCRIPTION	GUIDE I.D.	STD. BOX	WT./EACH
3790	SPIKE Driver 1000	1/2"	1	1/4
3791	SPIKE Driver 2000	1/2"	1	1/4
3752	SPIKE Puller	1/4"	1	1

INSTALLATION SPECIFICATIONS

ANCHOR SIZE	3/16"	1/4"
ANSI Drill Bit Size	3/16"	1/4"
Fixture Clearance Hole	1/4"	5/16"
Head Size (O.D.)	7/16"	1/2"
Head Height	7/64"	7/64"

MATERIAL SPECIFICATIONS

ANCHOR COMPONENT	COMPONENT MATERIAL
Anchor Body	Grade 8.2 Carbon Steel
Coating	Perma-Seal Fluoropolymer

PERFORMANCE DATA

HOLE DEPTH	EMBED. SIZE	3,000 PSI CONCRETE	4,000 PSI CONCRETE	5,000 PSI CONCRETE	CONCRETE BLOCK
3/16"	7/8"	760	860	890	280
3/16"	1"	820	980	995	410
3/16"	1-1/4"	975	1,180	1,450	740
1/4"	1-1/4"	1,100	1,550	1,700	800
3/16"	7/8"	1,270	1,310	1,350	540
3/16"	1"	1,725	1,860	1,860	590
3/16"	1-1/4"	2,250	2,425	2,600	2,090
1/4"	1-1/4"	2,500	2,750	3,200	2,100

APPROVALS AND LISTINGS

STRUCTURAL CONCRETE DECK

SPIKE J.I. 1K6A7.AM J.I. ON9A2.AM J.I. 1M4A5.AM

Miami-Dade NOA 03-0303.14 Florida Statewide Approval No. FL2209.7

ALL DECK TYPES

Fully Adhered Single-Ply and Modified Bitumen Roof Coverings J.I. 1T9A4.AM



Powerlite™

BASE MATERIAL

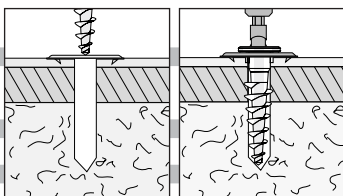
Structural Cement Wood Fiber, Gypsum or
Lightweight Concrete

SIZE RANGE

2" to 14" Lengths

ANCHOR MATERIAL

Reinforced Engineered Nylon



PRODUCT DESCRIPTION

The Powerlite™ is a fastener used to mechanically attach rigid insulation board and single-ply membrane to structural cement wood fiber, gypsum, and lightweight insulating concrete roof decks. The fastener is used in conjunction with insulation and membrane stress plates. The plates are manufactured with four barbs on the underside that grip the insulation board or single-ply membrane preventing rotation.

ANCHOR SIZES AND STYLES

CAT. NO.	LENGTH	MIN. EMBED.	STD. CTN.	WT./ 100
4670	2"	1-1/2"	500	3
4671	2-1/2"	1-1/2"	500	3
4672	3"	1-1/2"	500	3
4673	3-1/2"	1-1/2"	500	4
4674	4"	1-1/2"	500	4
4675	4-1/2"	1-1/2"	500	4
4676	5"	1-1/2"	500	4
4677	5-1/2"	1-1/2"	500	5
4678	6"	1-1/2"	500	5
4679	6-1/2"	1-1/2"	500	5
4680	7"	1-1/2"	500	5
4681	7-1/2"	1-1/2"	500	6
4683	8"	1-1/2"	250	6
4684	8-1/2"	1-1/2"	250	6
4685	9"	1-1/2"	250	6
4686	9-1/2"	1-1/2"	250	7
4687	10"	1-1/2"	250	7
4688	11"	1-1/2"	250	7
4689	12"	1-1/2"	250	8
4691	13"	1-1/2"	250	8
4692	14"	1-1/2"	250	9
3876	2" Powerlite Plate		500	3-1/2
3896	3" Powerlite Plate		500	3-1/2

Bit Tip: Cat. No. 4695 Bit Tip Holder: Cat. No. 4696

INSTALLATION SPECIFICATIONS

Head O.D.	1"
Head Height	1/8"
Insert Size	1/4"
Fixture Clearance Hole*	5/8"

MATERIAL SPECIFICATIONS

ANCHOR COMPONENT	COMPONENT MATERIAL
Fastener Body	Nylon
Plate	Galvalume Coated Steel

PERFORMANCE DATA

BASE MATERIAL	PRE-DRILL	EMBEDMENT	TENSION LOAD
Tectum Deck	-	1-1/2"	280 lbs.
Tectum Deck	-	2"	440 lbs
Tectum Deck	-	2-1/2"	595 lbs.
3" Insulrock	5/16"	2-1/2"	365 lbs
Poured Gypsum	3/8"	2"	540 lbs.

NOTE: Test data above represent average ultimate loads sustained in the materials indicated and should be used as guidelines only. Apply appropriate safety factor. Job site tests are recommended.

Tectum® is a registered trademark of Tectum, Inc.

APPROVALS AND LISTINGS

GYPSUM AND TECTUM DECKS

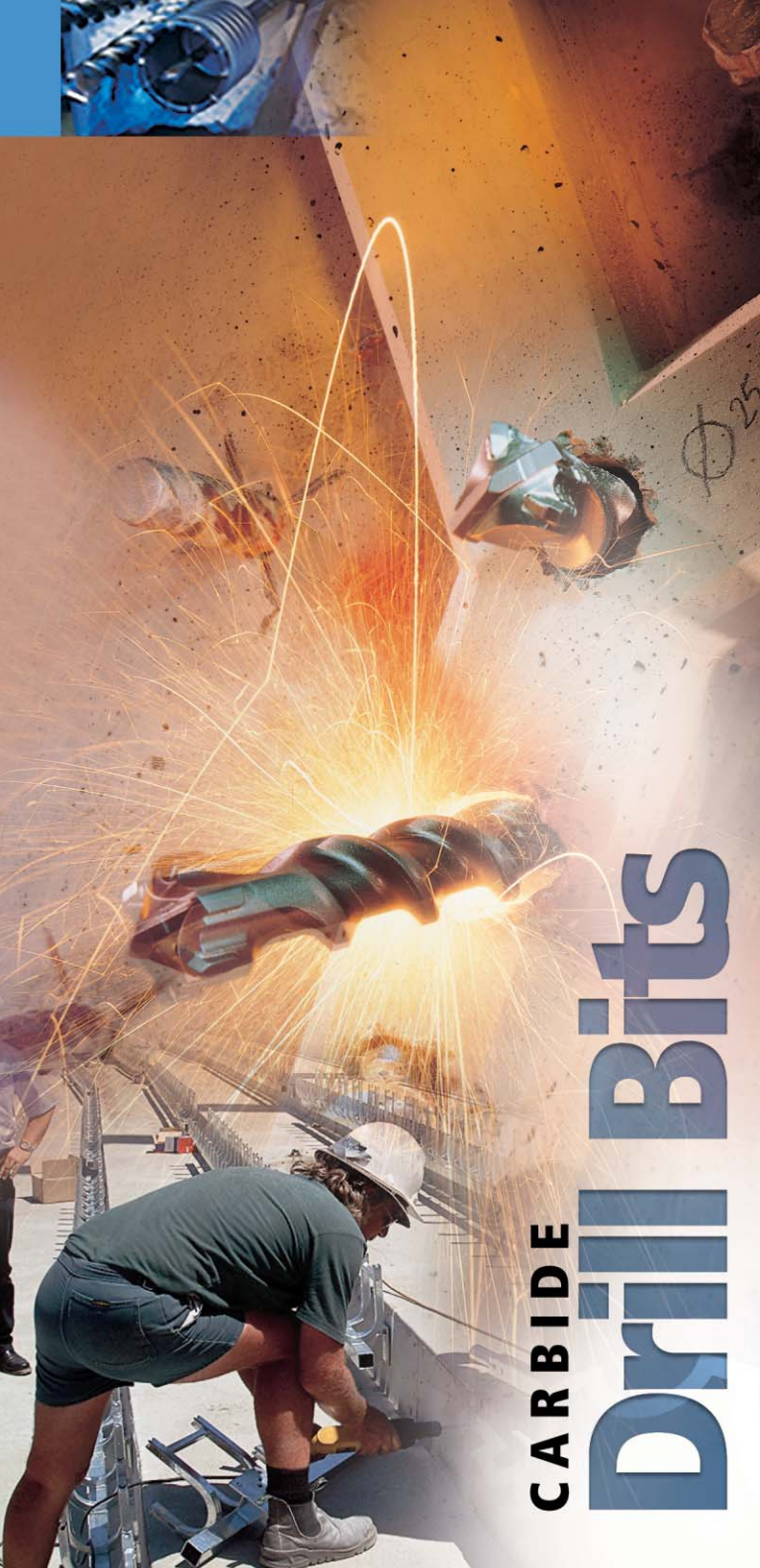
Powerlite	J.I. 1Q2A2.AM J.I. 1T9A4.AM
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RECOVER CONSTRUCTION

Powerlite	J.I. 1Q2A2.AM
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ALL DECK TYPES

Fully Adhered Single-Ply and Modified Bitumen Roof Coverings	J.I. 1T9A4.AM
Single Ply Roof Covers in Cementitious Wood Fiber Deck	J.I. 3X2A7.AM



CARBIDE
Drill Bits



S-4 Plus™ SDS



CARBIDE DRILL BITS

USE IN

Rotary Hammer with SDS Chuck or SDS Adapter

SIZE RANGE

5/32" x 6" to 1-1/4" x 18"

PRODUCT DESCRIPTION

SDS-Plus® Carbide Drill Bits are designed for use in a rotary hammer equipped with an SDS (slotted drive shaft) type chuck. The bits are manufactured to conform with ANSI Standard B212.15 and can be used to drill in concrete, block, brick, and soft stone. As existing stock of the single tip SDS Plus Carbide Drill Bits are depleted, the new S-4 Plus™ SDS Carbide Drill Bits will be phased in, utilizing the catalog numbers listed below. S-4 Plus™ SDS Carbide Drill Bits are manufactured to conform with the same industry standard but have a new carbide and flute design providing up to 27% faster drilling.

DRILL BIT SIZES

CAT. NO.	SIZE	USABLE LENGTH	STD. POUCH	WT./DOZEN
0302	5/32" x 6"	4"	1	1
0304	3/16" x 4"	2"	1	1
0305	3/16" x 5"	3"	1	1
0306	3/16" x 6"	4"	1	1
0308	3/16" x 8"	6"	1	1-1/4
0310	3/16" x 10"	8"	1	1-1/2
0312	3/16" x 12"	10"	1	1-3/4
0314	3/16" x 14"	12"	1	2
0315	7/32" x 6"	4"	1	1-1/4
0316	7/32" x 8"	6"	1	1-1/2
0317	7/32" x 11"	9"	1	1-3/4
0318	7/32" x 14"	12"	1	1-3/4
0319	7/32" x 16"	14"	1	2
0320	1/4" x 4"	2"	1	1
0321	1/4" x 6"	4"	1	1-1/4
0322	1/4" x 8"	6"	1	1-1/2
0323	1/4" x 11"	9"	1	1-3/4
0324	1/4" x 14"	12"	1	2
0325	1/4" x 16"	14"	1	2
0327	1/4" x 20"	18"	1	2-1/4
0329	5/16" x 6"	4"	1	1-1/2
0331	5/16" x 12"	10"	1	2-1/2
0333	3/8" x 6"	4"	1	2
0334	3/8" x 8"	6"	1	2-1/2
0336	3/8" x 12"	10"	1	3-1/2
0338	3/8" x 18"	16"	1	4-3/4
0339	3/8" x 24"	22"	1	6
0341	7/16" x 6"	4"	1	2-1/2
0343	7/16" x 12"	10"	1	3-1/2
0346	1/2" x 6"	4"	1	2-3/4

CAT. NO.	SIZE	USABLE LENGTH	STD. POUCH	WT./ DOZEN
0348	1/2" x 10"	8"	1	4-1/4
0349	1/2" x 12"	10"	1	5-1/2
0351	1/2" x 18"	16"	1	6-1/2
0352	1/2" x 24"	22"	1	9-1/4
0354	9/16" x 6"	4"	1	3-1/4
0355	9/16" x 10"	8"	1	5-1/2
0359	5/8" x 8"	6"	1	4-1/2
0361	5/8" x 12"	10"	1	6-1/4
0362	5/8" x 18"	16"	1	10
0364	11/16" x 8"	6"	1	4-3/4
0365	11/16" x 12"	10"	1	7
0368	3/4" x 8"	6"	1	5
0370	3/4" x 12"	10"	1	6-3/4
0371	3/4" x 18"	16"	1	12
0373	27/32" x 8"	6"	1	8
0375	7/8" x 8"	6"	1	8-1/4
0376	7/8" x 12"	10"	1	9
0377	7/8" x 16"	16"	1	15
0379	1" x 8"	6"	1	9-1/2
0380	1" x 10"	8"	1	10
0381	1" x 12"	10"	1	13
0382	1" x 18"	16"	1	18
0394	*Spline to SDS Adapter	-	-	
0396	*SDS Max Adapter	-	-	

* Use of S4-Plus SDS drill bit in larger rotary hammers with an adapter will reduce bit life.

S4-PLUS SDS DRILL BIT BULK PACKS

CAT. NO.	SIZE	USABLE LENGTH	DRILLS PER PACK	WT./ DOZEN
0664	3/16" x 4"	2"	25	1
0666	3/16" x 6"	4"	25	1
0668	3/16" x 8"	6"	25	1-1/4
0670	3/16" x 10"	8"	25	1-1/2
0675	7/32" x 6"	4"	25	1-1/4
0676	7/32" x 8"	6"	25	1-1/2
0677	7/32" x 11"	9"	25	1-3/4
0680	1/4" x 4"	2"	25	1
0681	1/4" x 6"	4"	25	1-1/4
0682	1/4" x 8"	6"	25	1-1/2
0683	1/4" x 11"	9"	25	1-3/4
0689	5/16" x 6"	4"	25	1-1/2
0693	3/8" x 6"	4"	25	2
0696	1/2" x 6"	4"	15	2-3/4
0697	5/8" x 8"	6"	15	4-1/2


QUATRO™ HEAD SDS-PLUS CARBIDE DRILL BITS

CAT. NO.	DRILL SIZE	USABLE LENGTH	STD. POUCH	WT./DOZEN
7080	5/8" x 10"	8"	1	5
7081	5/8" x 12"	10"	1	6-1/2
7082	5/8" x 18"	16"	1	10
7079	11/16" x 10"	8"	1	7
7084	3/4" x 10"	8"	1	7-1/2
7085	3/4" x 12"	10"	1	8-1/2
7086	3/4" x 18"	16"	1	12-1/2
7087	27/32" x 10"	8"	1	4
7088	7/8" x 10"	8"	1	8
7089	7/8" x 12"	10"	1	9
7090	7/8" x 18"	16"	1	12
7091	1" x 10"	8"	1	10
7092	1" x 12"	10"	1	13-1/2
7093	1" x 18"	16"	1	20
7094	1-1/8" x 18"	16"	1	29
7095	1-1/4" x 18"	16"	1	31


Spline "Y-Cutter"
CARBIDE DRILL BITS
USE IN

Rotary Hammer with Spline Chuck

SIZE RANGE

3/8" x 8" to 2" x 22"

PRODUCT DESCRIPTION

Spline Carbide Drill Bits are designed for use in a rotary hammer equipped with a spline type chuck. The bits are manufactured to conform with ANSI Standard B212.15 and can be used to drill in concrete, block, brick, and soft stone. Both Y-Cutter and single tip head styles are available. The Y-Cutter head design has three main cutters in a "Y" configuration which make up to 32% less noise and vibration compared to the old X-cutting head. Drill holes up to 25% faster!

DRILL BIT SIZES
Y-CUTTER DESIGN

CAT. NO.	SIZE	USABLE LENGTH	STD. TUBE	WT./DOZEN
7017	5/8" x 11"	6"	1	12
7020	5/8" x 16"	11"	1	15
7021	5/8" x 23"	18"	1	17
7023	5/8" x 27"	22"	1	20
7024	5/8" x 36"	31"	1	25
7028	11/16" x 16"	11"	1	16
7031	3/4" x 11"	6"	1	15
7033	3/4" x 16"	11"	1	18
7035	3/4" x 23"	18"	1	22
7036	3/4" x 27"	22"	1	24
7037	3/4" x 36"	31"	1	29
7043	7/8" x 16"	11"	1	20

Y-CUTTER DESIGN CONTINUED				
7045	7/8" x 23"	18"	1	25
7049	1" x 16"	11"	1	25
7051	1" x 23"	18"	1	31
7053	1" x 36"	31"	1	48
7057	1-1/8" x 16"	11"	1	26
7059	1-1/8" x 22"	17"	1	42
7064	1-1/4" x 16"	11"	1	34
7066	1-1/4" x 22"	17"	1	44
7069	1-1/4" x 36"	31"	1	68
7072	1-3/8" x 22"	17"	1	60
7077	1-1/2" x 22"	17"	1	73

SINGLE TIP SPLINE CARBIDE DRILL BITS				
CAT. NO.	SIZE	USABLE LENGTH	STD. TUBE	WT./DOZEN
1401	3/8" x 8"	3"	1	8
1402	3/8" x 10"	5"	1	9
1403	3/8" x 16"	11"	1	12
1405	7/16" x 13"	8"	1	10
1407	1/2" x 10"	5"	1	10
1408	1/2" x 13"	8"	1	11
1409	1/2" x 16"	11"	1	12-1/2
1410	1/2" x 22"	17"	1	14
1412	1/2" x 27"	22"	1	16-1/2
1413	1/2" x 36"	31"	1	19
1415	9/16" x 13"	8"	1	12
1418	5/8" x 10"	5"	1	11
1419	5/8" x 13"	8"	1	12-1/2
1420	5/8" x 16"	11"	1	14
1421	5/8" x 22"	17"	1	16
1423	5/8" x 27"	22"	1	20
1424	5/8" x 36"	31"	1	24
1427	11/16" x 13"	8"	1	14
1431	3/4" x 10"	5"	1	14
1433	3/4" x 16"	11"	1	17
1434	3/4" x 22"	17"	1	21
1436	3/4" x 27"	22"	1	24
1437	3/4" x 36"	31"	1	28
1443	7/8" x 16"	11"	1	19
1444	7/8" x 22"	17"	1	23
1446	7/8" x 36"	31"	1	34
1449	1" x 16"	11"	1	24
1450	1" x 22"	17"	1	29
1453	1" x 36"	31"	1	48
1457	1-1/8" x 16"	11"	1	25
1458	1-1/8" x 22"	17"	1	39
1464	1-1/4" x 16"	11"	1	33
1465	1-1/4" x 22"	17"	1	42
1470	1-3/8" x 16"	11"	1	41
1471	1-3/8" x 22"	17"	1	58
1477	1-1/2" x 22"	17"	1	70
1482	1-5/8" x 22"	17"	1	74
1486	1-3/4" x 22"	17"	1	80
1490	2" x 22"	17"	1	86



SDS-Max® Y-Cutter

CARBIDE DRILL BITS

USE IN

Rotary Hammer with SDS-Max Chuck

SIZE RANGE

1/2" x 12" to 1-1/2" x 22-1/2"

PRODUCT DESCRIPTION

SDS-Max® Carbide Drill Bits are designed for use in a rotary hammer equipped with a SDS-Max® type chuck. The bits are manufactured to conform with ANSI Standard B212.15 and can be used to drill in concrete, block, brick, and soft stone. The Y-Cutter head design has three main cutters in a "Y" configuration which make up to 32% less noise and vibration compared to the old X-cutting head.

DRILL BIT SIZES

CAT. NO.	SIZE	USABLE LENGTH	STD. TUBE	WT./DOZEN
8801*	1/2" x 13"	8"	1	12
8802*	1/2" x 21"	16"	1	13
8805*	9/16" x 13"	8"	1	12
8806*	9/16" x 21"	16"	1	17
8809	5/8" x 13"	8"	1	13
8810	5/8" x 21"	16"	1	16
8812	5/8" x 36"	31"	1	24
8815	11/16" x 21"	16"	1	24
8817	3/4" x 13"	8"	1	15
8818	3/4" x 21"	16"	1	19
8820	3/4" x 36"	31"	1	3
8829	7/8" x 13"	8"	1	17
8830	7/8" x 21"	16"	1	22
8833	1" x 13"	8"	1	20
8834	1" x 21"	16"	1	26
8836	1" x 36"	31"	1	48
8843	1-1/8" x 15"	10"	1	22
8844	1-1/8" x 23"	18"	1	28
8846	1-1/4" x 15"	10"	1	26
8847	1-1/4" x 23"	18"	1	28
8848	1-1/4" x 36"	31"	1	72
8853	1-3/8" x 23"	8"	1	42
8859	1-1/2" x 23"	18"	1	44

* 1/2" and 9/16" sizes have a standard single cutter tip and standard helical fluting



Concrete Auger Bits

USE IN

Rotary Hammer with a Spline or SDS-Max Chuck

SIZE RANGE

1-3/4" to 3-1/8"

PRODUCT DESCRIPTION

Concrete auger bits are a one piece unit designed for use in a rotary hammer equipped with a Spline or SDS-Max® chuck. The efficient design of these bits provides faster drilling with reduced vibration and noise. They are ideal for producing larger diameter, deep holes and are best suited for drilling through walls or foundations.

AUGER BIT SIZES

SPLINE SHANK

CAT. NO.	DRILL SIZE	AUGER TOLERANCE	USABLE LENGTH	OVERALL LENGTH	STD. TUBE	WT./ DOZEN
0985	1-3/4"	1.75 - 1.81	18"	24"	1	49
0986	2-1/8"	2.14 - 2.20	18"	24"	1	58
0987	2-1/2"	2.58 - 2.63	18"	24"	1	66
0988	3-1/8"	3.13 - 3.18	18"	24"	1	72

Flute length on all sizes is 6-1/2".

SDS-MAX SHANK

CAT. NO.	DRILL SIZE	AUGER TOLERANCE	USABLE LENGTH	OVERALL LENGTH	STD. TUBE	WT./ DOZEN
0990	1-3/4"	1.75 - 1.81	18"	24"	1	49
0991	2-1/8"	2.14 - 2.20	18"	24"	1	58
0992	2-1/2"	2.58 - 2.63	18"	24"	1	66
0993	3-1/8"	3.13 - 3.18	18"	24"	1	72

Flute length on all sizes is 6-1/2".



Rebar Cutter Bits

USE IN

Rotation-only Drill with Standard 1/2" Jacobs Style Chuck

SIZE RANGE

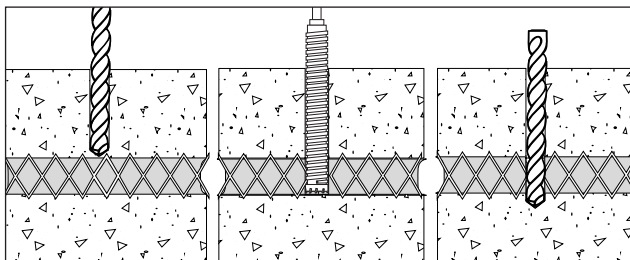
1/2" to 1-1/4"

PRODUCT DESCRIPTION

Rebar cutter bits provide a quick, easy method for drilling through mesh or reinforcing bars embedded in concrete when the drilled hole cannot be relocated. The bits are used in the rotation only mode and are designed to fit in a standard rotary drill motor with a 1/2" Jacobs style chuck.

When drilling with a hammer drill or rotary hammer, it is important to stop drilling immediately when a standard carbide bit contacts steel reinforcing bar or wire mesh, otherwise the bit will fail.

If the drilled hole cannot be relocated, a rebar cutter bit is used to drill through the embedded steel. Insert the rebar cutter bit into the chuck of a standard 1/2" rotary drill. Place the bit into the partially drilled hole until it contacts the mesh or reinforcing bar. Drill through the embedded steel with the rebar cutter bit. Once the bit has drilled through the steel, remove the debris from the hole, then continue drilling with the standard carbide tipped bit using a hammer drill or rotary hammer.



REBAR CUTTER BIT SIZES

CAT. NO.	DRILL SIZE	USABLE LENGTH	OVERALL LENGTH	WT./DOZEN
0845	1/2" X 12"	11"	12"	6
0844	9/16" X 12"	11"	12"	7
0846	5/8" X 12"	11"	12"	7-1/4
0847	11/16" X 12"	11"	12"	10
0849	3/4" X 12"	11"	12"	12
0851	7/8" X 12"	11"	12"	12
0853	1" X 12"	11"	12"	15
0855	1-1/4" X 12"	11"	12"	24



Heavy Duty One and Two Piece Core Bits

USE IN

Rotary hammer with a Spline or SDS-Max® chuck

SIZE RANGE

1-1/2" to 5"

PRODUCT DESCRIPTION

Heavy Duty Core Bits are designed for use in a rotary hammer equipped with a spline or SDS-Max® type chuck. The bits can be used to drill in concrete, block, brick, and soft stone.

CORE BIT SIZES

ONE PIECE SPLINE CORE BITS - HEAVY WALL

CAT. NO.	DRILL SIZE	NO. OF TEETH	CORE TOLERANCE	USABLE LENGTH	OVERALL LENGTH	WT./ DOZEN
0250	1-1/2"	6	1.55 - 1.61	7"	12"	30
0252	1-1/2"	6	1.55 - 1.61	17"	22"	47
0254	2"	8	2.03 - 2.08	7"	12"	33
0256	2"	8	2.03 - 2.08	17"	22"	48
0258	2-1/2"	10	2.58 - 2.63	7"	12"	31
0260	2-1/2"	10	2.58 - 2.63	17"	22"	49
0261	3"	12	3.13 - 3.18	7"	12"	43
0262	3"	12	3.13 - 3.18	17"	22"	64
0263	3-1/2"	13	3.52 - 3.58	7"	12"	48
0264	3-1/2"	13	3.52 - 3.58	17"	22"	65
0265	4"	15	4.07 - 4.13	7"	12"	55
0266	4"	15	4.07 - 4.13	17"	22"	72
0267	5"	18	5.06 - 5.11	7"	12"	87
0268	5"	18	5.06 - 5.11	17"	22"	103
0295	Centering Bit - 3/8"			-	4-3/4"	1-1/2
0296	Ejector Pin			-	-	1-1/2

ONE PIECE SDS-MAX CORE BITS - HEAVY WALL

CAT. NO.	DRILL SIZE	NO. OF TEETH	CORE TOLERANCE	USABLE LENGTH	OVERALL LENGTH	WT./ DOZEN
0270	1-1/2"	6	1.55 - 1.61	7"	12"	30
0271	1-1/2"	6	1.55 - 1.61	17"	22"	47
0281	2"	8	2.03 - 2.08	7"	12"	33
0282	2"	8	2.03 - 2.08	17"	22"	48
0283	2-1/2"	10	2.58 - 2.63	7"	12"	31
0284	2-1/2"	10	2.58 - 2.63	17"	22"	49
0285	3"	12	3.13 - 3.18	7"	12"	43
0286	3"	12	3.13 - 3.18	17"	22"	64
0287	3-1/2"	13	3.52 - 3.58	7"	12"	48
0288	3-1/2"	13	3.52 - 3.58	17"	22"	65
0289	4"	15	4.07 - 4.13	7"	12"	55
0290	4"	15	4.07 - 4.13	17"	22"	72
0295	Centering Bit - 3/8"			-	4-3/4"	1-1/2
0296	Ejector Pin			-	-	1-1/2

One piece core bits are packaged with a centering bit and ejector key.

TWO PIECE CORE BIT BODY - HEAVY WALL

CAT. NO.	DRILL SIZE	NO. OF TEETH	CORE TOLERANCE	USABLE LENGTH	STD. TUBE	WT./DOZEN
0570	1-3/4"	6	1.78 - 1.81	5"	1	12
0571	2"	8	2.03 - 2.08	5"	1	18
0572	2-5/8"	10	2.64 - 2.69	5"	1	28
0573	3"	12	3.13 - 3.18	5"	1	38
0574	3-1/2"	13	3.52 - 3.58	5"	1	48
0575	4"	15	4.07 - 4.13	5"	1	60
0576	5"	18	5.06 - 5.11	5"	1	84
0577	6"	18	6.06-6.13	5"	1	90

TWO PIECE CORE BIT DRIVE SHANK - HEAVY WALL

CAT. NO.	SHANK TYPE	OVERALL LENGTH	STD. TUBE	WT./DOZEN
0578	Spline	8"	1	21
0579	Spline	18"	1	35
0580	SDS-Max	8"	1	21
0581	SDS-Max	18"	1	35
0590	Centering Bit - 3/8"	5-5/16"	1	1-1/2



"A" Taper Drill Bits

USE IN

Rotary hammer with "A" Taper chuck or adapter

SIZE RANGE

3/16" x 4" to 3/4" x 12"

PRODUCT DESCRIPTION

"A" Taper Drill Bits are designed for use in a rotary hammer equipped with an "A" Taper type chuck. The bits meet ANSI standards and can be used to drill in concrete, block, brick, and soft stone.

DRILL BIT SIZES

CAT. NO.	DRILL SIZE	USABLE LENGTH	STD. TUBE	WT./DOZEN
0706	3/16" x 6	4"	1	1
0710	1/4" x 4"	2"	1	1-1/2
0712	1/4" x 6"	4"	1	1-1/2
0714	1/4" x 10"	8"	1	1-3/4
0718	5/16" x 6"	4"	1	1-1/2
0722	3/8" x 6"	4"	1	2-1/4
0724	3/8" x 9"	7"	1	3
0736	1/2" x 6"	4"	1	3
0740	1/2" x 12"	10"	1	4-3/4
0752	5/8" x 9"	7"	1	6
0754	5/8" x 12"	10"	1	7
0760	3/4" x 9"	7"	1	12
0762	3/4" x 12"	10"	1	16

CAT. NO.	SIZE	STD. POUCH	WT./ADAPTER
0791	SDS-Plus to "A" Taper	1	13
0794	Spline to "A" Taper	1	11
0790	SDS-Max to "A" Taper	1	13
0798	Ejector Pin "A" Taper	1	1-1/4

Use "A" Taper Drills with: "A" taper adapter in rotary hammer drills.



HD Straight Shank Bits

USE IN

Hammer Drill

SIZE RANGE

1/8" x 3" to 1" x 24"

PRODUCT DESCRIPTION

Heavy Duty Straight Shank Carbide Bits are designed for use in a hammer drill equipped with a 3 jaw Jacobs type chuck. The bits meet ANSI standards and can be used to drill in concrete, block, brick, and soft stone.

DRILL BIT SIZES

CAT. NO.	DRILL SIZE	USABLE LENGTH	SHANK SIZE	STD. POUCH	WT./DOZEN
0501	1/8" x 3"	2-1/4"	1/8"	1	1/4
0503	5/32" x 6"	4"	5/32"	1	1/2
0504	3/16" x 4"	2-3/4"	3/16"	1	1/4
0505	3/16" x 6"	4"	3/16"	1	1/2
0507	3/16" x 13"	11"	3/16"	1	1-1/4
0512	1/4" x 4"	2-3/4"	1/4"	1	3/4
0513	1/4" x 6"	4"	1/4"	1	1
0514	1/4" x 13"	11"	1/4"	1	1-1/4
0516	1/4" x 24"	22"	1/4"	1	3-1/4
0519	5/16" x 6"	4"	5/16"	1	1
0522	3/8" x 6"	4"	3/8"	1	1-1/2
0523	3/8" x 13"	11"	3/8"	1	2-1/4
0525	3/8" x 24"	22"	3/8"	1	5-3/4
0526	7/16" x 6"	4"	3/8"	1	2-3/4
0531	1/2" x 6"	4"	3/8"	1	3
0532	1/2" x 13"	11"	3/8"	1	5
0534	1/2" x 24"	22"	3/8"	1	8-3/4
0535	9/16" x 6"	4"	3/8"	1	4
0538	5/8" x 6"	4"	1/2"	1	3-1/2
0540	5/8" x 13"	11"	1/2"	1	7
0541	5/8" x 24"	22"	1/2"	1	14-1/2
0545	3/4" x 6"	4"	1/2"	1	8
0547	3/4" x 13"	11"	1/2"	1	17
0548	3/4" x 24"	22"	1/2"	1	21-1/2
0550	7/8" x 13"	11"	1/2"	1	18
0554	1" x 13"	11"	1/2"	1	19
0555	1" x 24"	22"	1/2"	1	29-3/4

5/8" and larger, shank is hex shaped.

BULK PACK

CAT. NO.	DRILL SIZE	BITS PER PACK	WT./DOZEN
0591	3/16" x 4"	50	1/4
0592	3/16" x 6"	50	1/2
0593	1/4" x 4"	25	3/4
0594	1/4" x 6"	25	1
0595	3/8" x 6"	10	1-1/2
0596	1/2" x 6"	10	3



IG Straight Shank Bits

USE IN

Hammer Drill

SIZE RANGE

1/8" x 3" to 1" x 24"

PRODUCT DESCRIPTION

Industrial Grade Straight Shank Carbide Bits are designed for use in a hammer drill equipped with a 3 jaw Jacobs type chuck. The bits meet ANSI standards and can be used to drill in concrete, block, brick, and soft stone.

DRILL BIT SIZES

CAT. NO.	DRILL SIZE	USABLE LENGTH	SHANK SIZE	STD. POUCH	WT./ DOZEN
0601	1/8" x 3"	2-1/4"	1/8"	1	1/4
0604	3/16" x 4"	2-3/4"	3/16"	1	1/4
0605	3/16" x 6"	4"	3/16"	1	1/2
0609	7/32" x 4"	2-1/4"	7/32"	1	3/4
0612	1/4" x 4"	2-3/4"	1/4"	1	3/4
0613	1/4" x 6"	4"	1/4"	1	1
0614	1/4" x 12"	10"	1/4"	1	1-1/4
0615	1/4" x 18"	16"	1/4"	1	1-1/2
0618	5/16" x 4"	2-3/4"	1/4"	1	3/4
0619	5/16" x 6"	4"	1/4"	1	1
0620	5/16" x 12"	10"	1/4"	1	2-1/4
0621	3/8" x 4"	2"	1/4"	1	1
0622	3/8" x 6"	4"	1/4"	1	1-1/4
0623	3/8" x 12"	10"	5/16"	1	2-1/4
0625	3/8" x 24"	22"	5/16"	1	3
0626	7/16" x 6"	4"	3/8"	1	2-3/4
0631	1/2" x 6"	4"	3/8"	1	3
0632	1/2" x 12"	10"	3/8"	1	5
0635	9/16" x 6"	4"	3/8"	1	4
0638	5/8" x 6"	4"	3/8"	1	5
0640	5/8" x 12"	10"	3/8"	1	7
0641	5/8" x 24"	22"	3/8"	1	10
0645	3/4" x 6"	4"	1/2"	1	8
0647	3/4" x 12"	11"	1/2"	1	17
0650	7/8" x 12"	10"	1/2"	1	12
0654	1" x 12"	10"	1/2"	1	14

BULK PACK

CAT. NO.	DRILL SIZE	BITS PER PACK	WT./ DOZEN
0561	3/16" x 4"	50	1/4
0562	3/16" x 6"	50	1/2
0563	1/4" x 4"	25	3/4
0564	1/4" x 6"	25	1
0565	3/8" x 6"	10	1-1/4
0566	1/2" x 6"	10	3



Heavy Duty Chisels

USE IN

Combination Rotary Hammer / Chipping Tool with a Spline, SDS-Max or 3/4" Hex Chuck

SIZE RANGE

Bull Point, Flat, Scaling and Bushing

PRODUCT DESCRIPTION

Heavy Duty Chisels and accessories are designed for use in a combination rotary hammer / chipping tool equipped with a Spline, SDS-Max®, or 3/4" Hex chuck. The chisels can be used for chipping applications in concrete, block, brick, and soft stone.

CHISEL SIZES

CAT. NO.	SHANK TYPE	CHISEL TYPE	SIZE OR WIDTH	OVERALL LENGTH	WT./ DOZEN
0950	Spline	Bull Point	-	12"	17
0951	Spline	Bull Point	-	18"	27
0952	Spline	Flat	1"	12"	17
0953	Spline	Flat	1"	18"	27
0954	Spline	Scaling	1-1/2"	12"	17
0955	Spline	Scaling	2"	12"	18
0956	Spline	Slotter	1-3/8"	15"	16
0957	Spline	Mortar / Seam	1-1/8"	15"	15
0959	Spline	Ground Rod	5/8" & 3/4" Rod	10-1/2"	31
0960	Spline	One Piece Bushing (16 Point)	1-3/4" x 1-3/4"	10"	16
0961	-	Bushing (16 point)	1-1/2" x 1-1/2"	2-1/2"	12
0962	Spline	Bushing Driver	-	12"	12
0965	SDS-Max	Bull Point	-	12"	16
0966	SDS-Max	Bull Point	-	18"	22
0967	SDS-Max	Flat	1"	12"	16
0968	SDS-Max	Flat	1"	18"	22
0969	SDS-Max	Scaling	1-1/2"	12"	16
0970	SDS-Max	Scaling	2"	12"	17
0971	SDS-Max	Slotter	1-1/4"	15"	17
0972	SDS-Max	Mortar / Seam	1-1/8"	15"	17
0974	SDS-Max	Ground Rod	5/8" & 3/4" Rod	10"	31
0975	SDS-Max	One Piece Bushing (16 point)	1-3/4" x 1-3/4"	10"	16
0980	3/4" Hex	Bull Point	-	12"	17
0981	3/4" Hex	Bull Point	-	18"	31
0982	3/4" Hex	Flat	1"	12"	17
0983	3/4" Hex	Flat	1"	18"	31
0984	3/4" Hex	Ground Rod	5/8" & 3/4" Rod	10-1/2"	31

SEE PREVIOUS SECTIONS FOR SPLINE AND SDS-MAX COMBI-HAMMER REFERENCES

USE 3/4" HEX SHANK CHISELS AND ACCESSORIES WITH THE FOLLOWING DEMOLITION HAMMERS

B&D®	BOSCH®	HITACHI®	KANGO®	MAKITA®
5021 K	11205	H455B2	800 KV	HM 1140C
	11302	H55SCK	845 KV	HM 1211B
	11314 EVS		845 SV	HM 1242C
	11317 EVS		850 KV	
			900 KV	
			900 S	
			1400 KV	



Rotary Carbide Drills

USE IN

Rotary Only Drill

SIZE RANGE

1/8" x 2-1/2" to 1" x 18"

PRODUCT DESCRIPTION

Rotary Carbide Bits are designed for use in a rotation only drill equipped with a 3 jaw Jacobs type chuck. The bits meet ANSI standards with a positive rake tip and can be used to drill in soft or brittle masonry materials using rotation only. Fast spiral flutes are for fast drilling in soft to medium masonry materials such as block or brick. Deep fluted drills perform best in concrete where the wide fluting helps clean concrete chips and dust from the hole.

DRILL BIT SIZES

FAST SPIRAL

CAT. NO.	DRILL SIZE	SHANK SIZE	USABLE LENGTH	OVERALL LENGTH	STD. TUBE	WT./DOZEN
8500	1/8"	1/8"	1-3/4"	2-1/2"	1	1/4
8502	5/32"	5/32"	1-3/4"	3"	1	1/4
8504	11/64"	11/64"	1-3/4"	3"	1	1/2
8506	3/16"	3/16"	1-3/4"	3"	1	1/2
8507	7/32"	7/32"	1-3/4"	3"	1	3/4
8508	1/4"	1/4"	1-3/4"	4"	1	3/4
8552	1/4"	1/4"	4-1/2"	6"	1	1
8553	1/4"	1/4"	10-1/2"	12"	1	1-3/4
8554	1/4"	1/4"	16-1/4"	18"	1	3
8510*†	9/32"	1/4"	2-1/2"	4"	1	3/4
8512	5/16"	1/4"	2-1/2"	4"	1	3/4
8556	5/16"	1/4"	4-1/2"	6"	1	1-1/4
8558	5/16"	1/4"	16-1/4"	18"	1	3
8514	3/8"	1/4"	2-1/2"	4"	1	1
8560	3/8"	1/4"	4-1/2"	6"	1	1-1/2
8561	3/8"	1/4"	10-1/2"	12"	1	2-1/4
8562	3/8"	1/4"	16-1/2"	18"	1	4-3/4
8516	7/16"	3/8"	2"	6"	1	2-1/2
8520	1/2"	3/8"	4"	6"	1	2
8522†	1/2"	1/4"	4"	6"	1	2-3/4

FAST SPIRAL

CAT. NO.	DRILL SIZE	SHANK SIZE	USABLE LENGTH	OVERALL LENGTH	STD. TUBE	WT./ DOZEN
8566	1/2"	3/8"	10"	12"	1	3
8567	1/2"	3/8"	16-1/4"	18"	1	4-3/4
8524	9/16"	1/2"	4"	6"	1	2
8526	5/8"	1/2"	4"	6"	1	5
8570	5/8"	1/2"	10-1/2"	12"	1	8
8571	5/8"	1/2"	16-1/4"	18"	1	9
8528*†	11/16"	1/2"	4"	6"	1	5-3/4
8530	3/4"	1/2"	4"	6"	1	6
8573	3/4"	1/2"	10-1/2"	12"	1	10
8574	3/4"	1/2"	16-1/4"	18"	1	10
8532	7/8"	1/2"	4"	6"	1	9
8534	1"	1/2"	4"	6"	1	11
8580	1"	1/2"	16-1/4"	18"	1	18

* discontinued item once current stock exhausted † 1/4" Shank

DEEP FLUTE

CAT. NO.	DRILL SIZE	SHANK SIZE	USABLE LENGTH	OVERALL LENGTH	STD. TUBE	WT./ DOZEN
8600	1/8"	1/8"	1-3/4"	2-1/2"	1	1/4
8602	5/32"	5/32"	1-3/4"	3"	1	1/4
8606	3/16"	3/16"	1-3/4"	3"	1	1/2
8650	3/16"	1/4"	6-1/2"	8"	1	1
8608	1/4"	1/4"	1-3/4"	4"	1	3/4
8652	1/4"	1/4"	4-1/2"	6"	1	1
8653*	1/4"	1/4"	10-1/2"	12"	1	1-3/4
8654*	1/4"	1/4"	16-1/4"	18"	1	3
8610*	9/32"	1/4"	2-1/2"	4"	1	3/4
8612	5/16"	1/4"	2-1/2"	4"	1	3/4
8656*	5/16"	1/4"	4-1/2"	6"	1	1-1/4
8614	3/8"	1/4"	2-1/2"	4"	1	1
8660	3/8"	1/4"	4-1/2"	6"	1	1-1/2
8661*	3/8"	1/4"	10-1/2"	12"	1	2-1/4
8662*	3/8"	1/4"	16-1/2"	18"	1	4-3/4
8620	1/2"	3/8"	4"	6"	1	2
8622*†	1/2"	1/4"	4"	6"	1	2-3/4
8666*	1/2"	3/8"	10"	12"	1	3
8667*	1/2"	3/8"	16-1/4"	18"	1	4-3/4
8626*	5/8"	1/2"	4"	6"	1	5
8630*	3/4"	1/2"	4"	6"	1	6
8632*	7/8"	1/2"	4"	6"	1	9
8634*	1"	1/2"	4"	6"	1	11

* discontinued item once current stock exhausted † 1/4" Shank

USE ROTARY CARBIDE DRILLS WITH: ANY ROTATION ONLY DRILL WITH A 3 JAW JACOBS TYPE CHUCK.

NOTES

 **Powers**
FASTENERS[®]

NOTES

 **Powers**
FASTENERS[®]

NOTES

 **Powers**
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US LOCATIONS

CITY	ADDRESS	CONTACT	PHONE
Atlanta	Robert Brito	678-966-0000	678-966-9242
Boston	Jack Armour	800-524-3244	914-576-6483
Charlotte	Jim Karoly	704-375-5012	704-376-5517
Chicago	Dan Gilligan	630-960-3156	630-960-3912
Dallas	Joe Jackson	214-638-5043	713-228-1528
Denver	Aaron Minnis	303-922-9202	303-922-9228
Detroit	Glen Gaskill	248-543-8600	248-543-8601
Florida	Michael Gaffigan	954-981-6955	954-965-0513
Houston	Jimmy Thompson	713-228-1524	713-228-1528
Indianapolis	Bill Trainor	317-773-1668	317-773-1690
Kansas City / St Louis	Don James, Jr.	816-472-5038	816-472-5040
Los Angeles	Jack Stewart	714-731-2500	714-731-2566
Maryland	Gary Engleman	301-210-1430	301-210-1435
Milwaukee	Kevin Knuth	414-466-2400	414-466-3993
Minneapolis	Rick Gruye	612-331-3756	612-331-3549
Nashville/Memphis	Marty Gammon	615-248-2667	615-248-2676
New Orleans	Cal Zenor	888-779-3667	225-928-5809
New York	John Partridge	914-235-6300	914-576-6483
Philadelphia	David O'Hara	800-524-3244	914-576-6483
Phoenix	Craig Hering	602-431-8024	602-431-8027
Pittsburgh	Bill Dugan	412-771-3010	412-771-9858
Rochester	Chuck Kolstad	585-288-2080	585-288-8732
Salt Lake City	Bruce Burnett	801-466-3406	801-484-0731
San Francisco	James Suggs	510-293-1500	510-293-1505
Seattle	Darin Arnold/Jim Swink	206-762-5812	206-762-5817

INTERNATIONAL LOCATIONS

CITY	ADDRESS	CONTACT	PHONE
Canada	Dick Hamer	905-673-7295	905-673-6490
British Columbia	Distributor	604-540-0200	604-540-0212
Manitoba	Distributor	204-633-0064	204-694-1261
Quebec	Dick Hamer	514-631-4216	514-631-2583
Europe	Paul Geuvers	+31 226 357 670	+31 226 358 817
Australia	Phil Rose	+61 3 9553 3999	+61 3 9553 4400
New Zealand	Claye Sesto	+64 9415 2425	+64 9415 2627
Venezuela	Distributor	58 212 264 1313	58 212 263 0219

Note: The information and data contained within this documentation was current as of May 1, 2005. The information is subject to change and is updated as needed.

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Please contact Powers Fasteners for the most current and up to date available information or refer to our website at www.powers.com



www.powers.com

Powers Fasteners 2 Powers Square,
New Rochelle, NY 10801 U.S.A.

P: (914) 235-6300 F: (914) 576-6483

Powers Fasteners 11 Doansburg Road, Brewster, NY 10509

Powers Industries Ltd. 7407 Bren Road Mississauga Ontario L4T 1H3 Canada

P: (905) 673-7295 F: (905) 673-6490

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