

Calk-In Machine Bolt Anchor

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 Calk-In consists of an antimonial lead alloy calking sleeve and a Zamac alloy internally threaded expanded cone. This anchor is not recommended for use in overhead applications.

GENERAL APPLICATIONS AND USES

- Windows • Screens
- Sliding Doors • Shutters

FEATURES AND BENEFITS

- Readily accepts machine bolts
- Internally threaded anchor for easy removability and service work
- Shallow embedment

APPROVALS AND LISTINGS

Federal GSA Specification – Meets descriptive and proof load requirements of CID A-A-1922A, Type 1

GUIDE SPECIFICATIONS

CSI Divisions: 03151-Concrete Anchoring, 04081-Masonry Anchorage and 05090-Metal Fastening. Machine bolt anchors shall be Calk-In as supplied by Powers Fasteners, Inc., Brewster, NY.

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Calk-In

THREAD VERSION

UNC Thread

ANCHOR MATERIALS

Antimonial Lead Alloy Body and Zamac Alloy Cone

ROD/ANCHOR SIZE RANGE (TYP.)

No. 8 Screw to 1/2" diameter

SUITABLE BASE MATERIALS

Normal-Weight Concrete
Grout-Filled Concrete Masonry
Brick Masonry

INSTALLATION AND MATERIAL SPECIFICATIONS

Installation Specifications

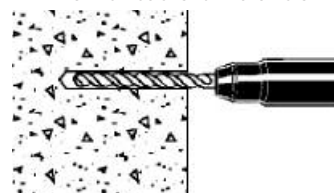
Dimension	Rod/Anchor Size					
	#8-32	#10-24	1/4"	5/16"	3/8"	1/2"
ANSI Drill Bit Size, (in.)	5/16	3/8	1/2	5/8	3/4	7/8
Max. Tightening Torque	15 (in.-lbs.)	20 (in.-lbs.)	60 (in.-lbs.)	7 (ft.-lbs.)	10 (ft.-lbs.)	15 (ft.-lbs.)
Thread Size (UNC)	13/32	15/32	19/32	3/4	1	1 1/8

Material Specifications

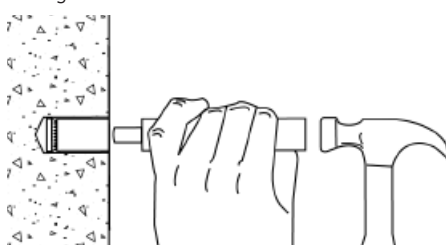
Anchor Component	Component Material
Anchor Sleeve (Body)	Antimonial Lead Alloy
Cone	Zamac Alloy

Installation Guidelines

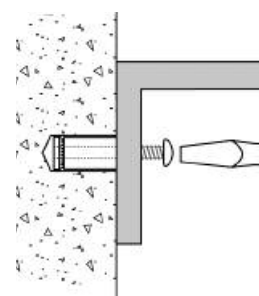
Drill a hole into the base material to the required depth. The tolerances of the drill bit used should meet the requirements of ANSI Standard B212.15. Do not over drill the hole.



Blow the hole clean of dust and other material. Insert the anchor into the hole. Position the setting tool in the anchor.



Using the tool, set the anchor by driving the lead sleeve over the cone using several sharp hammer blows. Be sure the anchor is at the required embedment depth so that anchor threads do not protrude above the surface of the base material. Position the fixture, insert screw or bolt and tighten.



(c)

PERFORMANCE DATA
Ultimate Load Capacities for Calk-In in Normal-Weight Concrete^{1,2}

Rod/Anchor Size in.	Minimum Embedment Depth in. (mm)	Minimum Concrete Compressive Strength (f'_c)					
		2,000 psi (13.8 MPa)		4,000 psi (27.6 MPa)		6,000 psi (41.4 MPa)	
		Tension lbs. (kN)	Shear lbs. (kN)	Tension lbs. (kN)	Shear lbs. (kN)	Tension lbs. (kN)	Shear lbs. (kN)
#8-32	1/2 (12.7)	335 (1.5)	310 (1.4)	365 (1.6)	360 (1.6)	380 (1.7)	360 (1.7)
#10-24	5/8 (15.9)	765 (3.4)	885 (4.0)	975 (4.3)	940 (4.2)	1,105 (4.9)	940 (4.2)
1/4-20	7/8 (22.2)	1,200 (5.3)	1,355 (6.1)	1,500 (6.7)	1,410 (6.3)	1,640 (7.3)	1,410 (6.3)
5/16-18	1 (25.4)	1,570 (7.0)	1,880 (8.5)	1,965 (8.7)	2,070 (9.3)	2,160 (9.6)	2,070 (9.3)
3/8-16	1 1/4 (31.8)	1,985 (8.8)	2,700 (12.2)	2,485 (11.1)	3,305 (14.9)	2,895 (12.9)	3,305 (14.9)
1/2-13	1 1/2 (38.1)	2,795 (12.4)	3,995 (18.0)	3,495 (15.5)	4,545 (20.5)	3,810 (16.9)	4,545 (20.5)

- The values listed above are ultimate load capacities which should be reduced by a minimum safety factor of 4.0 or greater to determine the allowable working load. Consideration of safety factors of 10 or higher may be necessary depending on the application, such as life safety.
- Linear interpolation may be used to determine ultimate loads for intermediate compressive strengths.

Allowable Load Capacities for Calk-In in Normal-Weight Concrete^{1,2}

Rod/Anchor Size in.	Minimum Embedment Depth in. (mm)	Minimum Concrete Compressive Strength (f'_c)					
		2,000 psi (13.8 MPa)		4,000 psi (27.6 MPa)		6,000 psi (41.4 MPa)	
		Tension lbs. (kN)	Shear lbs. (kN)	Tension lbs. (kN)	Shear lbs. (kN)	Tension lbs. (kN)	Shear lbs. (kN)
#8-32	1/2 (12.7)	85 (0.4)	75 (0.3)	90 (0.4)	90 (0.4)	95 (0.4)	90 (0.4)
#10-24	5/8 (15.9)	190 (0.8)	220 (1.0)	245 (1.1)	235 (1.1)	275 (1.2)	235 (1.1)
1/4-20	7/8 (22.2)	300 (1.3)	340 (1.5)	375 (1.7)	355 (1.6)	410 (1.8)	355 (1.6)
5/16-18	1 (25.4)	390 (1.7)	470 (2.1)	490 (2.2)	520 (2.3)	540 (2.4)	520 (2.3)
3/8-16	1 1/4 (31.8)	495 (2.2)	675 (3.0)	620 (2.8)	825 (3.7)	725 (3.2)	825 (3.7)
1/2-13	1 1/2 (38.1)	700 (3.1)	1,000 (4.5)	875 (3.9)	1,135 (5.1)	950 (4.2)	1,135 (5.1)

- Allowable load capacities listed are calculated using an applied safety factor of 4.0. Consideration of safety factors of 10 or higher may be necessary depending on the application, such as life safety.
- Linear interpolation may be used to determine allowable loads for intermediate compressive strengths.

PERFORMANCE DATA

Ultimate and Allowable Load Capacities for Calk-In in Grout-Filled Concrete Masonry^{1,2}

Rod/Anchor Size in.	Minimum Embedment Depth in. (mm)	$f'_m \geq 1,500$ psi (10.4 MPa)			
		Ultimate Load		Allowable Load	
		Tension lbs. (kN)	Shear lbs. (kN)	Tension lbs. (kN)	Shear lbs. (kN)
#8-32	1/2 (12.7)	335 (1.5)	310 (1.4)	65 (0.3)	60 (0.3)
#10-24	5/8 (15.9)	740 (3.3)	885 (4.0)	150 (0.7)	175 (0.8)
1/4-20	7/8 (22.2)	880 (4.0)	1,250 (5.6)	175 (0.8)	250 (1.1)
5/16-18	1 (25.4)	1,470 (6.6)	1,585 (7.1)	295 (1.3)	315 (1.4)
3/8-16	1 1/4 (31.8)	1,700 (7.7)	2,265 (10.2)	340 (1.5)	455 (2.0)
1/2-13	1 1/2 (38.1)	2,360 (10.6)	3,210 (14.4)	470 (2.1)	640 (2.9)

1. Tabulated load values are for anchors installed in minimum 6-inch wide, Grade N, Type II, medium and normal-weight concrete masonry units. Mortar must be minimum Type N. Masonry compressive strength must be 1,500 psi minimum at the time of installation.
2. Allowable loads are based on average ultimate values using a safety factor of 5.0. Consideration of safety factors of 10 or higher may be necessary depending on the application, such as life safety.

Ultimate and Allowable Load Capacities for Calk-In in Clay Brick Masonry^{1,2}

Rod/Anchor Size in.	Minimum Embedment Depth in. (mm)	$f'_m \geq 1,500$ psi (10.4 MPa)			
		Ultimate Load		Allowable Load	
		Tension lbs. (kN)	Shear lbs. (kN)	Tension lbs. (kN)	Shear lbs. (kN)
#8-32	1/2 (12.7)	335 (1.5)	310 (1.4)	65 (0.3)	60 (0.3)
#10-24	5/8 (15.9)	765 (3.4)	890 (4.0)	150 (0.7)	180 (0.8)
1/4-20	7/8 (22.2)	1,460 (6.6)	1,480 (6.7)	290 (1.3)	295 (1.3)
5/16-18	1 (25.4)	1,730 (7.8)	1,995 (9.0)	345 (1.6)	400 (1.8)
3/8-16	1 1/4 (31.8)	2,200 (9.9)	3,600 (16.2)	440 (2.0)	720 (3.2)
1/2-13	1 1/2 (38.1)	3,200 (14.4)	4,535 (20.4)	640 (2.9)	905 (4.1)

1. Tabulated load values are for anchors installed in Grade SW multiple wythe, solid clay brick masonry conforming to ASTM C62.
2. Allowable loads are calculated using an applied safety factor of 5.0. Consideration of safety factors of 10 or higher may be necessary depending on the application, such as life safety.

ORDERING INFORMATION

Calk-In

Cat. No.	Size	Drill Diameter	Min. Hole Depth	Std. Box	Std. Carton	Wt./100
9205	#8-32	5/16"	1/2"	100	1,000	1
9210	#10-24	3/8"	5/8"	100	1,000	1 3/4
9220	1/4"-20	1/2"	7/8"	100	1,000	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



Setting Tools

Cat. No.	9201	9211	9221	9226	9231	9241
Size	#8	#10	1/4"	5/16"	3/8"	1/2"