CALK-IN

Mechanical 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
- Screen
- 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.

SECTION CONTENTS

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 (CMU)
- Brick Masonry

INSTALLATION AND MATERIAL SPECIFICATIONS

Installation Specifications

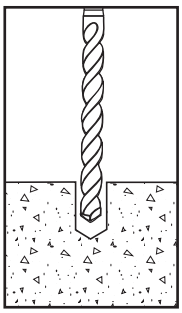
Dimension	Rod/Anchor Size					
	#8-32	#10-24	1/4"	5/16"	3/8"	1/2"
ANSI Drill Bit Size, (in.)	5/16	3/8	1/2	5/8	3/4	7/8
Max. Tightening Torque	15 (in.-lbs.)	20 (in.-lbs.)	60 (in.-lbs.)	7 (ft.-lbs.)	10 (ft.-lbs.)	15 (ft.-lbs.)
Threaded Length in Cone (in.)	13/32	15/32	19/32	3/4	1	1-1/8

Material Specifications

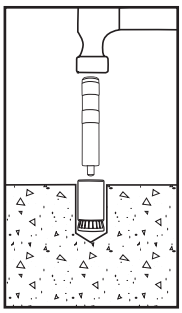
Anchor Component	Component Material
Anchor Sleeve (Body)	Antimonial Lead Alloy
Cone	Zamac Alloy

INSTALLATION GUIDELINES

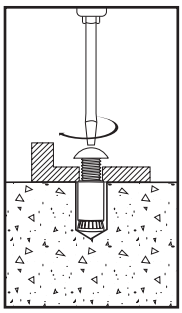
Drill a hole into the base material to the required depth. The tolerances of the drill bit used should meet the requirements of ANSI Standard B212.15. Do not over drill the hole.



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. Positions the fixture, insert screw or bolt and tighten.



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)

1. Tabulated load values are for anchors installed in concrete. Concrete compressive strength must be at the specified minimum at the time of installation.
2. Ultimate load capacities must be reduced by a minimum safety factor of 4.0 or greater to determine allowable working load. Anchors are not recommended for use overhead or for life safety. Consideration of safety factors of 20 or higher may be necessary depending upon the application such as in sustained tensile loading applications.

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)

1. Allowable load capacities listed are calculated using and applied safety factor of 4.0. Anchors are not recommended for use overhead or for life safety. Consideration of safety factors of 20 or higher may be necessary depending upon the application such as in sustained tensile loading applications.
2. Linear interpolation may be used to determine allowable loads for intermediate compressive strengths.

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 ≥ 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, minimum Grade N, Type II, lightweight, medium-weight or normal-weight concrete masonry units conforming to ASTM C 90. Mortar must be minimum Type N. Masonry compressive strength must be at the specified minimum at the time of installation (f'm ≥ 1,500 psi).
2. Allowable load capacities listed are calculated using and applied safety factor of 5.0. Anchors are not recommended for use overhead or for life safety. Consideration of safety factors of 20 or higher may be necessary depending upon the application such as in sustained tensile loading applications.

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 ≥ 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 minimum 6-inch wide, minimum Grade N, Type II, lightweight, medium-weight or normal-weight concrete masonry units conforming to ASTM C 90. Mortar must be minimum Type N. Masonry compressive strength must be at the specified minimum at the time of installation (f'm ≥ 1,500 psi).
2. Allowable load capacities listed are calculated using and applied safety factor of 5.0. Anchors are not recommended for use overhead or for life safety. Consideration of safety factors of 20 or higher may be necessary depending upon the application such as in sustained tensile loading applications.

ORDERING INFORMATION

Calk-In

Peco Part No.	Bar Code	Size	Min. Hole Depth	Package Type	Package Quantity	Item Weight
Available By Request	Available by request	#8-32	1/2″			
8810J	32003	#10-24	5/8″	Jar	100	1.75
8812J	96438	1/4″-20	7/8″	Jar	100	4.50
8812J-20	32005	1/4″-20	7/8″	Jar	20	0.90
8814J	32007	5/16″-18	1″	Jar	100	7.75
8816J	96440	3/8″-16	1-1/4″	Jar	50	7.00
8816J-20	32009	3/8″-16	1-1/4″	Jar	20	2.80
8818J	32011	1/2″-13	1-1/2″	Jar	25	4.75

Peco Part No.	Bar Code	Size	Package Type	Package Quantity	Item Weight
Available By Request	Available By Request	#8			
9211CIT	32012	#10	Clamshell	1	0.08
9221CIT	32014	1/4″	Clamshell	1	0.18
9226CIT	32016	5/16″	Clamshell	1	0.33
9231CIT	32018	3/8″	Clamshell	1	0.33
9241CIT	32020	1/2″	Clamshell	1	0.70

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- Windows
- Screen
- Sliding Doors
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FEATURES AND BENEFITS

+ Readily accepts machine bolts
+ Internally threaded anchor for easy removability and service work
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- 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 (CMU)
- Brick Masonry

INSTALLATION AND MATERIAL SPECIFICATIONS

Installation Specifications

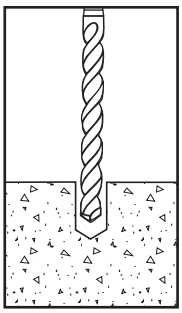
Dimension	Rod/Anchor Size					
	#8-32	#10-24	1/4"	5/16"	3/8"	1/2"
ANSI Drill Bit Size, (in.)	5/16	3/8	1/2	5/8	3/4	7/8
Max. Tightening Torque	15 (in.-lbs.)	20 (in.-lbs.)	60 (in.-lbs.)	7 (ft.-lbs.)	10 (ft.-lbs.)	15 (ft.-lbs.)
Threaded Length in Cone (in.)	13/32	15/32	19/32	3/4	1	1-1/8

Material Specifications

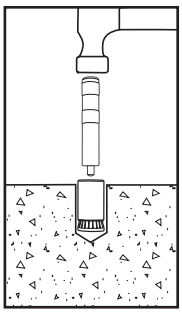
Anchor Component	Component Material
Anchor Sleeve (Body)	Antimonial Lead Alloy
Cone	Zamac Alloy

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.



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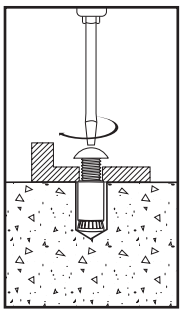

PERFORMANCE DATA

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)

1. Tabulated load values are for anchors installed in concrete. Concrete compressive strength must be at the specified minimum at the time of installation.
2. Ultimate load capacities must be reduced by a minimum safety factor of 4.0 or greater to determine allowable working load. Anchors are not recommended for use overhead or for life safety. Consideration of safety factors of 20 or higher may be necessary depending upon the application such as in sustained tensile loading applications.

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)

1. Allowable load capacities listed are calculated using and applied safety factor of 4.0. Anchors are not recommended for use overhead or for life safety. Consideration of safety factors of 20 or higher may be necessary depending upon the application such as in sustained tensile loading applications.
2. Linear interpolation may be used to determine allowable loads for intermediate compressive strengths.

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 ≥ 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, minimum Grade N, Type II, lightweight, medium-weight or normal-weight concrete masonry units conforming to ASTM C 90. Mortar must be minimum Type N. Masonry compressive strength must be at the specified minimum at the time of installation (f'm ≥ 1,500 psi).
2. Allowable load capacities listed are calculated using and applied safety factor of 5.0. Anchors are not recommended for use overhead or for life safety. Consideration of safety factors of 20 or higher may be necessary depending upon the application such as in sustained tensile loading applications.

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 ≥ 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 minimum 6-inch wide, minimum Grade N, Type II, lightweight, medium-weight or normal-weight concrete masonry units conforming to ASTM C 90. Mortar must be minimum Type N. Masonry compressive strength must be at the specified minimum at the time of installation (f'm ≥ 1,500 psi).
2. Allowable load capacities listed are calculated using and applied safety factor of 5.0. Anchors are not recommended for use overhead or for life safety. Consideration of safety factors of 20 or higher may be necessary depending upon the application such as in sustained tensile loading applications.

ORDERING INFORMATION

Calk-In

Peco Part No.	Bar Code	Size	Min. Hole Depth	Package Type	Package Quantity	Item Weight
Available By Request	Available by request	#8-32	1/2″			
8810J	32003	#10-24	5/8″	Jar	100	1.75
8812J	96438	1/4″-20	7/8″	Jar	100	4.50
8812J-20	32005	1/4″-20	7/8″	Jar	20	0.90
8814J	32007	5/16″-18	1″	Jar	100	7.75
8816J	96440	3/8″-16	1-1/4″	Jar	50	7.00
8816J-20	32009	3/8″-16	1-1/4″	Jar	20	2.80
8818J	32011	1/2″-13	1-1/2″	Jar	25	4.75

Peco Part No.	Bar Code	Size	Package Type	Package Quantity	Item Weight
Available By Request	Available By Request	#8			
9211CIT	32012	#10	Clamshell	1	0.08
9221CIT	32014	1/4″	Clamshell	1	0.18
9226CIT	32016	5/16″	Clamshell	1	0.33
9231CIT	32018	3/8″	Clamshell	1	0.33
9241CIT	32020	1/2″	Clamshell	1	0.70