

GENERAL INFORMATION

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 and brick. It can also be considered for 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 or for life safety.

GENERAL APPLICATIONS AND USES

- Windows
- Sliding Doors
- Screens
- Shutters

FEATURES AND BENEFITS

- + Readily accepts coarse thread machine bolts including sidewalk bolts
- + Internally threaded anchor for easy removability of attachment and service work
- + Shallow embedment

APPROVALS AND LISTINGS

- Federal GSA Specification – Meets descriptive characteristics of CID A-A-1922A, Type 1 (formerly FF-S-325, Group 1, Type 1, Class 1)
- Tested in accordance with ASTM E488 in uncracked concrete and masonry

GUIDE SPECIFICATIONS

CSI Divisions: 03 16 00 - Concrete Anchors, 04 05 19.16 - Masonry Anchors and 05 05 19 - Post-Installed Concrete Anchors. Machine bolt anchors shall be Calk-In as supplied by DEWALT, Towson, MD. Anchors shall be installed in accordance with published instructions and the Authority Having Jurisdiction.

INSTALLATION AND MATERIAL SPECIFICATIONS

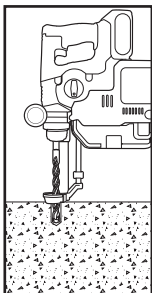
Installation Specifications

Anchor Property / Setting Information	Nominal Anchor Size (Bolt Size)					
	#8-32	#10-24	1/4"-20	5/16"-18	3/8"-16	1/2"-13
Nominal Length (in.)	1/2	5/8	7/8	1	1-1/4	1-1/2
Drill Bit Size, ANSI (in.)	5/16	3/8	1/2	5/8	3/4	7/8
Nominal Outside Dia. (in.)	5/16	3/8	1/2	5/8	3/4	7/8
Threaded Length in Cone (in.)	13/32	15/32	19/32	3/4	1	1-1/8
Max. Tightening Torque	15 (in.-lbs.)	20 (in.-lbs.)	60 (in.-lbs.)	7 (ft.-lbs.)	10 (ft.-lbs.)	15 (ft.-lbs.)

Material Specifications

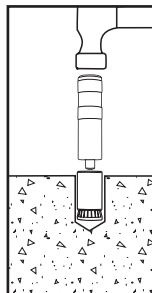
Anchor Component	Component Material
Anchor Sleeve (Body)	Antimonial Lead Alloy
Cone	Zamac Alloy

Installation Instructions



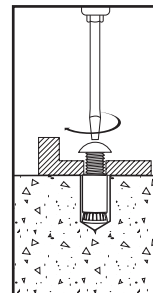
Step 1
Drill a hole into the base material to the required depth. The tolerances of the drill bit used must meet the requirements of ANSI Standard B212.15. Do not over drill the hole.

- Precaution: Use suitable eye and skin protection. Avoid inhalation of dust during drilling and/or removal.



Step 2
Remove dust and debris from the hole during drilling (e.g. dust extractor, hollow bit) or following drilling (e.g. suction, forced air) to extract loose particles created by drilling.

Insert the anchor into the hole, cone first. Position the setting tool in the anchor with shoulder in contact with the anchor sleeve. Using the tool, set the anchor by driving the sleeve using several sharp hammer blows.



Step 3
Be sure the anchor is at the required embedment depth so that the anchor sleeve does not protrude above the surface of the base material. Position the fixture, insert screw or bolt and tighten. Do not exceed the maximum tightening torque.

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CALK-IN

THREAD VERSION

- UNC Thread

ANCHOR MATERIALS

- Antimonial Lead Alloy Body and Zamac Alloy Cone

ANCHOR SIZE RANGE (TYP.)

- No. 8 Screw to 1/2" diameter

SUITABLE BASE MATERIALS

- Normal-weight concrete
- Grouted-filled Concrete Masonry (CMU)
- Brick Masonry

PERFORMANCE DATA

Ultimate and Allowable Load Capacities for Calk-In in Normal-Weight Concrete^{1,2,3,4}



Anchor Size in.	Minimum Embed. Depth in.	Minimum Concrete Compressive Strength, f'c											
		2,000 psi				4,000 psi				6,000 psi			
		Tension		Shear		Tension		Shear		Tension		Shear	
		Ultimate lbs.	Allowable lbs.	Ultimate lbs.	Allowable lbs.	Ultimate lbs.	Allowable lbs.	Ultimate lbs.	Allowable lbs.	Ultimate lbs.	Allowable lbs.	Ultimate lbs.	Allowable lbs.
#8-32	1/2	335	85	310	75	365	90	360	90	380	95	360	90
#10-24	5/8	765	190	885	220	975	245	940	235	1,105	275	940	235
1/4-20	7/8	1,200	300	1,355	340	1,500	375	1,410	355	1,640	410	1,410	355
5/16-18	1	1,570	390	1,880	470	1,965	490	2,070	520	2,160	540	2,070	520
3/8-16	1-1/4	1,985	495	2,700	675	2,485	620	3,305	825	2,895	725	3,305	825
1/2-13	1-1/2	2,795	700	3,995	1,000	3,495	875	4,545	1,135	3,810	950	4,545	1,135

1. Tabulated load values are for anchors installed in uncracked concrete. Concrete compressive strength must be at the specified minimum at the time of installation.
2. Allowable load capacities listed are calculated using an 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 on the application such as in sustained tensile loading applications.
3. Linear interpolation may be used to determine allowable loads for anchors at intermediate compressive strengths.
4. The tabulated values are for anchors installed at a minimum edge and spacing distance of 12 anchor diameters for 100 percent capacity. Spacing distance is measured from the centerline to centerline between two anchors.

Ultimate and Allowable Load Capacities for Calk-In in Grout-Filled Concrete Masonry^{1,2,3}



Anchor Size in.	Minimum Embedment Depth in.	Minimum Masonry Compressive Strength, f'm ≥ 1,500 psi			
		Ultimate Load		Allowable Load	
		Tension lbs.	Shear lbs.	Tension lbs.	Shear lbs.
#8-32	1/2	335	310	65	60
#10-24	5/8	740	885	150	175
1/4-20	7/8	880	1,250	175	250
5/16-18	1	1,470	1,585	295	315
3/8-16	1-1/4	1,700	2,265	340	455
1/2-13	1-1/2	2,360	3,210	470	640

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 an 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.
3. The tabulated values are for anchors installed at a minimum edge and spacing distance of 16 anchor diameters for 100 percent capacity. Spacing distance is measured from the centerline to centerline between two anchors.

Ultimate and Allowable Load Capacities for Calk-In in Clay Brick Masonry^{1,2,3}



Anchor Size in.	Minimum Embedment Depth in.	Minimum Masonry Compressive Strength, f'm ≥ 1,500 psi			
		Ultimate Load		Allowable Load	
		Tension lbs.	Shear lbs.	Tension lbs.	Shear lbs.
#8-32	1/2	335	310	65	60
#10-24	5/8	765	890	150	180
1/4-20	7/8	1,460	1,480	290	295
5/16-18	1	1,730	1,995	345	400
3/8-16	1-1/4	2,200	3,600	440	720
1/2-13	1-1/2	3,200	4,535	640	905

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 an 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.
3. The tabulated values are for anchors installed at a minimum edge and spacing distance of 16 anchor diameters for 100 percent capacity. Spacing distance is measured from the centerline to centerline between two anchors.

ORDERING INFORMATION

Calk-In Anchor and Setting Tools (Tools Ordered Separately, 1 pc)

Anchor Cat. No.	Tool Cat. No.	Anchor Size (Bolt Size)	Drill Diameter	Min. Hole Depth	Std. Pack (qty)	Std. Carton (qty)
09205-PWR	09201-PWR	#8-32	5/16"	1/2"	100	1,000
09210-PWR	09211-PWR	#10-24	3/8"	5/8"	100	1,000
09220-PWR	09221-PWR	1/4"-20	1/2"	7/8"	100	600
09222-PWR	09221-PWR	1/4"-20	1/2"	7/8"	1,000	-
09225-PWR	09226-PWR	5/16"-18	5/8"	1"	50	300
09230-PWR	09231-PWR	3/8"-16	3/4"	1-1/4"	50	300
09240-PWR	09241-PWR	1/2"-13	7/8"	1-1/2"	50	250

