GENERAL INFORMATION

TOGGLE BOLT

Hollow Wall Anchor

PRODUCT DESCRIPTION

The Toggle Bolt is a spring wing type hollow wall anchor designed for use in block, wallboard, plaster, plywood as well as 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" diameter to 1/2" diameter in various lengths with combo round, flat mushroom, tie-wire or slotted hex head styles.

FEATURES AND BENEFITS

+ Adjustable to accommodate various wall thickness up to 2-1/2"
+ Easy to use and works in a variety of base materials

MATERIAL SPECIFICATIONS

Anchor Component	Component Material
Wing	Carbon Steel
1/8" - 3/8" Trunion Nut	Carbon Steel
1/2" Trunion Nut	Zamac Alloy
Bolt	Carbon Steel
Zinc Plating	ASTM B633, SC1, Type III, (Fe/Zn 5)

INSTALLATION SPECIFICATIONS

Dimensions		Anchor Diameter					
		1/8"	3/16"	1/4"	5/16"	3/8"	1/2"
Minimum Drill Bit Size (in.)	Wall Board	3/8	1/2	5/8	7/8	7/8	1-1/4
	Hollow CMU	1/2	9/16	3/4	7/8	1	1-1/4
Wing Clearance (in.)		1-1/16	1-3/8	1-1/2	2-1/8	2-1/8	3
Thread Size (UNC)		6-32	10-24	1/4-20	5/16-18	3/8-16	1/2-13

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TOGGLE BOLT

ANCHOR MATERIALS

- Carbon Steel

ANCHOR SIZE RANGE (TYP.)

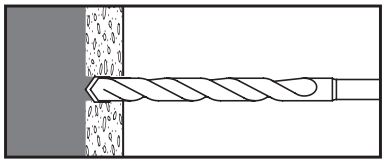
- 1/8" diameter x 2" length to 1/2" diameter x 4" length

SUITABLE BASE MATERIALS

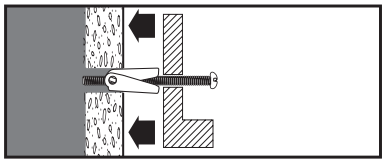
- Wallboard
- Plaster
- Hollow Concrete Masonry

INSTALLATION GUIDELINES

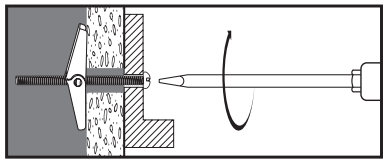
Drill the required hole through the base material. In denser materials such as masonry, drill the hole 1/16" larger.



Insert the bolt through the fixture to be fastened, thread on wings, then fold the wings completely back and insert through the hole until wings spring open.



Pull back on assembly to hold the wings inside the wall to prevent the wings from spinning while tightening bolt. Turn the bolt with the screwdriver until firmly tightened.



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PERFORMANCE DATA

Ultimate Load Capacities for Toggle Bolt in Wallboard[1]

Anchor Diameter in. (mm)	3/8" Wallboard		1/2" Wallboard		5/8" Wallboard		3/4" Wallboard	
	Tension lbs. (kN)	Shear lbs. (kN)	Tension lbs. (kN)	Shear lbs. (kN)	Tension lbs. (kN)	Shear lbs. (kN)	Tension lbs. (kN)	Shear lbs. (kN)
1/8 (3.2)	115 (0.5)	120 (0.5)	150 (0.7)	135 (0.6)	190 (0.9)	180 (0.8)	220 (1.0)	210 (0.9)
3/16 (4.8)	130 (0.6)	140 (0.6)	185 (0.8)	190 (0.9)	235 (1.1)	235 (1.1)	290 (1.3)	280 (1.3)
1/4[2] (6.4)	215 (1.0)	210 (0.9)	235 (1.1)	235 (1.1)	265 (1.2)	260 (1.2)	315 (1.4)	300 (1.4)
5/16 (7.9)	240 (1.1)	240 (1.1)	250 (1.1)	280 (1.3)	275 (1.2)	300 (1.4)	320 (1.4)	340 (1.5)
3/8 (9.5)	245 (1.1)	250 (1.1)	255 (1.1)	295 (1.3)	290 (1.3)	315 (1.4)	340 (1.5)	355 (1.6)
1/2 (12.7)	255 (1.1)	275 (1.2)	325 (1.5)	315 (1.4)	390 (1.8)	375 (1.7)	415 (1.9)	400 (1.8)

1. Ultimate load capacities are provided for reference and must be reduced by a minimum safety factor of 4.0 or greater to determine allowable working loads.
2. Data for the 1/4" diameter also applies to the 1/4" Tie-Wire Acoustical Toggle.

Allowable Load Capacities for Toggle Bolt in Wallboard[1]

Anchor Diameter in. (mm)	3/8" Wallboard		1/2" Wallboard		5/8" Wallboard		3/4" Wallboard	
	Tension lbs. (kN)	Shear lbs. (kN)	Tension lbs. (kN)	Shear lbs. (kN)	Tension lbs. (kN)	Shear lbs. (kN)	Tension lbs. (kN)	Shear lbs. (kN)
1/8 (3.2)	30 (0.1)	30 (0.1)	40 (0.2)	35 (0.2)	50 (0.2)	45 (0.2)	55 (0.2)	55 (0.2)
3/16 (4.8)	35 (0.2)	35 (0.2)	45 (0.2)	50 (0.2)	60 (0.3)	60 (0.3)	75 (0.3)	70 (0.3)
1/4[2] (6.4)	55 (0.2)	55 (0.2)	60 (0.3)	60 (0.3)	65 (0.3)	65 (0.3)	80 (0.4)	75 (0.3)
5/16 (7.9)	60 (0.3)	60 (0.3)	65 (0.3)	70 (0.3)	70 (0.3)	75 (0.3)	80 (0.4)	85 (0.4)
3/8 (9.5)	60 (0.3)	65 (0.3)	65 (0.3)	75 (0.3)	75 (0.3)	80 (0.4)	85 (0.4)	90 (0.4)
1/2 (12.7)	65 (0.3)	70 (0.3)	80 (0.4)	80 (0.4)	100 (0.5)	95 (0.4)	105 (0.5)	100 (0.5)

1. Allowable load capacities listed are calculated using an applied safety factor of 4.0.
2. Data for the 1/4" diameter also applies to the 1/4" Tie-Wire Acoustical Toggle.

Ultimate and Allowable Load Capacities for Toggle Bolt in Hollow Concrete Masonry[1,2]

Anchor Diameter 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)
1/8 (3.2)	195 (0.9)	180 (0.8)	40 (0.2)	35 (0.2)
3/16 (4.8)	250 (1.1)	355 (1.6)	50 (0.2)	70 (0.3)
1/4[3] (6.4)	350 (1.6)	595 (2.7)	70 (0.3)	120 (0.5)
5/16 (7.9)	430 (1.9)	680 (3.1)	85 (0.4)	135 (0.6)
3/8 (9.5)	710 (3.2)	705 (3.2)	140 (0.6)	140 (0.6)
1/2 (12.7)	1,160 (3.2)	800 (3.6)	230 (0.6)	160 (0.7)

1. Tabulated load values are for anchors installed in minimum 6-inch wide, Grade N, Type II, medium and normal-weight concrete masonry units.
2. Allowable loads are based on average ultimate values using a safety factor of 5.0.
3. Data for the 1/4" diameter also applies to the 1/4" Tie-Wire Acoustical Toggle.

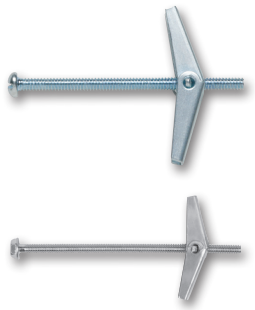
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ORDERING INFORMATION

Mushroom and Slotted Hex Head Toggle Bolt

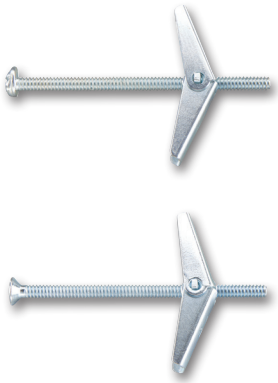
Catalog Number		Anchor Size	Drill Diameter	Standard Box	Standard Carton
MH	SHH				
4023	-	1/8" x 2"	3/8"	50	500
4033	4038	1/8" x 3"	3/8"	50	500
4043	–	1/8" x 4"	3/8"	50	500
4133	–	3/16" x 3"	1/2"	50	500
4143	–	3/16" x 4"	1/2"	50	500
4233	–	1/4" x 3"	5/8"	50	500
4243	–	1/4" x 4"	5/8"	50	500

MH = Mushroom Head
SHH = Slotted Hex Head



Round and Flat Hex Head Toggle Bolt

Catalog Number		Anchor Size	Drill Diameter	Standard Box	Standard Carton
Round	Flat				
4021	–	1/8" x 2"	3/8"	50	500
4031	-	1/8" x 3"	3/8"	50	500
4041	–	1/8" x 4"	3/8"	50	500
4121	–	3/16" x 2"	1/2"	50	500
4131	4132	3/16" x 3"	1/2"	50	500
4141	4142	3/16" x 4"	1/2"	50	500
4151	–	3/16" x 5"	1/2"	50	500
4161	–	3/16" x 6"	1/2"	50	500
4231	4232	1/4" x 3"	5/8"	50	500
4241	-	1/4" x 4"	5/8"	50	500
4251	–	1/4" x 5"	5/8"	50	500
4261	–	1/4" x 6"	5/8"	50	500
4341	–	5/16" x 4"	7/8"	25	250
4431	–	3/8" x 3"	7/8"	25	250
4441	–	3/8" x 4"	7/8"	25	250
4451	–	3/8" x 5"	7/8"	25	125
4461	–	3/8" x 6"	7/8"	25	125
4541	–	1/2" x 4"	1-1/4"	25	25



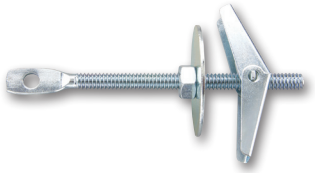
Toggle Wings Only

Catalog Number	Anchor Size	Drill. Dia.	Std. Box.	Std. Carton
4000	1/8"	3/8"	100	500
4020	3/16"	1/2"	100	1,000
4220	1/4"	5/8"	100	1,000
4330	5/16"	7/8"	50	500
4430	3/8"	7/8"	50	500
4540	1/2"	1 1/4"	25	25



Tie Wire Acoustical Toggle

Catalog Number	Anchor Size	Tie Wire Hole Size	Drill. Dia.	Std. Box.	Std. Carton
4247	1/4" x 4"	7/32"	5/8"	100	100
4257	1/4" x 5"	7/32"	5/8"	100	100



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