

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

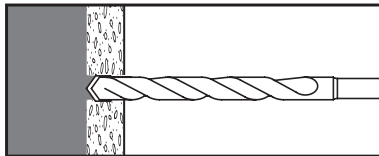
Anchor Component	Component Material
Wing	Carbon Steel
1/8" - 3/8" Trunion Nut	Carbon Steel
1/2" Trunion Nut	Zamac Alloy
Bolt	Carbon Steel
Zinc Plating	ASTM B633, SC1, Type III, (Fe/Zn 5)

INSTALLATION SPECIFICATIONS

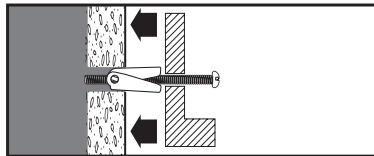
Dimensions		Anchor Size					
		1/8"	3/16"	1/4"	5/16"	3/8"	1/2"
Minimum Drill Bit Size (in.)	Wall Board	3/8	1/2	5/8	7/8	7/8	1-1/4
	Hollow CMU and Hollow Core Concrete	1/2	9/16	3/4	7/8	1	1-1/4
Wing Clearance (in.)		1-1/16	1-3/8	1-1/2	2-1/8	2-1/8	3
Thread Size, TPI (UNC)		6-32	10-24	1/4-20	5/16-18	3/8-16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

INSTALLATION GUIDELINES

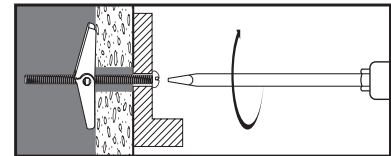
Drill the required hole through the base material. In denser materials such as masonry, drill the hole 1/16" larger.



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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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
- Pre-cast Hollow Core Concrete Plank

PERFORMANCE DATA

WALL ANCHORS

TOGGLE BOLT
Hollow Wall Anchor

Ultimate Load Capacities for Toggle Bolt in Wallboard¹

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 Wallboard¹

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 and Hollow Core Concrete^{1,2}

Anchor Diameter in. (mm)	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)

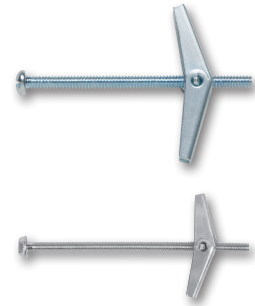
1. Tabulated load values are for anchors installed in minimum 6-inch wide, Grade N, Type II, medium and normal-weight concrete masonry units; data is also applicable to hollow core concrete. Masonry and concrete compressive strength must be at the specified minimum at the time of installation.
2. Allowable load capacities listed are calculated using an applied safety factor of 5.0.
3. Data for the 1/4" diameter also applies to the 1/4" Tie-Wire Acoustical Toggle.

ORDERING INFORMATION

Mushroom and Slotted Hex Head Toggle Bolt

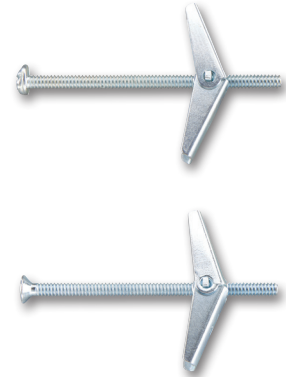
Catalog Number		Anchor Size	Drill Diameter	Pack Qty.	Standard Carton
MH	SHH				
04023-PWR	-	1/8" x 2"	3/8"	50	500
04033-PWR	04038-PWR	1/8" x 3"	3/8"	50	500
04043-PWR	-	1/8" x 4"	3/8"	50	500
04133-PWR	-	3/16" x 3"	1/2"	50	500
04143-PWR	-	3/16" x 4"	1/2"	50	500
04233-PWR	-	1/4" x 3"	5/8"	50	500
04243-PWR	-	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	Pack Qty.	Standard Carton
Round	Flat				
04021-PWR	-	1/8" x 2"	3/8"	50	500
04031-PWR	-	1/8" x 3"	3/8"	50	500
04041-PWR	-	1/8" x 4"	3/8"	50	500
04121-PWR	-	3/16" x 2"	1/2"	50	500
04131-PWR	04132-PWR	3/16" x 3"	1/2"	50	500
04141-PWR	04142-PWR	3/16" x 4"	1/2"	50	500
04151-PWR	-	3/16" x 5"	1/2"	50	500
04161-PWR	-	3/16" x 6"	1/2"	50	500
04231-PWR	04232-PWR	1/4" x 3"	5/8"	50	500
04241-PWR	-	1/4" x 4"	5/8"	50	500
04251-PWR	-	1/4" x 5"	5/8"	50	500
04261-PWR	-	1/4" x 6"	5/8"	50	500
04341-PWR	-	5/16" x 4"	7/8"	25	250
04431-PWR	-	3/8" x 3"	7/8"	25	250
04441-PWR	-	3/8" x 4"	7/8"	25	250
04451-PWR	-	3/8" x 5"	7/8"	25	125
04461-PWR	-	3/8" x 6"	7/8"	25	125
04541-PWR	-	1/2" x 4"	1-1/4"	25	25



Toggle Wings Only

Catalog Number	Anchor Size	Drill. Dia.	Pack Qty.	Std. Carton
04000-PWR	1/8"	3/8"	100	500
04020-PWR	3/16"	1/2"	100	1,000
04220-PWR	1/4"	5/8"	100	1,000
04330-PWR	5/16"	7/8"	50	500
04430-PWR	3/8"	7/8"	50	500
04540-PWR	1/2"	1 1/4"	25	25



Tie Wire Acoustical Toggle

Catalog Number	Anchor Size	Tie Wire Hole Size	Drill. Dia.	Pack Qty.	Std. Carton
04247-PWR	1/4" x 4"	7/32"	5/8"	100	100
04257-PWR	1/4" x 5"	7/32"	5/8"	100	100

