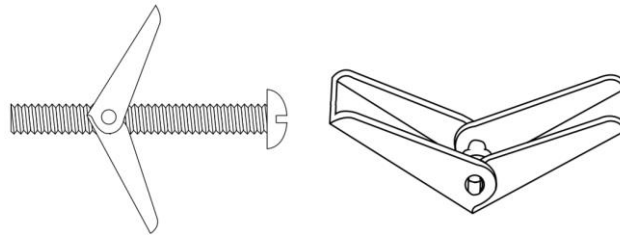


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SPRING WING TOGGLE BOLTS – STEEL ZINC AND 18-8 STAINLESS STEEL

The following Specification Sheet applies to all **Spring Wing Toggle Bolts – Steel Zinc and 18-8 Stainless Steel** in our **J15__ and 15__ series**.



INSTALLATION SPECIFICATIONS

Dimension		Anchor Diameter, <i>d</i>					
		1/8"	3/16"	1/4"	5/16"	3/8"	1/2"
Minimum ANSI Drill Bit Size, <i>d_{bit}</i> (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

Ultimate Load Capacities for Toggle Bolt in Wallboard¹

Anchor Diameter <i>d</i> 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 (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. 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.

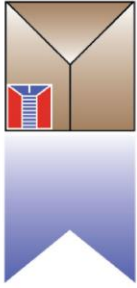
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Allowable Load Capacities for Toggle Bolt in Wallboard¹

Anchor Diameter <i>d</i> 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 (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.

Ultimate and Allowable Load Capacities for Toggle Bolt in Hollow Concrete Masonry^{1,2}

Anchor Diameter <i>d</i> 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)
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 (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. Mortar must be minimum Type N.

2. Allowable loads are based on average ultimate values using a safety factor of 5.0.

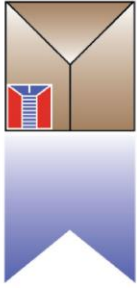
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Description	A two-part assembly consisting of a machine screw and a spring wing toggle
Applications/ Advantages	The Toggle Bolt is a spring wing type, hollow wall anchor designed for use in block, wallboard, and other hollow-base materials
Material	Carbon steel with Zinc plating

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