

Product Image



Concrete Screw Anchor

Concrete Screws are tempered masonry screws designed for long lasting performance and superior holding strength. Due to their unique thread design, they are the ideal fastening solution for light to medium duty applications in concrete, brick, masonry block and wood base materials. They are manufactured with a gimlet point that taps it's own threads while drilling into the base material. Common applications for this fastener include the attachment of electrical boxes, light fixtures, and masonry base materials.

Features and Benefits:

- Designed for close to edge fastening
- Strong grip
- Corrosion resistance
- Case hardened
- Gimlet point for self drilling into wood
- Can be loosened for adjustment or removal

Material Specifications

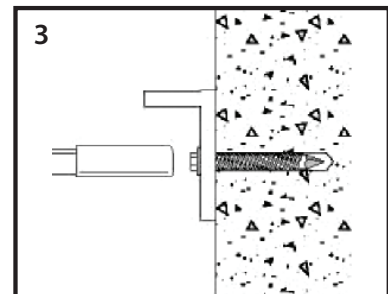
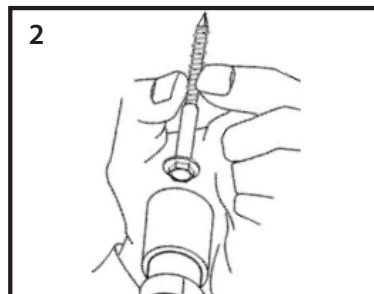
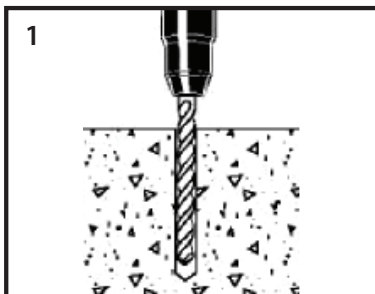
Component	Material
Anchor Body	Carbon Steel
Finish	Blue Xylan
Thread Type	High -Low
Point Type	Gimlet

Applicable Base Materials:

- Normal-weight concrete
- Lightweight concrete
- Grouted concrete masonry
- Hollow concrete masonry (CMU)
- Solid Brick Masonry
- Wood

Installation Instructions

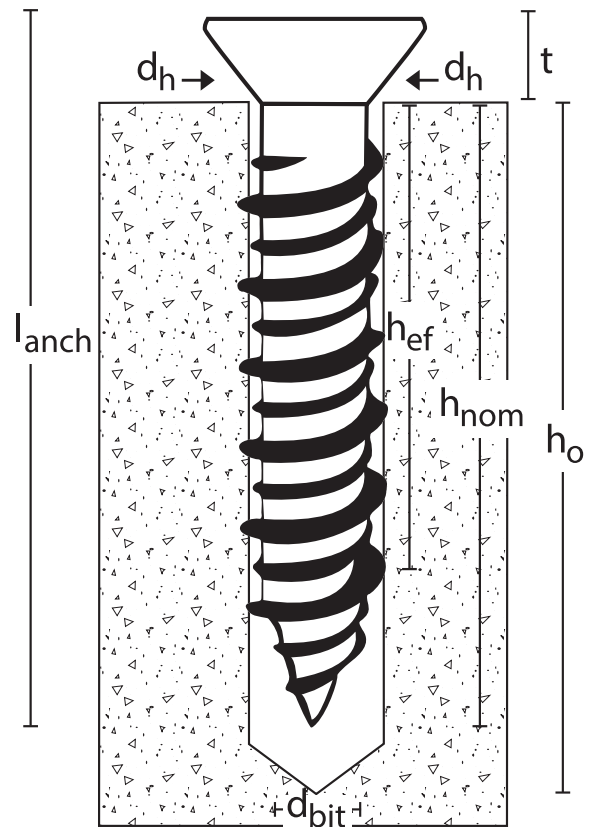
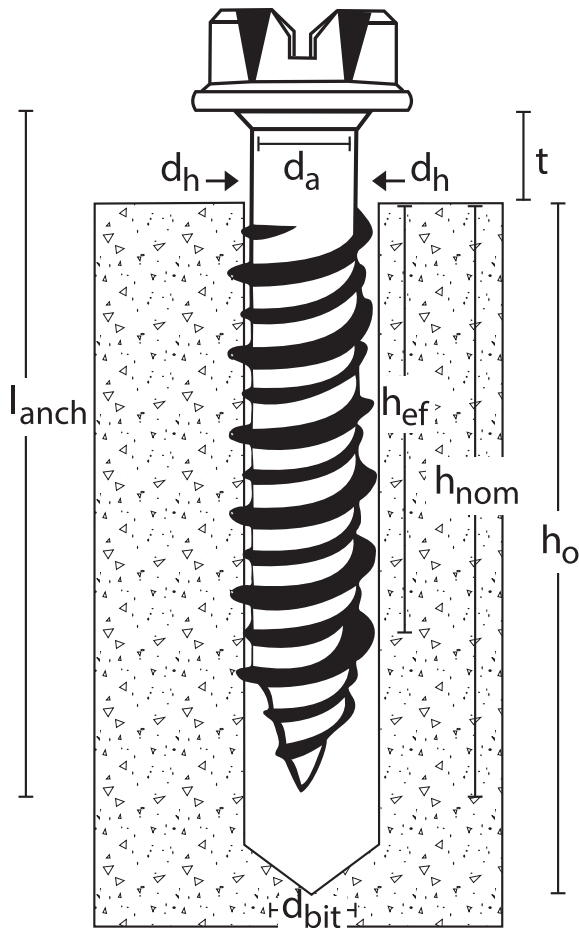
1. Using the proper diameter bit, drill a hole into the base material to a depth of at least 1/4" deeper than the required embedment. A concrete screw anchor drill bit must be use. **Clear hole of dust and other debris.**
2. Select the concrete screw anchor installation tool and drive socket to be used. Insert the head of the concrete screw anchor into the hex head socket or phillips head driver. For softer concrete or masonry, set drill motor to the "rotation only" mode.
3. Place the point of the concrete screw anchor through the fixture into the pre-drilled hole and drive the anchor in one steady continuous motion until it is fully seated at the proper embedment. The driver will automatically disengage from the head of the concrete screw anchor.



INSTALLATION SPECIFICATIONS SLOTTED HEX WASHER HEAD	Nominal Anchor Diameter, d	
	3/16"	1/4"
Drill Bit Size, d _{bit} (in.)	5/32"	3/16"
Typ. Fixture Clearance Hole, d _h (in.)	1/4"	5/16"
Head Height (in.)	7/64"	9/64"
Hex Head Wrench/Socket Size	1/4"	5/16"
Washer O.D., d _w (in.)	11/32"	13/32"
Washer Thickness, (in.)	1/32"	1/32"

INSTALLATION SPECIFICATIONS PHILLIPS FLAT HEAD	Nominal Anchor Diameter, d	
	3/16"	1/4"
Drill Bit Size, d _{bit} (in.)	5/32"	3/16"
Typ. Fixture Clearance Hole, d _h (in.)	1/4"	5/16"
Phillips Head O.D., (in.)	3/8"	1/2"
Phillips Head Height, (in.)	9/64"	3/16"
Phillips Bit Size (No.)	2	3

- For minimum nominal embedment depths, h_{nom} , see the performance data tables.
The minimum hole depth, h_o , is 1/4" more than the selected nominal embedment depth.
- In light gauge steel material (0.036 / 20 gauge and thinner), the clearance hole can be the same diameter as the drill bit.
- Pre-drilling is not required for screw anchors into wood base materials (but can be considered).



INSTALLATION TABLE IN CONCRETE¹

ANCHOR PROPERTY/SETTING INFORMATION	NOTATION	UNITS	3/16"	1/4"
Nominal anchor shank diameter	da	in.	0.145"	0.185"
Nominal drill bit diameter	dbit	in.	5/32"	3/16"
Bit tolerance range	-	in.	0.170" to 0.176"	0.202" to 0.206"
Minimum nominal embedment depth	h _{nom}	in.	1-3/4"	1-3/4"
Effective embedment	hef	in.	1.23"	1.23"
Minimum hole depth	h _{hole}	in.	h _{nom} + 1/4"	h _{nom} + 1/4"
Minimum concrete member thickness	h _{min}	in.	3-1/4"	3-1/4"
Minimum overall anchor length ²	l _{anch}	in.	2-1/4"	2-1/4"
Minimum edge distance	C _{min}	in.	1-3/4"	1-3/4"
Minimum spacing distance	S _{min}	in.	1"	2"
Hex head socket size	-	in.	1/4"	5/16"
Phillips head bit size (No.)	-	-	2	3

1. For the hex head versions, the minimum overall anchor length can be 1.75" as long as the fixture does not exceed 0.036" in thickness.

ULTIMATE & ALLOWABLE LOAD CAPACITIES IN NORMAL-WEIGHT CONCRETE^{1,2}

Nominal Anchor Diameter d in.	Minimum Embed. Depth h _{nom} in.	Minimum Edge Distance in.	Minimum Spacing in.	Minimum Concrete Compressive Strength			
				f'c=2,500 psi			
				Ultimate		Allowable	
				Tension lbs.	Shear lbs.	Tension lbs.	Shear lbs.
3/16"	1-3/4"	1"	1"	1,080	305	270	75
	1-3/4"		1-1/8"	1,190	305	295	75
	1-3/4"		2-1/4"	1,365	600	340	150
	1"		3"	580	435	145	110
	1-3/8"			815	455	205	115
	1-3/4"		3-3/8"	1,365	600	340	150
	1-3/4"	2-1/2"	1-1/8"	1,465	1,200	365	300
	1-3/4"		2-1/4"	1,465	1,200	365	300
	1"		3"	580	640	145	160
	1-3/8"			1,220	735	305	185
	1-3/4"		3-3/8"	1,465	1,200	365	300
	1/4"		1-3/4"	1"	1"	1,265	340
1-3/4"		1-1/2"	1,265		385	315	95
1-3/4"		3"	1,720		420	430	105
1"		4"	770		495	195	125
1-3/8"			1,105		640	275	160
1-3/4"			1,975		645	495	160
1-3/4"		2-1/2"	1/2"	2,200	1,590	550	400
1-3/4"			3"	2,200	1,635	550	410
1"			4"	805	1,260	200	315
1-3/8"				1,755	1,635	440	410
1-3/4"				2,290	1,635	570	410

1. The values listed are for anchors installed in normal-weight concrete that has come to the minimum designated compressive strength during installation.
2. The h_{nom}, nominal embedment is the measurement from the concrete surface to the embedded end of the anchor.

ULTIMATE & ALLOWABLE LOAD CAPACITIES IN NORMAL-WEIGHT CONCRETE^{1,2}

Nominal Anchor Diameter d in.	Minimum Embed. Depth h _{nom} in.	Minimum Edge Distance in.	Minimum Spacing in.	Minimum Concrete Compressive Strength			
				f'c=3,500 psi			
				Ultimate		Allowable	
				Tension lbs.	Shear lbs.	Tension lbs.	Shear lbs.
3/16"	1-3/4"	1"	1"	1,145	325	285	80
	1-3/4"		1-1/8"	1,255	325	315	80
	1-3/4"		2-1/4"	1,440	635	360	160
	1"		3"	615	460	155	115
	1-3/8"			860	485	215	120
	1-3/4"		3-3/8"	1,440	635	360	160
	1-3/4"	2-1/2"	1-1/8"	1,550	1,265	390	315
	1-3/4"		2-1/4"	1,550	1,265	390	315
	1"		3"	615	680	155	170
	1-3/8"			1,290	775	325	195
1-3/4"	3-3/8"	1,550	1,265	390	315		
1/4"	1-3/4"	1"	1"	1,360	370	340	95
	1-3/4"		1-1/2"	1,325	415	340	105
	1-3/4"		3"	1,850	450	465	115
	1"		4"	830	530	210	135
	1-3/8"			1,190	690	300	175
	1-3/4"			2,120	690	530	175
	1-3/4"	2-1/2"	1/2"	2,365	1,710	590	430
	1-3/4"		3"	2,365	1,755	590	440
	1"		4"	865	1,355	215	340
	1-3/8"			1,885	1,755	470	440
	1-3/4"			2,460	1,755	615	440

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ULTIMATE & ALLOWABLE LOAD CAPACITIES IN NORMAL-WEIGHT CONCRETE^{1,2}

Nominal Anchor Diameter d in.	Minimum Embed. Depth h _{nom} in.	Minimum Edge Distance in.	Minimum Spacing in.	Minimum Concrete Compressive Strength			
				f'c=4,000 psi			
				Ultimate		Allowable	
				Tension lbs.	Shear lbs.	Tension lbs.	Shear lbs.
3/16"	1-3/4"	1"	1"	1,245	325	310	80
	1-3/4"		1-1/8"	1,370	325	340	80
	1-3/4"		2-1/4"	1,570	635	395	160
	1"		3"	670	460	170	115
	1-3/8"			940	485	235	120
	1-3/4"		3-3/8"	1,570	635	395	160
	1-3/4"	2-1/2"	1-1/8"	1,690	1,265	425	315
	1-3/4"		2-1/4"	1,690	1,265	425	315
	1"		3"	670	680	170	170
	1-3/8"			1,405	775	350	195
	1-3/4"		3-3/8"	1,690	1,265	425	315
	1/4"		1-3/4"	1"	1"	1,525	370
1-3/4"		1-1/2"	1,525		415	380	105
1-3/4"		3"	2,075		450	520	115
1"		4"	930		530	235	135
1-3/8"			1,335		690	335	175
1-3/4"			2,380		690	595	175
1-3/4"		2-1/2"	1/2"	2,650	1,710	665	430
1-3/4"			3"	2,650	1,755	665	440
1"			4"	970	1,355	245	340
1-3/8"				2,115	1,755	530	440
1-3/4"				2,650	1,755	665	440
1-3/4"				2,650	1,755	665	440

1. The values listed are for anchors installed in normal-weight concrete that has come to the minimum designated compressive strength during installation.
2. The h_{nom}, nominal embedment is the measurement from the concrete surface to the embedded end of the anchor.