TOGGLER®

HIGH PERFORMANCE ANCHORS

Technical Specification Sheets - May 2013

TOGGLER® ANCHOR SYSTEM

Technical Bulletin

SNAPTOGGLE® HEAVY-DUTY HOLLOW-WALL ANCHORS

The latest generation of the ever evolving TOGGLER hollow-wall anchor technology...

The SNAPTOGGLE anchor is a **heavy-duty** hollow wall anchor for use in walls, ceilings, or floors of materials such as gypsum board, drywall with a wood or steel stud, concrete block, tile over drywall, wood, etc.

The anchor is pre-assembled and supplied **ready for immediate use.** The ratcheting strap / locking cap assembly positions the strong one-piece zinc-plated (or stainless) steel anchoring channel on the rear of the wall, capturing it snugly and securely between the anchoring channel and the cap. The remaining portion of the straps on the outside of the wall are then easily and quickly snapped off by hand at the required length, flush with the surface of the wall (no extra tools required). Holding is dependent only on a metal bolt to metal channel connection.

Benefits compared to wing toggles:

- Holds up to **2x** the load
- Solid metal channel resists vibration & shock
- Pre-assembled and ready for immediate use
- Pre-installs without fixture or bolt
- Installs in a significantly smaller hole
- Automatically adjusts to thickness of wall, ceiling, or floor
- Does NOT spin—bolt installs with a screw gun
- Uses a shorter bolt—no need to carry a wing
- New plating is 7 times more corrosion-resistant and RoHS compliant
- Does NOT fall behind wall when bolt is removed; fixture can be removed and reinstalled as often as desired.

TENSILE [kg]									
Anchor	**Metric thread**	**Drill dia. (mm)**	**12.5mm Drywall**	**15mm Drywall**	****12.5mm w/ 25ga stud**	****15mm w/ 25ga stud**	**Concrete block**	**12.5mm steel plate**	**Stainless in 12.5mm steel[3]**
BM5	**M5**	13	108	161	186	209	363	416[1]	541[1]
BM6	**M6**	13	120	161	192	210	489	582[2]	787[1]
BM8	**M8**	19	122	217	199	216	635	762	960
BM10	**M10**	19	124	261	211	221	791	767	1144[1]

SHEAR [kg]				
Anchor	**Metric thread**	**Drill dia. (mm)**	**12.5mm Drywall**	**15mm Drywall**
BM5	**M5**	13	112	135
BM6	**M6**	13	109	146
BM8	**M8**	19	132	184

* Failure measured as onset of gouging of drywall material
** Failure measured as breakage of drywall portion
*** Failure of block

[1] Stainless steel bolts used
[2] Hardened bolts used
[3] Stainless steel channel tested with stainless bolts in 12.5mm steel plate

All tests carried out indicate the ultimate working load (UWL) using equivalent UNC thread anchors & bolts. Holding values converted from lb to kg. Industry safety standards recommend ¼ of UWL.

- Industry standards recommend 1/4 of ultimate test load.
- Holding strength for a SNAPTOGGLE heavy-duty hollow-wall anchor varies directly with the strength and condition of the substrate and the bolt size—and inversely with variations in hole diameter and the distance of the load from the wall.
- All figures in Kilograms (kg). Pull-out values based on independent laboratory tests done according to U.S. Government standards. They should be used as guides only and cannot be guaranteed. The age, condition, and capacity of the substrate must be considered.

SNAPTOGGLE® HEAVY-DUTY HOLLOW-WALL ANCHORS

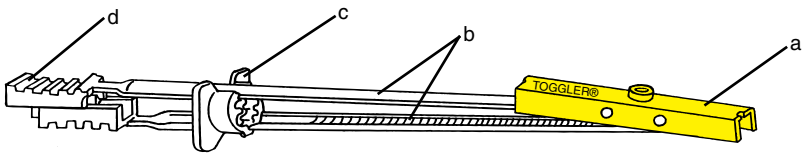
Specifications

Description — SNAPTOGGLE Heavy-Duty Hollow-Wall Anchors (Toggle Bolts)
Material — RoHS compliant zinc-plated 1010 cold rolled steel (or 300 series stainless steel) metal channel, high-impact polystyrene straps and handle, translucent polypropylene co-polymer cap
Screw specification — Metric thread machine screw (bolt) to match thread in metal channel
Minimum screw length — thickness of wall or ceiling + thickness of item being fastened + 12.5mm
Minimum clearance behind wall — 48mm
Minimum drywall thickness — 9.5mm
Maximum drywall thickness — 92mm for BM5 & BM6 anchors
63mm for BM8 & BM10 anchors
241mm for BM5L & BM6L anchors

Also available:
- UNC-threaded channels [3/16-24, 1/4-20, 5/16-18, 3/8-16, 1/2-13]
- Stainless steel channels

The plastic straps and cap washer are positioning and retention elements only. They do not otherwise function as anchoring elements. Holding is dependent only on a metal bolt to metal channel connection.

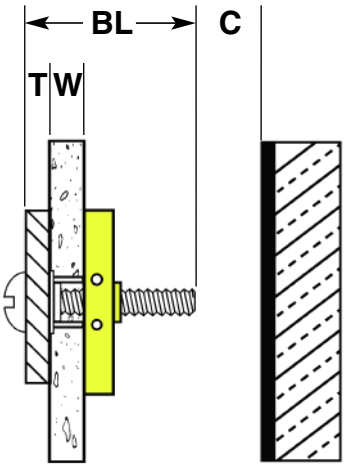
a = anchoring channel / zinc-plated cold rolled steel or 300 series stainless steel
b = straps / high-impact polystyrene / locking ratchet
c = cap / translucent polypropylene copolymer
d = ergonomic handle / same as straps



Code	Metric Bolt thread	Drill Diameter	Grip Range
BM5	M5	13mm	9.5 - 92mm
BM6	M6	13mm	9.5 - 92mm
BM8	M8	19mm	9.5 - 63mm
BM10	M10	19mm	9.5 - 63mm
BM5L*	M5	13mm	60 - 241mm
BM6L*	M6	13mm	60 - 241mm

*The same product codes with an “L” at the end indicate Long straps for roofing and very thick walls or ceilings.
The same product codes with an “S” at the end indicate stainless steel, e.g:
BM6 = M6 thread in the zinc-plated channel
BM6S = M6 thread in a stainless steel channel

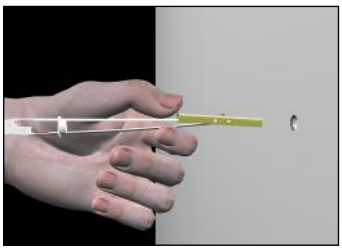
BL = T + W + 12.5mm
[For min. W & max. W., see chart at left]



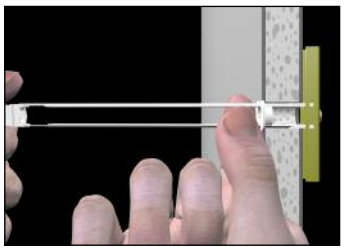
C = 48mm

- Gently hand engage at least one thread of bolt with channel before using screw gun to avoid cross threading the bolt.
- For maximum shear holding, orient channels vertically to floor.
- Use hardened or stainless bolts for maximum weight load.
- Enlargement of specified insertion holes size will reduce anchor effectiveness.
- Remove anchor by removing bolt, inserting screwdriver and popping channel behind wall off plastic straps with a sharp blow.
- All SNAPTOGGLE anchors meet the requirements of Type V anchors in Federal Specification FF-B-588-D (superseded).
- All bolts and threaded rods used with SNAPTOGGLE anchors must meet ANSI or HR 3000 standards to ensure safety and effectiveness.

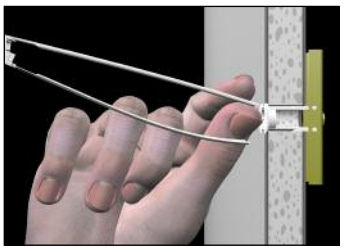
Installation Instructions



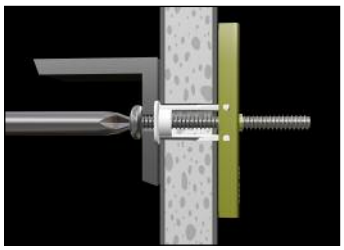
Drill appropriate size hole. Hold metal channel flat alongside plastic straps & slide channel through the hole. Minimum clearance behind wall: only 48mm.



Hold ends of straps together between thumb & forefinger and pull toward you until channel rests behind wall. Ratchet cap along straps with other hand until flange of cap is flush with wall.



Place thumb between straps at wall. Push thumb side to side, snapping off straps level with flange of cap.



Place item over flange. Insert bolt and tighten until snug against item, then stop.
Use machine screw or bolt to match thread in metal channel.

SNAPTOGGLE® HEAVY-DUTY HOLLOW-WALL ANCHORS

Applications

- Flat panel TV's
- TV mounts
- Lighting fixtures
- Window treatments
- Marine applications
- Hand rails
- Grab bars
- ADA hardware
- Office furniture
- Heavy machinery
- Partitions
- Cabinets
- Shelving
- Solar panels
- Garage doors
- Sinks
- Heavy fans
- DSS antennas
- Reinstallations
- Roofs & decking

For maximum holding in

- Cinder block
- Concrete block
- Gypsum board
- Drywall
- Tile over drywall
- Plasterboard
- Composite panels
- Cement board
- Greenboard
- Plaster
- Stucco
- Fiberglass
- Plywood
- Steel plate
- Plastic
- Wood studs / beams

Benefits

- **Strong**—up to ***2x the load*** of an old-fashioned wing toggle
- Solid metal channel **resists vibration and shock**
  - ° bolt is centered in channel and positioned for precise installation
  - ° bolt threads never touch interior surface of hole and so can't saw through substrate
- **Save time**—at least ***6 minutes*** per anchor versus wing toggles
- Can use a screw gun—anchor does not spin
- **Save money**—turn a 2-person job into a 1-person job
- Use a **shorter bolt**—no need to carry a wing through the wall
- New, patented strap design with sturdier straps and smaller ratchet interval:
  - ° adjusts more precisely and **snaps off *flush*** to wall, ceiling, or floor
  - ° does **not break** prematurely
  - ° pushes aside insulation
- ***Smallest*** **installation hole** for each bolt size—
  - ° maintains integrity of wall, ceiling, or floor, **strengthening the anchoring**
  - ° ends the need to patch an oversized hole

  [a 6mm wing toggle requires a 19mm diameter hole: *50% larger* than the 13mm diameter hole used by the BM6 SNAPTOGGLE anchor]
- New plating is RoHS compliant and **7x more corrosion-resistant** than B633-85 Type III/SC 1 government spec high quality zinc plating [350 hours to red rust in salt spray test versus only 48 hours for government spec]
- **Pre-installs without the bolt** to make handling of fixture easier
- **Reusable** in the same hole—remove the bolt without losing the anchor
- New **ergonomic design**—fingers grip straps more naturally and more easily with ***no*** **slipping**

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TOGGLER® ANCHOR SYSTEM

Technical Bulletin

SnapSkru® SELF-DRILLING DRYWALL ANCHORS

The strongest & easiest-to-use self-drilling drywall anchor...

The **TOGGLER® SnapSkru** self-drilling drywall anchor needs no drill and installs as quickly and easily as an ordinary self-drilling drywall "auger" anchor, but its unique "Snap Lock" feature provides positive behind-the-wall locking with the holding power of a toggle bolt - with up to **80% more holding power** than conventional anchors on the market!

Use TOGGLER® SnapSkru self-drilling anchors for medium-duty applications in drywall where you need speed, ease-of-use, and secure holding strength that will NOT pull loose.

Benefits compared to other self-drill anchors:

- Holds up to **80% more** than reported by other self-drilling drywall anchor tests
- Accepts a wide range of screws (SP 3.5 - 5.0mm)
- Built-in 'positive stop' prevents over-driving the anchor
- Activates with an audible '**pop**', providing positive installation feedback
- Anchors ***lock*** into the wall to resist vibration & shock
- Does NOT spin—screw installs with a screw gun
- Remove the screw without removing the anchor! Then re-install into the same anchor, with the same screw.

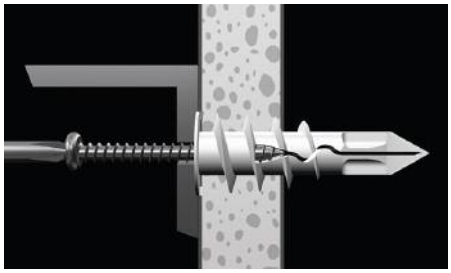
Anchor	Regular	*MINI*	Regular	*MINI*
Tested in:	**TENSILE** [kg]		**SHEAR** [kg]	
9.5mm Drywall	25	25	49	47
12.5mm Drywall	36	29	68	59
15mm Drywall	61	43	81	79
Screw tested:	4.0x40mm	3.5x30mm	4.0x40mm	3.5x30mm

- All tests carried out indicate the ultimate working load (UWL) using equivalent UNC thread screws. Holding values converted from lb to kg. Industry safety standards recommend using only ¼ of the ultimate tensile and shear values as the maximum load per anchor.
- Ultimate tensile and shear values for a SnapSkru anchor vary directly with the strength and thickness of the wall material, the screw size, and the extent of the screw engagement.
- The above table of ultimate tensile and shear values is to be used as a guide only. Due to variability and condition of wall materials and construction methods, TOGGLER Anchor System cannot guarantee that you will achieve the same results.

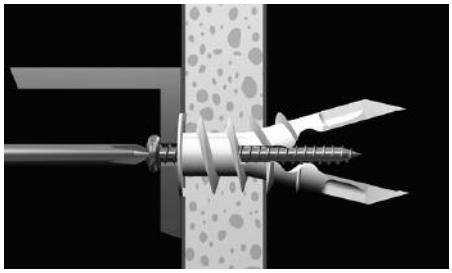
Installation Instructions

Tools Needed:
Screwgun, electric drill with clutch, or screwdriver with PZ2 bit (or #2 Phillips)

Press tip of SnapSkru anchor into drywall using PZ2 or Phillips #2 screwdriver or screw gun. Drive the anchor clockwise into drywall until anchor stops flush with the outer wall surface.
TIP: To keep the anchor in a precise position during installation, push the tip the of screwdriver into the drywall to mark the insertion point.

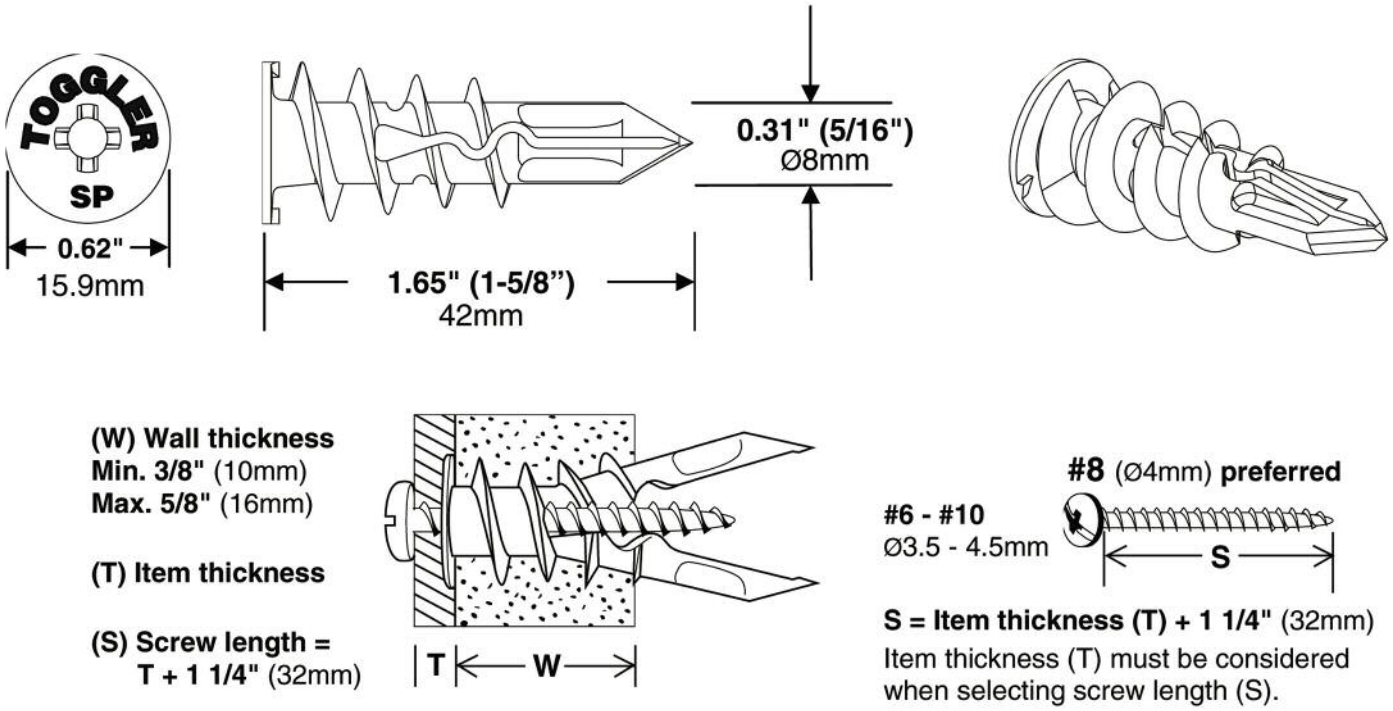


Place item over the anchor and insert any fully threaded screw. (see below for recommended sizes)
For MINI anchor
Ø3.5 - 4.5mm, 3.5mm recommended
For Regular anchor:
Ø3.5 - 5.0mm, 4.0mm recommended



Tighten screw flush with item. The screw pops open the anchor, locking it on the wall and holding the gypsum board in compression. This reinforces the wall, increasing its holding power significantly.

SnapSkru® SELF-DRILLING DRYWALL ANCHORS



Description — SnapSkru Regular [SP] Self-drilling Drywall Anchor

Material — Injection-Molded, Glass-Filled Nylon (Proprietary Thermo-Plastic Alloy)

Screw Specification — Sheet Metal Screw (SMS), fully threaded in anchor

Screw Size Range, Diameter — 3.5mm, 4.0mm (preferred), 4.5mm, 5.0mm (#6, #7, #8, #10)

Screw Size, Minimum Length — 32mm + thickness of item being anchored

Minimum Drywall Thickness — 9.5mm

Maximum Drywall Thickness — 16mm

Minimum Clearance Behind Wall For Anchor — 29mm clearance behind 12.5mm drywall
25mm clearance behind 15mm drywall

[*Additional clearance may be needed for extra-long screws.*]

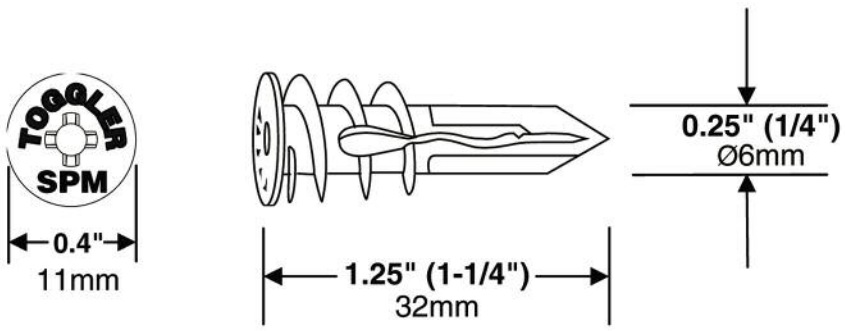
TIP: The SnapSkru Regular anchor can also be used in double thickness drywall - just drill a 5mm pilot hole first!

Applications

The SnapSkru Regular Anchor is designed for medium duty loads in 9.5mm, 12.5mm and 15mm gypsum-based drywall materials. Typical products installed using the SnapSkru anchor include the following:

- Shelving & Ledges
- Picture Frame
- Art Objects
- Curtain Poles
- Lighting Fixtures
- Cabinets
- Mirrors
- Thermostats
- HVAC grills
- Coat Racks
- Bathroom accessories
- Closet Organizers
- Small TV Mounts
- Alarms
- Smoke Detectors
- Motion Detectors
- First Aid Kits
- Fire Extinguishers
- Speaker Equipment
- Telecommunication
- Office Fixtures
- Bulletin Boards
- Clocks
- Signs

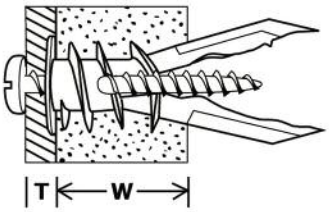
SnapSkru®*MINI* SELF-DRILLING DRYWALL ANCHORS



(W) Wall thickness
Min. 3/8" (10mm)
Max. 5/8" (16mm)

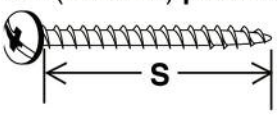
(T) Item thickness

(S) Screw length =
T + 1" (T+25mm)



#6 (Ø3.5mm) **preferred**

#6 - #8
Ø3.5 - 4mm



S = Item thickness (T) + 1" (25mm)
Item thickness (T) must be considered when selecting screw length (S).

Description — SnapSkru MINI [SPM] Self-drilling Drywall Anchor

Material — Injection-Molded, Glass-Filled Nylon (Proprietary Thermo-Plastic Alloy)

Screw Specification — Sheet Metal Screw (SMS), fully threaded in anchor

Screw Size Range, Diameter — 3.5mm (preferred), 4.0mm

Screw Size, Minimum Length — 25mm + thickness of item being anchored

Minimum Drywall Thickness — 9.5mm

Maximum Drywall Thickness — 16mm

Minimum Clearance Behind Wall For Anchor — 16mm clearance behind 12.5mm drywall
13mm clearance behind 15mm drywall
[*Additional clearance may be needed for extra-long screws.*]

TIP: The SnapSkru Regular anchor can also be used in double thickness drywall - just drill a 5mm pilot hole first!

Benefits of the Snapskru *MINI* Anchor (SPM)

- The SnapSkru *MINI* self-drilling drywall anchor makes only a **small 6mm hole**.
- Its small head (11mm dia.) **hides behind fixtures** and **always sits flush** with the wall.
- The SnapSkru *MINI* self-drilling drywall anchor accepts 3.5mm through 4.0mm screws.
  *Other self-drilling drywall anchors this size accept **ONLY** a 3.5mm screw!*
- In 16mm drywall the SnapSkru MINI self-drilling drywall anchor **holds over 43kg.***
  *This is **25% more** than the regular-size versions of other self-drilling drywall anchors!*

**NOTE: Holding value is per anchor with a 3.5x30mm screw. Industry standard safe holding = ¼ of the UWL*

SnapSkru® SELF-DRILLING DRYWALL ANCHORS

Benefits

- In 15mm drywall the SnapSkru SP self-drilling drywall anchor **holds over 61kg.***

  *This is **80% more** than the highest load reported by other self-drilling drywall anchors.*

- In 12.5mm drywall the SnapSkru SP self-drilling drywall anchor **holds over 36kg.***

  This is 60% more than the highest load reported by other self-drilling drywall anchors.

- The SnapSkru SP self-drilling drywall anchor accepts **3.5mm, 4.0mm and 5.0mm screws.** The SnapSkru MINI self-drilling drywall anchor accepts **3.5mm and 4.0mm screws.**

  *Other self-drilling drywall anchors do **NOT** accept this large a range of screw sizes.*

- SnapSkru self-drilling drywall anchors have a **built-in "positive-stop"** that prevents overdriving the anchor when using a screw gun or hand drill.

  *It is easy to drive other self-drilling anchors through the drywall; they have **NO** stop.*

- SnapSkru self-drilling drywall anchors activate with an **audible sound**, providing positive feedback that they are installed correctly. You can actually hear the anchor **"pop"** open and lock on the backside of the wall.

  *Other self-drilling drywall anchors give **NO** indication they have been properly installed.*

- SnapSkru self-drilling drywall anchors **resist vibration and shock.**

  *Other self-drilling anchors cut the drywall and pull loose when vibrated or shocked. They do **NOT** lock in the wall.*

- SnapSkru self-drilling drywall anchors **do not back out of the wall** when the screw is removed. You can remove the screw, leaving the anchor safely in the wall, and then later reinstall your fixture in the same anchor with the same screw. Yet, the anchor itself can be safely backed out of the wall, when one chooses, without destroying the wall.

  *Other self-drilling anchors **pull out** of the wall with the screw, destroying the wall.*

- It takes a much greater amount of work or energy to remove a SnapSkru anchor from the wall during tensile load testing. This means **a much safer installation.**

  *For example, it takes **20 times MORE work** or energy to remove the SP anchor totally from the wall during tensile loading than it takes to remove the competition's anchor.*

- SnapSkru anchors are **designed and manufactured in the U.S.A**. Each anchor proudly bears the TOGGLER name and carries a 100% money back satisfaction guarantee.

  *Most other self-drilling drywall anchors have **NO** name. Who stands behind them?*

**NOTE*: Holding values above are per anchor with a 4.0x40mm screw. Industry standard safe holding = 1/4 of ultimate load.*

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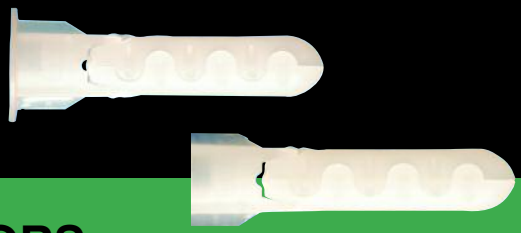
TOGGLER® ANCHOR SYSTEM

Technical Bulletin



ALLIGATOR® SOLID-WALL ANCHORS

The latest generation of the ever-evolving TOGGLER solid-wall anchor technology...

ALLIGATOR anchors are designed to hold high loads in solid walls, ceilings, and floors ... but also hold securely when they encounter an unexpected cavity, such as in hollow brick or hollow block, or even in dry-wall or, especially, in tile over drywall. The specially formulated polypropylene body flows into and locks up with any undercuts in the hole, bonding the screw to the wall and sealing the hole to prevent moisture from entering.

Optimal holding values [measured in tons] are obtained in highly dense substrates by using a screw diameter and a drill diameter of the same size as the anchor diameter.

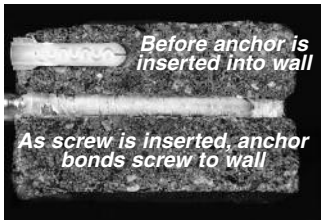
The anchor is available both **unflanged** for push through mounting and **with a flange** for use where a cavity is anticipated (drywall, hollow brick, etc.).

Benefits:

- Strongest - holds up to ***2x more*** than metal, adhesive, epoxy and chemical anchors with the same screw diameter and embedment depth
- Anchor ***bonds*** screw to concrete, brick and stone - **sealing** the hole against moisture
- Versatile - holds securely even in hollow walls/ceilings
- Uniquely shaped head **prevents spinning**
- Accepts a **wide range of screw sizes** in each anchor
- High holding strength even with deviations in screw size and hole diameter, where other anchors would just fail entirely!
- **Resists vibration & shock** - Non-toxic, sets instantly
- Screw can be **removed and reinserted** into the same anchor without loss of holding power

ULTIMATE TENSILE PULL-OUT VALUES [kg]

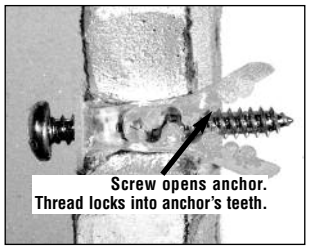
Anchor	Anchor dia.	Drill dia.	Screw Size	12.5mm Drywall	3500 psi Concrete	Screw Size (mm)	4000 psi Concrete
A5/AF5	**5mm**	5mm	4.0mm	26	246	5.0mm (SMS)	1053
A6/AF6	**6mm**	6mm	5.0mm	31	306	6.5mm (SMS)	1197
A8/AF8	**8mm**	8mm	6.0mm	39	464	8.0mm (Coach Screws)	1401
A10	**10mm**	10mm	6.5mm	N/A	529	10.0mm (Coach Screws)	1937

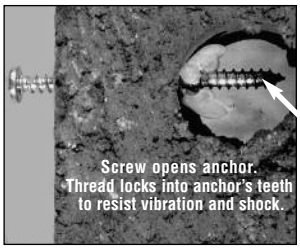


*In solid walls (concrete, masonry, brick, etc.) the ALLIGATOR anchor extrudes up to **2x its original length** & **bonds the screw to wall***

ULTIMATE SHEAR [kg]

Anchor	Anchor dia.	Drill dia.	Screw size (mm)	12.5mm Drywall
AF5	**5mm**	5mm	4.0 SMS	56
AF6	**6mm**	6mm	5.0 SMS	70
AF8	**8mm**	8mm	6.0 SMS	78
A10	**10mm**	10mm	N/A	N/A





*In hollow walls (drywall, tile over drywall, hollow block, hollow brick, etc.), as the screw enters the hollow space, it opens the jaws of the ALLIGATOR anchor. The screw thread **locks** into the teeth of the anchor to resist vibration and shock.*

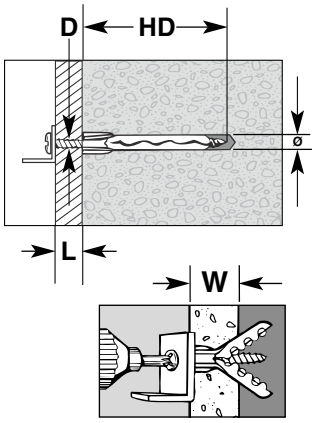
N/A = Not Applicable
SMS = Sheet Metal Screw / **Coach** = Coach Screws/Bolt

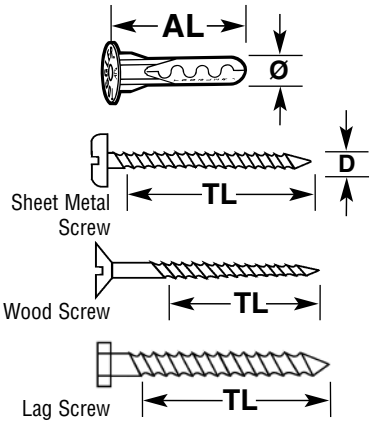
- Holding strength for an ALLIGATOR solid-wall anchor varies directly with the strength and condition of the substrate, the screw size, and the extent of the screw engagement—and inversely with variations in hole diameter and the distance of the load from the wall.
- All figures converted to kilograms from pounds. Pull-out values based on independent laboratory tests done according to U.S. Government standards. They should be used as guides only and cannot be guaranteed. The age, condition, and capacity of the substrate must be considered.
- **Industry standards recommend 1/4 of ultimate test load.**

ALLIGATOR® SOLID-WALL ANCHORS

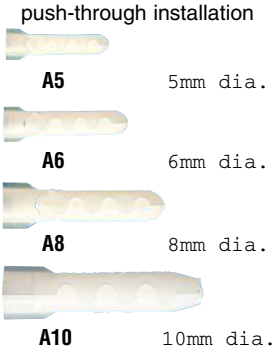
Specifications

Description — ALLIGATOR Solid-Wall Anchors
Material — specially formulated grade of self-lubricating, translucent polypropylene
Screw specification — see chart below
[**NOTE**: only the threaded portion of the screw should be in the anchor itself; any unthreaded shank portion of the screw may be in the fixture or item being anchored, but not in the anchor]

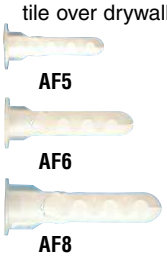




Flush-Mount
For through-the-fixture / push-through installation



Flanged
For hollow brick,drywall, or tile over drywall, etc.



Anchor description	AF5	A5	AF6	A6	AF8	A8	A10
Anchor & Drill Diameter Ø	5mm		6mm		8mm		10mm
Screw Sizes (D)	3.0 - 4.0mm		3.5 - 5.0mm		4.0 - 6.0mm		5.0 - 7.0mm
Minimum Screw Thread Length (TL)	30mm+L	28mm+L	35mm+L	33mm+L	46mm+L	44mm+L	50mm+L
Anchor Length (AL)	25mm	24mm	30mm	28.5mm	41mm	39.5mm	47.5mm
Minimum Hole Depth (HD)	38mm		44.5mm		57mm		63.5mm
Min. Wall Thickness (W)	6mm	N/A	9.5mm	N/A	12.5mm	N/A	N/A

Maximum Strength Anchoring Guidelines

The screw diameter changes the compressive force of the anchor assembly. This allows the same diameter anchor, when used with different screw diameters, to work in all kinds of substrates. Small diameter screws should be used in low-strength, easily compressed substrates. Large diameter screws should be used in high-strength substrates. When used in porous masonry materials such as low compressive strength concrete, aerated concrete, small unsupported blocks, or brick, it is recommended that the screw size not exceed those given in the chart above. Use hardened or stainless steel screws to increase shear and tensile strength.

Screws or Coach bolts used with ALLIGATOR anchors do not directly engage the surrounding masonry material. As a result, screws anchored with ALLIGATOR anchors have very high residual holding strength and low susceptibility to failure by vibration or shock loads. Even the maximum size screws do little, if any, damage when pulled out. The same hole can usually be reused without any lessening of anchoring strength.

Drill insertions holes ***twice*** anchor length. Drilled hole length + thickness of fixture should exceed screw length by a **minimum of 12.5mm**. **SMS** = Sheet Metal Screw / **Lag** = Coach Screw or Bolt

ALLIGATOR Anchor	Drill Size	Screw Type	Min. Embedded Thread Length	Minimum Hole Depth
AF5 / A5	5mm	5.0mm SMS	50mm	63.5mm
AF6 / A6	6mm	6.0mm Lag	57mm	70mm
AF8 / A8	8mm	8mm Lag	63.5mm	82.5mm
A10	10mm	10mm Lag	76mm	89mm

- The anchors should be installed at least 1.5" (39mm) from an unsupported edge in high-strength materials, because of the high compression forces exerted by the screw.
- With coach screws/bolts, do not permit the unthreaded portion to enter the anchor. Any unthreaded portion should remain in the item being anchored.
- Use hex head screws wherever possible, because of high back pressure.

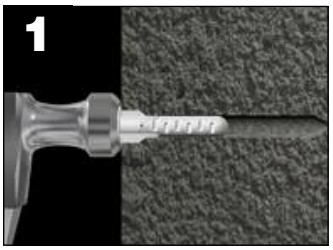
ALLIGATOR® SOLID-WALL ANCHORS

Safety

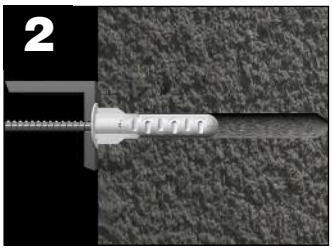
- All TOGGLER anchors are constructed completely out of inert materials.
- OSHA standard 29 CFR 1910.1200 and DOT standards are not applicable.
- No MSDS is required for any TOGGLER anchor.

Installation Instructions

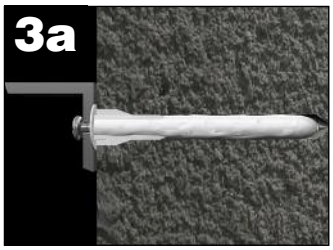
- The ALLIGATOR anchor is supplied in the closed position, ready for rapid and immediate utilization.
- The screw used to fasten the item also opens & sets the anchor in place: in both solid & hollow (cavity) walls.
- It is recommended that the screw be completely set without pause, because of the remolding of the anchor under pressure.
- Setting the screw head flush with the fixture completes the installation.
- The uniquely shaped head of the ALLIGATOR anchor prevents the anchor from countersinking into the hole, and its substantial anti-rotation fins wedge against the interior of the hole to prevent spinning even with the use of a screw gun. *NOTE*: The anti-rotation fins ***cut*** into drywall.
- Ordinary plastic plug anchors are liable to spin in a hole, preventing screw insertion. They are also very likely to be pushed to the bottom of the insertion hole, resulting in incomplete screw engagement (the screw is stopped by the bottom of the hole) and very significant loss of holding strength.
- The structure of the ALLIGATOR anchor is designed to lever and wedge open behind or in hollow walls [3b]. This provides real holding power, greater than many much larger and more specialized anchors specifically made for hollow walls, such as the ordinary wall auger type. No other solid-wall anchor provides an additional structure or capability for reliable use in hollow walls.



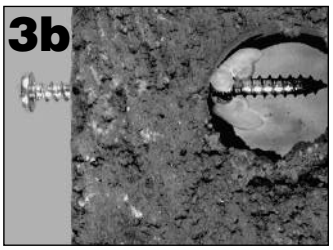
Drill hole same diameter as anchor. Push in anchor and tap flush.



Place item over anchor. Insert screw and tighten flush with item.



Anti-rotation fins prevent spinning while the ALLIGATOR anchor expands along the screw in solid walls ... up to ***2x*** its original length.



In unexpected cavities or in hollow walls (hollow brick, hollow block, tile over drywall, etc.), the screw thread and anchor teeth lock together to resist vibration and shock.

Applications

- Electrical equipment
- Lighting fixtures
- Plumbing fixtures
- Partitions
- Hand/Grab Rails
- Telecommunications
- Shelving
- Bathroom accessories
- Cabinets
- Awnings
- Circuit breakers
- Framing
- Alarms
- Signs
- DSS antennas
- Fire extinguishers
- Window frames
- Door framing
- Transformers
- Storefront gates
- Smoke detectors
- Clotheslines
- Hose reels
- TV mounts
- Sliding door track
- Floor door stops
- Speaker brackets
- Workshop machinery

For maximum holding in

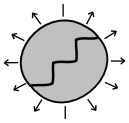
- Concrete
- Brick
- Stone
- Masonry
- Cinder block
- Aerated concrete
- Wood
- Stucco
- Plaster
- Tile
- Drywall
- Greenboard
- RTA furniture
- Tile over drywall
- Tile over greenboard
- Composite panels

ALLIGATOR® SOLID-WALL ANCHORS

The Unique Way the ALLIGATOR anchor works

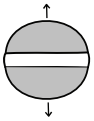
The ALLIGATOR anchor has several features that dramatically increase its holding strength in solid and thick walls as compared to other solid-wall anchors. The anchor has a circular cross-section and is completely solid. This circular cross-section causes all forces exerted by a screw threaded into the ALLIGATOR anchor to be fully transmitted around the anchor to the wall of the hole (360° and along its full length) for full compressive holding over the entire length of the screw.

360º HOLDING

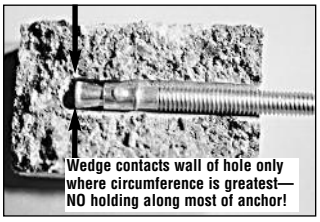


circular cross-section of solid ALLIGATOR anchor

Only 2-directional Holding



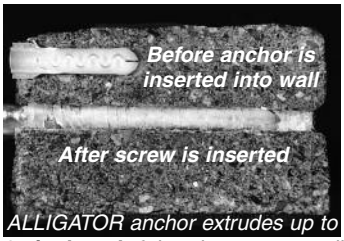
cross-section of ordinary non-solid plug anchor



Metal wedge anchor contacts wall and holds only where circumference is greatest

Many other solid-wall anchors transmit compressive forces only to the thickest portion of the anchor and unevenly against the wall of the hole. They are hollow virtually their entire length and have many ridges, lumps, or bumps on their outer surfaces allowing for extreme pressure differences along the anchor. Virtually all heavy-duty metal anchors utilize an expanding wedge that presses against only a small portion of the anchor. This force is then exerted against a short ring-shaped interval of the hole and is often so concentrated that it fractures the substrate, resulting in catastrophic failure. The wedge element is forced against the split sleeve by the action of the screw, but again the force is actually exerted against the substrate only where the circumference of the wedge is at its greatest.

Because of the solid form of the ALLIGATOR anchor, the screw extrudes and compresses all the plastic into the screw threads and outwardly against and into the wall of the hole. Under tremendous pressure, the plastic of the anchor flows to form a solid cylinder that is molded and conformed exactly to the surface of the hole and the screw for the most complete compression holding possible. Furthermore, the ALLIGATOR anchor flows into and locks up with any undercuts in the hole. With this fully conformed cylinder of plastic, the ALLIGATOR anchor provides a high degree of safety with high residual holding power even if the anchor is partially withdrawn.

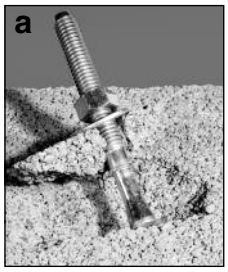


ALLIGATOR anchor extrudes up to ***2x its length*** *& bonds screw to wall*

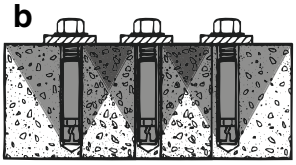
Plug anchor - NO extrusion & NO bonding

Old-fashioned plastic plug anchors are usually made of a relatively hard plastic such as nylon or polyvinyl chloride (PVC), which does not readily conform with the surface imperfections of the wall of the hole. Accordingly, there is no bonding of the anchor to the walls of the hole. The ALLIGATOR anchor is made of a specially formulated grade of polypropylene. The screw extrudes & molds the anchor into all the wall's imperfections, providing an additional locking bond of the anchor to the wall. Following removal of the screw, nylon and other hard plastic anchors slide right out of the insertion hole. The ALLIGATOR anchor, however, remains molded to the wall. A significant force is required for its removal, an additional factor in its holding strength.

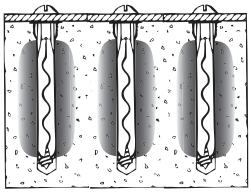
Old-fashioned metal wedge-type anchors, when tightened, frequently damage and tear out portions of solid walls, making the hole unsuitable for re-use (a). The ALLIGATOR anchor does not damage walls when loosened or removed. As a result, the same hole can be reused for use with another ALLIGATOR anchor of the same size.



Because ALLIGATOR anchors, with their unique technology, do not concentrate their holding in a small area, they can be more closely spaced (c) for greater maximum total load on the smallest substrate surface area.



In addition, metal anchors that operate with a wedging action must be spaced far apart to avoid overlapping "cones of force" (b) and the consequential weakening of the wall.



All **TOGGLER Anchors are proudly made in the U.S.A.**

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TOGGLER® ANCHOR SYSTEM

Technical Bulletin

TOGGLER® HOLLOW-WALL ANCHORS

The latest generation of the ever-evolving TOGGLER hollow-wall anchor technology...

Our third generation of **TOGGLER** hollow-wall anchors provide **vibration-proof anchoring of light to medium loads in hollow walls & ceilings** ... but also hold securely even when they encounter an unexpected solid, such as a wooden stud, or when performing as wedge anchors in materials with a thicknesses above their normal wall grip range.

New improvements in the original design have **increased holding strength and resistance to abuse**. Holding arms have been thickened and strengthened without increasing insertion hole size, and major stress points have been significantly reinforced without increasing anchor size.

Use TOGGLER SNAPTOGGLE® toggle bolts for highest hollow-wall holding strength.

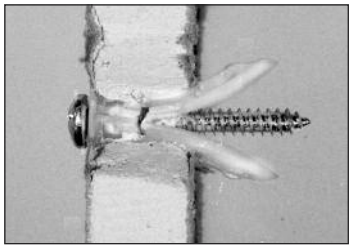
Benefits:

- ***Strongest*** of all plastic toggle anchors—reinforces the wall or ceiling & leads the load away from the hole
- **Vibration & shock proof**—won't damage walls/ceilings
- Use a screw gun—anti-rotation fins **prevent spinning**
- ***Greatest*** **grip range** for each anchor (see inside)
- Accepts ***greatest*** **range of screw sizes** in each anchor
- **All install in only a** small 8mm hole
- Pre-install **without the screw**
- Key-activated ***positive*** **locking** system
- Screw can be **removed and reinserted** in same anchor without loss of holding power
- **Corrosion-proof** when used with stainless steel screws
- **Nonmagnetic, nonconductive**

ULTIMATE TENSILE PULL-OUT VALUES (KG)

Anchor	Grip Range (mm)	Drill dia. (mm)	Screw size	Plywood	9.5mm Drywall	12.5mm Drywall	15mm Drywall
TA®	**3-6**	8	4.0mm	6mm 56	-	-	-
TB®	**9.5-13**	8	4.0mm	13mm 79	44	65	46*
TC®	**15-19**	8	4.0mm	-	-	-	72

*5.0mm screw; anchor used as wedge anchor [not toggled fully open], substrate thicker than grip range

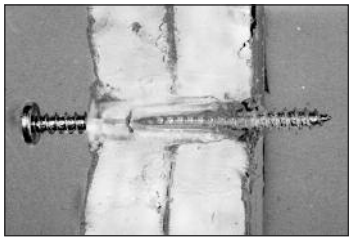


In solid substrates (concrete, masonry, brick, etc.) or in drywall thicker than its grip range, the TOGGLER hollow-wall anchor holds securely as a wedge or expansion anchor

ULTIMATE SHEAR PULL-OUT VALUES (KG)

Anchor	Grip Range	Drill dia.	Screw size	Plywood	9.5mm Drywall	12.5mm Drywall	15mm Drywall
TA®	**3-6**	8	4.0mm	6mm 120	-	57*	-
TB®	**9.5-13**	8	4.0mm	-	57	76	97*
TC®	**15-19**	8	4.0mm	-	-	-	107

*5.0mm screw; anchor used as wedge anchor [not toggled fully open], substrate thicker than grip range



- Holding strength for a TOGGLER hollow-wall anchor varies directly with the strength and condition of the substrate, the screw size, and the extent of the screw engagement—and inversely with variations in hole diameter and the distance of the load from the wall.
- All figures converted to kg from lbs. Pull-out values based on independent laboratory tests done according to U.S. Government standards. They should be used as guides only and cannot be guaranteed. The age, condition, and capacity of the substrate must be considered.
- **Industry standards recommend ¼ of ultimate test load.**

Specifications

Material — **Specially formulated** grade of **self-lubricating, translucent** polypropylene that blends into wall colour & texture
Non-conductive (Dielectric constant 2.30x10^{6}Hz), allowing safe anchoring of electrical apparatus
Non-corrodible (safely used with stainless steel screws in corrosive environments)
Toughness with elasticity, even at temperature extremes in the range from **-28°C to 100°C**
Low friction, self-lubricating — **facilitates screw insertion**

Screw specification — within each screw range, use any sheet metal screw or other screw with a sufficiently long thread [i.e., above the minimum screw thread length (TL) shown in the chart below]

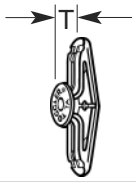
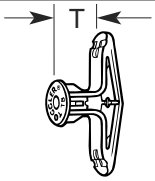
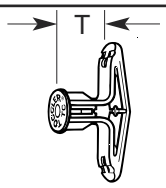
[**NOTE**: only the threaded (TL) portion of the screw should be in the anchor itself; any unthreaded shank (S) portion of the screw may be in the fixture or item being anchored, but not in the anchor]

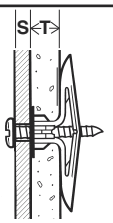
Setting Keys —

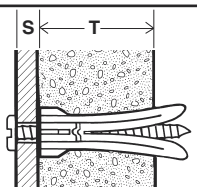
Use the red [TK] setting key for setting TA, TB & TC anchors in hollow walls within their grip range.

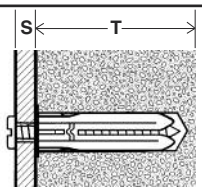
Behind the wall clearance for operation — TB & TC anchors = **19mm** • TA anchor = **13mm**

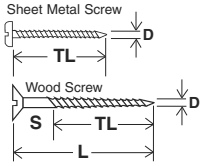
Fed specs — Type IV anchor in Federal Specification FF-B-588D (superseded)

Size Selection chart	Fully Toggled	Wedge	Expansion Anchor	Screw size range	Drill size*
TA® 	T = **3-6mm**	T > 6mm	X = 25mm	D = 4.0-5.5mm TL = 25mm L = 25mm+S	Ø = 8mm
TB® 	T = **9.5-13mm**	T > 13mm	X = 31mm	D = 3.5-6.0mm TL = 30mm L = 30mm+S	Ø = 8mm
TC® 	T = **16-19mm**	T > 19mm	X = 38mm	D = 3.5-6.0mm TL = 40mm L = 40mm+S	Ø = 8mm









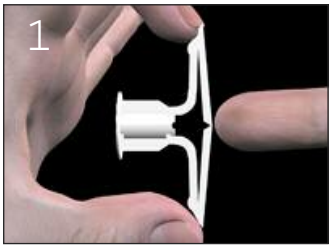
* In very hard materials, like ceramic tile, use 10mm diameter drill.

Safety

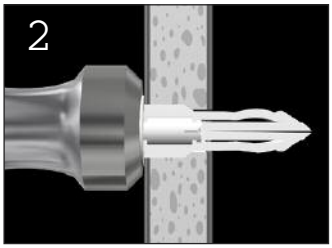
- All TOGGLER anchors are constructed completely out of inert, non-toxic materials.
- OSHA standard 29 CFR 1910.1200 and DOT standards are not applicable.
- No MSDS is required for any TOGGLER anchor.
- Non-conductive, allowing safe anchoring of electrical apparatus. (Dielectric constant is 2.30×10^6 Hz)

Installation Information

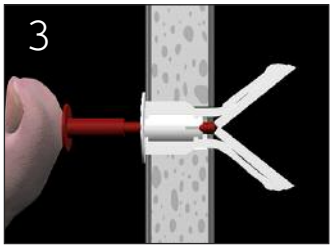
- The TOGGLER hollow-wall anchor pre-installs without the screw.
- For critical shear load applications, make the folding arms of the anchor open in the direction of the shear load, usually vertical to the floor.
- The setting key toggles the anchor fully open, locking it in place & forming an over-center, load-bearing truss.
- The fully toggled anchor (or, in thicker or solid materials, the wedged anchor) securely holds the screw.
- Setting the screw head flush with the fixture completes the installation.
- The substantial anti-rotation fins of the uniquely shaped head of the TOGGLER hollow-wall anchor cut into drywall and prevent spinning even with the use of a screw gun.
- All of the TOGGLER hollow-wall anchors will function ***without modification*** as wedge or as expansion anchors in materials thicker than the anchor's grip range.
- Do not store in direct sunlight, or use in applications exposed to long-term direct sunlight. In nearly all applications, the anchor is hidden from UV exposure by the fastened object or the installation location.
  All anchors available, on special order, in black for high UV-resistance.



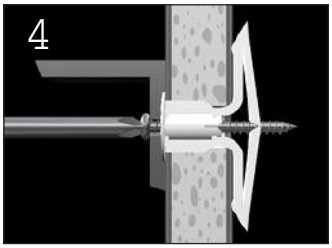
Drill 8mm diameter hole. Fold anchor in middle.



Insert anchor in hole and tap flush.



Insert key to pop anchor open behind hollow wall (not necessary for thick or solid walls).
Do not hammer key. Remove key.



Place item over anchor. Insert screw and tighten until flush with item—then stop. **Do not overtighten**.

Applications

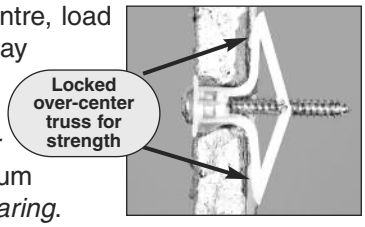
- Window treatments
- Towel bars
- Kitchen accessories
- Smoke detectors
- CO detectors
- Telephone equipment
- Shelving
- Bathroom accessories
- Electric boxes
- Lighting fixtures
- Circuit breakers
- Signs
- Alarms
- Clocks
- Marine hardware
- Speaker mounts
- Mirrors
- Soap dispensers

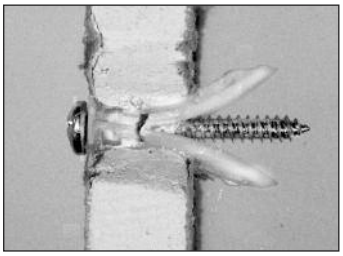
For medium holding in

- Drywall
- Gypsum board
- Plasterboard
- Greenboard
- Fiberglass
- Hollow core doors
- Thin paneling
- Sheet metal
- Acoustic ceilings
- Masonite panels
- Tile over drywall
- Tile over greenboard

The Unique Way the TOGGLER Hollow-Wall Anchor Works

The setting key toggles the anchor fully open, ***locking*** it in place & forming an over-centre, load bearing truss. Added load acts to increase the holding, as the truss moves the load away from the hole: up against the screw and back down against the surface of the wall. Over centre holding and strong, yet flexible, plastic composition provides **high resistance to vibrations and stress from dynamic loading** — *the most common causes of anchor failure*. Spreading of the load on the wall surface rather than wedging against the gypsum in the interior of the drywall effectively *minimizes* drywall *failure* and *maximizes load bearing*.





Positive tactile feedback of the setting key, in popping the anchor arms over center, is an absolute indication of proper hollow wall setting of the anchor. Do ***not*** place excessive pressure on the key and ***never*** use a hammer on it, since failure to set indicates either a solid wall or a wall too thick for the anchor to set in its hollow mode. The anchor ***will*** operate under such conditions, however, as a wedge and compression solid-wall anchor with significant holding strength.

Use the TOGGLER brand ALLIGATOR® solid-wall anchors for highest holding strength in solid walls.

A screw gun is ideal for screw insertion. Anti-rotation fins prevent the anchor from spinning in the wall. The anchors will not collapse or strip out if the head of the screw is simply screwed flush with the object being fastened. **Fastening is complete with the seating of the screw head snugly flush with the object being fastened. Do not continue tightening the screw past this point.**

The flexibility of the plastic composition of the anchor acts as a cushion against wall gouging or breakage.

For all of the TOGGLER hollow-wall anchors, use an 8mm diameter drill. In very hard materials use a 9.5mm diameter drill. Where a drill is not available, a #3 blade (1/4") screwdriver, when rotated, will make a 8mm installation hole.

For critical shear load applications, make the folding arms of the anchor open in the direction of the shear load, usually vertical to the floor.

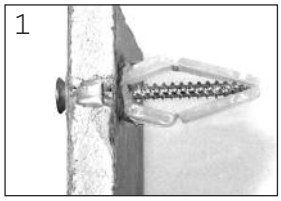
Use the red (TK) key to set the TA, TB, & TC anchors in hollow walls within their grip range

With the TOGGLER brand hollow-wall anchors, the screw engages the mechanism of the anchor immediately behind the wall surface, rather than far behind the wall. The setting key securely locks the TOGGLER hollow-wall anchors on the wall ***before*** the fixture is installed. The ***inward***, rather than the outward, folding of the anchor for insertion, positions the screw-engaging portions of the anchor closer to the screw, with minimum required screw length and elimination of missed screw engagement.

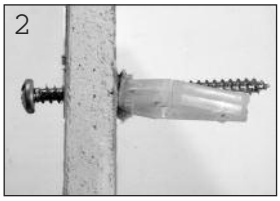
The outward folding required by some **competitive anchors**

[***NOT*** by TOGGLER hollow-wall anchors]:

1) requires an extra-long screw, which is more expensive and requires more clearance behind the wall and more time to install
2) has almost no holding power, if the screw enters the anchor at an angle and consequently does not engage the apex of the anchor
3) "strips out" the only region capable of securely holding the screw, because, in order to draw down the anchor leg, one needs to keep turning the screw after it has become flush with a fixture.



Short screw in competitive anchor—misses apex; ***NO*** *holding power*



Screw at angle in competitive anchor—misses apex; ***NO*** *holding power*

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www.toggler.com

TOGGLER® PICTURE HOOK ANCHORS

The unique TOGGLER Speciality anchor with BUILT-IN picture hook....

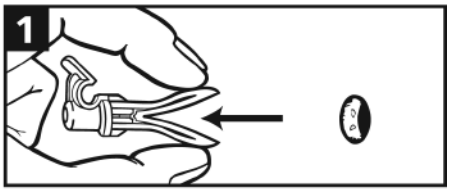
Based on the original TOGGLER Hollow Wall Anchor and incorporating all of the key benefits such as vibration-proof anchoring of light to medium loads in hollow walls, providing a secure hold even when they encounter an unexpected solid, and key-activated positive locking *before* inserting the screw; however, the **TOGGLER Picture Hook Anchors** benefit from a **built-in picture hook**, making them the perfect choice for hanging pictures, clocks and cabling **with *NO NEED* for additional fixtures!**

Choose the TOGGLER Picture Hook Anchor when you require fast installation for light loads. For heavy loads use TOGGLER SNAPTOGGLE® toggle bolts for the highest hollow-wall holding strength.

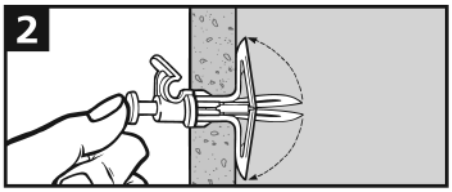
Benefits:

- ***Built-in Picture Hook***—*NO NEED* for additional fixtures
- ***Strong*** over-centre load bearing truss—reinforces the wall & leads the load away from the hole
- ***Vibration & shock proof***—won't damage walls/ceilings
- Use a screw gun—anti-rotation fins **prevent spinning**
- ***Greatest*** **grip range** for a picture hook
- Accepts a ***great*** **range of screw sizes**
- **Installs in only a** small 8mm hole
- Pre-install **without the screw**—Key-activated ***positive*** locking system
- Screw can be **removed and reinserted** in same anchor without loss of holding power
- **Corrosion-proof** when used with stainless steel screws

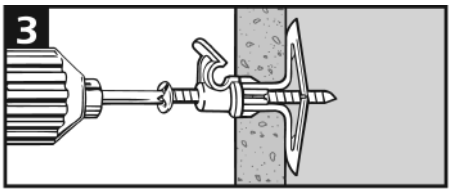
Installation



Drill 8mm diameter hole. Fold anchor in middle. Insert anchor in hole and tap flush.



Insert key to pop anchor open behind hollow wall (not necessary for thick or solid walls).
Do not hammer key. Remove key.



Insert screw and tighten until flush with hook head—then stop.
Do not overtighten.

Specifications

Material — **Specially formulated** grade of **self-lubricating, translucent** polypropylene that blends into wall colour & texture
Non-conductive (Dielectric constant 2.30x10^{6}Hz), allowing safe anchoring of electrical apparatus
Non-corrodible (safely used with stainless steel screws in corrosive environments)
Toughness with elasticity, even at temperature extremes in the range from **-28°C to 100°C**
Low friction, self-lubricating — **facilitates screw insertion**

Screw specification — Use any sheet metal screw or other screw from 3.5-6.0mm diameter with a minimum 38mm thread length

Grip Range — **9.5-13mm**

Setting Keys — 

Use the red [TK] setting key for setting TH anchors in hollow walls within their grip range.

Behind the wall clearance for operation — **19mm**

Holding Load Values — **18kg** with 4.0x40mm screw
max **4.5kg** with no screw*

**when toggled with the supplied key into a fully open, locked position*