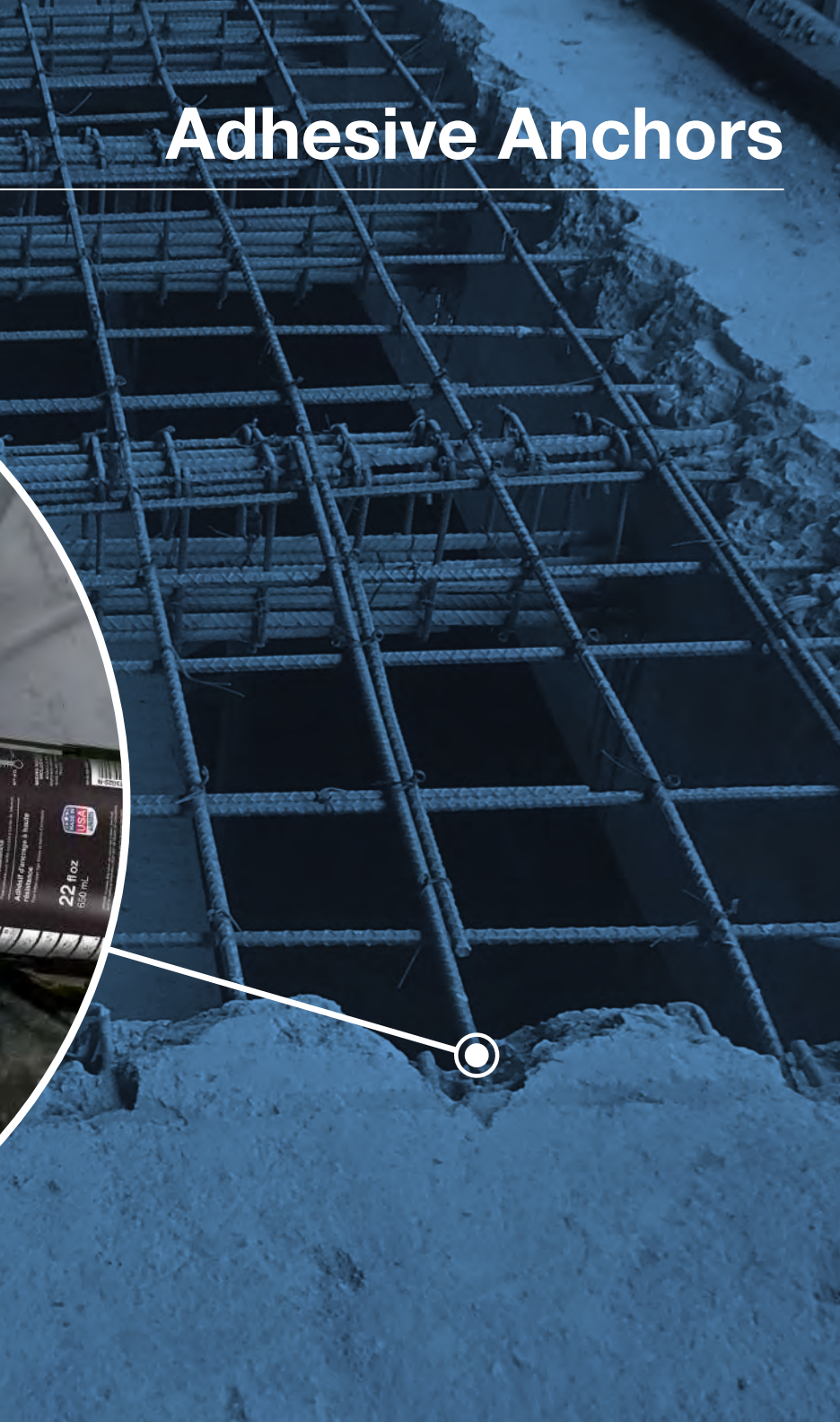
Adhesive Anchors



SET-3G is a 1:1 ratio, two-component, high-strength, epoxy-based anchoring adhesive for cracked and uncracked concrete. SET-3G installs and performs in a variety of environmental conditions and temperature extremes.

Features

- Exceptional performance — superior bond strengths permit ductile solutions in high seismic areas
- Jobsite versatility — can be specified for all base material conditions when in-service temperatures range from –40°F (–40°C) to 176°F (80°C)
- Two-year shelf life for unopened cartridges stored between 45°F (7°C) and 90°F (32°C)
- During the installation of SET-3G, when the correct installation processes are followed, there is no performance difference between water-saturated concrete, water-filled holes, or submerged concrete
- For use with potable water

SET-3G Adhesive

Applications

- Threaded rod anchor and rebar dowel installations in cracked and uncracked concrete
- Recognized per ICC ES AC308 for post-installed rebar development and splice length design provisions
- Installation in downward, horizontal and upwardly inclined (including overhead) orientations

Codes

Concrete — ICC-ES ESR-4057 (including post-installed rebar connections and City of LA); FL15730.
Masonry — ICC-ES ESR pending.
ASTM C881 and AASHTO M235 — Types I/IV and II/V, Grade 3, Class B&C.
NSF/ANSI/CAN 61 (216 in.^{2} / 1,000 gal.).

Chemical Resistance

Contact Simpson Strong-Tie for information.

Installation and Application Instructions

- Surfaces to receive epoxy must be clean per approved hole cleaning method. Approved for installation with multiple vacuum drill bit systems without further hole cleaning.
- Base-material temperatures must be 40°F (4°C) or above at the time of installation. For best results, adhesive should be conditioned to a temperature between 70°F (21°C) and 80°F (37°C) at the time of installation.
- To warm cold adhesive, store cartridges in a warm, uniformly heated area or storage container. Do not immerse cartridges in water or use microwave to facilitate warming.
- Mixed material can harden in the dispensing nozzle within 30 minutes at 70°F (21°C).

Note: For full installation instructions, see product packaging or visit **strongtie.com/set3g**.

SET-3G Adhesive Cartridge System

Model No.	Capacity (ounces)	Cartridge Type	Carton Quantity	Dispensing Tool(s)	Mixing Nozzle
SET3G10[1]	8.5	Coaxial	12	CDT10S	EMN22I
SET3G22-N[1]	22	Side-by-side	10	EDT22S, EDTA22P, EDTA22CKT	
SET3G56	56	Side-by-side	6	EDTA56P	

1. One EMN22I mixing nozzle and one extension are supplied with each cartridge.
2. Use only Simpson Strong-Tie® mixing nozzles in accordance with Simpson Strong-Tie instructions. Modification or improper use of mixing nozzle may impair SET-3G adhesive performance.
3. Use of rodless pneumatic tools to dispense single-tube, coaxial adhesive cartridges is prohibited.
4. Detailed information on dispensing tools, mixing nozzles and other adhesive accessories is available at **strongtie.com**.
5. Cartridge estimation guidelines are available at **strongtie.com/apps**.

SET-3G Cure Schedule[1,2]

Concrete Temperature		Gel Time	Cure Time
(°F)	(°C)	(minutes)	(hours)
40	4	120	192
50	10	75	72
60	16	50	48
70	21	35	24
90	32	25	24
100	38	15	24

For SI: 1°F = (°C x ⅘) + 32.

1. For water-saturated concrete, water-filled holes and submerged concrete, the cure times should be doubled.
2. For installation of anchors in concrete where the temperature is below 70°F (21°C), the adhesive must be conditioned to a minimum temperature of 70°F (21°C).

SET-XP is a 1:1 ratio, two-component, high-strength, epoxy-based anchoring adhesive for anchoring and doweling in cracked and uncracked concrete and masonry applications.

Features

- Design flexibility — permitted for sustained load performance at elevated temperature
- Suitable for use in dry or water-saturated concrete
- Two-year shelf life for unopened cartridges stored between 45°F (7°C) and 90°F (32°C)

Applications

- Threaded rod anchoring and rebar doweling into concrete and masonry
- Recognized per AC308 to be used for rebar development and splice length design provisions of ACI 318
- Installation in downward, horizontal and upwardly inclined (including overhead) orientations

Codes

Concrete — ICC-ES ESR-2508 (including post-installed rebar and City of LA Report); FL15730.

Masonry — IAPMO UES ER-265 (including City of LA Report); FL16230; ICC-ES ESR pending.

ASTM C881 and AASHTO M235 — Types I/IV and II/V, Grade 3, Class C.

NSF/ANSI/CAN 61 (216 in.^{2} / 1,000 gal.).

SET-XP Adhesive

Installation and Application Instructions

- Surfaces to receive epoxy must be clean per approved hole cleaning method. Approved for installation with multiple vacuum drill bit systems without further hole cleaning.
- Base material temperature must be 50°F (10°C) or above at the time of installation. For best results, material should be between 70°F (21°C) and 80°F (27°C) at time of application.
- To warm cold material, store cartridges in a warm, uniformly heated area or storage container. Do not immerse cartridges in water or use microwave to facilitate warming.
- Mixed material in nozzle can harden in 30 minutes at temperatures of 70°F (21°C).

Suggested Specifications

See **strongtie.com** for more information.

SET-XP Cartridge System

Model No.	Capacity (ounces)	Cartridge Type	Carton Quantity	Dispensing Tool(s)	Mixing Nozzle
SET-XP10[1]	8.5	Single	12	CDT10S	EMN22I
SET-XP22-N[1]	22	Side-by-Side	10	EDT22S, EDTA22P, EDTA22CKT	
SET-XP56	56	Side-by-Side	6	EDTA56P	

1. One EMN22I mixing nozzle and one extension are supplied with each cartridge.
2. Use only Simpson Strong-Tie® mixing nozzles in accordance with Simpson Strong-Tie instructions. Modifications or improper use of mixing nozzle may impair SET-XP adhesive performance.
3. Use of rodless pneumatic tools to dispense single-tube, coaxial adhesive cartridges is prohibited.
4. Detailed information on dispensing tools, mixing nozzles and other adhesive accessories is available at **strongtie.com**.
5. Cartridge estimation guidelines are available at **strongtie.com/apps**.

Cure Schedule

Base Material Temperature		Gel Time (minutes)	Cure Time (hours)
°F	°C		
50	10	75	72
60	16	60	48
70	21	45	24
90	32	35	24
110	43	20	24

1. For water-saturated concrete, the cure times must be doubled.

ET-HP® Epoxy Adhesive

ET-HP is a two-component, high-solids, epoxy-based system for use as a high-strength, non-shrink anchor-grouting material. ET-HP is formulated for anchoring and doweling in cracked and uncracked concrete and masonry applications.

Features

- Suitable for use under static and seismic loading conditions in cracked and uncracked concrete and masonry
- Suitable for use in dry or water-saturated concrete
- Two-year shelf life for unopened cartridges stored between 45°F (7°C) and 90°F (32°C)

Applications

- Threaded rod anchoring and rebar doweling into concrete and unreinforced masonry
- Installation in downward, horizontal and upwardly inclined (including overhead) orientations

Codes

Concrete — ICC-ES ESR-3372 (including City of LA); FL15730.

Masonry — IAPMO UES ER-241 (including Florida Supplement); FL16230.

Unreinforced Masonry (URM) — ICC-ES ESR-3638.

ASTM C881 and AASHTO M235 — Types I/IV, II/V, Class B and C, Grade 3.

ET-HP Adhesive

Installation and Application Instructions

- Surfaces to receive epoxy must be clean per approved hole cleaning method.
- Base material temperature must be 50°F (10°C) or above at the time of installation. For best results, material should be between 70°F (21°C) and 80°F (27°C) at time of application.
- To warm cold material, store cartridges in a warm, uniformly heated area or storage container. Do not immerse cartridges in water or use microwave to facilitate warming.
- Mixed material in nozzle can harden in 15 minutes at temperatures of 70°F (21°C).

Suggested Specifications

See **strongtie.com** for more information.

ET-HP Package Systems

Model No.	Capacity (ounces)	Package Type	Carton Quantity	Dispensing Tools	Mixing Nozzle
ET-HP22-N[1]	22	Side-by-side	10	EDT22S, EDTA22P, EDTA22CKT	EMN22I

1. One EMN22I mixing nozzle and one extension are supplied with each cartridge.
2. Use only Simpson Strong-Tie® mixing nozzles in accordance with Simpson Strong-Tie instructions. Modifications or improper use of mixing nozzle may impair ET-HP adhesive performance.
3. Detailed information on dispensing tools, mixing nozzles and other adhesive accessories is available at **strongtie.com**.
4. Cartridge estimation guidelines are available at **strongtie.com/apps**.

Cure Schedule

Base Material Temperature		Gel Time (minutes)	Cure Time[1] (hours)
°F	°C		
50	10	45	72
60	16	30	24
80	27	20	24
100	38	15	24

1. For water-saturated concrete, the cure times must be doubled.

AT-XP® High-Strength Acrylic Adhesive

AT-XP is a 10:1 ratio, two-component, high-strength acrylic-based anchoring adhesive for use in threaded rod and rebar into cracked and uncracked concrete and masonry under a wide range of conditions. AT-XP adhesive dispenses easily in cold or warm environments and in below-freezing temperatures with no need to warm the cartridge.

Features

- Suitable for use in dry or water-saturated concrete.
- One-year shelf life for unopened cartridges (13 oz. and 30 oz.) when stored between 14°F (–10°C) and 80°F (27°C). Eighteen-month shelf life for unopened cartridges (10 oz.) when stored between 14°F (–10°C) and 80°F (27°C).
- Cures in substrate temperatures as low as 14°F in 24 hours or less. Cures in 30 minutes at 86°F.

AT-XP Adhesive

Applications

- Threaded rod anchoring and rebar doweling into concrete and masonry
- Installation in downward, horizontal and upwardly inclined (including overhead) orientations

Codes

Concrete — IAPMO UES ER-263 (including City of LA); FL16230.

Masonry — IAPMO UES ER-281 (including City of LA and Florida Building Code Supplement); FL16230.

ASTM C881 and AASHTO M235 — Types I/IV, Grade 3, Class A, B, and C except AT-XP is not an epoxy.

NSF/ANSI/CAN 61 (43.2 in.^{2} / 1,000 gal.).

Installation and Application Instructions

- Surfaces to receive adhesive must be clean per approved hole cleaning method. Approved for installation with vacuum drill bit system without further hole cleaning.
- Base material temperature must be 14°F (–10°C) or above at the time of installation. For best results, material should be between 14°F (–10°C) and 80°F (27°C) at time of application.
- To warm cold material, store cartridges in a warm, uniformly heated area or storage container. Do not immerse cartridges in water or use microwave to facilitate warming.
- Mixed material in nozzle can harden in 3–4 minutes at temperatures of 70°F (21°C).

Suggested Specifications

See **strongtie.com** for more information.

AT-XP Adhesive Cartridge System

Model No.	Capacity ounces (cubic in.)	Cartridge Type	Carton Qty.	Dispensing Tool	Mixing Nozzle
AT-XP10[1]	9.4 (16.9)	Coaxial	6	CDT10S	AMN19Q
AT-XP13[1]	12.5 (22.5)	Side-by-side	10	ADT813S	
AT-XP30[1]	30 (54)	Side-by-side	5	ADT30S ADTA30P or ADTA30CKT	

1. One AMN19Q mixing nozzle with integrated extension is supplied with each cartridge.
2. Use only Simpson Strong-Tie® mixing nozzles in accordance with Simpson Strong-Tie instructions. Modifications or improper use of mixing nozzle may impair AT-XP adhesive performance.
3. Use of rodless pneumatic tools to dispense single-tube, coaxial adhesive cartridges in prohibited.
4. Detailed information on dispensing tools, mixing nozzles and other adhesive accessories is available at **strongtie.com**.
5. Cartridge estimation guidelines are available at **strongtie.com/apps**.

Cure Schedule

Base Material Temperature		Gel Time (minutes)	Cure Time (hours)
°F	°C		
14	–10	30	24
32	0	15	8
50	10	7	3
68	20	4	1
86	30	1½	30 min.
100	38	1	20 min.

1. For water-saturated concrete, the cure times must be doubled.

Adhesive Dispensing Tools

Our heavy-duty tools are designed to work with our cartridges for trouble-free dispensing. Each manual tool provides a 26:1 drive mechanism for easier dispensing of high-viscosity adhesive.

CDT10S

Manual Dispensing Tool for Single Cartridge Adhesives

The CDT10S features a steel carriage for ultimate durability and is engineered for continuous, high-volume use, as well as double-gripping plates that help extend tool life.

CDT10S

EDT22S

Manual Dispensing Tool for 22 oz. Adhesive Cartridges

The EDT22S epoxy adhesive tool features a steel carriage and is engineered for high-volume, continuous use. The tool can be easily converted (conversion parts included) from dispensing a 22 oz., 1:1 ratio cartridge to a 16.5 oz., 2:1 ratio cartridge.

EDT22S

EDTA22CKT

Battery-Powered Dispensing Tool for 22 oz. Cartridges

The EDTA22CKT offers power dispensing of 22 oz., 1:1 ratio, dual-cartridge adhesives without the need for a hose or compressor. The 18V lithium-ion battery is 50% lighter than NiCad and offers 40% longer run time and 30-minute recharging. Tool converts to dispense 16.5 oz., 2:1 ratio dual-cartridge adhesives (conversion parts included). The EDTA22CKT comes with the dispensing tool, two 18V lithium-ion battery packs and a charger.

EDTA22CKT
Tool and Charger

EDTA22P

Pneumatic Dispensing Tool for 22 oz. Cartridges

The EDTA22P tool features an optional suitcase handle adapter for the ultimate in tool configuration and dispensing convenience, enabling easier and time-saving ground-level doweling. The heavy-duty tool comes with a custom, blow-molded plastic carrying case.

EDTA22P

EDTA56P

Pneumatic Dispensing Tool for 56 oz. Cartridges

The EDTA56P tool features an optional suitcase handle adapter for the ultimate in tool configuration and dispensing convenience, enabling easier and time-saving ground-level doweling. The heavy-duty tool comes with a custom, blow-molded plastic carrying case.

EDTA56P

Description	Model No.
Premium tool for single-tube cartridges	CDT10S
Manual tool for 22 oz. cartridges	EDT22S
Battery-powered tool for 22 oz. cartridges	EDTA22CKT
Pneumatic tool for 22 oz. cartridges[1,2]	EDTA22P
Pneumatic tool for 56 oz. cartridges[1,2]	EDTA56P

1. Air supply attachment is ¼–18 NPT (male) thread.
2. Recommended operating air pressure is between 80 and 100 psi.

Maintenance tips, troubleshooting and repair parts schematics available at **strongtie.com**.

Adhesive Accessories

ADT813S
Manual Dispensing Tool for 12.5 oz. Cartridges

The ADT813S features a steel carriage for ultimate durability. The ADT813S also features double-gripping plates that help extend tool life.

ADT813S

ADT30S
Manual Dispensing Tool for 30 oz. Adhesive Cartridges

The ADT30S features a steel carriage for ultimate durability and is engineered for continuous, high-volume use, as well as double-gripping plates that help extend tool life. The tool can be easily converted from 30 oz. 10:1 cartridges to 32 oz. 2:1 cartridges (conversion parts included).

ADT30S

ADTA30CKT
Battery-Powered Dispensing Tool for 30 oz. Cartridges

The ADTA30CKT offers power dispensing of 30 oz., 10:1 ratio, dual-cartridge adhesives without the need for a hose or compressor. The tool features dosage and rate control for maximum efficiency on the job. The 18V lithium-ion battery is 50% lighter than NiCad and offers 40% longer run time. Recharging takes only 30 minutes. The ADTA30CKT comes with the dispensing tool, two 18V Lithium-ion battery packs a charger and parts to easily convert from 30 oz. 10:1 cartridges to 32 oz. 2:1 cartridges.

ADTA30CKT

ADTA30P
Pneumatic Dispensing Tool for 30 oz. Cartridges

The ADTA30P tool features an optional suitcase handle adapter for flexible tool configuration and dispensing convenience. The suitcase option enables easier and time-saving ground-level doweling. The heavy-duty tool comes with a custom, blow-molded plastic carrying case. The tool can be easily converted from 30 oz. 10:1 cartridges to 32 oz. 2:1 cartridges (conversion parts included).

ADTA30P

Description	Model No.
Manual tool for 12.5 oz. cartridges	ADT813S
Manual tool for 30 oz. 10:1 cartridges and 32 oz. 2:1 cartridges	ADT30S
Battery-powered tool for 30 oz. 10:1 cartridges and 32 oz. 2:1 cartridges	ADTA30CKT
Pneumatic tool for 30 oz. cartridges[1,2]	ADTA30P

1. Air supply attachment is ¼-18 NPT (male) thread.
2. Recommended operating air pressure is between 80 and 120 psi.

Maintenance tips, troubleshooting and repair parts schematics available at **strongtie.com**.

Adhesive Nozzle Accessories

EMN22i

An 18-element mixing nozzle with integrated nut for use with 10 oz., 22 oz. and 56 oz. epoxy adhesive cartridges.

EMN22i

Model No.	Option	Package Quantity	Carton Quantity
EMN22I	Single mixing nozzle for epoxy products.	1	12
EMN22I-RP10	Ten mixing nozzles for epoxy products.	10	3
EMN22I-RP5	Five mixing nozzles for epoxy products.	5	6
EMN22IB	Five hundred mixing nozzles for epoxy products.	500	500

EMN50

An 18-element high-volume mixing nozzle with integrated nut for use with 22 oz. and 56 oz. epoxy adhesive cartridges.

EMN50

Model No.	Option	Package Quantity
EMN50	High-volume nozzle for 22 oz. and 56 oz. cartridges (separate retaining nut not required), 17" long, major diameter ⅞".	10

AMN19Q

A 19-element high-strength static mixing nozzle with integrated nut for use with all acrylic adhesive products.

AMN19Q

Model No.	Option	Package Quantity	Carton Quantity
AMN19Q-RP5	Five mixing nozzles for AT-XP® product.	5	10

Hole-Cleaning Brushes

Brushes are used for cleaning drilled holes prior to adhesive installation.

Note: The standard hole-cleaning method (blow-brush-blow) can be avoided by using an approved vacuum drill bit system. See product pages on **strongtie.com** for approved vacuum drill bit systems.

Wire Brush — Standard

(For use with SET-3G)

Model No.	Hole Diameter (in.)	Anchor Diameter (in.)	Rebar Size	Usable Length (in.)	Carton Quantity
ETB43S	7/16	3/8	—	5	25
ETB50S	1/2	—	#3	5	25
ETB56S	9/16	1/2	—	5	25
ETB62S	5/8	—	#4	5	25
ETB68S	11/16	5/8	—	5	25
ETB75S	3/4	—	#5	5	25
ETB87S	7/8	3/4	#6	5	25
ETB100S	1	7/8	#7	5	25
ETB112S	1 1/8	1	#8	5	25
ETB137S	1 3/8	1 1/4	#10	5	25
ETBS-TH	T-handle			8 1/2	25
ETBS-EXT	Extension			11 1/2	25

1. T-handle is required for use with all sizes of standard wire brush.
2. To obtain total usable length, add the usable length for each part used.

Hole-Cleaning Brushes (cont.)

Nylon Brush — Standard

(For use with SET-XP®, AT-XP® and ET-HP®)

Model No.	Hole Diameter (in.)	Anchor Diameter (in.)	Rebar Size	Usable Length (in.)	Carton Quantity
ETB4	3/8 – 7/16	1/4 – 5/16	—	7	24
ETB6	1/2 – 3/4	3/8 – 5/8	#3 – #5	15	24
ETB8	13/16 – 7/8	3/4	#6	15	24
ETB8L	13/16 – 7/8	3/4	#6	23	24
ETB10	1 – 1 1/8	7/8 – 1	#7 – #8	28	24
ETB12	1 3/16 – 1 3/8	1 1/4	#10	33	24

1. All standard nylon brushes are one-piece which includes a twisted wire handle.

Nylon Brush — Rebar

(For use with SET-XP and SET-3G™)

*(**Note:** Brushes are only applicable for SET-3G when used for post-installed rebar connections.)*

Model No.	Hole Diameter (in.)	Rebar Size	Usable Length (in.)	Carton Quantity
ETB6R	1/2 – 3/4	#3 – #5	6	25
ETB8R	7/8	#6	6	25
ETB10R	1 – 1 1/8	#7 – #8	8	25
ETB12R	1 3/8	#10	8	25
ETB14R	1 3/4	#11	7	25
ETBR-EXT	T-handle and extension		35 1/4	25

1. ETBR-EXT is required for use with all sizes of rebar nylon brushes.
2. To obtain total usable length, add the usable length for each part used.
3. Brushes are used when rebar is installed to replace cast-in-place bar for lap splices and development length.

Piston Plug Delivery System

The Simpson Strong-Tie® Piston Plug Delivery System for adhesives offers you an easy-to-use, reliable and less time-consuming means to dispense adhesive into drilled holes for threaded rod and rebar dowel installations in overhead, upwardly inclined and horizontal orientations. The matched tolerance design between the piston plug and drilled hole virtually eliminates the formation of voids and air pockets during adhesive dispensing.

The Piston Plug Delivery System consists of three components: piston plug, flexible extension tubing, and adhesive retaining cap.

Features

- Designed for dispensing adhesive into drilled holes in overhead, upwardly inclined and horizontal orientations, as well as deep embedments
- Suitable for use with all Simpson Strong-Tie anchoring adhesives
- Adhesive piston plugs are sized to fit each drilled hole diameter
- Model number is embossed on each adhesive piston plug for identification
- A barbed end provides a reliable connection to the flexible extension tubing
- Flexible extension tubing is available in 25-foot-long rolls to be cut to required lengths

Use the piston plug delivery system with all Simpson Strong-Tie adhesive products:

SET-3G™

SET-XP®

AT-XP®

ET-HP®

Piston Plug Delivery System (cont.)

Piston Plugs

Model No.	Hole Size (in.)	Pkg. Quantity	Carton Quantity*
PP56-RP10	9⁄16	10	10 packs of 10
PP62-RP10	5⁄8	10	10 packs of 10
PP68-RP10	11⁄16	10	10 packs of 10
PP75-RP10	3⁄4	10	10 packs of 10
PP81-RP10	13⁄16	10	10 packs of 10
PP87-RP10	7⁄8	10	10 packs of 10
PP100-RP10	1	10	10 packs of 10
PP112-RP10	1 1⁄8	10	10 packs of 10
PP137-RP10	1 3⁄8	10	10 packs of 10
PP175-RP10	1 3⁄4	10	10 packs of 10

*Product is sold by package.

Piston Plugs

Tubing

Model No.	Description	Package Quantity
PPFT25	Piston Plug Flexible Extension Tubing — 25 ft. roll	1

1. Tubing dimensions: inner diameter ⅜", outer diameter ½".

Piston Plug Flexible Extension Tubing

Adhesive Retaining Caps

Adhesive retaining caps make overhead and horizontal installation easier by preventing the adhesive from running out of the hole. They also center the rod in the hole, making them ideal for applications where precise anchor placement is required. It may be necessary to provide support for the anchor during cure time. Adhesive retaining caps are not designed to support the weight of the anchor in overhead installations. Adhesive retaining caps should be used for horizontal and overhead adhesive installations. ARCs may be used in conjunction with the Piston Plug Delivery system.

Adhesive Retaining Caps

Retaining Caps

Model No.	Hole Size (in.)	Anchor Dia. (in.)	Rebar Size	Cap Depth (in.)	Package Quantity	Carton Quantity* (each)
ARC37A-RP25	7/16	3/8	#3	7/16	25	8 packs of 25
ARC37-RP25	1/2	3/8		7/16	25	8 packs of 25
ARC50A-RP25	9/16	1/2	#4	1/2	25	8 packs of 25
ARC50-RP25	5/8	1/2		1/2	25	8 packs of 25
ARC62A-RP25	11/16	5/8	#5	9/16	25	8 packs of 25
ARC62-RP25	3/4	5/8		9/16	25	8 packs of 25
ARC75A-RP25	13/16	3/4	#6	9/16	25	8 packs of 25
ARC75-RP25	7/8	3/4		9/16	25	8 packs of 25
ARC87-RP25	1	7/8	#7	11/16	25	8 packs of 25
ARC100A-RP25	1 1/16	1	#8	11/16	25	8 packs of 25
ARC100-RP25	1 1/8	1		11/16	25	8 packs of 25
ARC125-RP25	1 3/8	1 1/4	#10	7/8	25	8 packs of 25
ARC137-RP25	1 3/4	—	#11	11/16	25	8 packs of 25

*Product is sold by package.

Opti-Mesh Adhesive-Anchoring Screen Tubes

Screen tubes are vital to the performance of adhesive anchors in base materials that are hollow or contain voids, such as hollow block and brick. The Simpson Strong-Tie® Opti-Mesh screen tube with woven mesh insert provides the advantages of a plastic screen tube while providing superior performance to steel screen tubes and competitive plastic screen tubes.

Material: Plastic

Caution: Screen tubes are designed for specific Simpson Strong-Tie anchoring adhesives (see below).

Integral Cap: Serves to center and secure the rod in the screen tube, while displaying important information such as rod diameter, drill bit diameter and the Simpson Strong-Tie "≠" symbol for easy inspection after installation. The cap also prevents adhesive from running out the front of the screen tube.

Flanges: Prevents the screen tube from slipping into over-drilled holes.

Open-Mesh Collar: This section of larger mesh allows extra adhesive to flow out the screen tube behind the face shell of hollow block applications. The extra "collar" of adhesive increases bearing area and results in higher load capacities in hollow concrete block.

Color-Coded, Formula-Specific Mesh: The openings between the woven mesh screen tube strands are sized to allow only the right amount of adhesive to flow through the screen tube to bond with the base material while the balance remains in the screen to bond the rod.

EWSP
Epoxy Adhesive Screen Tube
(mesh is black)
For use with SET-XP
US Patent: 6,837,018

NEW

3GWSP
Adhesive Screen Tube
(gray frame with gray mesh)
For use with SET-3G™

The integral cap centers the rod and displays drill bit and rod diameter.

AWSP Acrylic Adhesive Screen Tube
(mesh is white)
For use with AT-XP

Screen Tubes — Plastic

For Rod Diameter (in.)	Hole Size (in.)	Length (in.)	EWSP Model No. for SET-XP®	AWSP Model No. for AT-XP®	3GWSP Model No. for SET-3G™	Carton Quantity
⅜	9⁄16	3½	EWS373P	AWS373P	3GWS373P	150
		6	EWS376P	AWS376P	3GWS376P	150
		10	EWS3710P	AWS3710P	3GWS3710P	100
½	¾	3½	EWS503P	AWS503P	3GWS503P	100
		6	EWS506P	AWS506P	3GWS506P	100
		10	EWS5010P	AWS5010P	3GWS5010P	50
⅝	⅞	3½	EWS623P	AWS623P	3GWS623P	50
		6	EWS626P	AWS626P	3GWS626P	50
		10	EWS6210P	AWS6210P	3GWS6210P	25
¾	1	8	EWS758P	AWS758P	3GWS758P	25
		13	EWS7513P	AWS7513P	3GWS7513P	25

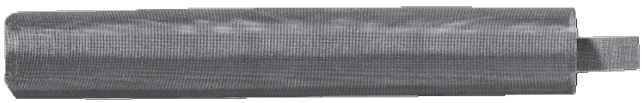
Specially sized holes in Opti-Mesh screens allow for adhesive to seep out at the appropriate location at the hollow portion of the CMU to create a better bond to the face shell.

Steel Adhesive-Anchoring Screen Tubes

Screen tubes are used in hollow base material applications to contain adhesive around the anchor and prevent it from running into voids. Simpson Strong-Tie® screen tubes are specifically designed to work with AT-XP® and ET-HP® adhesives in order to precisely control the amount of adhesive that passes through the mesh. This results in thorough coating and bonding of the rod to the screen tube and base material. Order screen tubes based upon rod diameter and adhesive type. The actual outside diameter of the screen tube is larger than the rod diameter.

Material: ATS screen tubes: 50 mesh stainless steel
ETS screen tubes: 60 mesh carbon steel

Caution: Screen tubes are designed for a specific adhesive type. ETS screen tubes must be used with ET-HP formulations and ATS screen tubes must be used with AT-XP.



Screen Tube

Screen tubes are for use in hollow CMU, hollow brick and unreinforced masonry applications.

Screen Tubes

For Rod Diameter (in.)	Hole Size (in.)	ATS Stainless Steel Screen Tubes for AT-XP		ETS Carbon Steel Screen Tubes for ET-HP (SET-XP® ¾" Rod Sizes)		Carton Quantity
		Actual Screen Size O.D./Length (in.)	Model No.	Actual Screen Size O.D./Length (in.)	Model No.	
⅜	9⁄16	—	—	15⁄32 x 6	ETS376	150
		—	—	15⁄32 x 10	ETS3710	100
½	11⁄16	—	—	19⁄32 x 6	ETS506	100
		—	—	19⁄32 x 10	ETS5010	50
⅝	⅞	—	—	25⁄32 x 6	ETS626	50
		—	—	25⁄32 x 10	ETS6210	25
		—	—	25⁄32 x 13	ETS6213	25
¾	1	31⁄32 x 8	ATS758	31⁄32 x 8	ETS758	25
		31⁄32 x 13	ATS7513	31⁄32 x 13	ETS7513	25
		31⁄32 x 17	ATS7517	31⁄32 x 17	ETS7517	25
		—	—	31⁄32 x 21	ETS7521	25

Retrofit Bolts

RFBs are pre-cut threaded rod, supplied with nut and washer. Each end of the threaded rod is stamped with the rod length in inches and our No-Equal® symbol for easy identification after installation.

Material: ASTM F1554 Grade 36, A36 or A307
min f_y = 36 ksi, min F_u = 58 ksi and not to exceed 80 ksi

Coating: Zinc-plated, hot-dip galvanized

RFB
Retrofit Bolts

Size. (in.)	Zinc-Plated Model No.	Hot-Dip Galvanized Model No.	Carton Quantity	Hot-Dip Galvanized Retail Model No.*	Package Quantity	Carton Quantity
⅜ x 4	RFB#3x4	RFB#3x4HDG	50	—	—	—
⅜ x 6	RFB#3x6	—	50	—	—	—
⅜ x 8	RFB#3x8	—	50	—	—	—
½ x 4	RFB#4x4	—	50	—	—	—
½ x 5	RFB#4x5	RFB#4x5HDG	50	RFB#4x5HDGP2	2	5 packs of 2
½ x 6	RFB#4x6	RFB#4x6HDG	50	—	—	—
½ x 7	RFB#4x7	RFB#4x7HDG	50	—	—	—
½ x 8	RFB#4x8	RFB#4x8HDG	50	RFB#4x8HDGP2	2	5 packs of 2
½ x 10	RFB#4x10	RFB#4x10HDG	25	—	—	—
⅝ x 5	RFB#5x5	RFB#5x5HDG	50	RFB#5x5HDGP2	2	5 packs of 2
⅝ x 8	RFB#5x8	RFB#5x8HDG	50	RFB#5x8HDGP2	2	5 packs of 2
⅝ x 10	RFB#5x10	RFB#5x10HDG	50	—	—	—
⅝ x 12	—	RFB#5x12HDG	25	RFB#5x12HDGP2	2	5 packs of 2
⅝ x 16	RFB#5x16	RFB#5x16HDG	25	RFB#5x16HDGP2	2	5 packs of 2
¾ x 6	RFB#6x6	—	50	—	—	—
¾ x 8	RFB#6x8	RFB#6x8HDG	50	—	—	—
¾ x 10½	RFB#6x10.5	RFB#6x10.5HDG	25	—	—	—

*Retail products (“P2”) packaged in a polybag.

All Thread Rod

ATRs are pre-cut threaded rod for use with Simpson Strong-Tie® adhesives.

Material: ASTM F1554 Grade 36, A36 or A307
min f_y = 36 ksi, min F_u = 58 ksi and not to exceed 80 ksi

Coating: Uncoated, zinc-plated; hot-dip galvanized

ATR
All Thread Rod

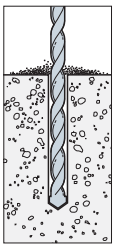
Description Dia. x Length (in.)	Uncoated Model No.	Zinc-Plated Model No.	Hot-Dip Galvanized Model No.	Carton Quantity
⅜ x 12	ATR3/8x12	—	—	1
⅜ x 24	ATR3/8x24	—	—	1
⅜ x 36	ATR3/8x36	—	ATR3/8x36HDG	1
½ x 12	ATR1/2x12	ATR1/2x12ZP	ATR1/2x12HDG	1
½ x 18	ATR1/2x18	—	ATR1/2x18HDG	1
½ x 24	ATR1/2x24	ATR1/2x24ZP	ATR1/2x24HDG	1
½ x 36	ATR1/2x36	ATR1/2x36ZP	ATR1/2x36HDG	1
⅝ x 12	ATR5/8x12	ATR5/8x12ZP	ATR5/8x12HDG	1
⅝ x 18	ATR5/8x18	ATR5/8x18ZP	ATR5/8x18HDG	1
⅝ x 24	ATR5/8x24	ATR5/8x24ZP	ATR5/8x24HDG	1
⅝ x 30	ATR5/8x30	—	—	1
⅝ x 36	ATR5/8x36	ATR5/8x36ZP	ATR5/8x36HDG	1
¾ x 12	ATR3/4x12	ATR3/4x12ZP	ATR3/4x12HDG	1
¾ x 18	ATR3/4x18	ATR3/4x18ZP	ATR3/4x18HDG	1
¾ x 24	ATR3/4x24	ATR3/4x24ZP	ATR3/4x24HDG	1
¾ x 36	ATR3/4x36	ATR3/4x36ZP	ATR3/4x36HDG	1
⅞ x 12	ATR7/8x12	ATR7/8x12ZP	ATR7/8x12HDG	1
⅞ x 18	ATR7/8x18	ATR7/8x18ZP	ATR7/8x18HDG	1
⅞ x 20	ATR7/8x20	—	—	1
⅞ x 24	ATR7/8x24	ATR7/8x24ZP	ATR7/8x24HDG	1
⅞ x 26	ATR7/8x26	—	—	1
⅞ x 36	ATR7/8x36	ATR7/8x36ZP	ATR7/8x36HDG	1
1 x 12	ATR1x12	ATR1x12ZP	ATR1x12HDG	1
1 x 18	ATR1x18	ATR1x18ZP	ATR1x18HDG	1
1 x 24	ATR1x24	ATR1x24ZP	ATR1x24HDG	1
1 x 36	ATR1x36	ATR1x36ZP	ATR1x36HDG	1

Adhesive Anchoring Installation Instructions

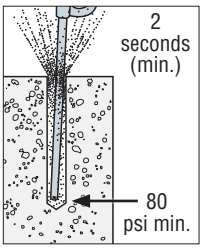
NOTE: Always check expiration date on product label. Do not use expired product.

WARNING: When drilling and cleaning hole, use eye and lung protection. When installing adhesive, use eye and skin protection.

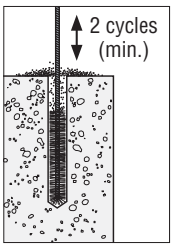
1A Hole Preparation — Horizontal, Vertical and Overhead Applications (SET-3G™ for anchor installation)



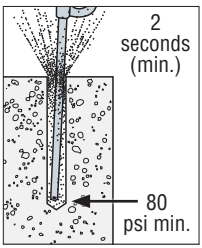
1. Drill.
Drill hole to specified diameter and depth.



2. Blow.
Remove dust from hole with oil-free compressed air for a minimum of two seconds. Compressed air nozzle must reach the bottom of the hole.



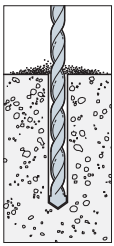
3. Brush.
Clean with a steel wire brush for a minimum of two cycles. Brush should provide resistance to insertion. If no resistance is felt, the brush is worn and must be replaced.



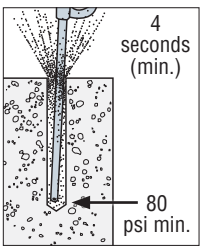
4. Blow.
Remove dust from hole with oil-free compressed air for a minimum of two seconds. Compressed air nozzle must reach the bottom of the hole.

Visit **strongtie.com** for proper brush part number.

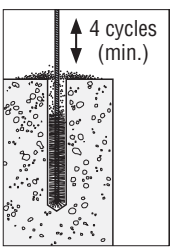
Hole Preparation — Horizontal, Vertical and Overhead Applications (SET-XP®, AT-XP®, ET-HP®) and (SET-3G only for post-installed rebar connections)



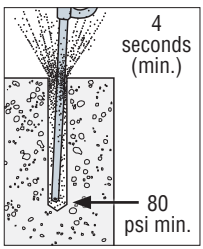
1. Drill.
Drill hole to specified diameter and depth.



2. Blow.
Remove dust from hole with oil-free compressed air for a minimum of four seconds. Compressed air nozzle must reach the bottom of the hole.



3. Brush.
Clean with a nylon brush for a minimum of four cycles. Brush should provide resistance to insertion. If no resistance is felt, the brush is worn and must be replaced.

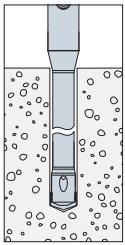


4. Blow.
Remove dust from hole with oil-free compressed air for a minimum of four seconds. Compressed air nozzle must reach the bottom of the hole.

Visit **strongtie.com** for proper brush part number.

Adhesive Anchoring Installation Instructions

1B Hole Preparation Vacuum Drill Bit System* — Horizontal, Vertical and Overhead Applications

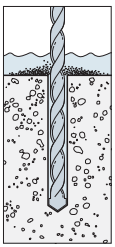


1. Drill.
Drill hole to specified diameter and depth using the accepted vacuum drill bit system.*

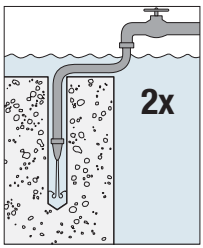
Approved for installation with multiple vacuum drill bit systems.*

*Note: Visit **strongtie.com** for tested and accepted hollow carbide drill bit and vacuum dust extraction systems.

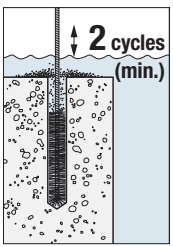
1C Hole Preparation — Submerged Applications (SET-3G™ only)



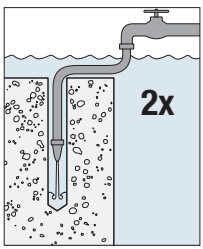
1. Drill.
Drill hole to specified diameter and depth.



2. Flush.
Remove slurry from hole by flushing hole twice with water until water runs clear.



3. Brush.
Clean with a steel wire brush for a minimum of two cycles. Brush should provide resistance to insertion. If no resistance is felt, the brush is worn and must be replaced.



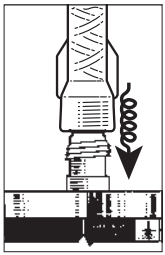
4. Flush.
Remove slurry from hole by flushing hole twice with water until water runs clear.

Visit **strongtie.com** for proper brush part number.

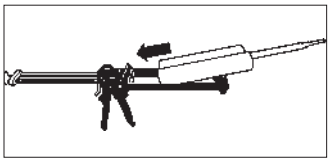
2 Cartridge Preparation

1. Check.
Check expiration date on product label. Product is usable until end of printed expiration month. **Do not use expired product.**

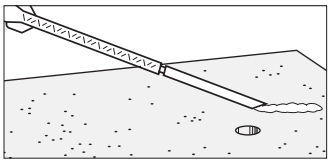
2. Open.
Open cartridge per package instructions.



3. Attach.
Attach proper Simpson Strong-Tie® nozzle and extension to cartridge. Do not modify nozzle.



4. Insert.
Insert cartridge into dispensing tool.

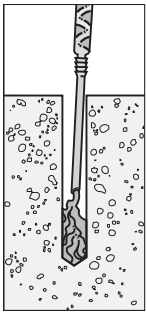


5. Dispense.
Dispense adhesive to the side until properly mixed (uniform color).

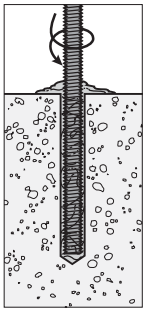
3A **Filling the Hole —** Vertical Anchorage

Prepare the hole per "Hole Preparation" instructions on product label.

Dry and Damp Holes:

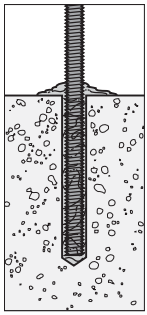


1. Fill.
Fill hole ½ to ⅔ full, starting from bottom of hole to prevent air pockets. Withdraw nozzle as hole fills up.



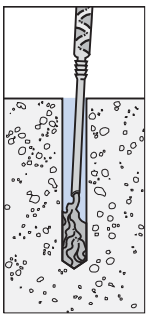
Threaded rod or rebar

2. Insert.
Insert clean, oil-free anchor, (marked with the required embedment depth), turning slowly until the anchor contacts the bottom of the hole.

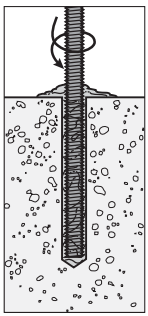


3. Do not disturb.
Do not disturb load or torque anchor until fully cured.

Water-Filled Holes:

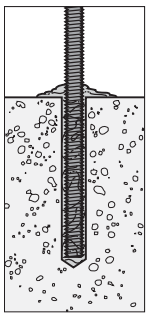


1. Fill.
Fill hole completely full, starting from bottom of hole to prevent water pockets. Withdraw nozzle as hole fills up.



Threaded rod or rebar

2. Insert.
Insert clean, oil-free anchor, (marked with the required embedment depth), turning slowly until the anchor contacts the bottom of the hole.

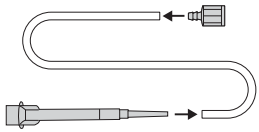


3. Do not disturb.
Do not disturb load or torque anchor until fully cured.

Note: Nozzle extensions may be needed for deep holes.

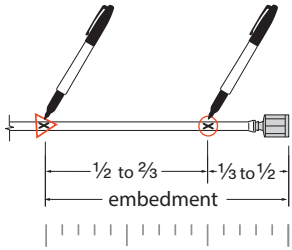
3B **Filling the Hole** — Horizontal and Overhead Anchorage

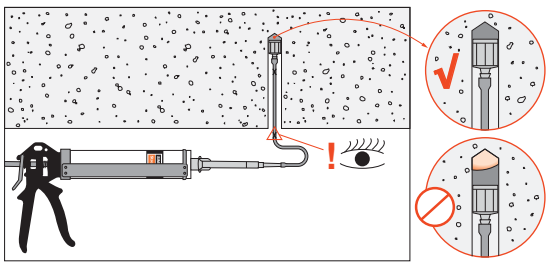
Prepare the hole per "Hole Preparation" instructions on product label.



Step 1

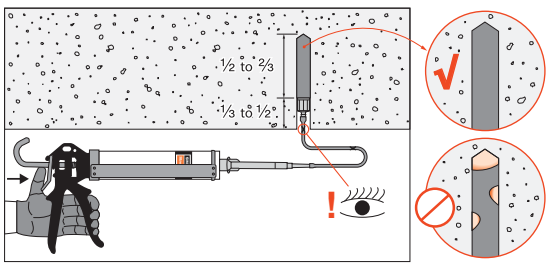
- Attach the piston plug to one end of the flexible tubing (PPFT25).
- Cut tubing to the length needed for the application, mark tubing as noted below and attach other end of tubing to the mixing nozzle.
- If using a pneumatic dispensing tool, regulate air pressure to 80–100 psi.





Step 2

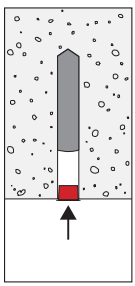
- Insert the piston plug to the back of the drilled hole and dispense adhesive.



Step 3

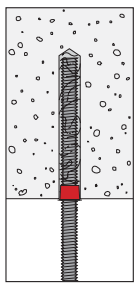
- Fill the hole ½ to ⅔ full.

Note: As adhesive is dispensed into the drilled hole, the piston plug will slowly displace out of the hole due to back pressure, preventing air gaps.



Step 4

- Install the appropriate Simpson Strong-Tie® adhesive retaining cap.

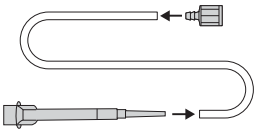


Step 5

- Place either threaded rod or rebar through the adhesive retaining cap and into adhesive filled hole.
- Turn rod/rebar (marked with the required embedment depth) slowly until the insert bottoms out.
- Do not disturb load or torque anchor until fully cured. For overhead installations, the anchor must be secured from movement during the cure time (e.g., wedges or other restraint methods).

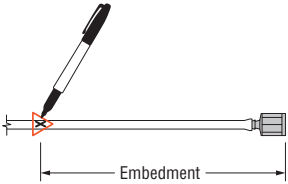
3C Filling the Hole — Submerged Anchorage (SET-3G™ only)

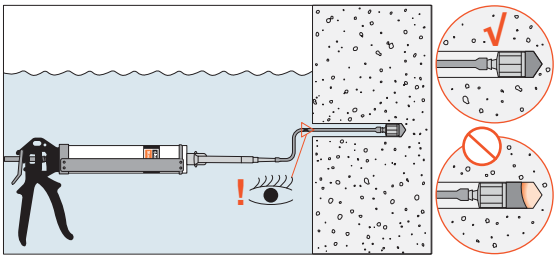
Prepare the hole per "Hole Preparation" instructions on product label.



Step 1

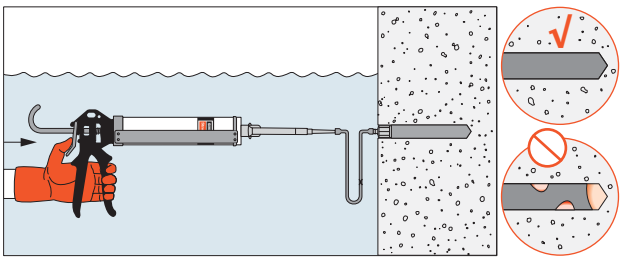
- Attach the piston plug to one end of the flexible tubing (PPFT25).
- Cut tubing to the length needed for the application, mark tubing as noted below and attach other end of tubing to the mixing nozzle.
- If using a pneumatic dispensing tool, regulate air pressure to 80–100 psi.





Step 2

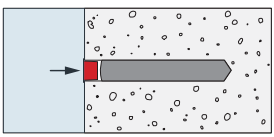
- Insert the piston plug to the back of the drilled hole and dispense adhesive.



Step 3

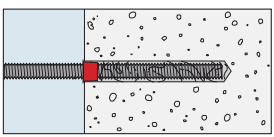
- Fill the hole completely full.

Note: As adhesive is dispensed into the drilled hole, the piston plug will slowly displace out of the hole due to back pressure, preventing air gaps.



Step 4

- Install the appropriate Simpson Strong-Tie adhesive retaining cap.

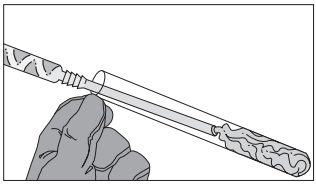


Step 5

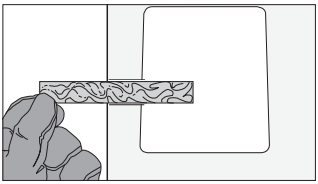
- Place either threaded rod or rebar through the adhesive retaining cap and into adhesive filled hole.
- Turn rod/rebar (marked with the required embedment depth) slowly until the insert bottoms out.
- Do not disturb load or torque anchor until fully cured.

FOR HOLLOW BASE MATERIALS

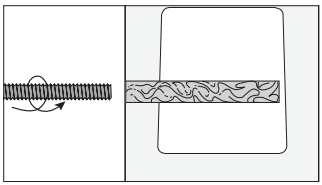
3D **Filling the Hole —**
When Anchoring with Screens: For SET-3G™, SET-XP® and AT-XP® Adhesives
Prepare the hole per instructions on "Hole Preparation."



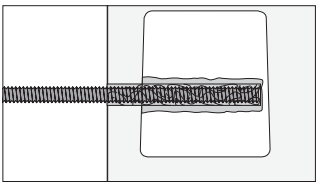
1. Fill.
Fill screen completely. Fill from the bottom of the screen and withdraw the nozzle as the screen fills to prevent air pockets. (Close integral cap after filling.)



2. Insert.
Insert adhesive-filled screen into hole.



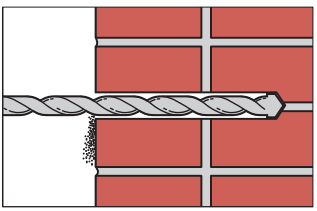
3. Insert.
Insert clean, oil-free anchor, turning slowly until the anchor contacts the bottom of the screen.



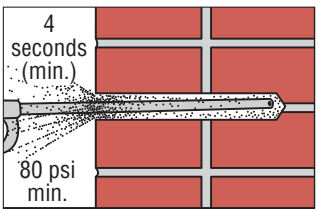
4. Do not disturb.
Do not disturb anchor until fully cured. (See cure schedule for specific adhesive.)

FOR UNREINFORCED BRICK MASONRY

1A **Hole Preparation —**
For Configurations A (Horizontal) and B (22½° Downward) Installations with a Carbide-Tipped Drill Bit.

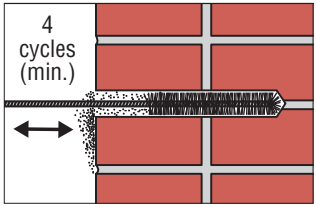


1. Drill.
Drill 1"-diameter hole to specified depth with a carbide-tipped drill bit, using rotation only mode. For Configurations A, drill 8" deep. For Configuration B, drill to within 1" of the opposite side of wall (minimum 13" deep).

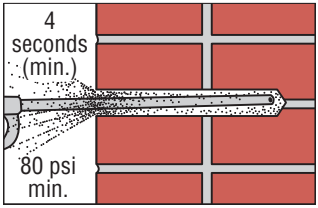


2. Blow.
Remove dust from hole with oil-free compressed air for a minimum of four seconds. Compressed air nozzle MUST reach the bottom of the hole.

FOR UNREINFORCED BRICK MASONRY (cont.)



3. Brush.
Clean with a nylon brush for a minimum of four cycles. Brush MUST reach the bottom of the hole. Brush should provide resistance to insertion. If no resistance is felt, the brush is worn and must be replaced.



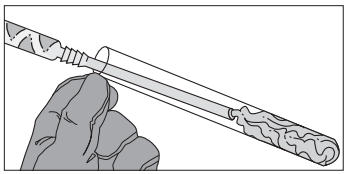
4. Blow.
Remove dust from hole with oil-free compressed air for a minimum of four seconds. Compressed air nozzle MUST reach the bottom of the hole.

2 Cartridge Preparation

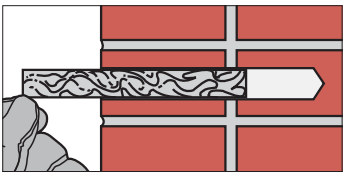
Reference p. 44 for cartridge preparation.

3 Filling the Hole —

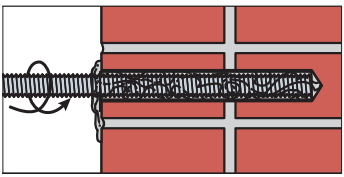
For Configurations A (Horizontal) and B (22½° Downward) Installations.



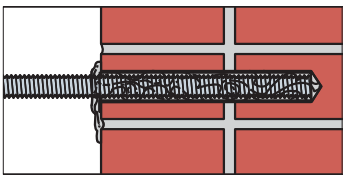
1. Fill.
Fill screen completely. Fill from the bottom of the screen and withdraw the nozzle as the screen fills to prevent air pockets.



2. Insert.
Insert adhesive filled screen into hole.



3. Insert.
Insert clean, oil-free anchor, turning slowly until the anchor contacts the bottom of the screen.



4. Do not disturb.
Do not disturb anchor until fully cured. (See cure schedule for specific adhesive.)

Note: Steel wire mesh screens may be used for Configurations A and B.

