

TorkFix

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Brick to Brick / Concrete Block / CMU Retrofit mechanical repair anchor

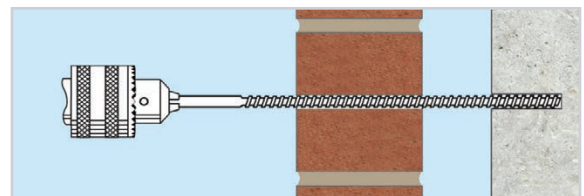


Applications

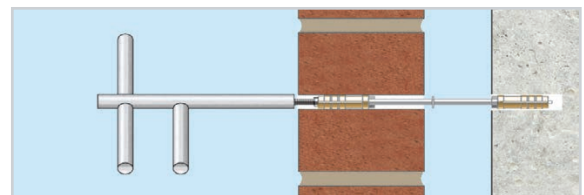
- For securing masonry veneers to brick, concrete block or CMU backup material
- To provide structural stability and resist wind pressure forces where wall ties have failed or been omitted

Installation Procedures

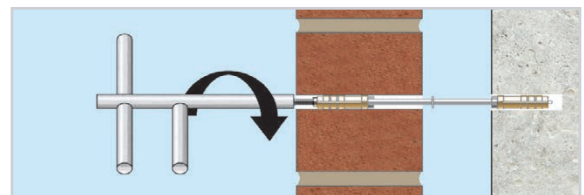
1. Mark the position for the TorkFix tie on the face of the facade.
2. Drill a 7/16" diameter pilot hole through the facade, through either the solid brick or mortar joint, and approximately 2½" into the back-up substrate, using a rotary percussion drill (3-jaw-chuck-type).
3. Screw the threaded end of Setting Tool 1 onto the outer end of the anchor.
4. Insert the anchor fully into the hole in the backup material.
5. Turn the Setting Tool 1 until the inner shell has expanded and is tight.
6. Apply the torque wrench to the end of the Setting Tool 1 (1/4" square) to check the torque – usually 36lbf-ins for standard brick but may be increased to 54lbf-ins for harder substrates.
7. Fit Setting Tool 2 over the end nut and turn until the outer shell has expanded and is tight (36-54lbf-ins).
8. Fit the torque wrench to the end of Setting Tool 2 (1/4" square) and check the torque, as before.
9. Make good the hole and seal the surface with color matched mastic or mortar.



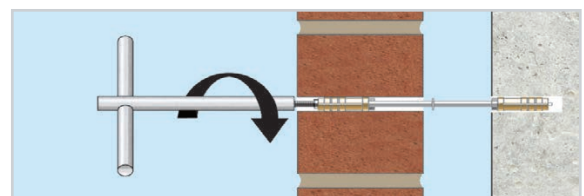
1. Drill the appropriate clearance hole through the facade and into the backup material.



2. Screw the threaded end of Setting Tool 1 onto the outer end of the anchor and insert fully into the hole.



3. Turn Setting Tool 1 until the inner shell expands and is tight. Apply the torque wrench to the end of the Setting Tool 1 to check the torque.



4. Fit Setting Tool 2 over the end nut and turn until the outer shell has expanded and is tight. Fit the torque wrench to the end of Setting Tool 2 to check the torque.



For full Product Information, Case Studies and downloadable Repair Details, giving specifications for many common structural faults, go to:
www.helifix.com/products/retrofit-products/torkfix

Anchor Selection Masonry – Masonry

Typical Performance Average of 20 tests

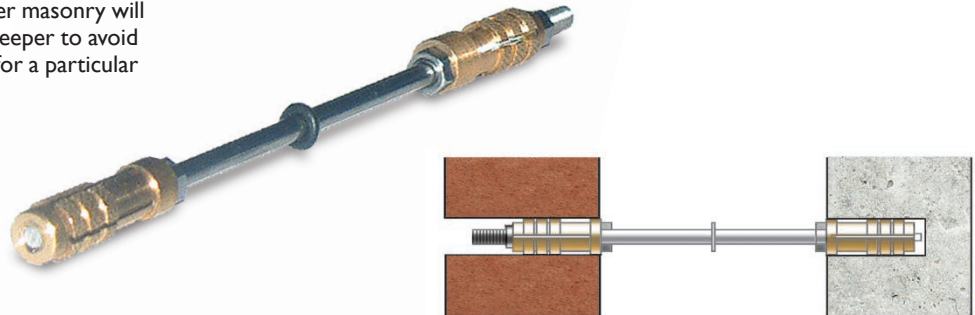
Maximum Cavity Standard Masonry *	Nominal Anchor Length
Ins	Ins
1 1/2"	4 1/2"
2 1/2"	5 1/2"
3 1/2"	6 1/2"
4 1/2"	7 1/2"
5 1/2"	8 1/2"
6 1/2"	9 1/2"
7 1/2"	10 1/2"
8"	11"

Substrate material	Compressive strength psi	Pull Out Lbf
Engineering Brick	7250	1325+ **
Brick	3990	1127
Soft Brick	2465	818
Reinforced Conc.	7250	1105
Precast Conc.	2900	1150
CMU 15 MPa	2175	600
CMU – LW	1015	398
Pavers	--	990
1" Travertine	--	400

Minimum cavity is dependant on the width of the facade and the maximum depth that can be drilled into the backup material.

** Limit of test equipment

* For the purposes of this table the masonry strength has been assumed to be 1,000psi. Weaker masonry will require the expander to be embedded deeper to avoid breakout, reducing the maximum cavity for a particular length of anchor.



Technical Specifications

Material:	Austenitic stainless steel Grade 304
Diameter:	11/64"
Length:	Facade thickness + cavity width + backup penetration of 2 1/2"
Diameter of clearance hole, facade and backup:	7/16"
Depth of clearance hole:	Length of TorkFix + 2 1/2"
Fixing density:	To engineer's specification
Bonding agent:	None required
Additional technical information:	
RECOMMENDED TOOLING	
For drilling pilot hole:	Rotary percussion 3-jaw-chuck drill

TorkFix

Brick to Steel Stud Retrofit mechanical repair anchor

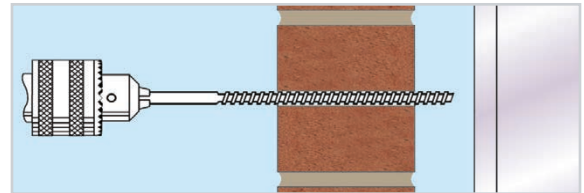


Applications

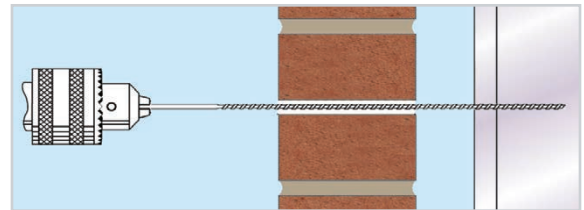
- For securing masonry veneers to steel stud
- To provide structural stability and resist wind pressure forces where wall ties have failed or been omitted

Installation Procedures

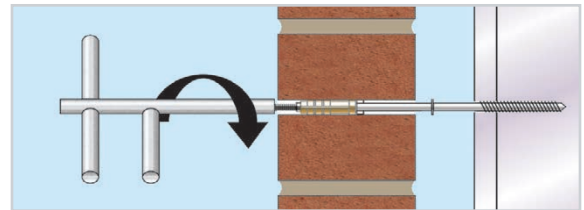
1. Mark the position for the TorkFix tie on the face of the facade
2. Drill a 7/16" diameter pilot hole through the facade, through either the solid brick or mortar joint, using a rotary percussion drill (3-jaw-chuck-type)
3. Drill a hole in the steel stud using a 3/16" drill bit
4. Screw the threaded end of Setting Tool 1 onto the outer end of the anchor
5. Insert the anchor through the facade and screw it into the steel stud to a minimum depth of 3/8"
6. Fit hexagon of Setting Tool 2 over the end nut and turn until the outer shell has expanded and is tight
7. Apply the torque wrench to the end of the Setting Tool 2 (1/4" square) to check the torque (36-54lbf-ins)
8. Make good the hole and seal the surface with color matched mastic or mortar



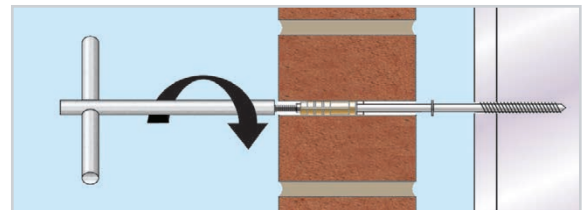
1. Drill the appropriate clearance hole through the facade



2. Drill a hole in the steel stud using a 3/16" drill bit



3. Screw the threaded end of Setting Tool 1 onto the outer end of the anchor and screw it into the steel stud to a minimum depth of 3/8".



4. Fit hexagon of Setting Tool 2 over the end nut and turn until the outer shell has expanded and is tight. Apply the torque wrench to the end of Setting Tool 2 to check the torque.



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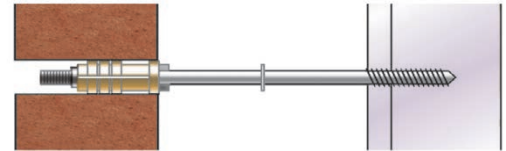
Anchor Selection Masonry – Steel

Cavity Range	Nominal Anchor Length
Ins	Ins
1 1/2"	4 1/2"
2 1/2"	5 1/2"
3 1/2"	6 1/2"
4 1/2"	7 1/2"
5 1/2"	8 1/2"
6 1/2"	9 1/2"
7 1/2"	10 1/2"
8"	11"

Typical Performance Average of 20 tests

Substrate material	Compressive strength psi	Pull Out Lbf
Engineering Brick	7250	1325+ *
Brick	3990	1127
Soft Brick	2465	818
Reinforced Conc.	7250	1105
Precast Conc.	2900	1150
CMU 15 MPa	2175	600
CMU – LW	1015	398
Pavers	--	990
1" Travertine	--	400

* Limit of test equipment



Technical Specifications

Material:	Austenitic stainless steel Grade 304
Diameter:	1 1/64"
Length:	Facade thickness + cavity width + minimum steel stud penetration of 3/8"
Diameter of clearance hole, facade and backup:	7/16"
Depth of clearance hole:	All of the facade
Fixing density:	To engineer's specification
Bonding agent:	None required
RECOMMENDED TOOLING	
For drilling pilot hole:	Rotary percussion 3-jaw-chuck drill
For drilling hole in steel stud:	3/16" drill bit

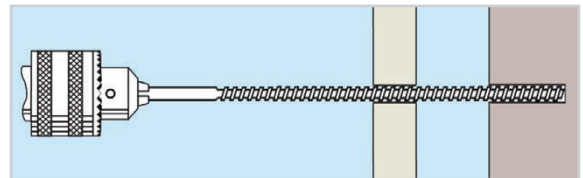
TorkFix

Veneer Panel Anchor Retrofit mechanical repair anchor

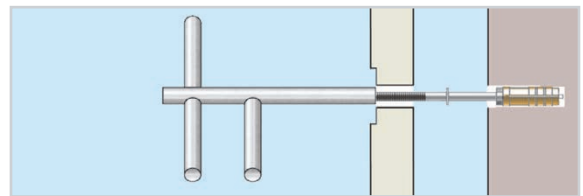


Applications

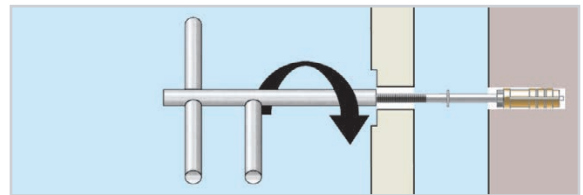
- For securing veneer panels to masonry backup materials
- To provide structural stability and resist wind pressure forces where wall ties have failed or been omitted



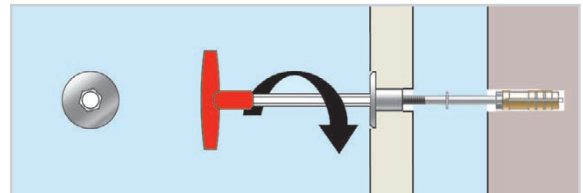
1. Drill the appropriate clearance hole through the panel and into the backup material.



2. Screw the threaded end of Setting Tool 1 onto the outer end of the anchor and insert fully into the hole.



3. Turn Setting Tool 1 until the inner shell expands and is tight. Apply the torque wrench to the end of the Setting Tool 1 to check the torque.



4. Fit the nut to the anchor shank and tighten with the 1/4" Allen key to provide support and seal against water.

Installation Procedures

1. Mark the position for the TorkFix tie on the face of the veneer panel.
2. Drill a $\frac{7}{16}$ " diameter pilot hole through the outer panel and approximately $1\frac{1}{2}$ " into the backup material, using a rotary percussion drill (3-jaw-chuck-type).

NOTE: The anchor head may be fitted to the outside face of the panel or recessed below the surface. If the head is to be recessed, drill a $\frac{3}{4}$ " diameter counter bore into the panel at least $\frac{3}{16}$ " deep.
3. Screw the threaded end of Setting Tool 1 onto the outer end of the anchor.
4. Insert the anchor fully into the hole in the backup material.
5. Turn the Setting Tool 1 until the inner shell has expanded and is tight.
6. Apply the torque wrench to the end of the Setting Tool 1 ($\frac{1}{4}$ " square) to check the torque – usually 36lbf-ins for standard brick but may be increased to 54lbf-ins for harder substrates.
7. Fit the nut to the anchor shank and tighten with the $\frac{1}{4}$ " Allen key to provide support and seal against water



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Anchor Selection Veneer – Masonry

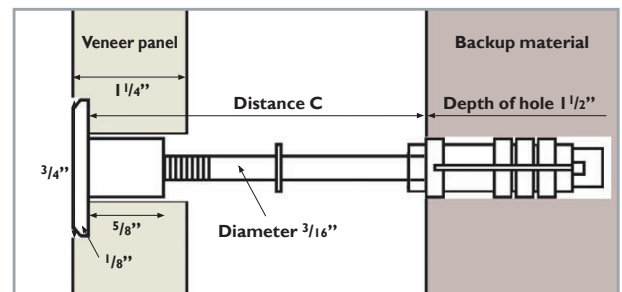
From underside of head to face of backup material 'C'	Nominal Anchor Length
3"	4 1/2"
4"	5 1/2"
Other lengths available to order	



Typical Performance Average of 20 tests

Substrate material	Compressive strength psi	Pull Out Lbf
Engineering Brick	7250	1325+ *
Brick	3990	1127
Soft Brick	2465	818
Reinforced Conc.	7250	1105
Precast Conc.	2900	1150
CMU 15 MPa	2175	600
CMU – LW	1015	398

* Limit of test equipment



Technical Specifications

Material:	Austenitic stainless steel Grade 304
Diameter:	1 1/64"
Length:	Panel thickness + cavity width + backup material penetration of 1 1/2"
Diameter of clearance hole, facade and backup:	7/16"
Depth of clearance hole:	Length of TorkFix + 1/2"
Fixing density:	To engineer's specification
Bonding agent:	None required
RECOMMENDED TOOLING	
For drilling pilot hole:	Rotary percussion 3-jaw-chuck drill