

Seismic Connector

Structural upgrade system to meet seismic requirements

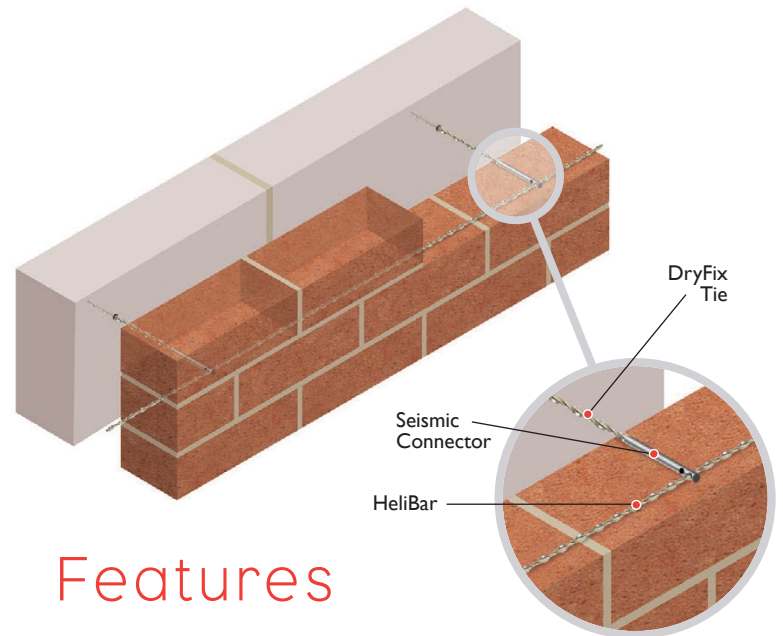
Applications

- For strengthening cavity wall constructions, in both new build and retrofit applications, to provide improved structural performance and meet current seismic requirements

Installation Procedures

– New Construction

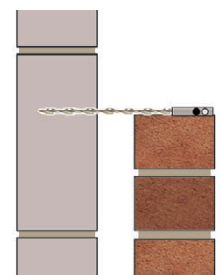
1. During the construction of the masonry veneer, at the point where a tie is needed, drill an appropriate diameter pilot hole into the back-up substrate.
2. Install the DryFix tie leaving the tie end near the centre of the veneer brick or masonry unit.
3. Fit the seismic connector over the DryFix tie. Ensure that it is fully engaged with the tie and that its holes are left horizontal on the outer wythe masonry. Repeat this procedure along the bed joint, at the required spacing, before inserting the HeliBar.



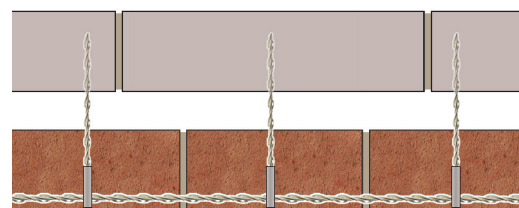
Features

- Simple and straightforward to install
- Non-disruptive - requires no tear down and rebuilding
- Strong, reliable connection with back-up material
- Additional strength created in outer wythe
- Positive lock with easy overlap for long runs
- Fully concealed and visually sympathetic

4. Thread the HeliBar through the adjacent connectors. Continuous runs are made by overlapping adjacent HeliBars, by a minimum of 6", through the two pairs of holes in the Seismic Connector.
5. Apply mortar and complete the wall with reinforcements at predetermined intervals.
6. Tuck point the bed joints.



Elevation



Plan view



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/seismic-connector/

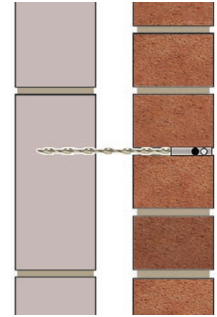
Installation Procedures

– Retrofit

1. Select the points where DryFix ties are to be installed. (Usually at the 'T' junction of the mortar bed and vertical mortar joints).
2. Drill a pilot hole, suitable for the back-up material, through the facade and into the back-up substrate.
3. Enlarge the hole through the outer wythe only, to 7/16", to accept the seismic connector.
4. Cut out the bed joint to a depth of 1 1/4" - 1 1/2", using a diamond bladed masonry cutter with vacuum attachment.
5. Make sure NO mortar is left attached to the exposed brick surfaces to ensure a good mortar bond.
6. Remove all dust and mortar from the slot and thoroughly flush with clean, fresh water and leave the brickwork damp.
7. Using the installation tool, drive the DryFix ties into the back-up substrate, leaving the tie end near the centre of the outer wythe brick.
8. Fit the connector, ensuring that it is fully engaged with the tie 1/2" - 3/4" below the face and its holes line up horizontally.

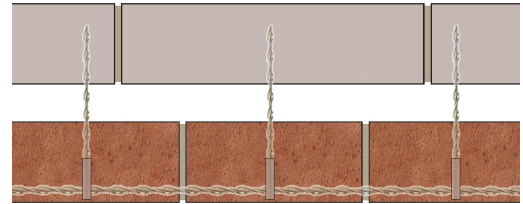
9. Thread the HeliBar through the adjacent connectors. Continuous runs are made by overlapping adjacent HeliBars, by a minimum of 6", through the two pairs of holes in the Seismic Connector.

10. Inject HeliBond grout over the HeliBar to the back of the slot and fill the slot. Firmly compress the HeliBond using a HeliBond Insertion Tool or finger trowel, ensuring that the HeliBar is completely embedded, and leave 1/2" to 5/8" for matching tuck-pointing.



Elevation

11. Tuck-point the joints with matching mortar.



Plan view

Technical Specifications

Materials:	Austenitic stainless steel: DryFix & HeliBar - Grade 304 or 316. Connector - Grade 304			
Diameters:	DryFix ties: 8mm HeliBar: 4.5mm			
DryFix length:	Facade thickness + cavity width + required penetration into the backup less 1 1/2" to allow for seismic connector			
Standard DryFix lengths:	155mm, 170mm, 195mm, 220mm, 245mm, 270mm, 295mm, 325mm and 350mm – in boxes of 50			
Standard HeliBar length:	7m (22' 9")			
Depth of pilot hole:	Length of DryFix + 1"			
Facade Substrate	Backup Material	Far Wythe Pilot/Clearance Hole	Penetration into Backup	Pull Out (Proof Load)
Clay Brick	Aircrete	None	3" - 3 1/2"	1.0kN
Clay Brick	Wood Stud	None	2"	1.2kN
Clay Brick	Clay Brick	5-6mm	2 1/2"	2.0kN
Clay Brick	Concrete Block	6mm	2"	2.0kN
Clay Brick	Concrete	6-6.5mm	1 1/2"	2.0kN

NOTE: All figures quoted are indicative dependent on the exact nature of the substrate. Testing should always be undertaken on site using the Helifix Load Test Unit. Compression Resistance should be checked with the Helifix Technical Department. Fixing Density should be calculated by the Helifix Technical Department

Minimum fixing density:	In accordance with project specification or check with Helifix Technical Department
Bonding agent:	HeliBond Grout
RECOMMENDED TOOLING	
For drilling pilot hole:	Rotary percussion 3-jaw-chuck drill
For installing DryFix tie:	RetroTie Installation Tool fitted to an electric hammer drill (SDS type)
For cutting slot up to 40mm deep:	Twin-bladed cutter with vacuum attachment
For injecting HeliBond into slots:	Helifix Pointing Gun CS with mortar nozzle

NOTE: HeliBond may be injected into the Seismic Connector, if preferred, to eliminate any play between components



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