

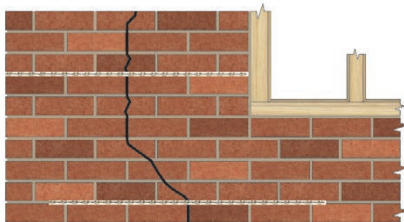
HeliBar

Helical stainless steel reinforcing bar for masonry repair and strengthening in both remedial and new build situations

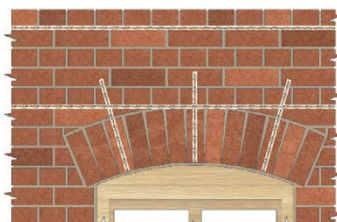


Applications

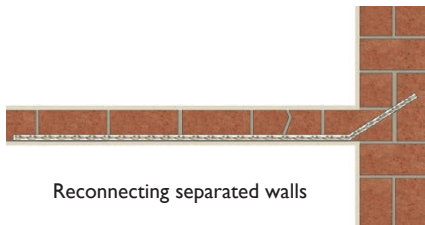
- Crack stitching
- Lintel repair and creation
- Forming deep masonry beams
- Horizontal structural restraint (when used with BowTie systems)
- Reconnecting separated walls
- Securing parapet walls
- Support existing masonry when creating new openings
- Creating movement joints
- Reinforcing new build masonry
- Seismic upgrades for existing masonry
- Repairing bridges, tunnels and arches



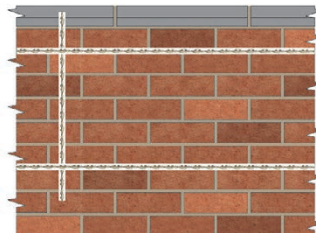
Crack stitching



Lintel reinstatement



Reconnecting separated walls



Securing parapet walls

Features

- Austenitic stainless steel helical bars
- Combines great axial strength with flexibility
- Accommodates differential building movement
- No additional stresses introduced into structure
- Generates high tensile strength with mortar (new build only) or HeliBond grout
- Extremely economical compared with alternative methods
- May remove or reduce the need for mass underpinning
- Fully concealed once installed
- Avoids expensive taking down and rebuilding
- Minimal disruption to building's fabric or occupants
- Spreads structural loads to avoid secondary cracking
- Reduces the potential for cracking in shrinkable materials



HeliBar is inserted into HeliBond grout within a cut slot



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/helibar

Installation Procedures

1. HeliBar to be long enough to extend a minimum of 20" either side of the crack or 20" beyond the outer cracks if two or more adjacent cracks are being stitched using one rod.
2. Where a crack is less than 20" from the end of a wall or an opening, the HeliBar is to be continued for at least 8" around the corner and bonded into the adjoining wall or bent back and fixed into the reveal, avoiding any DPC.
3. For solid masonry in excess of 8 1/2" thick and in a cavity wall where both wythes are cracked, the wall must be crack stitched on both sides.
4. If there is render/plaster, this thickness must be added to the depth of slot. Crack stitching must be installed in the masonry and never in the render.
5. Ensure the masonry is well wetted or primed to prevent premature drying of the HeliBond due to rapid de-watering, especially in hot conditions. Ideally additional wetting of the slot should be carried out 1 to 2 minutes prior to injecting the HeliBond grout.
6. Do not use HeliBond when the air temperature is 40°F and falling or apply over ice. In all instances the slot must be thoroughly damp or primed prior to injection of the HeliBond grout.



1. Rake out or cut slots into the horizontal mortar beds, a minimum of 500mm either side of the crack



4. Using the HeliBar Insertion Tool push one HeliBar into the grout to obtain good coverage



2. Clean out slots and flush with clean water and thoroughly soak the substrate within the slot



5. Insert a further bead of HeliBond over the exposed HeliBar, finishing 12mm from face and 'iron' firmly into the slot using the HeliBar Insertion Tool



3. Using the Helifix Pointing Gun, inject a bead of HeliBond along the back of the slot



6. Re-point the mortar bed and make good the vertical crack with CrackBond TE3

Slot Depth and Spacing

	Single skin/ Cavity wall	Solid Masonry		
		Up to 4"	4" to 8 1/2"	Over 8 1/2"
Depth of slot	1" – 1 1/2"	1" – 1 1/2"	1" – 1 1/2"	On both sides
Vertical Spacing	Every 4 – 6 courses, 12" – 16"			

Technical Specifications

Material:	Austenitic stainless steel Grade 304 or 316
Diameter:	4.5mm, 6mm, 8mm and 10mm
Tensile strength (6mm HeliBar):	10kN
0.2% Proof stress (6mm HeliBar):	900 N/mm ² (304) 840 N/mm ² (316)
Standard lengths:	1m, 1.5m & 2m – in packs of 10
Width of slot:	Full height of bed joint (10mm in render/plaster)
Bonding agent:	HeliBond cementitious grout
RECOMMENDED TOOLING	
For cutting slot up to 40mm deep:	Twin-bladed cutter with vacuum attachment or angle grinder or hammer and mortar chisel
For mixing HeliBond grout:	3-jaw-chuck drill with mixing paddle
For injection of HeliBond into slots:	Helifix Pointing Gun CS with mortar nozzle
For smoothing pointing:	Standard finger trowel
For inserting HeliBar:	HeliBar Insertion Tool