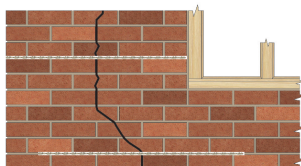


HeliBar

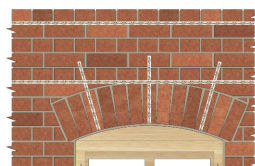
Helical stainless steel reinforcing bar for masonry repair and strengthening in both remedial and new build situations

APPLICATIONS

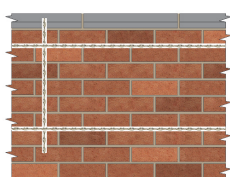
- Crack stitching
- Lintel repair and creation
- Forming deep masonry beams
- Horizontal structural restraint (when used with BowTie systems)
- Reconnecting separated walls
- Securing parapet walls
- Support existing masonry when creating new openings
- Reinforcing new build masonry
- Seismic upgrades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



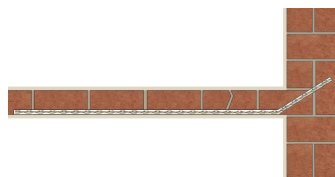
Crack stitching



Lintel reinstatement



Securing parapet walls



Reconnecting separated walls

Standard repair specifications are available online, covering common structural faults.

Relevant Repair Details: CS01 to CS03; LB01 & LB04; LR01 & LR10; PW02; RW03. Refer also to BPIR Helifix HeliBar and HeliBond Product Information Sheet.



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



For full product information, case studies and downloadable repair details go to:
www.helifix.co.nz/products/remedial-products/helibar

TECHNICAL SPECIFICATIONS

SLOT DEPTH AND SPACING

	Single skin/ Cavity wall	Solid Masonry		
		Up to 102.5mm	102.5mm to 225mm	Over 225mm
Depth of slot	25 – 35mm		25 – 40 mm	25 – 40mm on both sides
Vertical spacing	Every 4 – 6 courses, 300 – 450mm			

HELIBAR

Material	Austenitic stainless steel Grade 316 (as standard)
Diameter	6mm, 8mm and 10mm
Tensile strength (6mm HeliBar)	10kN
0.2% Proof stress (6mm HeliBar)	840 N/mm ² (316)
Standard lengths	1m & 7m
Width of slot	Full height of bed joint (10mm in render/plaster)
Bonding agent	HeliBond cementitious grout. 1 x 4.5ltr HeliBond = 15 linear metres of crack stitching

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

INSTALLATION PROCEDURES

1. HeliBar to be long enough to extend a minimum of 500mm either side of the crack or 500mm beyond the outer cracks if two or more adjacent cracks are being stitched using one rod.
2. Where a crack is less than 500mm from the end of a wall or an opening, the HeliBar is to be continued for at least 200mm 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 225mm thick and in a cavity wall where both leaves 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 +4°C 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.



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



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



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



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.



6. Inject CrackBond TE3 into the crack leaving enough space for making it good. Re-point the bed joints with matching mortar and make good the crack.