

# Creating Load Bearing Beams in Solid Walls using HeliBars

## METHOD STATEMENT

1. Using a twin bladed, diamond tipped wall chaser and vacuum attachment followed by a hand or power chisel, cut slots into horizontal mortar joints, to the specified depth and at the required vertical spacing. Ensure that NO mortar is left attached to the exposed brick surfaces in order to provide a good masonry/grout bond.
2. Remove ALL dust and mortar from the slots and thoroughly flush with water. Where the substrate is very porous or flushing with water is inappropriate, use HeliPrimer WB. Ensure the slot is damp or primed prior to commencing step 5.
3. Mix HeliBond cementitious grout using a power mixer and load into the Helifix Pointing Gun CS.
4. Fit appropriate mortar nozzle.
5. Inject a bead of HeliBond cementitious grout, approx. 15mm deep, into the back of the slot.
6. Push the first 6mm HeliBar into the grout to obtain good coverage.
7. Inject a second bead of HeliBond grout over the exposed HeliBar.
8. Push the second 6mm HeliBar into the grout to obtain good coverage.
9. Inject a third bead of HeliBond grout over the exposed HeliBar and iron it into the slot using a finger trowel. Inject additional HeliBond as necessary, leaving 10-15mm for new pointing.
10. Point up the remaining slot with matching mortar to suit.
11. Clean tools with clean, fresh water.

**N.B.** Pointing may be carried out as soon as is convenient after the HeliBond has started to gel.

This repair is to be undertaken by a Helifix Approved Installer only.



## RECOMMENDED TOOLING

- For cutting slots up to 40mm deep.....Twin bladed cutter with vacuum attachment
- To achieve final depth of slot beyond 40mm.....Hand or power chisel
- For mixing HeliBond.....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

## Specification Notes

The following criteria are to be used unless specified otherwise:

- A. Depth of slot into the masonry to be 55mm to 70mm
- B. Height of slot to be equal to full mortar joint height, with a minimum of 8mm. For thin mortar joint specifications refer to the Helifix Technical Dept
- C. If HeliBars are to be joined in a straight run, overlap the bars by a minimum of 500mm
- D. Top and bottom reinforcements should be positioned as far apart as practicable, up to a maximum distance equivalent to 12 brick courses (approx. 900mm)
- E. Any fractures in the masonry within the 'beam zone' MUST be stabilised by Crack Stitching, CrackBond TE or replacement of the masonry
- F. Any missing or very poor quality masonry MUST be replaced
- G. Multiple HeliBeams should be installed starting at the top and working down to the bottom
- H. In hot conditions ensure the masonry is well wetted or primed to prevent premature drying of the HeliBond due to rapid de-watering. Ideally additional wetting of the slot, or priming with HeliPrimer WB, should be carried out just prior to injecting the HeliBond grout
- I. 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

The above specification notes are for general guidance only and Helifix reserves the right to amend details/notes as necessary.

## GENERAL NOTES

If your application differs from this repair detail or you require specific advice on your particular project, call the Helifix Technical Sales Team on 020 8735 5222. Our Technical Department can provide you with a full support service including:

- Advice, assistance and recommendations on all structural repair matters
- Devising and preparing complete repair proposals for specific situations
- An insurance-backed warranty via our Approved Installers scheme

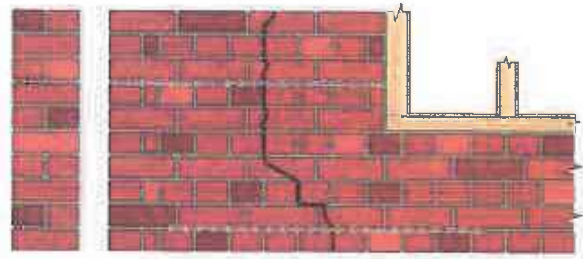
CS05

# Crack Stitching a Solid Wall using HeliBars

## METHOD STATEMENT

1. Using a twin-bladed, diamond-tipped wall chaser with vacuum attachment, cut slots into the horizontal mortar joints to the specified depth and at the required vertical spacing. Ensure that NO mortar is left attached to the exposed brick surfaces in order to provide a good masonry/grout bond.
2. Remove ALL dust and mortar from the slots and thoroughly flush with water. Where the substrate is very porous or flushing with water is inappropriate, use HeliPrimer WB. Ensure the slot is damp or primed prior to commencing step 5.
3. Mix HeliBond cementitious grout using a power mixer and load into the Helifix Pointing Gun CS.
4. Fit the appropriate mortar nozzle.
5. Inject a bead of HeliBond grout, approx. 15mm deep, into the back of the slot.
6. Push the 6mm HeliBar into the grout to obtain good coverage.
7. Inject a second bead of HeliBond grout over the exposed HeliBar and iron it into the slot using a finger trowel. Inject additional HeliBond as necessary, leaving 10-15mm for new pointing.
8. The crack within the wall should be weather-proofed using an appropriate Helifix bonding agent e.g. HeliBond or CrackBond, depending on the width of the crack and the surface made good or left ready for any decoration.
9. Clean tools with clean, fresh water.

*N.B. Pointing may be carried out as soon as is convenient after the HeliBond has started to gel.*



## RECOMMENDED TOOLING

- For cutting slots up to 40mm deep .....Twin bladed cutter with vacuum attachment
- For mixing HeliBond .....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

## Specification Notes

The following criteria are to be used unless specified otherwise:

- A. Depth of slot into the masonry to be 35mm to 40mm
- B. Height of slot to be equal to full mortar joint height, with a minimum of 8mm. For thin mortar joint specifications refer to the Helifix Technical Dept.
- C. 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.
- D. Normal vertical spacing is 450mm (6 brick courses)
- E. 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 100mm around the corner and bonded into the adjoining wall or bent back and fixed into the reveal, avoiding any DPC.
- F. In hot conditions ensure the masonry is well wetted or primed to prevent premature curing of the HeliBond due to rapid de-watering. Ideally additional wetting of the slot, or priming with HeliPrimer WB, should be carried out just prior to injecting the HeliBond grout.
- G. 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.

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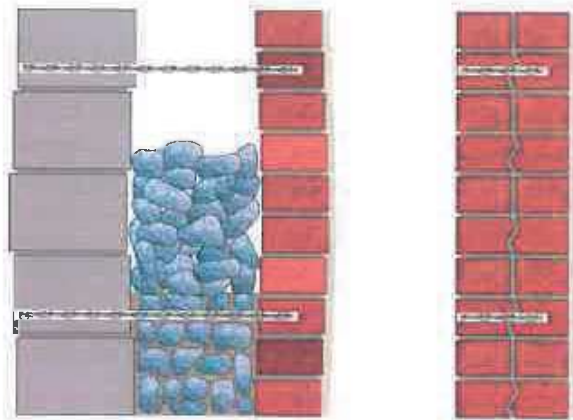
**RF01**

# Repair of Delaminated or Separating Masonry in a Rubble-Filled or Solid Wall using CemTies

## METHOD STATEMENT

1. Mark the positions for the holes on the outer face of the wall.
2. Drill a 14mm clearance hole (16mm if the CemTie is longer than 450mm) at the required locations and to the specified depth.
3. Clean out ALL dust from the holes and thoroughly flush with water. Where the substrate is very porous or flushing with water is inappropriate, use HeliPrimer WB. Ensure the holes are damp or primed prior to commencing step 7.
4. Attach the required length of CemTie pinning nozzle to the gun.
5. Mix HeliBond cementitious grout using a power mixer and load into the Helifix Pointing Gun HD.
6. Pump grout to fill the nozzle.
7. Wind the CemTie into the nozzle and ensure that it is fully covered in grout.
8. Insert the nozzle to the full depth of the drilled hole and pump the grout.
9. Make good all holes at the surface with matching mortar or leave ready for any decoration.
10. Clean tools with clean, fresh water.

**N.B.** If diamond core drilling is used, the internal surface of the hole must be roughened to ensure a good bond.



## RECOMMENDED TOOLING

For drilling.....SDS rotary hammer drill 650/700w or diamond core drill  
 For mixing HeliBond.....3-jaw-chuck drill with mixing paddle  
 For insertion of the CemTies.....Helifix Pointing Gun HD with pinning nozzle

## Specification Notes

The following criteria are to be used unless specified otherwise:

- A. CemTies are typically to be installed at a density of 5 ties/m<sup>2</sup> (i.e. 450mm horizontal and 450mm vertical spacing with alternate rows staggered)
- B. The density is increased around openings with ties placed at 300mm vertical spacing and 225mm back from the opening
- C. Depth of hole to be CemTie length +25mm. CemTies should be embedded to a minimum depth of 75mm into the far leaf.
- D. In hot conditions ensure the masonry is well wetted or primed to prevent premature drying of the HeliBond due to rapid de-watering. Ideally additional wetting of the hole should be carried out just prior to inserting the CemTie.
- E. Do not use HeliBond when the air temperature is +4°C and falling or apply over ice. In all instances the hole must be thoroughly damp or primed with HeliPrimer WB prior to injection of the HeliBond grout

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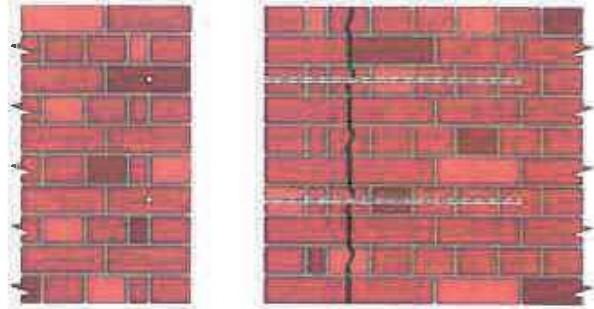
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CS09

# Repair of a Crack Near a Corner in a Solid Wall using CemTies

## METHOD STATEMENT

1. Mark hole positions on the outer face of the wall.
2. Drill 16mm clearance holes through the outer wall and to the required depth.
3. Clean out ALL dust from the hole and thoroughly flush with water. Where the substrate is very porous or flushing with water is inappropriate, use HeliPrimer WB. Ensure the hole is damp or primed prior to commencing step 8.
4. Attach the required length of CemTie pinning nozzle to the gun.
5. Mix HeliBond cementitious grout using a power mixer and load into the Helifix Pointing Gun HD.
6. Pump grout to fill the nozzle.
7. Wind the CemTie into the nozzle and ensure that it is fully covered in grout.
8. Insert the nozzle to the full depth of the drilled hole and pump the grout.
9. Make good all holes at the surface with matching mortar. The crack within the wall should be weather-proofed using an appropriate Helifix bonding agent e.g. HeliBond or CrackBond, depending on the width of the crack and the surface made good or left ready for any decoration.
10. Clean tools with clean, fresh water.



## RECOMMENDED TOOLING

For drilling .....SDS rotary hammer drill 650/700w  
For mixing HeliBond .....3-jaw-chuck drill with mixing paddle  
For insertion of the CemTies .....Helifix Pointing Gun HD with pinning nozzle

## Specification Notes

The following criteria are to be used unless specified otherwise:

- A. CemTies are to be installed at a vertical spacing of 450mm
- B. CemTies are to extend at least 500mm past the crack
- C. Depth of hole to be CemTie length +25mm
- D. CemTies are to be installed within the centre third of the wall
- E. If cracking occurs on both elevations consider using HeliBar crack stitching around the corner. If CemTies have to be used, they should be staggered between each elevation.
- F. In hot conditions ensure the masonry is well wetted or primed to prevent premature curing of the HeliBond due to rapid de-watering. Ideally additional wetting of the hole, or priming with HeliPrimer WB, should be carried out just prior to inserting the CemTie
- G. Do not use HeliBond when the air temperature is +4°C and falling or apply over ice. In all instances the hole must be thoroughly damp or primed prior to injection of the HeliBond grout

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