

# Masonry Helical Bar Crack Stitching JHA

Worked instructional example

## Work and worksite

A specialist restoration crew will install an engineer-issued helical-bar crack-stitch repair into retained ground-level brickwork using specified bed-joint slots and compatible cementitious grout. The cause of cracking and wall stability are independently reviewed before work. This fictional learning example describes planned controls; it records no actual inspection or work authorization.

- The actual repair design identifies bar and grout system, slot locations, embedment, termination and acceptance requirements.
- The retained wall and any required temporary support are released; approved cutting, cleaning and chemical controls are prepared for the identified materials.
- Crack diagnosis, unsupported walls, movement-joint bridging, masonry rebuilding and substituting a general tuckpointing detail are excluded.

## Questions before work

- What diagnosis and design release this crack for reinforcement rather than another remedy?
- How are slot locations and actual bar/grout components verified before cutting?
- What records, curing restrictions and acceptance criteria govern the completed repair?

# Task Hazard Control

## 1 Release the diagnosed repair

**Hazard:** Stitching an active movement joint or unstable wall can conceal an unresolved structural problem.

**Control:** Restoration lead checks the engineer's diagnosed cause, stability/support release and bar layout. Confirm the permitted masonry and service/material clearance; do not assume every visible crack should be reinforced or use the product brochure as a repair design.

**Verification:** Lead compares the mapped crack and slots with the current issued repair.

**Reasoning:** The repair follows diagnosis rather than choosing a product from crack appearance.

## 2 Arrange access and slot controls

**Hazard:** Cutting and cleanup can expose workers or bystanders to silica and flying debris.

**Control:** Separate the ground-level work bay, protect adjacent surfaces and prepare the approved slot-cutting and cleaning equipment. Establish task-specific silica controls, assessed protection and the planned waste route; keep any required wall supports protected.

**Verification:** Lead verifies tools, dust controls and stable positions before cutting starts.

**Reasoning:** Joint preparation remains an exposure even when the finished repair is concealed.

## 3 Cut and inspect specified slots

**Hazard:** An overcut or unexpected void can damage retained units or a concealed service.

**Control:** Cut only the design-marked locations and dimensions by the approved method with exposure controls functioning. Stop for unsuitable masonry, unexpected reinforcement or a conflict with an opening; have changed slot conditions technically resolved before continuing.

**Verification:** Installer records actual slot geometry and any changed substrate condition.

**Reasoning:** A deeper or longer slot is not an automatic improvement to the repair.

## Complete the work and hand over

### 4 Clean and prepare the repair grout

**Hazard:** Residue or incompatible grout can prevent the intended reinforcement bond; wet cement can injure skin.

**Control:** Use the selected system's slot-cleaning, substrate-conditioning and grout preparation instructions. Keep dust controlled, identify actual materials and use assessed eye and cement-contact protection with washing access. Do not substitute ordinary pointing mortar or add unapproved water.

**Verification:** Installer checks slot readiness and grout identity before reinforcement placement.

**Reasoning:** The bar and its specified grout work as a repair system.

### 5 Embed the specified reinforcement

**Hazard:** A misplaced bar, insufficient encapsulation or sharp end can cause injury and incomplete repair.

**Control:** Install the design-specified bars, laps and terminations using the actual grout placement sequence. Keep hands clear of sharp ends and verify embedment before finishing conceals it; protect the repair against movement or loading during required curing.

**Verification:** Lead records actual reinforcement and grout findings at the concealed-work hold point.

**Reasoning:** Repointing the face cannot demonstrate correct hidden reinforcement.

### 6 Protect cure and transfer acceptance

**Hazard:** Early disturbance or an undocumented repair can mislead later crews about wall condition.

**Control:** Complete the specified finish, collect waste by the approved method and maintain support and curing restrictions. Transfer actual locations, product records, installation findings and unresolved actions for designated acceptance; no example establishes restored structural capacity.

**Verification:** Receiving lead confirms restrictions and the acceptance record or remaining hold.

**Reasoning:** A concealed neat repair supplies no automatic structural signoff.

### Pause and reassess

- The crack, movement joint or wall condition differs from the diagnosed repair.
- Slotting reveals unsuitable material, services or an unapproved geometry change.
- Bar/grout compatibility, concealed verification or curing protection is unresolved.

## Improve the controls

**Needs improvement:** Work carefully and wear PPE.

**More useful:** Cut only the design-marked locations and dimensions by the approved method with exposure controls functioning. Stop for unsuitable masonry, unexpected reinforcement or a conflict with an opening; have changed slot conditions technically resolved before continuing.

**Needs improvement:** Check that everything is ready.

**More useful:** Restoration lead checks the engineer's diagnosed cause, stability/support release and bar layout. Confirm the permitted masonry and service/material clearance; do not assume every visible crack should be reinforced or use the product brochure as a repair design.

### Decisions that change the analysis

#### Is ordinary tuckpointing an equivalent repair for this crack?

No. Tuckpointing renews mortar joints. This issued repair installs reinforcement across a diagnosed crack in retained masonry; neither that distinction nor a product claim proves the repair is appropriate for another wall.

#### What must the crew record for actual use?

Identify the actual equipment and work boundaries, responsible people, applicable criteria, inspection findings and open actions. Resolve changes with affected crews and obtain required project authorization before work.

### Training needs

- The actual engineer-issued crack-stitch layout, selected bar/grout system and concealed-work acceptance sequence.
- Task-specific silica controls, slotting-tool instruction and wet-cement/contact protection for the repair materials.

Confirm applicable qualifications and actual training evidence for the people assigned. Related toolbox talks support discussion; they do not establish competence.

### References and adaptation

Helifix Masonry helical-bar crack stitching system  
<https://helifix.com/products/retrofit-products/crack-stitching/>

OSHA 1926.1153 Respirable crystalline silica  
<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.1153>

OSHA 1926.21 Safety training and education  
<https://www.osha.gov/laws-regs/regulations/standardnumber/1926/1926.21>

References reviewed October 9, 2026. Use actual equipment and product instructions, project design and site requirements. This original draft supplies no fabricated inspection, signature or approval.