

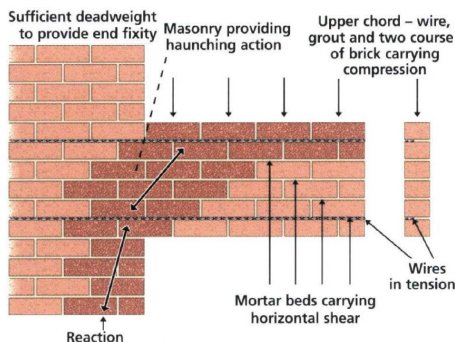
Reinforced Brick Beam Lintel Repairs

Description

Reinforce failed brick and masonry arch lintels with twin 6mm helical bars embedded in two mortar beds spaced 450-900mm apart. The highly profiled reinforcement bars extend 500mm beyond the window openings to form tendons representing a beam's upper and lower flanges.

The upper tendon combines with the two surrounding brick courses to enhance compression, and the lower tendon acts in tension to significantly increase the tensile and flexural capacity of the masonry. The brickwork between them represents the web and carries horizontal shear loads.

Use the BRE safety-factored load tables to determine the Thor Helical retro-reinforced brick lintel load capacity, given the beams' depth and span.



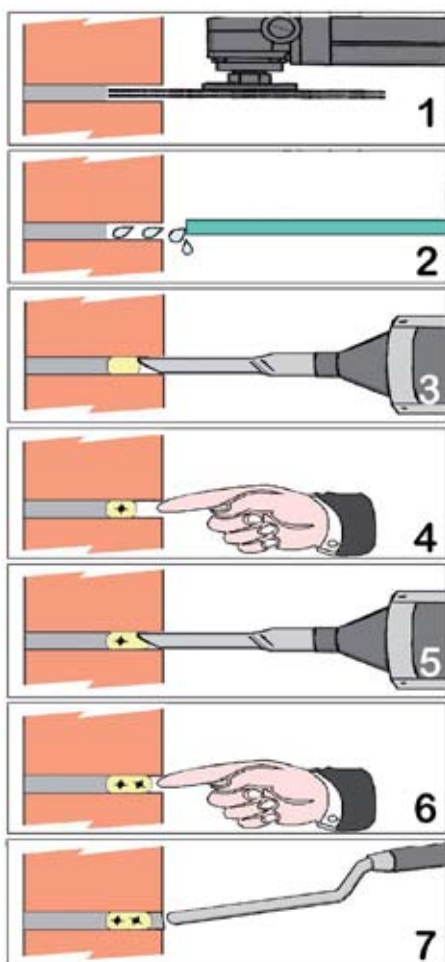
WHO60® is a thixotropic, cement-based masonry repair grout with polymer additives. The shrink-compensated grout bonds helical reinforcement bars to masonry walls. The grout sets in and around the troughs of the high-grip helix, rapidly developing compressive strength to restrict bar deflection under load conditions.

Benefits

Cold rolled helical bars have a nominal tensile strength that is twice that of rebar, four times that of epoxy glass-fibre and seven times that of wound helix plate. The deep and continuous helix ensures maximum interlock with the masonry repair grout, enabling the helical bars to progressively accumulate and redistribute stress to alleviate any sudden or catastrophic failures.

Brick lintel repairs and masonry arch reinforcement can now be carried out effectively without the need to dismantle and rebuild, ensuring cost-effectiveness and minimising disruption to occupants.

Using twin-bar reinforcement to reconnect cracked brickwork gives the wall much greater strength than single-bar stitching.



Method statement

1. Chase out two slots of appropriate depth along a length of wall that extends 500mm each side of window opening. Slots must be spaced apart vertically by 450mm to 900mm (6-12 brick courses).
2. Clear loose detritus from the slots and flush thoroughly with clean water.
3. Pump bead of WHO60® cement grout to rear of slot, filling it evenly to slightly more than half depth.
4. Push first helical bar into grout to approximately three quarters of slot depth. Trowel displaced grout to firmly encapsulate rod.
5. Pump second bead of WHO60® cement grout filling the slot evenly to 10 to 15mm of wall face.
6. Push second helical bar into grout to approximately half of slot depth, though at least 10mm from first bar. Trowel displaced grout to fully encapsulate the rod.
7. Make good wall chase to disguise slots. Carry out crack stitching repairs to areas between the new helically reinforced brick beam lintel.

Product specification

6mm Helical Reinforcing Bar

Material: Austenitic Stainless Steel (304)

Nominal CSA = 8mm²

Ult. Tensile Strength = 1025-1225N/mm²

WHO60® Grout at 28 Days at 20°C

Compressive Strength = 55N/mm²

Tensile Strength = 5N/mm²

Flexural Strength = 12N/mm²

Youngs Modulus = 13N/mm²

Installation Notes

Ensure 450mm-900mm between slots & no slip planes between slots (e.g. DPC)
Grout two helical bars in to each slot with bars extending 500mm beyond opening

Lintel Repair Guide

Installation Tolerances = +/-5mm)

MASONRY	DEPTH OF		
	SLOT	BAR1	BAR2
102mm	40mm	30mm	20mm
215mm	55mm	45mm	25mm

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