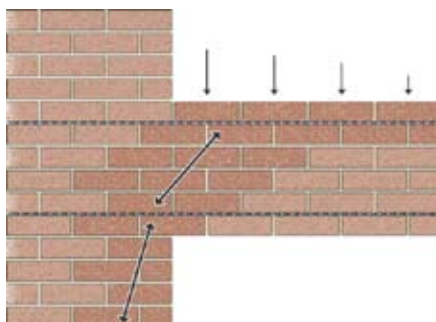


Reinforced Brick Beam Lintel Repairs

Description

Failed brick and masonry arch lintels can be reinforced with the insertion of 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 the upper and lower flanges of a beam.

The upper tendon combines with the two surrounding brick courses to enhance compression and the other tendon acts in tension to significantly increase the tensile and flexural capacity of the masonry. BRE have published factored load tables that show the load capacity of the reinforced brick lintel to be 2.6 tonne for openings up to 3.2m wide

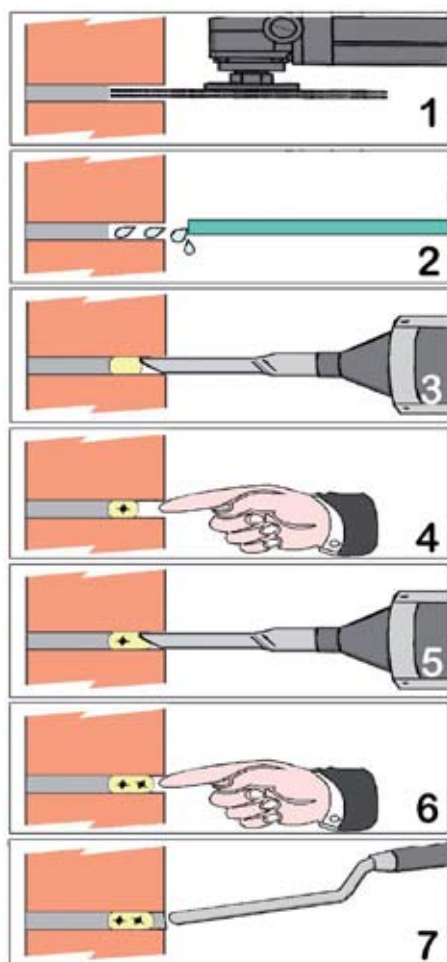


WHO60® is a thixotropic, cement-based masonry repair grout with polymer additives. The shrink-compensated grout has been formulated to bond helical reinforcement bars to masonry. The grout sets in & around the troughs of the highly deformed helix, rapidly developing compressive strength to restrict the bar from 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 helical trough ensures maximum interlock with the masonry repair grout, enabling the helical bars to progressively accumulate and redistribute stress to alleviate the incidence of 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 that costs are kept low and the disruption to occupants is minimized.



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 (4-12 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 approximately two thirds full.
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 slot evenly to approximately 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 encapsulate 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 = 7.4mm²

Ult. Tensile Strength = 1050-1200N/mm²

WHO60® Grout at 28 Days at 200c

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

Bars to extend 500mm beyond opening

Lintel Repair Guide

(Tolerances = +5mm/-0mm)

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

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