

## Masonry Crack Stitching System

### Description

- High tensile 304 grade stainless steel helical reinforcing bars.
- Tensile strength twice that of rebar.
- Use with WHO-60 high performance grout.
- Independently performance tested and CE marked.

### Applications

- Reconnects and strengthens cracked brickwork.

### Benefits

- Deep interlocking helix offers excellent bonding characteristics.
- Increases tensile and shear strength of masonry.
- Accommodates thermal and moisture movement.
- Absorbs stress to redistribute load.
- Minimal disturbance and fully concealed repair.
- Quick, reliable and cost effective.

#### PRODUCT SPECIFICATION

Thor Helical crack stitching bars are available in 5, 6, 7, 8 and 9mm diameter, in standard lengths of: 1m and 2m

#### Step 1

Grind out mortar bed to a depth of 30mm for half brick wall or 40mm full brick wall, 500mm either side of the crack.



#### Step 2

Clear debris from the slot and thoroughly flush out with water.



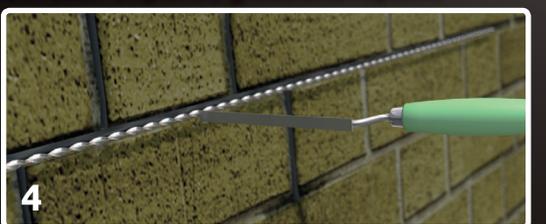
#### Step 3

Pump a bead of WHO60 grout to the back of the slot to approximately 10mm from the surface.



#### Step 4

Push Thor bar half way into the grout-filled slot, trowel back displaced grout and repaint.





BS EN 845-1:2013 National Annex NA states that the bars need to provide an equivalent performance to the prescriptive 30mm x 5mm lateral restraint straps and the tension straps should have a declared mean tensile load capacity of at least 8kN.

## TYPICAL TENSILE PERFORMANCE – CE MARK TESTING TO BS EN 845-1

### Thor Helical Bed Joint Reinforcement in WHO-60 Grout

Bar Diameter	No. of Bars per Joint	Mean UTL (kN)	Mean Load at 2mm Deflection
6mm	1	8.39kN	6.26kN
7mm	1	9.57kN	6.41kN
8mm	1	11.06kN	8.73kN
9mm	1	11.50kN	8.40kN
6mm	2	16.00kN	10.86kN
7mm	2	17.65kN	11.99kN
8mm	2	17.65kN	10.67kN
5mm	3	14.34kN	6.89kN

**Depth of test slot:** 30mm for single bar - 40mm for multi-bars

**Height of test slot:** 3mm greater than diameter of crack stitching bars

**Position of test bars:** 400mm embedment with multiple bars space 10mm apart.

## TYPICAL PROPERTIES OF THOR HELICAL BARS

Diameter	CSA (mm <sup>2</sup> )	0.2% Proof Stress	Ult Tensile Strength*	Mean Tensile Capacity #
5mm	6mm <sup>2</sup>	>880N/mm <sup>2</sup>	1025-1225N/mm <sup>2</sup>	7kN
6mm	8mm <sup>2</sup>	>870N/mm <sup>2</sup>	1025-1225N/mm <sup>2</sup>	9kN
7mm	10mm <sup>2</sup>	>880N/mm <sup>2</sup>	1025-1225N/mm <sup>2</sup>	11kN
8mm	13mm <sup>2</sup>	>790N/mm <sup>2</sup>	1025-1225N/mm <sup>2</sup>	14kN
9mm	16mm <sup>2</sup>	>850N/mm <sup>2</sup>	1025-1225N/mm <sup>2</sup>	17kN

\* Ultimate Tensile Strength is measured within a calibrated tolerance of +/- 2%

# Mean Tensile Capacity is an indicative value derived from CSA x Mean UTS

## TYPICAL PROPERTIES OF WHO-60 Grout

Physical Properties	Strength
Compressive Strength – 7 days	35N/mm <sup>2</sup>
Compressive – 28 days	55N/mm <sup>2</sup>
Tensile Strength – 28 days	5N/mm <sup>2</sup>
Flexural Strength – 28 days	12N/mm <sup>2</sup>
Young's modulus (fully cured)	13kN/mm <sup>2</sup>

