THORHELICAL®

PRECISION ENGINEERED HELICAL BARS, WALL TIES & FIXINGS

MASONRY ARCH PINNING

CI / SFB
Xt6
NOVEMBER 2016

CE

Masonry Arch Pinning System

Description

- Hammer-driven tie for all types of masonry.
- Rapid SDS hammer insertion system.
- Work hardened helix induces self-tapping corkscrew action.
- Mechanical masonry-screw connection.
- Corrosion resistant stainless steel 304 and 316 grade.
- Independently performance tested and CE marked.

Applications

- Secures weakened Soldier Courses.
- Pins barrel arches beneath vaults, tunnels and bridges.

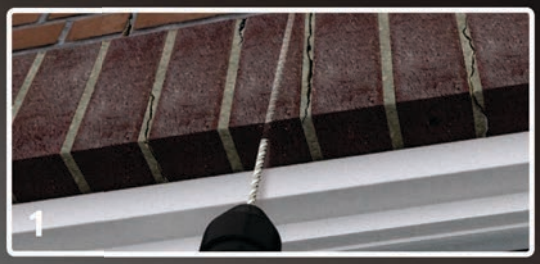
Benefits

- Patented driving shank system for speed and simplicity.
- Patented precise pitch engineering for unrivalled reliability.
- Patented SDS tool for reduced tooling costs.
- Small pilot hole for minimal disturbance and visual impact.
- No adhesives - fire resistant and cold temperature tolerant.
- Quick, easy and cost effective installation.

PRODUCT SPECIFICATION
9mm Ties are available in standard lengths of: 155mm to 455mm (6" to 18") in 25mm (1") increments. 12mm Ties are available in standard lengths of: 610mm to 1370mm (24" to 54") in 150mm (6") increments.

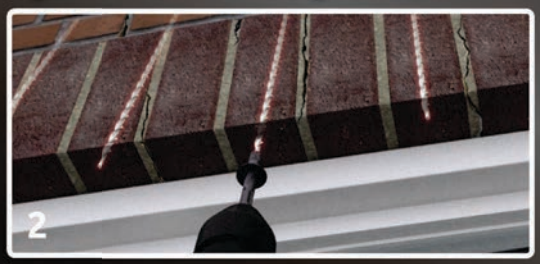
Step 1*

Drill pilot hole to a depth at least 10mm longer than length of the tie; refer to performance table for drill diameter; increase bit for hard masonry.



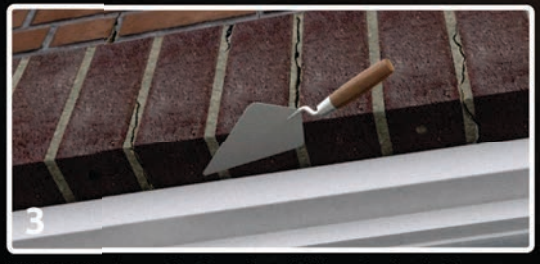
Step 2*

Insert driving shank of the tie into SDS tool and hammer home using a light to medium-weight SDS drill.



Step 3

Patch pilot hole with colour matched mortar.



* Good practice - Check tools & drills periodically for wear.

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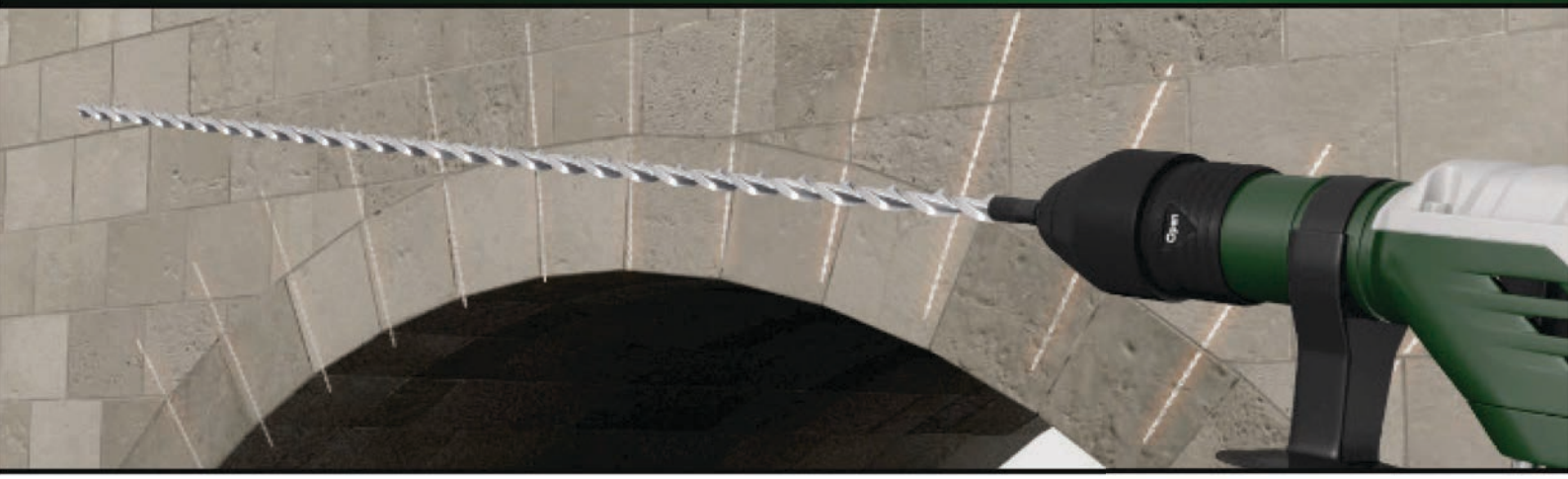

TYPICAL TENSILE PERFORMANCE – CE MARK TESTING TO BS EN 845-1

Wall Tie Diameter	Substrate	Pilot Hole Diameter	Tested Embedment Depth	Mean Load Capacity	Mean Load Capacity at 2mm Deflection
9mm	30.N/mm² Brick	6mm	215mm	5.61kN	3.00kN
12mm	30.N/mm² Brick	8mm	215mm	8.45kN	4.51kN

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

Wall Tie Diameter	Strength of Masonry	Pilot Hole Diameter	Offset Shear (Gap)	Mean Load Capacity	Mean Load Capacity No Deflection Limits
9mm	30.N/mm² Brick	6mm	10-12mm	3.45kN	4.63kN
12mm	30.N/mm² Brick	8mm	10-12mm	6.71kN	6.71kN

TYPICAL PROPERTIES OF THOR HELICAL ARCH PINNING TIES

Diameter	CSA (mm²)	0.2% Proof Stress	Ult Tensile Strength*	Mean Tensile Capacity #
9mm	16mm²	>850N/mm2	1025-1225N/mm2	17kN
12mm	28mm²	>820N/mm2	1025-1225N/mm2	30kN

* Ultimate Tensile Strength is measured within a calibrated tolerance of +/- 2%
\# Mean Tensile Capacity is an indicative value derived from CSA x Mean UTS