

# THOR HELICAL<sup>®</sup> HAMMER DRIVEN REMEDIAL WALL TIES



## DESCRIPTION

Impact driven Thor Helical wall ties and pins have longitudinal helical blades with sufficient reactive interface angle to initiate an accurate self tapping penetrative path into a wide variety of masonry elements upon being driven by axial impacts.

Proven through independent testing programs and 20 years of use, helical twist wall ties are identified in B.R.E. Digest 329 (Table 5) as being suitable for use in all remedial situations, irrespective of the buildings substrate or its fire performance criteria.



The Thor Helical Tensile Test Unit measures the actual tensile load capacity & is used to generate

specifications, approve products & verify in-service performance.

- Reliable in all types of masonry
- Robust & corrosion free
- Engineered product upgrade
- Patented helix consistency.

## BENEFITS

The precise mechanical interlock anchorage of the helical wall tie exerts no expansive stress or point loadings, does not rely on friction or adhesion and is not affected by temperature extremes or fire.

The cross sectional profile of the spiral wall tie includes a wide portion, to maximise grip, and a narrow portion, to accommodate differential movements in all directions. The deep and continuous helical troughs prevent migration of water across the cavity.

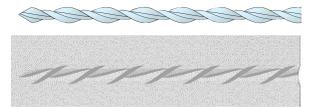
When under load, the continuous helical blades interact with the host building material to impart an accumulative cone of forces at tangential angles to the helix. Loads are spread evenly along the full penetrative length of the tie to ensure reliability of connection in a wide variety of construction materials.

- Rapid cost effective installation
- Precise helical interlock anchorage
- Combines axial strength with flexibility
- Stable, reliable & unobtrusive

## DISTINCTION

Traditional helical wall ties are twisted by clamping one end of the wire & spinning the other. In contrast Thor Helical wall ties are engineered with advanced twisting die technology, that controls the consistencies of the stresses worked into the wire, and twists it to a helical pitch accuracy of within 1mm/km of wire produced.

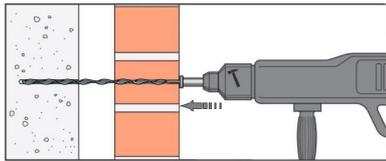
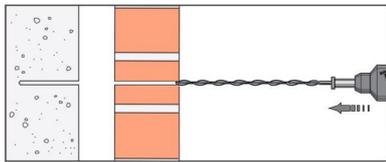
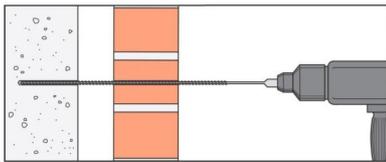
The advanced precise pitch of the Thor Helical tie (Pat EP1307303) forms tightly mating threads within the masonry to ensure a consistent interlock performance that is unequalled by other tie brands.



A unique driving shank and drill adapter (Patent Pending) permits safe, controlled and close-quarter installation of the helical tie by allowing the operator to maintain both hands on his drill, thus eliminating cumbersome telescopic tooling arrangements and reducing the overall length of such driving assemblies.



## METHOD STATEMENT



1. **DRILL** pilot hole of appropriate diameter using a percussion drill, allowing drill to stop rotating prior to drilling the remote wall layer to prevent 'whipping'.
2. Insert 9mm Ø Thor Helical wall tie into SDS support tool and **DRIVE** the tie into the masonry using a lightweight roto-hammer drill held safely in both hands.
3. Once tool recesses the tie beneath the wall face **FINISH** by disguising entry bore with suitable filler compacted around the ties driving shank portion.

## PRODUCT SPECIFICATION

**Product:** Thor Helical 9mm Ø Tie  
**Std. Lengths (mm):** 205-230-255-280-305  
**Material** Austenitic Stainless steel – (304)  
**Ultimate Tensile Strength** => 15kN  
**Buckling Strength (over 100mm)** => 4.4kN  
**Pitch Deviation on Tie** < 0.5%  
**Expansion Force Exerted by Tie** = None

### CHARACTERISTIC TENSILE RESISTANCE

MATERIAL	PILOT Ø	DEPTH	LOAD
AIRCRETE >3.5N/mm <sup>2</sup>	None	85mm	1.9kN
BRICK >10N/mm <sup>2</sup>	6mm	75mm	2.6kN
CONCRETE >20N/mm <sup>2</sup>	6mm	50mm	2.3kN

## DRILL – DRIVE – FINISH

- NO EXPANSION FORCES - NO MECHANICAL RELAXATION - NO CHEMICALS – NO FUSS - NO WASTE - 100% RECYCLABLE STAINLESS STEEL -

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