

Thor Helical 9mm Drive Ties for Consistent Quality Masonry.

Patented "Precise Pitch" Helical Consistency (E.P. EP1307303)



- Precise Helical Interlock Anchorage.
- Rapid cost effective hammer driven installation.
- Self-tapping spiral penetration.
- Enhanced Buckling Resistance.
- 316 Grade Stainless Steel
- Stable, reliable & unobtrusive.
- High Tensile Strength.
- Combines Axial Strength with flexibility.
- Reliable in all types of masonry.
- Robust & Corrosion Free.
- Accurate tracking across wide cavities.
- Temperature and climate tolerant.

Thor Helical DRIVE-TIES ties have large work hardened fins that extend radially along and around an unhardened core to form a screw-like fastening member with longitudinal helical threads. Ties are formed from roll-profiled wire that is manufactured with patented "precise pitch" technology to tolerance levels that have not previously been achievable. The manufacturing processes, which are applied evenly along the length of the stainless steel, serve to greatly enhance the tensile strength of the wire.

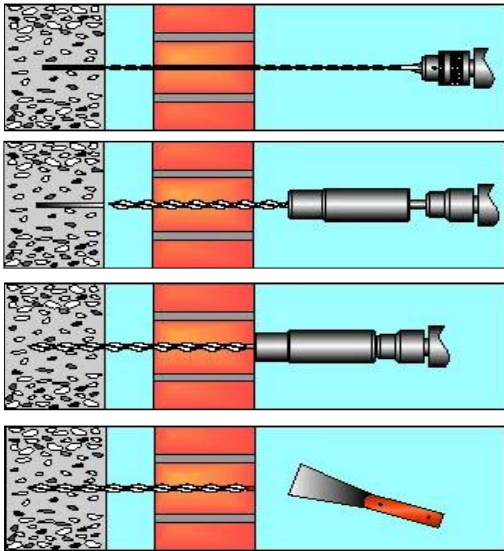
Proven through independent testing programs and 25 years of service use, helical screw ties, such as Thor Helical DRIVE-TIES have been identified in the British Research Establishment Digest No.329 as being the only type of remedial tie that can be used in any particular situation irrespective of the substrate, compressive strength or the requirement for the tie to maintain performance in the event of a fire.

Thor Helical 9mm Remedial DRIVE TIE Specification.

Thor Helical 9.00mm nominal O.D., 316 grade stainless steel, helically roll - formed wire ties having a pitch accuracy variation of no more than 0.5% from any given probate pitch along the axis, and a characteristic cross-sectional area of 14.88mm², impact driven into pre-drilled, pre-determined diameter, pilot holes in dense materials, or directly into low strength soft materials at intervals determined by a qualified structural engineer.



Installation Procedure



Drill pilot-hole, (6.0mm – 8.0mm), using appropriate masonry drill, to required depth using a drill-stop. To ensure drilling accuracy, allow the drill to **STOP ROTATING** prior to contacting and drilling the far-side leaf. The pilot-hole diameter is critical, too small and the tie may not penetrate, too large and the helical fins will not experience sufficient resistance to induce self-tapping spiral penetration. (Pilot holes are generally not required in A.A.C. or in most softwood timbers).

Insert Thor Helical DRIVE Tie into SDS telescopic tool and drive into the pilot hole maintaining concentric alignment using a drill stop ensuring that it rotates at a constant rate whilst penetrating.

Continue driving the tie to required depth using a drill stop until the tools' driving spindle recesses the tie beneath the brick face. Make good entry hole with material of similar colour, texture and porosity of wall surface.

This table indicates the indicative Thor Helical DRIVE Tie lengths, given known materials and cavity widths. The following assumptions apply:

- Brick has a standard depth of 110mm.
- Tie is recessed 0mm-10mm below brick face.
- Tie is driven into remote leaf to:
 - 60-70mm for brick
 - 45-55mm for concrete
 - 35-45mm for timber

| Tie Length (mm) | Brick to Brick | | Brick to Concrete | | Brick to Timber | |
|-----------------|----------------|-----|-------------------|-----|-----------------|-----|
| | Cavity Range | | Cavity Range | | Cavity Range | |
| | Min | Max | Min | Max | Min | Max |
| 175 | 0 | 15 | 10 | 30 | 0 | 40 |
| 200 | 20 | 40 | 35 | 55 | 45 | 65 |
| 225 | 45 | 65 | 60 | 80 | 70 | 90 |
| 250 | 70 | 90 | 85 | 105 | 95 | 115 |
| 275 | 95 | 115 | 110 | 130 | 120 | 140 |
| 300 | 120 | 140 | 135 | 155 | 145 | 165 |
| 325 | 145 | 165 | 160 | 180 | 170 | 190 |

Cavity Wall Tie Spacing.

Must be determined by a Consulting Structural Engineer - Subject to minimum tensile proof loads being achieved and in accordance with A.S. 3700 2001, i.e. Maximum allowable spacing 600mm grid.

The Thor Helical hydraulic load test unit is the only one of its type able to measure both tensile loads and corresponding elongation/slippage of the tie. This is an essential accessory for pre-contract testing and for in-process quality control management.



| DRIVE-TIES - INDICATIVE PERFORMANCE GUIDE | | |
|---|-----------|-------|
| MATERIAL | EMBEDMENT | LOAD |
| AIRCRETE >3.5N/mm ² | 85mm | 1.9kN |
| BRICK >10N/mm ² | 75mm | 2.6kN |
| CONCRETE >20N/mm ² | 50mm | 2.3kN |
| TIMBER Side-Grain | 50mm | 2.3kN |
| TIMBER End-Grain | 75mm | 2.3kN |

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