

Installation Guide

Cavity Wall Ties

Important Health & Safety Information: Please Read

There is a risk of injury to site personnel if wall ties are left protruding from a single wall leaf before the second leaf is constructed. Leviat recommends both leaves of a cavity wall are built simultaneously to eliminate this risk and to ensure that bed joints align and wall ties are parallel.

If you choose to build each leaf separately, the site manager should make all workers and visitors aware of the risk posed by protruding wall ties. Assessment of the risk posed by projecting wall ties must be included in the site risk assessment process.

To reduce the risk of injury, Ancon cavity wall ties feature rounded safety ends.

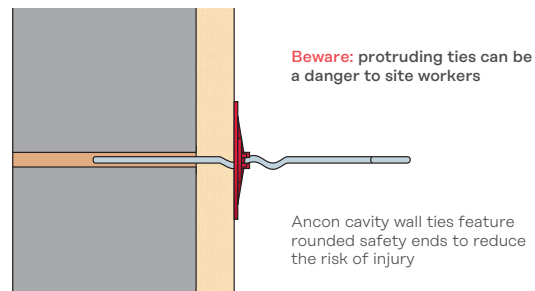
Wide Cavity Construction

When installing wall ties in wide cavities (175mm+) it is particularly important to ensure that bed joints align and wall ties are parallel. In order to achieve this, we recommend that both leaves of the cavity wall are built simultaneously.

Density & Positioning of Ties

For walls in which both leaves are 90mm or thicker, ties should be used at not less than 2.5 per square metre (900mm horizontal x 450mm vertical centres). This guidance is applicable to the tie lengths shown in the table overleaf which covers cavities up to 450mm. Maximum wall tie spacing may need to be reduced in wider cavities, generally to 600mm horizontal x 450mm vertical centres (3.7 ties per square metre). Contact us for further information.

Ties should be evenly distributed over the wall area, except around openings, and should preferably be staggered. At vertical edges of an opening, unreturned or unbonded edges, and vertical expansion joints, additional ties should be used at a rate of one per 300mm height, located not more than 225mm from the edge. A typical layout is shown below.



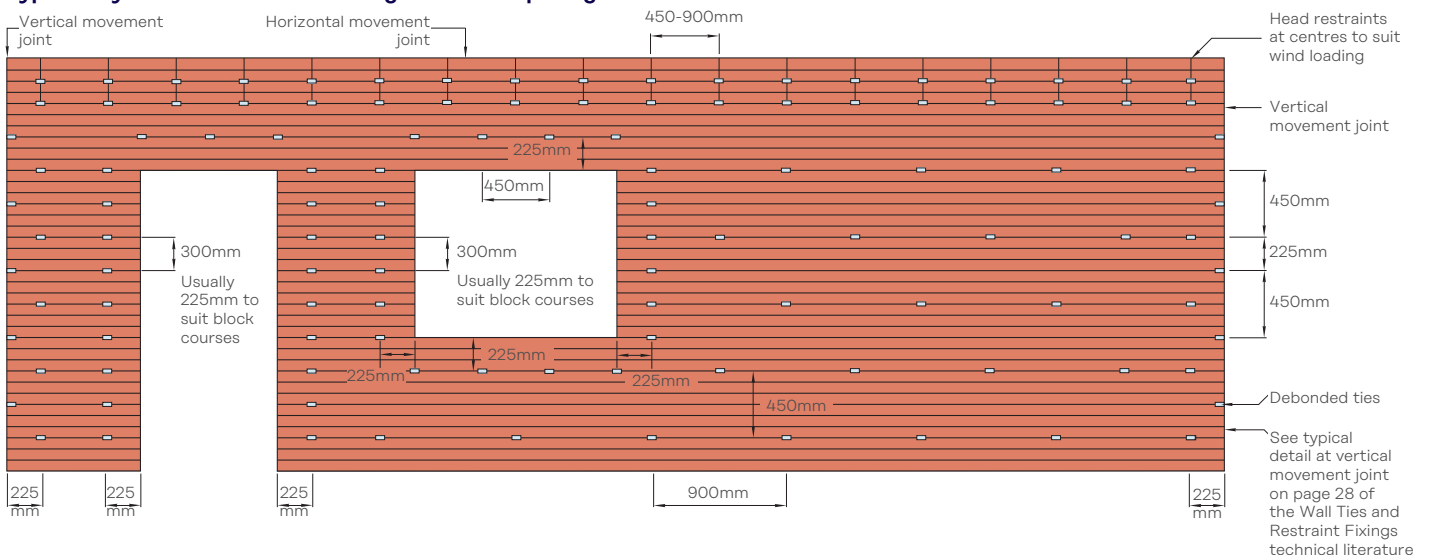
Ancon Staifix RT2



Ancon Teplo-BF



Typical Layout of Wall Ties Indicating Maximum Spacing



Installation Guide

Cavity Wall Ties

Length of Tie & Embedment

Wall ties should be of the correct length to ensure they are properly embedded in each masonry leaf. Leviat recommends tie lengths which achieve an embedment of between 62.5mm and 75mm (see table below) to cover a 25mm cavity range.

Masonry-to-masonry wall ties are typically symmetrical and should be centred from the middle of the cavity to ensure equal embedment in each leaf.

Recommended Wall Ties Lengths

Cavity Width (mm)	Length of Wall Tie (mm)
50-75	200
76-100	225
101-125	250
126-150	275
151-175	300
176-200	325
201-225	350
226-250	375
251-275	400
276-300	425
301-325	450
326-350	475
351-375	500
376-400	525
401-425	550
426-450	575

Installation Guidance

Wall ties are important to the stability of masonry and failure to install them correctly may lead to damp penetration, cracking or even the collapse of walls.

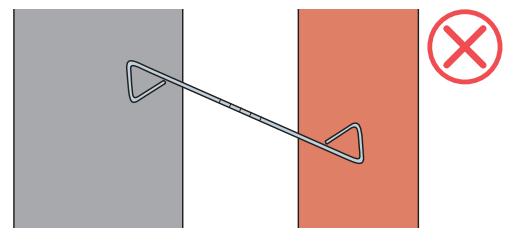
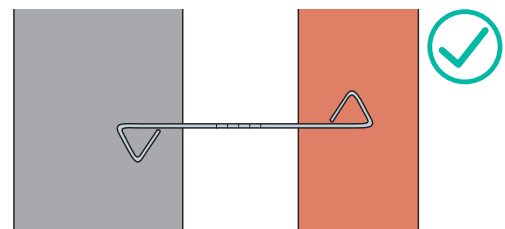
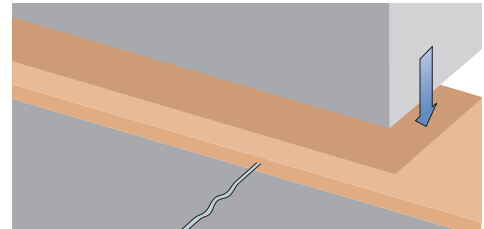
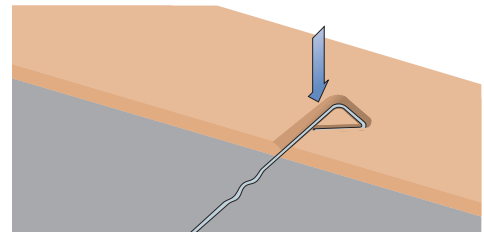
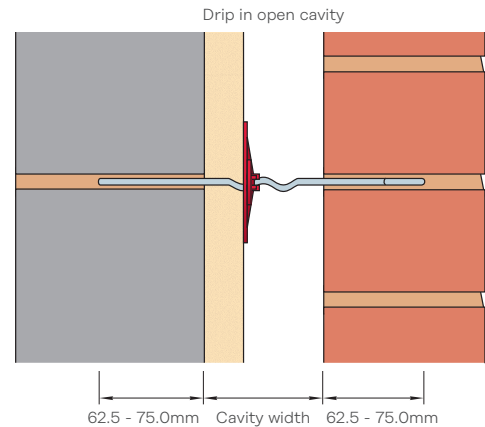
Wall ties should be pressed down in fresh mortar. They should be surrounded by mortar and not simply positioned directly onto masonry with mortar placed around them.

Ideally, ties should be installed with a slight fall to the outer leaf, not towards the inner leaf as this could provide a path for moisture to cross the cavity. When viewed on plan, wall ties must not be installed at an angle across the cavity and care should be taken to ensure ties are as close to perpendicular to the masonry leaves as possible.

The drip part of the tie should point downward and be positioned near the centre of the open cavity. Ties with multiple drips, like the Ancon Staifix RT2, can often be positioned centrally as part of the drip will normally be near the centre of the open section of a partial fill cavity. The unique ribbed shank used for the Teplo BF tie range provides an effective moisture drip and therefore no 'O' ring is required. Installed ties should be clear of mortar droppings to allow the drip to function and prevent water from crossing to the inner leaf of masonry.

The practice of bending up installed wire ties should be discouraged. This can adversely affect the performance of the tie and weaken the embedment in the inner leaf. Rigid ties should never be bent on site.

To ensure cavity wall ties are effective at tying the leaves together they should be installed as the inner leaf is constructed and not simply pushed into a joint.



Plan view - ties should be installed perpendicular to masonry