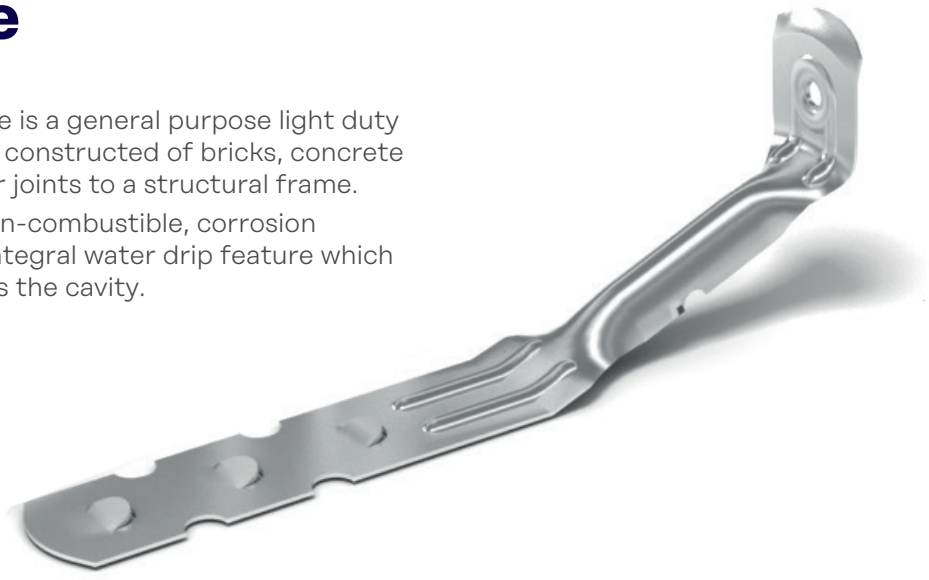
Leviat®
A CRH COMPANY

Ancon ALD-V 50 Veneer Wall Tie

The Ancon ALD-V 50 Veneer Wall Tie is a general purpose light duty wall tie to connect a masonry veneer constructed of bricks, concrete blocks or stone with standard mortar joints to a structural frame.

The wall tie is manufactured from non-combustible, corrosion resistant stainless steel and has an integral water drip feature which prevents the passage of water across the cavity.



Duty Rating

AS 2699.1 and AS 3700 group wall ties into performance bands known as the duty rating. The duty rating is determined by the mean values a wall tie achieves when tested to AS 2699.1.

Duty Rating	Mean Strength (kN)	
	Tension	Compression
Light Duty	0.30	0.36
Medium Duty	0.60	0.72
Heavy Duty	1.50	1.80

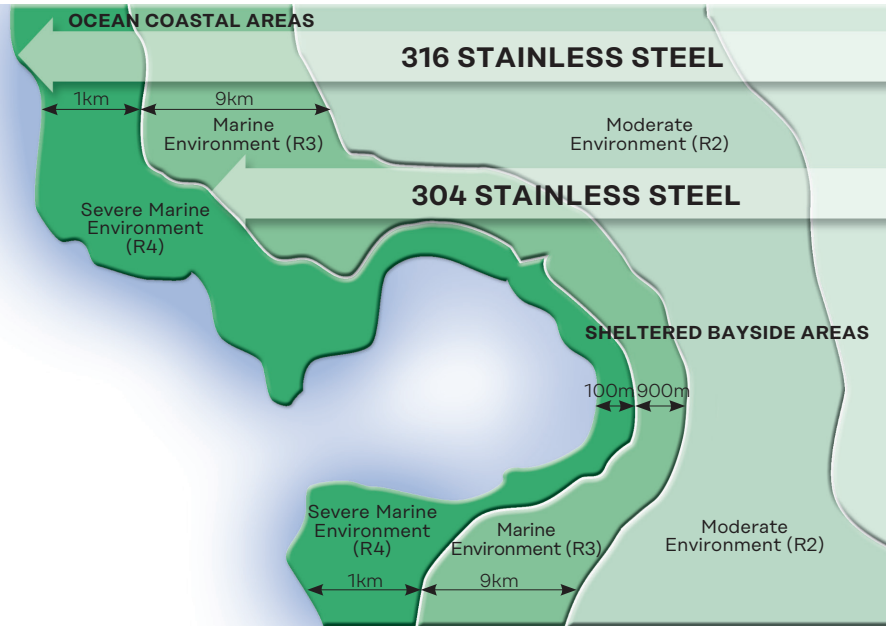
The ALD-V 50 wall tie has been tested in accordance with AS 2699.1 and exceeds the requirements of the Light Duty rating.

Durability Rating

Material selection is based on the distance of the structure from the coast and whether that coast opens to a sheltered bay or breaking surf. AS 2699.1 and AS 3700 categorise these areas into zones R1 to R4.

Grade 304 stainless steel ties are suitable for durability exposure classification R1, R2 and R3. Grade 316 ties are suitable for R1, R2, R3 and R4.

Ancon ALD-V 50 wall ties are available in both grade 304 and 316 stainless steel.



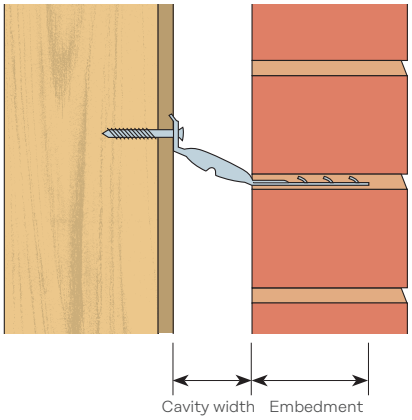
Ancon ALD-V 50 Veneer Wall Tie

Length of Tie & Embedment

Wall ties should be of the correct length to ensure they are properly embedded in the masonry.

Australian standards require a minimum wall tie embedment of 50mm however Leviat recommends tie lengths which achieve a design embedment of between 62mm and 75mm in each leaf to allow for site tolerance in cavity width.

Cavity Width (mm)	Length of Wall Tie (mm)
50	125



Spacing of Ties

For NCC Class 1 and 10a buildings (typically standalone single dwellings of a domestic or residential nature) both the NCC and AS 4773.1:2015 give guidance on maximum wall tie spacings based upon wind categories determined from AS 4055:2021.

Maximum spacing of ALD-V 50 ties for class 1 and 10a buildings

Wind category	NCC 2022 Stud Spacing		AS 4773.1:2015 Stud Spacing	
	600	450	600	450
N1	600 x 400	450 x 600	600 x 600	450 x 600
N2	600 x 400	450 x 600	600 x 600	450 x 600
N3	-	-	-	450 x 600
N4	Wind zones N4 to C4 are not included in the NCC		-	-
N5			-	-
N6			-	-
C1			-	450 x 600
C2			-	-
C3			-	-
C4			-	-

The AS 4773.1:2015 values shown are for a 3m wall height. Tables for 2.7m and 2.4m are also given in the standard.

For all other building classes the maximum wall tie spacing is determined by calculation in accordance with AS 3700:2018 using wind loads determined from AS/NZS 1170.2:2021. In no case must they exceed a spacing of 600 x 600mm.

Maximum design wind loads for ALD-V 50 ties fixed to flexible backing

Wall height (m)	2.7		3.0		3.3	
Stud spacing (mm)	600	450	600	450	600	450
Tie spacing (mm)	600 x 600	450 x 600	600 x 600	450 x 600	600 x 600	450 x 600
Wind Suction	1.57 kN/m²	2.09 kN/m²	1.41 kN/m²	1.88 kN/m²	1.28 kN/m²	1.71 kN/m²
Wind Pressure	1.79 kN/m²	2.38 kN/m²	1.61 kN/m²	2.15 kN/m²	1.46 kN/m²	1.95 kN/m²

Maximum design wind loads for ALD-V 50 ties fixed to stiff backup

Tie spacing (mm)	600 x 600	600 x 430	450 x 430
Wind Suction	1.08 kN/m²	1.51 kN/m²	2.02 kN/m²
Wind Pressure	1.24 kN/m²	1.73 kN/m²	2.30 kN/m²

Wall ties must be located within 300mm of openings, ends and tops of walls, control joints, at horizontal or vertical lateral supports e.g. intersecting walls, and above a damp-proof course. Where the wall passes an intermediate floor, wall ties are required within 300mm above and 400mm below the floor.

At intersecting walls or vertical lateral supports, the top of the wall and above and below an intermediate floor, wall ties must be doubled up.

Ancon ALD-V 50 Veneer Wall Tie

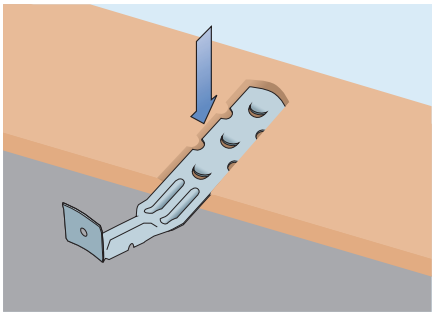
Installation Guidance

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.

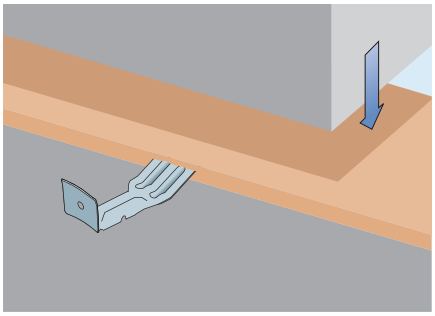
Wall ties should be pressed down in fresh mortar and not simply positioned directly onto masonry with mortar placed around them. They should be installed as the inner leaf is constructed and not simply pushed into a joint.

Ideally, ties should be installed with a slight fall to the outer leaf, not towards the inner leaf. The drip part of the tie should be positioned near the centre of the open cavity and should be clear of mortar droppings to allow the drip to function and prevent water from crossing to the inner leaf of masonry.

To reduce the risk of injury we recommend veneer ties are fixed as the work progresses to eliminate any risk of injury from protruding ties. There is a risk of injury if wall ties are left protruding from a structure before the second leaf is constructed. Site managers should make all workers and visitors aware of this risk.



Wall ties should be pressed down in, and then surrounded by, fresh mortar.



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.

Fixings

Ancon ALD-V 50 wall ties have a 4.5 diameter hole to accept a range of fixings.

Substrate	Recommended fixing
Timber	#10 x 25mm wafer/pan head wood screw
Light gauge steel	#10 x 16mm self-drill wafer/pan/hex head screw
Brick, perforated	Fischer DuoPower 6x50 plug with #10 x 45mm pan head screw
Concrete block	Fischer DuoPower 6x50 plug with #10 x 45mm pan head screw
Concrete	Fischer DuoPower 6x50 plug with #10 x 45mm pan head screw

AS 2699.1:2020 and AS 3700:2018 require that the manufacturer supply the fasteners with the wall ties.

For more information, please contact the Leviat Masonry Technical Team at **masonry.au@leviat.com** or call us on **02 8840 1640.**