

# INSTALLATION GUIDE STAINLESS STEEL LINTELS

# Ancon®

## LINTELS

Ancon manufactures a range of lintels in stainless steel. The Housing and Unilintel ranges are designed to suit the light to medium duty loading conditions found in the majority of residential and commercial buildings.

## INSTALLATION

The lintel should be firmly bedded in mortar with at least 150mm end bearing. The front and back of the lintel must be level before proceeding and a separate damp proof course incorporated if required.

The inner and outer leaves supported by the lintel should be raised together to avoid twisting the lintel; blocks should continue for the full length of the inner flange. Although the lintels have a drip edge on the external flange to shed moisture, good practice should be followed at the junction of the window head and lintel by sealing with a suitable mastic, thereby ensuring that driving rain does not penetrate. Wall ties should be provided at a recommended maximum horizontal spacing of 450mm within 300mm above the lintel support.

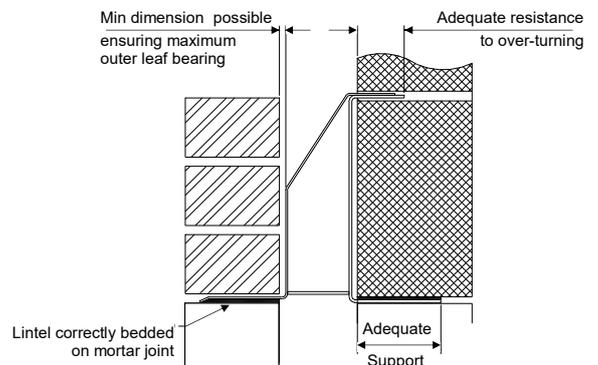
Do not cut lintels to length or modify them in any way without permission. Do not lay more than 1.5 metres of wall above a lintel in any 24 hour period in accordance with BS 5628 : Part 3 : 2005.

Long spanning lintels and all single leaf lintels will require propping during installation to limit deflections. The bricks should be laid tight to the back of the angle and tied to the backing structure/inner leaf within 450mm of the lintel soffit. At least 600mm of brickwork should be raised above the lintel soffit. The brickwork should be left to gain sufficient strength prior to removal of the props. If in doubt please contact Ancon technical staff.

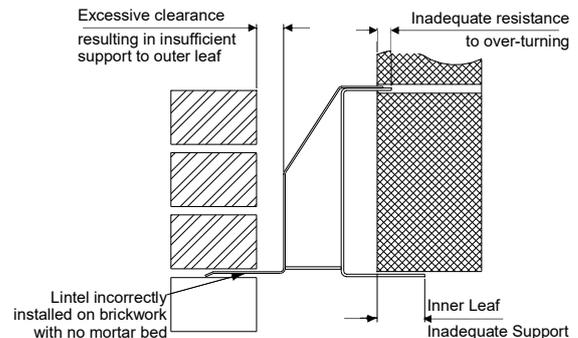
## SAFETY PRECAUTIONS

Ancon stainless steel products are produced from sheared plate. As with all such industrial fabrications, these may present sharp edges. **Suitable personal protective equipment should be worn at all times during handling and installation.**

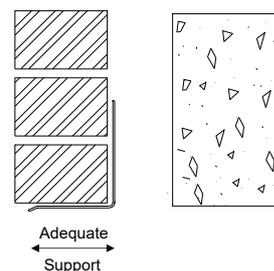
## ✓ CORRECT INSTALLATION



## ✗ INCORRECT INSTALLATION



## SINGLE LEAF LINTEL



# INSTALLATION GUIDE

## SLIDING ANCHORS

# Ancon®

### ANCON SAH – SLIDING ANCHORS

Sliding anchor fixings provide restraint to the top of masonry cavity wall panels. They are not intended for use with single leaf masonry panels. The sliding anchor fixing will accommodate vertical movement due to shrinkage or thermal movement of the wall or structural frame. The sliding anchor ties slide up or down relative to the movement.

### INSTALLATION

The sliding anchor stems can be fixed to concrete or steelwork. The standard method of fixing to concrete is achieved by utilising an M10 single expansion bolt through the standard 12mm diameter hole in the head of the stem. The size of hole in the stem can be varied between 6mm and 14mm dependant upon the type of bolt used. The sliding anchor stems can also be fixed back to 30/20 and 28/15 cast-in channels.

When fixing to steelwork, it is recommended that stainless steel setscrews are used with nylon washers to give insulation between the bolt head and the structural steel.

It is important when the stem is installed that it is vertical in both planes and central in the clear cavity.

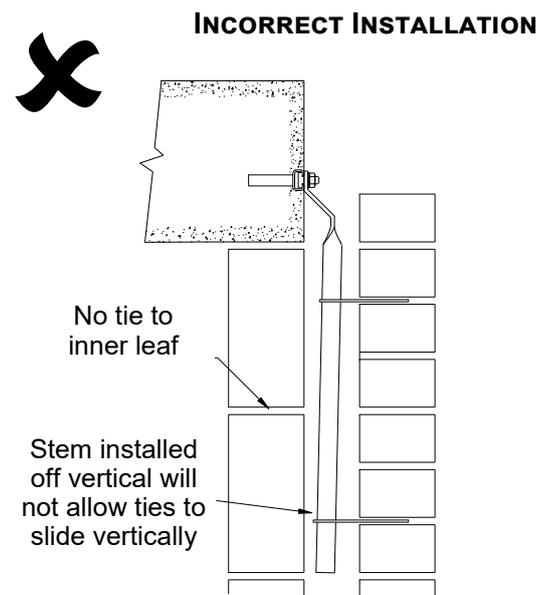
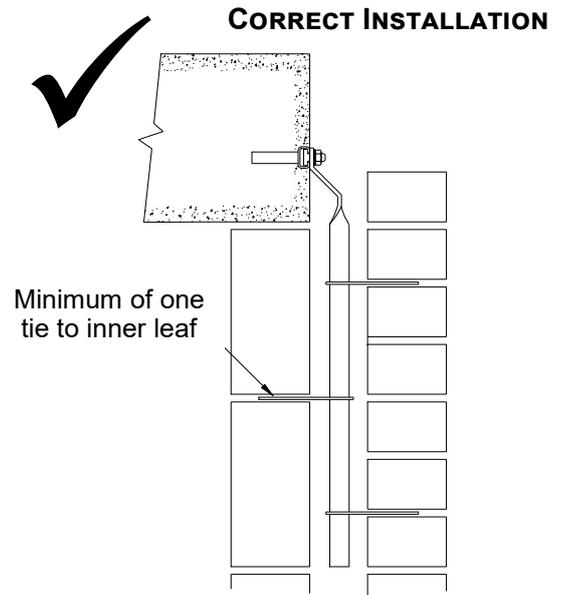
### TIE INSTALLATION

To correctly install sliding anchors, at least one and preferably two ties should be positioned in the inner leaf.

The length of both one-way and two-way ties should be such to allow a recommended embedment of 62.5mm in each leaf, thus allowing some tolerance for cavity variations. It is recommended that the uppermost tie be positioned not more than 150mm below the fixing position.

### SAFETY PRECAUTIONS

Ancon stainless steel products are produced from sheared plate. As with all such industrial fabrications, these may present sharp edges. **Suitable personal protective equipment should be worn at all times during handling and installation.**



© Ancon, 2018

The Construction applications and details provided in this guide are indicative only.

In every case installation should be entrusted to appropriately qualified and experienced persons.

Normal handling precautions should be taken to avoid physical injury. Ancon cannot be held responsible for any injury as a result of using our products, unless such injury arises as a result of our negligence.

# Ancon®

Tel: 1300 304 320  
Email: [info@ancon.com.au](mailto:info@ancon.com.au)  
Web: [www.ancon.com.au](http://www.ancon.com.au)

# INSTALLATION GUIDE CAST-IN CHANNELS

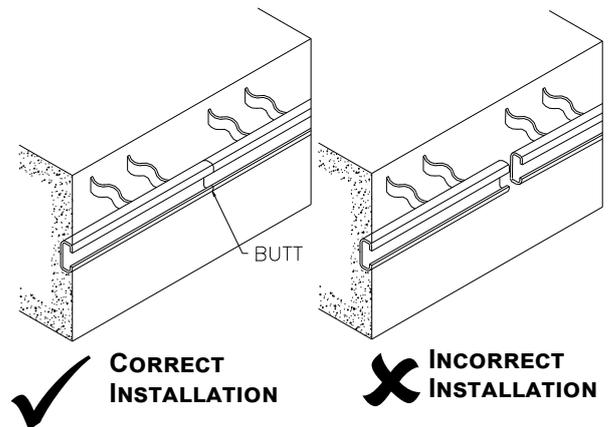


## ANCON CAST-IN CHANNEL

Ancon cast-in channels are normally supplied in 3000mm lengths with welded anchors, nail holes, and polystyrene infill. Cast-in channels provide a tolerance when fixing to concrete. Incorrect installation is likely to result in expensive remedial work which may result in bolted fixings.

All channels are supplied with nail holes to aid the fixing of the channel to the formwork. All such holes need to be utilised (except with Omega Channel), to prevent excessive ingress of concrete fines between the formwork during casting. Channels can also be fixed to the formwork using 'T' head bolts, nuts and washers.

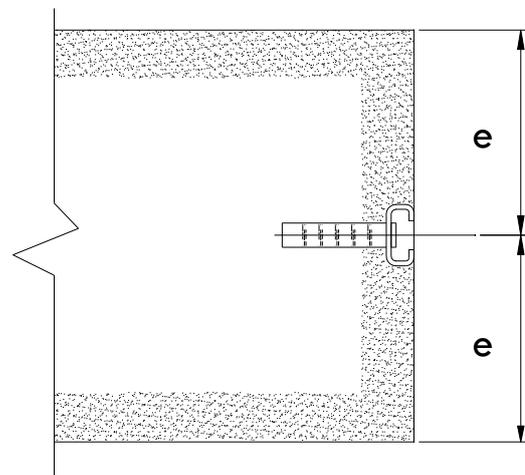
30/20 Channel is supplied with plastic end caps. They should be removed where channels are butted together. End Caps should always be in place where channels are not butted.



## MINIMUM EDGE DISTANCE

Care should be taken to ensure that the dimension from the centre of the channel to the edge of the concrete is not less than the minimum edge distance shown below. The channel must be lined and levelled correctly. In every situation, care must be taken to ensure a good fit is obtained between the face of the channel and the formwork.

Channel	Min. Edge Distance 'e'
54/33	160 mm
49/30	150 mm
41/27	100 mm
40/25	100 mm
30/20	75 mm
38/17	75 mm
28/15	50 mm
21/18 (Omega)	50 mm



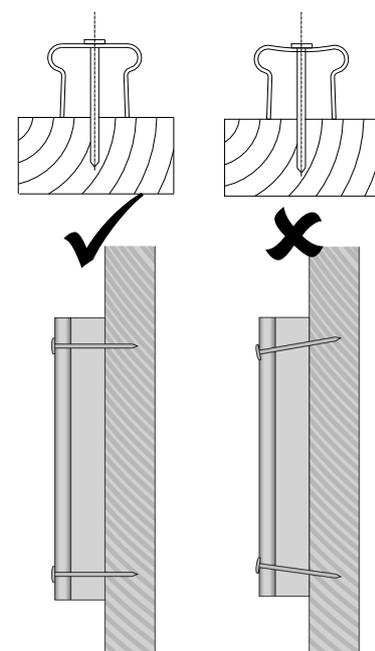
MINIMUM EDGE DISTANCE

## INSTALLATION OF 21/18 OMEGA CHANNEL

Ancon 21/18 is a shallow self-anchoring channel, and care must be taken during installation. The channel is filled with expanded polystyrene to help prevent the ingress of concrete. Nail holes to allow fixing to timber formwork are positioned at 150mm centres in 3000mm channel and 100mm lengths have two nail holes.

Nails 30mm long with a plain shank should be installed perpendicular to the channel to ensure the easy removal of the timber formwork and the retention of the channel in the concrete. 100mm long Omega is fixed with two nails. 3000mm long Omega is nailed at each end and then at 300mm centres.

The concrete should be fully compacted around the channel to eliminate any voids. Sufficient time must be allowed for the concrete to attain enough strength to retain the channel before striking the formwork. In very cold weather it may be necessary to allow extra time.



NAILING OMEGA CHANNEL

# INSTALLATION GUIDE CAST-IN CHANNELS

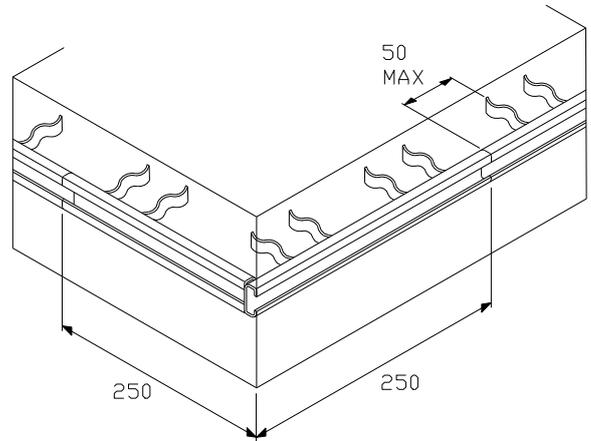


## WELDED FABRICATIONS

Where channels with welded anchors are cut on site, it is important to ensure that there is an anchor within 50mm from the end of the channel. A distance greater than 50mm will reduce the load carrying capacity of the channel.

Where horizontal cast-in channel is used in conjunction with Brickwork Support Systems, all external corners must incorporate a Welded Corner Fabrication. Release oil must not be applied to either the channel or the channel anchors.

When the concrete is poured, care should be taken to ensure that the concrete is fully compacted around the back of the channel and especially adjacent to anchors. After the concrete has cured and the formwork removed, the formwork nails should either be cut off or bent away from any tie or T head bolt.

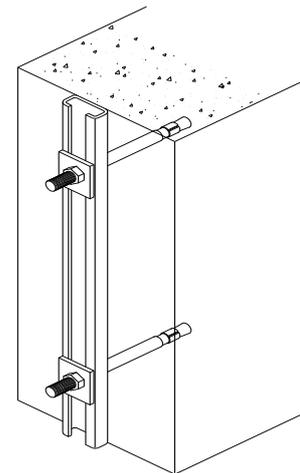


**WELDED CORNER FABRICATION**

## CHANNELS FOR SURFACE FIXING (FACE FIXING)

The 38/17 and 28/15 channels are normally supplied plain backed for surface fixing to either concrete or steelwork. When bolting channel to concrete or steelwork it is important to utilise all fixing holes, incorporating the square washer provided and ensuring its correct orientation to achieve the allowable loads (see drawing opposite). Bolt and washer specifications are shown below.

CHANNEL	BOLT DIA.	WASHER
38 x 17	M10	30 x 30 x 3
28 x 15	M8	25 x 25 x 3



**FACE FIXED CHANNEL**

## SAFETY PRECAUTIONS

Ancon stainless steel products are produced from sheared plate. As with all such industrial fabrications, these may present sharp edges. **Suitable personal protective equipment should be worn at all times during handling and installation.**

© Ancon, 2018

The Construction applications and details provided in this guide are indicative only.

In every case installation should be entrusted to appropriately qualified and experienced persons.

Normal handling precautions should be taken to avoid physical injury. Ancon cannot be held responsible for any injury as a result of using our products, unless such injury arises as a result of our negligence.



# INSTALLATION GUIDE WINDPOSTS

# Ancon®

## ANCON WINDPOSTS

Panels of masonry with openings or very large masonry panels can be difficult to design. Ancon Windposts are designed to span vertically between floors to provide additional lateral support for panels of masonry.

## TOP & BOTTOM CONNECTIONS

Top and bottom connections are designed with slotted holes to allow adjustment. Where cast-in channels are used parallel to the slab edge, a serrated pad and washer must be provided. Where expansion bolts are used, round holes or slots parallel to the slab edge will suffice. **The top connection should also have a vertical slot or slots (no serrations) to permit movement of the frame.**

Connections to the structural frame are determined prior to Manufacture/Supply, therefore the following rules should be followed.

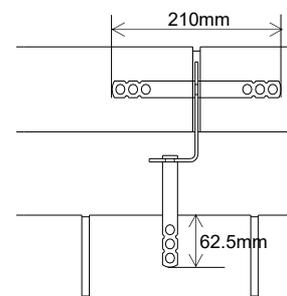
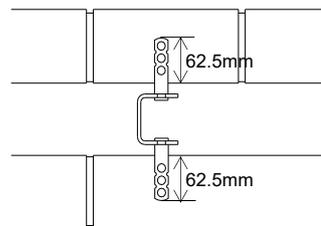
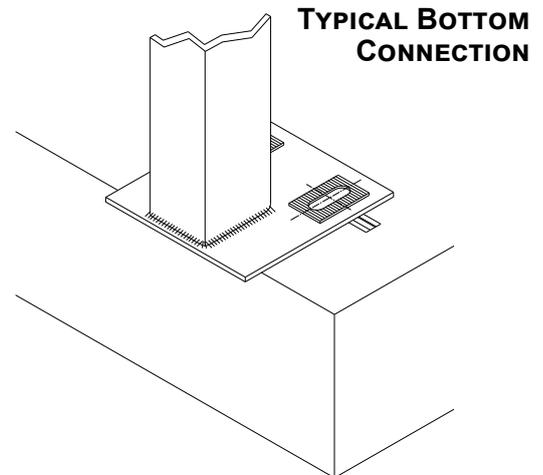
1. Only use the fixings supplied, as these are integral to the design.
2. Use all normal/serrated washers provided, and tighten nuts to specified tightening torques. (see Installation Guide – Bolts)
3. Dimensional positioning of the Windpost should be to either Structural Engineers or Specialist details.
4. Ensure all Windposts are installed vertical in both planes, thus allowing the ties to slide in the slots if expansion/contraction of the frame occurs.

## TIE INSTALLATION

Wall ties should be fitted in each slot and have a minimum embedment of 50mm into each leaf. Ancon suggest tie lengths which achieve a recommended embedment of between 62.5mm and 75mm, allowing for tolerance for cavity variations.

## ANCON WP2 INSTALLATION DETAILS

The design of Ancon WP2 Windposts assumes full restraint to the longer leg of the post located within the vertical masonry joint. To prevent lateral movement of the post within this joint and ensure the windpost performs to its full capacity, it is essential that this joint is tightly packed with mortar.



## SAFETY PRECAUTIONS

Ancon stainless steel products are produced from sheared plate. As with all such industrial fabrications, these may present sharp edges. **Suitable personal protective equipment should be worn at all times during handling and installation.**

© Ancon, 2018

The Construction applications and details provided in this guide are indicative only. In every case installation should be entrusted to appropriately qualified and experienced persons.

Normal handling precautions should be taken to avoid physical injury. Ancon cannot be held responsible for any injury as a result of using our products, unless such injury arises as a result of our negligence.

# Ancon®

Tel: 1300 304 320  
Email: [info@ancon.com.au](mailto:info@ancon.com.au)  
Web: [www.ancon.com.au](http://www.ancon.com.au)

# INSTALLATION GUIDE MDC SUPPORT SYSTEM



Ancon MDC Bracket Angle Support Systems are generally fixed to concrete and steel frames. Adjustment is provided in every direction to allow for tolerance in the structural frame. Vertical, horizontal and lateral tolerances are catered for in the following procedures.

## CAVITY VARIATION

Variations in cavity size are overcome in two ways,

1. Increase in cavity is accommodated by inserting full height stainless steel shims between the structural face and the back of the MDC bracket. The maximum allowable shim thickness for a given project is stated on our layout drawings. Shims can be included between the bracket and the frame up to a maximum thickness of the outside diameter of the fixing bolt, or 16mm, whichever is less. In exceptional circumstances, increased shimming can be accommodated, after consultation with our Technical Staff.

When utilising shims, they must be of sufficient length to extend to the bottom of the bracket.

2. Decrease in cavity is overcome by re-positioning the brick on the support angle, thus increasing the amount of actual support under the brick. This operation may necessitate cutting the brick to clear the angle radius. Design criteria govern the extent of allowable movement.

## HORIZONTAL ADJUSTMENT

This form of continuous support system is designed with 10mm nominal gaps between individual angles. Horizontal cast-in channel, or horizontal slots in the steelwork (provided by others) facilitate adjustment of the angles.

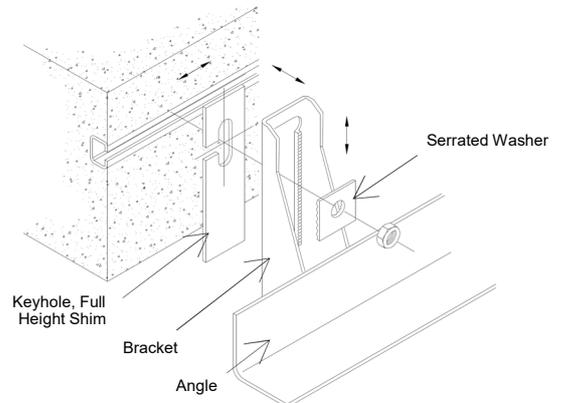
## VERTICAL ADJUSTMENT

The vertical slot in the back of the MDC bracket allows up to 60mm vertical adjustment. i.e.  $\pm 25$  mm with an M12 bolt.

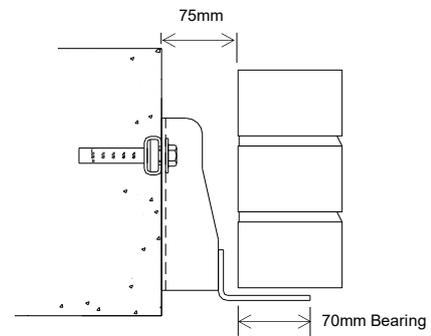
## FIXINGS

It is important to utilise the fixings supplied as these are an integral component of the design. Serrated washers must be installed in the correct orientation i.e. serrations horizontal to match those on the bracket. Ensure nuts are tightened to the specified tightening torque specified on the drawings (see Installation Guide - Bolts).

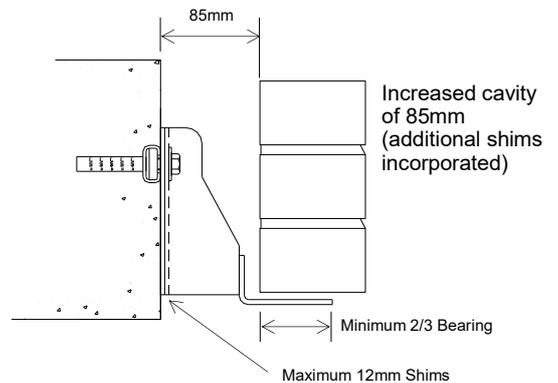
## ADJUSTMENT OF MDC SUPPORT SYSTEM



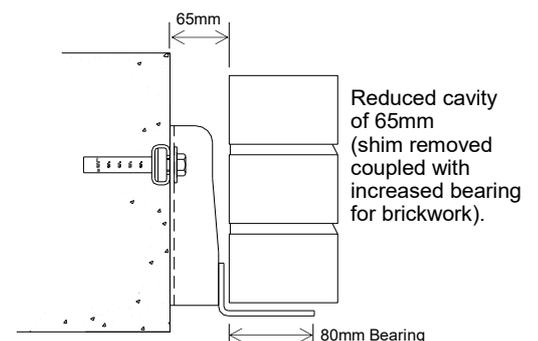
### DESIGN CAVITY



### INCREASED CAVITY



### REDUCED CAVITY



# INSTALLATION GUIDE MDC SUPPORT SYSTEM

# Ancon®

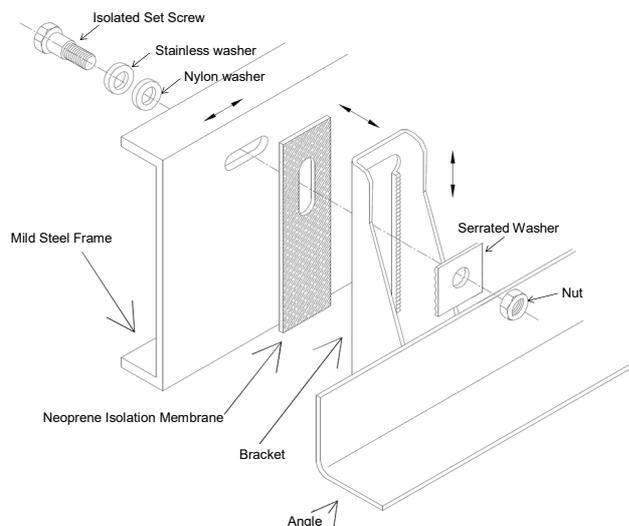
## BI-METALLIC CORROSION

Ancon Support Systems are manufactured from grade 304 (1.4301 to EN 10088) stainless steel and will be suitable for most building applications.

Bi-metallic corrosion may occur in a damp environment where the stainless steel support system is bolted to the structural steel frame. This will not affect the stainless steel, but could slightly increase the corrosion rate of the carbon steel.

When MDC Systems are fixed back to steel structures, the structural component may be isolated from the stainless steel support system to prevent the possibility of bi-metallic corrosion. This can be achieved in one of two ways.

1. Painting the areas that will be in contact with the support system.
2. Inserting an isolation shim (as shown opposite).



## PREVENTION OF BI-METALLIC

## WALL TIES AND RESTRAINT FIXINGS

Wall ties must be provided at a recommended maximum horizontal spacing of 450mm within 300mm above the support angle.

## SAFETY PRECAUTIONS

Ancon stainless steel products are produced from sheared plate. As with all such industrial fabrications, these may present sharp edges. **Suitable personal protective equipment should be worn at all times during handling and installation.**

# Ancon®

Tel: 1300 304 320  
Email: [info@ancon.com.au](mailto:info@ancon.com.au)  
Web: [www.ancon.com.au](http://www.ancon.com.au)

© Ancon, 2018

The Construction applications and details provided in this guide are indicative only.

In every case installation should be entrusted to appropriately qualified and experienced persons.

Normal handling precautions should be taken to avoid physical injury. Ancon cannot be held responsible for any injury as a result of using our products, unless such injury arises as a result of our negligence.

# INSTALLATION GUIDE

# BRACKET SUPPORT SYSTEM **Ancon**<sup>®</sup>

Ancon Bracket Support Systems are generally fixed to concrete frames. Vertical, horizontal and lateral tolerances are catered for in the following procedure.

## CAVITY VARIATION

1. **Increase in cavity** is accommodated by inserting full height stainless steel shims between the structural face and the back of the bracket up to a maximum thickness of the outside diameter of the fixing bolt or 16mm, whichever is less. When utilising shims they must be of sufficient length to extend to the bottom of the bracket in all situations.
2. **Decrease in cavity** is overcome by re-positioning the brick on the support plate, thus increasing the amount of actual support under the brick. Design criteria govern the extent of allowable movement.

## HORIZONTAL ADJUSTMENT

Horizontal cast-in channel will provide virtually unlimited lateral adjustment of the brackets.

## VERTICAL ADJUSTMENT

The vertical slot in the back of the brackets allow up to 50mm vertical adjustment i.e.  $\pm 25\text{mm}$  with an M12 bolt.

## FIXINGS

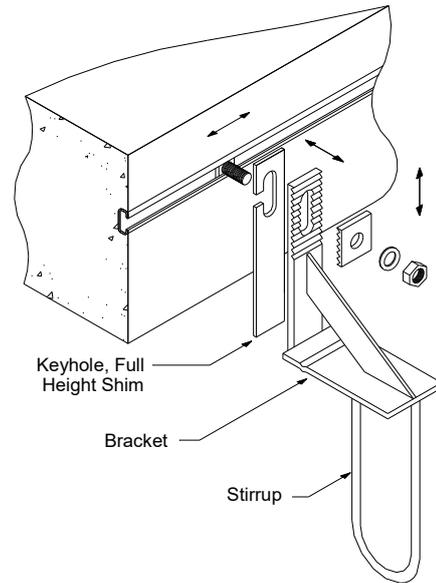
It is important to utilise the fixings supplied as these are an integral component of the design. Serrated washers must be installed in the correct orientation i.e serrations horizontal to match those on the bracket. Ensure nuts are tightened to the specified tightening torque (see Installation Guide 'Bolts'). Where individual brackets incorporate stirrups to support hanging brickwork it is important that the following points are noted.

1. The brickwork requires support formwork until the mortar has set, and achieved a suitable strength.
2. All perpend and the holes which accommodate the stitching rods must be completely filled with mortar.
3. The 340mm long stitching rods should overlap the stirrups by approximately 30mm each end.
4. Where high strength bricks with low water absorption are used, the mortar must be of sufficient strength to ensure bonding and cohesion of the suspended masonry.

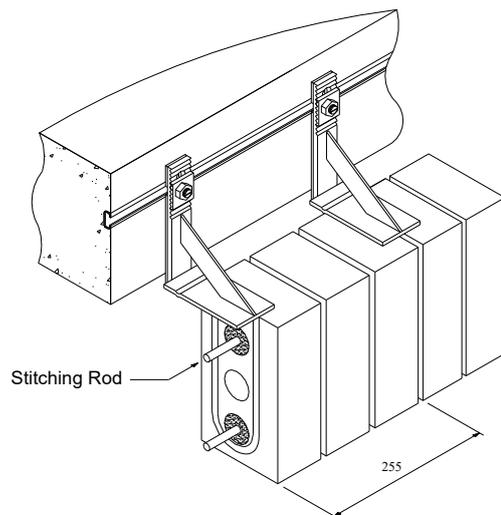
Wall ties should be provided at a recommended maximum horizontal spacing of 450mm within 300mm above the support angle.

## SAFETY PRECAUTIONS

Ancon stainless steel products are produced from sheared plate. As with all such industrial fabrications, these may present sharp edges. **Suitable personal protective equipment should be worn at all times during handling and installation.**



**ADJUSTMENT OF INDIVIDUAL**



# **Ancon**<sup>®</sup>

Tel: 1300 304 320  
Email: [info@ancon.com.au](mailto:info@ancon.com.au)  
Web: [www.ancon.com.au](http://www.ancon.com.au)

© Ancon, 2018

The Construction applications and details provided in this guide are indicative only.

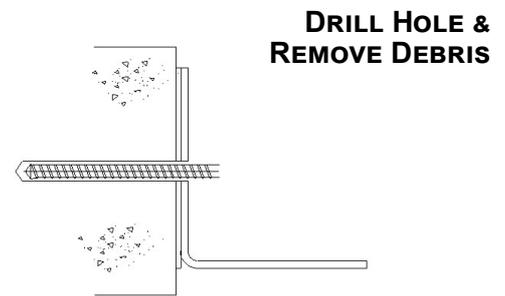
In every case installation should be entrusted to appropriately qualified and experienced persons.

Normal handling precautions should be taken to avoid physical injury. Ancon cannot be held responsible for any injury as a result of using our products, unless such injury arises as a result of our negligence.

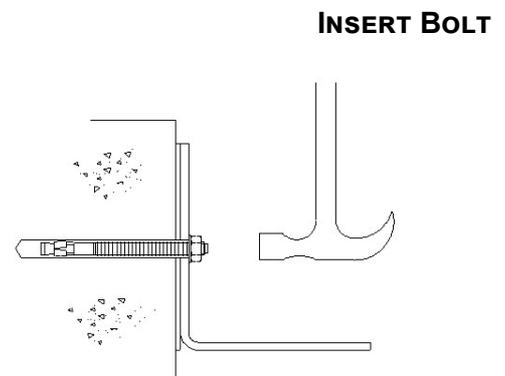
## INSTALLATION GUIDE

# SINGLE EXPANSION BOLTS (FBN II)

Drill the hole through the pre-drilled hole in the fixture into the concrete. This hole should be drilled perpendicular to the substrate surface and to the correct diameter and depth. All dust and loose material should be removed from the hole using a wire brush or blow pump.



Lightly tap the throughbolt through the fixture into the hole with a hammer, until the fixing depth is reached.

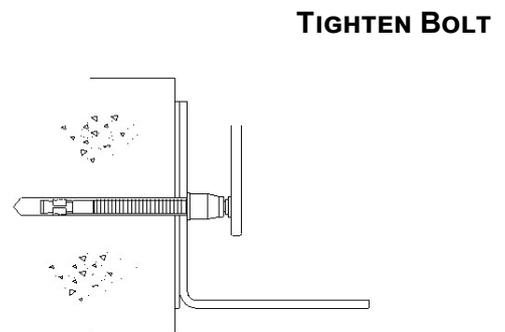


Tighten to the recommended torque.

### BEFORE INSTALLATION

The following checks must be carried out prior to installation of Single Expansion Bolts.

1. The appropriate length and diameter drill bit is used.
2. The correct edge distance and spacing are used in accordance with the design requirements.
3. The anchor/fixing is the correct size.
4. The correct setting tools are used.



### Single Expansion Bolts

Bolt Reference	FBNII 6/10	FBNII 8/20	FBNII 10/20	FBNII 10/50	FBNII 12/20	FBNII 12/50	FBNII 16/25	FBNII 16/50
Thread Size	M6	M8	M10	M10	M12	M12	M16	M16
Overall Length (mm)	55	81	96	126	116	146	145	170
Hole Dia. in Concrete (mm)	6	8	10	10	12	12	16	16
Hole Dia. in Fixture (mm)	6.5	9	11	11	13	13	17	17
Min. Embedment (mm)	30	40	50	50	65	65	80	80
Width Across Nut (mm)	10	13	17	17	19	19	24	24
Tightening Torque (Nm)	4	10	20	20	35	35	80	80
Max. Fixing Thickness (mm)	10	20	20	50	20	50	25	50

**Note:** For use in non-cracked concrete C20/25 to C50/60.

## INSTALLATION GUIDE

# HIGH PERFORMANCE BOLTS (FAZ II)

Drill the hole through the pre-drilled hole in the fixture into the concrete. This hole should be drilled perpendicular to the substrate surface and to the correct diameter and depth. All dust and loose material should be removed from the hole using a wire brush or blow pump.

Insert the bolt through the component to be fixed and into the concrete. Add any packing shims that maybe required.

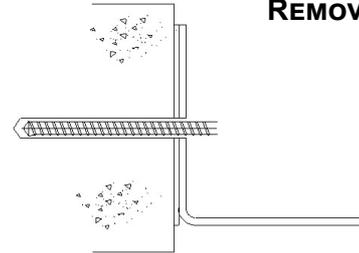
Tighten to the recommended torque.

### BEFORE INSTALLATION

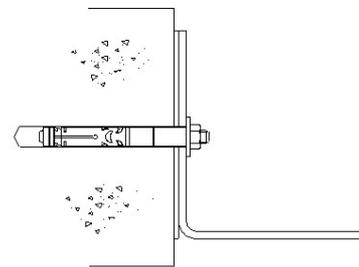
The following checks must be carried out prior to installation of High Performance Bolts.

1. The appropriate length and diameter drill bit is used.
2. The correct edge distance and spacing are used in accordance with the design requirements.
3. The anchor/fixing is the correct size.
4. The correct setting tools are used.

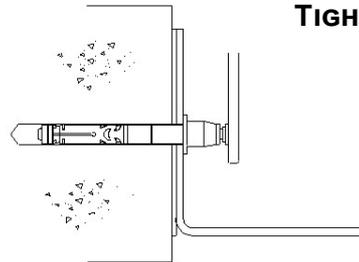
### DRILL HOLE & REMOVE DEBRIS



### INSERT BOLT



### TIGHTEN BOLT



### High Performance Expansion Bolts

Bolt Reference	FAZII 8/30	FAZII 10/10	FAZII 10/30	FAZII 10/50	FAZII 12/30	FAZII 12/50	FAZII 16/25	FAZII 16/50
Thread Size	M8	M10	M10	M10	M12	M12	M16	M16
Overall Length (mm)	95	95	115	135	130	150	148	173
Hole Dia in Concrete (mm)	8	10	10	10	12	12	16	16
Hole Dia in Fixture (mm)	9	11	11	11	13	13	17	17
Min. Embedment (mm)	45	60	60	60	70	70	85	85
Width Across Nut (mm)	13	17	17	17	19	19	24	24
Tightening Torque (Nm)	20	45	45	45	60	60	110	110
Max. Fixing Thickness (mm)	30	10	30	50	30	50	25	50

**Note:** For use in cracked and non-cracked concrete C20/25 to C50/60.

# INSTALLATION GUIDE INTERNAL HEAD RESTRAINTS



## IHR Internal Head Restraints

The Ancon IHR is designed to restrain the top of internal walls or the top of the inner leaf of a cavity wall. It comprises an L-shaped channel stem and a top section available in a variety of designs to suit different fixing methods and substrates; the top section slides in the channel to accommodate vertical movement between the blockwork and the structure.

### Channel Stem

The channel stem is closed at the front to prevent mortar ingress.

The standard height of an IHR will suit a 215mm block. Other stem lengths are also available to suit cut blocks with a minimum height of 150mm.



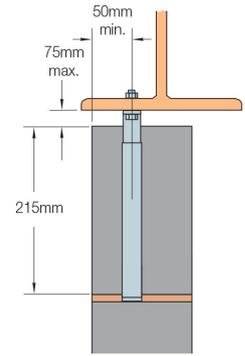
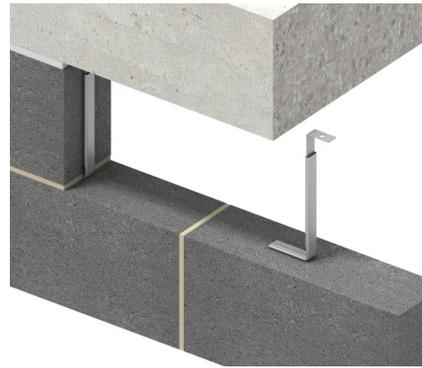
### Sliding Top Section

The IHR sliding top section is available in two standard lengths; one length to accommodate a gap of up to 50mm, and another to accommodate gaps of 51-75mm.

### Positioning

The horizontal leg of the lower section, should be placed directly on top of the block below. The vertical joint should be filled with mortar each side of the stem. IHR's should ideally be positioned centrally in the width of the wall, where this is not possible the centre of the stem should be at least 50mm from the edge of the wall.

IHR Head Restraints will typically be positioned at 450mm or 900mm centres depending on the expected load at the top of the wall. The table provides the design resistance per metre for the IHR range when installed with a 25mm, 50mm and 75mm gap.

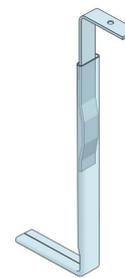
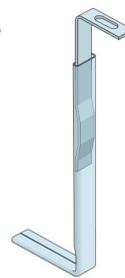
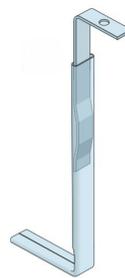


Ancon IHR-B with 9mm dia. hole

Ancon IHR-V with 9mm x 25mm slot

Ancon IHR-S with 6mm dia. hole

Ancon IHR-C to suit cast-in channel



IHR - C 38 to suit 38/17  
IHR - C 30 to suit 30/20

### Fixings

The sliding tie is provided with either a hole (IHR - B) or slot (IHR - V) to suit M8 bolts, a hole (IHR-S) to suit a SDTSS-38-5PT self-tapping screw or a notch end (IHR-C) to fix directly into a 38/17 or 30/20 cast-in channel.

Where IHR-B or IHR-V are used, the head of the fixing bolt will reduce the amount of possible vertical movement. Bolt projections should be kept to a minimum, the top of the block may need to be cut back locally to accommodate the fixing head.

### Before Installation

Check that the IHR ordered and supplied meets the dimensions and performance specifications of your application.

Product Reference	Spacing	Design Resistance (per metre)		
		25mm Gap	50mm Gap	75mm Gap
IHR-B, IHR-V, IHR-C and IHR-S	900mm	1.78kN/m	1.22kN/m	1.06kN/m
	450mm	3.56kN/m	2.44kN/m	2.11kN/m

### Safety Precautions

Suitable personal protective equipment should be worn at all times during handling and installation of fabricated stainless steel building products.

© Ancon Ltd, 2019

The Construction applications and details provided in this guide are indicative only.

In every case installation should be entrusted to appropriately qualified and experienced persons.

Normal handling precautions should be taken to avoid physical injury. Ancon cannot be held responsible for any injury as a result of using our products, unless such injury arises as a result of our negligence.



Tel: 1300 304 320

Email: [info@ancon.com.au](mailto:info@ancon.com.au)

Web: [www.ancon.com.au](http://www.ancon.com.au)

# INSTALLATION GUIDE

# FHR INTERNAL HEAD RESTRAINTS

**Ancon**<sup>®</sup>

## ANCON FHR INTERNAL HEAD RESTRAINTS

FHR Head Restraints provide the necessary restraint at the top of masonry walls. The smaller angle is fitted below the larger angle to form an "F" profile over the head of the blockwork taking care to line up the holes in both the smaller and larger profile. (The two holes in the larger profile are set for 100mm and 140mm thicknesses of masonry).

The two profiles are then bolted to the underside of the structure using the appropriate fixing.

## POSITION

FHR Head Restraints will typically be positioned at 450mm or 900mm centres depending on the expected load at the top of the wall. Each restraint can resist a maximum service load of 1.0kN.

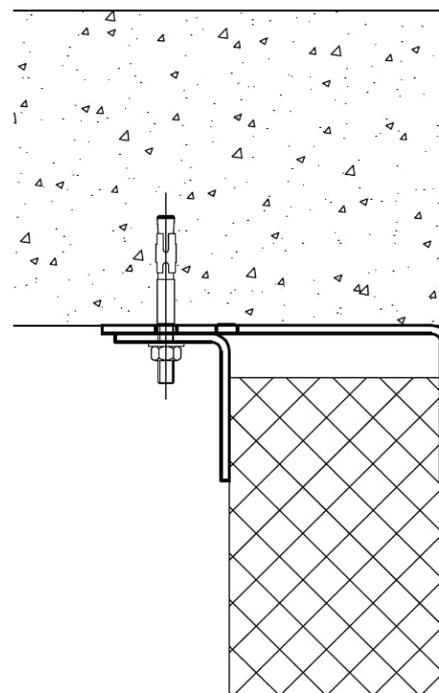
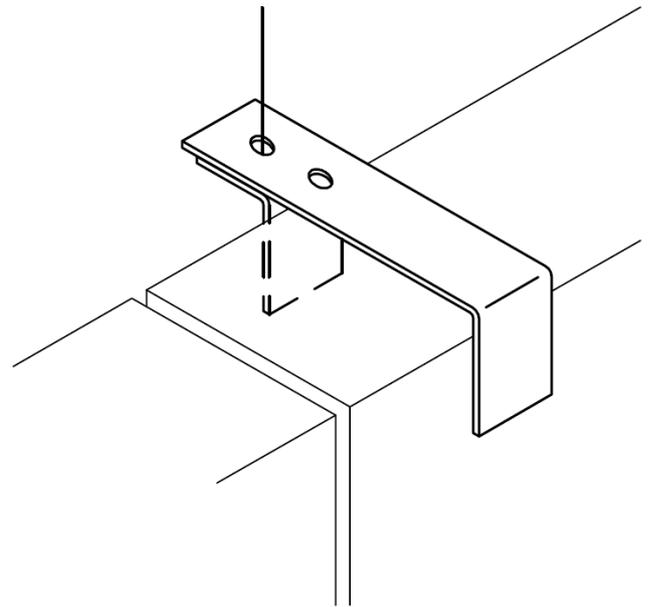
The gap at the top of the wall to the underside of the structure above should not exceed 25mm.

## FIXINGS

Where FHR Head Restraints are fixed back to the underside of concrete soffits Ancon recommends a M8 FBN Expansion Bolt be used. Where fixing to the underside of structural steelwork a M8 isolated setscrew should be used. Please contact Ancon for tightening torques and allowable edge distances.

## SAFETY PRECAUTIONS

Ancon stainless steel products are produced from sheared plate. As with all such industrial fabrications, these may present sharp edges. **Suitable personal protective equipment should be worn at all times during handling and installation.**



**SECTION THROUGH**

© Ancon, 2018

The Construction applications and details provided in this guide are indicative only.

In every case installation should be entrusted to appropriately qualified and experienced persons.

Normal handling precautions should be taken to avoid physical injury. Ancon cannot be held responsible for any injury as a result of using our products, unless such injury arises as a result of our negligence.

**Ancon**<sup>®</sup>

Tel: 1300 304 320  
Email: [info@ancon.com.au](mailto:info@ancon.com.au)  
Web: [www.ancon.com.au](http://www.ancon.com.au)

# Ancon®

## Installation Guide

# Ancon Tension Systems



*The following instructions are vital to ensure a full strength system. Appropriate material end plates should be used to ensure system performance (see 'Connecting Plates' section).*

### Inspection of Product Components

#### Transit Damage

All tension system components should be visually inspected for transit damage prior to installation. Special care should be taken when inspecting bars and threaded areas as significant damage could affect the capacity of the system. Thread distortion will cause fittings to jam over thread.

Component surface damage, including scuffing and scratching, should be treated by either polishing for stainless steel or repair coating treatments for zinc/galvanised bars. With regards to the latter, this is important to maintain system corrosion protection.

#### Thread Orientation

Threaded components are either right hand or left hand oriented. It is important to identify thread orientation prior to assembly, to avoid mismatching components. All fittings are stamped with either 'R' or 'L' to indicate hand of thread.

## Assembly and Adjustment of the System



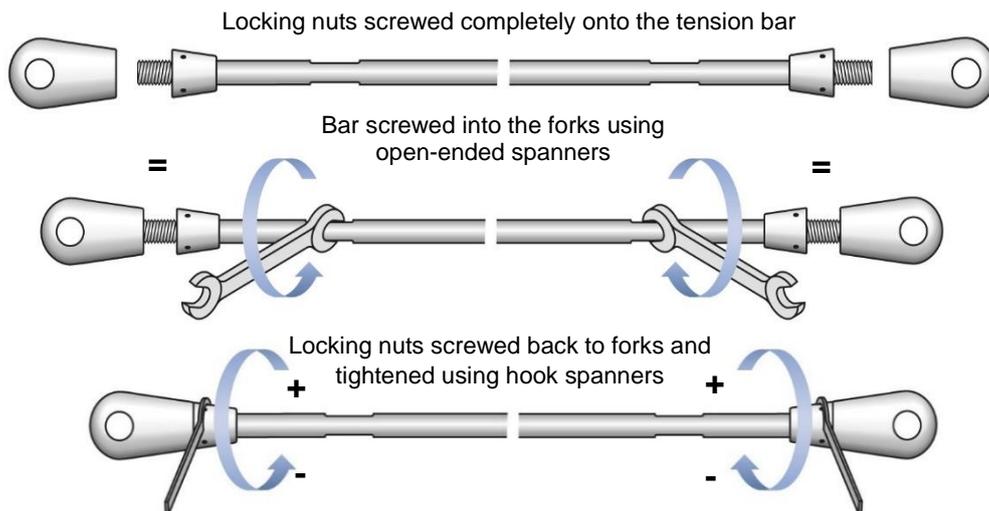
**All bars and relevant fittings should be separated and identified per work area, to avoid misplacing bar lengths or sizes. It is advisable to assemble tension bars on the ground first, without pins, before lifting into position over the connecting plates.**



### Installation Guidance

1. On a level surface as close as possible to the final fixing location, assemble the full system, without pins, to the required pin-to-pin dimension. To do this the locking nuts should be fully screwed onto the bar at each end and the bar screwed into the forks, ensuring full thread engagement, using an open-ended spanner of the correct size (see page 4 for spanner sizes).

When the required system length is reached, the locking nuts must be turned back to the fork and tightened using soft touch pliers for Ancon 500/8 to 12, or a hook spanner for Ancon 500/16 and above, and the Ancon 360 System.



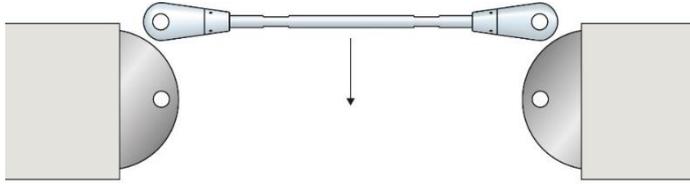
No thread should be visible past the locknut. To make adjustments to the length of the system, to achieve a specific pin-to-pin dimension, unscrew couplers (if used) and then unscrew fork ends. Ensure adjustment is distributed along all adjustable components to make certain no thread is showing across the entire assembly.

### Couplers

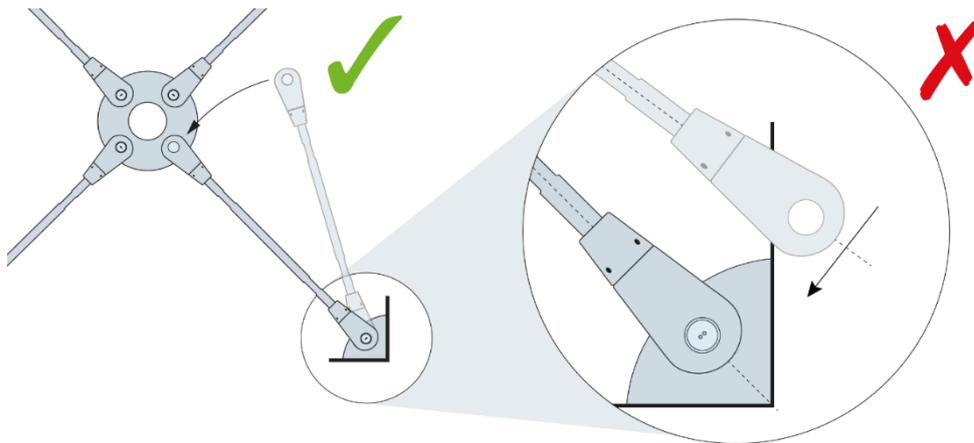
Where couplers are used, please note that each end of the coupler has different thread directions. Match both the right hand and left hand stamps on the coupler with the relevant thread ends of the tension bars. Completely screw coupler onto first bar until it reaches centre stop location, then completely screw other bar into coupler. Bars should butt up against each other and should be engaged approximately half the length of the coupler each.

# Installation Guide Ancon Tension Systems

2. The full assembly should be lifted over one connecting plate, avoiding excessive sag by using lifting equipment or temporary props as appropriate. Secure the system in place with the pin. Repeat the process at the other connecting point.



In systems that have a disc, the bars should be installed in a sequence so that the fork towards the disc is installed last.



## Installing the pin

Installation of the pin requires a special driver suitable for 'Snake Eyes'\* fixings. Two driver bits of the appropriate size are supplied with each Ancon system. The female section of the pin is located through the fork connector and temporarily held in position. A second driver is used to wind the male section into position creating a secure connection. Once installed the pins are slightly recessed into the fork.



Twin-pin driver

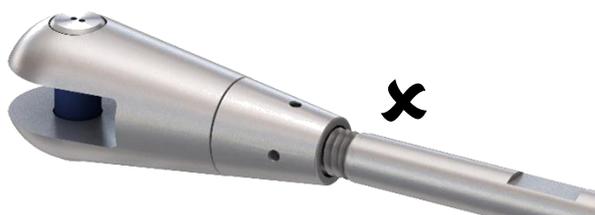
*\*'Snake Eyes' is the registered trademark of Tamperproof Screw Company Inc*

3. Final adjustment/tensioning of bars can now take place. Adjustment should be shared between components to ensure adequate bar engagement throughout the system. Tighten the locknuts against fork ends (and couplers if used), ensuring no threads are visible, to complete the installation. See table for level of adjustment provided and see 'Corrosion Protection' for final sealing guidance.



**When the installation is complete, all threads must be hidden within the locking nut. If the thread is visible, the bar is not sufficiently engaged in the fork and would need to be adjusted.**

Incorrect installation with thread exposed



Correct installation with no threads visible



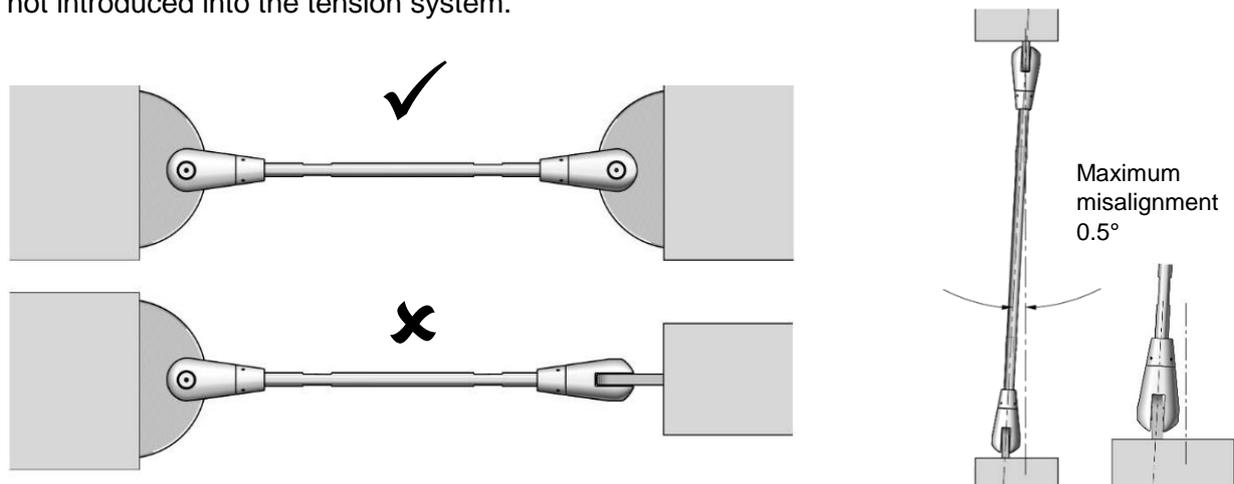
**General Guidance**

**Adjustment per thread end/bar size**

<b>Thread Size (M)</b>	<b>8</b>	<b>10</b>	<b>12</b>	<b>16</b>	<b>20</b>	<b>24</b>	<b>30</b>	<b>36</b>	<b>42</b>	<b>48</b>	<b>56</b>
<b>Fork Adjustment (mm)</b>	9	10	13	15	16	22	25	28	30	35	45
<b>Coupler Adjustment (mm)</b>	9	10	13	15	16	22	25	28	30	35	45

**Fork Connector Alignment**

Forks must be correctly aligned, and positioned in the same plane to ensure that bending is not introduced into the tension system.



**Connecting Plates**

All connection plates should be manufactured from either S355 carbon steel or grade 1.4462 stainless steel to ensure system performance; equivalent strength materials could also be used. See Ancon's 'Tension and Compression Systems' technical brochure for minimum critical dimensions.

**Spanner Size**

<b>Thread Size (M)</b>	<b>8</b>	<b>10</b>	<b>12</b>	<b>16</b>	<b>20</b>	<b>24</b>	<b>30</b>	<b>36</b>	<b>42</b>	<b>48</b>	<b>56</b>
<b>Spanner Size (mm A/F)</b>	13	17	19	30	36	46	55	65	75	85	95

**Dissimilar Metals Isolation**

Each stainless steel fork connector is supplied with two clear, self-adhesive, PET (polyester) washers to isolate the system from a connecting plate of a dissimilar metal. These washers should be applied around the fixing hole, either side of the plate, prior to the installation of the fork. The area should be dry, free from debris and wiped clean, prior to the application of the washer.

Stainless steel pins feature a PTFE coating around the barrel to isolate it from the plate.

**Corrosion Protection**

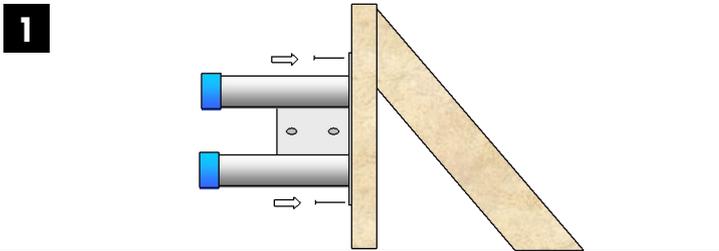
Electrodeposited zinc coating (Fe/Zn12/A to EN 12329) will provide protection against corrosion but should only be used for internal installations and will naturally degrade over time. Hot-dip galvanising (to EN 1461) will provide greater protection and could be used outdoors considering environment corrosivity. Stainless steel systems offer the greatest corrosion protection.

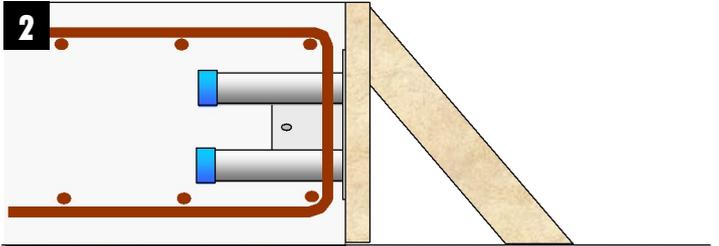
**Regardless of system material, it is recommended to seal off locknuts with an appropriate industrial sealant to ensure water and debris do not seep into the bar thread through the void between bar and locknut. This is particularly important for vertical and inclined assemblies.**

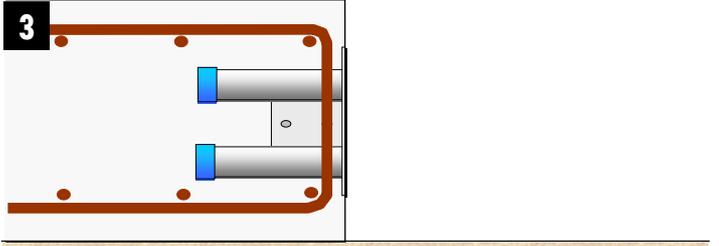


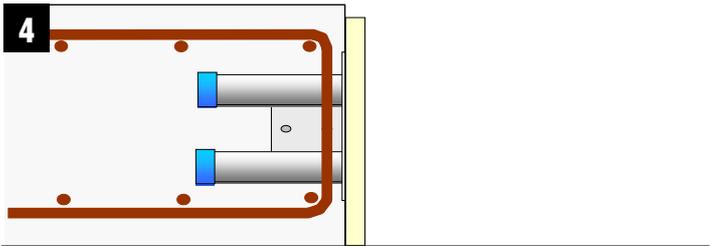
## DSD/DSDQ/ESD/ESDQ

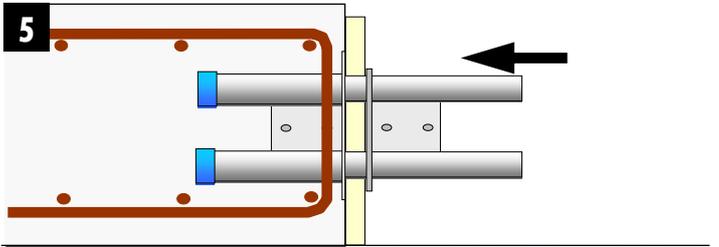
### Installation

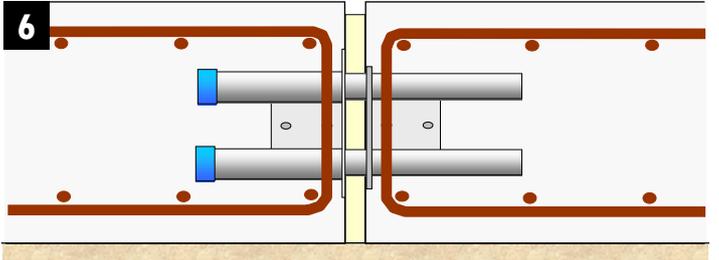
- 

**1** Nail sleeve to formwork. Do not remove sticky label, this prevents ingress of concrete into the sleeve
- 

**2** Fix the local reinforcement around the sleeve and pour the concrete
- 

**3** When the concrete has achieved sufficient strength, strike shuttering and peel off or puncture the label
- 

**4** Position compressible joint filler
- 

**5** Push the dowel component through the filler until it is fully located in the sleeve
- 

**6** Fix the local reinforcement around the sleeve and pour the concrete

# INSTALLATION GUIDE

## STAIFIX R/R WALL TIE

**Ancon**<sup>®</sup>

Drill a hole through the outer leaf and into the inner to a depth of between 65mm-70mm using a 10mm drill bit. Remove dust and debris.

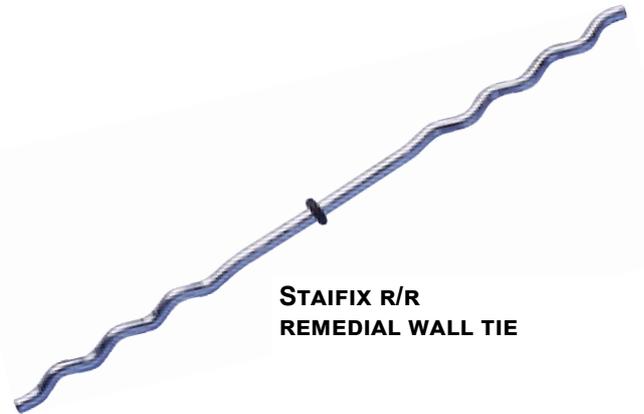
A plastic sieve can be used to retain resin and is particularly useful in perforated brick or hollow blockwork. A 12mm hole is required to fit the sieve.

Inject two part polyester resin into predrilled hole in inner leaf ensuring the hole is fully filled.

Gently push remedial wall tie into the resin filled hole.

Inject two part polyester resin into predrilled hole in outer leaf, ensuring that the tie is completely surrounded by resin.

Leave to set before making good to the outer brick using colour matched mortar or mastic (resin manufacturer's technical data should be checked for exact gel time).



**STAIFIX R/R  
REMEDIAL WALL TIE**

© Ancon, 2018

The Construction applications and details provided in this guide are indicative only.

In every case installation should be entrusted to appropriately qualified and experienced persons.

Normal handling precautions should be taken to avoid physical injury. Ancon cannot be held responsible for any injury as a result of using our products, unless such injury arises as a result of our negligence.

**Ancon**<sup>®</sup>

Tel: 1300 304 320  
Email: [info@ancon.com.au](mailto:info@ancon.com.au)  
Web: [www.ancon.com.au](http://www.ancon.com.au)

# INSTALLATION GUIDE

## ANCON STEELGRIP

**Ancon®**

Ancon Steelgrip is designed for fixing Ancon masonry support systems to square or rectangular hollow steel sections. It can also be used with other steel sections where access is only available from the front.

It is a high performance fixing available in one size (M12).

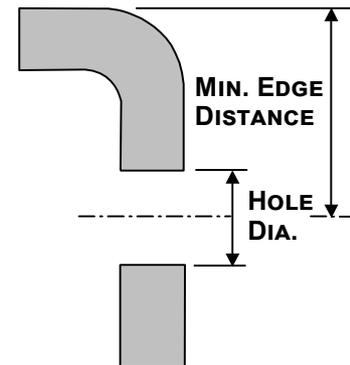
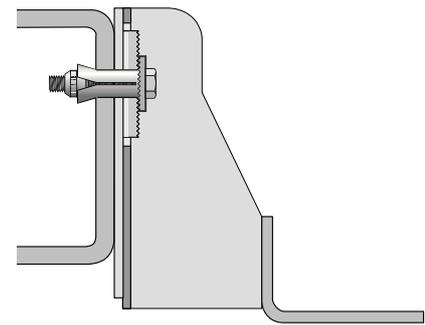
Steelgrip includes a serrated washer, which matches the serrations at the back of the Ancon bracket. With the bracket in position, Steelgrip is inserted through the vertical slot in the bracket and into the pre-drilled hole in the Hollow Section. It is then simply tightened to the correct torque.

### PERFORMANCE

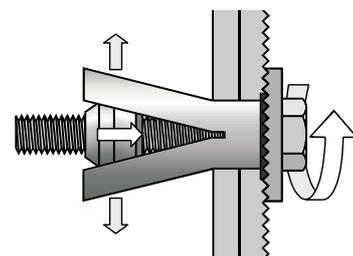
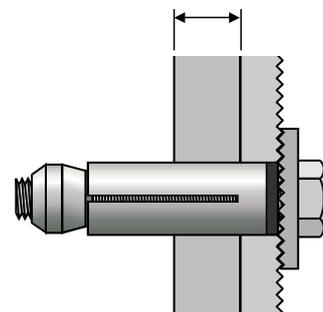
The safe working loads given in the table below are based on a FOS 3:1.

### INSTALLATION

1. Drill a hole in the steel member. See table below for hole diameter and minimum edge distance.
2. With the bracket in place, insert the Steelgrip through the vertical slot ensuring that the serrations on the washer are horizontal and will mesh with the serrations at the back of the bracket.
3. Adjust the height of the bracket, and if necessary insert shims behind the bracket up to a maximum thickness of 16mm. An isolation membrane will normally be positioned between the face of the steel edge member and the stainless steel bracket/shim.
4. Tighten the Steelgrip to required torque using a calibrated torque wrench. See table below for tightening torque.



**5MM-28MM  
INCLUDING SHIMS**



TECHNICAL DATA	M12
SWL Tension	15kN
SWL Shear	10kN
Hole Diameter	20mm
Min. Edge Distance	25mm
Tightening Torque	80Nm

© Ancon, 2018

The Construction applications and details provided in this guide are indicative only.

In every case installation should be entrusted to appropriately qualified and experienced persons.

Normal handling precautions should be taken to avoid physical injury. Ancon cannot be held responsible for any injury as a result of using our products, unless such injury arises as a result of our negligence.

**Ancon®**

Tel: 1300 304 320  
Email: [info@ancon.com.au](mailto:info@ancon.com.au)  
Web: [www.ancon.com.au](http://www.ancon.com.au)

# INSTALLATION GUIDE STAIFIX TJ2 WALL TIES FOR THIN-JOINT BLOCKWORK



## INSTALLATION PROCEDURE

1. Keep the brickwork one course clear during installation of the ties. Position the tie against the inner leaf so that the outer end will be located in the bed joint of the external leaf.

---

2. Hammer the tie, through the insulation, and into the blockwork to the correct embedment.

---

3. Install a black Staifix Insulation Retaining Clip to restrain the insulation.

---

4. Build into the bed joint of the outer leaf ensuring the tie is surrounded by mortar.

The Staifix-Thor Helical TJ2 Tie hammers directly into aerated concrete blocks. It is ideal for thin-joint blockwork and other applications where the joints in the inner and outer leaves of masonry are not aligned.

The TJ2 is suitable for housing and small commercial developments. It meets the requirements of the NHBC, BS EN 845-1 and BS 5628-1 as a type 2, 3 or 4 wall tie depending on the block used (see table below).

TIE LENGTHS	CAVITY WIDTHS
205 mm	50 mm
230 mm	75 mm
255 mm	100 mm
280 mm	125 mm
305 mm	150 mm

BLOCKS STRENGTH N/ MM <sup>2</sup>	TIE TYPE TO BS 5628-1	
	CAVITIES LESS THAN 100MM	CAVITY OF 125MM
2.8	4	4
3.5 - 4.0	3	4
7.0 - 10.5	2	3

© Ancon, 2018

The construction applications and details provided in this guide are indicative only. In every case installation should be entrusted to appropriately qualified and experienced persons. Normal handling precautions should be taken to avoid physical injury.

Ancon cannot be held responsible for any injury as a result of using our products, unless such injury arises as a result of our negligence.

# Ancon®

Tel: 1300 304 320  
Email: [info@ancon.com.au](mailto:info@ancon.com.au)  
Web: [www.ancon.com.au](http://www.ancon.com.au)

# MASONRY SUPPORT SYSTEMS ACCOMMODATING CAVITY VARIATIONS

Welded bracket-angle and plain angle brickwork support systems experience the same limitations when accommodating cavity variations. Support systems are designed and manufactured to a set cavity dimension. Adjustment is provided by the use of shims. Without the use of any shims a cavity increase of 2mm and a reduction of up to 10mm (+2 -10) can be achieved. With the use of shims this range can be extended to +28mm and -10mm.

## REDUCTIONS IN CAVITY SIZE

A reduction in cavity size is accommodated by increasing the bearing of the masonry on the angle. The amount of reduction that can be accommodated is restricted by the gap between the vertical leg of the angle and the back of the masonry. This accommodates **-7mm** when using a pistol brick and **-10mm** otherwise. It should be noted however that the gap between the angle toe and back of a pistol brick nib may restrict this adjustment.

## INCREASES IN CAVITY SIZE

An increase in cavity size is accommodated by decreasing the bearing on the support angle, using loose shims, solid shim packs, or extension plates.

Decreasing bearing – The standard bearing provided by a masonry support angle is 70mm. The minimum bearing for a 102mm brick is 68mm accommodating a cavity increase of **+2mm**.

Loose shims – The amount of loose shims that can be used is limited to the diameter of the bolt being used – usually **+12mm**. Tests show that installing shims in excess of this introduces excessive bending stresses to the bolt. Ancon supply shims in 2, 3, 4, 5 and 6mm thicknesses.

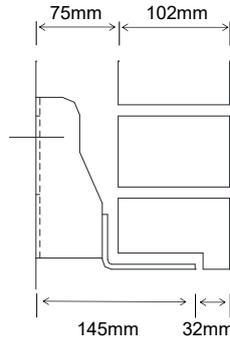
When utilising shims they must be of sufficient length to extend to the bottom of the bracket.

Solid shim packs – Larger shim packs can be used, however they must be one unit and must have a hole to suit the bolt being used. This hole is to prevent bending of the bolt and therefore shims with a vertical slot are not suitable. Solid shim packs in 15, 20 and 25mm can be supplied. In conjunction with a single 3mm standard loose shim this system can accommodate cavity increases up to **+28mm**. The maximum solid shim pack that can be used is 25mm thick.

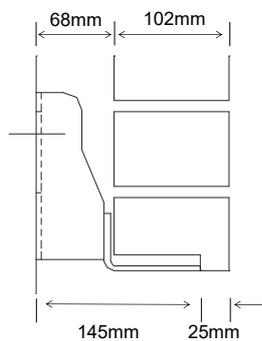
When utilising shims they must be of sufficient length to extend to the bottom of the bracket.

Extension plates – Extension plates can be used to extend the support angle's bearing leg to accommodate a cavity increase of **+17mm**. **They are only suitable for some support angle designs and therefore each application must be checked by Ancon's technical staff prior to use. Extension plates should not be used in conjunction with shims.**

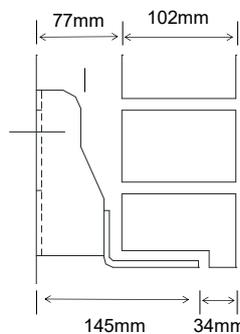
**Design Cavity**



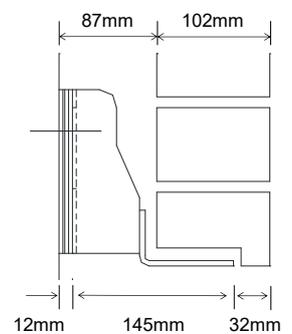
**Reduced Cavity : -7mm**



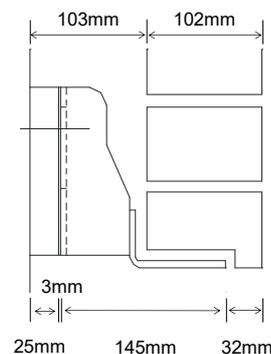
**Increased Cavity  
No Shims : +2mm**



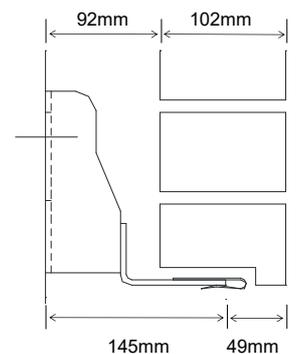
**Maximum Loose Shims:  
+12mm**



**25mm Solid Shim Pack and  
Loose 3mm: +28mm**



**Extension Plate:  
+17mm**



# MASONRY SUPPORT SYSTEMS ACCOMMODATING CAVITY VARIATIONS



## INCORPORATING SHIMS INTO THE DESIGN

The majority of customers choose to have the system designed without a basic shim allowance. It is however possible to incorporate shims into the standard design if required. Whilst adding shims to the basic design does alter the balance of the cavity range, it also increases the cost. For example, adding 5mm shims as standard would alter the maximum cavity variation to +23mm and -15mm and would cost approximately £5-10 extra per metre (depending on the system).

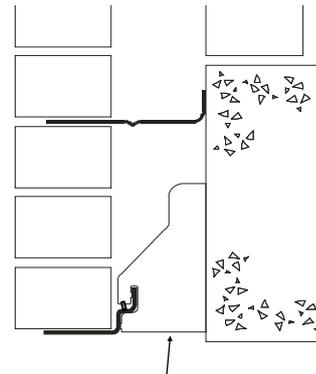
## ACCOMMODATING LARGER CAVITY VARIATIONS

Cavities can sometimes exceed the adjustment provided by shims and extension plates. Unfortunately, if the angles have already been delivered to site before this is discovered it will be necessary to purchase replacement angles.

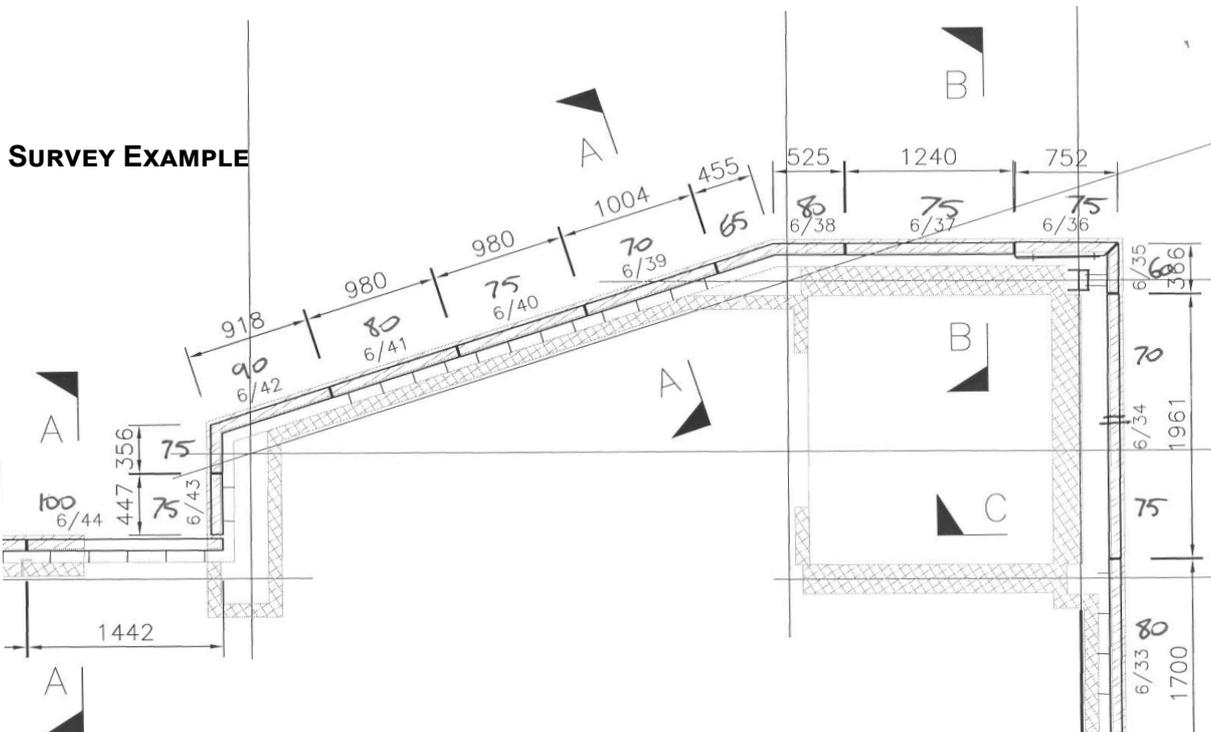
Please ensure that survey information is issued to Ancon in the correct format to enable us to recalculate the designs, check corner details and manufacture the support angles to suit actual site conditions. A copy of the Ancon support angle drawing should be over marked with the structural cavity required for each angle, as shown in the example below. If necessary a single angle can accommodate a large cavity variance by splitting into two pieces with a different cavity for each.

## ANCONOPTIMA SYSTEM

An alternative to the MDC and CFA support systems is the AnconOptima system. This latest development in masonry support incorporates a two step angle and a range of interchangeable brackets to enable cavities of 60–130mm to be accommodated. Standard AnconOptima systems to support loads of 10kN, 12kN and 14kN are available and depending on the fixings used brackets are simply changed on site to allow for cavity variations. More detailed information on the AnconOptima and other support systems is available in our literature.



AnconOptima interchangeable brackets to suit variations in cavity size



Tel: 1300 304 320  
Email: info@ancon.com.au  
Web: www.ancon.com.au

Ancon, 2018

The construction applications and details provided in this guide are indicative only.

In every case installation should be entrusted to appropriately qualified and experienced persons.

Normal handling precautions should be taken to avoid physical injury. Ancon cannot be held responsible for any injury as a result of using our products, unless such injury arises as a result of our negligence.

# INSTALLATION GUIDE LOCKABLE DOWELS

## Slab-to-Slab Lockable Dowels

Although installation is shown for the ESDQ-L20, the procedure is the same for the HLDQ-L30.

Nail the sleeve to the formwork either central in the slab or for slab depths over 300mm so the top of the void former is level with the top of the slab. Do not remove the label over the nailing plate as this prevents ingress of concrete into the sleeve.

Fix the local reinforcement to Engineer's detail based on Ancon's recommendations. Pour the concrete, and when of sufficient strength, strike the formwork.

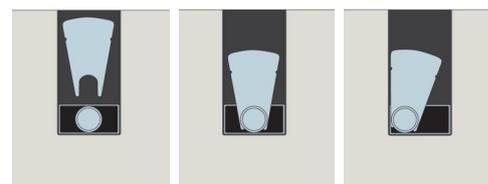
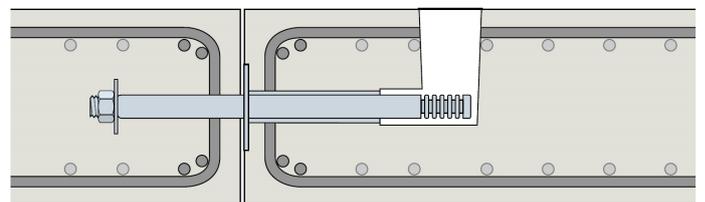
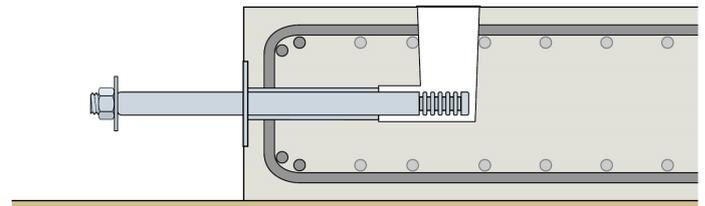
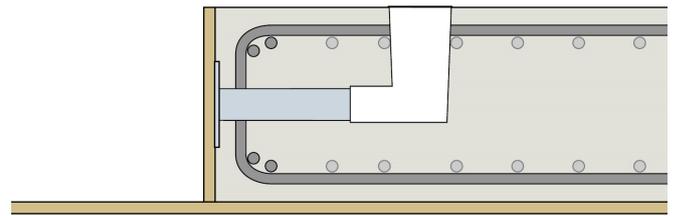
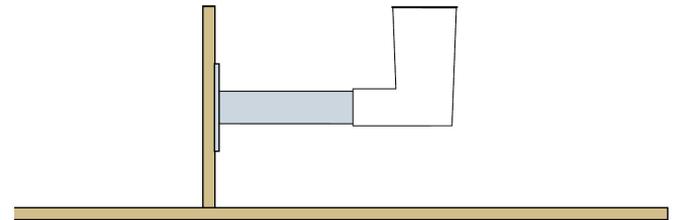
Puncture the label to reveal the cylindrical sleeve only and insert the dowel until it is approximately 20mm from the back of the void former. Ensure the lid is secured to prevent debris from entering the void former.

Fix the local reinforcement around the dowel component and pour the concrete.

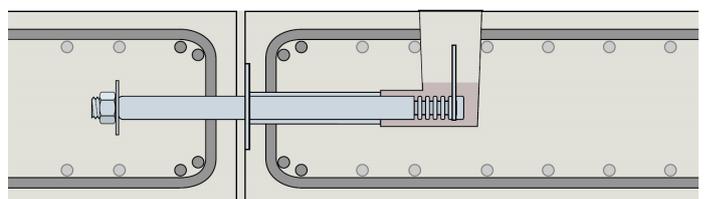
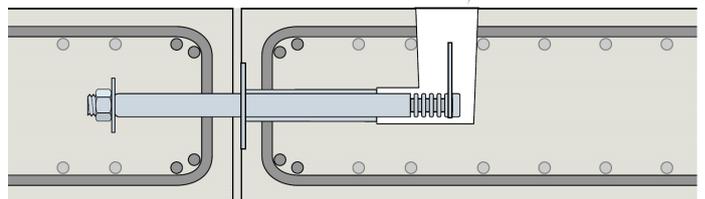
After a predetermined time period (generally 60-120 days), when movement between the slabs has stabilised and the joint between the slabs has been filled, the dowel is ready to be locked. Fit the Locking Plate on a groove in the centre of the void former.

Mix the two-part epoxy resin and pour into the void former. It is essential the resin flows along the stainless steel box section towards the joint and reaches the notches on the locking plate, which indicate minimum resin depth. Joint must be filled before resin is installed; Ancon can provide information on a suitable joint filler.

After 24 hours the void former can be filled with cementitious material, level with the top of the slab, to complete the installation. The locked dowel continues to transfer vertical load between the slabs, but movement can no longer take place.



*The fan-shaped Locking Plate allows the dowel to be locked in any position.*



**Notes:** Where deep concrete pours are proposed, the installation will require further consideration. More robust fixing of the sleeve and dowel components will be necessary, to avoid displacement during casting of the concrete. Ensure joint has been filled before pouring resin.

# INSTALLATION GUIDE LOCKABLE DOWELS

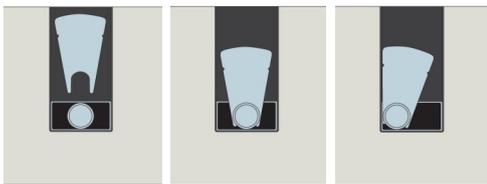
# Ancon®

## Slab-to-Wall Lockable Dowels

Nail the threaded anchor to the formwork so the dowel will be central in the adjoining slab or within 150mm of the top of slabs over 300mm. Fix the local reinforcement and cast the concrete. Reinforcement around the Ancon Threaded Anchor should be a minimum diameter of 12mm, installed at maximum 200mm vertical and horizontal centres.

When concrete reaches sufficient strength, strike the formwork and remove nailing plate. Screw the dowel into the anchor. Puncture the label of the sleeve to reveal the cylindrical sleeve only. Push the sleeve over the dowel, until the dowel is approximately 20mm from the back of the void former. Ensure the lid is secured to prevent debris from entering the void former.

Tie sleeve to reinforcement and pour concrete. After a predetermined time period (generally 60-120 days), when movement between the slabs has stabilised and the joint between the slabs has been filled, the dowel is ready to be locked. Fit the Locking Plate on a groove in the centre of the void former.

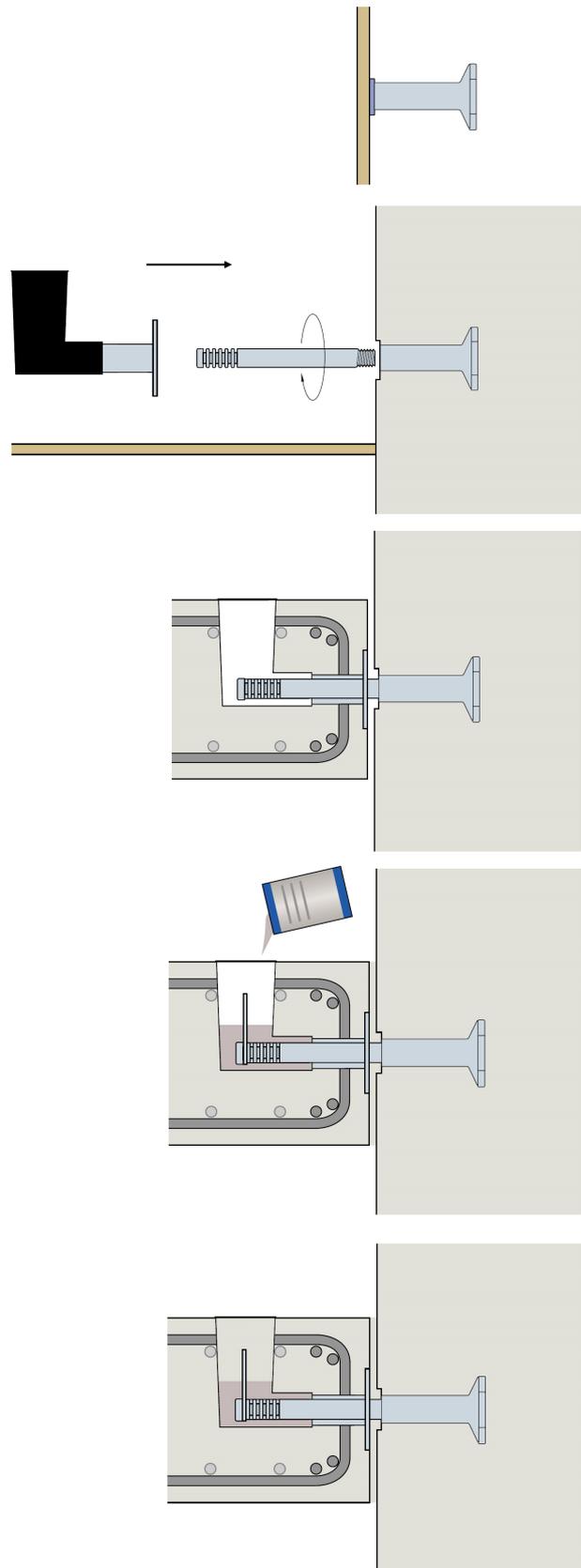


The fan-shaped Locking Plate allows the dowel to be locked in any position.

Mix the two-part epoxy resin and pour into the void former. It is essential the resin flows along the stainless steel box section towards the joint and reaches the notches on the locking plate, which indicate minimum resin depth. Joint must be filled before resin is installed; Ancon can provide information on a suitable joint filler.

After 24 hours the void former can be filled with cementitious material, level with the top of the slab, to complete the installation. The locked dowel continues to transfer vertical load between the slabs, but movement can no longer take place.

**Notes:** Where deep concrete pours are proposed, the installation will require further consideration. More robust fixing of the sleeve and dowel components will be necessary, to avoid displacement during casting of the concrete. Ensure joint has been filled before pouring resin.



© Ancon, 2018  
The Construction applications and details provided in this guide are indicative only. In every case installation should be entrusted to appropriately qualified and experienced persons. Normal handling precautions should be taken to avoid physical injury. Ancon cannot be held responsible for any injury as a result of using our products, unless such injury arises as a result of our negligence.

# Ancon®

Tel: 1300 304 320  
Email: [info@ancon.com.au](mailto:info@ancon.com.au)  
Web: [www.ancon.com.au](http://www.ancon.com.au)

# INSTALLATION GUIDE CFA SUPPORT SYSTEM

Ancon CFA Shelf Angles are generally fixed to concrete or steel frames. Adjustment is provided in every direction to allow for tolerance in the structural frame. Vertical, horizontal and lateral tolerances are catered for in the following procedures.

## CAVITY VARIATION

These systems are manufactured to suit the 'design' cavity dimension. As standard, CFA accommodates a cavity increase of 2mm and a reduction of up to 10mm (+2/-10). Shims can be added between the structure and the angle and can extend this range of adjustment to +28mm/-10mm.

Variations in cavity size are overcome in two ways,

1. Increase in cavity is accommodated by inserting full height stainless steel shims between the structural face and the back of the CFA angle. Shims can be included between the angle and the frame up to a maximum thickness of the outside diameter of the fixing bolt, or 16mm, whichever is less. In exceptional circumstances, increased shimming can be accommodated, after consultation with our Technical Staff. When utilising shims, they must be of sufficient length to extend the full height of the angle.
2. Decrease in cavity is overcome by re-positioning the brick on the support angle, thus increasing the amount of actual support under the brick. This operation may necessitate cutting the brick to clear the angle radius. Design criteria govern the extent of allowable movement.

## HORIZONTAL ADJUSTMENT

This form of continuous support system is designed with 10mm nominal gaps between individual angles. Horizontal cast-in channel, or horizontal slots in the steelwork (provided by others) facilitate adjustment of the angles.

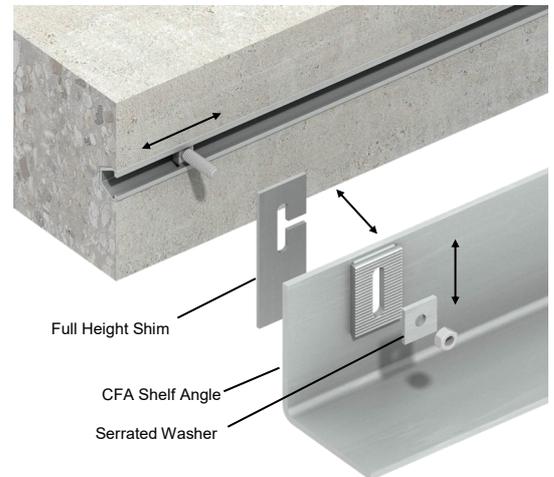
## VERTICAL ADJUSTMENT

The vertical slot in the back of the CFA angle allows up to 60mm vertical adjustment. i.e.  $\pm 25$  mm with an M12 bolt.

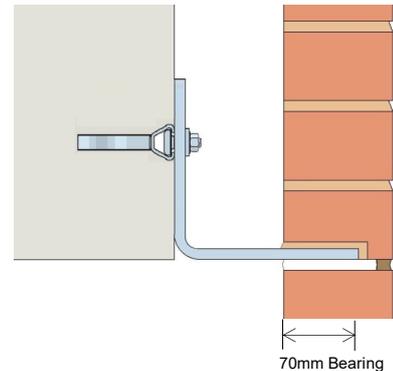
## FIXINGS

It is important to utilise the fixings supplied as these are an integral component of the design. Serrated washers must be installed in the correct orientation i.e. serrations horizontal to match those on the angle. Ensure nuts are tightened to the specified tightening torque.

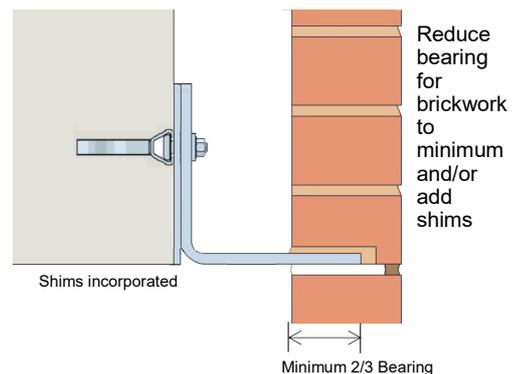
## ADJUSTMENT OF CFA SHELF ANGLE



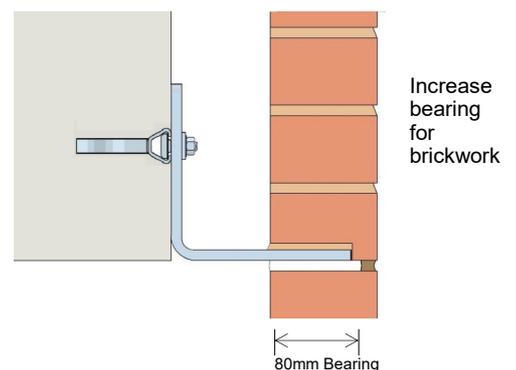
## DESIGN CAVITY



## INCREASED CAVITY



## REDUCED CAVITY



# INSTALLATION GUIDE CFA SUPPORT SYSTEM

**Ancon**<sup>®</sup>

## BI-METALLIC CORROSION

Ancon Support Systems are manufactured from grade 304 (1.4301 to EN 10088) stainless steel and will be suitable for most building applications.

Bi-metallic corrosion may occur in a damp environment where the stainless steel support system is bolted to the structural steel frame. This will not affect the stainless steel, but could slightly increase the corrosion rate of the carbon steel.

When CFA Systems are fixed back to steel structures, the structural component may be isolated from the stainless steel support system to prevent the possibility of bi-metallic corrosion. This can be achieved in one of two ways.

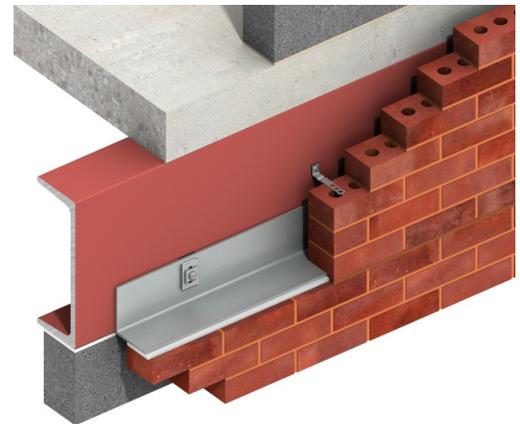
1. Painting the areas that will be in contact with the support system
2. Inserting an isolation shim

## WALL TIES AND RESTRAINT FIXINGS

Wall ties must be provided at a recommended maximum horizontal spacing of 450mm within 300mm above the support angle.

## SAFETY PRECAUTIONS

Ancon stainless steel products are produced from sheared plate. As with all such industrial fabrications, these may present sharp edges. **Suitable personal protective equipment should be worn at all times during handling and installation.**



**Ancon**<sup>®</sup>

Tel: 1300 304 320  
Email: [info@ancon.com.au](mailto:info@ancon.com.au)  
Web: [www.ancon.com.au](http://www.ancon.com.au)

© Ancon, 2018

The Construction applications and details provided in this guide are indicative only.

In every case installation should be entrusted to appropriately qualified and experienced persons.

Normal handling precautions should be taken to avoid physical injury. Ancon cannot be held responsible for any injury as a result of using our products, unless such injury arises as a result of our negligence.

# INSTALLATION GUIDE MM 63 REMEDIAL WALL TIE

# Ancon®

Drill a hole through the outer leaf and into the inner to a minimum depth of 60mm using a 10mm drill bit. Remove dust and debris.

Screw the male threaded portion of the tie into the female threaded part of the setting tool. Note a gap of at least 1mm must be maintained between the nut and the end of the setting tool.

Insert the wall tie into the hole and turn in a clockwise direction whilst gently pushing into the back of the hole. Continue turning until hand tight. (1.2 - 2Nm)

To remove the fixing tool, hold the single handle whilst turning the T handle anti-clockwise. Unscrew fixing tool from wall tie. Close together the setting tool prior to setting additional ties.

Carry out pull test to tie on inner leaf if required.

To fix the outer leaf insert the hexagonal setting tool over the small nut on the tie and turn clockwise until hand tight. (1.2 - 2Nm) Remove setting tool.

Make good the outer brick using colour matched mortar or mastic.

## Ancon 63 Range

*Spacings. Accepted practice is to follow BS 5628 i.e. 900mm*

Cavity Width (mm)	Tie Lengths (mm)	Drill Diameter (mm)	Drill Depths (mm)
50-75	200	10	60 min.
76-100	225	10	60 min.
101-125	250	10	60 min.
126-175	300	10	60 min.

*horizontally and 450mm vertically in a staggered pattern with 300mm vertical centres around openings within 225mm of the opening. For cavities over 100mm, horizontal spacing may need to be reduced to 450mm*

## Failure Loads (Pull-Out)

*Note. Test results are a mean of 5 tests*

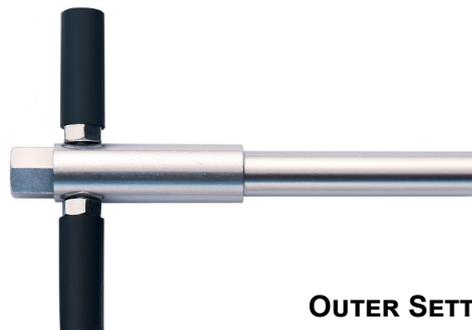
Base Material	Compressive Strength (N/mm <sup>2</sup> )	Failure Load (kN)
Hard Brick (Accrington Nori)	80	5.6
Soft Brick (Yellow Imperial)	30	3.8
Portland Stone	20	5.3
Dense Aggregate Block	7	1.9



**MM63 REMEDIAL TIE**



**INNER SETTING TOOL**



**OUTER SETTING TOOL**

© Ancon, 2018

The Construction applications and details provided in this guide are indicative only.

In every case installation should be entrusted to appropriately qualified and experienced persons.

Normal handling precautions should be taken to avoid physical injury. Ancon cannot be held responsible for any injury as a result of using our products, unless such injury arises as a result of our negligence.

# Ancon®

Tel: 1300 304 320  
Email: [info@ancon.com.au](mailto:info@ancon.com.au)  
Web: [www.ancon.com.au](http://www.ancon.com.au)

# INSTALLATION GUIDE RM 63 REMEDIAL WALL TIE

**Ancon®**

Drill a hole through the outer leaf and into the inner to a minimum depth of 60mm using a 10mm drill bit. Remove dust and debris.

Inject two part polyester resin into the hole in inner leaf ensuring the hole is fully filled.

Gently push remedial wall tie into the resin filled hole, brass shell outer, and leave to set for a minimum of 45 minutes. (Resin manufacturer's technical data should be checked for exact gel time).

Carry out pull test to tie on inner leaf if required.

To fix outer leaf insert the hexagonal setting tool over the small nut on the tie and turn clockwise until hand tight. Remove setting tool. (1.2 - 2Nm)

Make good the outer brick using colour matched mortar or mastic.

## Ancon 63 Range

Cavity Width (mm)	Tie Lengths (mm)	Drill Diameter (mm)	Drill Depths (mm)
50-75	200	10	60 min.
76-100	225	10	60 min.
101-125	250	10	60 min.
126-175	300	10	60 min.

**Spacings.** Accepted practice is to follow BS 5628 i.e. 900mm horizontally and 450mm vertically in a staggered pattern with 300mm vertical centres around openings within 225mm of the opening. For cavities over 100mm, horizontal spacing may need to be reduced to 450mm

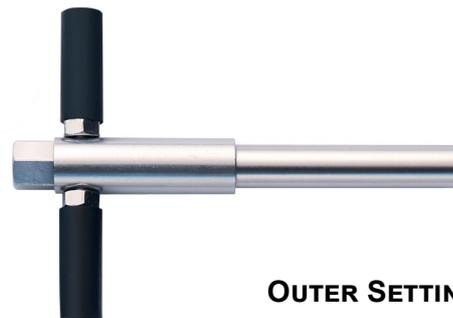
## Failure Loads (Pull-Out)

Base Material	Compressive Strength (N/mm <sup>2</sup> )	Failure Load (kN)
Hard Brick (Accrington Nori)	80	5.6
Soft Brick (Yellow Imperial)	30	3.8
Portland Stone	20	5.3
Dense Aggregate Block	7	1.9

**Note.** Test results are a mean of 5 tests



**RM63 REMEDIAL WALL TIE**



**OUTER SETTING TOOL**

© Ancon, 2018

The Construction applications and details provided in this guide are indicative only.

In every case installation should be entrusted to appropriately qualified and experienced persons.

Normal handling precautions should be taken to avoid physical injury. Ancon cannot be held responsible for any injury as a result of using our products, unless such injury arises as a result of our negligence.

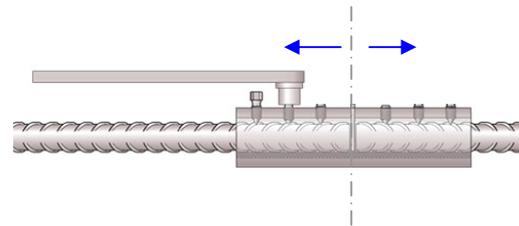
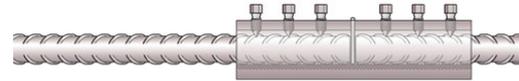
**Ancon®**

Tel: 1300 304 320  
Email: [info@ancon.com.au](mailto:info@ancon.com.au)  
Web: [www.ancon.com.au](http://www.ancon.com.au)

# Ancon MBT Coupler Installation Guide (Australia)

Ancon MBT Couplers must be correctly installed to ensure that the full working capacity can be achieved. The coupler should be complete with the correct number of bolts and the two serrated strip saddles in place inside the coupler. For correct installation, all the bolts must be tightened until the heads shear off.

- 1 Place coupler over the end of the bar to half the coupler length +/- 6mm and finger tighten the lock shear bolts onto the bar. Check the alignment and make any necessary adjustments.
- 2 Place other bar end into the coupler until it pushes up against the first bar and finger tighten the remaining lockshear bolts. Check the alignment and make any adjustments.
- 3 The lock shear bolts should be tightened using either a ratchet wrench, electric or pneumatic power tool. Do not use impact power tools.
4. On one half of the coupler, starting from the centre of the coupler and working outwards, towards the end of the coupler, **partly tighten** all of the lock shear bolts using the appropriate tool.
- 5 Repeat step 4 again, starting from the centre of the coupler and working towards the end of the coupler, **fully tighten** all of the lock shear bolts, using the appropriate tool, until the bolt heads shear off.
6. Steps 4 and 5 to be completed for the other half of the coupler.



Ref.	No./Bolt Thread	Socket Head	Nominal Bolt Shear Torque		Handle Length* (mm)
			(Nm)	(lbf ft)	
ET12	6/M10	1/2"	55	40	300
ET16	6/M12	1/2"	108	80	600
ET20	8/M12	1/2"	108	80	600
ET25	8/M16	5/8"	275	203	1100**
ET28	10/M16	5/8"	275	203	1100**
ET32	10/M16	5/8"	360	265	1500**
ET36	12/M20	3/4"	525	386	1800**
ET40	14/M20	3/4"	525	386	1800**

\* The minimum length of handle to limit the force required to shear the bolts to 250N. This is approximately equivalent to lifting 25kg or 56 lbs.

\*\* Although these can be tightened using a hand ratchet wrench, Ancon recommends the use of an electric or pneumatic wrench designed to deliver a steady tightening force to the bolts. Appropriate tools can be purchased or hired from Ancon. **Do not use impact power tools.**

The use of scaffold poles is not recommended as an extension to hand wrenches; this can result in increased stresses, leading to thread strip failure during installation.

For further details please contact Ancon,  
Tel: 1300 304 320 Email: info@ancon.com.au

<b>Batch No</b>	<b>MBT Coupler Installation Guide</b>	
<b>ET</b>	<b>Created:</b> S Hebron <b>Date:</b> 01/02/02	<b>Approved:</b> J Fallon <b>Rev:</b> 26/09/18
		a

# Installation CA and RA Anchors

## Installation instructions for Ancon Unilift CA Cone Anchors and RA Reo Anchors

Ancon Unilift Anchors can be installed using RRF Rubber Recess Formers, PRFC Plastic Recess Formers with Steel Collets, SRF Steel Recess Formers with rubber ring or SRF-A Articulating Steel Recess Formers. The following table shows the correlation between the anchors and the recess formers.

**Table 1 - Correlation between Lifting Anchors and Recess Formers**

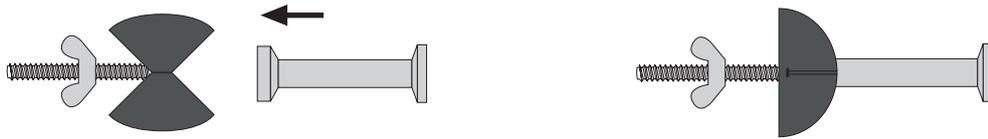
WLL	Cone (Foot) Anchors	Reo (Eye) Anchors	RRF Rubber Recess Formers and PRFC Plastic Recess Formers with Steel Collets	SRF Steel Recess Formers and SRFA Articulated Steel Recess Formers	Clutches
1.3	CA01035 CA01045 CA01055 CA01065 CA01085 CA01120 CA01240	RA01050 RA01065	RRF01	SRF01 / RR01 SRF01A	01LK
2.5	CA02055 CA02075 CA02085 CA02120 CA02170 CA02280	RA02065 RA02090	RRF02	SRF02 / RR02 SRF02A	02LK
5.0	CA05075 CA05095 CA05120 CA05150 CA05170 CA05240 CA05340 CA05960	RA05120	RRF05	SRF05 / RR05 SRF05A	05LK
10.0	CA10150 CA10200 CA10340	RA10180	RRF10 PRFC10	SRF10 / RR10 SRF10A	10LK
20.0	CA20200 CA20340 CA20500	RA20250	RRF20 PRFC20	–	20LK
32.0	CA32500 CA32700	RA32300	RRF32	–	32LC

## 1A Installation of Unilift Lifting Anchor using Unilift RRF Rubber Recess Formers against formwork:

Unilift RRF Rubber Recess Formers are delivered with a setting bolt and wing nut.



1. Attach Unilift RRF Rubber Recess Former to Unilift Anchor\* - see table 1 for correlation between Lifting Anchor and RRF.

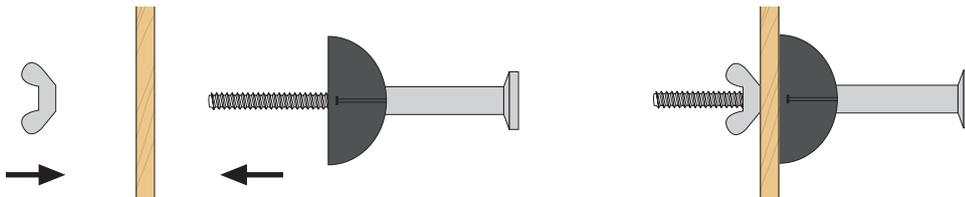


2. Drill a hole in the formwork at the anchor location.



Recess Former	Fixing Bolt Thread
RRF01	M8
RRF02	M12
RRF05	M12
RRF10	M12
RRF20	M16
RRF32	M16

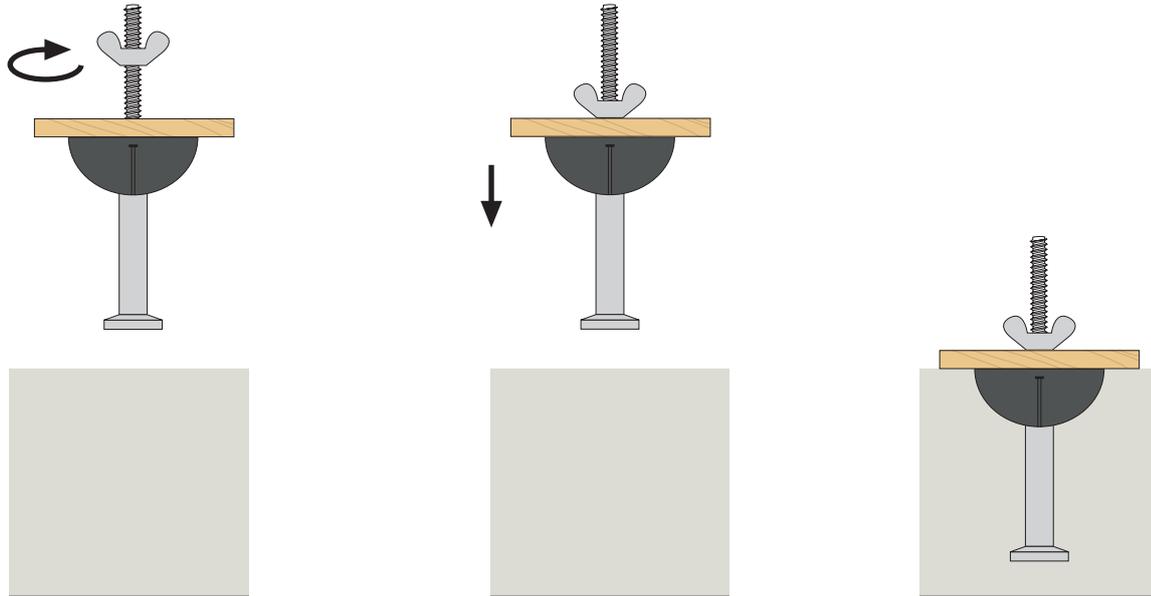
3. Pass the setting bolt through the formwork and fasten with wing nut.



\* Installation is shown with a Unilift CA Cone Anchor; Unilift RA Reo Anchors are installed in a similar manner.

1B

Installation of Unilift Lifting Anchor using Unilift RRF Rubber Recess Formers in wet concrete as 'Puddle-in'



1. Fasten the wing nut onto the wooden float to fully close the void former

2. Hold the void former assembly and anchor via the setting bolt

3. Puddle in anchor until void former is flush with wet concrete

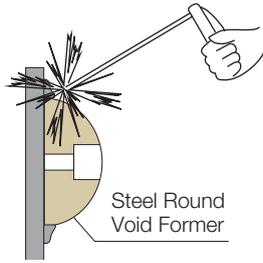
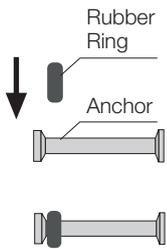


To guarantee good concrete quality around the anchor foot, the anchor should be gently vibrated as it is pushed into the concrete. Avoid aggressive movement or insufficient vibration which can cause voids in the concrete around the anchor and reduce the anchor capacity!

Anchors must be puddled in immediately after vibrating and screeding before the bleed water has gone.

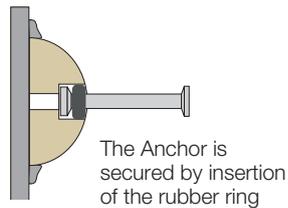
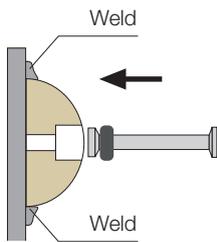
## 2 Installation of Unilift Lifting Anchor using Unilift SRF Steel Recess Formers against formwork:

Unilift SRF Steel Recess Formers and RR Rubber Rings may be ordered separately. Steel Recess Formers are usually welded directly to the walls of steel moulds. These formers may also be bolted to steel or timber moulds.



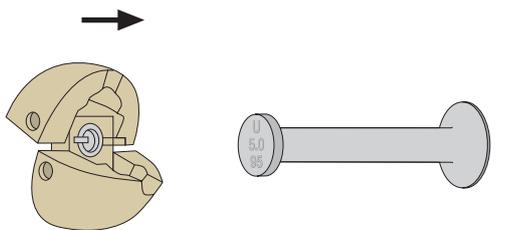
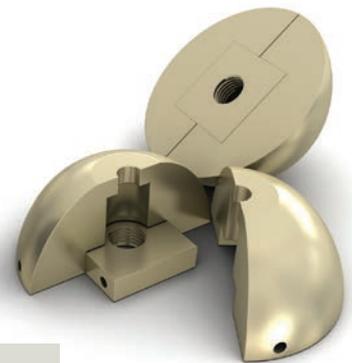
Recess Former	Fixing Bolt Thread
SRF01	M8
SRF02	M10
SRF05	M12
SRF10	M12

1. Secure Rubber Ring around anchor head
2. Weld Steel Recess Former to the steel mould.

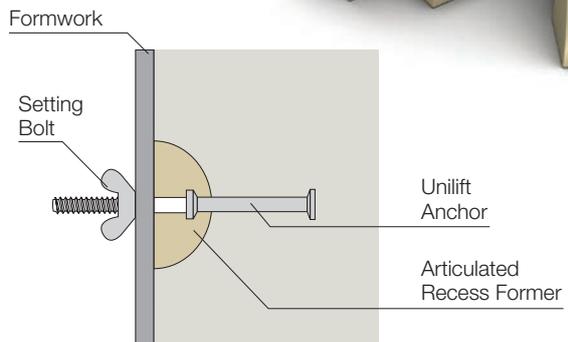


3. Insert Unilift Anchor with the attached RR Rubber Ring into the SRF Steel Recess Former
4. Unilift anchor in final position secure to the SRF Steel Recess Former

## 3 Installation of Unilift Lifting Anchor using Unilift SRF-A Articulated Recess Formers against formwork:



1. Attach articulated void former to Unilift anchor

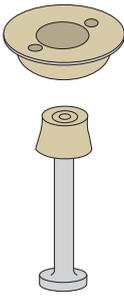


2. Secure assembled articulated void former with Unilift cone anchor to formwork

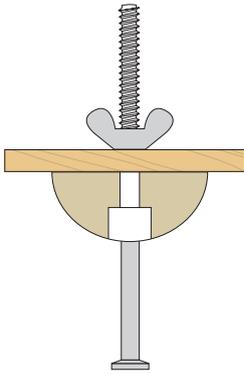
4 Installation of Unilift Lifting Anchor using Unilift Colleted Void Formers against formwork:



1. Attach the collet set and threaded plate to the Unilift anchor head



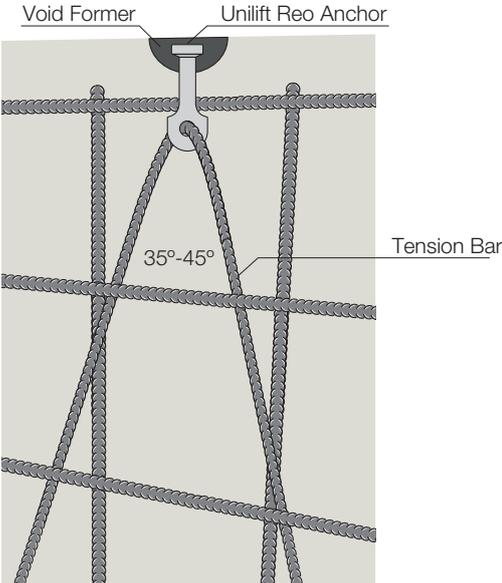
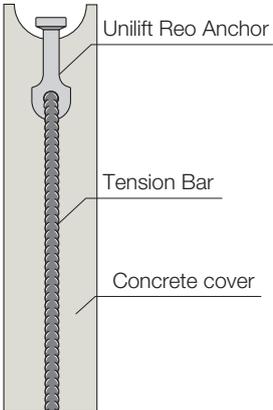
2. Insert the Unilift anchor with the attached collet set and plate into the steel void former



3. Secure the assembled colleted void former with the Unilift anchor to the formwork with a setting bolt



 Important information for the installation of RA Reo Anchors:  
Unilift RA Reo Anchors must be installed with tension bars as shown in the drawings below!



# Ancon®

## AUSTRALIA

### Head Office, Sydney

98 Kurrajong Avenue  
Mount Druitt  
Sydney  
NSW 2770  
Australia  
Tel: 1300 304 320  
Fax: +61 (0) 2 9675 3390

### Brisbane

4/15 Terrace Place  
Murarrie  
Brisbane  
QLD 4172  
Australia  
Tel: 1300 304 320  
Fax: +61 (0) 7 3395 6693

### Melbourne

9/63-69 Pipe Road  
Laverton North  
Melbourne  
VIC 3026  
Australia  
Tel: 1300 304 320  
Fax: +61 (0) 3 9311 1777

### Perth

18 Tennant Street  
Welshpool  
Perth  
WA 6106  
Australia  
Tel: 1300 304 320  
Fax: +61 (0) 8 9361 1262

### International Enquiries:

**+61 (0) 2 8808 3100**

**Email: [info@ancon.com.au](mailto:info@ancon.com.au)**

**Web: [www.ancon.com.au](http://www.ancon.com.au)**

## NEW ZEALAND

### Christchurch

2/19 Nuttal Drive  
Hillsborough  
Christchurch 8022  
New Zealand  
Tel: +64 (0) 3 376 5205  
Fax: +64 (0) 3 376 5206

### Auckland

246D James Fletcher Drive  
Otahuhu  
Auckland 2024  
New Zealand  
Tel: +64 (0) 9 276 2236  
Fax: +64 (0) 9 276 2237

**Email: [info@ancon.co.nz](mailto:info@ancon.co.nz)**

**Web: [www.ancon.co.nz](http://www.ancon.co.nz)**

## Installation instructions for Ancon QwikFix Threaded Inserts

This installation instruction is for all Threaded Inserts as listed in the table below. For the design of Threaded Inserts please refer to the Ancon Threaded Insert Design Guide available on [www.ancon.com.au](http://www.ancon.com.au).

**Table 1 – Product Overview Ancon QwikFix (Product Code FER)**

Thread	Length [mm]	
	76	96
M12		FER1296Z
		FER1296G
M16	FER1676Z	FER1696Z
		FER1696G
M20	FER2076Z	FER2096Z
		FER2096G
UC16		FERB3496Z



Product finishes:

Z / ZH: Zinc Plated

G: Hot-dip galvanized

**1A** Installation of QwikFix Threaded inserts with Nailing Plate



For Threaded Inserts that are installed to the edge or bottom of timber formwork it is recommended to use Ancon NP nailing plates to attach the Threaded Insert to the formwork.

**Table 2 – Product Overview Ancon Nailing Plates (Product Code NP)**

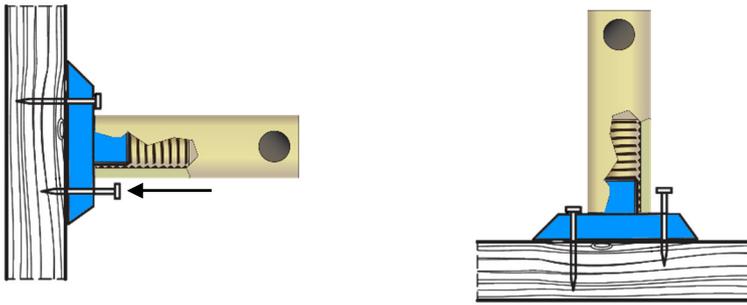
Thread	M10	M12	M16	M20	M24	¾" Unicoil
Product code	NP10U	NP12U	NP16U	NP20U	NP24U	NPB134
colour	Purple	Red	Green	Blue	Yellow	Red

1. Attach the Nailing plate to the Threaded Insert

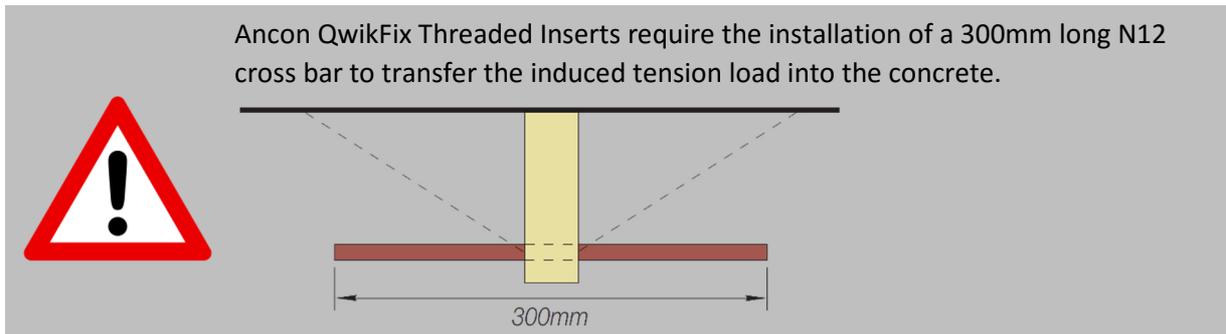


## Installation of QwikFix Threaded Inserts

- Nail the Threaded Insert to the formwork



- Install reinforcement bars as required.



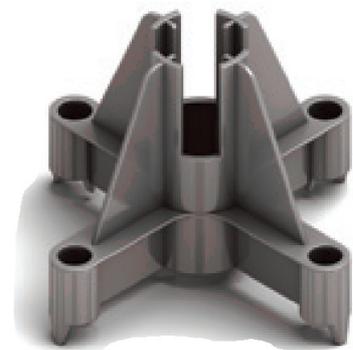
1B

Installation of QwikFix Threaded inserts with Ancon Super Chair and Antenna cap

- Choose the right Super Chair for the application based on slab thickness and QwikFix Threaded Insert as per table 3 below. Super Chairs allow for two different panel thicknesses by simply rotating the chair 90 degrees. Super chair can be used with 96mm long QwikFix threaded inserts only.

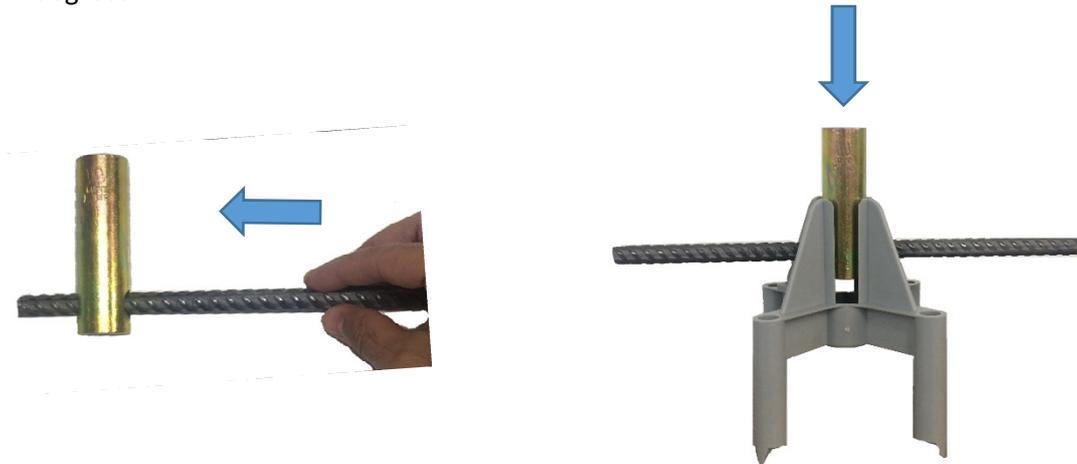
**Table 3 – Product Overview Ancon Super Chair (Product Code SC)**

Slab thickness [mm]	Product code SC Precast Chair for use with 96-mm QwikFix
125	SC125150
150	SC125150/SC150175
175	SC150175/SC175200
200	SC175200

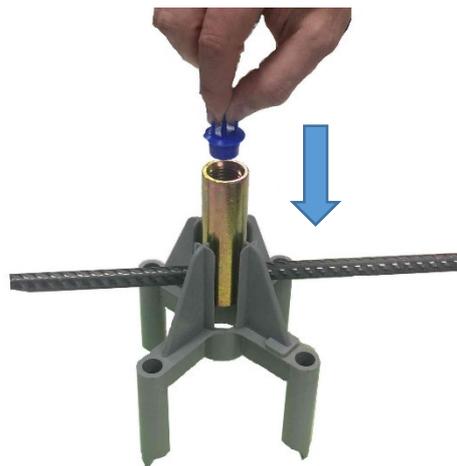


## Installation of QwikFix Threaded Inserts

2. Insert a 300mm long N12 bar through the cross hole and then put the QwikFix with bar into the Super Chair. Two different panel thicknesses can be achieved by rotating the chair 90 degrees.



3. Attach the Antenna cap to the top of the QwikFix Threaded Insert.



4. Place QwikFix Threaded Insert at the specified location and fix the cross-bar to the reinforcement to avoid displacement of the Insert during concrete pour.

2

Concrete Placement



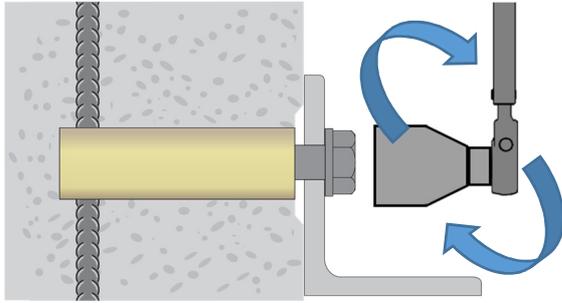
Special care is required during the compaction of the concrete around the threaded insert to avoid honeycombing and voids around the Threaded Insert.

## Installation of QwikFix Threaded Inserts

3a

Bolt Installation for metric Threaded Inserts

Ancon QwikFix Threaded Inserts are designed to exceed the tensile and shear capacity of a grade 4.6 bolt. Ancon recommends to use the Threaded inserts with bolts of this grade. If bolts of a higher grade are installed, the torque must be limited to the installation torque of a grade 4.6 bolt to avoid possible damage to the Threaded Insert and surrounding concrete.



Install the bolt using a calibrated torque wrench with the torque limited to the value shown in the table below.

**Table 4 – Installation torques for metric bolts with Ancon QwikFoot and QwikFix Threaded Inserts:**

Bolt Size	Installation Torque [Nm]
M10	18
M12	31
M16	75
M20	150
M24	250



Electric and air operated Impact Wrenches (so called rattle guns) apply uncontrolled torque to the bolt which can cause damage to bolt, Threaded Insert and supporting concrete.

Ancon recommends the use of torque-limited wrenches for the installation of bolts in Threaded Inserts.

Threaded Inserts require a minimum thread engagement of 1.5 times the thread diameter.

3b

Installation of Unicoil bolts in Unicoil Threaded Inserts for temporary support according to AS 3850

The bolt should be installed using a calibrated torque wrench with the torque limited to the value shown in the table below.

Installation torque for Unicoil bolts used with Ancon QwikFoot and QwikFix Threaded Inserts:

Bolt Size	Installation Torque [Nm]
¾" Unicoil Bolt	100



## **AUSTRALIA**

### **Head Office, Sydney**

98 Kurrajong Avenue  
Mount Druitt  
Sydney  
NSW 2770  
Australia  
Tel: 1300 304 320  
Fax: +61 (0) 2 9675 3390

### **Brisbane**

4/15 Terrace Place  
Murarrie  
Brisbane  
QLD 4172  
Australia  
Tel: 1300 304 320  
Fax: +61 (0) 7 3395 6693

### **Melbourne**

9/63-69 Pipe Road  
Laverton North  
Melbourne  
VIC 3020  
Australia  
Tel: 1300 304 320  
Fax: +61 (0) 3 9311 1777

### **Perth**

18 Tennant Street  
Welshpool  
Perth  
WA 6106  
Australia  
Tel: 1300 304 320  
Fax: +61 (0) 8 9361 1262

**Email: [info@ancon.com.au](mailto:info@ancon.com.au)**

**Web: [www.ancon.com.au](http://www.ancon.com.au)**

## **NEW ZEALAND**

### **Christchurch**

2/19 Nuttal Drive  
Hillsborough  
Christchurch 8022  
New Zealand  
Tel: +64 (0) 3 376 5205  
Fax: +64 (0) 3 376 5206

### **Auckland**

246D James Fletcher Drive  
Otahuhu  
Auckland 2024  
New Zealand  
Tel: +64 (0) 9 276 2236  
Fax: +64 (0) 9 276 2237

**Email: [info@ancon.co.nz](mailto:info@ancon.co.nz)**

**Web: [www.ancon.co.nz](http://www.ancon.co.nz)**

## Installation instructions for Ancon QwikFoot Threaded Inserts

This installation instruction is for all QwikFoot Threaded Inserts as listed in the table below. For the design of Threaded Inserts please refer to the Ancon Threaded Insert Design Guide available on [www.ancon.com.au](http://www.ancon.com.au).

**Table 1 – Product Overview Ancon QwikFoot and Short QwikFoot (Product Code FF)**

Thread	Length [mm]			
	45*	50	70	96
M10		FF1050Z FF1050S316		
M12	FF1245G FF1245S316	FF1250Z FF1250G FF1250S316	FF1270Z FF1270G	FF1296Z FF1296G
M16	FF1645G FF1645S316		FF1670Z FF1670G FF1670S316	FF1696ZH FF1696G FF1696S316
M20	FF2045G FF2045S316		FF2070ZH FF2070G FF2070S316	FF2096ZH FF2096G FF2096S316
M24				FF2496Z FF2496G FF2496S316
UC16				UCQF1696Z



\*Short QwikFoot

Product finishes:

Z / ZH: Zinc Plated

G: Hot-dip galvanized

S316: Stainless Steel Grade A4

1A

Installation of QwikFoot Threaded inserts with Nailing Plates



For Threaded Inserts that are installed to the edge or bottom of timber formwork it is recommended to use Ancon NP nailing plates to attach the Threaded Insert to the formwork.

**Table 2 – Product Overview Ancon Nailing Plates (Product Code NP)**

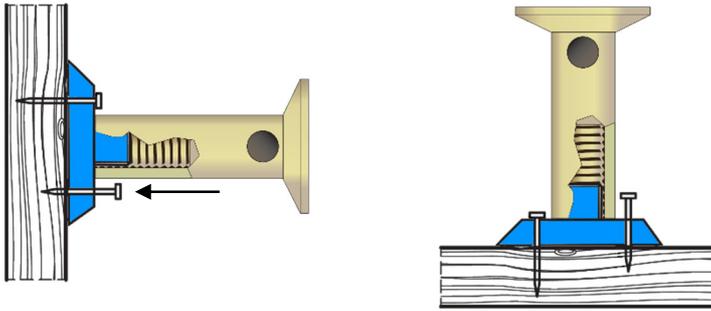
Thread	M10	M12	M16	M20	M24	¾" Unicoil
Product code	NP10U	NP12U	NP16U	NP20U	NP24U	NPB134
colour	Purple	Red	Green	Blue	Yellow	Red

## Installation QwikFoot Threaded Inserts

1. Attach the Nailing plate to the Threaded Insert



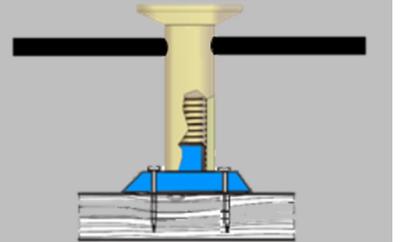
2. Nail the Threaded Insert to the formwork



3. Install reinforcement bars as required.



QwikFoot Threaded Insert should always be used with a cross bar to avoid spinning of the insert during the installation of the bolt, please refer to the Threaded Insert Design Guide for the diameter of the cross hole. The cross bar doesn't affect the capacity of Qwikfoot insert.



1B

Installation of QwikFoot Threaded inserts with Ancon Precast Chair and Antenna Cap or Nailing Plate

1. Choose the right Precast Chair for the application based on slab thickness and QwikFoot Threaded Insert.

**Table 3 – Product Overview Ancon Precast Chair (Product Code PC)**

Slab thickness [mm]	Product code PC Precast Chair for use with	
	70-mm QwikFoot	96-mm QwikFoot
100	PC125	-
120	PC145	-
125	PC150	- / PC125
150	-	PC145* / PC150
170	-	- / PC170
175	-	PC170* / PC175
180	-	PC 175* / PC180
200	-	PC195* / PC200

\* - for Use with nailing plate instead of antenna cap



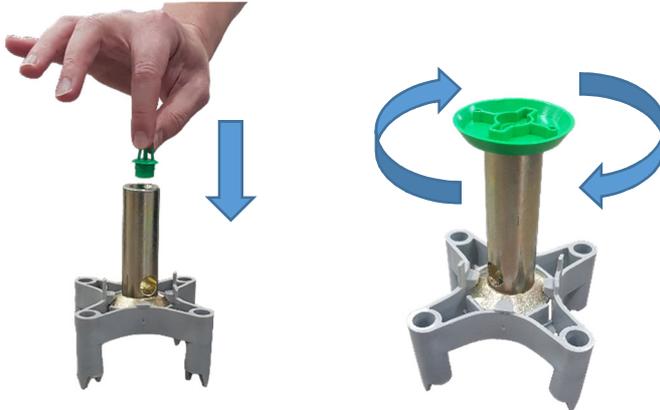
Note: Short QwikFoot and 50-mm QwikFoot do not fit in the precast chair.

## Installation QwikFoot Threaded Inserts

2. Feed the QwikFoot Threaded Insert into the precast Chair through the bottom until it clicks in.

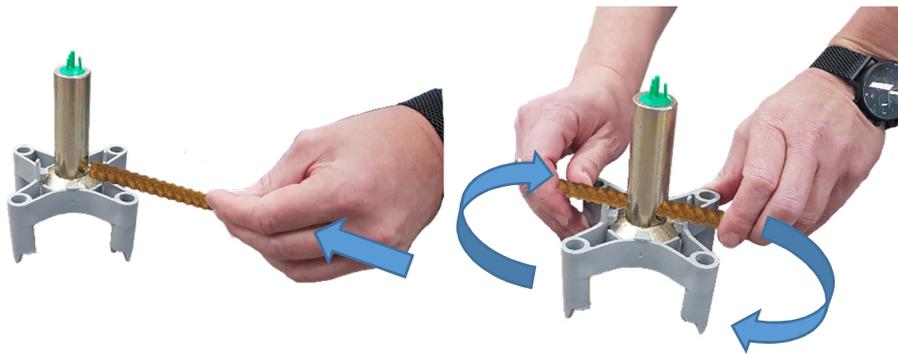


3. Attach the Antenna cap or nailing plate to the top of the QwikFoot Threaded Insert.



When using the nailing plate it is recommend to apply grease to the base of the nailing plate.

4. Insert Bar through the cross hole and lock in the Precast Chair by rotating the precast chair clockwise.



5. Place QwikFoot Threaded Insert at the specified location and fix the cross-bar to the reinforcement to avoid displacement of the Insert during concrete pour.

2

Concrete Placement



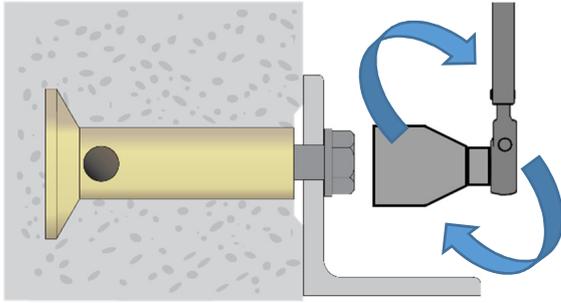
Special care is required during the compaction of the concrete around the threaded insert to avoid honeycombing and voids around the foot of the Threaded Insert.

## Installation QwikFoot Threaded Inserts

3a

Bolt Installation for metric Threaded Inserts

Ancon QwikFoot Threaded Inserts are designed to exceed the tensile and shear capacity of grade 4.6 bolts. Ancon recommends to use the Threaded Inserts with bolts of this grade. If bolts of a higher grade are installed, the torque must be limited to the installation torque of a grade 4.6 bolt to avoid possible damage to the Threaded Insert and surrounding concrete.



Install the bolt using a calibrated torque wrench with the torque limited to the value shown in the table below.

**Table 4 – Installation torques for metric bolts with Ancon QwikFoot Threaded Inserts:**

Bolt Size	Installation Torque [Nm]
M10	18
M12	31
M16	75
M20	150
M24	250



Electric and air operated Impact Wrenches (so called rattle guns) apply uncontrolled torque to the bolt which can cause damage to bolt, Threaded Insert and supporting concrete.

Ancon recommends the use of torque-limited wrenches for the installation of bolts in Threaded Inserts.

Threaded Inserts require a minimum thread engagement of 1.5 times the thread diameter.

3b

Installation of Unicoil bolts in Unicoil Threaded Inserts for temporary support according to AS 3850

The bolt should be installed using a calibrated torque wrench with the torque limited to the value shown in the table below.

Installation torque for Unicoil bolts used with Ancon QwikFoot Threaded Inserts:

Bolt Size	Installation Torque [Nm]
¾" Unicoil Bolt	100



## **AUSTRALIA**

### **Head Office, Sydney**

98 Kurrajong Avenue  
Mount Druitt  
Sydney  
NSW 2770  
Australia  
Tel: 1300 304 320  
Fax: +61 (0) 2 9675 3390

### **Brisbane**

4/15 Terrace Place  
Murarrie  
Brisbane  
QLD 4172  
Australia  
Tel: 1300 304 320  
Fax: +61 (0) 7 3395 6693

### **Melbourne**

9/63-69 Pipe Road  
Laverton North  
Melbourne  
VIC 3020  
Australia  
Tel: 1300 304 320  
Fax: +61 (0) 3 9311 1777

### **Perth**

18 Tennant Street  
Welshpool  
Perth  
WA 6106  
Australia  
Tel: 1300 304 320  
Fax: +61 (0) 8 9361 1262

**Email: [info@ancon.com.au](mailto:info@ancon.com.au)**

**Web: [www.ancon.com.au](http://www.ancon.com.au)**

## **NEW ZEALAND**

### **Christchurch**

2/19 Nuttal Drive  
Hillsborough  
Christchurch 8022  
New Zealand  
Tel: +64 (0) 3 376 5205  
Fax: +64 (0) 3 376 5206

### **Auckland**

246D James Fletcher Drive  
Otahuhu  
Auckland 2024  
New Zealand  
Tel: +64 (0) 9 276 2236  
Fax: +64 (0) 9 276 2237

**Email: [info@ancon.co.nz](mailto:info@ancon.co.nz)**

**Web: [www.ancon.co.nz](http://www.ancon.co.nz)**

## Installation instructions for Ancon KSN Anchor

This installation instruction covers all KSN Anchors as listed in the table below. For the design of KSN Anchors please refer to the KSN Anchor brochure available on [www.ancon.com.au](http://www.ancon.com.au).

**Table 1 – Product Overview Ancon KSN Anchor**

Product Reference	Anchor Length [mm]	Metric Thread
KSN12S	115	M14 x 2.0
KSN12M	150	
KSN16S	130	M20 x 2.5
KSN16M	160	
KSN16L	190	
KSN20S	150	M24x3.0
KSN20M	190	
KSN20L	230	



**1** Installation of KSN Anchors with Nail Plates

For individual KSN Anchors that are installed to the edge or bottom of timber formwork it is recommended to use Ancon NP nailing plates to attach the KSN Anchor to the formwork. It is recommended to fix the foot of the KSN Anchor to the reinforcement to avoid displacement.



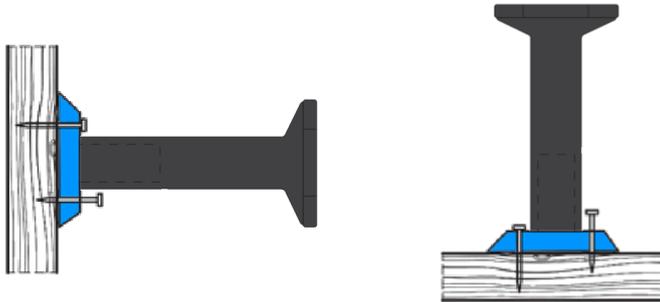
**Table 2 – Product Overview Ancon Nailing Plates (Product Code NP)**

Thread	M14	M20	M24
Product code	NP14	NP20	NP24
Colour	Orange	Blue	Yellow

1. Attach the Nailing plate to the KSN Anchor



2. Nail the KSN Anchor to the formwork

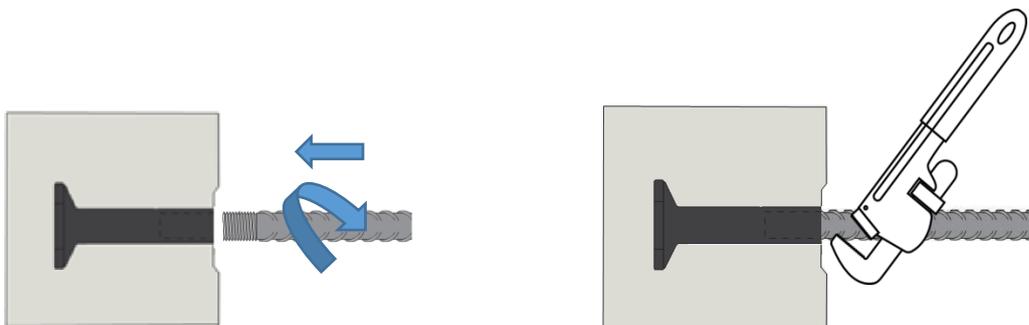


**2** Concrete Placement

Special care is required during the compaction of the concrete around the KSN Anchor to avoid honeycombing and voids around the foot of the Threaded Insert.

**3** Reinforcement Bar Installation

Screw in the reinforcement bar, with Ancon BT type A thread, into the KSN Anchor and then tighten using a wrench. No more than 2mm of thread should be left exposed on the bar.



**Table 3 – Relevant BT Thread to KSN Anchors**

Product Reference	Relevant BT Thread
KSN12S KSN12M	BT12 Type A
KSN16S KSN16M KSN16L	BT16 Type A
KSN20S KSN20M KSN20L	BT20 Type A

To ensure structural integrity of the connection, any actions, such as on-site bending, which induce cold working of the bar in the threaded region are to be strictly avoided.



## **AUSTRALIA**

### **Head Office, Sydney**

98 Kurrajong Avenue  
Mount Druitt  
Sydney  
NSW 2770  
Australia  
Tel: 1300 304 320  
Fax: +61 (0) 2 9675 3390

### **Brisbane**

4/15 Terrace Place  
Murarrie  
Brisbane  
QLD 4172  
Australia  
Tel: 1300 304 320  
Fax: +61 (0) 7 3395 6693

### **Melbourne**

9/63-69 Pipe Road  
Laverton North  
Melbourne  
VIC 3020  
Australia  
Tel: 1300 304 320  
Fax: +61 (0) 3 9311 1777

### **Perth**

18 Tennant Street  
Welshpool  
Perth  
WA 6106  
Australia  
Tel: 1300 304 320  
Fax: +61 (0) 8 9361 1262

**Email: [info@ancon.com.au](mailto:info@ancon.com.au)**

**Web: [www.ancon.com.au](http://www.ancon.com.au)**

## **NEW ZEALAND**

### **Christchurch**

2/19 Nuttal Drive  
Hillsborough  
Christchurch 8022  
New Zealand  
Tel: +64 (0) 3 376 5205  
Fax: +64 (0) 3 376 5206

### **Auckland**

246D James Fletcher Drive  
Otahuhu  
Auckland 2024  
New Zealand  
Tel: +64 (0) 9 276 2236  
Fax: +64 (0) 9 276 2237

**Email: [info@ancon.co.nz](mailto:info@ancon.co.nz)**

**Web: [www.ancon.co.nz](http://www.ancon.co.nz)**