

# 73

## EXTERNAL ALUMINIUM

### 5 DOOR BiFOLD DOOR SET LOW THRESHOLD

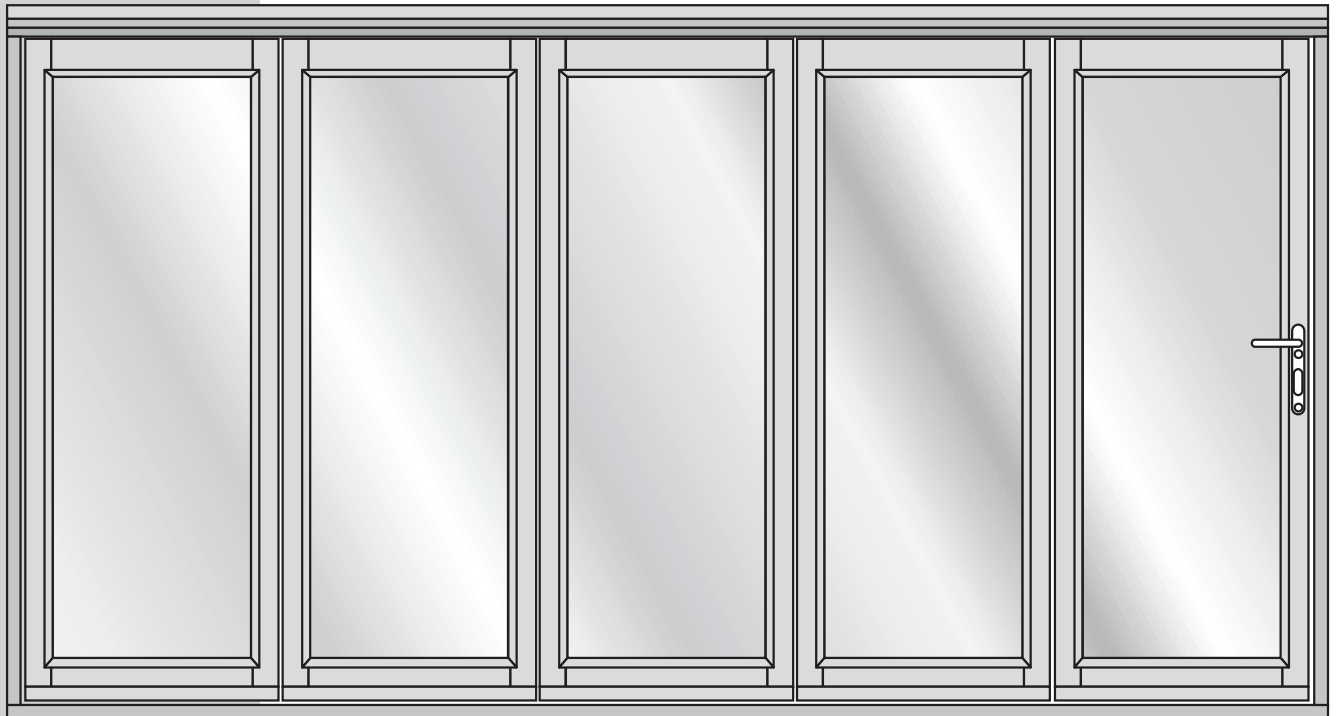
Assembly Instructions

**Bespoke and Standard Sizes**

**4.2M - 4190mm W x 2090mm H**

**4.8M - 4790mm W x 2090mm H**

**5.0M - 4990mm W x 2090mm H**



# About your bifold patio door set

All products must be installed in accordance with accepted good trade practice (and in accordance with supplied instructions where applicable), and maintained in accordance with these procedures or else the warranty shall be void.

## Important information

- We recommend that a competent tradesperson installs this product
- A single person must NEVER carry out the installation, as some components are heavy.

## Automatic closures and operators

- The hardware systems are designed for manual operation. Poorly Adjusted automatic closures can impart significant destructive forces to tracks, bearings and stops. Such hardware used in installations is expressly excluded from warranty terms.

## Care of doors and frames on site

- Please check doors, frames and cill at the time of delivery and within 72 hours of delivery to ensure that they are acceptable and in good condition. If you find a component missing or damaged, please inform your supplier immediately. We keep replacement components of most set parts and these can be sent out to you quickly. This will save you having to repackage and return the whole set, and allows you to continue with the project. (See contents list on page 3 for full list).
- When storing prior to installation, the doors and frames should be handled with care and stored in a dry, ventilated building. Doors and frames should be stored flat and on a level surface (not on edge or on end).
- Should you need to store the doors before installation, they must still be fully inspected and checked for damage or faults and reported within 72 hours of delivery, repacking if necessary.
- Remove the blue plastic protective film immediately after installation. We do not recommend to leave this on for long periods of time as moisture can get trapped underneath the film, causing permanent marks on the aluminium powder coating.
- Do not leave masking tape on the aluminium powder coating for long periods of time. It is important it is removed within 24 hours of applying.

## Trimming

- This bi-fold door is not designed to be trimmed on site and should be fitted as supplied. Trimming the doors or frame will void the warranty.

## Conditions of sale

- We shall not be held responsible for any incidental work expenses arising out of or because of any defects in our product, or bad workmanship to our product. In the event of goods having manufacturing defects and requiring replacement, our liability will be limited to the value of the door or frame component only. These notes do not affect your statutory rights with the retailer of this product.

## Maintenance

The aluminium powder coating and bi-fold door hardware in buildings is subject to deterioration from everyday use, and also environmental attack due to atmospheric and other conditions. Maintenance of the powder coating and hardware is even more important in severe environments such as close to marine areas, and some industrial areas. Even stainless steel products require maintenance to prevent deterioration in some environments. We require the following minimum maintenance to be followed otherwise the warranty shall be void.

## Tracks and bearings

Using a spatula or similar (not your fingers), apply a small amount (typically a ½ teaspoon of white petroleum jelly, Vaseline or similar lubricant to the inner lip of each side of the track. Ensure that the wheels pass through the lubricant and it is evenly distributed along the track. Put additional lubricant around the bearings. Lubrication reduces wear, improves smoothness and further protects against corrosion of tracks and bearings. Remove all surface contaminants by wiping all visible track surfaces with a damp soft cloth and mild detergent, then wipe clean with a clean cloth. In severe environments, apply a thin film of corrosion preventative such as WD40, by wiping with a soft cloth moistened with one of these products.

Stainless steel bearings are manufactured from hardening-grade stainless steel and although this material performs considerably better than plated steels, it is susceptible to corrosion unless maintained as described as above.

## Hangers, pivots and brackets

A light spray application of a suitable lubricant such as WD40, followed by a light wipe with a dry cloth to remove excess, is recommended to all hinges, pivots and brackets. Exposed surfaces should first be wiped with warm soapy water and a soft rag, and then rinsed clean before applying preventative.

## Hinges

Wipe down the visible surfaces with warm soapy water on a soft rag and then rinse off by wiping with a clean damp rag. Application of a thin film of a light machine oil or WD40 will help maintain the original lustre of the metal finish.

## Twin point locks

Spray application of a suitable lubricant such as WD40 to the sliding pin inside the bolt and to the lock cylinder is recommended. A tube attached to the nozzle will help concentrate the spray where you want it to go. There are access holes or slots on all twin point locks, so that this can be done without removing the locks from the doors.

## Frequency

The procedures mentioned above need to be carried out as often as is necessary to prevent deterioration in the installed environment, however we recommend the following minimum frequency of application;

- General environment - 6 monthly
- Close to marine environment - 3 monthly

## Aluminium powder coating

Preferably, every time you clean your windows also clean the aluminium doors and frames, or at the minimum every 3 months (or monthly if within 5 miles of the sea, or in industrial areas.) Wash the outside of the doors and frames with soapy water using a mild detergent and soft lint free cloth. Dry the surface using a clean absorbent cloth or leather, then buff with a soft cloth.

# **Introduction to Assembly**

## ***QUICK GUIDE***

**Your aluminium BiFold door set is supplied with the frame unassembled and in 4 pieces, (5 pieces if the Cill option has been selected), ready for assembly on site.**

**The Doors are all Pre Glazed and the glazing is “Toe and Heeled” in the factory, to balance the glazing in each door, then in the full set.**

**Every bifold door set is pre-assembled in our factory to ensure it is operating perfectly before we deliver it. We then dismantle the frame and remove some hardware, before carefully packing it for transportation to your home.**

**When you receive the bifold door set to install it, assemble the frame - which drains through the bottom rail - then install it into the brickwork opening or, if the Cill option has been selected, install onto the Cill then into the brickwork opening.**

**Attach the hardware to the doors and install the doors into the frame.**

**Because the bifold door set has already been assembled and operated in our factory, as long as the frame is installed securely into the brickwork opening, completely level and square in every plane, and the hardware is correctly attached, then the installed bifold door set should operate perfectly , without the need for further adjustment.**

**Full and detailed installation instructions are contained within this Instruction booklet**

# Contents (1)

Please check the contents of the packages to ensure all parts are present before beginning assembly

## Aluminium Parts

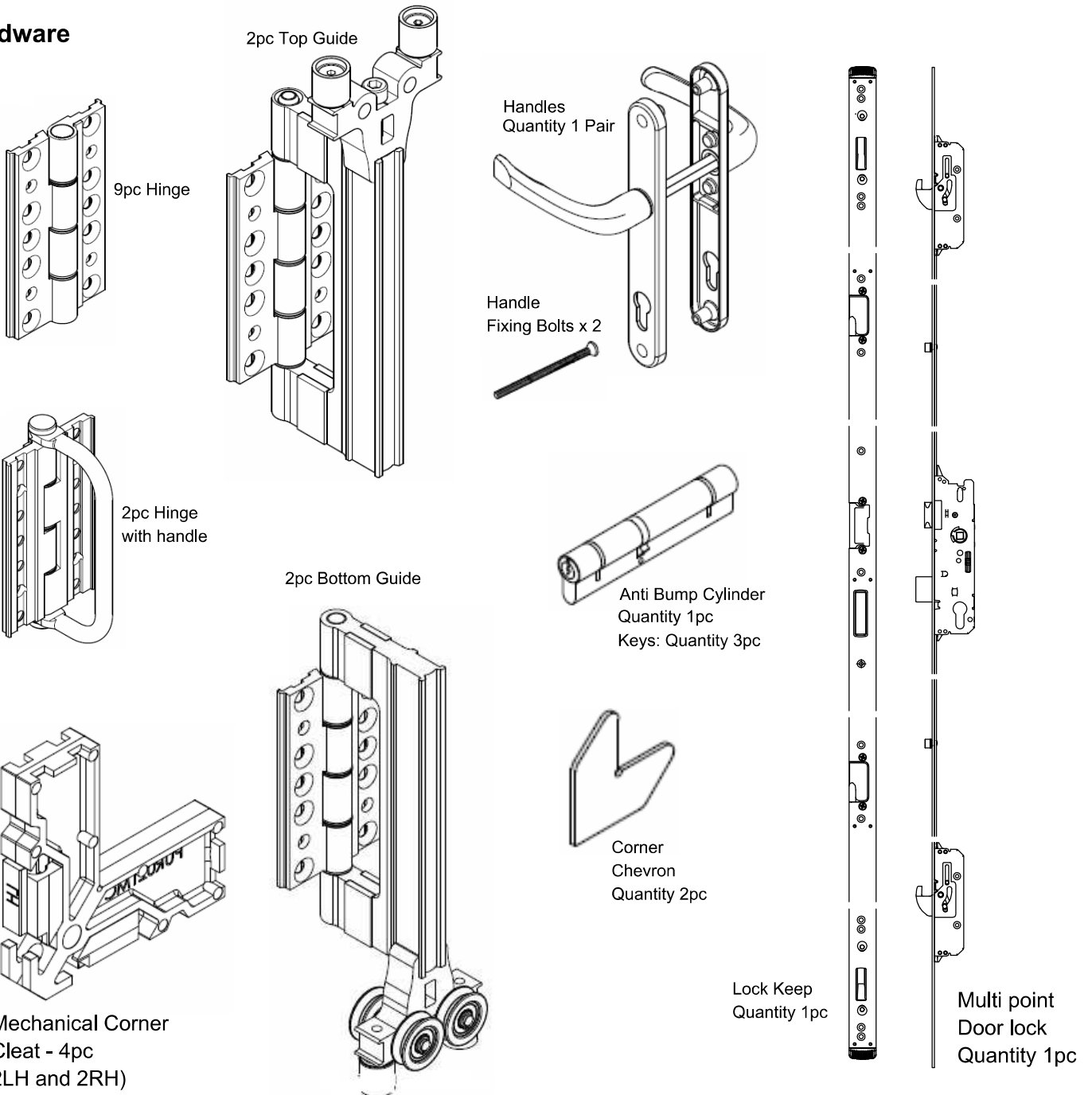
### Doors

- Door 1 (Door to frame jamb) Quantity 1
- Door 2 (Mid Door) Quantity 1
- Door 3 (Mid Door) Quantity 1
- Door 4 (Mid Door) Quantity 1
- Door 5 (Access Door) Quantity 1

### Frame Pack

- Frame Head- Quantity 1
- Frame Jambs – Quantity 2 (1x Left and 1x Right)
- Frame Bottom Rail/Track – Quantity 1
- Cill – Quantity 1 (supplied only if the Cill option has been selected).

## Hardware



## Contents (2)

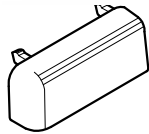
Frame Gasket Seal



Extended Magnetic Catch (Black)  
Quantity 1pc



Drain Hole Covers  
Grey or White  
Quantity to fit each set



Bottom Rail / Track End Caps - Qty 2

### Installation Bag Contents

A. Hardened steel direct frame fixings 92mm - Qty 32



B. S/Tap Screw A2 Pozi Flat Countersunk - Qty 8



C. SDS Drill bit 6.5mm x 210mm - Qty 1



D. HSS Drill bit 7mm - Qty 1



E. HSS Drill bit 4.5mm - Qty 1



F. Power bit 1/4 x 70mm TX30 - Qty 1



G. Insert bit 1/4 x 25 pozi No2 - Qty 1



H. No.8 32mm Self Tapping Screw - Qty 4

I. No. 8 12mm Self Tapping Screw - Qty 4

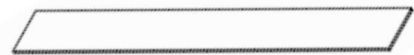
J. Allen Key 3mm - Qty 1



### Trouble Shooting Spares

Spares for Trouble shooting

K. White 1mm x 2.5m Lock Keep packer



L. Hinge Jamb 1mm Packer - Qty 3



M. Assorted bag of Packers and Wedges

### **VERY IMPORTANT NOTE**

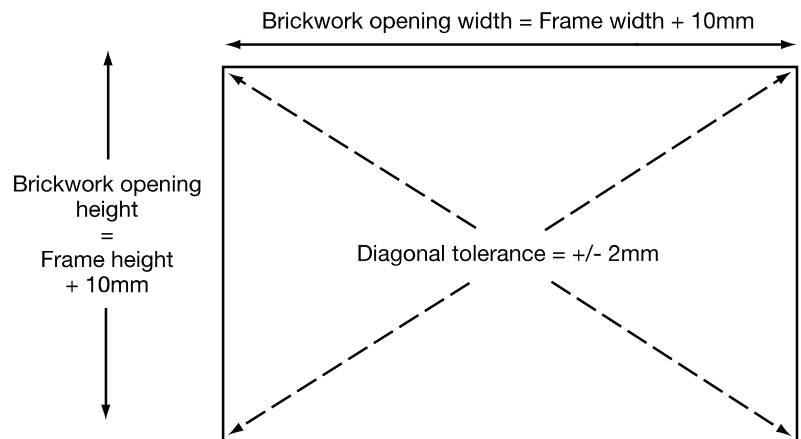
To speed installation, we have pre-installed some components in production.

- The Twin point lock and handles are installed into door 1.

- The frame jamb / door 1 hinges are installed onto the frame jamb.

- The hinges in between doors 1 & 2 and the top guide and bottom roller are all installed on door 2.

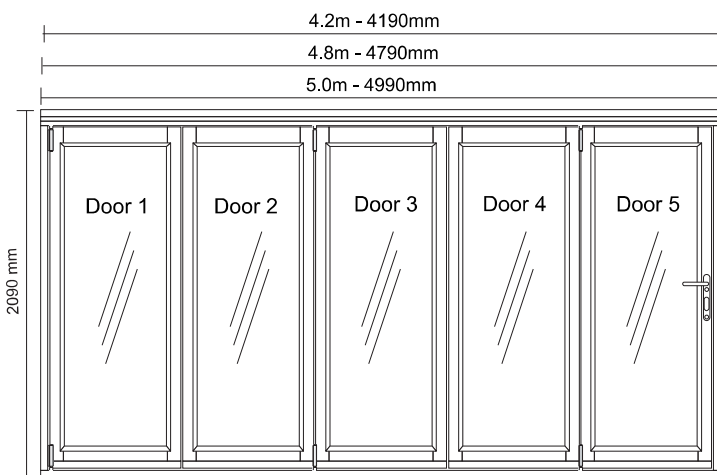
## Preparing the site



### Brickwork opening:

When preparing the site, please prepare the brickwork opening to be 10mm more in height and width than the outside assembled frame size.

It is essential that all 4 internal surfaces of the brickwork be levelled before installation. Please ensure that all dimensions are correct for installation before proceeding, as the set must be installed square and level into the opening.



*Shows Left Opening Set*

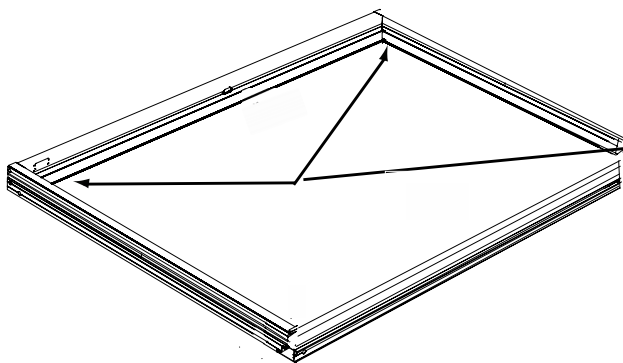
### Aluminium door set, outer frame dimensions are as follows;

- 4.2m - Door set = 4190mm wide x 2090mm high
- 4.8m - Door set = 4790mm wide x 2090mm high
- 5.0m - Door set = 4990mm wide x 2090mm high

### The Brickwork opening sizes are:

- 4.2m - Door set = 4200mm wide x 2100mm high
- 4.8m - Door set = 4800mm wide x 2100mm high
- 5.0m - Door set = 5000mm wide x 2100mm high

## Assembling the frame

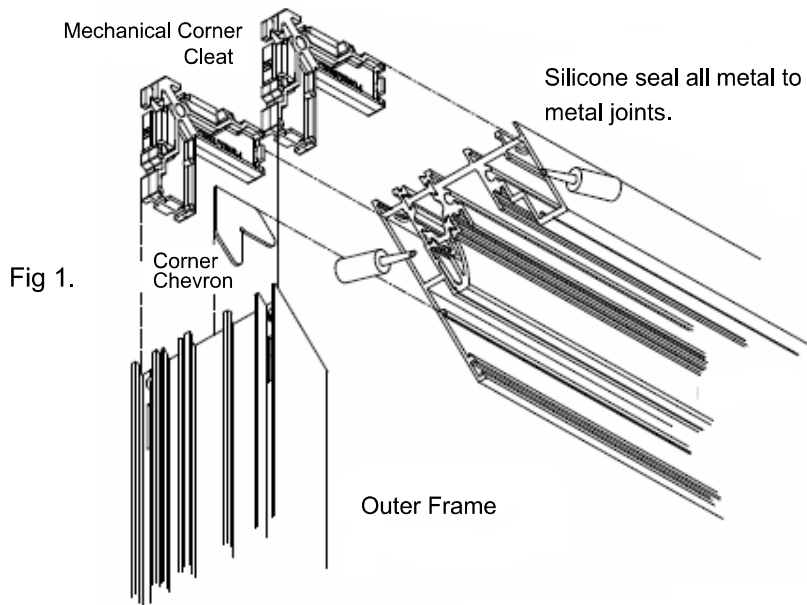


- 1** Lay the 4 pcs of frame on the floor on top of cardboard or a similar protective covering to prevent damage to the aluminium.

- 2** Assemble the complete frame by fixing the jambs to the head and bottom rail using the corner chevrons and mechanical corner cleats.  
The bottom rail / track screws into the jambs.

## Mechanical Corner Cleat Assembly - Door Frame Head & Jambs

- 2 a.)** Insert the 2 corner chevrons into the grooves in the frame head (Fig 1).
- b.)** Insert the mechanical corner cleats into the frame head (Fig 1).  
The corner cleats are left hand LH and right hand RH.  
When the correct corner cleat is inserted in the correct space, the 'bullet' will be completely visible in the bottom of the profile (Fig 2).
- c.)** Apply silicone sealant to the aluminium profiles to be joined together.



Align the mitred corners and ensure the cleat bullets are in the correct position and fully visible in the slots.

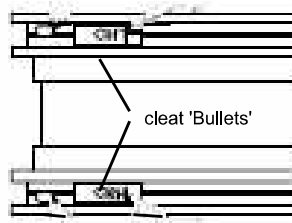
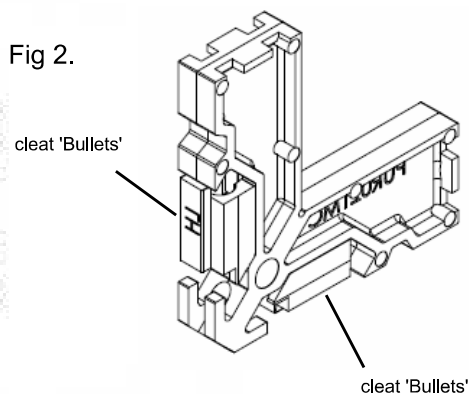
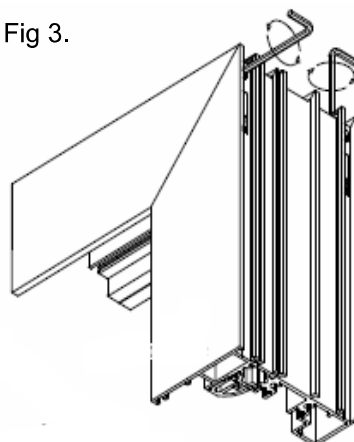


Fig 2.



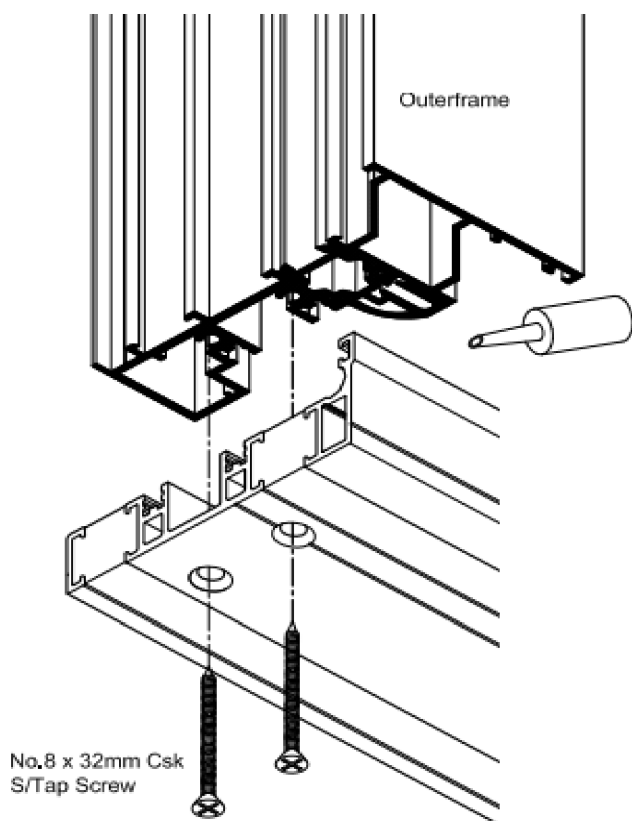
- 2 d.)** Carefully align the mitre joints, then using the Allen Key (J), carefully tighten the machine screws at the side and bottom. Progressively tighten all 4 machine screws, bit by bit, to ensure a tight mitre joint, then clean off any excess silicone.

Fig 3.



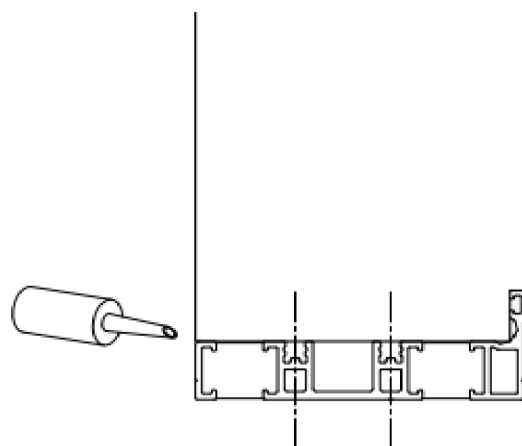
- 2 e.)** Repeat the process on the opposite corner of the frame.

## 2f.)

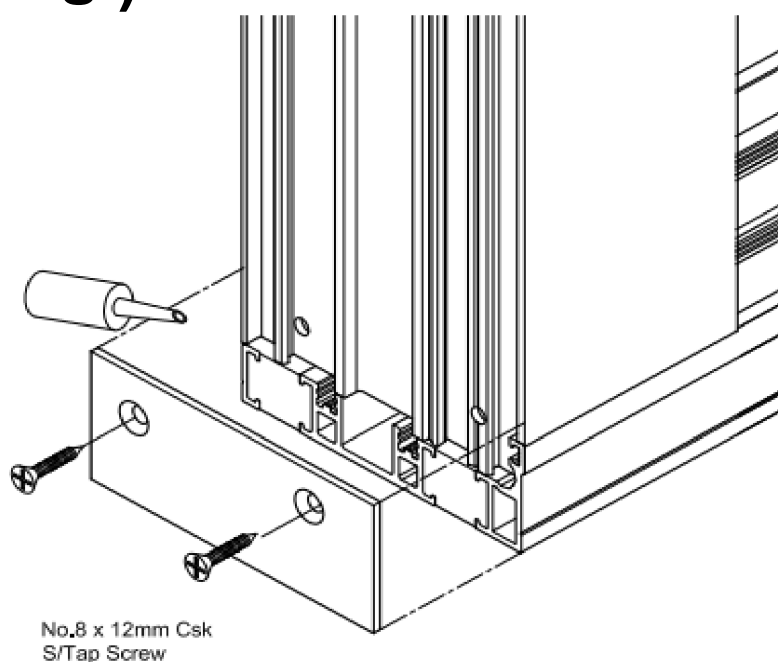


Before locating the jambs onto the bottom rail / track, mastic seal both ends of the jambs and the face of the thermal breaks.

Once the jambs are aligned onto the bottom rail / track, secure using the No.8 x 32mm S/Tap fixing screws



## 2g.)



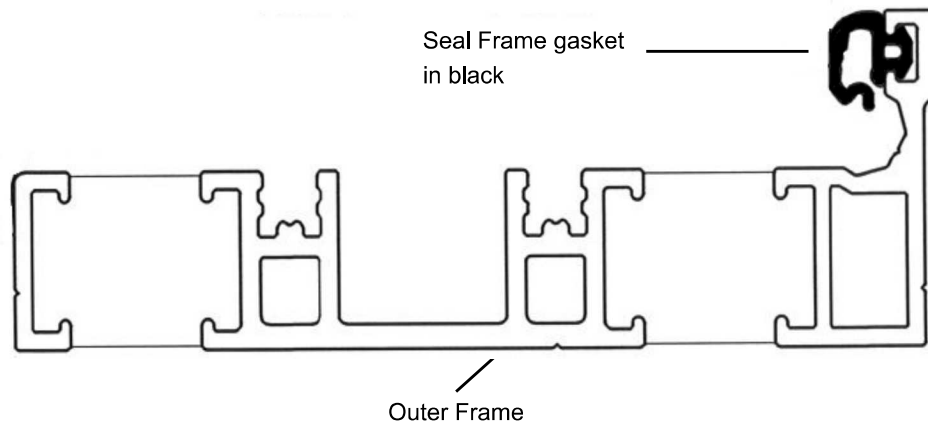
Silicone seal both end caps onto the bottom track / rail to avoid any through drainage using the no.8 x 12mm S/Tap fixing screw.

End Cap (Each)



## Install the Frame Gasket Seal

Fig 4.



- 3** With the frame fully assembled and before installing the frame, fit the Frame Gasket Seal into the frame, as shown on Fig 4.
- a.)** Start at the bottom rail in the left side bottom corner (Looking from the outside towards the inside).  
Push the seal gasket into the groove and **BACK** into the left corner.
- b.)** Continue inserting the continuous seal gasket into the groove but all the time **PUSHING BACKWARDS** towards the bottom left corner where you started.
- c.)** When you reach the bottom right corner, push the seal gasket into the corner (**DO NOT CUT IT**) then continue inserting the gasket up the right side frame jamb then across the head and down the left frame jamb.

**IT IS VITALLY IMPORTANT, WHEN INSERTING THE FRAME SEAL GASKET TO CONTINUALLY PUSH IT BACKWARDS IN THE DIRECTION YOU HAVE COME FROM, as the seal gasket shrinks in length after insertion.**

# Installing the assembled frame

## CHOICE 'A'

### Frame with Bottom Rail only - WITHOUT CILL

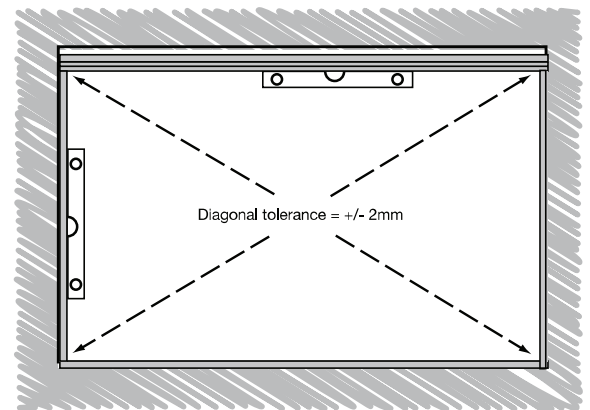
**4** The frame should be installed with the outer edge of the frame jambs up to a maximum of 5mm - 10mm back from the face of the brickwork.

*It is critical that the frame is fitted square and level.*

Use the packers provided to level the frame. Start at the bottom rail and insert the first packer **DIRECTLY UNDER THE FRAME JAMB** starting at the side of the frame which looks to be the highest

The diagonals must be the same, +/- 2mm.

H  
(Height of opening)

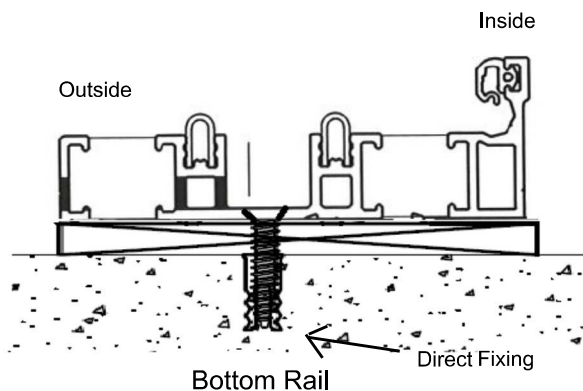


The diagonals must be the same +/- 2mm.

### IMPORTANT NOTE:

The frame must be installed into the brickwork opening completely upright, square and level in every plane, before continuing with the installation. The door set uses a bottom rolling system so it is vitally important the bottom rail is level and adequately supported by using packers as necessary.

## 5 Direct Fix



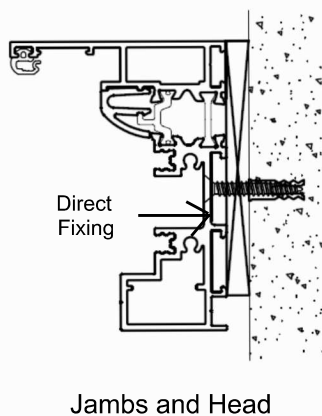
Direct fix 150mm from all corners and every 600mm maximum centres, using the hardened steel frame fixings provided. Ensure all fixing screws are silicone dipped and countersunk, to ensure the running gear is not obstructed.

**If the amount of packing is more than 4mm under the cill then reduce the maximum centres to 250mm.**

**Also ensure you have a packer where the roller comes to rest in the closed position.**

Fix directly through the frame Bottom Rail, Head and Both Jambs into the brickwork. Holes will need to be drilled into the Head, Bottom Rail and non lock Keep jamb for the fixings, using the HDS long 6.5mm drill provided.

For the lock keep jamb fixing, holes are pre-drilled and accessible by removing the lock keep.



The hardened steel frame fixings fix directly into the brickwork without any need for plugs.

After drilling the holes in the aluminium frame use the 6.5mm SDS masonry drill to drill holes into the brickwork.

Then fix the frame using the hardened steel frame fixings with the T30 bit provided.

**DO NOT OVERTIGHTEN THE FIXINGS OR DISTORT THE ALUMINIUM FRAME.**

Finally apply silicone to seal all around the perimeter of the frame - especially along the complete length of the bottom rail.

## Installing the assembled frame cont'd

### CHOICE 'B'

#### Frame with CILL

**6** First assemble the frame as detailed in Steps 1 to 3 inclusive. (Jambs/Head/Bottom Rail).  
The Cill - which is the same width as the set and has the end caps already fitted - should be installed into the bottom of the brickwork opening first.

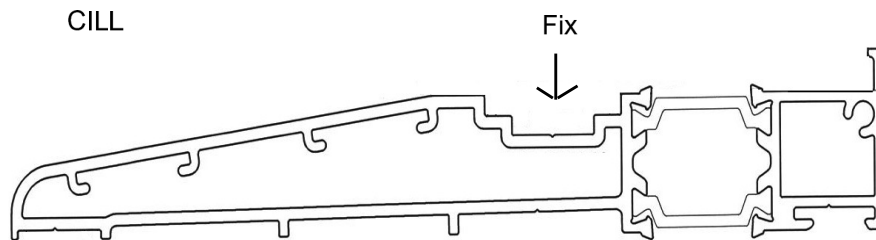
*The complete frame should be installed with the outer edge of the frame jambs up to 5mm - 10mm back from the external face of the brickwork.*

**6a.)** Place the Cill onto the base of the brickwork opening and position it so the frame head and jambs will be located in the correct position (6 italics above).

The Cill must be installed in the centre of the opening at an equal distance from both sides of the brickwork and secured into position.

**6b.)** Using packers if necessary, level the Cill until it is completely flat and level. Carefully remove the Cill and add Sealant underneath, then re-position it - level it again.

Holes will need to be drilled 50mm in from each end through to the cill for the fixings, using the HSS Long 6.4mm drill. Then use the 6.5mm SDS masonry drill to drill holes into the brickwork, then fix the cill using the hardened steel frame fixings with the T30 bit provided.

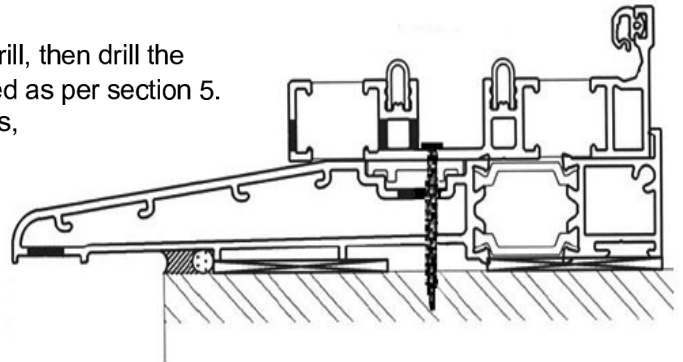


**6c.)** Apply silicone along the length of the Cill paying particular attention to the ends, then lift up the assembled frame and position onto the Cill and swing the frame up into the opening, using packers to hold it in position.

Then level and fix the frame jambs/head into the brickwork using DIRECT FIX as detailed in step 5.

Carefully fix the bottom rail through the cill first drilling clearance holes with the 6.5mm HSS drill, then drill the brickwork with the 6.5mm SDS masonry drill spaced as per section 5. Countersink screw heads and silicone dip all fixings, ensuring the screw heads do not interfere with the rollers.

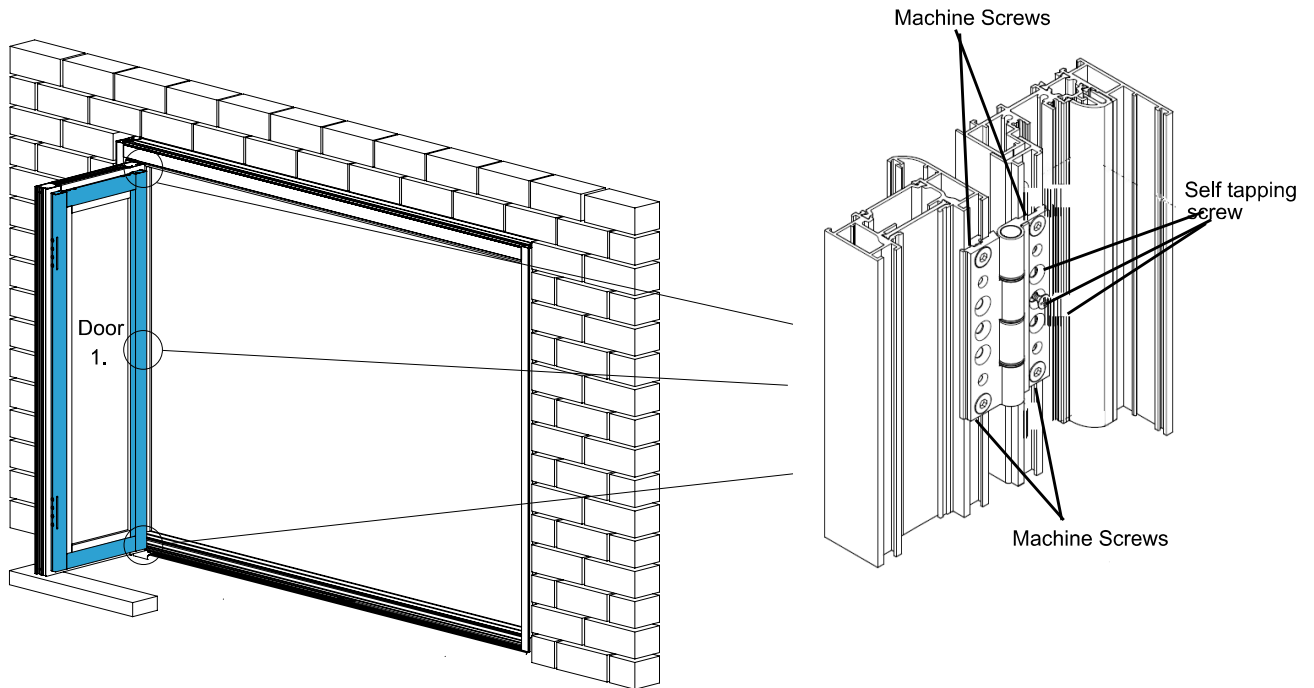
Apply silicone to seal all around the perimeter of the frame - especially along the complete length of the underside of the Cill.



Apply two beads of Silicone between the threshold and cill.

## Fitting Door 1 to the frame jamb

- 7a.)** Locate Door 1, which fixes to the jamb of the frame. Ensure the Bottom rail and door are protected by using the discarded foam door packing or cardboard to protect them and ensure that you have a support block to rest the door on.
- Door 1 fixes to the frame jamb which is at the opposite side of the frame to the lock keep jamb. The hinges are already fixed to the frame jamb and just need fixing to Door 1.



- b.)** With the door at right angles and supported on blocks (being careful not to damage the seal on the bottom of the door). Use the 2pc Allen key Head machine screws and 3pc self tapping screw to secure each hinge leaf.

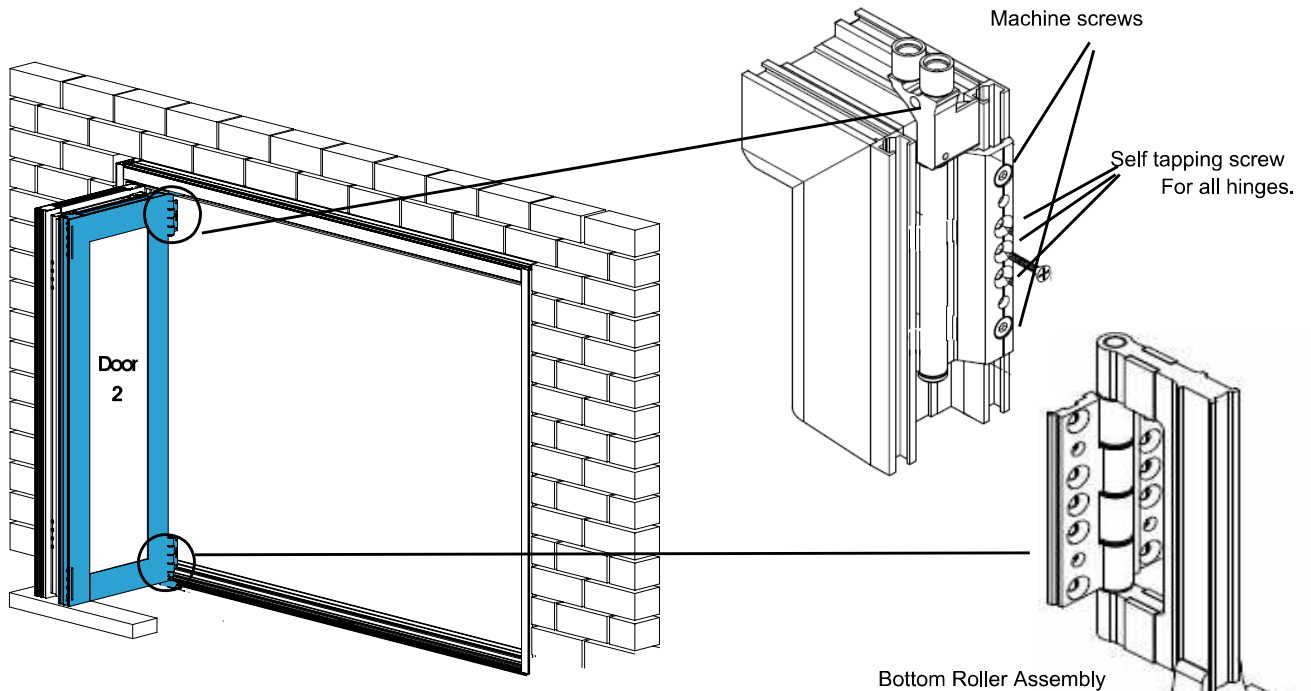
### IMPORTANT NOTE

The seal gasket is fitted under the door outside edge.

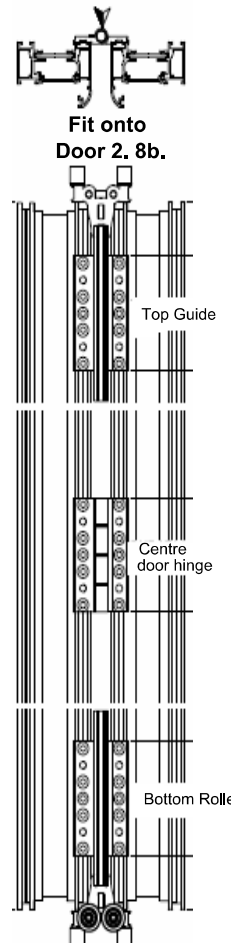
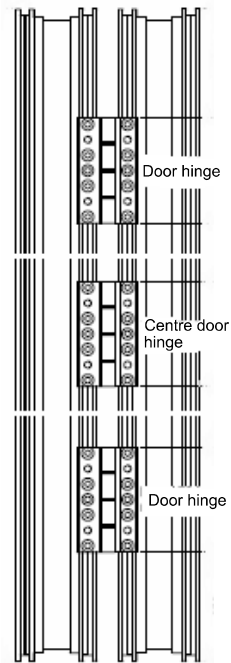
Please take care to ensure when the door rests on the block, it rests on the - ALUMINIUM PART ONLY AND NOT THE SEAL - This will prevent damage to the seal.

# Fitting the middle door (door 2)

**8** Carefully remove the top guide from door 2 and place on one side.



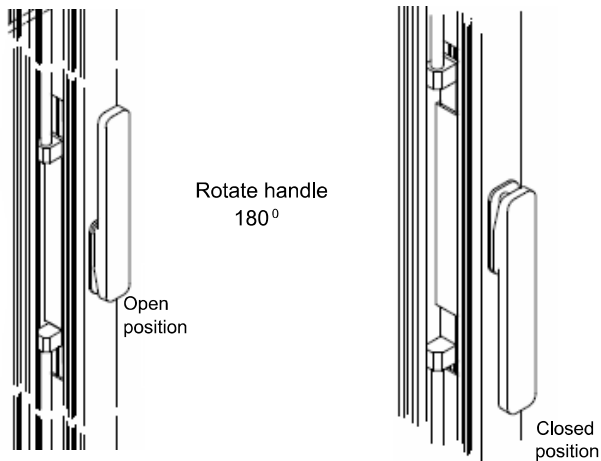
**8a.)** Lift Door 2 and locate the bottom roller assembly onto the two tracks in the bottom rail, then move the door to the right angle position and support on blocks, ensuring the weight is not on the door seal. Fit Door 1 to Door 2 with the 3 hinges - which are already fixed to Door 2 and just need fixing to Door 3. using the 2pc machine screws and 3pc self tapping screw into each hinge leaf. (Note the hinge with the handle fits in the centre, with the handle to the inside).



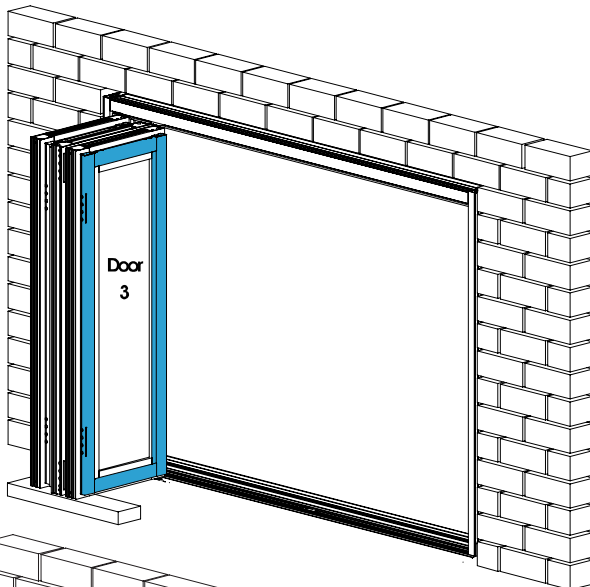
**8b.)** Carefully install the top guide into the top track, then fix to door 2. Finally fit the centre hinge onto door 2.

## Fitting the middle door (door 2)

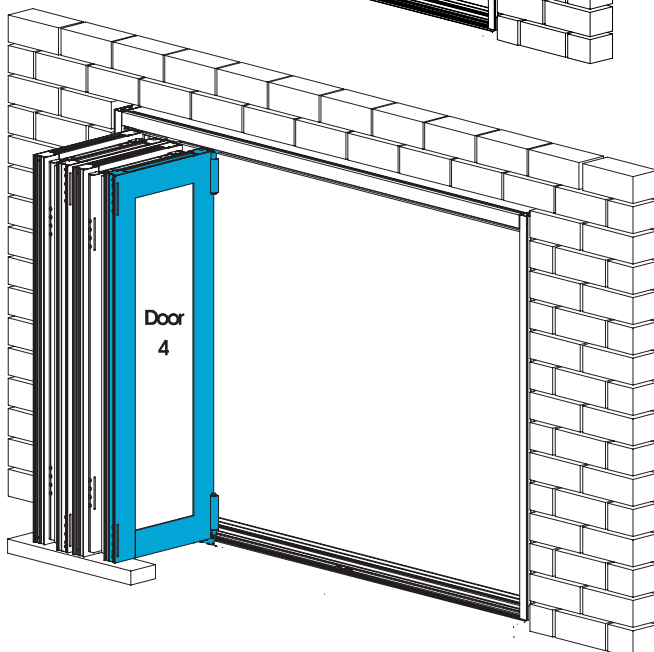
**8c.)** Close the doors from the inside using the pull handle, then rotate the intermediate twin point lock handle 180° to lock the doors closed.



## Fitting the Mid doors (Door 3 & 4)



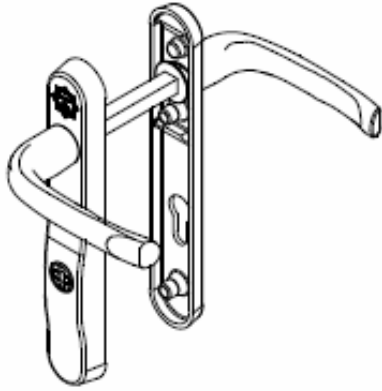
**9** Lift and support door 3, then fix to the hinges on door 2.



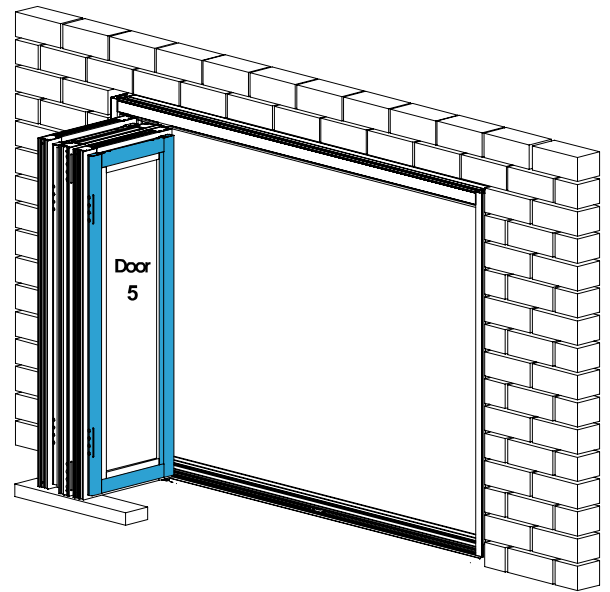
**10** For the installation of door 4 follow exactly the same installation procedure as door 2 numbers 8, 8a, b and c.

## Fitting the access door (door 5)

**11** Fit the handles to door 5 using the long threaded bolts provided.

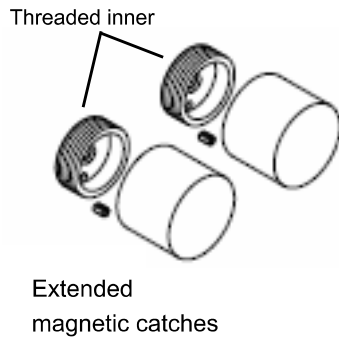


**12a.)** With doors 1 and 2 and 3 and 4 in the open position and at 90°'s to the frame, support door 5, the access door on blocks, adjacent to door 4 then screw the 3 hinge leafs onto door 5. Alternatively you can keep door 1 and 2 and 3 and 4 closed, then support door 5 at 90 degrees to the closed doors to screw the hinge leafs on.



**12b.)** Close doors 1 and 2 from the inside rotating the handle 180 degrees to engage the lock, and repeat the process by closing doors 3 and 4. Use the key to lock the doors. Close the Access door 5, and lift the handle to ensure the lock engages. Turn the key to fully lock the Access door. To unlock the access door use the key to unlock, then depress the handle to open the door.

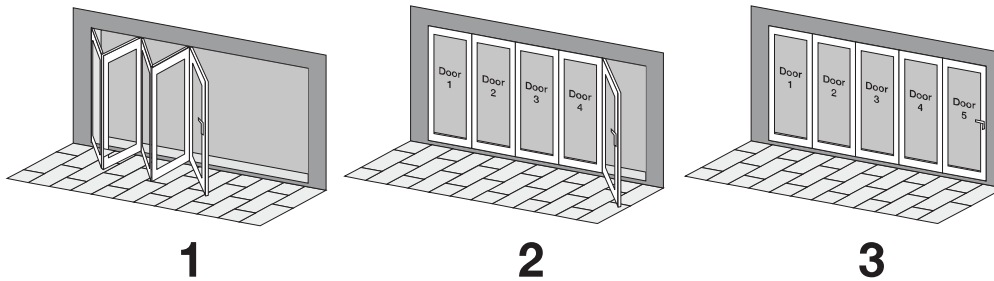
## Fitting the magnetic catches



- 13** Screw the extended magnetic catches onto the threaded inners which are located on the outside of Door 2 and 3.

## Operation of bifold doors

- 14** When closing the door set, first close doors 1 and 2, securing them with the twinpoint lock, by turning the handle 180 degrees. Next close doors 3 and 4, securing them in place with the Twinpoint lock, by turning the handle 180 degrees. Finally close and lock door 5 by closing, then lifting the handle and turning the key. Use door 5 independently as a daily access door. Turn the key then press the handle to unlock and exit.



*Shows Left Opening Set*

To open the doors, first fully open door 5 until the magnetic catch engages. Then turn the inside twinpoint lock handle between doors 4 and 5 180 degrees, and push the doors away from you. Then turn the twinpoint lock handle between doors 2 and 3 180 degrees, and finally side and fold all 5 doors to open.

Please note, failure to operate the doors as outlined above could result in damage to the roller system and frame.  
You must never close the doors by dragging the lead / access door first



## Trouble Shooting Guide

### Access Door will not lock

The complete set is assembled and working perfectly in our factory, before being disassembled for packing and delivery.

On very rare occasions, due to movement during delivery, or if the set is installed without being completely level and square in the brickwork opening, difficulties in closing the access door can occur.

If you experience these difficulties:

- 1.) With the access door open, lift the handle to operate the lock then turn the key, then reverse the process to unlock. If the lock operates correctly check the other causes numbers 2 to 4 below. If the lock does not operate then contact Customer Service.
- 2.) Check the frame and doors are correctly assembled and are square, level and fully supported and well secured into the opening.
- 3.) Check the two moveable rollers on the lock align with the centre of the lock keep receiver. If they do not, unscrew the lock keep and move it up or down until the lock rollers are in the centre of the keep receiver, then re-secure the keep to the frame jamb (Using New fixing positions for the screws).
- 4.) If 1 to 3 are all OK, but the lock is not engaging into the keep, check the distance between the lock keep and the lock. If the door lock is too far away from the keep, you can use the white lock keep packer 1mm x 2.5mm which fits behind the lock keep and moves the keep closer to the lock. Just remove the keep, install the lock keep packer, then re-fit the lock keep.
- 4a.) If the distance between the lock and the lock keep is still too far, you can insert the Hinge jamb packers behind the hinge plates on Door 1. Carefully loosen the hinge leaf screws and insert the spacers behind each of the 3 hinges, then re-tighten the screws.

White 1mm x 2.5m  
Lock Keep packer



Hinge Jamb  
1mm Packer



## DECLARATION OF CONFORMANCE

DoC No: JCI/FSDALIHEPD

<b>Product Type:</b>	Aluminium Bifold Double Glazed Door
<b>Intended Use:</b>	For use in domestic and commercial premises Not intended for use on escape route
<b>Declared System of Assessment Performance:</b>	3
<b>Provisions to which the Product Conforms:</b>	Annex ZA of EN 14351-1:2006+A2:2016
<b>Reference to Supporting Product Certification and/or Test Reports</b> <i>(supportive of compliance):</i>	Exova - Weather Tightness Report: WIL 383704 Rosenheim - Thermal Performance Report:12-000309-PRO1

### Declared Performance:

#### Essential Characteristics

	Performance
Resistance to Wind Load:	Class B3 (1200Pa)
Watertightness:	Class 4A (150Pa)
Dangerous Substance:	No emissions of dangerous substances emitted
Load Bearing Capacity of Safety Device:	Npd
Acoustic Performance	Npd
Thermal Transmittance:	1.4w/(m <sup>2</sup> K)
Radiation Properties:	Npd
Air Permeability:	Class 3 (600Pa)

This declaration of performance is issued under the sole responsibility of JCI Limited.

Signed for and on behalf of the Company by

**Name of Representative:** John Collins

**Job Title:** Managing Director

**Representative Signature:**



**Date of Issue:** 1<sup>st</sup> June 2022

**Product CE Marking Detail:**



## DECLARATION OF CONFORMANCE

DoC N°: JCI/FSDALIHEPT

<b>Product Type:</b>	Aluminium Bifold Triple Glazed Door
<b>Intended Use:</b>	For use in domestic and commercial premises Not intended for use on escape route
<b>Declared System of Assessment Performance:</b>	3
<b>Provisions to which the Product Conforms:</b>	Annex ZA of EN 14351-1:2006+A2:2016
<b>Reference to Supporting Product Certification and/or Test Reports</b> <i>(supportive of compliance):</i>	Exova - Weather Tightness Report: WIL 383704 Rosenheim - Thermal Performance Report:12-000309-PRO1

### Declared Performance:

#### Essential Characteristics

	Performance
Resistance to Wind Load:	Class B3 (1200Pa)
Watertightness:	Class 4A (150Pa)
Dangerous Substance:	No emissions of dangerous substances emitted
Load Bearing Capacity of Safety Device:	Npd
Acoustic Performance	Npd
Thermal Transmittance:	1.0w/(m <sup>2</sup> K)
Radiation Properties:	Npd
Air Permeability:	Class 6 (600Pa)

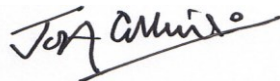
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Signed for and on behalf of the Company by

**Name of Representative:** John Collins

**Job Title:** Managing Director

**Representative Signature:**



**Date of Issue:** 1<sup>st</sup> June 2022

**Product CE Marking Detail:**

