

THE COP26 HOUSE

# **OPERATION & MAINTENANCE MANUAL**

NORDAN UK

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Whilst every care has been taken in the preparation of content within this guide, which is believed to be correct, this is not warranted and end-users should satisfy themselves as to the correctness of information given. For further advice, please contact your local NorDan office.



# NORDAN OUR STORY

**NorDan is on a mission to be the leading Scandinavian window supplier to the UK housing market. As responsible solution providers, we design and manufacture products to challenge what's possible.**

## FOUNDATION

NorDan is one of Europe's leading manufacturers of high performance windows, doors and smart accessories. Founded in Norway almost 100 years ago, we are a family-owned business operating across Europe, with sustainability and environmental thinking an integral part of the NorDan identity.

With timber at the core, our product range offers solutions that combine leading energy performance with longevity, to

minimise environmental impact throughout their lifespan. The company's environmental approach is also implemented throughout the value chain, from raw materials and production right through to transportation of finished products.

Today, the NorDan Group consists of 12 factories, approx 30 project management offices and more than 2200 employees.





# IDENTIFYING YOUR NORDAN PRODUCTS


Your NorDan offer is key to understanding your specified products, the following information will guide you through it.

- 1. Line number of your quote
- 2. Offer number
- 3. Product reference from your drawing or schedule
- 4. Quantity of products with the same description
- 5. U-value of the whole product (which is calculated in accordance with BS EN ISO 10077-1-2 and the programme 'Therm')
- 6. Weight of the product
- 7. Glazing specification of the product (# indicates toughened or obscure glass), including light transmission/G value
- 8. Colour finish with individual details
- 9. Details specific to the product
- 10. Any note, specific to the particular product
- 11. Thickness and position of transom or mullion bars from top of frame
- 12. Manufacturing size of the product
- 13. Price for each product of this type
- 14. Aluminium cills included in your quote
- 15. Non standard finish

If there are still items that you are unclear about, please contact your nearest NorDan regional office who will be more than happy to help.

**PLEASE NOTE THE FOLLOWING PRINCIPLES WHICH APPLY TO ALL NORDAN UK OFFER:**

- All illustrations of windows and doors on offer pages are viewed externally.
- A dotted line illustrates an INWARD opening product.
- A solid line illustrates an OUTWARD opening product.
- Opening "arrows" point AWAY from the hinge position.
- Product handings are described from the hinge side of a product.
- Product handings for OUTWARD opening windows are described from the OUTSIDE.
- Product handings for INWARD opening products are described from the INSIDE.



|     |  |
|-----|--|
| 3   | 4  |
| Lnr | Mrk  |
| 020 | W2   |
| Qty | Description                                |
| 3   | ND NTech Fixed frame w/sash                |
|     | Construction 100 mm frame incl. 8 mm alum. |
|     | U-value product: 1,3W/m²K                  |
|     | Weight 60 kg                               |
|     | Without ventilator                         |
|     | Inward opening tilt and turn sash          |
|     | Glass                                      |
|     | Low E WES/Ar                               |
|     | Construction 6+16G+ES4                     |
|     | Transmission LT/TST 70/48                  |
|     | ba: Lam Low E w/Toughened WES/Ar           |
|     | Construction 6,38ES+16G+4#                 |
|     | Transmission LT/TST 70/44                  |
|     | Aluminium cladded                          |
|     | Product RAL 7012 Grey, Powder coated       |
|     | Surface finishing                          |
|     | Product RAL 9003 White                     |
|     | Details:                                   |
|     | No fixing holes                            |
|     | No sub frame groove                        |
|     | Wallside frame finished                    |
|     | Chrome handles/stay                        |
|     | Silver ventilator                          |
|     | Lockable handle (53/54) fitted             |
|     | Note (only for customer):                  |
|     | TOO LARGE TO BE SINGLE OPENING SASH        |
|     | Bar:                                       |
|     | 62 = Solid transom/mullion                 |
| 025 | CILL                                       |
| 3   | Article RAS5410                            |
|     | Surface finishing                          |
|     | Product RAL 7012 Grey, Powder coated       |
| 992 | 1 Non standard finishing                   |

1

6

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A sample offer from NorDan UK.  
The following information will show you more about  
what each aspect on the document means.



# TAKING CARE OF YOUR NORDAN PRODUCTS

**From the measurement, surveying and ordering to site delivery, handling, storage and the installation of NorDan products, it is always preferable to employ good practice to ensure maximum satisfaction and life expectancy with the finished article.**

At NorDan, we look upon our products, not as building components, but as high quality furniture to be carefully handled at all times. This will ensure there are few maintenance problems during the product's lifetime which will consequently be a long one.

## THE FOLLOWING ARE SOME PRACTICAL MEASURES TO HELP ACHIEVE THIS:

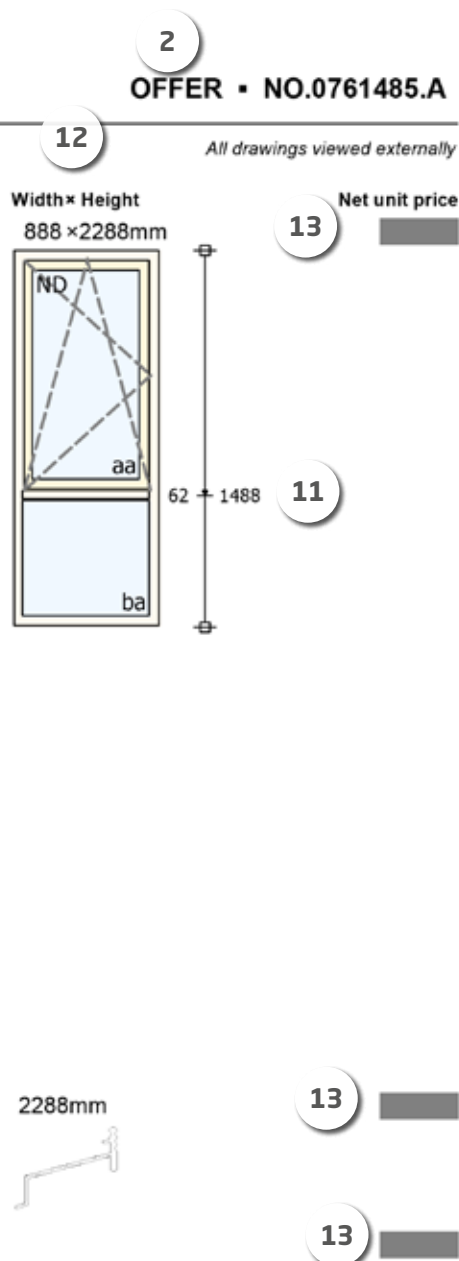
- Never install into an incomplete opening or a building without a fully installed, weather-tight roof
- Store goods under cover in a dry and ventilated space until they are installed.
- Use soft packers to keep frames from rubbing or touching one another when in storage
- Store units vertically, NEVER horizontally - where applicable
- Handle the products like furniture. Wear clean gloves to protect the finish
- Encourage other trades to respect and not abuse installed windows and doors
- Follow all the guidelines in this document
- Protect the products during and after installation

**Note:** The installer should always check with a structural engineer to ensure the security of the fixings, and that the structure is capable of taking the transferred loadings.

Timber frame pallets are wrapped in plastic to protect from the sun & rain, product to be stored in a cool dry ventilated area to avoid excessive moisture build up due to condensation, polythene wrapping must be taken off the pallets

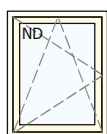
Pallets must not be stored in standing water, any pallets kept outside for a long period must be covered with additional tarpaulins to protect from weather

**DAMAGE ON DELIVERY -  
VERBALLY REPORTED WITHIN 48HRS  
WRITTEN WITHIN 5 DAYS**

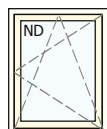


# INWARD OPENING WINDOWS

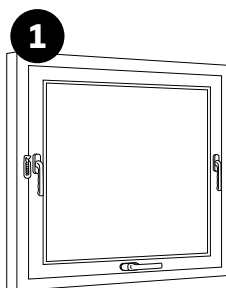
## NORWEGIAN STORMGUARD (ND)



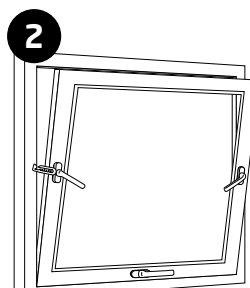
Inward opening tilt & turn window. Right hand hung



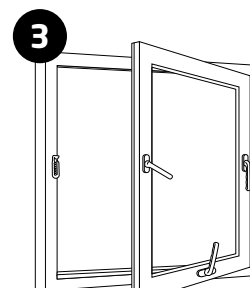
Inward opening tilt & turn window. Left hand hung



Closed position

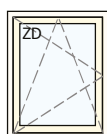


Ventilation position (restricted)

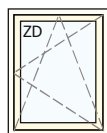


Cleaning position

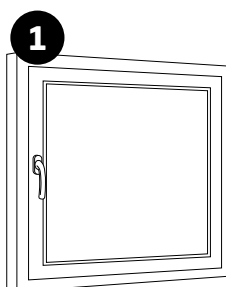
## ONE TILT & TURN (OD/ZD)



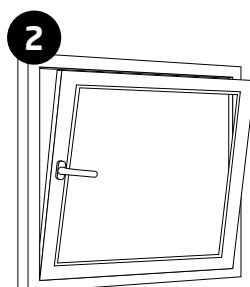
Inward opening tilt & turn window. Right hand hung



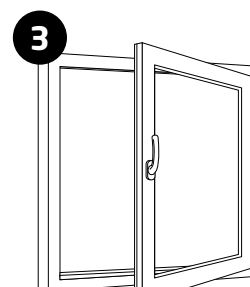
Inward opening tilt & turn window. Left hand hung



Closed position

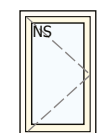


Ventilation position (restricted)

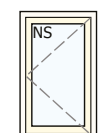


Cleaning position

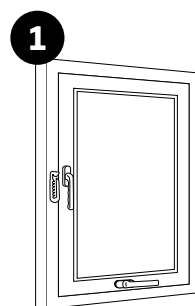
## TWO HANDLE TURN (NS)



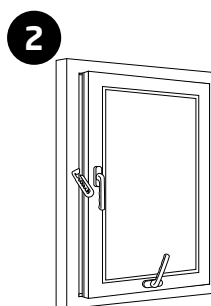
Inward opening side hung window. Right hand hung



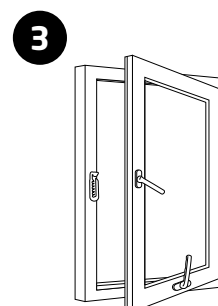
Inward opening side hung window. Left hand hung



Closed position



Ventilation position (restricted)



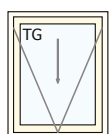
Cleaning position

The NorDan inward opening window range includes the **3-handle or 1-handle tilt and turn, and depending on size, 1 or 2-handle side hung**. For 3 handled tilt & turn windows  $\geq 1788\text{mm}$  wide, extra handles and locking points are included.

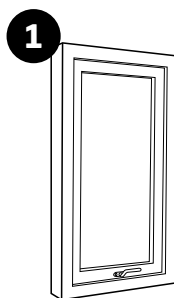
For multi-sash and combination windows (fixed light and opening sash all in one frame), please refer to the appropriate operating instructions for single window operation.

# OUTWARD OPENING WINDOWS

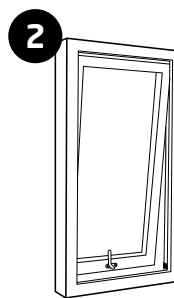
## TOPTECH (TG)



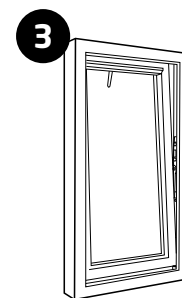
Outward opening  
fully reversible  
window



Closed position

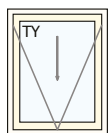


Ventilation position  
(restricted)

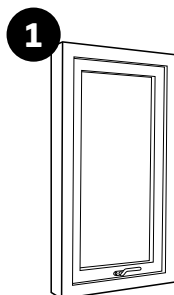


Cleaning position

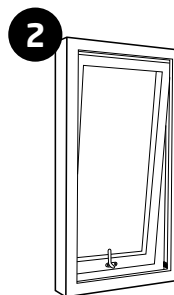
## OPUS (TY)



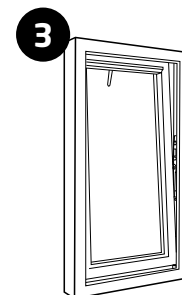
Outward opening  
fully reversible  
window



Closed position

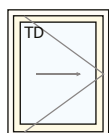


Ventilation position  
(restricted)

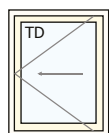


Cleaning position

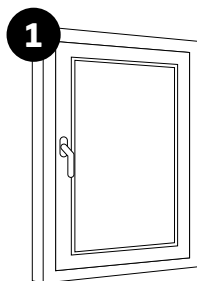
## SIDE SWING REVERSIBLE (TD)



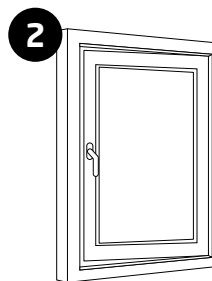
Outward opening side  
swing window. Right  
hand hung



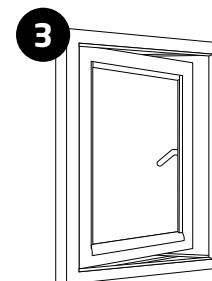
Outward opening side  
swing window. Left  
hand hung



Closed position



Ventilation position  
(restricted)



Cleaning position

**The NorDan outward opening window range includes the top swing and side swing window.** To find out which top swing window you have: the Top-Tech reversible hinge pivots the sash from above and the top-swing reversible hinge pivots from below. For windows with width  $\geq 1688\text{mm}$ , an additional locking

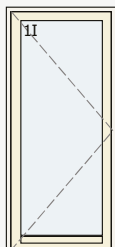
point may be employed.

For multi-sash and combination windows (fixed light and opening sash all in one frame), please refer to the appropriate operating instructions for single window operation.

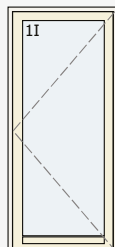


# BALCONY AND SLIDING DOORSETS

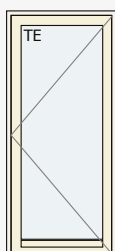
## BALCONY SINGLE DOORS (1I, BE, TE,)



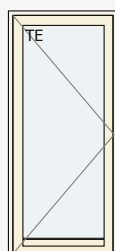
Inward opening single door. Right hand hung



Inward opening single door. Left hand hung

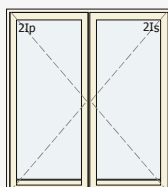


Outward opening single door. Right hand hung

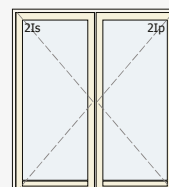


Outward opening single door. Left hand hung

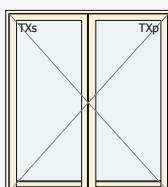
## BALCONY DOUBLE DOORS (2I, BX, TX)



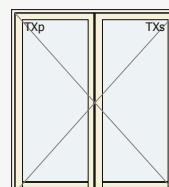
Inward opening double door, right hand door opening first  
"p" Indicates primary opening door  
"s" Indicates secondary opening door



Inward opening double door, left hand door opening first  
"p" Indicates primary opening door  
"s" Indicates secondary opening door

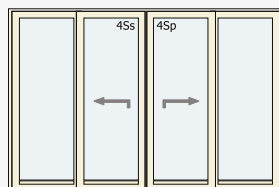


Outward opening double door, right hand door opening first  
"p" Indicates primary opening door  
"s" Indicates secondary opening door



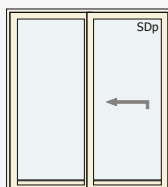
Outward opening double door, left hand door opening first  
"p" Indicates primary opening door  
"s" Indicates secondary opening door

## DOUBLE SLIDING DOOR (4P, 4S)

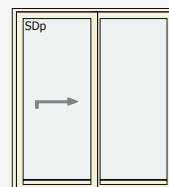


Double sliding door with outside leaf sliding, right hand door slides first  
"p" Indicates primary opening door  
"s" Indicates secondary opening door

## SINGLE SLIDING DOOR (2P, SD)



Sliding door with outside leaf sliding, right hand door slides  
"p" Indicates primary opening door



Sliding door with outside leaf sliding, left hand door slides  
"p" Indicates primary opening door

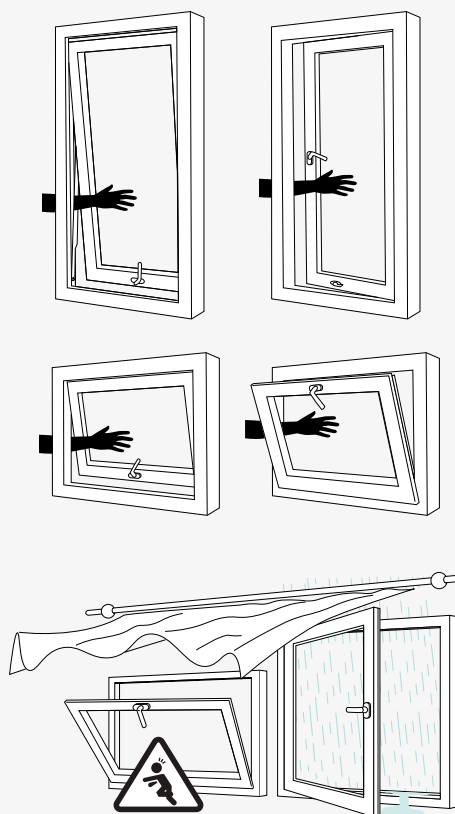
### PLEASE NOTE THE FOLLOWING PRINCIPLES WHICH APPLY TO ALL NORDAN UK OFFER:

- All illustrations of windows and doors on offer pages are viewed externally.
- A dotted line illustrates an INWARD opening product.
- A solid line illustrates an OUTWARD opening product.
- Opening "arrows" point AWAY from the hinge position.
- Product handings are described from the hinge side of a product.
- Product handings for OUTWARD opening windows are described from the OUTSIDE.
- Product handings for INWARD opening products are described from the INSIDE.

# PRODUCT SAFETY

**To avoid any accidents when operating, please note:**

1. To avoid the risk of any crushing injuries, never put your arms, hands or fingers between the frame, operable sash or door leaf.
2. Close all sashes and door leaf's completely shut in medium / high winds. Leaving products open in inclement weather is a high risk of personal injury or at least product damage.
3. In the event of any fault with your NorDan product, please ensure that it is not used and close shut if possible. Contact NorDan Customer Service for further advice and any corrective actions, see page 15 for Customer Service contact details.
4. Always follow the step-by-step installation instructions and periodic maintenance procedures outlined in the user handbook. If you are unsure of any guidelines or instructions again, please contact NorDan Customer Service team.
5. All users and visitors to the property should always familiarize themselves with the functionality of the product and the safety feature before use. Children should never be left unattended.



## OPERATION & MAINTENANCE

Regardless of what material windows and doors are made from, or how they operate, there are general safety recommendations designed to avoid accidents.

### CLEANING

- OPEN, CLEAN AND CLOSE- WITHOUT ANY INTERRUPTION!
- When preparing to clean a window ensure you can start and finish without distraction from visitors, children, phone calls etc
- Always choose a calm and dry day
- Never climb on steps or furniture to clean a window
- Never lean out of a window or over-reach when stretching up to the top. Use a squeegee on a pole that is as long as needed to do the cleaning safely, with both feet on the floor

### OPERATING

Only use window handle(s) when opening and closing, and always make sure your other hand, and other people's hands, will not get trapped in any of the sides of the window sash (bottom, sides and top).

Never open outward opening windows on ground floors so much so that there is a risk of passers by colliding into it.

### TAKE NOTE

Many types of reversible outward opening window ironmongery include a "scissor" type action. To avoid the risk of injury never encroach the ironmongery with a finger or hand!

Never leave a window in a fully open, or a reversed cleaning position- not even for a second! Apart from inviting unwelcome guests, there is also the danger of anything falling out. Always use the recommended ventilation position for day-to-day operation.

Close all windows and doors in strong winds.

### LUBRICANT

NorDan recommend silicone spray or similar for lubrication of ironmongery. Care should be taken to avoid contact with timber to avoid staining.

### GOOD PRACTICE

Always close a window or door when it is raining to protect its surface and finish. If not observed, the frame may swell and cause difficulty in closing. This is not only hazardous, but also a common cause of damage to internal finishings.

# NORWEGIAN STORMGUARD

**CODE: ND**



## 1. CLOSED POSITION

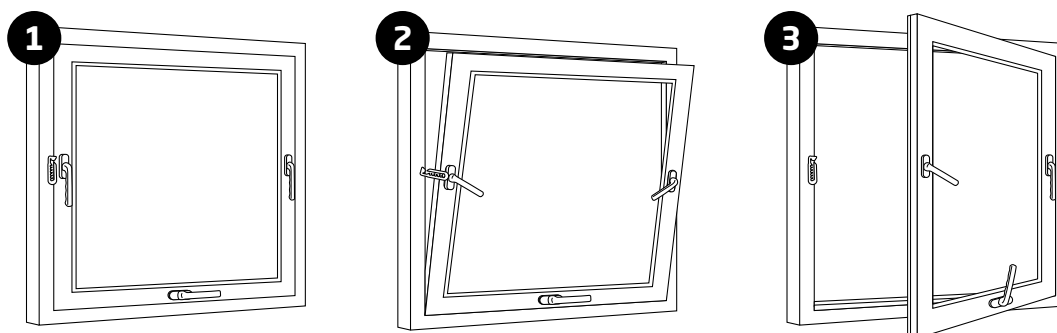
Check that all handles are set in the locked position.

## 2. TILT OPERATION

The tilt/ventilation position is simply opened by opening the two handles located on the jambs of the sash. This allows for safe ventilation to be provided into the property without having to open the sash fully.

## 3. TURN OPERATION

The turn option on the window opens into the room to a restricted angle of 60,5°; this in turn creates adequate room for cleaning of the external glazing from safely inside the property. On the hinge side of the sash, the window is fitted with a metal strike plate which ensures that the handle on the hinge side does not clash and damage the timber frame.

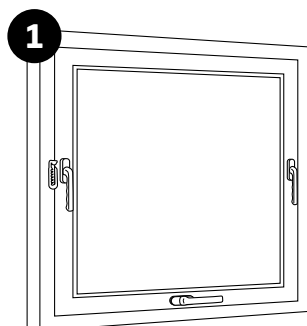


All three-handle tilt and turn window  $\geq 1788\text{mm}$  in width: an extra handle / locking point will be fitted as standard to the centre of the top rail of the sash.

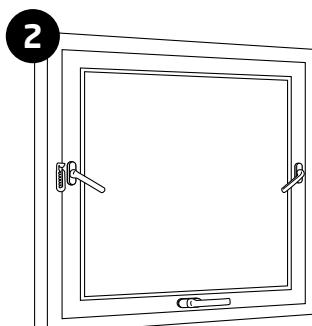


## Tilt/ventilation position

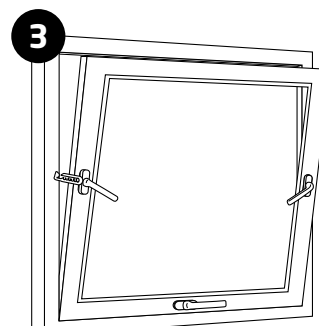
For improved comfort/safety, always engage the vent stay/restrictor when the window is in the ventilation position, this is located on the frame.



Check that all the handles are fully closed



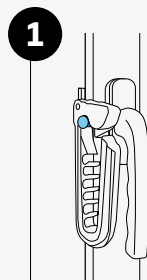
Open the upper two handles only



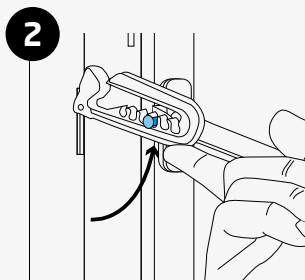
Pull window inwards, leaving the upper handles open

## Restricting the sash

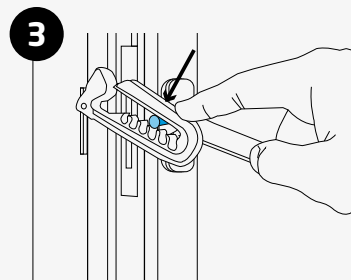
The ventilation restrictor can be positioned on the side or the bottom of the window frame, next to the sash. It is used to restrict the sash in the ventilation position.



Check that all the handles are fully closed



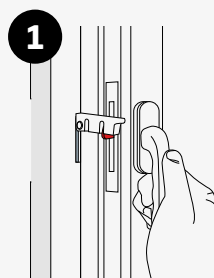
Open the upper two handles only



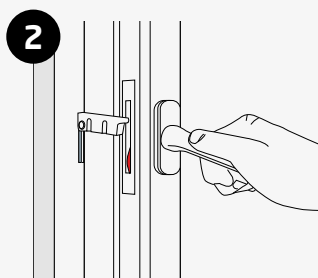
Pull window inwards, leaving the upper handles open

## Optional

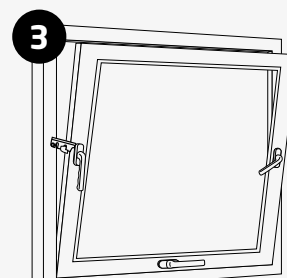
Optional chrome vent stay for restriction in the turn/ventilation position



Lift the vent stay up and move the handle to engage either the two fixed positions or at the end



To close, disengage the handle from the vent stay and push the sash back into the frame



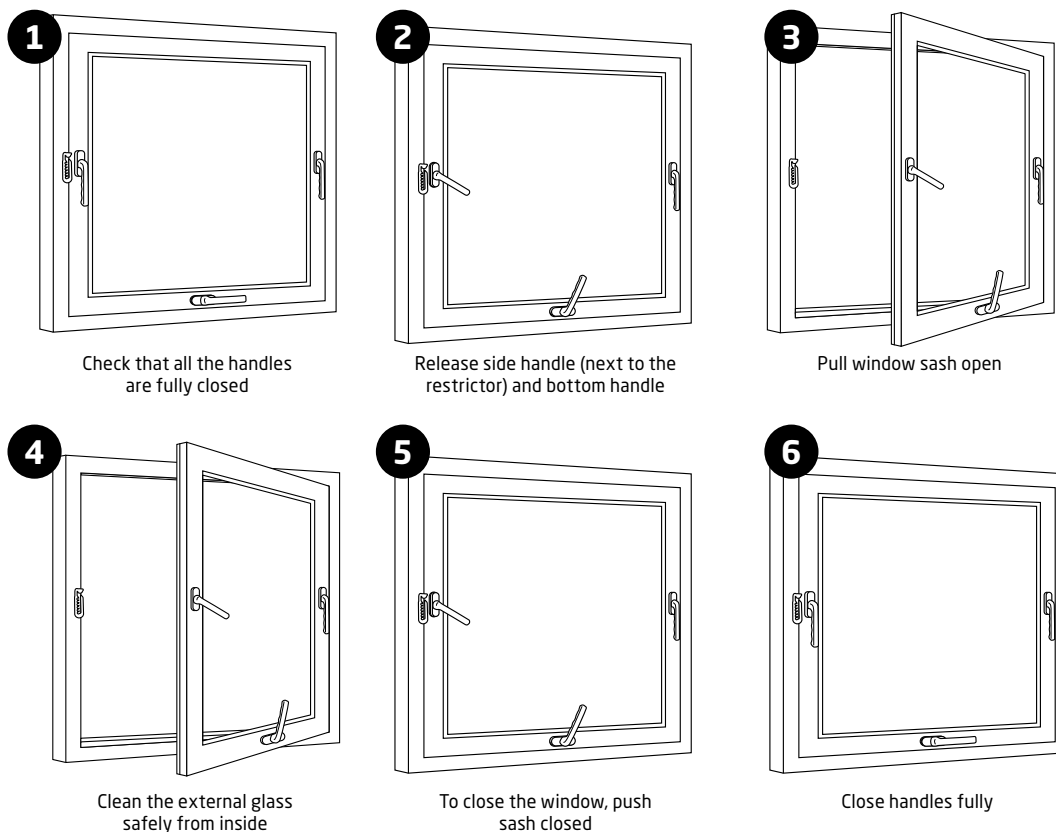
Close the two upper handles fully



NOT all ventilation stay positions are possible on certain window height.

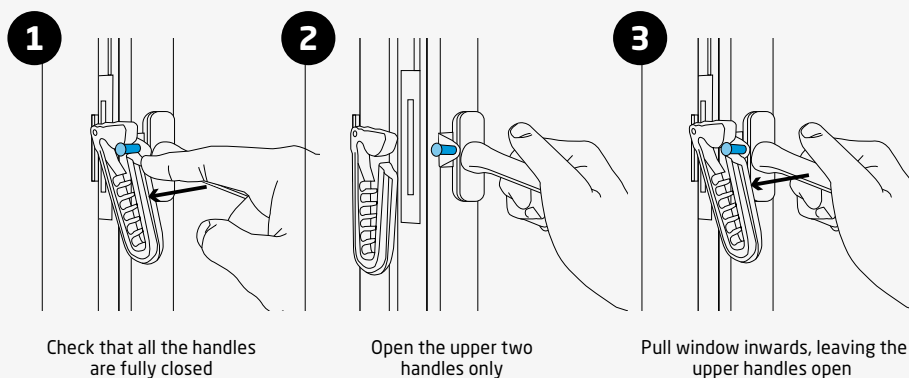
## Cleaning position

When cleaning, ensure that open windows are not left unattended and that the operation is carried out safely. Ensure that child safety restrictors are re-engaged (if applicable) when closing the window.



## Cleaning restrictors

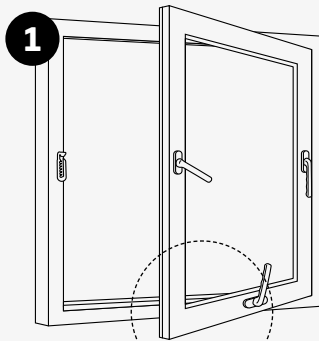
The restrictor needs to be detached from the window to allow access to the cleaning/turn position.



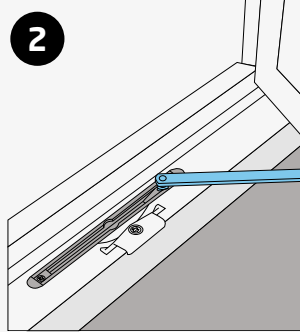
**Cleaning Position** - In the interest of safety, do not use the window in the turn/cleaning position for ventilation purposes.

## Friction stay

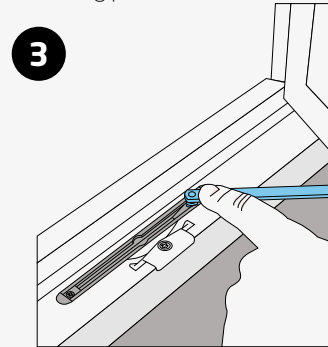
The optional factory fitted friction stay for inward opening windows only as an additional safety device to restrict the movement of the sash when open in the cleaning position.



The wind-brake restrictor is found at the bottom of the frame when window is open in cleaning position.



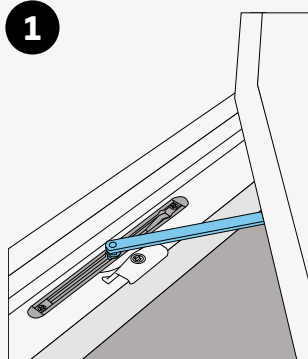
The wind-brake automatically holds the sash in place when the window is fully open.



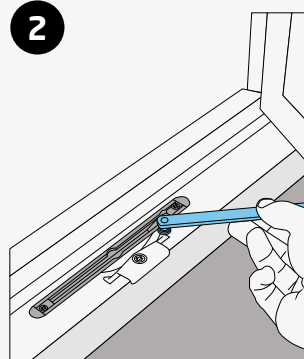
To unlock restrictor after cleaning, press down on the stay at the place it engages then close the window.

## Disengaging

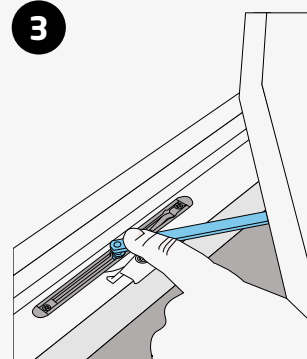
The friction stay restrictor can be disengaged so the window can be opened fully for maintenance purposes.



Open the window and ensure the restrictor arm is aligned centrally with the restrictor stay.



Lift the restrictor arm so that it is fully removed from the restrictor stay.



To re-attach the restrictor arm, push the lock back into the centre of the restrictor stay.



Approximate opening in the turn/cleaning position is 60.5° this is more than adequate to clean both sides of the window safely from the inside.

## Alternate ironmongery

- A removable handle fitted to the bottom rail; this restricts the sash to tilt only.
- A removable handle fitted to the opening side vertically (opposite hinge side) will lock the window inoperable.

Locking handles with keys and additional restrictor stays are available to order. (Part numbers available on request through NorDan Solutions or NorDan Customer Services Department)

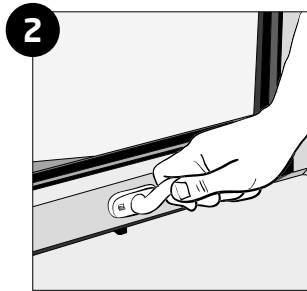


## Removing the sash

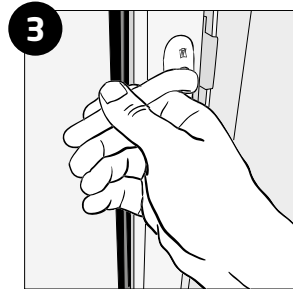
The ND StormGuard window also has a safety feature built in where the sash can be removed to carry out maintenance or reduce the overall weight of the whole product when installing on site. The sash can be removed by bringing the window into the turn position, engaging the bottom handle and then disengaging the remaining side handle.



Open the window into the side hung cleaning position (using the side handle on the "opening" side and the bottom handle)



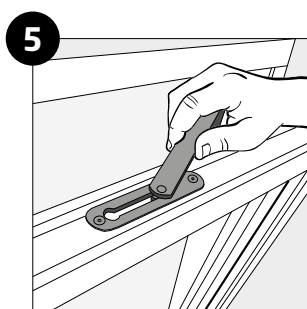
Close the bottom handle with the sash in the open position.



Open the side handle on the 'hinged' side.



Tilt the sash inwards by approximately 30° then lift it up and away from the ball fitting located at the bottom of the 'hinged' side.



Disengage the stay on the top rail of the sash, by sliding the sash to the hinge side of the window.



Store the sash safely to one side.



To re-install the sash, follow the procedure in reverse

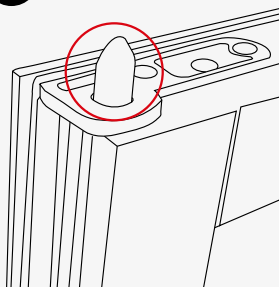


Please ensure that at least two competent people are available to remove a window sash safely.

## Maintenance

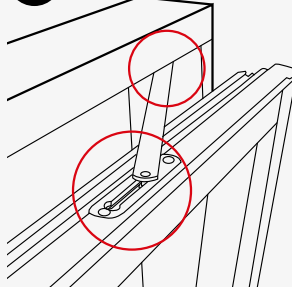
Ensure the window is maintained regularly, following the standard guidelines. Inspect the product once per year

1



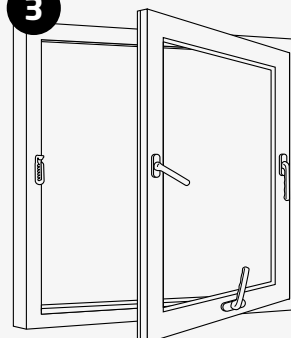
Open the window to the ventilation position and push down the two side handles to reveal the locking bullets at the head of the sash. Apply recommended lubricant on these, any excess must be wiped off immediately.

2



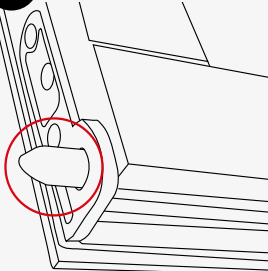
With the window still in the ventilation position, apply recommended lubricant at the restrictor stay, any excess must be wiped off immediately.

3



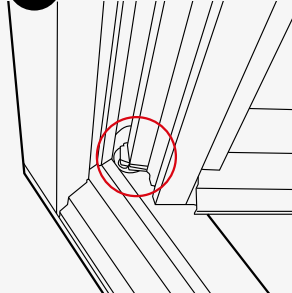
Return the sash to the closed position then open to the cleaning position.

4



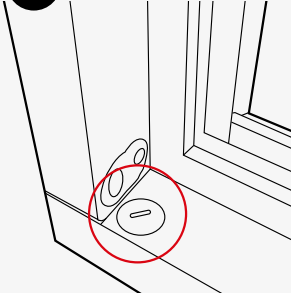
Lower the bottom handle to reveal the locking bullet at the end of the sash, apply recommended lubricant to this, any excess must be wiped off immediately

5



Apply recommended lubricant on the ball /socket at the 'hinged' corner, any excess must be wiped off immediately. Check product opens and closes easily and return window to the closed position

6



An adjustment screw is located in the bottom of the frame should the need arise to ease the sash in place after installation settlement.

### MAINTAINING YOUR NORDAN WINDOW COULDN'T BE SIMPLER. ALL THAT IS REQUIRED IS TO CHECK THEM CAREFULLY A MINIMUM OF ONCE A YEAR FOR THE FOLLOWING SIGNS:

- Look for and remove any airborne debris that might be trapped in between the frame and the sash. To do this open the window in the cleaning position
- Wipe or brush clean all surfaces and check the weather seal is clean, dry, continuous, and undamaged. Never get any paint on the weather seal/gasket. As this will reduce the windows performance
- Check that the handles move freely and smoothly. If they are stiff, carefully use a recommended lubricant on the locking mechanism/bolts while in their extended position.
- Check the glass does not have any water vapour inside of the sealed unit, or that the glass is damaged.
- Check all timber surfaces for damage and note if the finishing (paint etc) requires refreshing.
- Check all handles and ventilator controls are not loose, if they are then tightened with the appropriate torx screwdriver
  - T15 – ventilators
  - T20 – Handles
- Tighten enough so that the handles and controls work freely without being too loose. Do not over-tighten.



If in any doubt or if you require assistance with any maintenance queries call your nearest sales or customer services office, as noted on the back of this brochure.

# ONE TILT & TURN

**CODE: OD/ZD**



## **1. CLOSED POSITION**

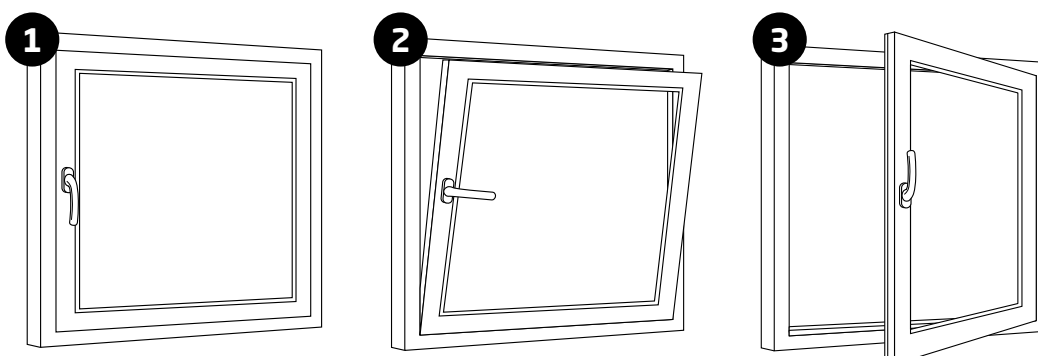
Check that the handle is set in the locked position.

## **2. TILT OPERATION**

The tilt/ventilation position is operated by turning the handle to 90° located on the jamb of the sash. This allows for safe ventilation to be provided into the property without having to open the sash fully.

## **3. TURN OPERATION**

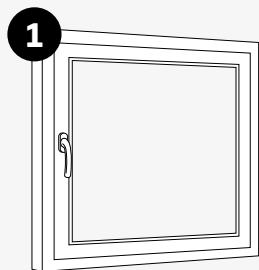
The turn/cleaning option on the window can be engaged by turning the handle to the 180° position the sash opens into the room to an angle of 90°; this in turn creates adequate room for cleaning of the external glazing from safely inside the property.



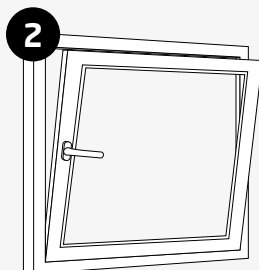


## HANDLE OPERATION POSITIONS OVERVIEW

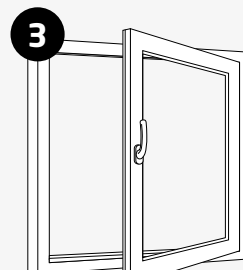
For improved comfort/safety, always engage the vent stay/restrictor when the window is in the ventilation position, this is located on the frame.



Closed position



Tilt position

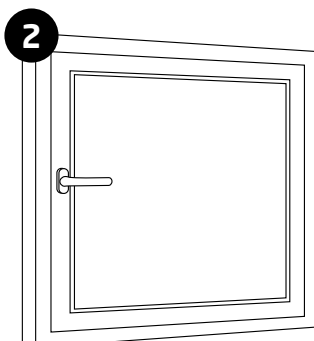
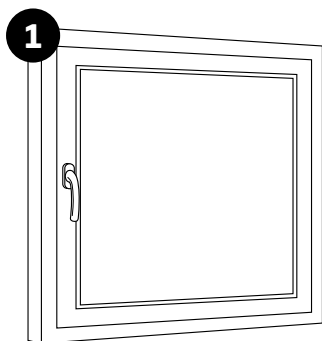


Open position

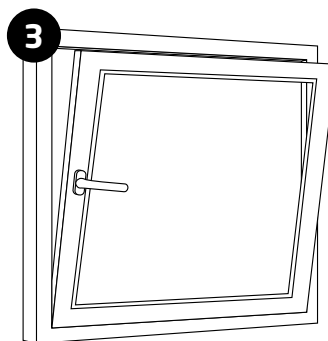
Links to videos for mishandling!

## TILT/VENTILATION POSITION

For improved comfort/safety, always engage the window in the ventilation position.



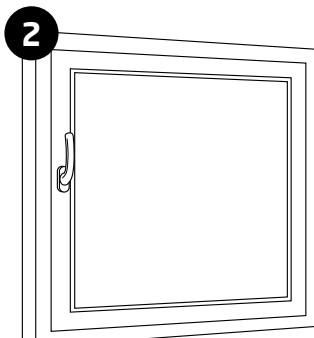
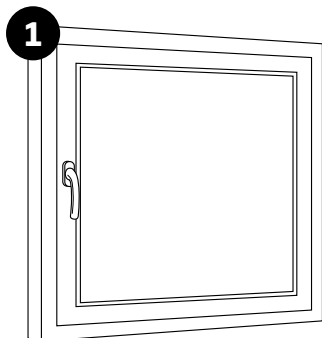
Turn handle 90°



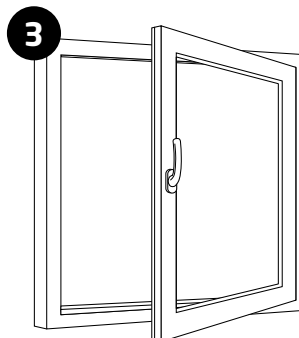
Pull

## CLEANING POSITION

When cleaning, ensure that open windows are not left unattended and that the operation is carried out safely. Ensure that child safety restrictors are re-engaged (if applicable) when closing the window



Turn handle 180°



Pull



In the interest of safety, do not use windows in the cleaning position for ventilation purposes

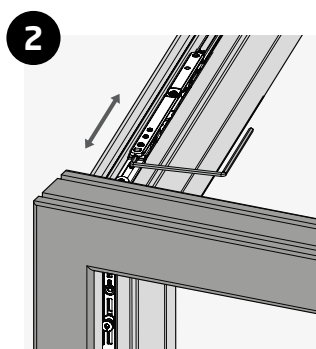
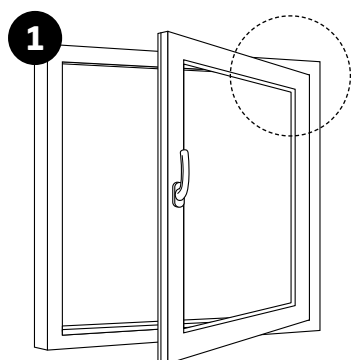


Approximate opening to 90°, is more than adequate to clean both sides of the window from the inside

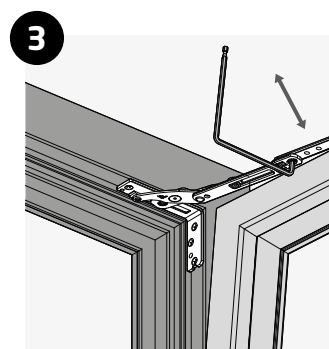
## ADJUSTMENT

The symbols below highlight the orientation of adjustment available for the sash, after installation the following steps can be followed to realign the product if required. A 4mm hex key tool is required to carry out the following steps

### SASH LATERAL ADJUSTMENT TOP

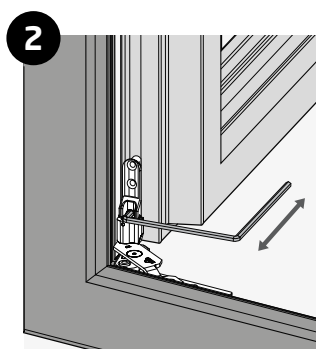
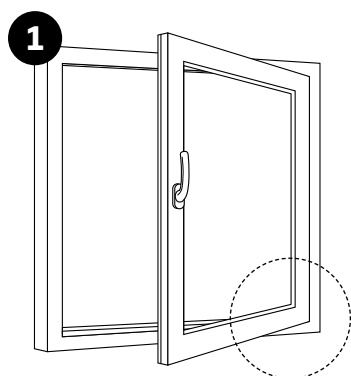


Lateral adjustment - +/- 0.2mm

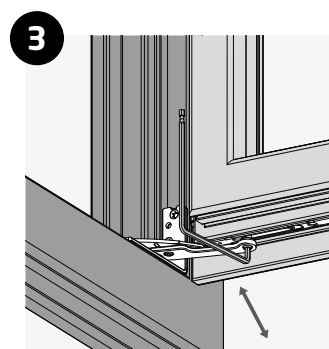


Gasket Compression adjustment - +/- 0.5mm

### SASH LATERAL ADJUSTMENT BOTTOM



Lateral adjustment - + 2.0mm/- 1.5mm

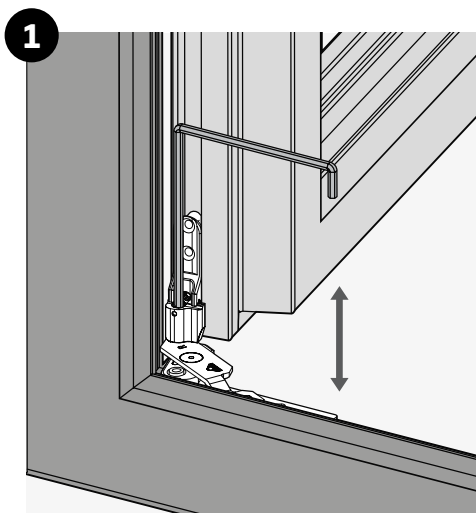


Gasket Compression adjustment - +/- 0.5mm

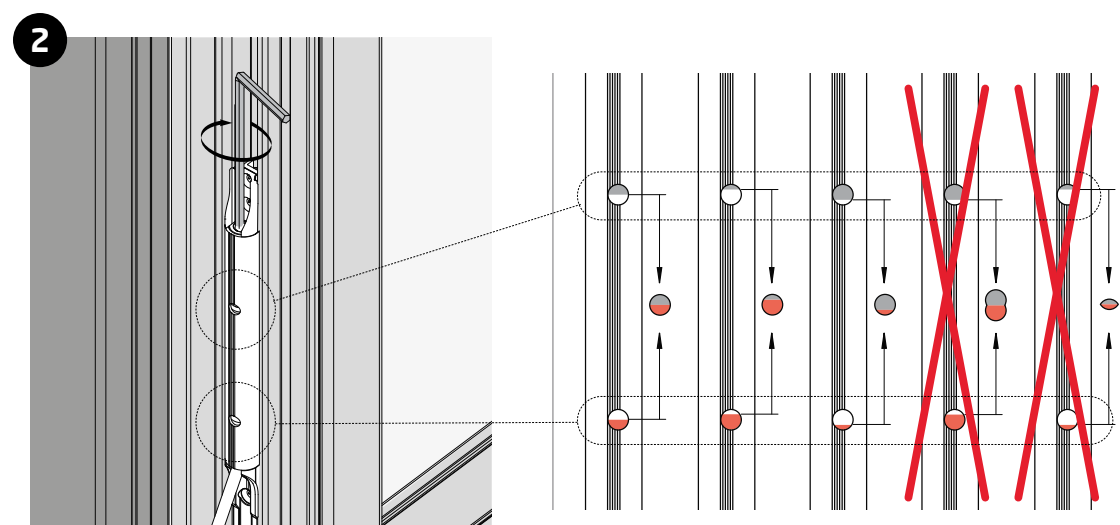


In the interest of safety, do not use windows in the cleaning position for ventilation purposes

## PIVOT REST/CORNER HINGE ADJUSTMENT



Height adjustment - + 1.5mm/- 1.0mm



Adjust the load transfer device with a 4 mm hex key when the sash is in the 90° turn/cleaning position. Adjust the adjusting screw shown in the silver divided circle so that the sum of the red and silver combined results, in one complete circle.

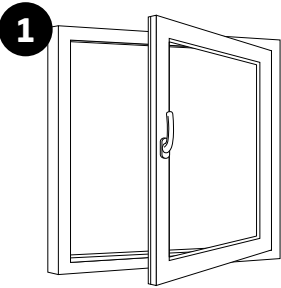


In the interest of safety, do not use windows in the cleaning position for ventilation purposes

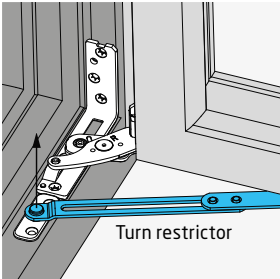
# Removing the sash



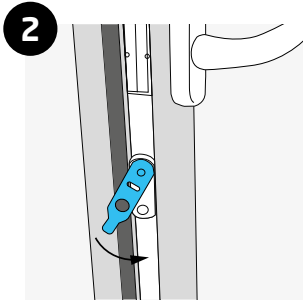
Please ensure that at least two competent people are required to remove a window sash safely.



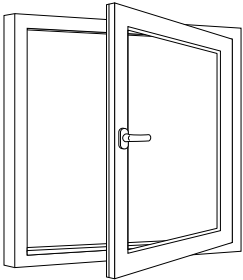
Open the window into the clean/turn position by turning the handle to 180°



Disconnect turn restrictor if fitted. Pull up to release restrictor.



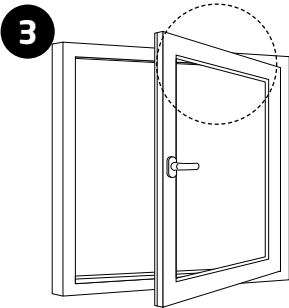
Press down the lifting mishandling device if mounted.



Turn the handle down to 90°

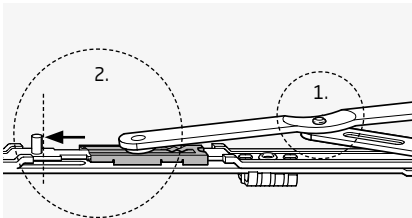


Please ensure that at least two competent people are available to remove a window sash safely.

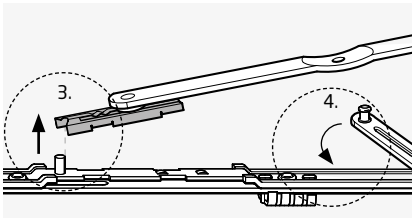


Unhinge the sash stay and secure the sash from falling out [follow the steps noted to the right]

## Sash stay 350 + 500

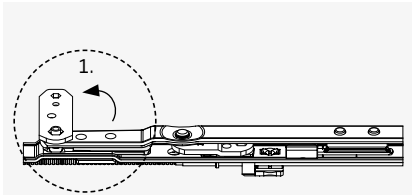


- 1. Disconnect the hitching pin (pull apart)
- 2. Move slider to stop pin by lifting the sash

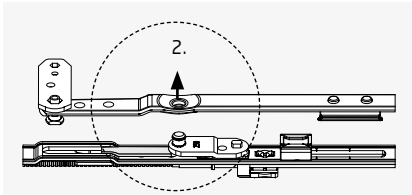


- 3. Lift up stay arm from stay guide
- 4. Move hitching pin arm back in closed position

## Sash stay 250



- 1. Open restrictor 90°.

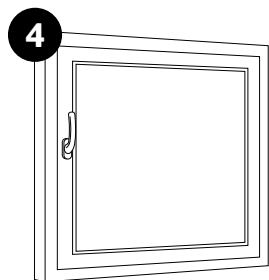


- 2. Lift up stay arm from stay guide.

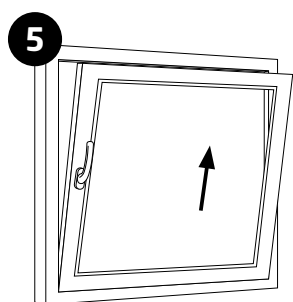
## Removing the sash



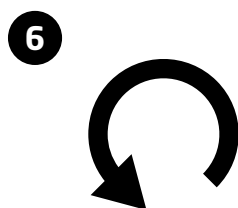
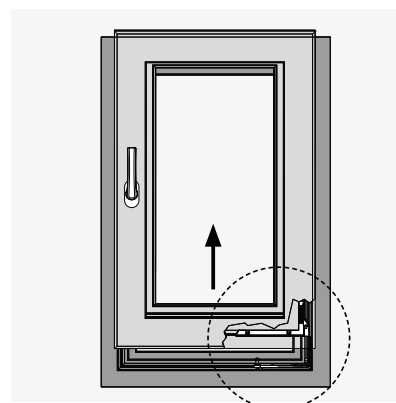
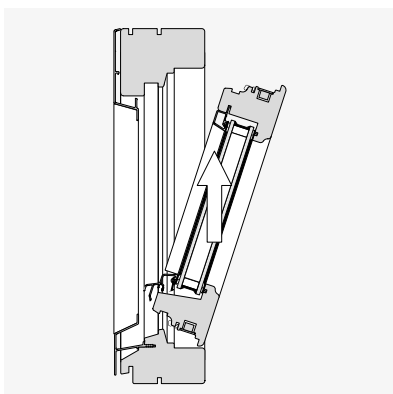
Please ensure that at least two competent people are required to remove a window sash safely.



To secure the sash from falling out. Rotate the handle into turn position and close the sash



With all components released, tilt the sash out slightly and lift out from the frame



To re-install the sash, follow the procedure in reverse

# Maintenance

Ensure the window is maintained regularly, following the standard guidelines. Inspect the product once per year

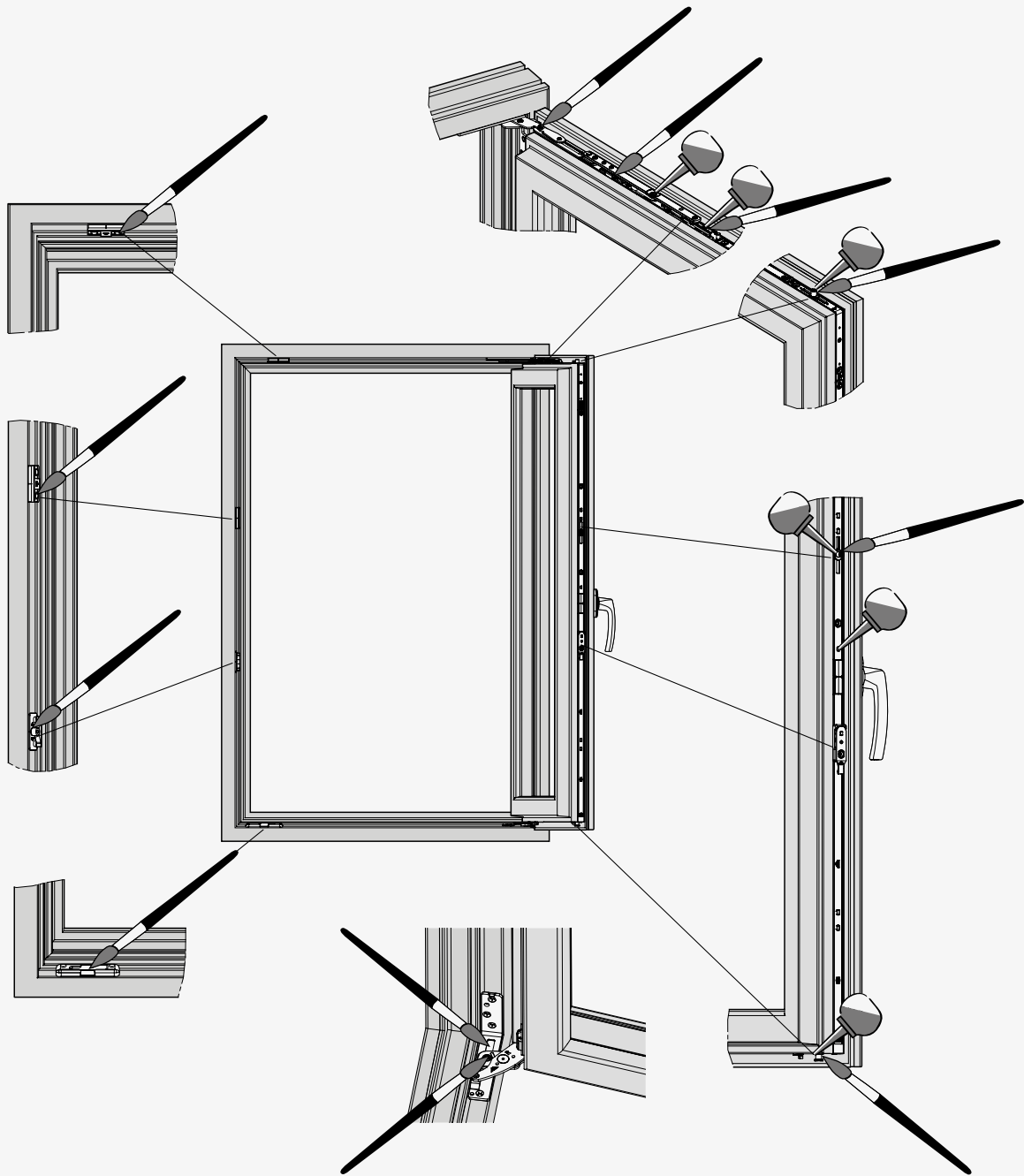


Grease



Oil

1



If in any doubt or if you require assistance with any maintenance queries call your nearest sales or customer services office, as noted on the back of this brochure.



**MAINTAINING YOUR NORDAN WINDOW COULDN'T BE SIMPLER. ALL THAT IS REQUIRED IS TO CHECK THEM CAREFULLY A MINIMUM OF ONCE A YEAR FOR THE FOLLOWING SIGNS:**

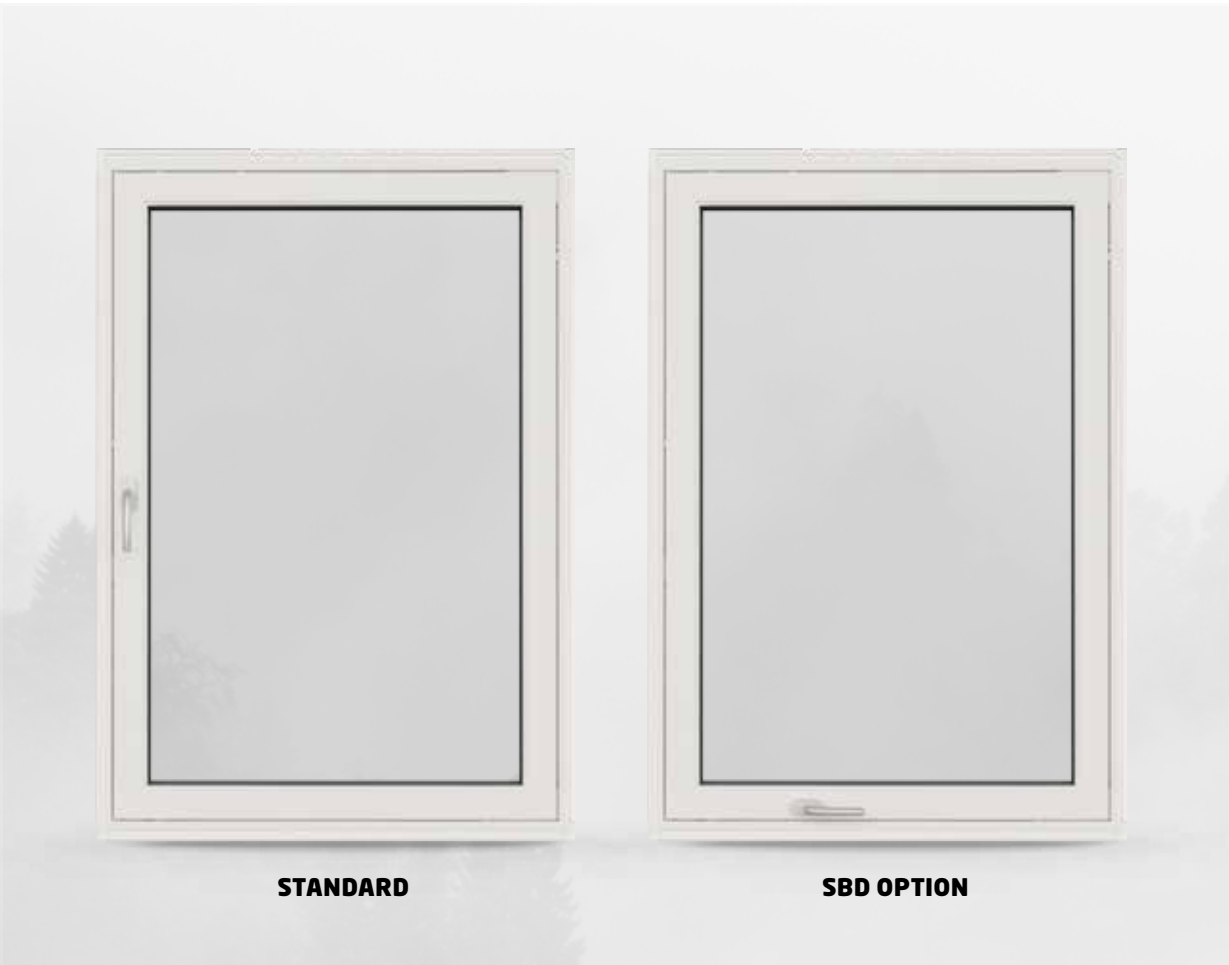
- Look for and remove any airborne debris that might be trapped in between the frame and the sash. To do this open the window in the cleaning position
- Wipe or brush clean all surfaces and check the weather seal is clean, dry, continuous, and undamaged. Never get any paint on the weather seal/gasket. As this will reduce the windows performance
- Check that the handles move freely and smoothly. If they are stiff, carefully use a recommended lubricant on the locking mechanism/bolts while in their extended position.
- Check the glass does not have any water vapour inside of the sealed unit, or that the glass is damaged.
- Check all timber surfaces for damage and note if the finishing (paint etc) requires refreshing.
- Check all handles and ventilator controls are not loose, if they are then tightened with the appropriate torx screwdriver
  - T15 – ventilators
  - T20 – Handles
  - Tighten enough so that the handles and controls work freely without being too loose. Do not over-tighten.



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# ONE SIDHINGED

CODE: OS/ZS



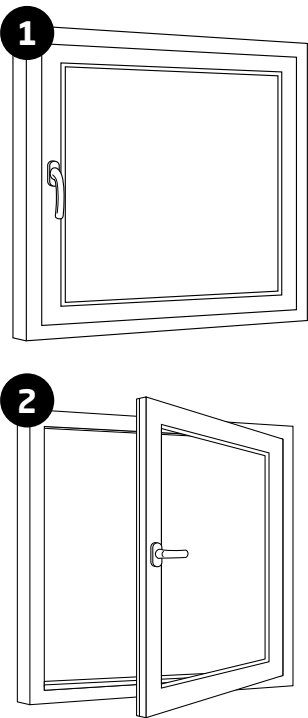
**1. CLOSED POSITION**

Check that the handle is set in the locked position.

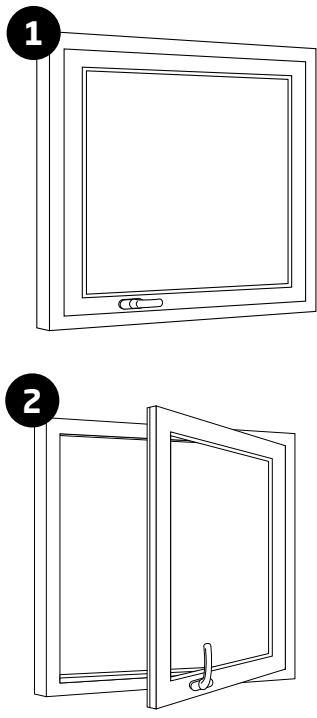
**2. TURN OPERATION**

The turn/cleaning option on the window can be engaged by turning the handle to the 180° position the sash opens into the room to an angle of 90°; this in turn creates adequate room for cleaning of the external glazing from safely inside the property.

**STANDARD OPERATION**

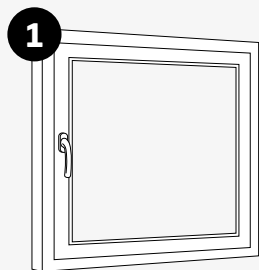


**SBD OPTION OPERATION**

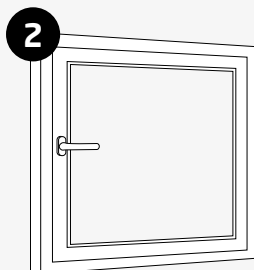


## HANDLE OPERATION POSITIONS OVERVIEW

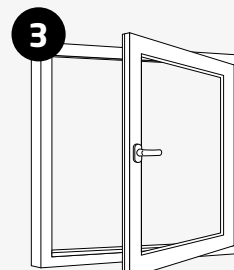
For improved comfort/safety, always engage the vent stay/restrictor when the window is in the ventilation position, this is located on the frame.



Closed position

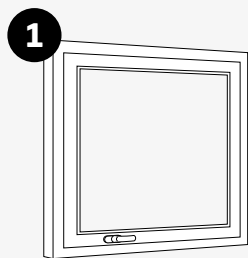


Turn handle 90°

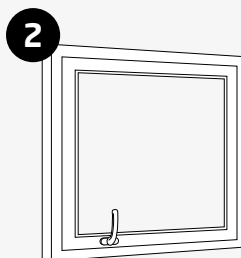


Open position

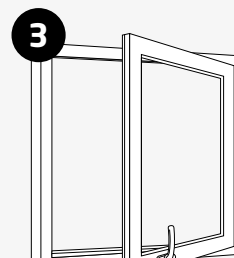
## OPERATION - SBD OPTION



Closed position



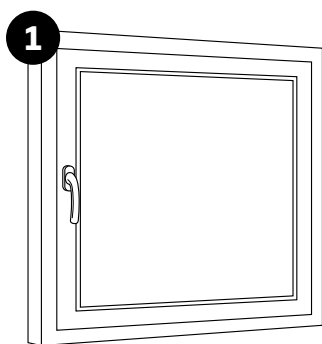
Turn handle 90°



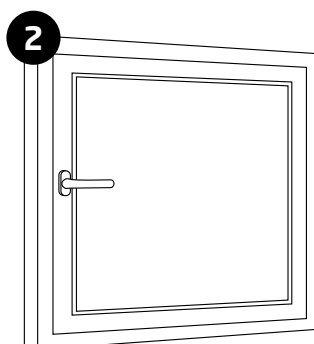
Open position

## CLEANING POSITION

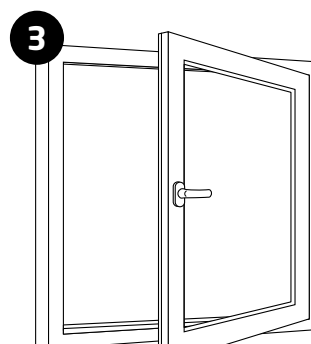
When cleaning, ensure that open windows are not left unattended and that the operation is carried out safely. Ensure that child safety restrictors are re-engaged (if applicable) when closing the window



Closed position



Turn handle 90°



Pull



In the interest of safety, do not use windows in the cleaning position for ventilation purposes

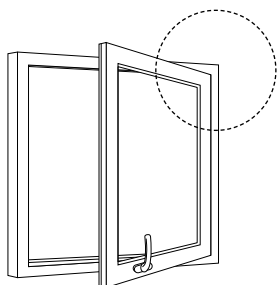
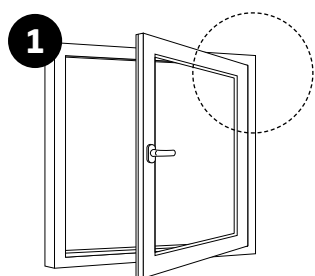


Approximate opening to 90°, is more than adequate to clean both sides of the window from the inside

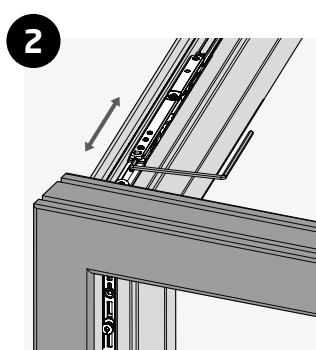
## ADJUSTMENT

The symbols below highlight the orientation of adjustment available for the sash, after installation the following steps can be followed to realign the product if required. A 4mm hex key tool is required to carry out the following steps

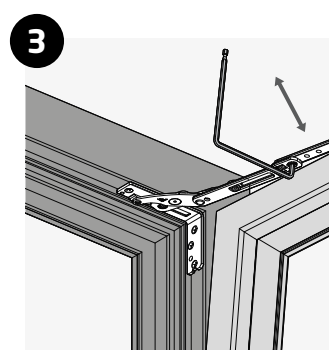
### SASH LATERAL ADJUSTMENT TOP



SBD Option

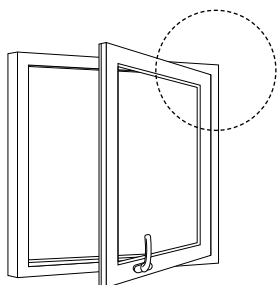
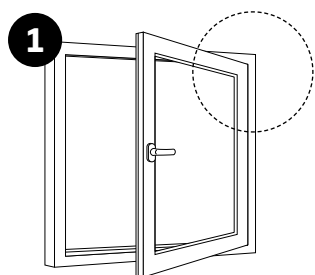


Lateral adjustment - +/- 0.2mm

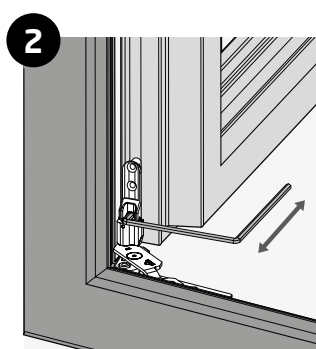


Gasket Compression adjustment - +/- 0.5mm

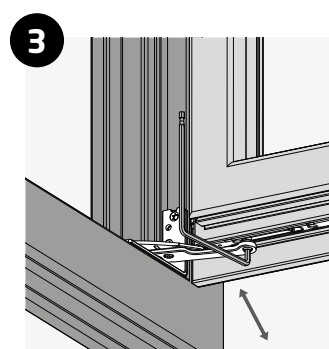
### SASH LATERAL ADJUSTMENT BOTTOM



SBD Option



Lateral adjustment - + 2.0mm/- 1.5mm

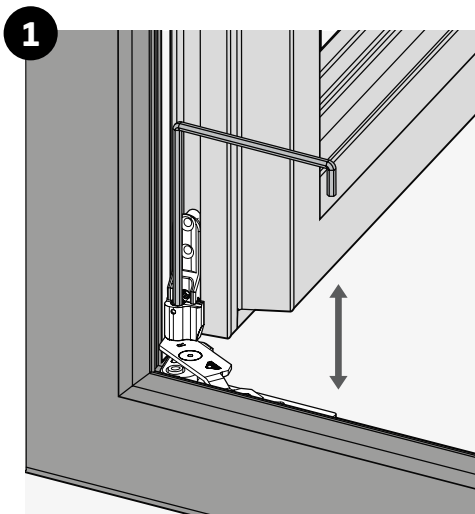


Gasket Compression adjustment - +/- 0.5mm

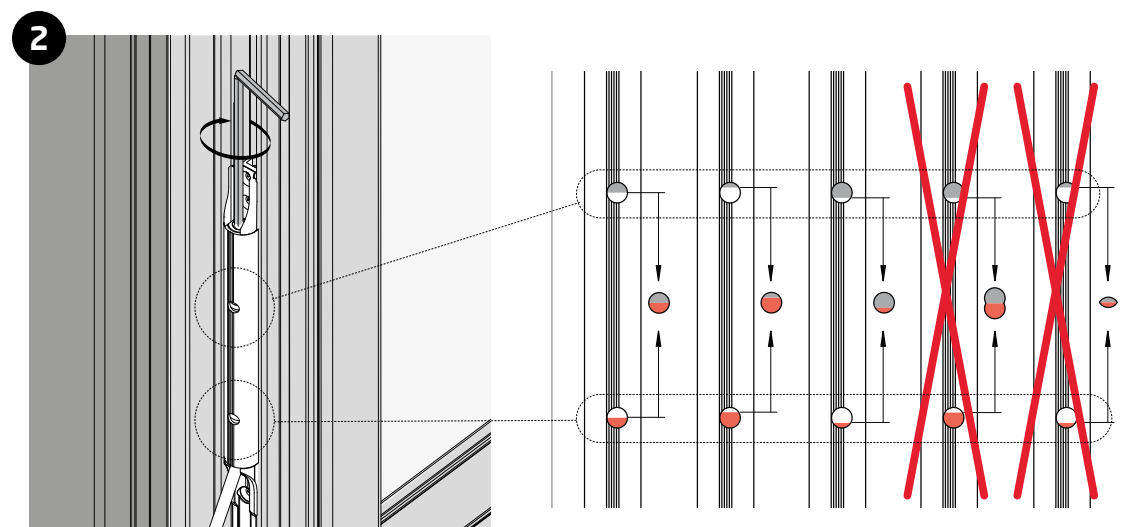


In the interest of safety, do not use windows in the cleaning position for ventilation purposes

## PIVOT REST/CORNER HINGE ADJUSTMENT



Height adjustment - + 1.5mm/- 1.0mm



Adjust the load transfer device with a 4 mm hex key when the sash is in the 90° turn/cleaning position. Adjust the adjusting screw shown in the silver divided circle so that the sum of the red and silver combined results, in one complete circle.

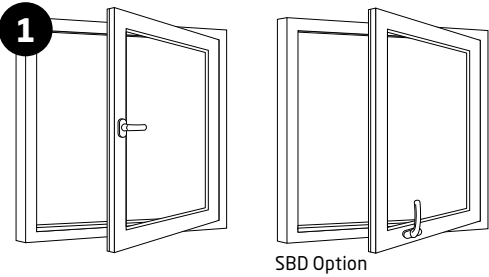


In the interest of safety, do not use windows in the cleaning position for ventilation purposes

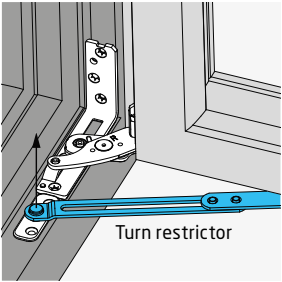
# Removing the sash



Please ensure that at least two competent people are required to remove a window sash safely.



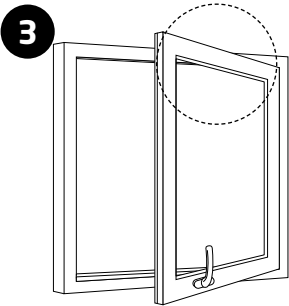
Open the window by turning the handle 90°



Disconnect turn restrictor if fitted. Pull up to release restrictor.

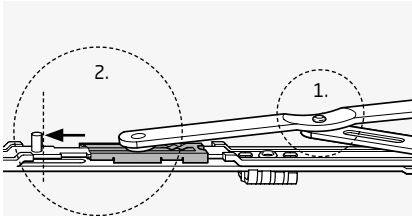


Please ensure that at least two competent people are required to remove a window sash safely.

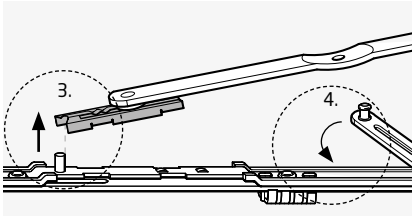


Unhinge the sash stay and secure the sash from falling out [follow the steps noted to the right]

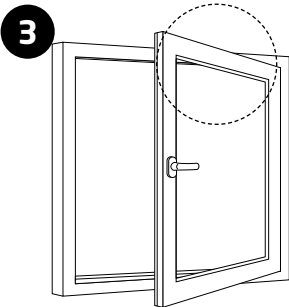
## SBD Version



- 1. Disconnect the hitching pin (pull apart)
- 2. Move slider to stop pin by lifting the sash

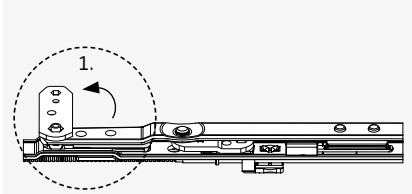


- 3. Lift up stay arm from stay guide
- 4. Move hitching pin arm back in closed position

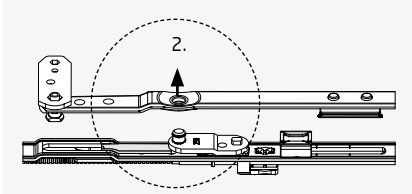


Unhinge the sash stay and secure the sash from falling out [follow the steps noted to the right]

## Standard version (+ handle in the bottom with ventilation stay)



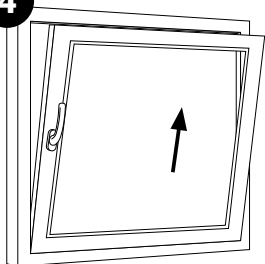
- 1. Open restrictor 90°.



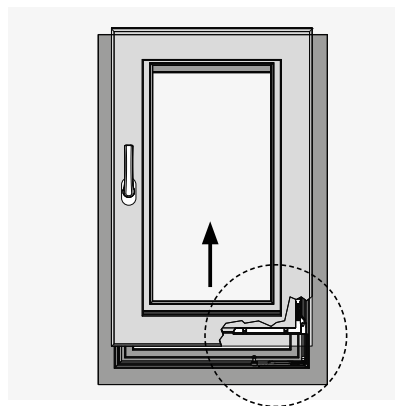
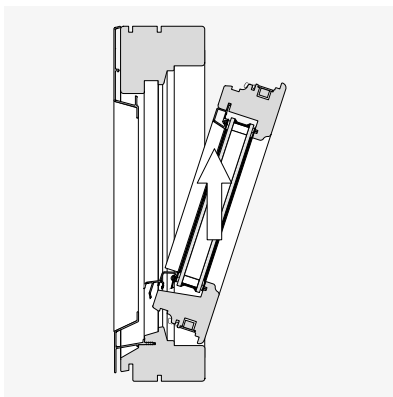
- 2. Lift up stay arm from stay guide.



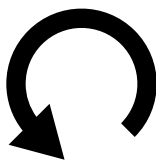
4



With all components released, tilt the sash out slightly and lift out from the frame



5



To re-install the sash, follow the procedure in reverse

## Maintenance

Ensure the window is maintained regularly, following the standard guidelines. Inspect the product once per year

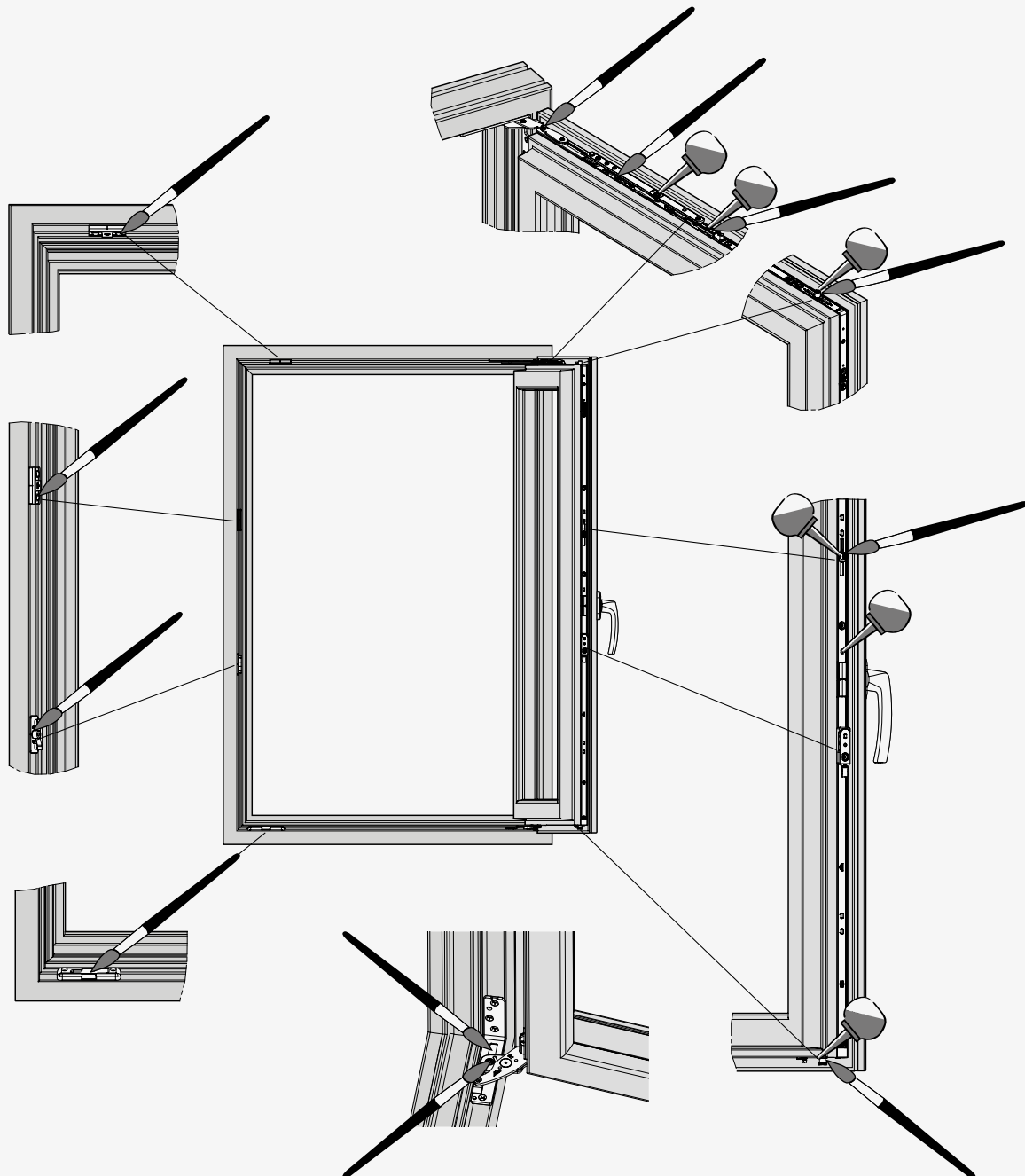


Grease



Oil

1



If in any doubt or if you require assistance with any maintenance queries call your nearest sales or customer services office, as noted on the back of this brochure.

**MAINTAINING YOUR NORDAN WINDOW COULDN'T BE SIMPLER. ALL THAT IS REQUIRED IS TO CHECK THEM CAREFULLY A MINIMUM OF ONCE A YEAR FOR THE FOLLOWING SIGNS:**

- Look for and remove any airborne debris that might be trapped in between the frame and the sash. To do this open the window in the cleaning position
- Wipe or brush clean all surfaces and check the weather seal is clean, dry, continuous, and undamaged. Never get any paint on the weather seal/gasket. As this will reduce the windows performance
- Check that the handles move freely and smoothly. If they are stiff, carefully use a recommended lubricant on the locking mechanism/bolts while in their extended position.
- Check the glass does not have any water vapour inside of the sealed unit, or that the glass is damaged.
- Check all timber surfaces for damage and note if the finishing (paint etc) requires refreshing.
- Check all handles and ventilator controls are not loose, if they are then tightened with the appropriate torx screwdriver
  - T15 – ventilators
  - T20 – Handles
  - Tighten enough so that the handles and controls work freely without being too loose. Do not over-tighten.



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# TWO HANDLE TURN

**CODE: NS**



## **1. CLOSED POSITION**

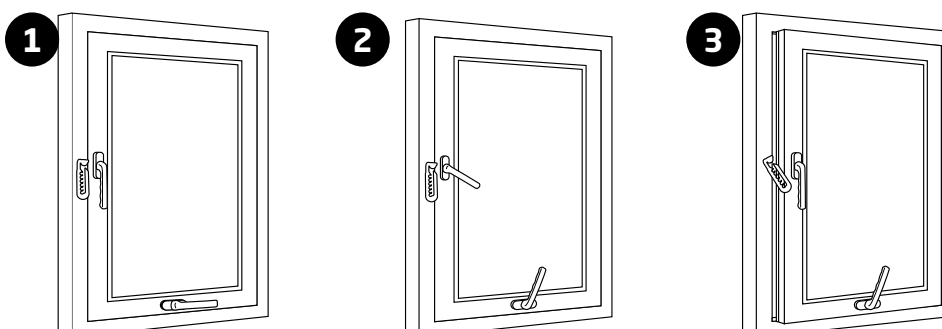
Check that all handles are set in the locked position.

## **2. VENT OPERATION**

The ventilation position is simply operated by opening both handles located on the jamb and bottom rail of the sash. And allowing the sash to be held in the restrictor. This allows for safe ventilation to be provided into the property without having to open the sash fully.

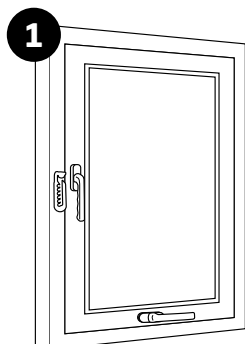
## **3. TURN OPERATION**

The turn option on the window is operated by opening both handles located on the jamb and bottom rail and by dis-engaging the restrictor to allow the sash to open into the room to an angle of 90°; this in turn creates adequate room for cleaning of the external glazing from safely inside the property.

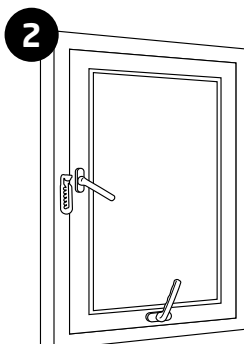


## VENTILATION POSITION

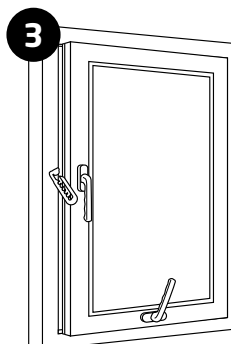
For improved comfort/safety, always engage the vent stay/restrictor when the window is in the ventilation position, this is located on the frame.



Check that both handles are fully closed



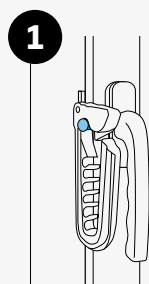
Open both handles



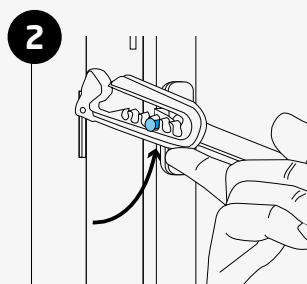
Gently turn the sash into the room

## VENTILATION RESTRICTOR

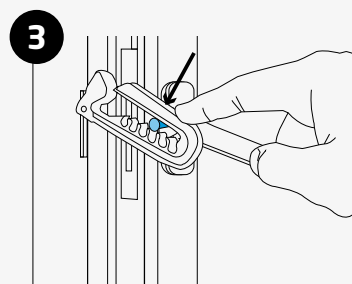
The ventilation restrictor can be positioned on the side or the bottom of the window frame, next to the sash. It is used to restrict the sash in the ventilation position.



Check that all the handles are fully closed



Open the upper two handles only



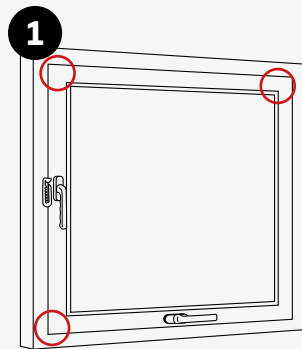
Pull window inwards, leaving the upper handles open



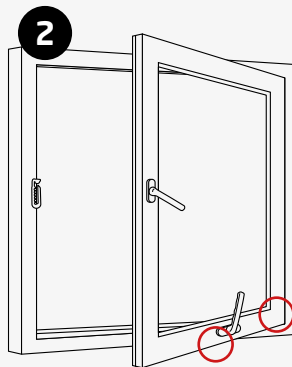
NOT all ventilation stay positions are possible on certain window height.

## Maintenance

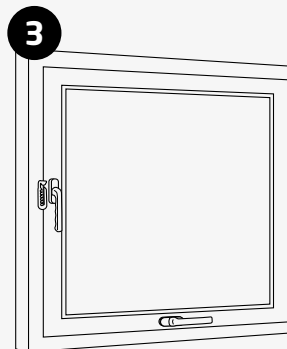
Ensure the window is maintained regularly, following the standard guidelines. Inspect the product at least once per year.



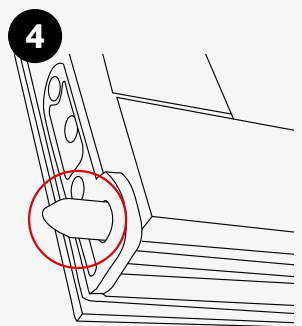
Carefully apply recommended lubricant to the bullet points



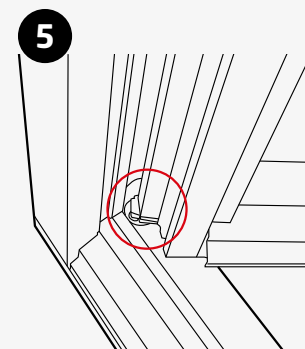
Carefully apply recommended lubricant at the restrictor stay at the head and ball /sockets at the 'hinged' corner.



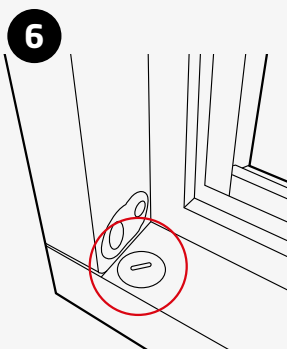
Check product opens and closes easily and return window to the closed position



Lower the bottom handle to reveal the locking bullet at the end of the sash, apply recommended lubricant to this, any excess must be wiped off immediately



Apply recommended lubricant on the ball /socket at the 'hinged' corner, any excess must be wiped off immediately. Check product opens and closes easily and return window to the closed position



An adjustment screw is located in the bottom of the frame should the need arise to ease the sash in place after installation settlement.

**MAINTAINING YOUR NORDAN WINDOW COULDN'T BE SIMPLER. ALL THAT IS REQUIRED IS TO CHECK THEM CAREFULLY A MINIMUM OF ONCE A YEAR FOR THE FOLLOWING SIGNS:**

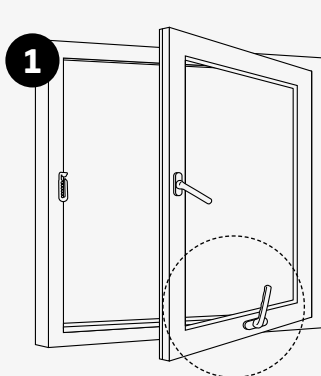
- Look for and remove any airborne debris that might be trapped in between the frame and the sash. To do this open the window in the cleaning position
- Wipe or brush clean all surfaces and check the weather seal is clean, dry, continuous, and undamaged. Never get any paint on the weather seal/gasket. As this will reduce the windows performance
- Check that the handles move freely and smoothly. If they are stiff, carefully use a recommended lubricant on the locking mechanism/bolts while in their extended position.
- Check the glass does not have any water vapour inside of the sealed unit, or that the glass is damaged.
- Check all timber surfaces for damage and note if the finishing (paint etc) requires refreshing.
- Check all handles and ventilator controls are not loose, if they are then tightened with the appropriate torx screwdriver
  - T15 – ventilators
  - T20 – Handles
- Tighten enough so that the handles and controls work freely without being too loose. Do not over-tighten.



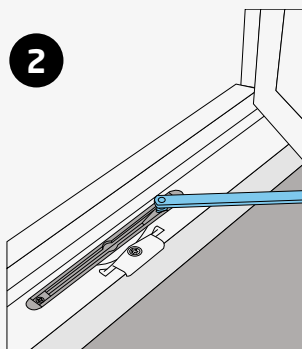
If in any doubt or if you require assistance with any maintenance queries call your nearest sales or customer services office, as noted on the back of this brochure.

## Friction stay

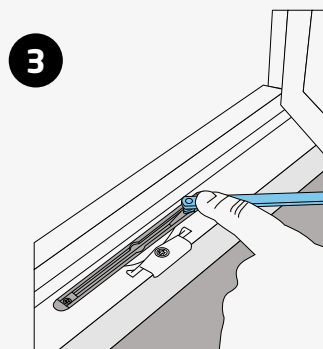
The optional factory fitted friction stay for inward opening windows only as an additional safety device to restrict the movement of the sash when open in the cleaning position



The wind-brake restrictor is found at the bottom of the frame when window is open in cleaning position.



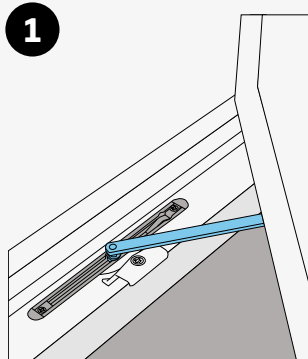
The wind-brake automatically holds the sash in place when the window is fully open.



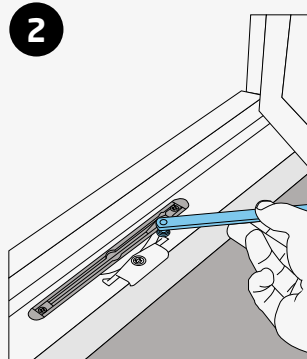
To unlock restrictor after cleaning, press down on the stay at the place it engages then close the window.

## Disengaging

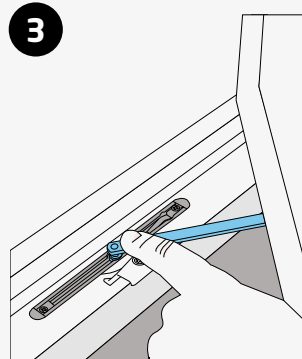
The friction stay restrictor can be disengaged so the window can be opened fully for maintenance purposes.



Open the window and ensure the restrictor arm is aligned centrally with the restrictor stay.



Lift the restrictor arm so that it is fully removed from the restrictor stay.

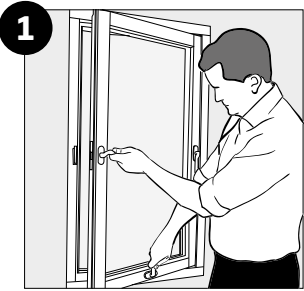


To re-attach the restrictor arm, push the lock back into the centre of the restrictor stay.

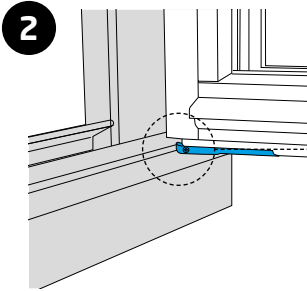


## Removing the sash

The window also has a safety feature built in where the sash can be removed to carry out maintenance or reduce the overall weight of the whole product when installing on site. The sash can be removed by bringing the window into the turn position, engaging the bottom handle and then disengaging the remaining side handle.



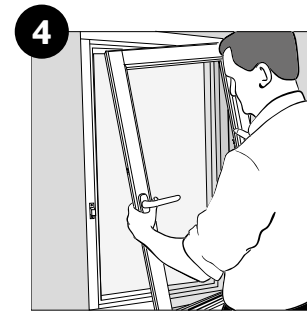
Open the window into the side hung cleaning position (using the side handle on the "opening" side and the bottom handle)



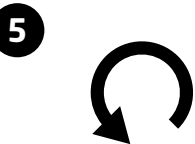
Remove the screw from the bottom corner sash part



Release the sash from the bottom hinge side corner in the frame



Store the sash safely to one side.



To re-install the sash, follow the procedure in reverse



Please ensure that at least two competent people are available to remove a window sash safely.

**TOPTECH****CODE: TG****1. CLOSED POSITION**

Check that the handle is set in the locked position.

**2. VENTILATION POSITION**

The top tech reversible window has a built-in integrated night vent position as standard. To locate the restrictor within the frame, open the sash slightly to the vent position and close the handle to the locked position to secure the sash into the frame.

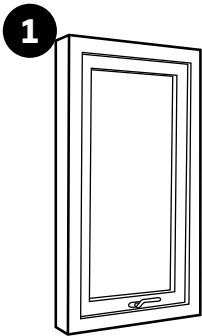
**3. CLEANING POSITION**

Once the sash is located into the cleaning position by unlocking the automatic restrictor located on the right-hand hinge (viewed internally), by releasing the hinge restrictor and moving the sash outwards the sash will automatically click into place and secure when fully rotated. This ensures that once the sash is in the cleaning position, the sash will not disengage and cause a risk to the occupier by rotating without the occupier of the dwelling doing so intentionally.

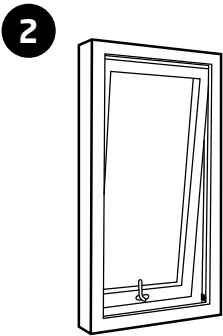


# VENTILATION POSITION

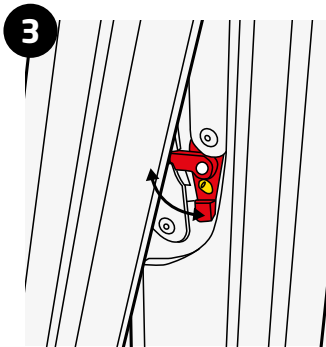
For improved comfort/safety, always engage the vent stay/restrictor when the window is in the ventilation position, this is located on the frame.



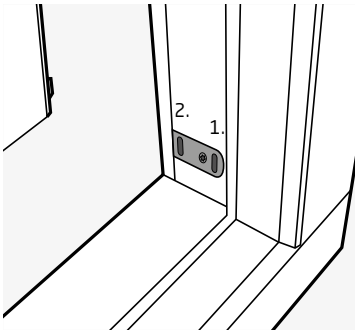
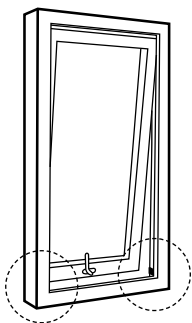
Check sash is flush with the frame and the handle is fully closed



Turn handle upwards and push the sash outwards, the restrictor stops the sash opening fully.



Window is fitted with an anti blow-back device which can be activated and de-activated by pushing the small lock out and back

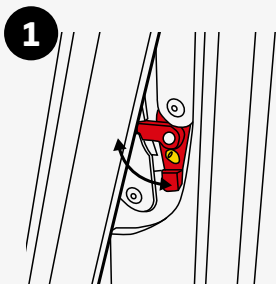
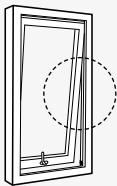


1. Locking position  
2. Night vent position

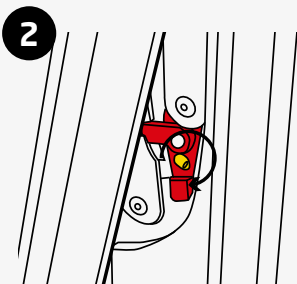
**NOTE:** The fully reversible window has a built in, integrated night vent position as standard in all windows. Located within the frame itself, the restrictor secures the sash into the frame with the use of shoot bolts, providing ventilation into the property during the evenings whilst maintaining security. Locate the restrictor within the frame, open the sash slightly to the vent position, and close the handle to the locked position to safely secure the sash into the frame.

# ADDITIONAL SECURITY

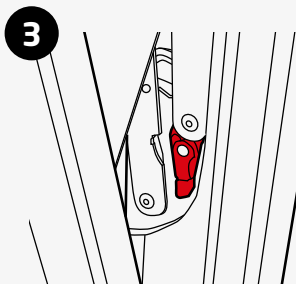
TopTech hinge has an integrated child safety restrictor which locks the hinge to operate the sash in the ventilation position only.



Turn the blowback restrictor.



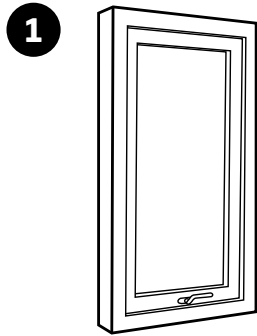
Turn the yellow child safety restrictor 90° with a flat head screwdriver.



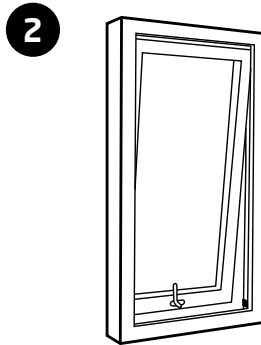
Turn the blowback restrictor to its origin. Now the sash can operate in ventilation position only. The lock however can be “burst” by an adult if sufficient force is applied in the case of emergency egress.

## Cleaning position

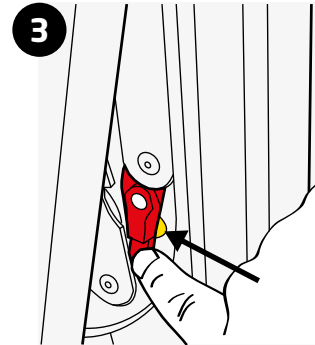
In the interest of safety, do not use windows in the cleaning position for ventilation purposes.



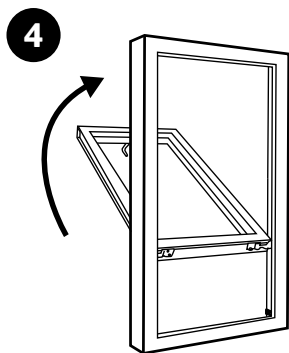
Turn the handle fully into the open position



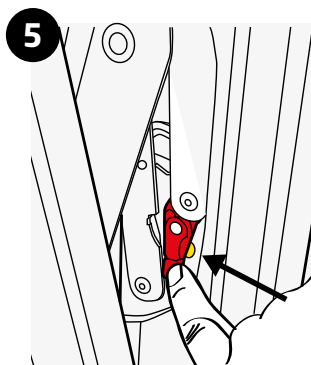
Push the sash outwards to the fixed safety locking position



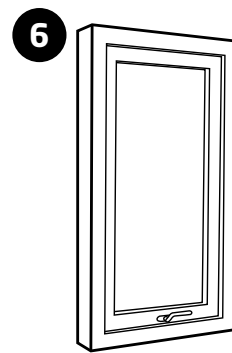
Push safety restrictor lock away from you (located in side of the frame), gently push window sash out



Continue to gently manoeuvre sash out until fully reversed and locks securely in cleaning position



After cleaning, disengage safety restrictor by pushing lock away from you and carefully return sash to closed position



Push the sash back into the frame and close the handle fully



When cleaning, ensure that open windows are not left unattended and that the operation is carried out safely. Ensure that child safety restrictors are re-engaged (if applicable) when closing the window

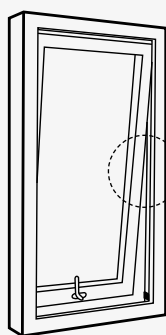


Cleaning Position - In the interest of safety, do not use the window in the turn/cleaning position for ventilation purposes.

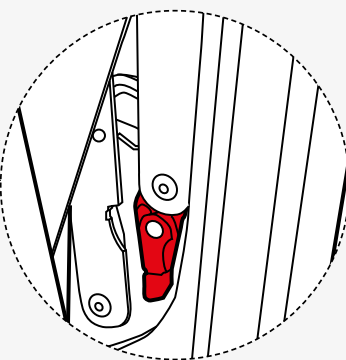
## Maintenance

Ensure the window is maintained regularly, following the standard guidelines. Inspect the product at least once per year.

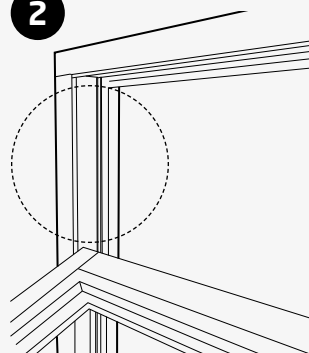
**1**



Carefully apply recommended lubricant at the restrictor stay at the head and ball /sockets at the 'hinged' corner.

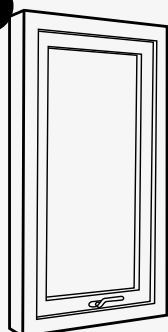


**2**



Open sash fully and carefully apply recommended lubricant into rail. Turn sash fully to ensure an even distribution of lubricant (viewed from outside)

**3**



Check window operates correctly and return to closed window position



Please beware of fixings within the u-profile channel, which could lead to the sash miss-operating.



Make sure that the guide rail is clear of debris. Any obstruction fouling the guide could result in the sash disengaging/ falling out.

### **MAINTAINING YOUR NORDAN WINDOW COULDN'T BE SIMPLER. ALL THAT IS REQUIRED IS TO CHECK THEM CAREFULLY A MINIMUM OF ONCE A YEAR FOR THE FOLLOWING SIGNS:**

- Look for and remove any airborne debris that might be trapped in between the frame, the sash and U-profile channel. To do this open the window in the cleaning position
- Wipe or brush clean all surfaces and check the weather seal is clean, dry, continuous, and undamaged. Never get any paint on the weather seal/gasket. As this will reduce the windows performance
- Check that the handles move freely and smoothly. If they are stiff, carefully use a recommended lubricant on the locking mechanism/bolts while in their extended position.
- Check the glass does not have any water vapour inside of the sealed unit, or that the glass is damaged.
- Check all timber surfaces for damage and note if the finishing (paint etc) requires refreshing.
- Check all handles and ventilator controls are not loose, if they are then tightened with the appropriate torx screwdriver
  - T15 – ventilators
  - T20 – Handles
  - Tighten enough so that the handles and controls work freely without being too loose. Do not over-tighten.



If in any doubt or if you require assistance with any maintenance queries call your nearest sales or customer services office, as noted on the back of this brochure.

## Removing the sash

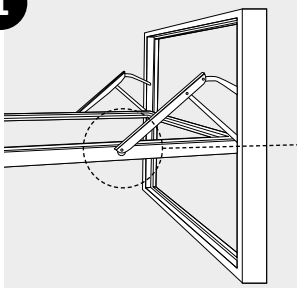


Two competent people are required to remove a Top Tech window sash safely.

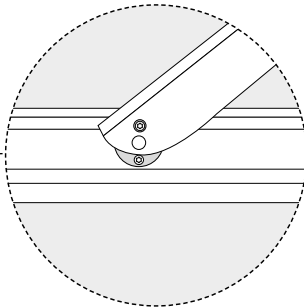


If you have to disassemble/assemble a TG sash, you should position the screws in new fixing holes

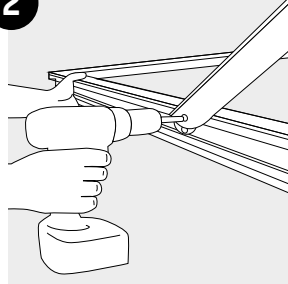
1



Open the sash in 90° to get access to the two screws in the center bracket on each side of the sash.

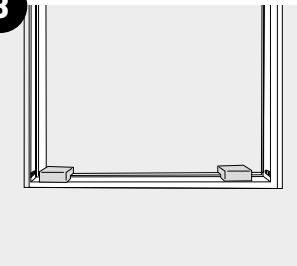


2



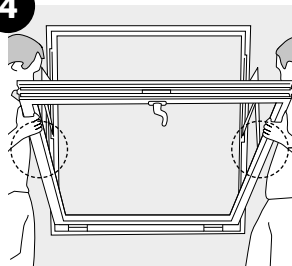
One operative removes the screws from both sides of the sash. While the other holds the sash at 90°

3

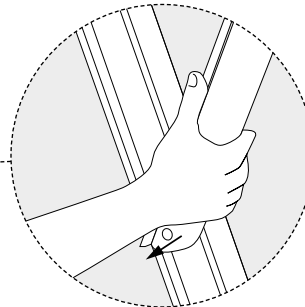


Put two sections of timber [counter profiles] on the sill profile.

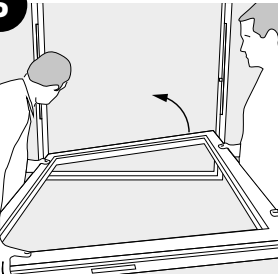
4



Press the top of the sash down to the two pieces of wood (counter profiles) then you access and release the center brackets from the grooves in the sash.

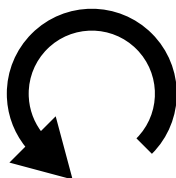


5



Lift the right-hand side of the sash up so that the sash top glider gets free from the side rails in the frame.

6



To re-install the sash, follow the procedure in reverse

NorDan Top Tech sashes should not be disassembled from the frame without the window installer informing NorDan UK  
Information to be included

- Provision of the order and line number of the remedial work carried out shall be their responsibility when disassembling. [This information can be obtained on the long-digitalized number within the cavity of the spacer bar]
- This information must always be forwarded from installer to NorDan UK and signed by the person responsible.



Note: the window should be fully tested to make sure it performs as before disassembling

# OPUS

**CODE: TY****1. CLOSED POSITION**

Check that the handle is set in the locked position.

**2. VENTILATION POSITION**

The top swing reversible window has a built-in integrated night vent position as standard. To locate the restrictor within the frame, open the sash slightly to the vent position and close the handle to the locked position to secure the sash into the frame.

**3. CLEANING POSITION**

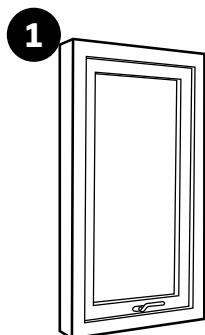
Once the sash is located into the cleaning position by unlocking the automatic restrictor located on the right-hand hinge (viewed internally), by releasing the hinge restrictor and moving the sash outwards the sash will automatically click into place and secure when fully rotated. This ensures that once the sash is in the cleaning position, the sash will not disengage and cause a risk to the occupier by rotating without the occupier of the dwelling doing so intentionally.



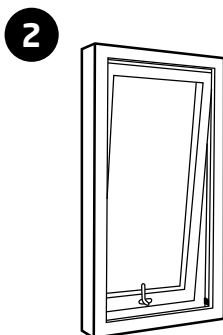


## VENTILATION POSITION

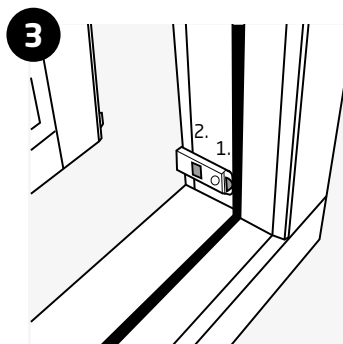
For improved comfort/safety, always engage the vent stay/restrictor when the window is in the ventilation position, this is located on the frame.



Check sash is flush with the frame and the handle is fully closed

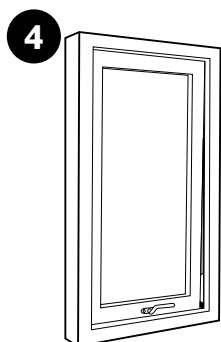


Turn handle upwards and push the sash outwards, the restrictor stops the sash opening fully.

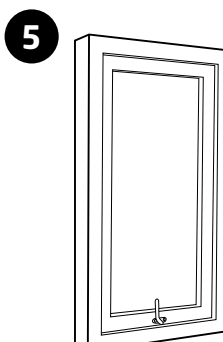


Locate the night vent stay position in the frame

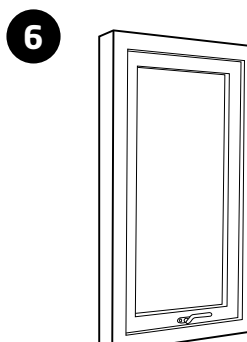
1. Locking position  
2. Night vent position



Line up sash to night vent position and turn handle to closed position, check sash is held in place



To close window fully, open handle and pull the sash fully back into frame

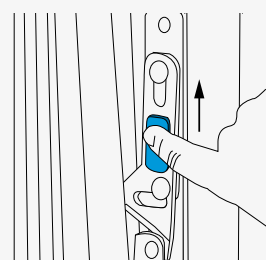
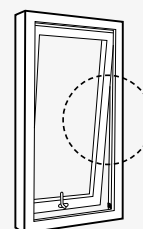


Turn the handle to the closed position

**NOTE:** The fully reversible window has a built in, integrated night vent position as standard in all windows. Located within the frame itself, the restrictor secures the sash into the frame with the use of shoot bolts, providing ventilation into the property during the evenings whilst maintaining security. Locate the restrictor within the frame, open the sash slightly to the vent position, and close the handle to the locked position to safely secure the sash into the frame.

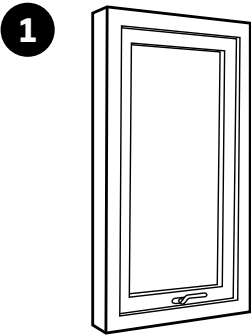
## OPERATION

For everyday operation and ventilation, the handle is turned, and the sash is pushed outwards. The automatic restriction device limits the initial opening of the window to a maximum 80mm at the bottom of the sash. For cleaning purposes, the restrictor is released, and the sash can be turned 180° until the restrictor re-engages just before the sash is fully reversed. This enables safe cleaning of the external glass from inside. The restrictor is released to return the sash to its original position where it is securely closed using the handle

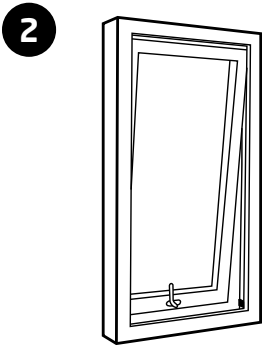


# Cleaning position

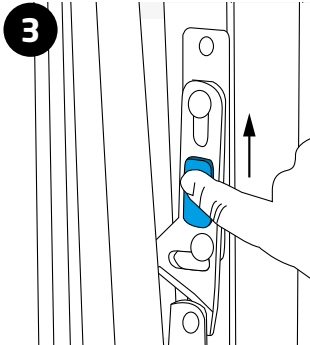
In the interest of safety, do not use windows in the cleaning position for ventilation purposes.



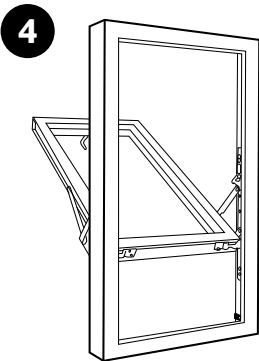
Turn the handle fully into the open position



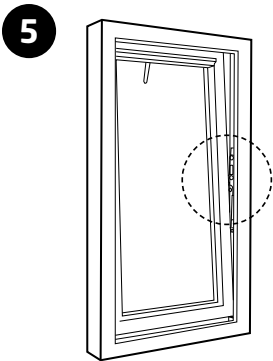
Push the sash outwards to the fixed safety locking position



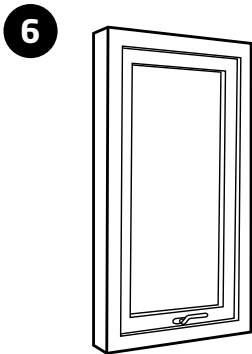
Slide safety restrictor upwards (located in side of frame), gently push window sash out



Continue gently pushing sash out until fully reversed and locks securely in cleaning position



After cleaning, push safety restrictor up to release the lock, carefully return sash to closed position



Push the sash back into the frame and close the handle fully



When cleaning, ensure that open windows are not left unattended and that the operation is carried out safely. Ensure that child safety restrictors are re-engaged (if applicable) when closing the window.

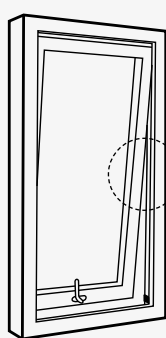


Cleaning Position - In the interest of safety, do not use the window in the cleaning position for ventilation purposes.

## Maintenance

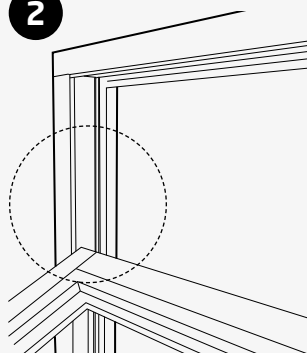
Ensure the window is maintained regularly, following the standard guidelines. Inspect the product at least once per year

1



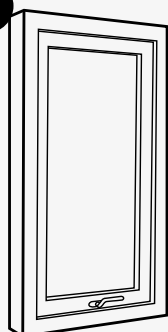
Carefully apply recommended lubricant into the safety restrictor catch. Move catch up and down to distribute evenly in the mechanism

2



(IMAGE VIEWED FROM OUTSIDE) Open the sash fully and carefully apply recommended lubricant into the rail. Turn the sash fully to ensure an even distribution of lubricant

3



Check that the window operates correctly and return to the closed window position



Note – Recommended lubricant [silicone spray]



Please beware of fixings within the u-profile channel, which could lead to the sash miss-operating.



Make sure that the guide rail is clear of debris. Any obstruction fouling the guide could result in the sash disengaging/falling out.

### MAINTAINING YOUR NORDAN WINDOW COULDN'T BE SIMPLER. ALL THAT IS REQUIRED IS TO CHECK THEM CAREFULLY A MINIMUM OF ONCE A YEAR FOR THE FOLLOWING SIGNS:

- Look for and remove any airborne debris that might be trapped in between the frame, sash & the U-profile channel. To do this open the window in the cleaning position
- Wipe or brush clean all surfaces and check the weather seal is clean, dry, continuous, and undamaged. Never get any paint on the weather seal/gasket. As this will reduce the windows performance
- Check that the handles move freely and smoothly. If they are stiff, carefully use a recommended lubricant on the locking mechanism/bolts while in their extended position.
- Check the glass does not have any water vapour inside of the sealed unit, or that the glass is damaged.
- Check all timber surfaces for damage and note if the finishing (paint etc) requires refreshing.
- Check all handles and ventilator controls are not loose, if they are then tightened with the appropriate torx screwdriver
  - T15 – ventilators
  - T20 – Handles
  - Tighten enough so that the handles and controls work freely without being too loose. Do not over-tighten.



If in any doubt or if you require assistance with any maintenance queries call your nearest sales or customer services office, as noted on the back of this brochure.

## Removing the sash

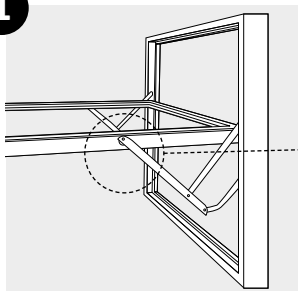


Two competent people are required to remove a TopTech window sash safely.

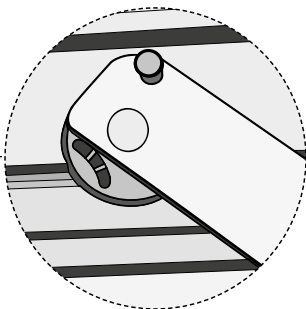


If you have to disassemble/assemble a TY sash, you should position the screws in new fixing holes

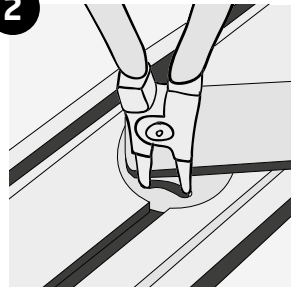
**1**



Open the sash in 90° to get access to the two screws in the center bracket on each side of the sash.

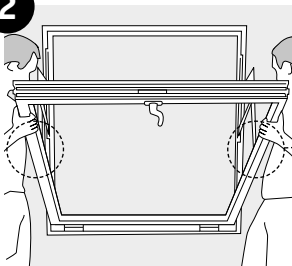


**2**

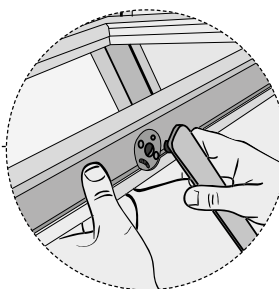
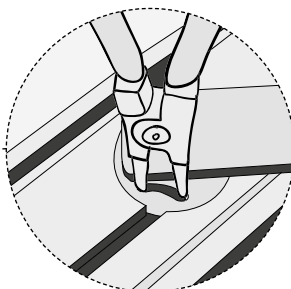


One operative needs to release [push apart the springs] on the centre sash casting. While the other holds the sash at 90°

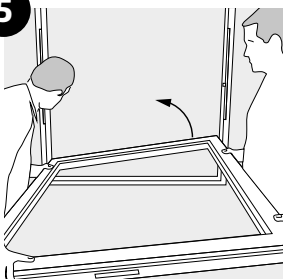
**2**



One operative needs to release [push apart the springs] on the centre sash casting. While the other holds the sash at 90°

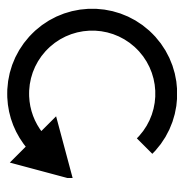


**5**



The sash needs to be tilted/twisted to allow clearance between the sash and the frame to release the top sliders.

**6**



To re-install the sash, follow the procedure in reverse

NorDan Top Tech sashes should not be disassembled from the frame without the window installer informing NorDan UK  
Information to be included

- Provision of the order and line number of the remedial work carried out shall be their responsibility when disassembling. [This information can be obtained on the long-digitalized number within the cavity of the spacer bar]
- This information must always be forwarded from installer to NorDan UK and signed by the person responsible.



The window should be fully tested to make sure it performs as before disassembling

# TOP GUIDED

**CODE: TQ****1. CLOSED POSITION**

Check that the handle is set in the locked position.

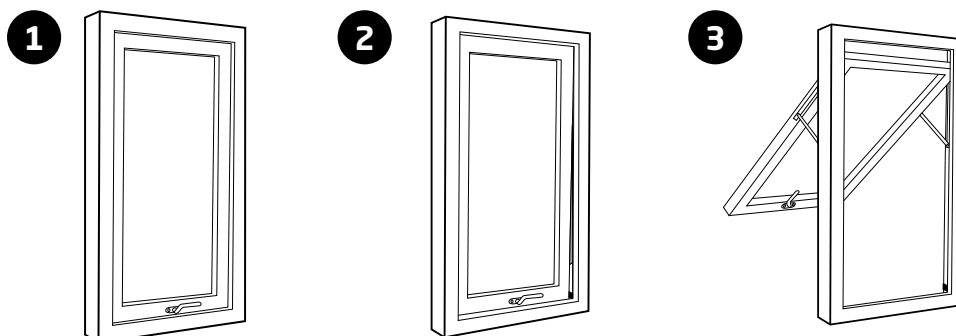
**2. VENTILATION POSITION**

The top guided reversible window has a built-in integrated night vent position as standard. To locate the restrictor within the

frame, open the sash slightly to the vent position and close the handle to the locked position to secure the sash into the frame.

**3. OPENING POSITION**

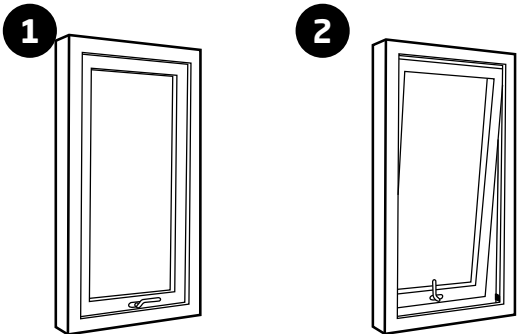
The sash slides down in the top via slides in the frame sides and out at the bottom with a max opening of approx. 45° and is held in the opening position by friction fittings.



This sash does not fully reverse for internal cleaning.

# VENTILATION POSITION

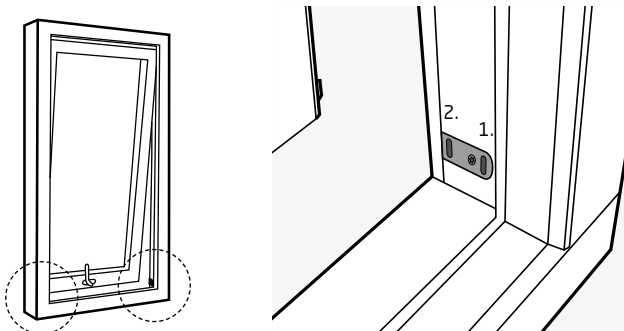
For improved comfort/safety, always engage the vent stay/restrictor when the window is in the ventilation position, this is located on the frame.



Check sash is flush with the frame and the handle is fully closed



This sash can only be cleaned safely externally.

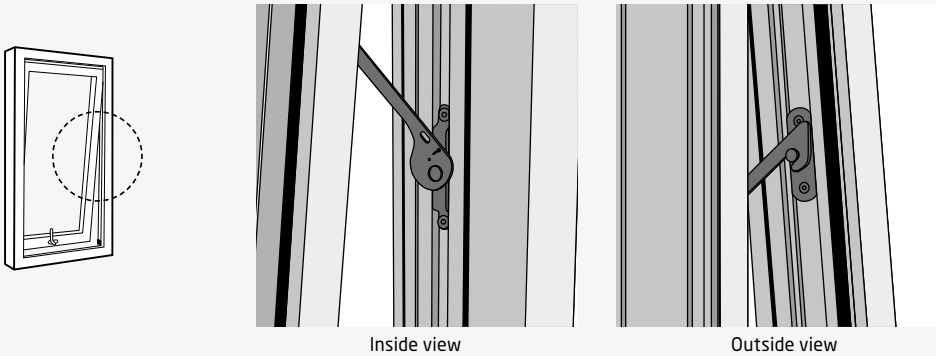


1. Locking position  
2. Night vent position

**NOTE:** The top guided window has a built-in, integrated night vent position as standard in all windows. Located within the frame itself, the restrictor secures the sash into the frame with the use of shoot bolts, providing ventilation into the property during the evenings whilst maintaining security. Locate the restrictor within the frame, open the sash slightly to the vent position, and close the handle to the locked position to safely secure the sash into the frame.

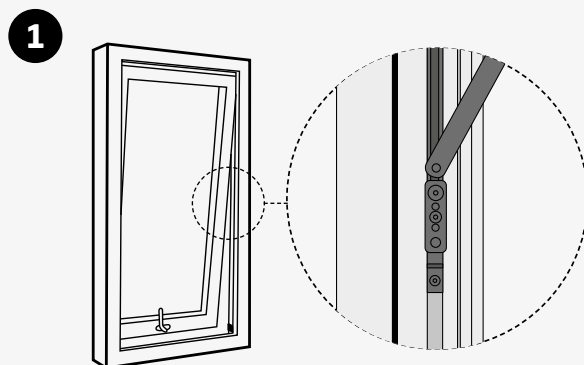
## ADDITIONAL RESTRICTOR

This manual-operated opening restrictor is located at the lower part of the side frame and is used to hold the window in a ventilation position. The restricted opening between the sash and frame is  $\leq 80\text{mm}$ .

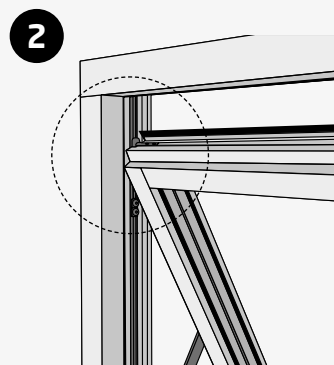


## Maintenance

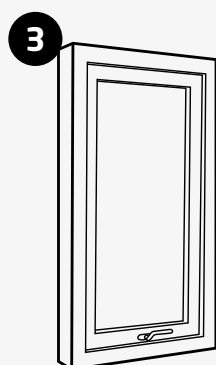
Ensure the window is maintained regularly, following the standard guidelines. Inspect the product at least once per year



Carefully apply recommended lubricant at the restrictor stay at the head and ball /sockets at the 'hinged' corner.



Open sash and carefully apply recommended lubricant into rail. Open and close to ensure an even distribution of lubricant (viewed from inside)



Check window operates correctly and return to closed window position.



Note – Recommended lubricant [silicone spray]



Please beware of fixings within the frame profile, which could lead to the sash miss-operating.



Make sure that the hinge is clear of debris. Any obstruction fouling the hinge operation could result in the sash disengaging, falling out.

### MAINTAINING YOUR NORDAN WINDOW COULDN'T BE SIMPLER. ALL THAT IS REQUIRED IS TO CHECK THEM CAREFULLY A MINIMUM OF ONCE A YEAR FOR THE FOLLOWING SIGNS:

- Look for and remove any airborne debris that might be trapped in between the frame & sash. To do this open the window in the cleaning position
- Wipe or brush clean all surfaces and check the weather seal is clean, dry, continuous, and undamaged. Never get any paint on the weather seal/gasket. As this will reduce the windows performance
- Check that the handles move freely and smoothly. If they are stiff, carefully use a recommended lubricant on the locking mechanism/bolts while in their extended position.
- Check the glass does not have any water vapour inside of the sealed unit, or that the glass is damaged.
- Check all timber surfaces for damage and note if the finishing (paint etc) requires refreshing.
- Check all handles and ventilator controls are not loose, if they are then tightened with the appropriate torx screwdriver
  - T15 – ventilators
  - T20 – Handles
  - Tighten enough so that the handles and controls work freely without being too loose. Do not over-tighten.

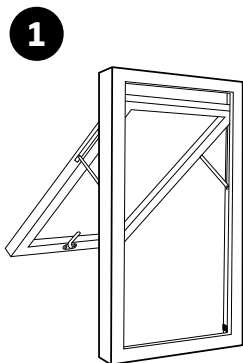


If in any doubt or if you require assistance with any maintenance queries call your nearest sales or customer services office, as noted on the back of this brochure.

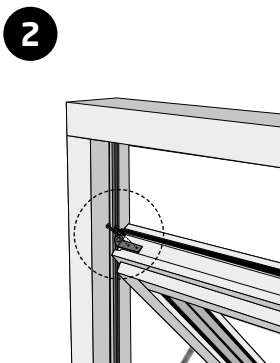
## REMOVING THE SASH



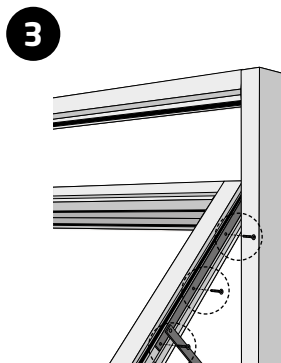
Two competent people are required to remove a Top guided window sash safely.



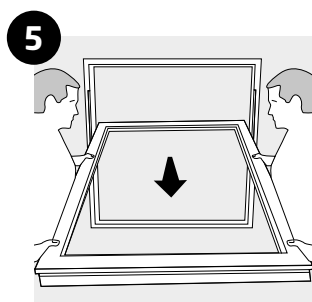
1  
Open the sash outwards to the open position, to access the sash screw fixings.



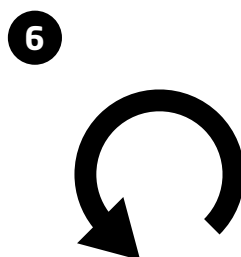
2  
One operative is required to remove the screws, while the other holds the sash at 45°



3  
Both operatives are required to remove the screws and release (push apart) the arms on the sash at 45 degrees, while holding the sash.



5  
Once the screws are released, the sash is pulled outwards making sure that the hinge arms are free of the sash and frame



6  
To re-install the sash, follow the procedure in reverse



# SIDE SWING REVERSIBLE

**CODE: TD**



## 1. CLOSED POSITION

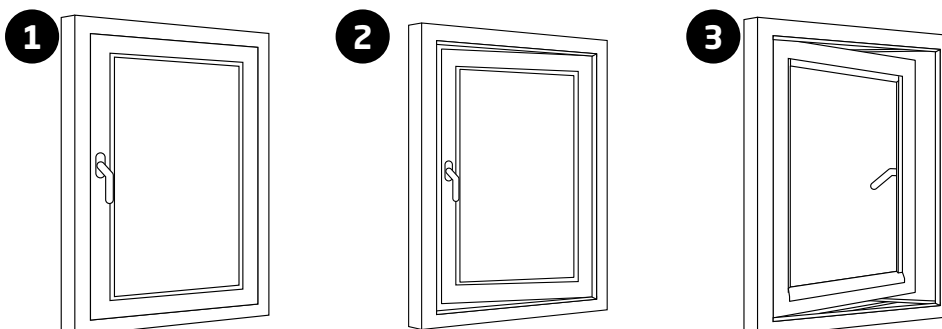
Check that the handle is set in the locked position.

## 2. VENTILATION POSITION

The side swing reversible window has a night vent opening position. To locate the restrictor within the frame, open the sash slightly to the vent position and close the handle to the locked position to secure the frame.

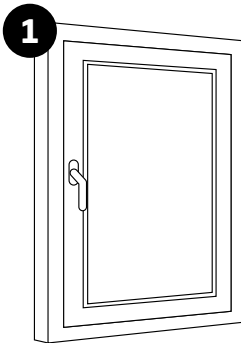
## 3. CLEANING POSITION

Unlock the handle and push outward to the 1st position opening limit, depress the restrictor to allow full rotation of the sash. Once rotated the restrictor will re-engage for safe cleaning. Release the restrictor & return to the closed position and engage the handle.

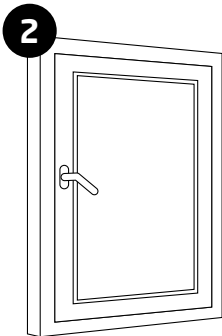


# VENTILATION POSITION

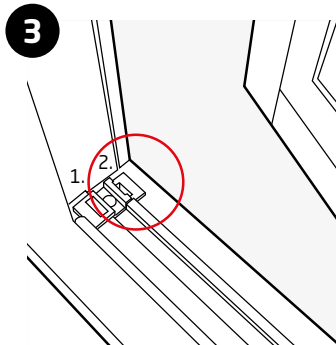
For improved comfort/safety, always engage the vent stay/restrictor when the window is in the ventilation position, this is located on the frame.



To open window for ventilation, ensure handle is closed

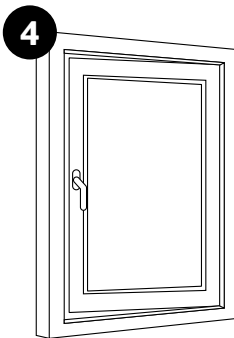


Lift handle and push the sash outwards to the fixed safety locking position

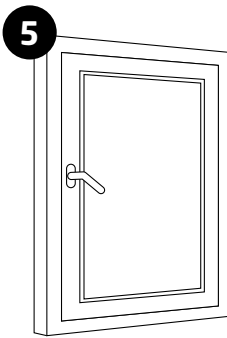


1. Locking position  
2. Night vent position

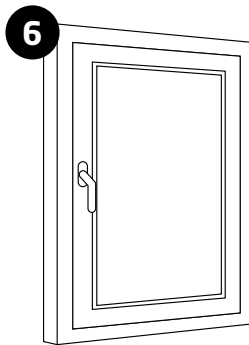
Locate the night vent position in the frame



Line up sash to vent position in frame and turn handle, check that sash is held in place



To close window, open handle and pull sash fully back into frame



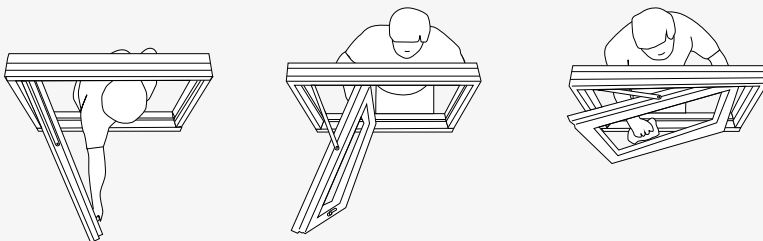
Turn handle to closed position ensuring it is secure before leaving unattended

**NOTE:** The fully reversible window has a built in, integrated night vent position as standard in all windows. Located within the frame itself, the restrictor secures the sash into the frame with the use of shoot bolts, providing ventilation into the property during the evenings whilst maintaining security. Locate the restrictor within the frame, open the sash slightly to the vent position, and close the handle to the locked position to safely secure the sash into the frame.

## OPERATION

The window operates on cantilevered stays located in the top and bottom of the sash. It is opened by means of a single handle operating an espagnolette located in the jamb which engages with keepers in the frame.

To open the window for everyday ventilation, the handle is opened, and the sash pushed outwards. A restrictor holds the sash open at approximately 100mm. To open the window for cleaning, the restrictor is released, and the sash is reversed until the restrictor re-engages to secure the window in the cleaning position.

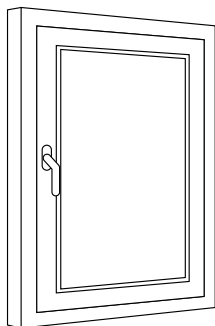


Never leave open windows unattended even in the night vent safety position as no open window is fully secure

## Cleaning position

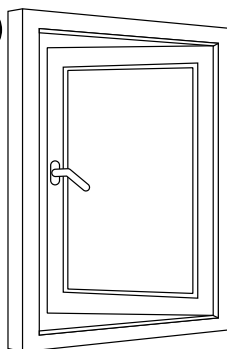
In the interest of safety, do not use windows in the cleaning position for ventilation purposes.

1



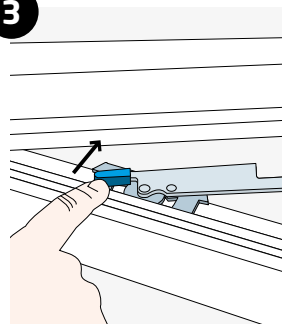
From the closed position, turn the handle fully into the open position

2



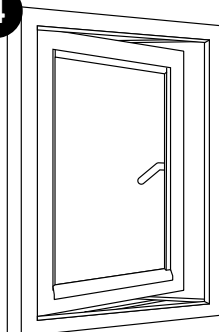
Push the sash outwards to the fixed safety locking position

3



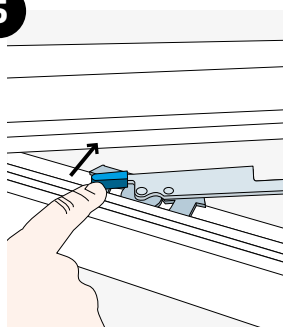
Push safety restrictor outwards located in bottom of frame whilst pushing sash outwards

4



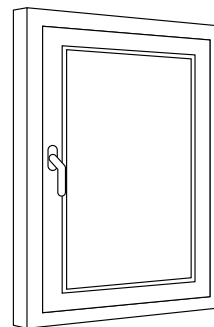
Continue to gently manoeuvre the sash outwards and sideways until it is fully reversed and locks securely in the cleaning position

5



To close, push safety restrictor to release cleaning lock, carefully return sash to closed position

6



Close sash and handle fully



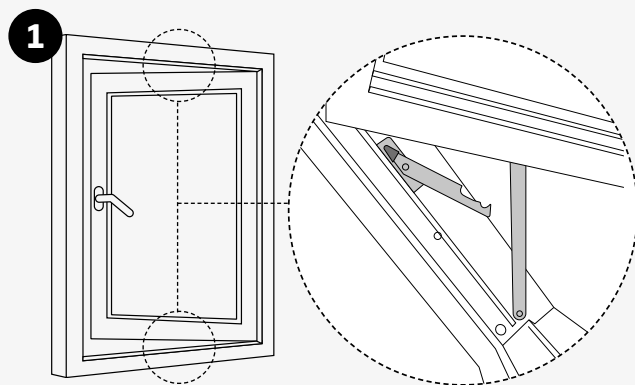
When cleaning, ensure that open windows are not left unattended and that the operation is carried out safely. Ensure that child safety restrictors are re-engaged (if applicable) when closing the window.



**Cleaning Position** - In the interest of safety, do not use the window in the cleaning position for ventilation purposes.

## Maintenance

Ensure the window is maintained regularly, following the standard guidelines. Inspect the product at least once per year



Carefully apply recommended lubricant into the cantilever stays in the top and bottom of the sash, move catch forward and back to distribute evenly in the mechanism



Recommended lubricant [silicone spray]



Please beware of fixings within the u-profile channel, which could lead to the sash miss-operating.



Make sure that the guide rail is clear of debris. Any obstruction fouling the guide could result in the sash disengaging/falling out.

### **MAINTAINING YOUR NORDAN WINDOW COULDN'T BE SIMPLER. ALL THAT IS REQUIRED IS TO CHECK THEM CAREFULLY A MINIMUM OF ONCE A YEAR FOR THE FOLLOWING SIGNS:**

- Look for and remove any airborne debris that might be trapped in between the frame, sash & the U-profile channel. To do this open the window in the cleaning position
- Wipe or brush clean all surfaces and check the weather seal is clean, dry, continuous, and undamaged. Never get any paint on the weather seal/gasket. As this will reduce the windows performance
- Check that the handles move freely and smoothly. If they are stiff, carefully use a recommended lubricant on the locking mechanism/bolts while in their extended position.
- Check the glass does not have any water vapour inside of the sealed unit, or that the glass is damaged.
- Check all timber surfaces for damage and note if the finishing (paint etc) requires refreshing.
- Check all handles and ventilator controls are not loose, if they are then tightened with the appropriate torx screwdriver
  - T15 – ventilators
  - T20 – Handles
  - Tighten enough so that the handles and controls work freely without being too loose. Do not over-tighten.



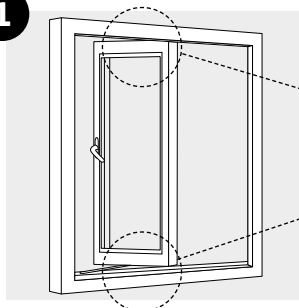
If in any doubt or if you require assistance with any maintenance queries call your nearest sales or customer services office, as noted on the back of this brochure.

## Removing the sash

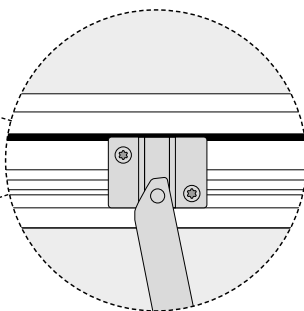


Two competent people are required to remove a side swing window sash safely.

1

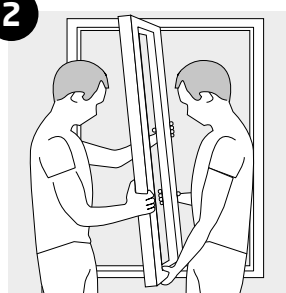


Open the sash to 90° to access the two screws in the center bracket on each side of the sash.



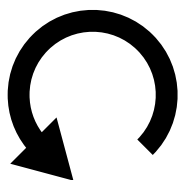
One operative needs to remove the screws from the guide arms. While the other holds the sash at 90°

2



Once the screws have been removed, the sash has to be tilted so that the top glider is free from the track and the sash can be removed.

3



To re-install the sash, follow the procedure in reverse



The window should be fully tested to make sure it performs as before disassembling

NorDan side Swing sashes should not be disassembled from the frame without the window installer informing NorDan UK  
Information to be included

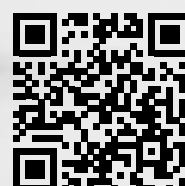
- Provision of the order and line number of the remedial work carried out shall be their responsibility when disassembling. [This information can be obtained on the long-digitalized number within the cavity of the spacer bar]
- This information must always be forwarded from installer to NorDan UK and signed by the person responsible.

# **BALCONY DOORS**

**CODE: BE, TE, BX, TX, 1I & 2I**

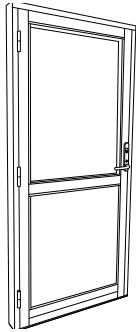


View product  
adjustment video



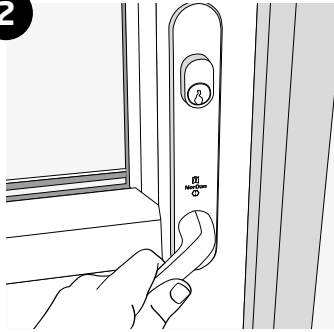
## Balcony door

1



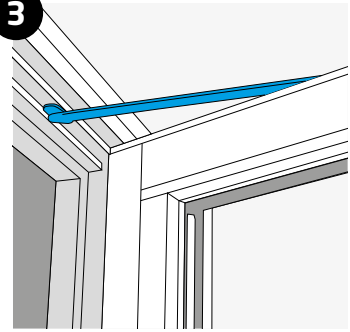
To open your door from the closed position, unlock using your key or thumbturn (if fitted).

2



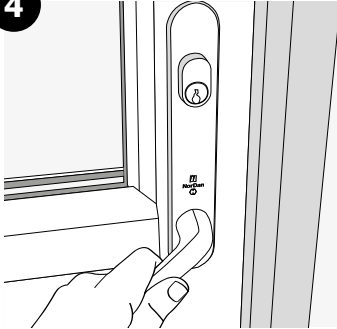
Push the handle down to disengage the multi-point locking and open the door leaf.

3



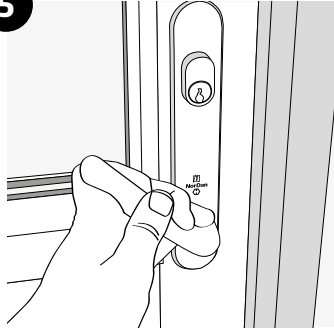
A friction stay may be installed on your door which can be activated by lifting the handle up when the door is open.

4



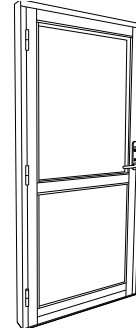
To disengage the friction stay, simply push the handle down and the door will be able to move freely.

5



To close the door, simply move the door back into the frame and lift up the handle to engage the multi-point locking.

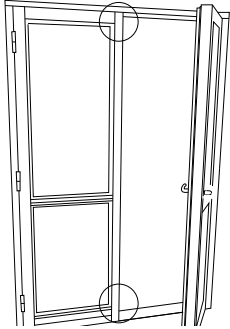
6



Ensure the door is locked and secure before leaving it unattended.

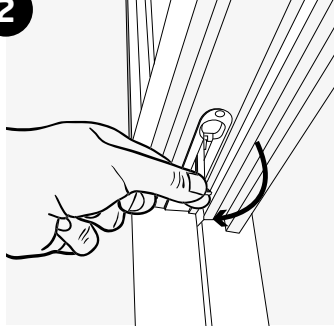
## Double door

1



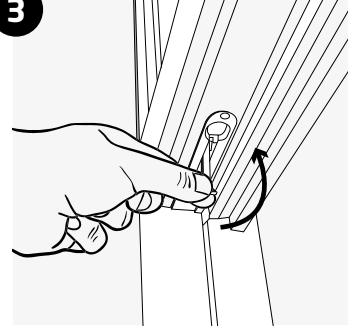
With the primary door open (as indicated above), locate the shoot bolts at the top and bottom of the secondary door.

2



Move both bolts to allow the secondary door to move freely.

3



To close the door, simply move the door back into the frame and push the shoot bolts back to the original position.

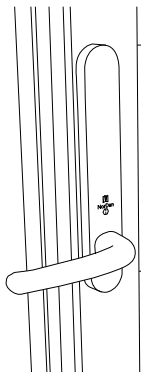


**IMPORTANT FOR MANUAL MULTI-POINT ESPAGNOLETTE:** Every time you close your door always lift the handle up to engage the multiple locking. Please always do this because it is the multiple locking that stops the door suffering from problems such as 'heat pull', bending and twisting. If you don't follow this rule the door may become difficult to use.

## Operation blank handle

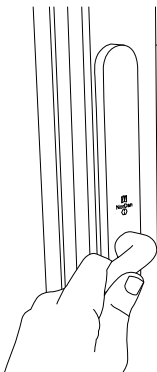
Blank handle plates have no locking operation.

1



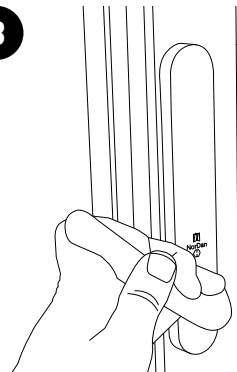
The door handle operates the multi-point locking mechanism to secure your door in place

2



To open the door, simply push down the handle to release the multi-point locking

3

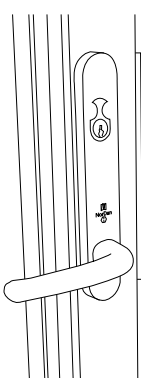


When closing the door, ensure the handle is pushed up to engage the multi-point locking

## Key locking handle

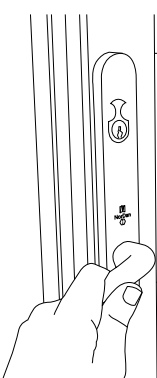
The key operated cylinder locking handle that can be supplied to NorDan balcony doors and sliding doors both inside and outside the door.

1



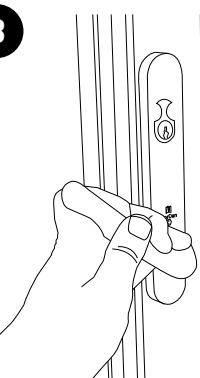
The door handle operates the multi-point locking mechanism to secure your door in place

2



To open the door, first unlock the door with your key then simply push down the handle to release the multi-point locking

3

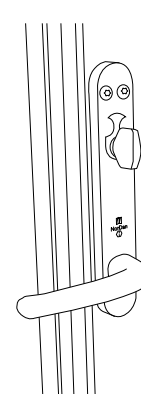


When closing the door, ensure the handle is pushed up to engage the multi-point locking then lock using your key

## Thumbturn handle

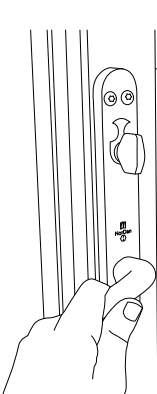
The thumbturn lockable handle can be supplied to NorDan balcony doors and sliding doors to the inside of the door.

1



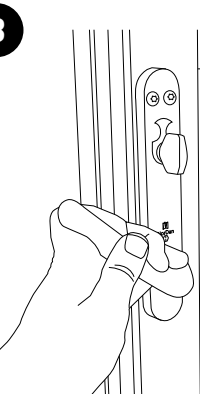
The door handle operates the multi-point locking mechanism to secure your door in place

2



To open the door, first unlock the door with the thumbturn, then simply push down the handle to release the multi-point locking

3

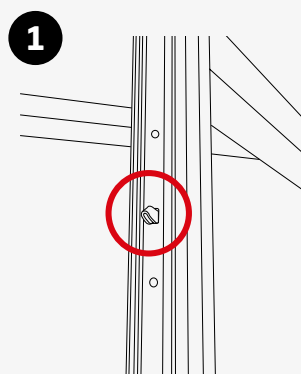


When closing the door, ensure the handle is pushed up to engage the multi-point locking then lock using the thumbturn

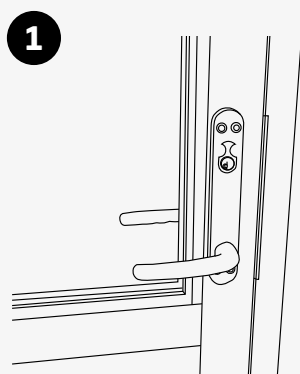


## Maintenance

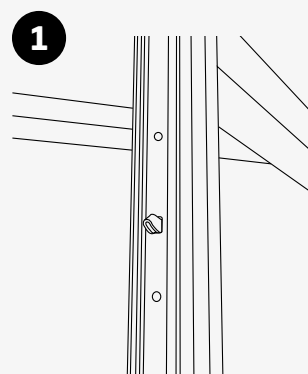
Ensure the door is maintained regularly, depending on frequency of use, load, and environment. It is important also to check that screws for the lock case, door fittings, handles and strike plates are tight.



**Espagnolette:** To ensure smooth and trouble free operation, twice yearly maintenance is recommended. Carefully apply recommended lubricant to the espagnolette locking hooks in the side of the door. Lubricant with good adhesion is necessary – silicone spray.



**Cylinder:** The cylinder is factory lubricated, however to maintain smooth operation and long life expectancy of cylinder and keys, it is recommended to lubricate the cylinder twice yearly. Use silicone spray.



**Fixings:** The tightness of the visible screws on the espagnolette, handle and cylinders should be checked annually to ensure long life expectancy of the mechanism



All door fittings included with the product have been surface-treated and should not be over painted. This would impair their function.

### **MAINTAINING YOUR NORDAN PRODUCT COULDN'T BE SIMPLER. ALL THAT IS REQUIRED IS TO CHECK THEM CAREFULLY A MINIMUM OF ONCE A YEAR FOR THE FOLLOWING SIGNS:**

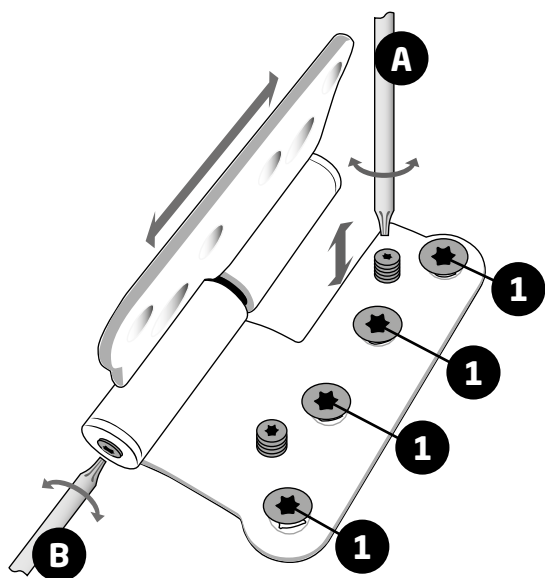
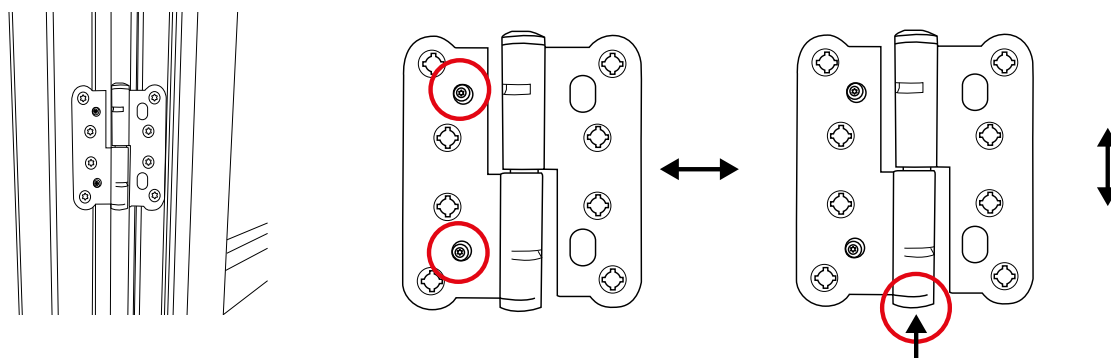
- Closely inspect your doors at least once a year. Check that the door opens and closes smoothly.
- Check the weather gasket set around the outside edge of the door leaf and ensure it is kept clean and remove any debris.
- Check the threshold for any build-up of debris as this could restrict the operation of the door but could also allow water ingress if the weep holes within the threshold are not kept clear.
- Check the paintwork for any loose or flaking finishing. Remove loose paint with a stiff brush then re-coat.
- Check that the handle moves freely and smoothly. If they are stiff, carefully use a recommended lubricant on the locking mechanism/bolts while in their open position.
- Check the glass does not have any water vapour inside of the sealed unit, or that the glass is damaged.
- Check all timber surfaces for damage and note if the finishing (paint etc) requires refreshing.
- Check all handles and ventilator controls are not loose, if they are then tightened with the appropriate torx screwdriver
  - T15 – ventilators
  - T20 – Handles
  - Tighten enough so that the handles and controls work freely without being too loose. Do not over-tighten.
- Do not overtighten.



If in any doubt or if you require assistance with any maintenance queries call your nearest sales or customer services office, as noted on the back of this brochure

## Adjustment hinges

NorDan hinges are correctly adjusted from the factory. The screws holding the hinges in a new door should be tightened after a few months of operation when the door has been acclimatised. The hinges are fully adjustable; however, any adjustment must be made by a competent person, only after checking the following.



### HORIZONTAL ADJUSTMENT

For horizontal adjustment (A) of the hinges, the hinge screws must be loosened slightly (No. 1). Adjustment should be made so that the burden is divided equally between all hinges.

NOTE: Do not forget to tighten the screws when the adjustment is made!

### VERTICAL ADJUSTMENT

For vertical adjustment (B) of the hinges use the screw at the bottom of the hinge. Adjustment should be made so that the weight of the door is divided equally between all hinges.

NOTE: Before adjusting the hinges vertically, we recommend the weight should be taken off the door leaf to avoid the adjustment screw to spin in the gauges. A recommended tool is an "air bag" which can be placed under the door leaf in the open position to hold the weight of the leaf as adjustment is carried out.

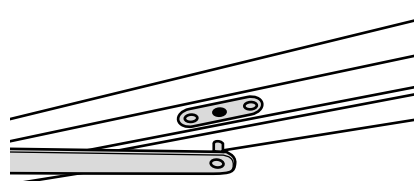
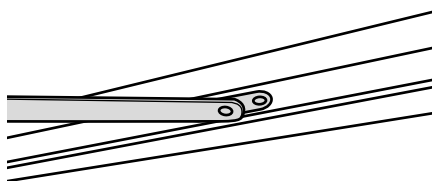
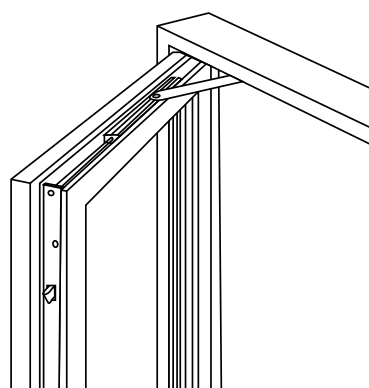
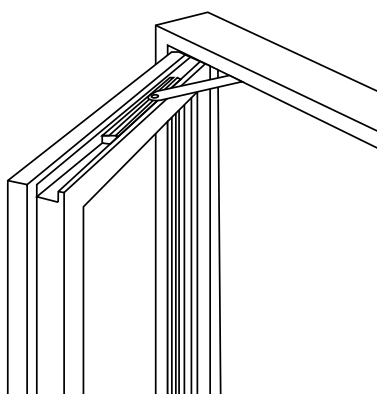
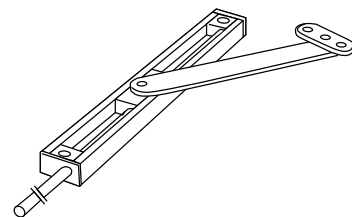


Due to the security pins that are part of the hinge, it is not possible to lift off the door leaf when the hinge is closed - as the horizontal adjustment screws locate into the slots in the door leaf section

## The FIX 150 Friction Stay is operated with the espagnolette handle

With the handle in closed position, the friction brake holds the sash in the desired opening position. To reduce wear on sash and hinges, the casement stay will slip when overloaded. With the handle in open position, the sash can be moved freely. The friction increases with the opening angle.

The FIX150 has a locking bolt, which limits the opening to required opening position (Child safety restricts the max opening to 100mm).



**Friction Stay Device** will only perform if used correctly by end user. Handle must be engaged to locate Friction Stay Device and hold sash in the required airing position. Friction Stay Device should not be used during extreme weather conditions. This product is not a door stop and will not prevent doorset from clashing with brickwork if mechanisms are not engaged or operated during heightened weather conditions.



**Handles:** It is recommended that furniture polish or similar is used on a regular basis to maintain the coating. Locations at a more costal location will require more frequent attention.



**Threshold:** The surface must be kept clean from debris. Clean with water and an appropriate cleaning agent.

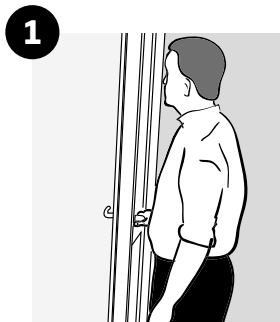


**Hinges:** Should be inspected annually, the hinge surface can be cleaned with a soft cloth or sponge using household soap and warm water. Check for loose screws and tighten as necessary. Do not use other chemicals or abrasives to clean the hinges.



The hinges do not require lubrication

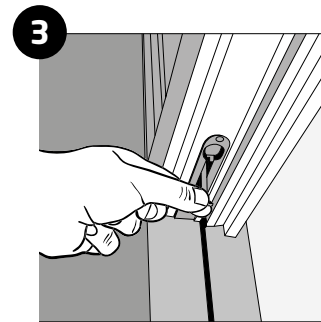
## Removing the door leaf



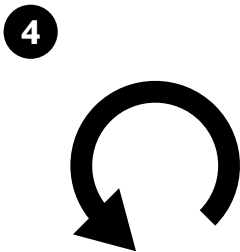
Open the door by approximately 90° or more so that the door leaf clears the frame



Lift the door leaf off the hinges from the frame and store safely.  
Note: If a head fixing brake is installed, unscrew and remove prior to lifting the door.



To remove the secondary door (if applicable), follow the same procedure



To re-install the door-leaf follow the procedure in reverse



Please ensure that at least two competent people are available to remove a door leaf safely.

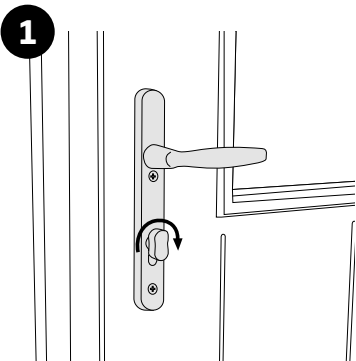
# HOMEGUARD

**CODE: H1**

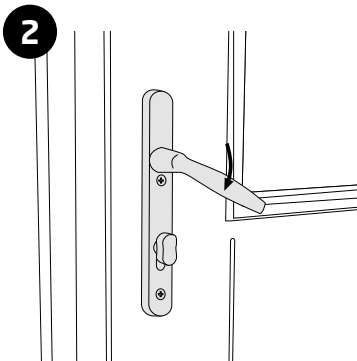


# Manual multi-point lock operation

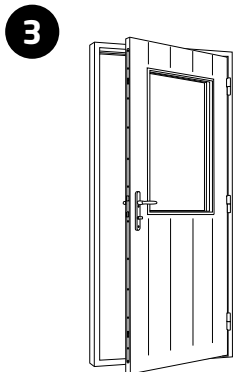
Always check the door is closed and locked before leaving it unattended.



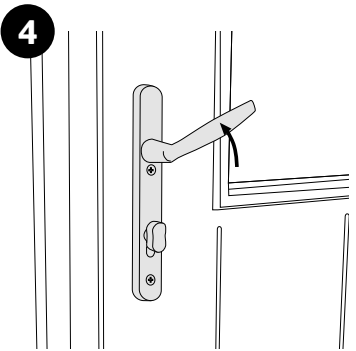
**1** To open your door from the closed position, unlock using your key or thumbturn (if present)



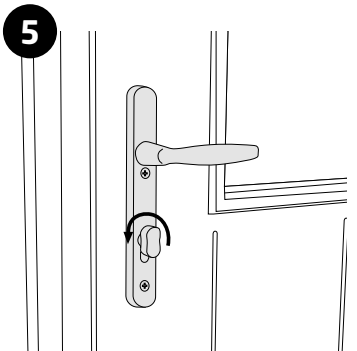
**2** Push the handle down to open the door leaf



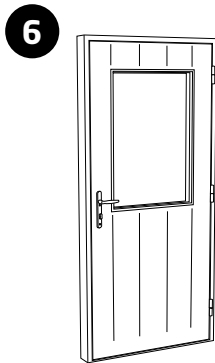
**3** And open the door



**4** To close the door, simply move the door back into the frame and lift up the handle to engage the multi-point locking.



**5** Lock your door using your key or thumbturn.



**6** Ensure the door is locked and secure before leaving it unattended

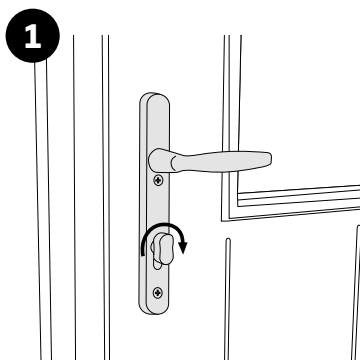
Every time you close your door always lift the handle up to engage the multiple locking. Please always do this because it is the multiple locking that stops the door suffering from problems such as 'heat pull', bending and twisting. By not closing the door correctly the leaf may be difficult to operate.



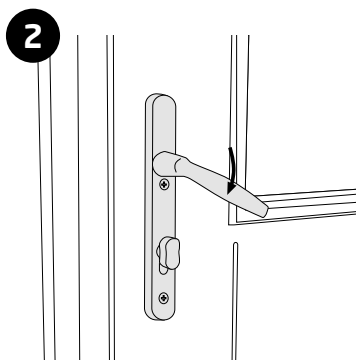
Ensure that you make a note of the reference number on any door keys you have. This is essential information when ordering replacement keys

## Automatic multi-point lock operation

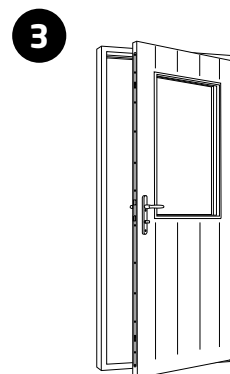
Always check the door is closed and locked before leaving it unattended.



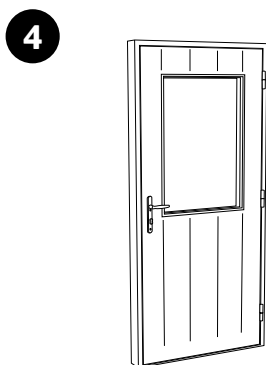
**1** To open your door from the closed position, unlock using your key or thumbturn (if present)



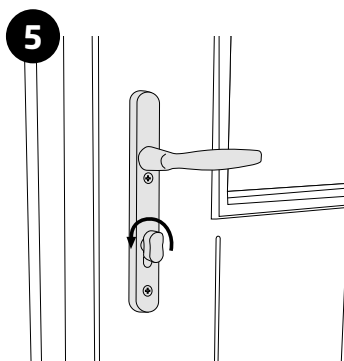
**2** Push the handle down to disengage the multi-point locking and open the door leaf



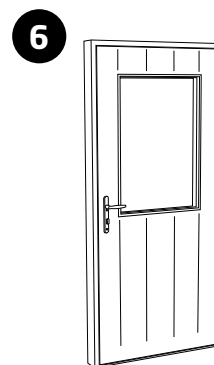
**3** And open the door



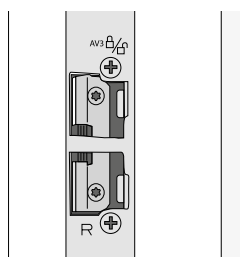
**4** To close the door, simply push the door back into the frame. This ensures that the door always remains securely locked and remains firmly in its frame even without additional locking.



**5** Lock your door using your key or thumbturn.



**6** Ensure the door is locked and secure before leaving or if unattended.



The optional daytime latch for the automatic multi-point locking system allows the door to be opened from the outside without the use of a key. Activation of the latch blocks the magnet's release when instant access is needed, a practical solution when bringing in the shopping.

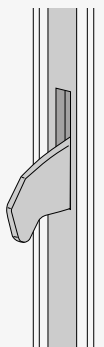


Always remember to deactivate the daytime latch, to allow the door to lock securely.

## Maintenance

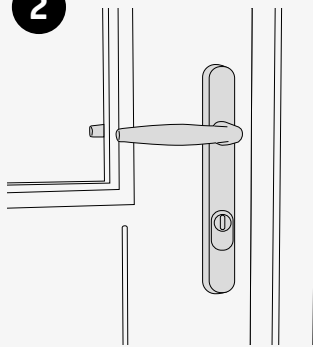
Ensure the door is maintained regularly, depending on frequency of use, load, and environment. It is important also to check that screws for the lock case, door fittings, handles and strike plates are tight.

**1**



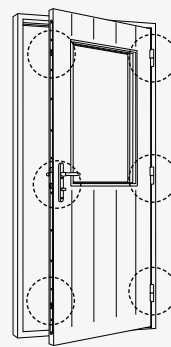
**Espagnolette:** To ensure smooth and trouble free operation, twice yearly maintenance is recommended. Carefully apply recommended lubricant to the espagnolette locking hooks in the side of the door. Lubricant with good adhesion is necessary

**2**



**Cylinder:** The cylinder is factory lubricated, however to maintain smooth operation and long life expectancy of cylinder and keys, it is recommended to lubricate the cylinder twice yearly. Use silicone spray.

**3**



**Fixings:** The tightness of the visible screws on the espagnolette, handle, hinges and cylinders should be checked annually to ensure long life expectancy of the mechanism



All door fittings included with the product have been surface-treated and should not be over painted. This would impair their function

### **MAINTAINING YOUR NORDAN PRODUCT COULDN'T BE SIMPLER. ALL THAT IS REQUIRED IS TO CHECK THEM CAREFULLY A MINIMUM OF ONCE A YEAR FOR THE FOLLOWING SIGNS:**

- Closely inspect your doors at least once a year. Check that the door opens and closes smoothly.
- Check the weather gasket set around the outside edge of the door leaf and ensure it is kept clean and remove any debris.
- Check the threshold for any build-up of debris as this could restrict the operation of the door but could also allow water ingress if the weep holes within the threshold are not kept clear.
- Check the paintwork for any loose or flaking finishing. Remove loose paint with a stiff brush then re-coat.
- Check that the handle moves freely and smoothly. If they are stiff, carefully use a recommended lubricant on the locking mechanism/bolts while in their open position.
- Check the glass does not have any water vapour inside of the sealed unit, or that the glass is damaged.
- Check all timber surfaces for damage and note if the finishing (paint etc) requires refreshing.
- Check all handles and ventilator controls are not loose, if they are then tightened with the appropriate torx screwdriver
  - T15 – ventilators
  - T20 – Handles
  - Tighten enough so that the handles and controls work freely without being too loose. Do not over-tighten.
- Do not overtighten.

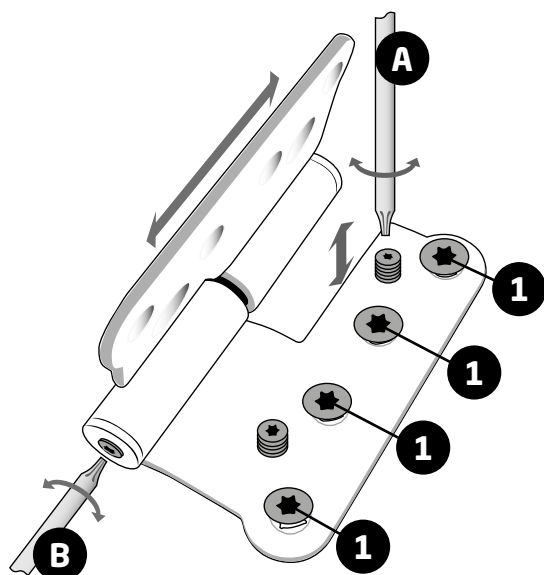
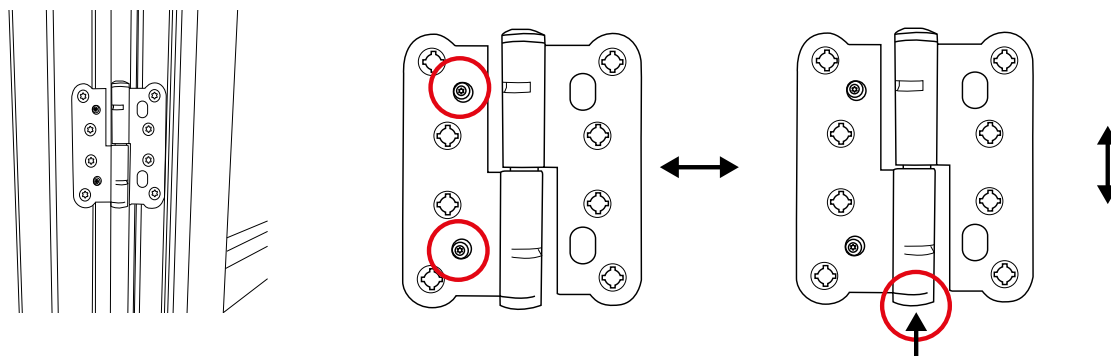


If in any doubt or if you require assistance with any maintenance queries call your nearest sales or customer services office, as noted on the back of this brochure



## Adjustment hinges

NorDan hinges are correctly adjusted from the factory. The screws holding the hinges in a new door should be tightened after a few months of operation when the door has been acclimatised. The hinges are fully adjustable; however, any adjustment must be made by a competent person, only after checking the following.



### HORIZONTAL ADJUSTMENT

For horizontal adjustment (A) of the hinges, the hinge screws must be loosened slightly (No. 1). Adjustment should be made so that the burden is divided equally between all hinges.

NOTE: Do not forget to tighten the screws when the adjustment is made!

### VERTICAL ADJUSTMENT

For vertical adjustment (B) of the hinges use the screw at the bottom of the hinge. Adjustment should be made so that the weight of the door is divided equally between all hinges.

NOTE: Before adjusting the hinges vertically, we recommend the weight should be taken off the door leaf to avoid the adjustment screw to spin in the gauges. A recommended tool is an "air bag" which can be placed under the door leaf in the open position to hold the weight of the leaf as adjustment is carried out.



**Due to the security pins** that are part of the hinge, it is not possible to lift off the door leaf when the hinge is closed - as the horizontal adjustment screws locate into the slots in the door leaf section.



**Handles:** It is recommended that furniture polish or similar is used on a regular basis to maintain the coating. Locations at a more costal location will require more frequent attention.



**Threshold:** The surface must be kept clean from debris. Clean with water and an appropriate cleaning agent.



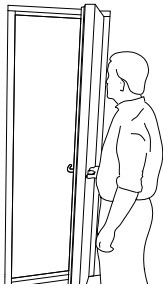
**Hinges:** Should be inspected annually, the hinge surface can be cleaned with a soft cloth or sponge using household soap and warm water. Check for loose screws and tighten as necessary. Do not use other chemicals or abrasives to clean the hinges.



The hinges do not require lubrication.

## Removing the door leaf

1



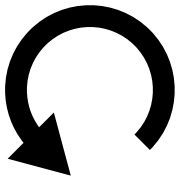
Open the door to approximately 90° or more so that the door blade clears the head of the frame.

2



Lift the door blade off the hinges and store safely - Note If an overhead closer is installed unscrew & remove prior to lifting the door blade.

3



To re-install the door-leaf follow the procedure in reverse.



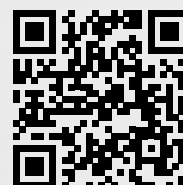
Please ensure that at least two competent people are available to remove a door leaf safely.

# **SINGLE SLIDING DOOR V1**

**CODE: 2P, SD**



View product  
adjustment video

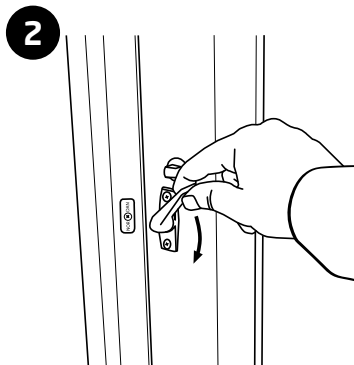


## Operation

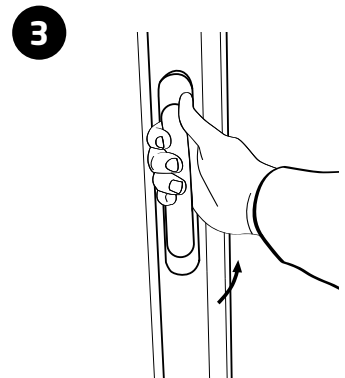
Single sliding doorsets are produced as standard with one side fixed and the other part sliding. The opening door is on the outside. When the door handle is released, the door moves out approximately 7mm and then can be easily moved sideways. The door can simply be stopped and restrained in any open position on the track by closing the door handle.



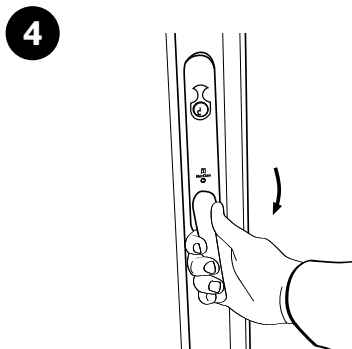
1 To open your door from the closed position, unlock it using your key or thumbturn (if present).



2 Release the central mullion lock by holding down the control button and turning the handle inwards.



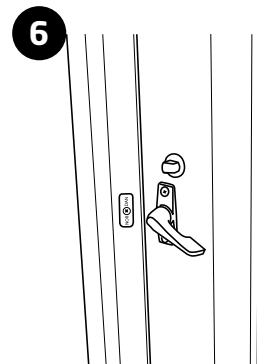
3 Push the handle up and the sliding door leaf is free to move.



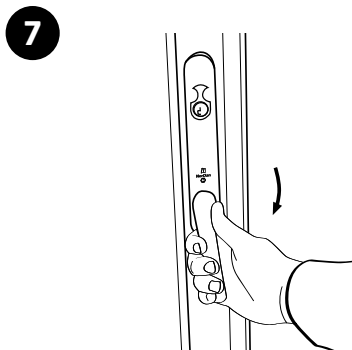
4 The door leaf can be held in position at any point along the frame by lowering the handle. This activates the anti-slide mechanism.



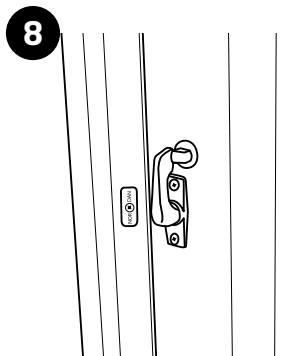
5 Do not leave the door unattended, even with the sliding door in the restricted position as no open door is safe from intrusion.



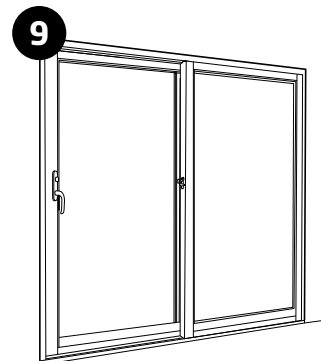
6 To close the door, ensure the handle is pointing downwards and the central mullion lock is disengaged.



7 Slide the door back against the frame and lower the handle. Engage the lock if a cylinder lock or thumbturn is present.



8 Engage the central mullion lock before leaving the door for increased security.



9 Ensure the door is locked before leaving it unattended.



Always Ensure the central mullion lock is engaged whenever the sliding door has been closed. This is critical in maintaining stability for the timber and essential for security.

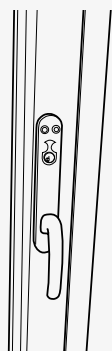


Ensure that you make a note of the reference number on any door keys you have. This is essential information when ordering replacement keys.

## Maintenance

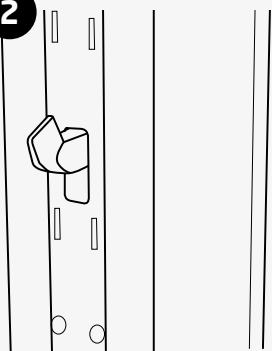
Ensure the door is maintained regularly, depending on frequency of use, load, and environment. It is important also to check that screws for the lock case, door fittings, handles and strike plates are tight.

1



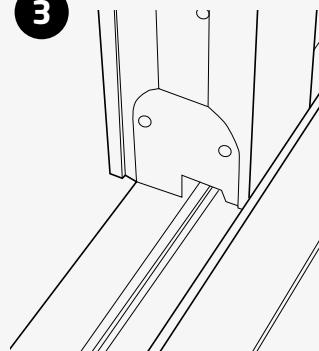
**Cylinder:** The cylinder is factory lubricated, however to maintain smooth operation and long life expectancy of cylinder and keys, it is recommended to lubricate the cylinder twice yearly. Use silicone spray.

2



**Espagnolette:** Carefully lubricate the multi locking espagnolette locking points at the side of the sliding door with recommended lubricant at least once a year or as required.

3



**Threshold:** Keep the bottom metal track and threshold clean and clear of any small stones and debris, check the sliding part runs smoothly and do not leave it open and unattended.

### IRONMONGERY

**Handles:** It is recommended that furniture polish or similar is used on a regular basis to maintain the coating. Locations at a more coastal location will require more frequent attention.

**Threshold:** The surface must be kept clean from debris. Clean with water and an appropriate cleaning agent.



All door fittings included with the product have been surface-treated and should not be over painted. This would impair their function.

### MAINTAINING YOUR NORDAN PRODUCT COULDN'T BE SIMPLER. ALL THAT IS REQUIRED IS TO CHECK THEM CAREFULLY A MINIMUM OF ONCE A YEAR FOR THE FOLLOWING SIGNS:

- Closely inspect your doors at least once a year. Check that the door opens and closes smoothly.
- Check the weather gasket set around the outside edge of the door leaf and ensure it is kept clean and remove any debris.
- Check the threshold for any build-up of debris as this could restrict the operation of the door but could also allow water ingress if the weep holes within the threshold are not kept clear.
- Check the paintwork for any loose or flaking finishing. Remove loose paint with a stiff brush then re-coat.
- Check that the handle moves freely and smoothly. If they are stiff, carefully use a recommended lubricant on the locking mechanism/bolts while in their open position.
- Check the glass does not have any water vapour inside of the sealed unit, or that the glass is damaged.
- Check all timber surfaces for damage and note if the finishing (paint etc) requires refreshing.
- Check all handles and ventilator controls are not loose, if they are then tightened with the appropriate torx screwdriver
  - T15 – ventilators
  - T20 – Handles
  - Tighten enough so that the handles and controls work freely without being too loose. Do not over-tighten.
- Do not overtighten.



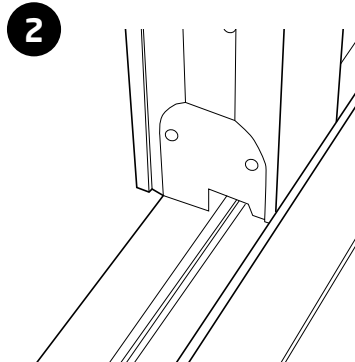
If in any doubt or if you require assistance with any maintenance queries call your nearest sales or customer services office, as noted on the back of this brochure.

## Removing the door leaf

Minimum two persons required weight dependent



Open the sliding part of the door fully until it hits the closer



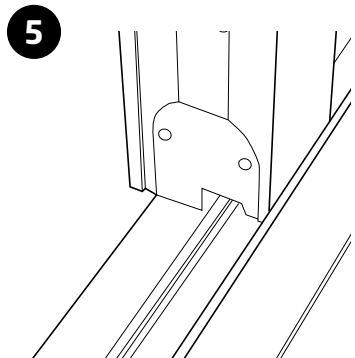
Lift the door vertically so that the bottom rollers clear the sliding track.



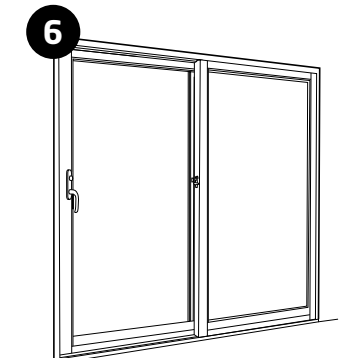
Lift the bottom of the door out at an angle and store safely to one side



To re-install the door carefully replace the door leaf into the frame positioning the top of the door and bringing the bottom of the door in-line with the rollers.



Ensure the door is lowered evenly so the bottom rollers locate into the track.



Check the door after installation for correct operation.



Manual handling assessment may be required



Clear area when removing sash from opening be aware of open edges once sash is removed

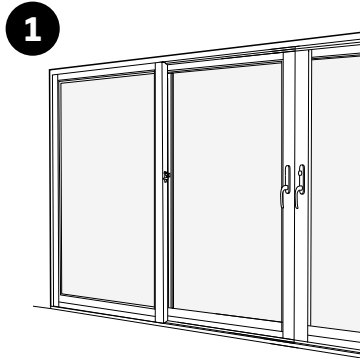
# **DOUBLE SLIDING DOOR V1**

**CODE: 4P, 4S**

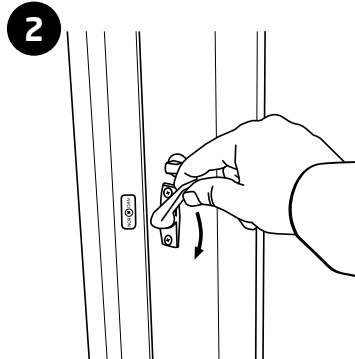


## Primary door operation

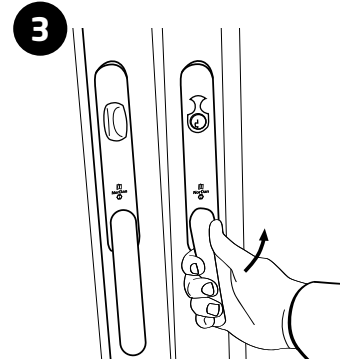
Double sliding doorsets are produced as standard with two doors fixed and the two centre doors opening. The opening doors slide on the outside. When the door handle is released, the door moves out approximately 7mm and then can be easily moved sideways. The door can simply be stopped and restrained in any open position on the track by closing the door handle.



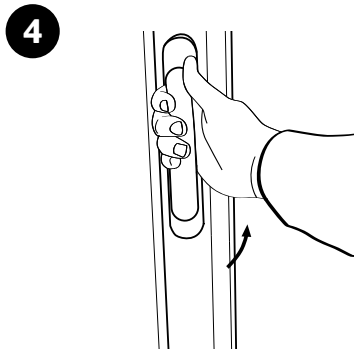
**1** To open your door from the closed position, unlock it using your key or thumbturn (if present)



**2** Release the central mullion lock by holding down the control button and turning the handle inwards



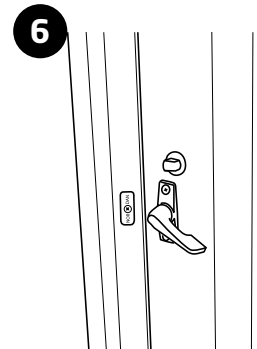
**3** Push the handle up 180° on the primary door (identified by either lock or thumbturn) and the door is free to move



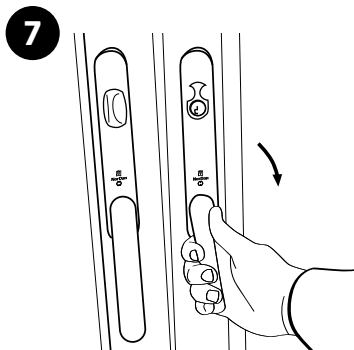
**4** The door leaf can be held in position at any point along the frame by lifting the handle. This activates the anti-slide mechanism



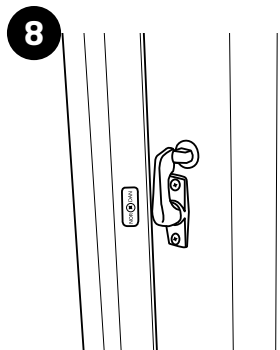
**5** Do not leave door unattended, even with sliding door in the restricted position as no open door is safe



**6** To close the door, ensure the handle is pointing downwards and the central mullion lock is disengaged



**7** Slide door back against frame, lift handle. Engage lock if a cylinder lock or thumbturn is present



**8** Engage the central mullion lock before leaving the door for increased security



**9** Ensure the door is locked before leaving it unattended

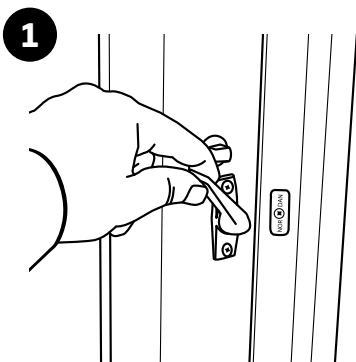


When opening and closing both primary and secondary doors, ensure the primary door is opened first. When closing both doors, ensure the primary door is closed last.

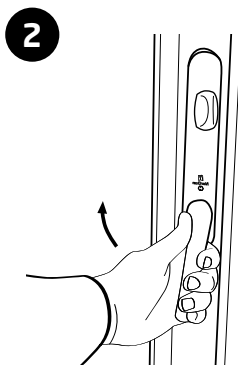


## Secondary door operation

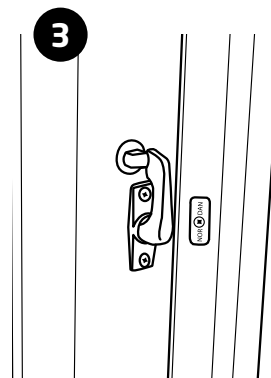
Double sliding doorsets are produced as standard with two doors fixed and the two centre doors opening. The opening doors slide on the outside. When the door handle is released, the door moves out approximately 7mm and then can be easily moved sideways. The door can simply be stopped and restrained in any open position on the track by closing the door handle.



1 With primary door open (as indicated above), disengage central mullion lock



2 Push handle up 180° to move secondary sliding door leaf open

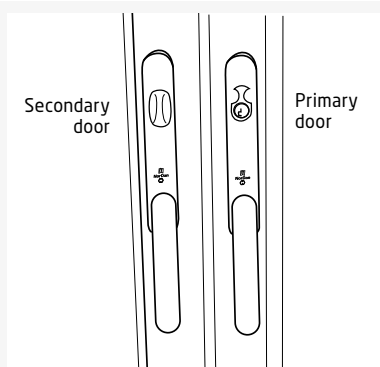


3 To close secondary door, move sliding door leaf to closed position and ensure central mullion lock is engaged



Always Ensure the central mullion lock is engaged whenever the sliding door has been closed. This is critical in maintaining stability for the timber and essential for security.

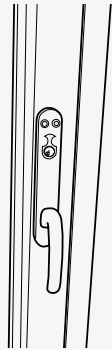
For identification, the secondary door has a handle with a blank cylinder (no keyhole) on the OUTside, and a blanking plate (no thumbturn or cylinder) on the Inside.



## Maintenance

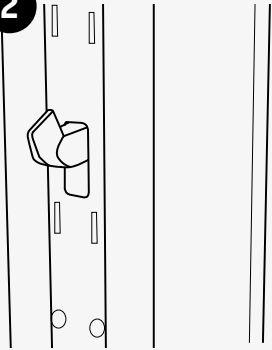
Ensure the door is maintained regularly, depending on frequency of use, load, and environment. It is important also to check that screws for the lock case, door fittings, handles and strike plates are tight.

**1**



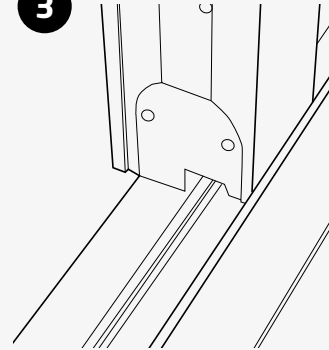
**Cylinder:** The cylinder is factory lubricated, however to maintain smooth operation and long life expectancy of cylinder and keys, it is recommended to lubricate the cylinder twice yearly. Use silicone spray.

**2**



**Espagnolette:** Carefully lubricate the multi locking espagnolette locking points at the side of the sliding door with recommended lubricant at least once a year or as required.

**3**



**Threshold:** Keep the bottom metal track and threshold clean and clear of any small stones and debris, check the sliding part runs smoothly and do not leave it open and unattended.

### IRONMONGERY

**Handles:** It is recommended that furniture polish or similar is used on a regular basis to maintain the coating. Locations at a more coastal location will require more frequent attention.

**Threshold:** The surface must be kept clean from debris. Clean with water and an appropriate cleaning agent.



All door fittings included with the product have been surface-treated and should not be over painted. This would impair their function.

### MAINTAINING YOUR NORDAN PRODUCT COULDN'T BE SIMPLER. ALL THAT IS REQUIRED IS TO CHECK THEM CAREFULLY A MINIMUM OF ONCE A YEAR FOR THE FOLLOWING SIGNS:

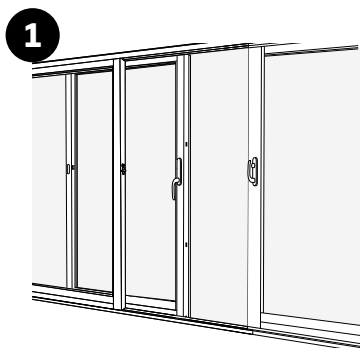
- Closely inspect your doors at least once a year. Check that the door opens and closes smoothly.
- Check the weather gasket set around the outside edge of the door leaf and ensure it is kept clean and remove any debris.
- Check the threshold for any build-up of debris as this could restrict the operation of the door but could also allow water ingress if the weep holes within the threshold are not kept clear.
- Check the paintwork for any loose or flaking finishing. Remove loose paint with a stiff brush then re-coat.
- Check that the handle moves freely and smoothly. If they are stiff, carefully use a recommended lubricant on the locking mechanism/bolts while in their open position.
- Check the glass does not have any water vapour inside of the sealed unit, or that the glass is damaged.
- Check all timber surfaces for damage and note if the finishing (paint etc) requires refreshing.
- Check all handles and ventilator controls are not loose, if they are then tightened with the appropriate torx screwdriver
  - T15 – ventilators
  - T20 – Handles
  - Tighten enough so that the handles and controls work freely without being too loose. Do not over-tighten.
- Do not overtighten.



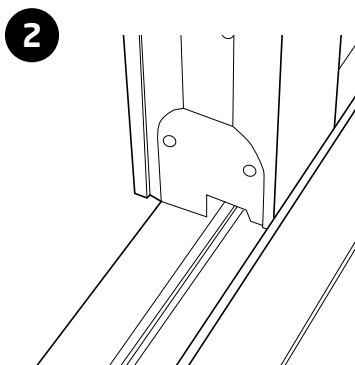
If in any doubt or if you require assistance with any maintenance queries call your nearest sales or customer services office, as noted on the back of this brochure.

## Removing the door leaf

Minimum two persons required weight dependent.



Open the sliding part of the door fully until it hits the closer.



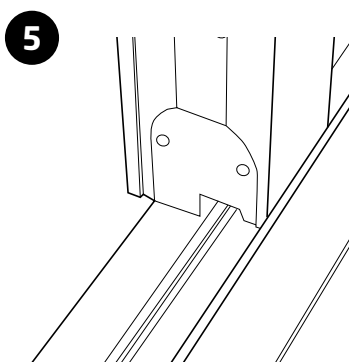
Lift the door vertically so that the bottom rollers clear the sliding track.



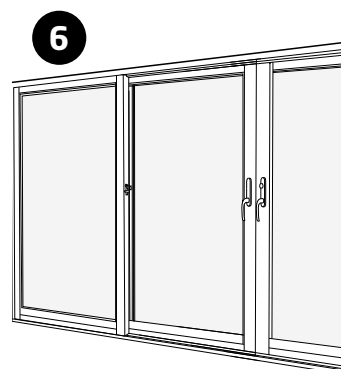
Lift the bottom of the door out at an angle and store safely to one side.



To re-install the door carefully replace the door leaf into the frame positioning the top of the door and bringing the bottom of the door in-line with the rollers.



Ensure the door is lowered evenly so the bottom rollers locate into the track.



Check the door after installation for correct operation.



Manual handling assessment may be required.



Clear area when removing sash from opening be aware of open edges once sash is removed.

# **SINGLE SLIDING DOOR V3**

**CODE: 2P, SD**

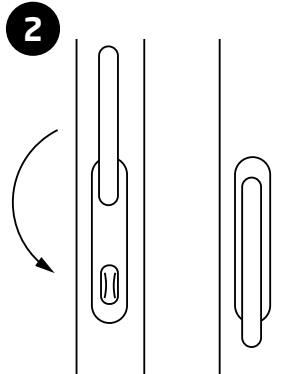


## Operation

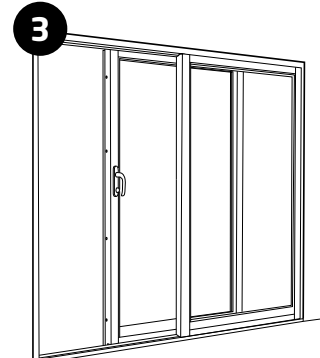
Single sliding doorsets are produced as standard with one side fixed and the other part sliding. The opening door is on the outside. When the door handle is released, the door moves out approximately 7mm and then can be easily moved sideways.



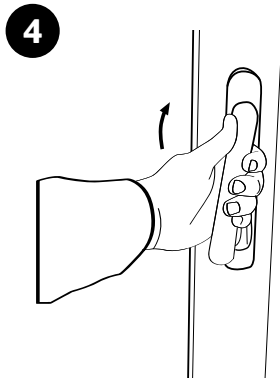
**1** To open your door from the closed position, unlock it using your key or thumbturn (if present).



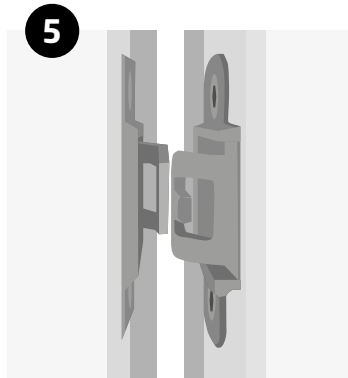
**2** Operation - Turn the handle 180° down and the sliding door is free to move.



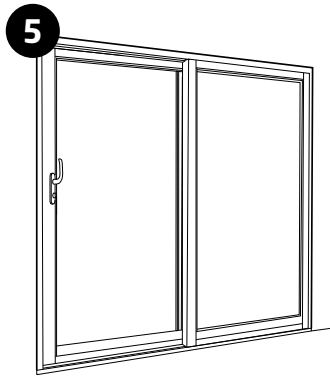
**3** Never leave the door unattended. As no open door is safe from intrusion.



**4** Slide the door back against the frame to close and lift the handle. Engage the cylinder lock or thumbturn if present.



**5** When the door is operated, the internal mullion lock will slide in position to secure the door.



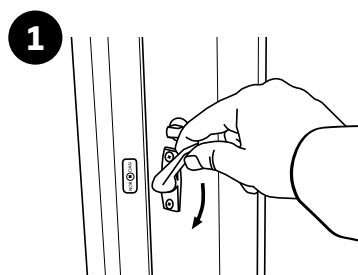
**5** Ensure the door is locked before leaving it unattended.



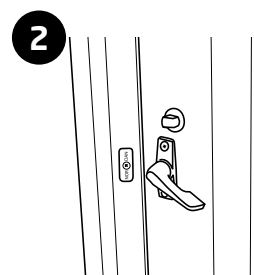
Ensure that you make a note of the reference number on any door keys you have. This is essential information when ordering replacement keys.

## Option: Centre lock - SBD

For Secure by Design doors an additional mullion lock is fitted as standard.



**1** To release the mullion lock press down the control button and turn the handle inwards.



**2** When closing the door always ensure the handle is pointing downwards and the central mullion lock is disengaged.



**3** To engage the mullion lock, turn the handle outwards - Always ensure the door is in the correct closed position before engaging the lock.



Only applicable to Single sliding door V3

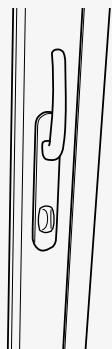


Always ensure the mullion lock is engaged before leaving the door for increased security.

## Maintenance

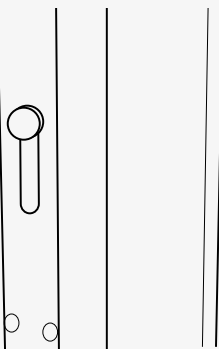
Ensure the door is maintained regularly, depending on frequency of use, load, and environment. It is important also to check that screws for the lock case, door fittings, handles and strike plates are tight.

1



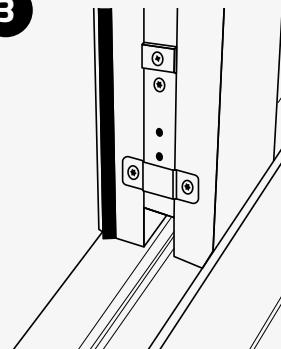
**Cylinder:** The cylinder is factory lubricated, however to maintain smooth operation and long life expectancy of cylinder and keys, it is recommended to lubricate the cylinder twice yearly. Use silicone spray.

2



**Espagnolette:** Carefully lubricate the multi locking espagnolette locking points at the side of the sliding door with recommended lubricant at least once a year or as required.

3



**Threshold:** Keep the bottom metal track and threshold clean and clear of any small stones and debris, check the sliding part runs smoothly and do not leave it open and unattended.

### IRONMONGERY

**Handles:** It is recommended that furniture polish or similar is used on a regular basis to maintain the coating. Environments such as coastal location will require more frequent attention.

**Threshold:** The surface must be kept clean from debris. Clean with water and an appropriate cleaning agent.



All door fittings included with the product have been surface-treated and should not be over painted. This would impair their function.

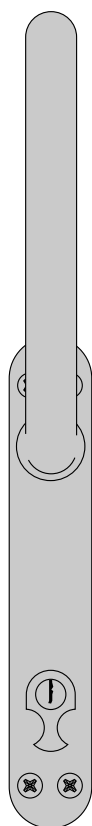
### MAINTAINING YOUR NORDAN PRODUCT COULDN'T BE SIMPLER. ALL THAT IS REQUIRED IS TO CHECK THEM CAREFULLY A MINIMUM OF ONCE A YEAR FOR THE FOLLOWING SIGNS:

- Closely inspect your doors at least once a year. Check that the door opens and closes smoothly.
- Check the weather gasket set around the outside edge of the door leaf and ensure it is kept clean and remove any debris.
- Check the threshold for any build-up of debris as this could restrict the operation of the door but could also allow water ingress if the weep holes within the threshold are not kept clear.
- Check the paintwork for any loose or flaking finishing. Remove loose paint with a stiff brush then re-coat.
- Check that the handle moves freely and smoothly. If they are stiff, carefully use a recommended lubricant on the locking mechanism/bolts while in their open position.
- Check the glass does not have any water vapour inside of the sealed unit, or that the glass is damaged.
- Check all timber surfaces for damage and note if the finishing (paint etc) requires refreshing.
- Check all handles and ventilator controls are not loose, if they are then tightened with the appropriate torx screwdriver
  - T15 – ventilators
  - T20 – Handles
  - Tighten enough so that the handles and controls work freely without being too loose.
- Do not overtighten.

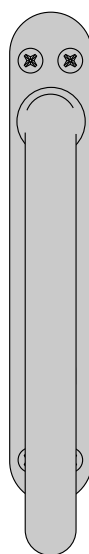


If in any doubt or if you require assistance with any maintenance queries call your nearest sales or customer services office, as noted on the back of this brochure.

## Handle operation



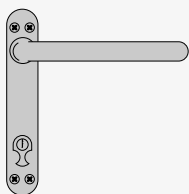
**Position 1** – The handle is in the closed/locked position.



**Position 2** – When the door is opened, the handle **MUST** always be in this position.



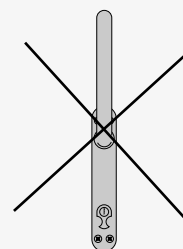
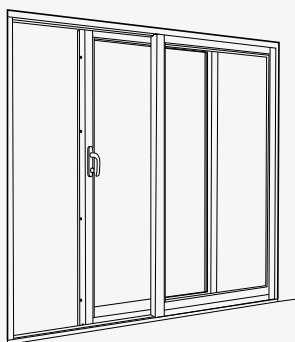
**Note!**



**NEVER** push the door with the handle in the horizontal position.



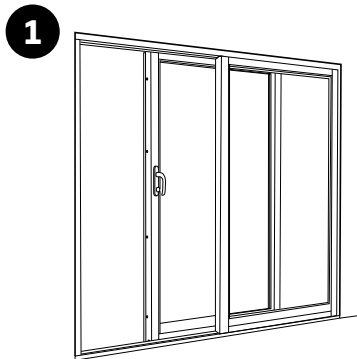
**Note!**



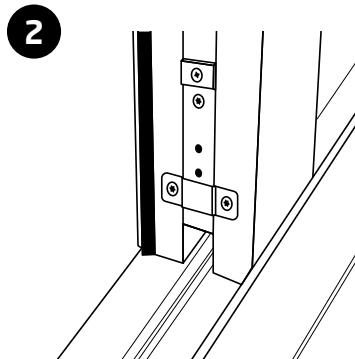
**NEVER** attempt to lock the door in **position 1** when the door is open, this may damage the gearing.

## Removing the door leaf

Minimum two persons required weight dependent



Open the sliding part of the door half way



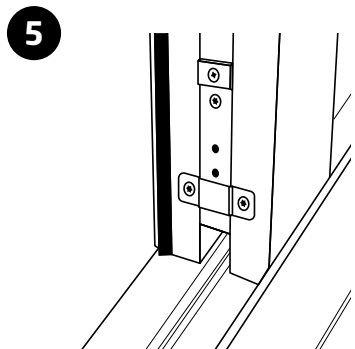
Lift the door vertically so that the bottom rollers clear the sliding track.



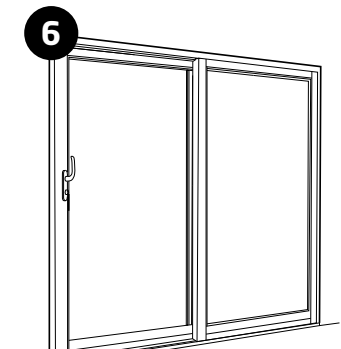
Lift the bottom of the door out at an angle and store safely to one side



To re-install the door carefully replace the door leaf into the frame positioning the top of the door and bringing the bottom of the door in-line with the rollers.



Ensure the door is lowered evenly so the bottom rollers locate into the track.



Check the door after installation for correct operation.



Manual handling assessment may be required



Clear area when removing sash from opening be aware of open edges once sash is removed



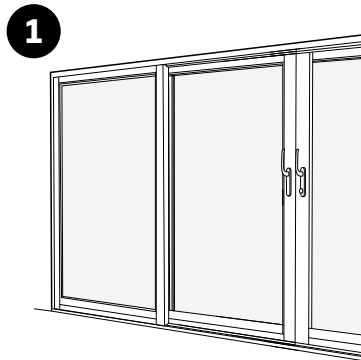
# **DOUBLE SLIDING DOOR V3**

**CODE: 4P, 4S**

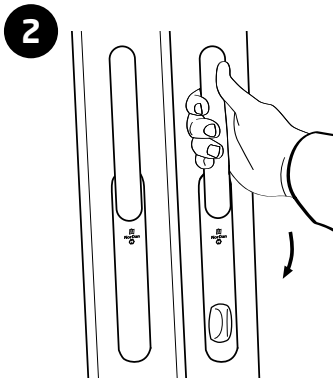


## Primary door operation

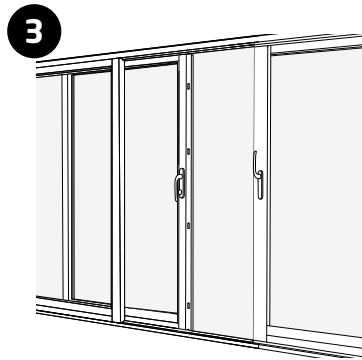
Double sliding doorsets are produced as standard with two doors fixed and the two centre doors opening. The opening doors slide on the outside. When the door handle is released, the door moves out approximately 7mm and then can be easily moved sideways.



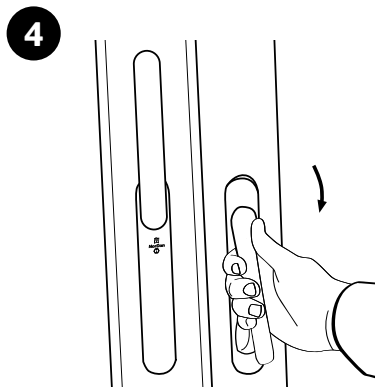
To open your door from the closed position, unlock it using your key or thumbturn (if present)



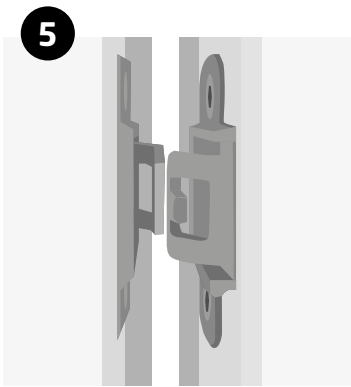
Operation - Push the handle down and the sliding door is free to move.



Never leave the door unattended. As no open door is safe from intrusion.



Slide the door back against the second door leaf to close and lift the handle. Engage the cylinder lock or thumbturn if present.



When the door is operated, the internal mullion lock will slide in position to secure the door.



Ensure the door is locked before leaving it unattended



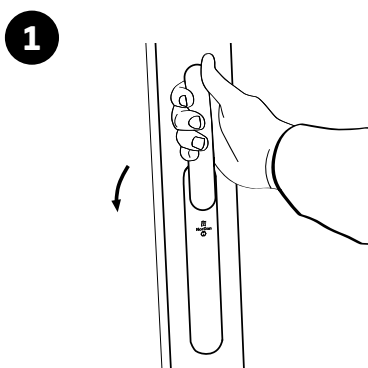
When opening and closing both primary and secondary doors, ensure the primary door is opened first.  
When closing both doors, ensure the primary door is closed last.



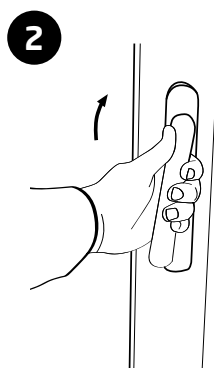
Always close secondary door first.

## Secondary door operation

Double sliding doorsets are produced as standard with two doors fixed and the two centre doors opening. The opening doors slide on the outside. When the door handle is released, the door moves out approximately 7mm and then can be easily moved sideways.



1 Push the handle down 180° to move secondary sliding door leaf open.

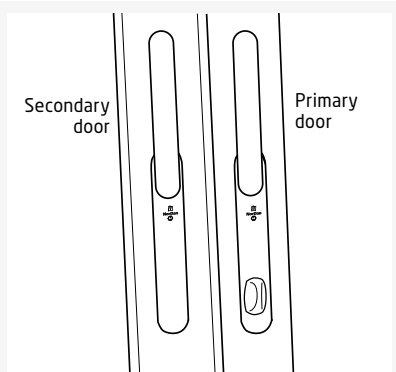


2 In closed position, push the handle up 180° to lock the leaf.



Always Ensure the central mullion lock is engaged whenever the sliding door has been closed. This is critical in maintaining stability for the timber and essential for security.

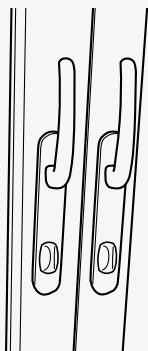
For identification, the secondary door has a handle with a blank cylinder (no keyhole) on the OUTside, and a blanking plate (no thumbturn or cylinder) on the Inside.



## Maintenance

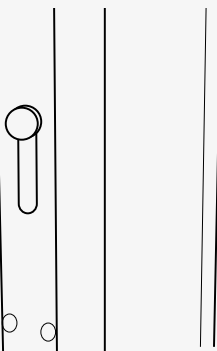
Ensure the door is maintained regularly, depending on frequency of use, load, and environment. It is important also to check that screws for the lock case, door fittings, handles and strike plates are tight.

1



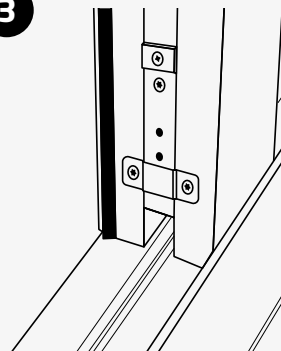
**Cylinder:** The cylinder is factory lubricated, however to maintain smooth operation and long life expectancy of cylinder and keys, it is recommended to lubricate the cylinder twice yearly. Use silicone spray.

2



**Espagnolette:** Carefully lubricate the multi locking espagnolette locking points at the side of the sliding door with recommended lubricant at least once a year or as required.

3



**Threshold:** Keep the bottom metal track and threshold clean and clear of any small stones and debris, check the sliding part runs smoothly and do not leave it open and unattended.

### IRONMONGERY

**Handles:** It is recommended that furniture polish or similar is used on a regular basis to maintain the coating. Environments such as coastal location will require more frequent attention.

**Threshold:** The surface must be kept clean from debris. Clean with water and an appropriate cleaning agent.



All door fittings included with the product have been surface-treated and should not be over painted. This would impair their function.

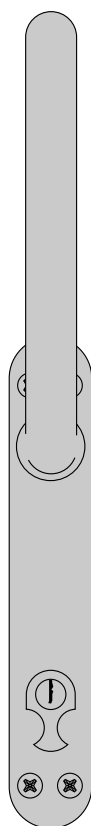
### MAINTAINING YOUR NORDAN PRODUCT COULDN'T BE SIMPLER. ALL THAT IS REQUIRED IS TO CHECK THEM CAREFULLY A MINIMUM OF ONCE A YEAR FOR THE FOLLOWING SIGNS:

- Closely inspect your doors at least once a year. Check that the door opens and closes smoothly.
- Check the weather gasket set around the outside edge of the door leaf and ensure it is kept clean and remove any debris.
- Check the threshold for any build-up of debris as this could restrict the operation of the door but could also allow water ingress if the weep holes within the threshold are not kept clear.
- Check the paintwork for any loose or flaking finishing. Remove loose paint with a stiff brush then re-coat.
- Check that the handle moves freely and smoothly. If they are stiff, carefully use a recommended lubricant on the locking mechanism/bolts while in their open position.
- Check the glass does not have any water vapour inside of the sealed unit, or that the glass is damaged.
- Check all timber surfaces for damage and note if the finishing (paint etc) requires refreshing.
- Check all handles and ventilator controls are not loose, if they are then tightened with the appropriate torx screwdriver
  - T15 – ventilators
  - T20 – Handles
  - Tighten enough so that the handles and controls work freely without being too loose.
- Do not overtighten.

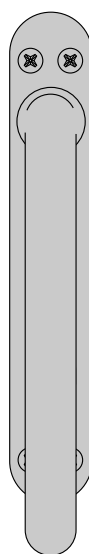


If in any doubt or if you require assistance with any maintenance queries call your nearest sales or customer services office, as noted on the back of this brochure.

## Handle operation



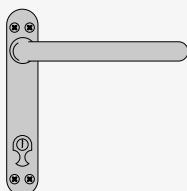
**Position 1** – The handle is in the closed/locked position.



**Position 2** – When the door is opened, the handle **MUST** always be in this position.



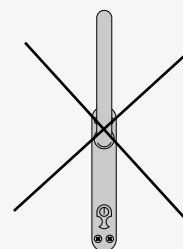
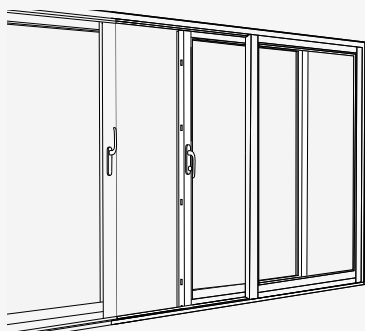
**Note!**



**NEVER** push the door with the handle in the horizontal position.



**Note!**



**NEVER** attempt to lock the door in **position 1** when the door is open, this may damage the gearing.

## Removing the door leaf

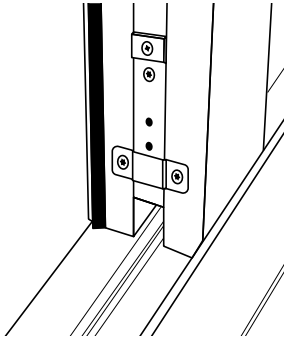
Minimum two persons required weight dependent.

1



Open the sliding part of the door half way

2



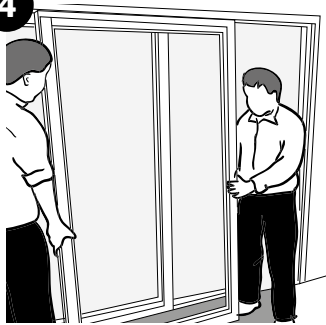
Lift the door vertically so that the bottom rollers clear the sliding track.

3



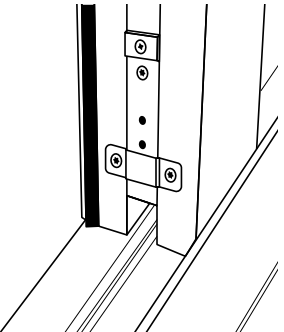
Lift the bottom of the door out at an angle and store safely to one side.

4



To re-install the door carefully replace the door leaf into the frame positioning the top of the door and bringing the bottom of the door in-line with the rollers.

5



Ensure the door is lowered evenly so the bottom rollers locate into the track.

6



Check the door after installation for correct operation.



Manual handling assessment may be required.



Clear area when removing sash from opening be aware of open edges once sash is removed.

# GENERAL INFORMATION

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- 92-93 — General maintenance: timber and aluminium
- 94 — General maintenance: surface treatment
- 95 — General maintenance external doorsets
- 96 — Replacing & securing glazed units
- 97 — Prepare area for glazed unit
- 98 — Security install glazed units
- 99 — Glazing packer locations
- 100 — Glazing bar details

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- 106-107 — Installation procedures
- 109 — Installing windows
- 110 — Installing single and double balcony doorsets
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# GENERAL MAINTENANCE

**In order that you obtain the greatest possible performance from your windows and doors, a certain degree of regular maintenance is required.**

## **THE FREQUENCY OF MAINTENANCE IS VERY MUCH DOWN TO YOUR LOCAL ENVIRONMENT.**

This varies due to climate, precipitation and humidity, air pollution, mould and algae, temperature changes, the location of the building, the positioning of the window in the wall, the direction in which the window faces. This means that different windows in the same building may require varying levels of maintenance.

Our recommendation is that you carry out an inspection at least once a year. The best way is to try and make this part of your routine, e.g., when you clean your windows, take the opportunity to clean the external parts of the windows at the same time. In this way, you will see the condition of the surface treatment at the same time as you maintain the surface through cleaning.

## **LUBRICANT**

For lubrication of parts and product specific maintenance a silicone spray is recommended unless otherwise stated. This lubricant has good adhesion, is easily applied and is less likely to drip and damage finishings. In order to easily describe the general maintenance requirements of NorDan windows and doors, the instructions have been divided into three general groups of materials:

- Glazing
- Timber treatment
- Aluminium cladding/profiles

# GLAZING

Cleaning your glass should be carried out as and when required depending on your local environment. The following guidelines can be followed:

1. Choose a calm day to clean your windows, following simple health and safety guidelines.
2. Rinse the glass with warm water mixed with a mild detergent.
3. Rinse the glass with clean water.
4. Dry glass using a chamois leather.

## **SELF-CLEANING GLASS**

Self-cleaning glass has been specially designed to remain cleaner for longer than conventional glass. A transparent coating on the external surface of the glass harnesses the power of ultra-violet rays and rain (or water) to break down dirt and grime then wash it clean away. The coating is totally integrated into the surface of the glass and is highly durable. However, as with all coated glass a certain level of care must be exercised when handling and maintaining.

## **INSTALLATION/BUILDING WORKS:**

If any building works are taking place in the vicinity of self-cleaning glass then protect with a clean plastic sheet to prevent any splashes or staining from aggressive compounds (paint, varnish, glue, sealant, cement, plaster, mortar, etc). This will also protect the product from abrasive or hot particles (grinding or welding sparks, etc).

## **INITIAL PREPARATION**

When you first receive your fully installed products that are fitted with self-cleaning glass, please carry out the following:

- Remove any labels on the glass by carefully peeling it off. Care must be exercised when removing the label from the glass to ensure that the special coating is not damaged. Do not use a razor, scraper or wire-wool to detach the label.
- Wait at least a week before cleaning the product for the first time to ensure all sealants used in its installation are fully set. Start with a rinse or hose-down with clean water and continue, when necessary, with a normal maintenance routine.

During the week after initial installation and clean-down the self-cleaning property of the glass will be progressively activated, triggered by exposure to UV light. The length of time required to activate the coating by UV rays can vary depending on the season and the orientation of the glass, but is normally within a week.



When the glass is wet a small border of water droplets may appear around the perimeter surface of the glass. This is perfectly normal.

### **MAINTAINING SELF-CLEANING GLASS**

Self-cleaning glass does require occasional cleaning. To carry this out, carefully follow these instructions. You will need clean, soft tools; a lint-free cloth or chamois leather, a non-abrasive sponge or a non-metal window squeegee. For cleaning, clean water will normally suffice however, standard, mild glass-cleaning products can also be used

'Soft' water is best for cleaning glass. In hard-water areas a small amount of washing-up liquid can be used to soften water. For the removal of stubborn marks white vinegar can be used. Always ensure that the vinegar does not come into contact with the frame and that it is washed off the glass after application (vinegar is not to be used as a regular cleaning method).

#### **NOTE:**

- Do not use any glass treatment products containing silicones or abrasive particles.
- Do not use any commercial cleaning products which are intended specifically for cleaning elements other than glass.
- Do not use chemical products: soda, bleach, washing powder, white spirit etc.
- Avoid contact with all sharp or abrasive objects including jewellery, buckles, tape measures, razor blades, Stanley knives, scouring pads, steel wool, sandpaper etc.
- Never attempt to clean off a specific mark on the surface without applying water first.

### **CONDENSATION**

#### **INTERNAL CONDENSATION**

Internal condensation typically occurs with poorly insulated windows with high interior atmospheric humidity and a low exterior temperature. The normal room air is warmer than the cooled down air located near the window pane. The room air is cooled down near the window pane and, at the same time, the relative atmospheric humidity increases in the cold air

because it cannot carry as much atmospheric humidity as the warmer air. When the relative atmospheric humidity reaches 100%, the so-called dew point, the water condenses as mist or water on the window panes.

How to avoid internal condensation:

- Have energy-efficient windows with a low U-value.
- Properly ventilate construction damp in a newly built house.
- Provide good ventilation. Air rooms regularly!
- Ensure that the atmospheric humidity does not exceed 40%.
- Close doors to rooms where food is stored and to showers/bathrooms.
- If possible, do not hang wet washing up to dry inside the house.
- Ensure that the warm room air can rise unhindered up over glass surfaces.
- Remember that deep niches, curtains, Venetian blinds, potted plants and window shades prevent warm air currents reaching the window glass.

#### **EXTERNAL CONDENSATION**

Under certain conditions, condensation may form on the outside of the glass. This may occur on energy-efficient windows which have a very low U-value, indicating the glass construction provides effective insulation and small energy losses.

External condensation is formed primarily during the dawn and morning hours between September and April in our northern climate. As the air becomes warmer over the course of the day, the condensation disappears. If the weather is calm, cold and clear with high atmospheric humidity, the temperature of the outermost exterior pane may fall below the dew point and condensation is formed (compare with mist and frost on car windows). The energy losses from inside are too small to keep the temperature of the outer pane above the dew point for the outside air.

#### **CONDENSATION BETWEEN PANES**

In the unlikely event that condensation is found between the panes of glass of a sealed unit, please contact your nearest NorDan UK regional office.

# TIMBER & ALUMINIUM

The timber used in your NorDan products has been treated against rot and insect attack using a pressure impregnation process.

## PAINTED WOODEN PARTS

- Check your painted windows carefully at least once a year. If you see signs of blisters, cracks, flaking or a matt surface to the paint, you should take care of the damage.
- When you are painting, the moisture ratio must be lower than 50%. Painting in damp weather means that the final result will not be of the same quality, resulting in a shortened maintenance interval.

## PAINTING EXTERIOR SURFACES

Use only microporous paints on external surfaces:

1. Check that the surface is dry.
2. Brush away loose dirt and dust.
3. Scrape away paint which is cracked or loose and scrape away any resin which may have been released.
4. Rub down wood with fine sandpaper.
5. Rub down the entire window with fine sandpaper until the paint appears matt.
6. Brush off shavings and sawdust.
7. Wash the window with a mild cleaning agent or a solution of one part ammonia to ten parts water.
8. If cracks have formed, for example in the corner joints of the casement and frame or on the window ledge, you should repair them with a suitable filler. Do not use caulking compounds which cannot be painted over.
9. Apply a primer to the surface of the wood. Allow it to dry.
10. Apply a top coat of paint. Apply several layers if necessary. You should not use acrylic paint on surfaces which are touching. They may stick together.
11. Be especially careful to apply plenty of paint to the lower parts of the window, on end-grain timber and on corner joints.

## PAINTING INTERIOR SURFACES

Normally, you only need to clean interior surfaces. Wash the surface with water and a mild cleaning agent. If painting is necessary:

12. Rub down with fine sandpaper and remove sawdust.
13. Apply an alkyd primer.
14. Apply a second top coat of the alkyd paint.

## VARNISHING INTERIOR SURFACES

Normally, you only need to clean interior surfaces. Wash the surface with water and a mild cleaning agent. If varnishing is necessary:

15. Rub down with fine sandpaper and remove sawdust.
16. Use a brush to apply a non-pigmented semi-matt clear varnish (alkyd and amino resin), luster 21, to the surface.

## BLUE STAIN MOULD

All timber components used by NorDan are vacuum impregnated with a preservative treatment and then finished with a micro-porous (breathable) stain/paint. The product is fully capable of withstanding normal construction environments. However, if products are not cared for appropriately, there is a risk that blue stain mould can develop. One of the necessary conditions for blue stain mould to develop is excessive moisture content in the timber, from around 25%. With this in mind, it is important that the builder or contractor takes adequate measures to ensure the building is suitably ventilated during the construction process.

## ALUMINIUM CLADDING/PROFILES

Aluminium parts may be mill finished or Paint Powder Coated in a wide range of standardised colours.

It is important that the aluminium cladding is monitored regularly for any contamination that can stain the surface finish. Any form of contamination needs removing before it damages the surface treatment. Otherwise, it is recommended that all aluminium cladding is washed and cleaned at least once a year as described:

17. Wipe the cladding with a soft brush to remove dust and loose foreign matter
18. Prepare a warm bucket of clean water with a little amount of detergent and wash down. Rinse clean and then wring the cloth to dry off after washing. A clean damp chamois leather is ideal for drying cladding without smears

**Note:** When cleaning cladding always be careful to avoid snagging your cleaning materials, or grazing your hands when working close to cut ends of cladding

## TREATING SCRATCHES

Because aluminium cannot rust, scratches are harmless (relatively speaking), but of course, they are noticeable. Try filling a scratch with a small amount of colour matching paint to make it less obvious. Visit your local paint specialist for advice on product/colour matching when preparing to carry out any works and proceed in accordance with the supplier's recommendations.

## ASSEMBLED PRODUCTS

- During storage, painted aluminum should be protected against the effects of weather conditions, and therefore stored without exposure to direct sunlight, rain, and other weather conditions (storage in sheltered places).
- At the construction site and during assembly, painted aluminum should be protected against damage caused by abrasive and structural materials used in construction, including paints, mortars, chemical cleaning agents, etc.

- If the above materials have been in contact with a painted surface, they should be removed immediately before drying. Failure to remove these materials at an early stage will later require the use of aggressive materials and techniques that may lead to damage during cleaning.

## CLEANING

- Before starting work, it is recommended to perform a cleaning test on a small test field of an irrelevant surface to make sure that there is no colour change or damage to the paint coating.
- Always remove any dirt or contamination visible on the coating immediately.
- If, until the acceptance of construction works, loose deposits still remain on the painted surfaces, despite cleaning during assembly, they should be removed with a damp sponge (water).
- If cleaning the surface is not possible as described above, use a soft brush or (delicate, non-abrasive) cloth and a neutral mild household detergent, or a neutral car detergent.
- After washing, rinse the surface thoroughly with clean water.
- Do not use steel wool, scrapers, sandpaper, liquids or scouring powders because they will permanently scratch painted surfaces.
- Do not use strong solvents or alkaline or acidic cleaners.
- It is not recommended to use hard water for cleaning, because its mineral contents may cause discoloration of the coating and lead to permanent damage.
- Do not clean painted parts if the surface is hot due to direct sunlight.

## SPECIAL EFFECTS COATINGS

- Metallic coatings usually contain mica or metallic flakes as pigment. These visual special effects should be cleaned with extreme caution. As a routine cleaning, periodic cleaning with a mild detergent is recommended. Avoid any repairs or cleaning that requires wiping or polishing, as it may cause discoloration, colour changes and, as a result, irreversible damage to the coating.
- Matte coatings: it is recommended to use mild detergents for cleaning and washing. Avoid any repairs or cleaning that requires wiping or polishing, as this may cause a visible change in gloss.

## CLEANING FREQUENCY

Generally, painted surfaces used in a normal environment should be cleaned at least once a year. In areas where pollution is more common, especially in coastal or industrial areas, the frequency of cleaning should be increased.

- Normal environment - clean every 12 months.
- Coastal areas and/or industrial environment - clean every 3 months.

## TIMBER/PAINT

For paint or stains our factory recommendations Sikkens or Dulux weathershield.



New to old paint may highlight a contrast.



Please bear in mind that touching up with brush applied paint will give a different gloss level and finish than spray a finish.

# SURFACE TREATMENT

## Standard Pre-Finishes, NorDan windows and doors

### **NORDAN SURFACE TREATMENT**

NorDan has more than 40 years of experience in providing factory-applied finishes to high quality timber products. During this time, there have been major advances in the technology and composition of paint products, all designed to enhance the appearance and performance of the finished product, whilst still being mindful of the overall effect on the environment. It has been NorDan policy to make use of the best technology available to provide products of the highest standard of manufacture and finish for discerning, environmentally-conscious customers throughout Europe.

This has been achieved by use of the highest quality timber, sourced from sustainable forests with PEFC chain of custody, machined under strictly controlled quality-assured conditions, pressure impregnated with VOC approved preservatives, and then hand or hi-tech robotic arm sprayed to provide a smooth, even finish. All these processes are subject to regular in-house and independent external testing to ensure the finished products need no further attention at the time they are installed into a building.

## **PRODUCTS:**

### **PRESSURE IMPREGNATION (BS EN 351-1 CLASS NP3)**

Protim P-VAC-11

### **BASE COAT**

US Grunn oil based primer or Akzo Nobel Aqua PU primer 253. A polyurethane microporous base that prevents knots from ageing, provides excellent key for top coats, and leaves a smooth consistent finish.

### **STANDARD PRE-FINISHES FINISHING COAT**

Akzo Nobel Winflex T635

A water based semi gloss paint, specifically developed for windows and doors. It has many technical advantages, including excellent adhesion to the base coat.

In addition Akzo Nobel Winflex T635 is compatible with many other paint types, thus allowing easier maintenance when required.

### **TRANSLUCENT FINISHES**

Sikkens

A water based, 2-pack stain finish with medium gloss.

### **CLEAR LACQUER**

Akzo Nobel XV600

A semi gloss clear water based finish.

Clear lacquer and other weak finishes are unsuitable for external use due to the combined effects of UV radiation and weathering. NorDan will only apply clear lacquer and similar finishes to internal surfaces. It is important to carefully monitor the performance of less durable type finishes (see below- Notice).

### **STANDARD PRE-TREATMENTS MICROPOROUS PAINT:**

Akzo Nobel Aqua PU primer 253

Akzo Nobel Winflex T635

### **TRANSLUCENT FINISH:**

Sikkens

### **CLEAR LACQUER (INSIDE ONLY):**

Water based Akzo Nobel XV600

Other finishes available by agreement and to standard RAL and NCS colour ranges.

### **MAINTENANCE**

Periods between maintenance will vary.

Akzo Nobel (microporous finishing) should last between 5-8 years on north facing elevations (lowest exposure), and whether or not facing directly south without any shade (highest exposure). Also subject to the colour chosen (mid range last longest).

All translucent finishes (including those used on furniture) are more susceptible to degradation by UV radiation from the sun, and thus require more frequent inspection and maintenance.

External inspection should be carried out yearly after summer time, using a wire brush to see if any finishing is loose. If maintenance is necessary, scrape and fill any damaged areas then lightly sand the complete window down before renewing with your own choice of finishing in good time before winter.

Internal finishes require the same time and procedure as described for external, although not so frequently dependant on internal conditions, and in particular effective management of condensation.

### **AKZO NOBEL**

Akzo Nobel is internationally recognised as a stain and paint supplier for industrial surface treatment. Akzo Nobel products are widely available throughout Europe.

## PAINT SUPPLIERS

Finding the correct RAL, NCS or stain colour; this information will be within the paperwork you received when quoting your project. If you bought your home then it is best firstly to speak to the builder who was dealing with this project. If you are unable to contact the builder then please contact your nearest regional office.

Should you need a paint supplier for replacement/touch-up paint/stain we recommend contacting your nearest 'Dulux Trade' centre:

<http://www.duluxtradepaintexpert.co.uk/stockists>

## SOLID COLOURS

Sikkens 'Rubbol BL Satura' (with 'Rubbol BL Primer' if bare timber has been exposed). Alternatively a suitable product from the Dulux Weathershield range may be used.

## STAINED FINISHES

Sikkens Cetol BL31. Alternatively a suitable product from the Dulux Trade water-based external wood stain range.

# EXTERNAL DOORSETS

## All painted products are factory painted with a primer and topcoat

### MAINTENANCE & CARE

Clean painted surfaces with lukewarm water and soap at least once per year depending on how exposed the surface is to sun, rain, and wind.

Inspect regularly to see if there are cracks emerging in the exterior coating and for damages on the door edge/corners.

This applies particularly on the southern and western elevations, bay-parties, etc. where the sun's UV rays are hard on all woodwork. Also houses without eaves are exposed.

Doors painted in dark colours, placed in coast areas or in direct sun is more exposed.

The doors must be reviewed once a year with a brush to make repairs to the surface wherever it is needed.

For post-treatment we recommended the use of a paint with great covering power either water or oil based in the appropriate colour. Furthermore, it is a good idea to wash the door a few times a year. It removes dirt and other contamination, which ultimately degrades the surface. Use water with a mild detergent.

When the timber surface is to be cleaned, it is a good idea also to have a look for any small cracks and crevices in the paint surface. Generally, when the weather begins to discolour the paint on your doors, it is time for maintenance.

Important: Dark colours will become significantly warmer than light colours and this makes maintenance more frequent necessary.

### RECOMMENDED MAINTENANCE SCHEDULE:

- Colour class 1 and 2 (light colours): Inspect yearly and repaint after 5 years.
- Colour class 3 (dark colours): Inspect yearly and repaint after 2 years if exposed to direct sun or extreme conditions.

### GLAZED PRODUCTS

Pay extra attention to the glazing beads on doors with glass apertures and on the lower part of the door which is extra exposed.

It is important to carry out regular tests of the tightness between the glass and glass seal. If the join loosens on the outside apply a silicon seal on the top seal/join. If the movement is unusually great due to the product being used in an exposed position pockets and looseness may occur in the external bottom join. This can be repaired by applying a new top seal (silicon seal).

# REPLACING AND SECURING GLAZED UNITS

**The following information provides you with basic recommended procedures for replacing and installing glazing units in your NorDan windows and doors. You will find instructions for replacing damaged glazed units and securing glass in products that were specified 'dryglazed'**

## DAMAGED UNITS

To replace a damaged sealed unit, always ensure you have the correct tools and correctly sized replacement unit in order that the procedure is carried out in one operation.

## SPACER BAR DETAILS

The make-up of the sealed unit can be found in the spacer bar or order and line number from the original paperwork.

## DRY GLAZING

If your NorDan windows and doors have been delivered 'dry glazed' then you must ensure that the glazing unit is fixed correctly to improve safety and security. Please follow the specific instructions found in this document.

## SAFETY FIRST

The glazing company is responsible for the production of a method statement, risk assessments and COSHH assessments for the safe de-glazing and glazing of the NorDan windows and doors.

External access arrangements are to be organised by the glazier, provision of

competent persons to erect or operate access equipment or mechanical plant. The safe system of work (risk assessment & method statement), must consider all relevant health and safety legislation and therefore must be specific provision for:

- Protection of the public
- Working at height
- Manual handling
- Personal protective equipment
- Disposal of glass

## REMOVING GLAZING UNITS

It can assist in the process of replacing the glazing unit if window sashes and door blades can be removed prior to fitting glazing. The following guidelines will help you carry out this procedure to health and safety requirements and in a controlled manner.

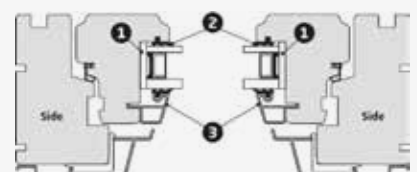
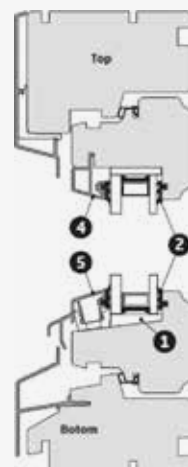
Note: this guidance document has not considered any access arrangements, additional training that may be required for working at height i.e., ladders, mobile towers, mobile elevated work platform or raising of the glass.

## What you will need

- Spare glazing packers of various sizes 2, 3, & 4mm packers are required the bottom packer is a consistent size.
- Torx screwdriver (size T15)
- Small star head screwdriver
- Hammer
- Broad bladed tool (old paint scraper etc.)
- Long thin bladed tool (sharp putty knife)
- Timber block.
- 13mm flat blade screwdriver
- Soft hammer
- Pliers
- Soudal "Fix All High Tack"

## Know the product

1. Glazing packers
2. Internal glazing rubber seal
3. Side glazing beads
4. Top glazing bead
5. Bottom glazing bead



At least two people are required to remove a window sash or door leaf safely.



NDUK warranty excludes glazing units not installed in the factory or by trained NDUK installers.

**QUICK OVERVIEW**

# PREPARE AREA FOR GLAZED UNIT

1. Remove the glazing beads complete with rubber seal.
2. Break the glue seals (if replacing a damaged glazed unit)
3. Remove the sealed unit.

## 1. REMOVE THE GLAZING BEADS COMPLETE WITH RUBBER SEAL

- Remove the opening sash if the window type allows this.
- Working on the exterior side of the sash, remove the two side glazing beads by levering out the bottom first with the broad bladed tool. Once started the process gets easier. Ease the bead off for the full length.
- Remove the top bead, which is easy now the sides have gone.
- Remove the bottom (sill) bead by placing a wooden block underneath it and tapping up with a hammer.
- Remove the bottom bead fixing clips with the Torx screwdriver (or star headed screwdriver depending on fixing type).
- Remove packers and mark location as necessary before removing the glass.

## 2. BREAK THE GLUE SEALS (IF REPLACING A DAMAGED GLAZED UNIT)

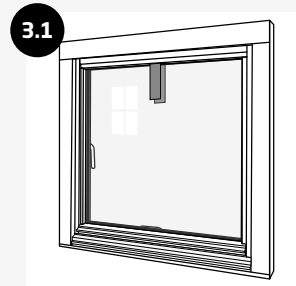
- Move to the inside face and insert a thin bladed tool into a corner by pushing behind and under the internal glazing gasket, into and away from the corner to break the bond and push the glass outward while slicing.
- Repeat on all corners.
- Check from outside if centres are glued and cut in same manner from inside.

The above steps are not applicable if the product has been delivered with the glazing units dry glazed

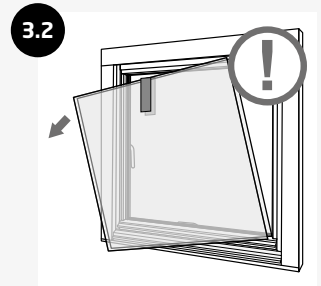
## 3. REMOVE THE SEALED UNIT

- Note or mark the position of packers.
- Push the glass unit out carefully and remove from the frame,
- Remove any packers that stuck to the glass.
- If you are replacing a damaged glazed unit, dispose of the unit following H&S guidelines. If you are simply removing the glazed unit because the window or door was delivered 'dry-glazed' then put aside carefully and follow the next steps for securely installing the unit.
- Installation & removal of glass units should be carried out using a glass sucker.

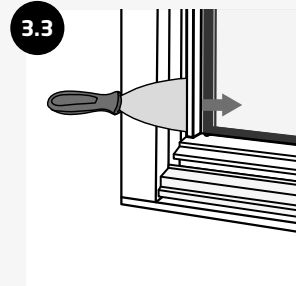
## Removing Dry Glazed Units



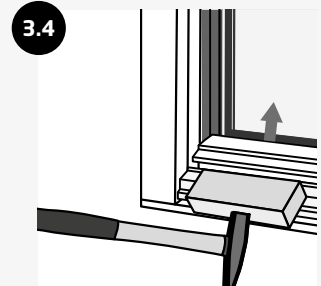
3.1 Dry-glazed units have a ribbon at the top of the glazed unit



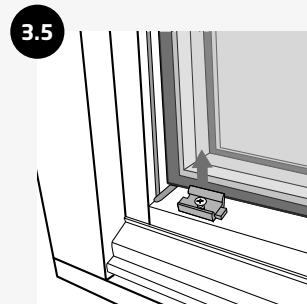
3.2 Take care when removing the glazing beads as the glass is not secured



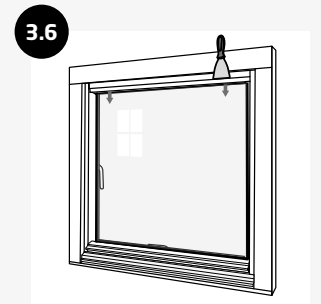
3.3 Remove side glazing beads using a broad bladed tool



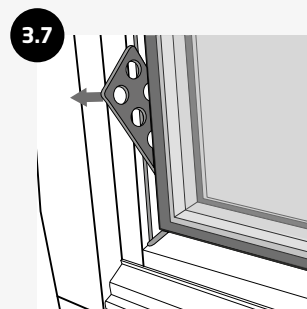
3.4 Remove the bottom glazing bead using a block and gently tap upwards



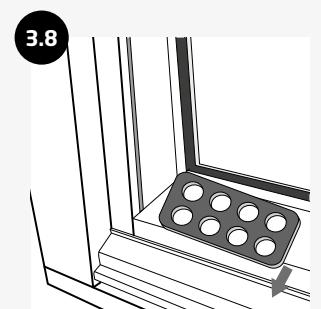
3.5 Remove the glazing bead clips from the sash using a screwdriver



3.6 Remove glazing bead from the top



3.7 Remove glazing packers from the top and sides, marking their locations, leave the bottom packers until the glass is removed



3.8 Place the glass in a safe location ready for securing back into the sash and then remove bottom glazing packers, marking their locations

## QUICK OVERVIEW

# SECURELY INSTALL GLAZED UNIT

## 4. Fit internal glazing rubber seals

## 5. Apply glue 60 mm +/- 10mm

## 6. Insert sealed unit.

## 7. Insert packers.

## 8. Replace glazing beads.

### 4. FIT INTERNAL GLAZING RUBBER SEALS

- Re-seat the internal glazing rubber if it moved. Do not overlap ends.

### 5. APPLY ADHESIVE

- Apply a run of adhesive (SoudalFix All-Grey) approx. 60mm +/- 10mm away from each corner and thicker than the thickness of the glazing rubber (to ensure a strong contact with the glass).
- In the corners of the bottom sash, run a bead of adhesive from front to back (Pic 5).

### 6. INSERT SEALED UNIT

- Carefully place the unit into the glazing rebate by first sitting it on the bottom packers. Then push in and onto the internal glazing seal and glue. Push hard on the corners to ensure good contact with the glue.
- Check inside that the rubber is not buckled in any place. Smooth out if necessary. Wipe away any glue that appears inside.

### 7. INSERT PACKERS

- Refit any loose glazing packers where previously located.

Note: If any are loose, replace them with an appropriate thickness. Fit packers in accordance with BS 6262: 1982 Code of practice for glazing for buildings.

### 8. REPLACE GLAZING BEADS.

- Insert the top bead first, then the bottom bead. Ensure the bottom bead goes on the clips the right way round. Clip it into place by tapping with a soft faced hammer.
- Fix the two side beads last. Butt the top tight to the upper beads.
- Tap the top and side beads in until none of the tongue is visible. Use a timber block and hammer or a rubber hammer.
- If beads are loose, crimp the bead with a pair of pliers to ensure tight fit.

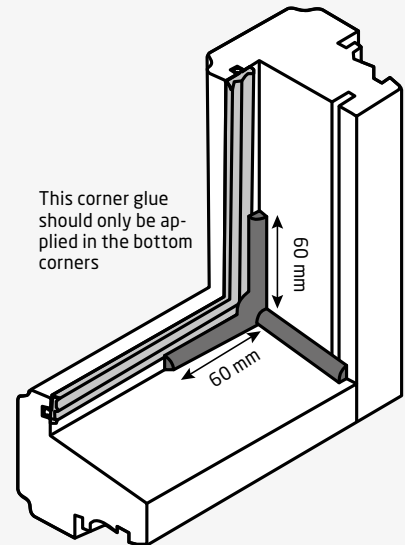


Applicable for all product types.

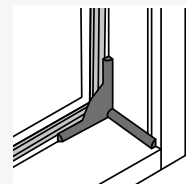


TIP: Apply a small spot of glue on the glazing bead tongue if required.

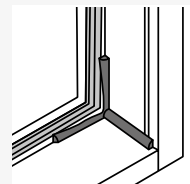
5



This corner glue should only be applied in the bottom corners

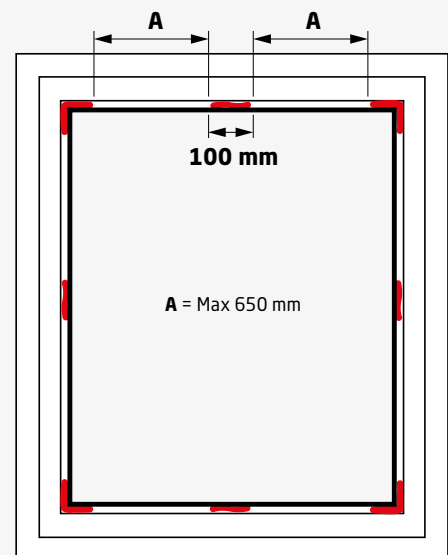


Too much sealant



Insufficient sealant

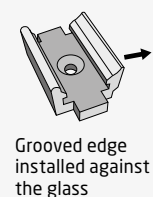
6



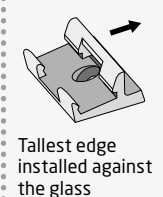
8



Clip type 1



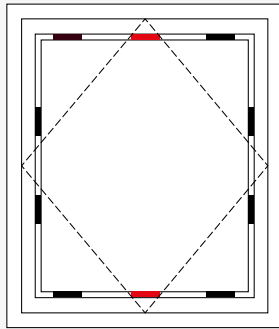
Clip type 2



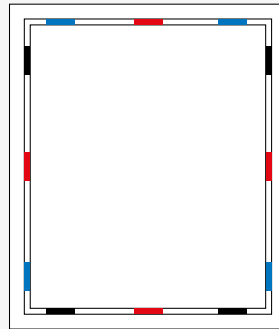
Fit the bottom bead clips, ensuring the clip faces the correct way as indicated.



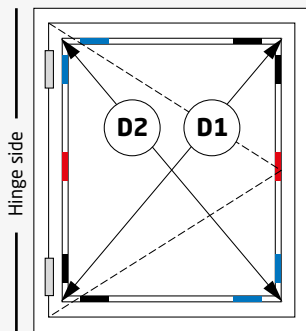
# GLAZING PACKER LOCATIONS



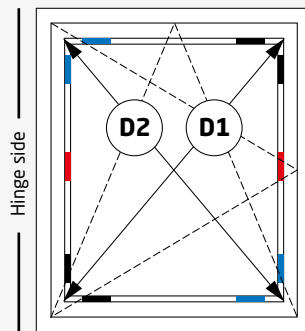
Fully reversible (TG, TY, TD)



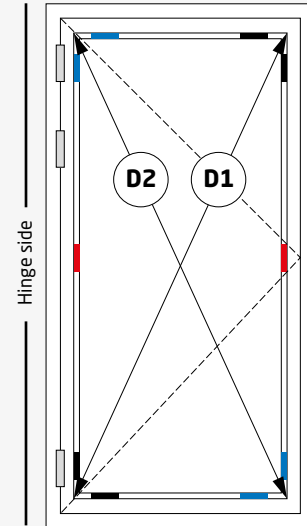
Fixed Frame (FA, TA)



Side hinged (TA)

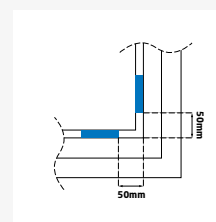
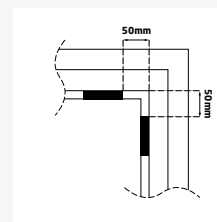


Tilt & Turn (ND, OD/ZD)



**Red** - Additional glazing blocks  
**Blue** - Location packer  
**Black** - Glazing block

**Black** - Glazing block - located between 50-100mm  
**Blue** - Location packer - Additional location packers - When glass height > 1300mm  
**Red** - Additional glazing blocks - When glass width > 1600mm



## Tolerance - Diagonal

- On side hung/hinged products 50kg  $\geq$  120kg the D1 Diagonal dimension from main hinged side  $D1 \geq D2$  but no more than 1mm.
- On side hung/hinged products  $\geq$  120kg the D1 Diagonal dimension from main hinged side  $D1 \geq D2$  but no more than 2mm.
- Number of additional glazing blocks depending on the size of the glass: fitted in the top, bottom & sides.
  - 1 additional glazing blocks to the glass size 1400-1800mm
  - 2 additional glazing blocks to the size of the glass 1800-2800mm
  - 3 additional glazing blocks to the size of the glass 2800-3800mm
  - 4 additional glazing blocks to the glass size 3800-5000mm



For side hung/hinged products when reglazing the last packer to be fitted must always be the bottom packer at the locking side, to guarantee D1 diagonal length.

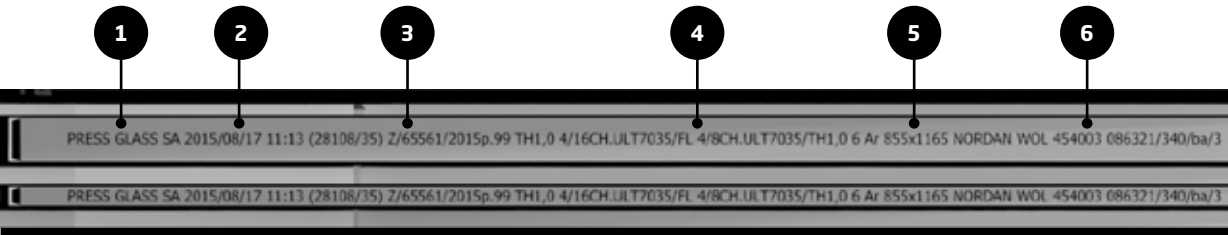
# GLAZING BAR DETAILS

Information text reads from Left to Right:

- 1. Manufacturer
- 2. Production Date and Time
- 3. Manufacturer internal product reference
- 4. Configuration
- 5. Size
- 6. Customer Data

If the unit ends in NORDAN and does not have the Purchase order number, line number, and position the information in numbers 2 – 5 is vital for us to trace back to the original order.

NOTE: Please ensure if you are requesting replacement glazing units. That the full “Glazing Bar Detail” is provided to your sales office or Customer service department.



PRESS GLASS SA

2015/08/17 11:13

(28108/35) Z/65561/2015p.99

1. Manufacturer

2. Production Date and Time

3. Manufacturer internal product reference

TH1,0 4/16CH.ULT7035/FL 4/8CH.ULT7035/TH1,0 6 Ar

855x1165

4. Configuration

4mm - 16mm spacer - 4mm - 8mm spacer - 6mm (Chromatech spacer RAL7035)

5. Size

6.A

6.B

6.C

6.D

NORDAN WOL

454003

086321

340/ba/3

6. Customer Name

Press glass internal reference number, PI order number, line, and position (Pane)

NORDAN WOL

454003

086321

340/ba/3

6.A Customer Name

6.B Press Glass in-ternal reference number

6.C PI order number

6.D Line -number and glass unit position

# INSTALLATION

**When installing and fixing NorDan windows, good site building practice should be employed at all times, including all Health & Safety observances. NorDan takes no responsibility for fitting carried out improperly by others.**

NorDan working methods and installation recommendations are based on the requirements featured in BS 8213-4: 2016, 'Code of practise for the survey and installation of windows and external doorsets' and GGF – Guide to good practise (Installation of replacement windows and doors – April 2016)

**Copies of the publications are obtainable from:**

Bsi, 389 Chiswick High Road  
London, W4 4AL  
Tel: 020 8996 9000  
Web: [www.bsigroup.com](http://www.bsigroup.com)

**Copies of publications are obtainable from:**

Glass & Glazing Federation  
54 Ayres Street  
London, SE1 1EU  
Tel: 020 7939 9101  
Web: [www.ggf.org.uk](http://www.ggf.org.uk)

NorDan recommend that all installers obtain copies of the publications and comply with them while following these manufacturers' recommendations.

NorDan products are made to a very high standard and it is essential that this is not compromised in the installation process. The suggestions and guidelines included in this leaflet are intended to help ensure that this does not happen.

Whether in the measurement, the sizing, the site handling and storage or the installation of NorDan windows, it is always preferable to employ good practices to ensure maximum satisfaction with the finished article.

We look upon our products, not as building components, but as high quality furniture to be carefully handled and installed at all times. This will ensure there are few maintenance problems during the product's lifetime which will consequently be a long one.

The following are some practical measures to help achieve this:

- Never install into an incomplete opening or a building without a fully installed, weather-tight roof.
- Store goods under cover in a dry and ventilated space until they are installed.
- Use soft packers to keep frames from rubbing or touching one another when in store.
- Handle the products like furniture. Wear clean gloves to protect the finish.
- Encourage other trades to respect and not abuse installed windows and doors.
- Follow all the guidelines in this leaflet.
- Protect the products after installation.

# MANUFACTURING SIZES

**When installing and fixing NorDan windows, good site building practice should be employed at all times, including all Health & Safety observances. NorDan takes no responsibility for fitting carried out improperly by others.**

## Calculating manufacturing sizes

Before adopting dimensions shown on architects' drawings to determine manufacturing sizes, consider the following:

- Tolerances within the openings to ensure windows / doors can be fit plumb and square leaving sufficient gaps for sealing / pointing
- Sufficient space at the bottom of the window to incorporate the NorDan extension cill (if required)
- It is strongly recommended that sizes are taken from prepared openings prior to production.

### TOLERANCES

Normally, a nominal gap of 10mm at either side and at the head of the frame is sufficient to allow a plumb & square fit and achieve a suitable sealed joint between frame and wall (see Fig1 and 2). Always avoid gaps of less than 5mm as this encourages capillary action of water and leaves insufficient space for a proper polyurethane foam fill.

### CILL CONSIDERATIONS

As there is a large variety of cill scenarios, it is advisable to consult your local NorDan office for advice on the appropriate tolerance and the most suitable aluminium extension cill. If the construction detail includes a cant brick then the chances are, a nominal tolerance of 6-7mm will ensure the cill detail works (see Fig3).

If the cill detail includes a flat surface then the threshold may need raising to allow for cill slope and reach perhaps by as much as 40mm or more (see Fig4).

Whatever the final solution is, deduct the required allowance for the cill detail from the overall height then apply a suitable fitting tolerance.

### FULLY REVERSIBLE WINDOWS

If you are fitting a fully reversible window behind a check in the outside skin of a cavity wall then the window should have no more than a 10mm 'cover' at the jambs and head to ensure the sash operation is not obstructed.

## Measuring and surveying

When surveying, measure old or new openings to establish both vertical, horizontal and diagonal measurements.

Outward opening windows

Diagonal measurement

Compare and adjust to the nearest squared size available.

### WIDTH

If the reveal is stepped by internal plaster and the new window is to butt up to the plaster then check the new window frame thickness. This ensures the sash will open outwards with no obstruction and determines the required width for manufacture.

### HEIGHT

Check the cill detail in accordance with the recommendations to establish the overall height tolerance required (see Fig. 4). Check that the trickle vent (if required) will be clear of ceiling plaster and if the internal lintel (soffite) is or will be tiled. Adjust the manufacturing height accordingly to ensure the trickle vent will operate freely.

Don't forget to make allowances for window boards, existing or proposed.

### INWARD OPENING WINDOWS

Diagonal measurement

Compare and adjust to the nearest squared size available.

### WIDTH

If the reveal is stepped by internal plaster and the new window is to butt up to the plaster then check the new window internal frame dimension to ensure the sash will open inwards without obstruction. Determine the required manufacturing width accordingly.

Where a wall is tiled and if the window is to be drawn in over the tiles then determine the required manufacturing width accordingly.

### HEIGHT

Check the cill detail in accordance with these recommendations to establish the overall height tolerance required.

Check the trickle vent (if required) will be clear of ceiling plaster and if the internal lintel (soffit) is or will be tiled. Adjust the manufacturing height accordingly to ensure the trickle vent will operate freely. Don't forget to make allowances for window boards, existing or proposed.

**NOTE:** Record all external and internal sizes so that all internal/ external finishing materials can be procured in time to ensure installation is fully completed on the day of installation.

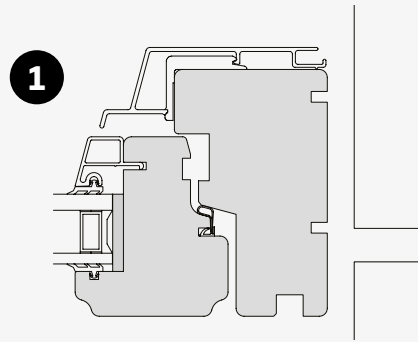


Fig1) Horizontal jamb fitting section

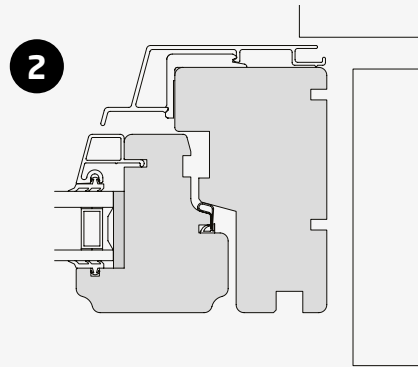


Fig2) Horizontal jamb with 'blink'

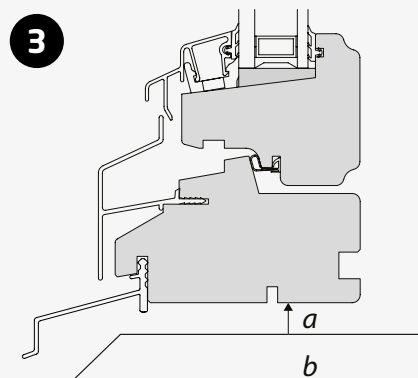


Fig3) a- For appropriate packing tolerances, please check with your architect or structural engineer  
b- Brick, stone and slate are all preferred solutions over timber

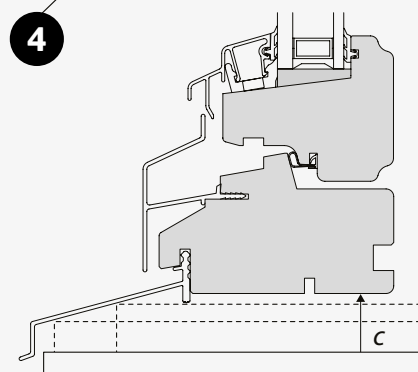
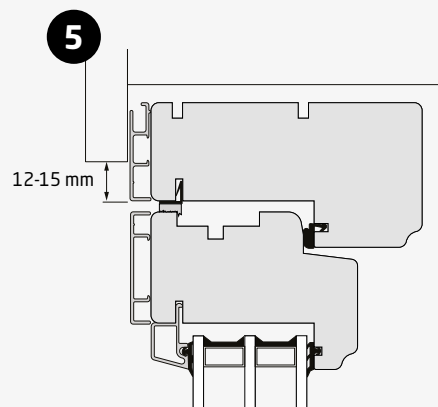


Fig4) Cill distance and height  
c- For appropriate packing tolerances, check with your architect or structural engineer



The TopTech hinge rotates in such a way that the head of the sash never projects into the property. Unlike many competitor hinges, the head stays within the frame until it reaches the midpoint, before rotating. Due to the rotational axis, the sash stays on the external side of the property, which ensures that the sash does not enter the property when putting the window into the cleaning position, which in turn means the sash does not clash with any internal blinds or objects, which may be placed on the windowsill board.

# DELIVERY, HANDLING AND STORAGE

## Delivery

NorDan products are delivered on timber-framed pallets, offloading to be completed by main contractor by either forklift truck or crane to ground level, site supervisor to be present for the delivery and to check all deliveries are correct and free from damage, any damages to be reported to NorDan within 24 hours.

Timber frame pallets are wrapped in plastic to protect from the sun and rain, product to be stored on a level surface, stored in a dry and ventilated location. stored in a cool dry ventilated area to avoid excessive moisture build up due to condensation, the polythene wrapping **MUST** be taken off the pallets.

Pallets must not be stored in standing water, any pallets kept outside for a long period must be covered with additional tarpaulin to protect from the weather.

Product must remain stored on pallets until installed, any product removed from their pallet must always be stored safely and supported, product must be lifted slightly off the floor with timber and braced accordingly, this can be completed by bracing product back to the structure with timber or ratchet straps.

Please refer to NorDan Storage and De Palletisation notes below.

## Storage

### SITE STORAGE

- The pallets should be stored in a dry ventilated area.
- The Polythene wrapping must be taken off the pallets to prevent the build-up of condensation on the windows.
- The pallets should be stored in an orderly fashion.
- The Installers / Contractor are responsible for goods once they are on site.
- Any top-heavy pallet must be braced as per (Pic 1).

### STRIPPING DOWN THE PALLETS

Never remove packing with tools working towards the inside or outside surfaces. Always remove staples and timber away from the exposed surfaces and by working against the hidden surfaces.

### LOADING OUT

Move windows from loading area by hand with use of pallet truck and /or trolley. **DO NOT LIFT WINDOWS OVER 25kg** without sufficient help.

### LOADING OUT / STACKING

The goods should not be stored in a way that abrasion, damage, or risk is possible. Windows must be stacked and protected carefully. The goods should only be stored with handles engaged (i.e. locked).

## Step 1

Position Pallet on Loading Bay or on level ground (See Pic 2). The pallet should be landed with sufficient space to enable operatives to safely walk around pallet.

## Step 2

All wrapping to be removed, and iron-mongery safely stored for future use if applicable. Bracing to be removed from side of pallet closest to building; Side Y as shown in (Pic 2).

## Step 3

Windows numbered in order of removal (See Pic 3). It is important that windows are removed sequentially from the base of the main brace as shown; Units 1-6. This ensures that all windows are removed in a safe fashion and that the pallet remains stable. NEVER remove fixings from the area highlighted in pink until ALL windows are removed and the pallet is ready to be disposed of. Ensure that weather conditions do not adversely affect the de palletising of products, especially when wind begins to increase.

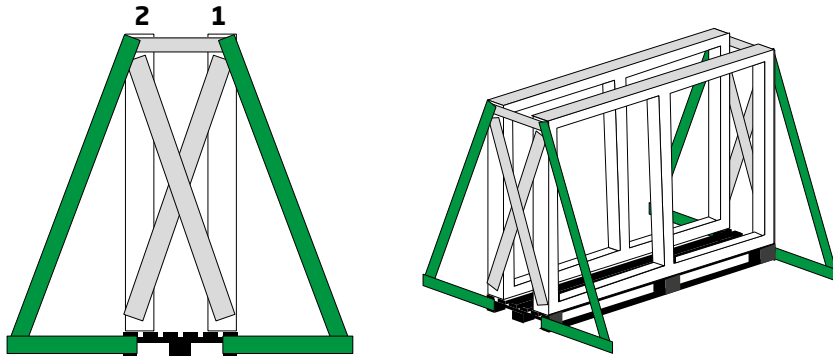
## Step 4

To be used with Patio Door or Top-Heavy Pallets (See Pic 1). Where pallets are top heavy or vulnerable to wind it is necessary to create a timber 'A Frame', highlighted in green. When removing Unit 1, please ensure you re-brace using the 'A Frame' method to prevent the pallet from overturning. This is for short term only. Where the product is going to be left unsupervised then it requires to be tied back to a secure structure

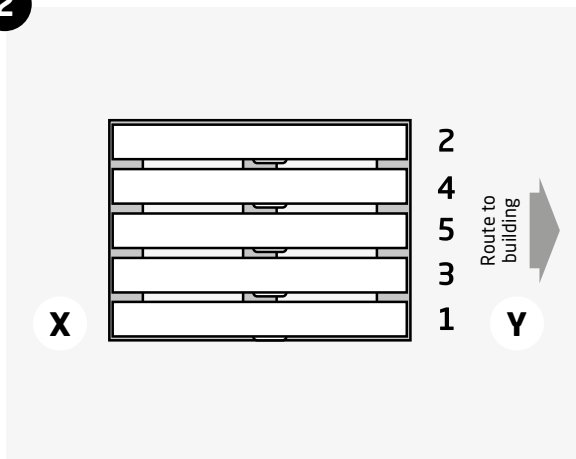


**Large Products** – Due to the size and weight of large windows and doors  
– A full manual handling assessment should be carried out

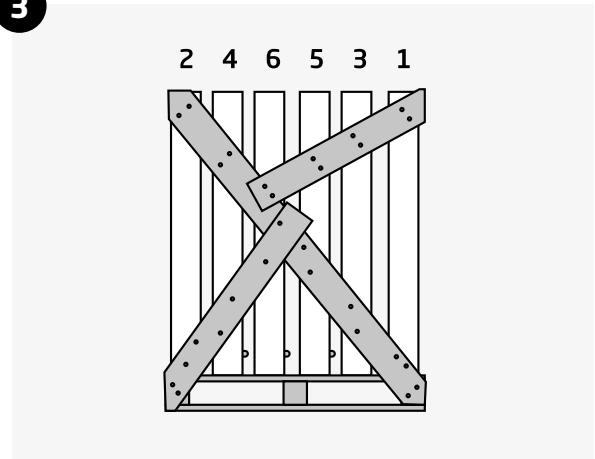
**1**



**2**



**3**



**DO NOT LIFT WINDOWS OVER 25kg without sufficient help.**

It is always good practice to get a breakdown of the weights of the windows/doors. 25kgs per man is the benchmark for manual lifting, however, this is not always practical.

## Lifting & Storage

NorDan pallets are suitable for the following offload:

### CRANE OFFLOAD (INC HIAB)

Only when going directly from the trailer to ground level and all H&S considerations (exclusion zones etc) have been put in place.

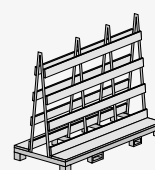
### FORKLIFT OFFLOAD

By competent, trained forklift operator.

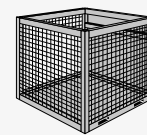
### CRANE TO HIGHER LEVELS

NorDan pallets are not deemed suitable for crane lifting and all such operations are carried out at risk of the client. Suggested methods to aid with safe lifting include:

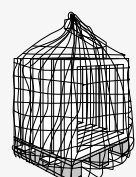
These are suggested methods only and the client will need to ensure that the method utilised complies with all current relevant regulations



Stillages



Cages



Safety Restrain Nets

# INSTALLATION PROCEDURES

## Removing old windows

For detailed information relating to the installation of replacement windows and doors, please contact the Glass and Glazing Federation: <http://www.ggf.org.uk/>

1. Make sure that each installation can start and finish as a single safe and efficient operation.
2. Never remove a window before checking the new window is of the right type and particularly THE RIGHT SIZE.
3. Always de-glaze before attempting to remove old window frames.
4. When levering against the building to prise window frames out, always use a timber block against the building to protect brick surfaces and avoid bricks breaking free.
5. Place all old glass immediately into a secure and safe container (bin box or dustbin with a lid only removed when needed).
6. Always remove windows while working in a protected area with a suitable floor covering to gather up loose or broken glass and other debris to reduce the risk of injury to you and others.
7. NEVER work without PPE

## Preparing the opening

Building in windows or doors is NOT RECOMMENDED by NorDan and will result in the withdrawal of the guarantee.

**Never install into an opening where the cill section (bottom) is damaged or missing. Neither install into an opening which is in any way incomplete.**

Always first clean and, if necessary, arrange for or carry out the repair of opening thresholds before installing.

### CILL PACKERS

When the opening is level and clean of debris, apply a mastic coating of sufficient thickness to lay the window or door-set on top to form a totally airtight and waterproof seal.

If the threshold surface is not level then apply a bed of mastic / foam sealant and lay packers as required to make level. If making level can be achieved by way of moderate use of packing then that will suffice and the installation may continue. When fixed, apply further mastic along the length to ensure a total seal as described above. Packers must be solid, rot proof, and of a size to maximise load transfer without any risk of the product dropping after installation.

If the installation requires a packer of whatever thickness then first ensure the threshold is clean of debris before applying a mastic or waterproof foam coating of sufficient thickness to lay the packer on to form a totally airtight and waterproof seal. Mastic the top and proceed accordingly. In such cases

the packer must be continuous and suitably treated against rot and decay. If necessary, additional small packers may be added to on top of the first packer as previously described.

## Aluminium extension cills

NorDan's aluminium extension cills attach directly to the threshold/cill section to divert water or moisture away from the fabric of the building.

Cills can be fitted after installation of the product. First, apply Soudal Fix All along the cill groove with 50mm strips applied every 500mm. To ensure the Soudal Fix All sets correctly with the cill in place, crimp the cill before fitting. This can be carried out by using a 14" brute wrecking bar and crimping the top of the cill as shown every 600mm with a quarter turn. Pre-crimped cills are also available from your nearest NorDan regional office upon request.



## Wedges

It is recommended that wedges are first used when setting the frame square and plumb prior to fixing. Ensure that the wedges are dry. Use two wedges (see Fig. 1) for each corner of the frame (see Fig. 2), this will apply an even pressure without twisting the frame.

Check the plane with other windows (before installing) and position the frame accordingly.

Wedges should never be used for the fixing of the window. Mechanical fixings should be used at all times. After packing and fixing, wedges should be removed.

## Packers

Packing alongside fixings must be of a size and shape to effectively transfer the fixing load into the main structure without twist or bow. Vary the thickness of packers to ensure the sides are plumb and square without causing twist or bow.

Before finally fixing the window frame into the opening, position the packers to create a secure fit. Two wedges should be used on each corner. Place the wedges only on the end grain. Pressure on the wedges should not be so great that the frame is forced to bow, twist or bend. Use only rot-proof packers. Do not force packers into the opening as this may cause distortion of the frame.

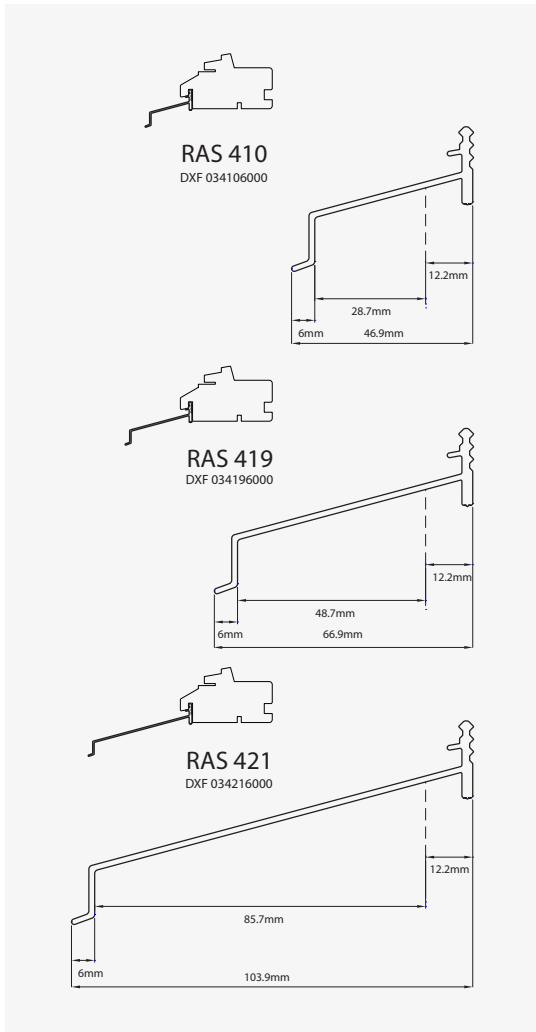
Use a continuous packer under the frame if required. The depth will vary depending on the sub-cill detail.

Where U shaped packers are required these may hang over the fixings but should provide a sufficient surface area to enable transfer of load.

## Fixings

As there are a variety of recommended installation procedures, NorDan offer the following recommendations:





- Fixings must be capable of transferring loads directly to the main structure
- Frames should be fixed square and without twist (to avoid 'springing and bowing')

### POSITION OF FIXINGS

Fix sides 150mm from the top and bottom and no more than 600mm apart (see Fig. 3). This will depend on the overall width of the window and degree of exposure. Head fixings may also be required. Please check with NorDan if you are uncertain. All fixing points must be packed.

### FRAME POSITIONING

For flush jambs, there should be a minimum distance of 25 to 35mm from the front of the frame to the brickwork face. In all cases, set the window as far back as possible for better weather performance.

In general windows fixings are required a minimum 25mm deep into sound material with door fixings comprising expanding bolts or other high grip devices 50mm deep. NorDan recommends all fixings are at least 50mm deep into the main structure excluding plaster.

### FIXING THE WINDOW (DIRECT FIXING)

Avoid drilling fixings in straight lines. Always stagger them across the depth of the frame to avoid the frame twisting.

- Use packers at the screw points to fill the tolerances between frame and wall.
- Drill through frame and packers to spread the load of the fixing screw, avoiding twist / bow of the frame with a depth of at least 50mm into solid brickwork or the main structure.
- Plug the drilled hole and screw. Fix and tighten.
- Check for twisting or bowing and adjust accordingly.

### HEAD AND CILL FIXINGS

Always apply a fixing in the head and cill if necessary, if the window exceeds 1200mm in width. Do not puncture water trays or DPCs! Employ a head and / or cill fixing also:

- If the opening is not sound
- Where window frames are coupled
- If the contractor's structural engineer recommends them
- When common sense and good building practise demand

If a window or door has an integral trickle vent, ensure that the head fixing does not cause any interference.

### STRAPS (INDIRECT FIXING)

If using straps, then only use a rust-proof metal of a size and dimension to ensure that weight / load distribution goes directly into the main structure see Fig. 4).

Always move fixing straps as necessary to avoid fixing in mortar joints or edges. The product loading MUST be transferred to the main structure with positive fixing.

Straps should be rust-proof, minimum 3mm thick, 30-50mm wide and long enough to ensure a secure fixing directly to the main structure. It is highly recommended that straps are not bent to shape but packed to create a secure fixing. In extreme circumstances, straps can be bent prior to fixing to the window. In all other cases, straps must be packed to ensure a correct fixing.



The above is for guidance only, all fixing details should be confirmed by your structural engineer.

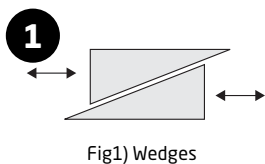


Fig1) Wedges

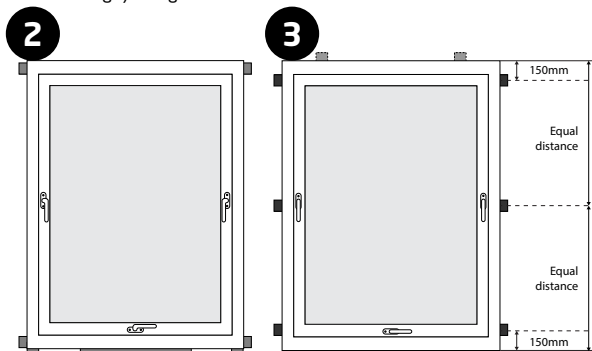


Fig2) Example of wedge positioning for windows

Fig3) Example of fixing positions for windows

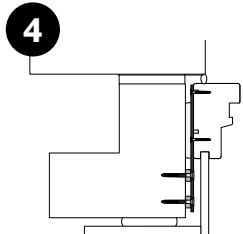


Fig4) Example of using straps for fixing windows

**IN ALL CASES OF FIXING**

Apply fixings only to the main structure and always into solid grounds (avoid mortar joints, brick or block edges). Employ direct fixing into the main structure in preference to back strapping if possible. Use appropriate fixings.

Pay particular attention to large windows and doors, where the weight of the opening sash or door leaf requires strong direct fixing to the main structure (the lack of which can be the cause of sash / door leaf dropping and subsequent misalignment [and failures] of multi-point locking). NEVER use flexible fixing straps (the most common cause of plaster cracking around installations and doors dropping!). Make sure the gap between the inside of the frame and opening light is equal all the way round after fitting. Check the opening light opens and closes easily during installation. Check again after installation.

**RECOMMENDED FIXINGS**

(Subject to any requirements of structural engineer)

**DIRECT FIXING WINDOWS  
OUTWARD OPENING**

Type: No. 8 with suitable size plug and type according to main structure.

Length: 75mm to 100mm unless otherwise required to reach 50mm depth into solid main structure (no near edge or mortar joints).

**INWARD OPENING**

Type: No. 8 with suitable size plug and type according to main structure. Length: 125mm to 150mm unless otherwise required to meet 50mm depth into solid main structure (no near edge or mortar joints).

**DIRECT FIXING DOOR SETS  
OUTWARD OR INWARD OPENING**

Type: Expanding bolts or other high grip devices with or without suitable size plug and type according to main structure. Length: As required to meet 50mm depth into solid main structure (no near edge or mortar joints). Always ensure that if a fixing is not immediately adjacent to the uppermost door hinge (within 50mm) then add an extra one (this is the most critical load point of any side hung door).

**FIXING STRAPS TO WINDOWS  
FIXINGS FOR STRAPS TO WINDOW FRAME**

Type: No. 8

Length: 30mm (or as required)

**WALL FIXING**

Type: 'Rawl' No. 8 or similar

Length: 80mm unless otherwise required to meet 50mm depth into solid main structure (no near edge or mortar joints).

**FIXING STRAPS TO DOORS**

Type: **NOT** recommended unless a Structural Engineer confirms suitability and specifies the fixings.

**COMPOSITE ASSEMBLIES (SCREENS)**

Type: Refer to a Structural Engineer.

**FOAM FILLING APPLICATION**

Fine spray all surfaces with water before using expanding foam (provides a better seal and helps the foam to go further). Use only polyurethane foam which must be applied in accordance with the manufacturer's recommendations. The foam provides the main thermal barrier and is therefore critical. Apply expanding filling foam to build up a barrier. Aim for a minimum 50mm thickness. Inject preferably from the inside. Check the foam around the packers for gaps after curing and fill them. Be prepared to brace goods to stop expansion. Remember; foam applied in the winter can re-activate in the spring! Take careful note of manufacturers recommendations.

Note: When foam is applied all straps must be securely fixed to NorDan's recommendations. If not, the frame may distort with the pressure of the applied foam.

**MASTIC APPLICATION**

Please note that these recommendations do not rely on mastic to form the main weather seal, which is provided by fire resistant polyurethane foam or similar material. The partially enclosed timber surfaces are allowed to 'breathe' and the air flow behind the mastic will create a self-draining, self-ventilated atmosphere.

**TORX REQUIREMENTS**

- For standard operations, the torx required are T15, T20 and T30.
- For lifting hinges on doors a T15 for the adjustment on the rest of the door hinge and a T20. For the fixing of the handle a T30 and to fit the lock cylinder a T20.
- To remove a door lock and refit, T20 is required.
- Fully reversible window adjustments need a T20 for the hinge and the handles.
- T20 is required for tilt and turn windows i.e. handles and removal of any components.
- T15 is required for all clips to hold bottom glazing bead in position.
- Sliding doors locks are fitted with T20 and bottom mechanism also requires a T30.
- One handle tilt and turn windows are mainly T20. Small adjust has a T15.



Position of fixings in line with industry guidelines.  
To be checked/certified by a structural engineer.

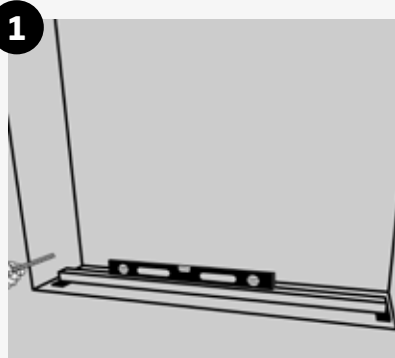
# INSTALLING WINDOWS

## HEALTH & SAFETY

Remember to always employ safe lifting methods and ensure the procedure is carried out in one simple operation

AS NHBC guidelines fixings set at 150mm from corner & at a max of 600mm centres

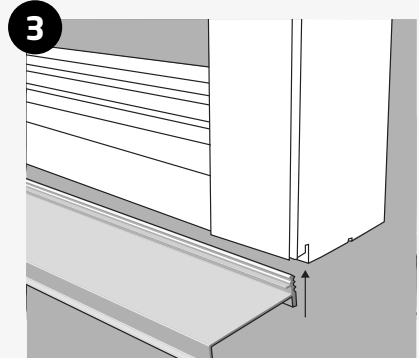
Transport packers must be removed before installation.



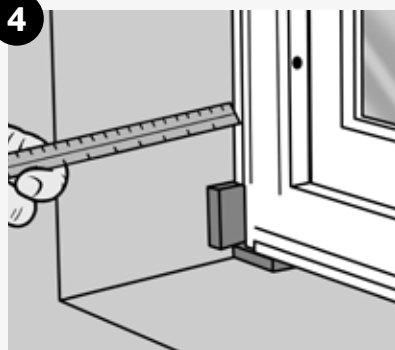
**1** Inspect opening  
Check that the opening is clear of debris and is structurally sound. Check that the measurements of the opening match the window for installation allowing for tolerances and that the opening is plumb and square



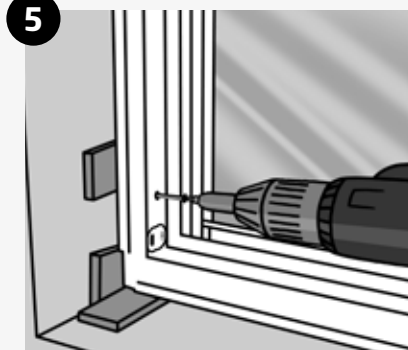
**2** Remove sash if the window is inward opening. It is not recommended that outward opening sashes are removed



**3** Fit aluminium extension cill (if applicable). Aluminium extension cills should first be crimped before fitting to the underside of the frame. Fix in place using recommended security glue and mechanical fixing



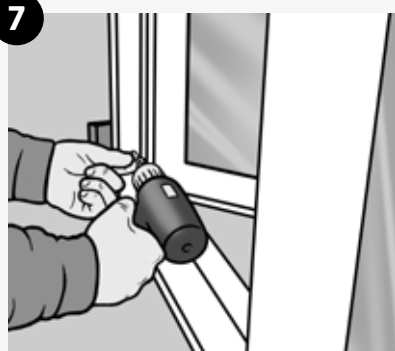
**4** Insert the window frame into the prepared opening using wedges for levelling purposes on the end grain. Do not force wedges into the gap in any other location as this may distort the frame



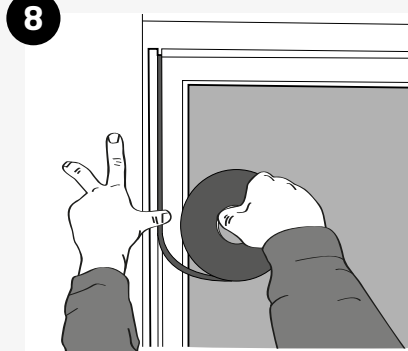
**5** Fix frame into opening  
The type of fixings (direct fixing or indirect fixing using straps) used to secure the frame is dependant on the structure of the building. Remove wedges after fixing



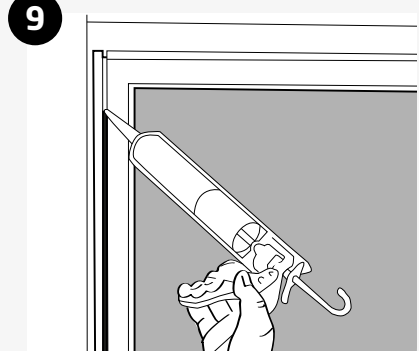
**6** Insert the sash into the frame and carefully apply downward force (for three handled and one handled tilt and turn windows depending on size). This will remove any slackness in the glass packing and fittings which effectively reduces future wear and tear



**7** Adjust fixings  
Adjust the fixings until the sash operates smoothly. Check that there is an even clearance between the sash and frame



**8** Apply expanding foam or foam tape (if applicable)  
Spray all surfaces with water before using expanding foam, ensuring any manufacturer guidelines are followed



**9** Apply mastic (if applicable)  
Apply an even bead of mastic around the window / wall junction or fit a cover facing if required



Frame jambs must be square and plumb in both directions and the diagonals should be identical – Check rebate widths are equal across the hinge and locking points

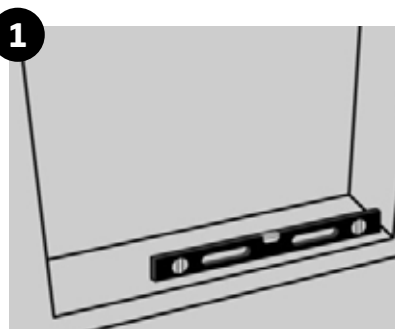
# INSTALLING SINGLE AND DOUBLE BALCONY DOORSETS

## HEALTH & SAFETY

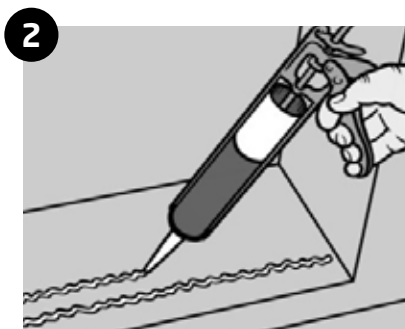
Remember to always employ safe lifting methods and ensure the procedure is carried out in one simple operation. Note: Where the main structure is incapable of taking the load or providing a secure permanent fixing, refer to the contractor or client. If the main structure is timber frame, check that it is fully treated and protected from swelling. Transport packers must be removed before installation.

## INSTALLATION CHECKS

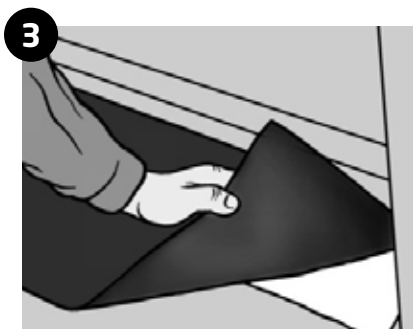
1. Frame jambs must be square and plumb in both directions and the diagonals should be identical.
2. Check the rebate widths are equal across the hinge and locking points.



**Inspect opening**  
Check that the opening is clear of debris and is structurally sound. Never install a door into an incomplete opening. Check that the measurements of the opening matches the door for installation, allowing for fitting tolerances and that the opening is plumb and square



**Prepare floor**  
The floor should be flat and level with the door width. Use mastic between the door cill and underside of the door threshold to ensure a good seal



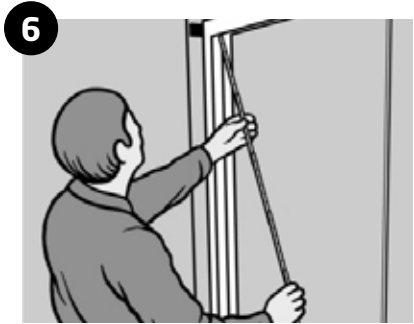
If the base is of a concrete construction, a DPC must be placed under the whole length of the threshold. Place door onto a bed of mastic



**Remove door from frame**  
Do not attempt this on your own. Observe health and safety guidelines at all times. Remove door from frame by opening to approx 300mm then lift door leaf up and out. Store safely



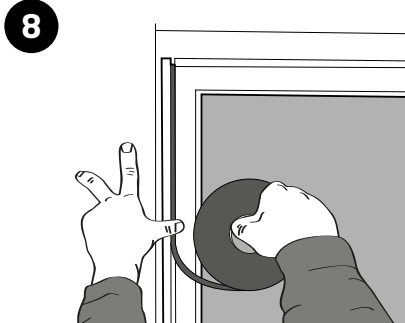
**Place the frame in the opening, securing firstly with rot-proof dense wedges**



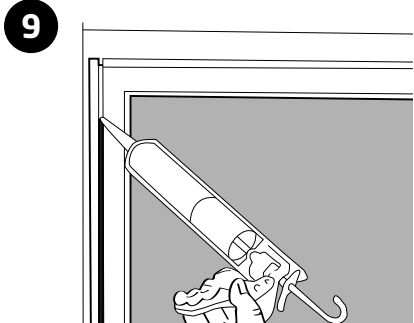
**Make sure the frame is level and plumb without twist. The frame must be level both ways before it is fastened with screws. Note: For timber frame, fix 38 x 50mm fire-stops to top and both sides. Screw through the fire-stops onto the timber frame**



**Check levels and fixings**  
Refit the door and re-fasten all the screws checking that fixings are the correct distance apart



**Apply expanding foam or foam tape (if applicable)**  
Spray all surfaces with water before using expanding foam, ensuring any manufacturer guidelines are followed



**Apply mastic (if applicable)**  
Apply an even bead of mastic around the window / wall junction or fit a cover facing if required

# INSTALLING SINGLE SLIDING DOORSETS

## HEALTH & SAFETY

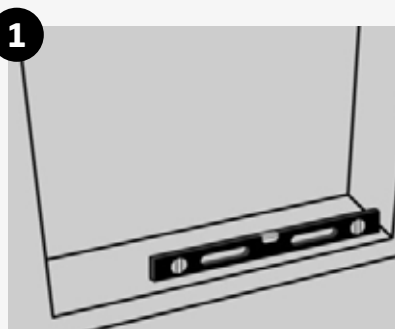
Remember to employ safe lifting methods at all times and ensure the procedure is carried out in one simple operation.

Transport packers must be removed before installation.

Point 5 – AS NHBC guidelines fixings set at 150mm from corner & at a max of 600mm centres

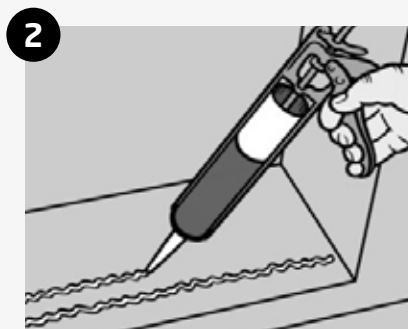
## INSTALLATION CHECKS

1. Sliding doorsets have no manual adjustment the threshold **MUST** be fully supported across the width of the product and should also supported at the front external edge of the threshold
2. Attention must be paid to supporting the centre mullion
3. Threshold to be packed and check for level at every 300mm



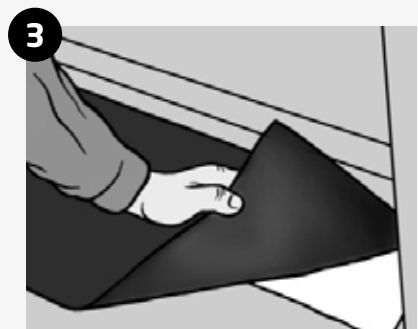
### Inspect opening

Check that the opening is clear of debris and is structurally sound. Never install a door into an incomplete opening. Check that the measurements of the opening matches the door for installation, allowing for fitting tolerances and that the opening is plumb and square



### Prepare floor

The floor should be flat and level with the door width. Use mastic between the door cill and underside of the door threshold to ensure a good seal

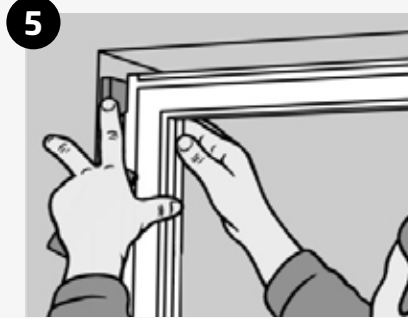


If the base is of a concrete construction, a DPC must be placed under the whole length of the threshold. Place door onto a bed of mastic

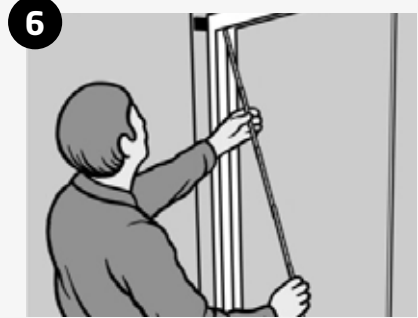


### Remove door from frame

Do not attempt this on your own. Observe health and safety guidelines at all times. Remove door from frame by opening to approx 300mm then lift door leaf up and out. Store safely



Place the frame in the opening, securing firstly with rot-proof dense wedges

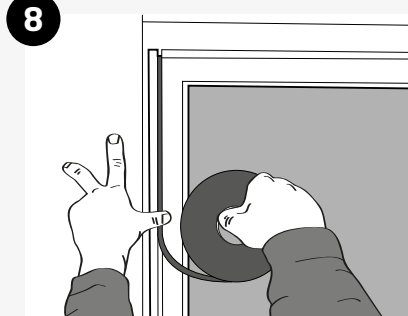


Make sure the frame is level and plumb without twist. The frame must be level both ways before it is fastened with screws. Note: For timber frame, fix 38 x 50mm fire-stops to top and both sides. Screw through the fire-stops onto the timber frame

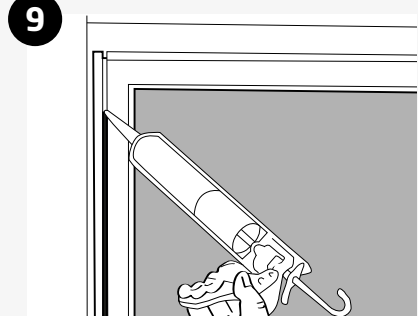


### Check levels and fixings

Refit the door and re-fasten all the screws checking that fixings are the correct distance apart



Apply expanding foam or foam tape (if applicable) Spray all surfaces with water before using expanding foam, ensuring any manufacturer guidelines are followed



### Apply mastic (if applicable)

Apply an even bead of mastic around the window / wall junction or fit a cover facing if required

## Installing external entrance doorsets

In order for a door to work in the way it was designed to do and to avoid it becoming warped and draughty it must be mounted in the correct way. These instructions describe the main elements involved in mounting your NorDan external entrance doorset. The most important element is that you are careful and not in a hurry.

Our installation instructions are based on professional industrial guidelines and recommendations and we urge you to follow them. NorDan will provide a faultless and complete product but the way in which the product is installed is your responsibility or the people working on your behalf. Certain circumstances may arise which only a trained installer can make decisions about on site.

If you have not checked the measurements beforehand do it now: the measured space in the wall will be the outer frame measurement (the exact measurement of the door) plus between 10 and 20 mm on the width and height.

All door frames can be pre-drilled if requested to ensure site fittings with appropriate screw fixings. Remember to choose a retaining screw that matches your wall, see below:

- **In wood**

Drill hole for fixings screws spaced at 600mm centres max., and 300mm from each corner. Use screws, Adjufix or other adjustable fixings to securely fix the frame.

- **In concrete**

Drill hole for fixings screws spaced at 600mm centres max., and 300mm from each corner. Fix the frame by screwing it in to pre-embedded blocks or strips of wood, or with expanding anchor fixings directly into the concrete. Frames which are installed with insulation material must be secured with minimum of 1,5 X 25mm steel plates. The steel plates must be hot-dip galvanized and checked by your structural engineer.

### **IN BRICKWORK, CONCRETE BLOCKWORK OR THE LIKE:**

Drill hole for fixings screws at 600mm centres max., and 300mm from each corner. Fix the frame by screwing into wooden wedges driven into the joint between the bricks/blocks, or into fibreboard placed in the joints, or with expanding anchors. Wedges and boards should have a width of 20mm less than the frame depth. Boards must not be embedded in mortar.

### **IN LIGHTWEIGHT CONCRETE BLOCKWORK OR THE LIKE:**

Drill hole for fixings screws at 600mm centres max., and 300mm from each corner. Fix the frame by nailing it directly into the lightweight concrete, if the lightweight concrete has a density of 500kg/m or higher, with cut nails or lightweight metal nails.

The nails shall be spaced at maximum of 600mm between the nails and 300mm from each corner.

Use expanding anchors and screws in lightweight concrete with a density of less than 500kg/m.

## Double door installation

For double doors the top section of the frame may need additional securing. The threshold of double doors has an adjustable strike plate that can be adjusted to provide the desired closing pressure for the passive door. This might also have to be adjusted if vibrations occur when closing the active door. Use a 14-mm Allen key for adjustments. In order for the lock to function properly make sure that both doors are correctly adjusted laterally.

The door must move freely in its frame – otherwise continue to make adjustments! The door leaves in double doors or garage doors must not touch each other either.

Note: Do not use façade tape when covering doors with plastic during façade cleaning. Use masking tape with low adhesive strength and remove immediately when the work is completed.

### **JOINING AND CAULKING**

The installation joint between frame and wall must have the same properties as the wall and should therefore be built using the same basic principles. These principles are based on a so-called two-stage sealing process, which involves waterproofing on the outside and draught sealing on the inside in separate layers. The installation joint must also be thermally insulated to minimise heat loss and to protect against condensation. When completed the joint between frame and wall shall provide: Protection against rain and wind, ventilation and drainage on the outside.

Thermal insulation and air noise insulation through the centre of the joint.

Air-tightness, vapour proofing and air noise proofing through the room side of the joint (including fireproofing with regard to fireproof windows).

Use a caulking material that does not absorb moisture. Press the caulking material gently into the joint from the inside. Do not caulk so hard that the sides of the frame buckle inwards.

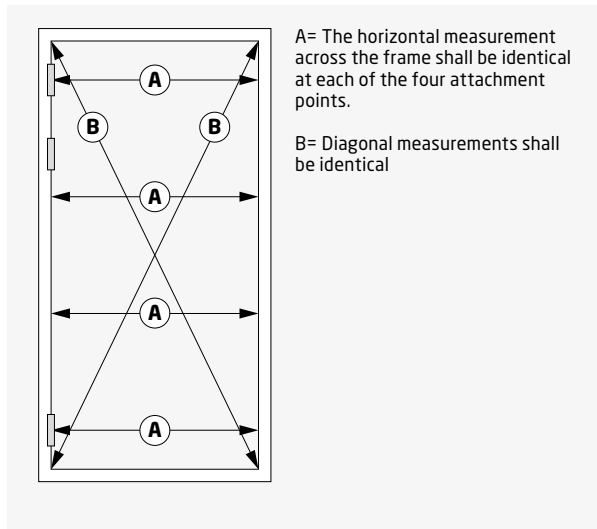
### **FIXING SIDELIGHTS**

For information relating to fixing sidelights, refer to site couplings within this document.

### **SINGLE DOORS ARE EQUIPPED WITH A THREE POINT ESPAGNOLETTE AND DEAD BOLT.**

To make sure that the door and the espagnolette/lock will operate properly it is important to assemble the door correctly.

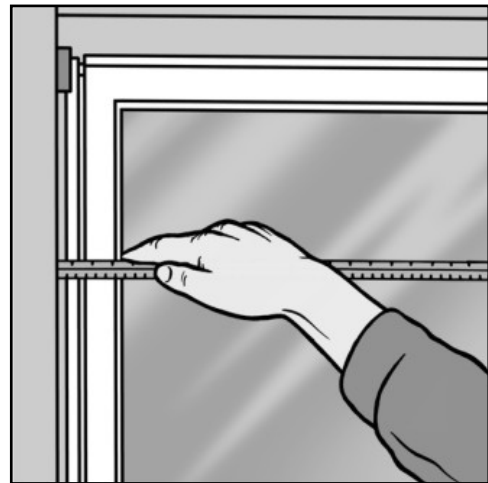
Before hanging the door leaf check that the measurements match those on the diagram below:



NOTICE: When mounting the door leaf it must be adjusted to achieve a smooth locking mechanism and secure door. The door leaf has been pre-adjusted at the factory but fine adjustments may need to be made in situ. Check all measurements before starting to adjust the hinges. The distance between the door leaf and the side of the frame should be approximately 2.5-3 mm. The distance between the lintel and the upper edge of the door leaf should be approximately 2 mm.



Frame jambs must be square and plumb in both directions and the diagonals should be identical.



Check the rebate widths are equal across the hinge and locking points.

## EPDM INSTALLATION

Internal and external membranes should be bonded to the frame and structure in the following sequence,

1. Cill section
2. Vertical jambs
3. Head section

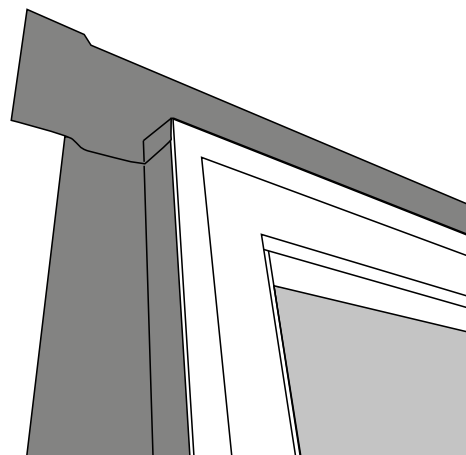
By following this application series this now forms the correct run off for water.



Play close attention to the corners of the membrane as these are weak points for water ingress, apply additional adhesive in the corner areas.



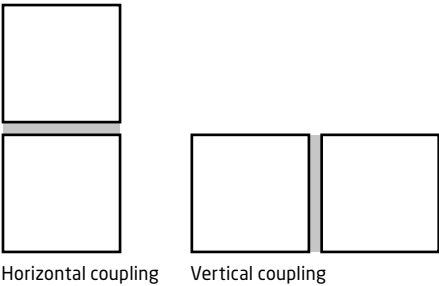
Please always follow the recommended manufacturer installation guidelines for EPDM product.



# SITE COUPLING

All NorDan windows and doors including sidelights for external doorsets can be coupled together to form a single unit for larger glazed areas in a construction.

It is important that the correct fixings are used, along with any required reinforcements and stability requirements. NorDan therefore recommend a qualified structural engineer is consulted before any such works are carried out.



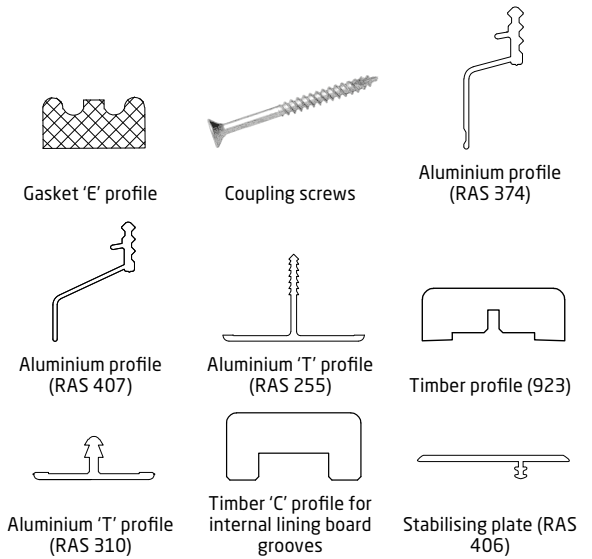
If specified at the time of ordering, coupling kits can be delivered along with your products, contents of which depends on what products are being coupled.

## COMPOSITE ASSEMBLIES

For composite assemblies that may require steel reinforcement, please consult your nearest NorDan UK regional office.

|   | Timber horizontal coupling | Timber vertical coupling | Aluminium clad horizontal coupling | Aluminium clad vertical coupling |
|---|----------------------------|--------------------------|------------------------------------|----------------------------------|
| Gasket 'E' profile 5x10mm   | ✓                          | ✓                        | ✓                                  | ✓                                |
| Coupling screws 6x70mm, Torx 30 head  | ✓                          | ✓                        | ✓                                  | ✓                                |
| Aluminium profile (RAS 374)   | ✓                          | X                        | X                                  | X                                |
| Aluminium profile (RAS 407)   | X                          | X                        | ✓                                  | X                                |
| Aluminium 'T' profile (RAS 255)   | X                          | X                        | X                                  | ✓                                |
| Timber profile (923)  | ✓                          | ✓                        | ✓                                  | ✓                                |
| Aluminium 'T' profile (RAS 310)   | *                          | *                        | *                                  | *                                |
| Timber 'C' profile for internal lining board grooves                                | *                          | *                        | *                                  | *                                |
| Stabilising plate (RAS 406)   | *                          | *                        | *                                  | *                                |
| Glazing packers (2mm spacers)   | *                          | *                        | *                                  | *                                |
| Fixing hole covers (white for white products and transparent for coloured products) | *                          | *                        | *                                  | *                                |

- ✓ Supplied as standard
- X Unavailable
- \* Available on request but recommended

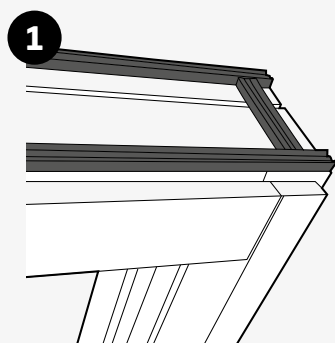




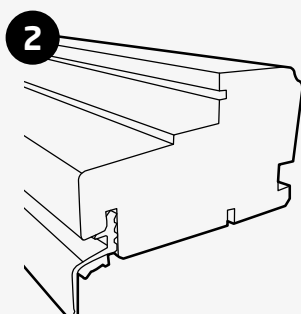
# SITE COUPLING: HORIZONTAL

Please note that the following illustrations are for guidance only and do not take into account:

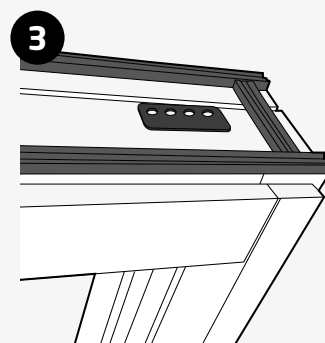
- Location and number of screw positions
- Load bearing fixings
- Tight weatherproof connections
- Consideration for size and location of the couplings for required fixings



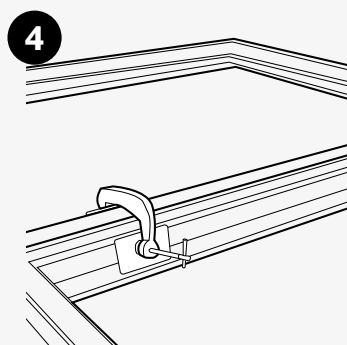
Fix sealing strip as shown to the side of one of the units being coupled



If products are aluminium clad, pin aluminium profile (RAS 255) in place



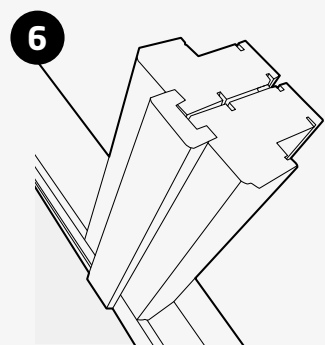
If available, fix 2mm spacers at the top and bottom at intervals of no more than 500mm apart in between



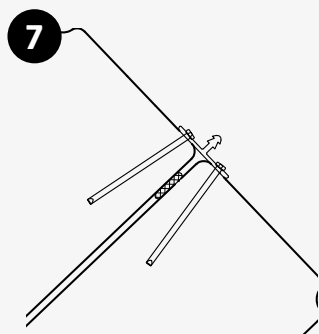
Align the products to be coupled then clamp together- taking care not to damage the surface of the product



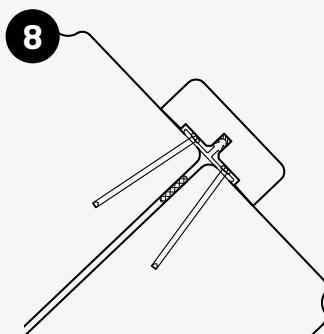
Pre-drill and countersink holes then fix, with one screw 100mm from each end and spaced no more than 500mm apart in between, checking units are straight and level



If lining boards grooves are present, tap timber coupling cover in place and fix with glue or pin



If lining board grooves are not present, pin aluminium profile RAS310 at the centre of the coupling joint

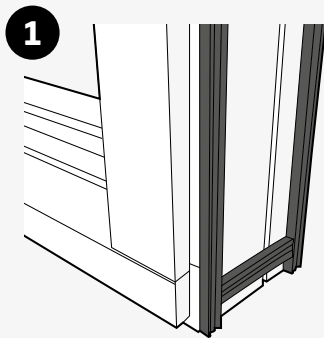


Fit the timber cover over the aluminium RAS 310 T section and secure with adhesive. For non-aluminium clad products, fit further timber cover strip to the external face of the coupling joint by pinning

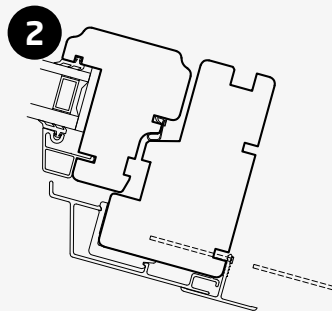
# SITE COUPLING: VERTICAL

Please note that the following illustrations are for guidance only and do not take into account:

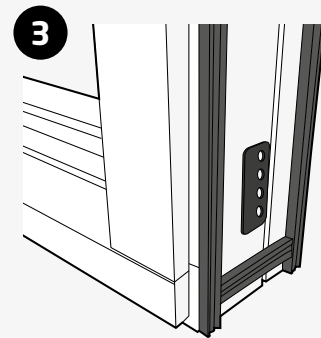
- Location and number of screw positions
- Load bearing fixings
- Tight weatherproof connections
- Consideration for size and location of the couplings for required fixings



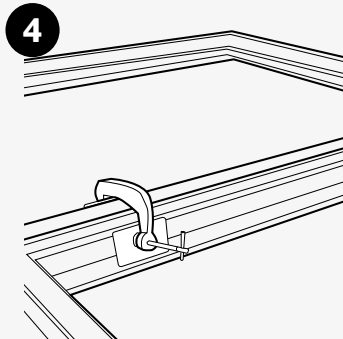
Fix sealing strip as shown to the side of one of the units being coupled



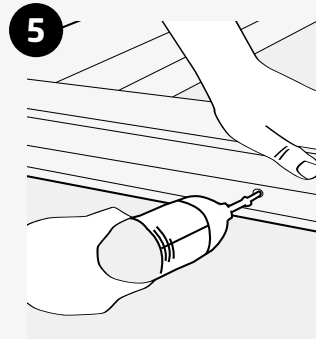
If products are aluminium clad, pin aluminium profile (RAS 255) in place



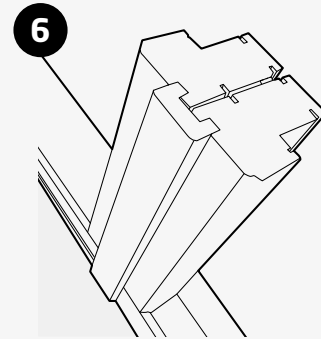
If available, fix 2mm spacers at the top and bottom at intervals of no more than 500mm apart in between



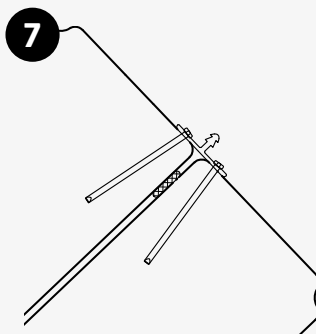
Align the products to be coupled then clamp together- taking care not to damage the surface of the product



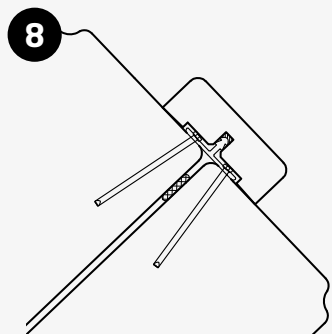
Pre-drill and countersink holes then fix, with one screw 100mm from each end and spaced no more than 500mm apart in between, checking units are straight and level



If lining boards grooves are present, tap timber coupling cover in place and fix with glue or pin



If lining board grooves are not present, pin aluminium profile RAS310 at the centre of the coupling joint



Fit the timber cover over the aluminium RAS 310 T section and secure with adhesive. For non-aluminium clad products, fit further timber cover strip to the external face of the coupling joint by pinning

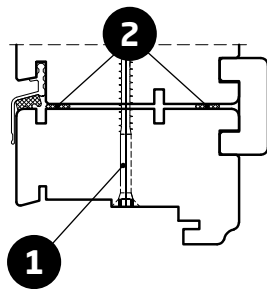
# SITE COUPLING GLAZED: HORIZONTAL

It is important that the correct fixings are used, along with any required reinforcements and stability requirements. NorDan therefore recommend a qualified structural engineer is consulted before any such works are carried out

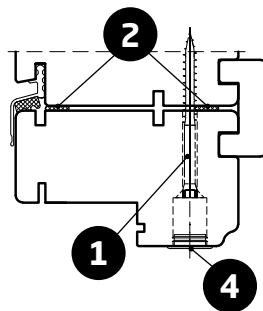
Please note that the following illustrations are for guidance only and do not take into account:

- Location and number of screw positions
- Load bearing fixings
- Tight weatherproof connections
- Consideration for size and location of the couplings for required fixings

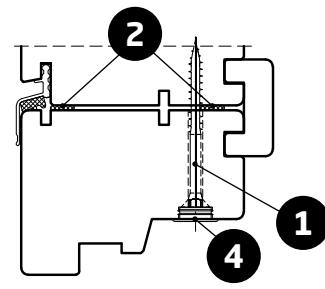
## TIMBER



Outward opening products

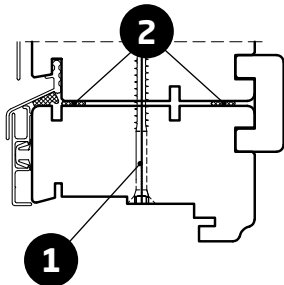


Fixed products

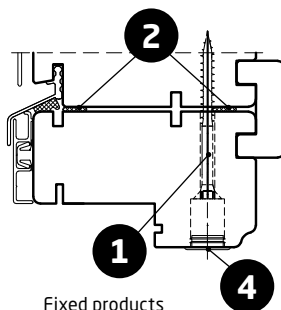


Inward opening products

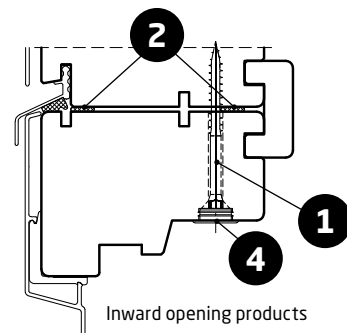
## ALUMINIUM



Outward opening products



Fixed products



Inward opening products

## HORIZONTAL FIXING REQUIREMENTS

Frames  $\geq 588\text{mm}$  – 2 screws

Frames  $\geq 588$  to  $988\text{mm}$  – 3 screws

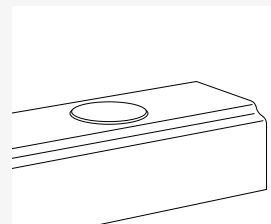
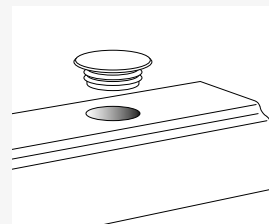
Frames  $\geq 988$  to  $1488\text{mm}$  – 4 screws

Frames  $\geq 1488\text{mm}$  – 5 screws

## ITEM REFERENCE - VERTICAL

- 1 6 x 70mm screw – positioned internally
- 2 5 x 10mm sealing gasket
- 4 Cover caps – available to colour match

## COVER CAP



## Available to colour match

- |                        |          |
|------------------------|----------|
| 1. White               | 4. Red   |
| 2. Transparent/frosted | 5. Blue  |
| 3. Brown               | 6. Green |

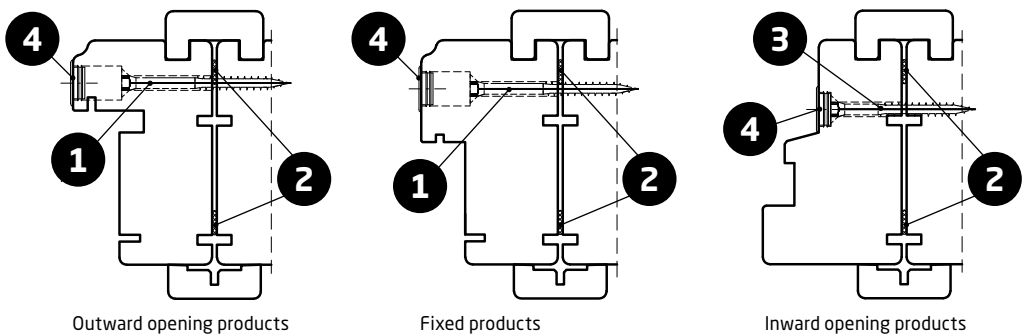
# SITE COUPLING GLAZED: VERTICAL

It is important that the correct fixings are used, along with any required reinforcements and stability requirements. NorDan therefore recommend a qualified structural engineer is consulted before any such works are carried out

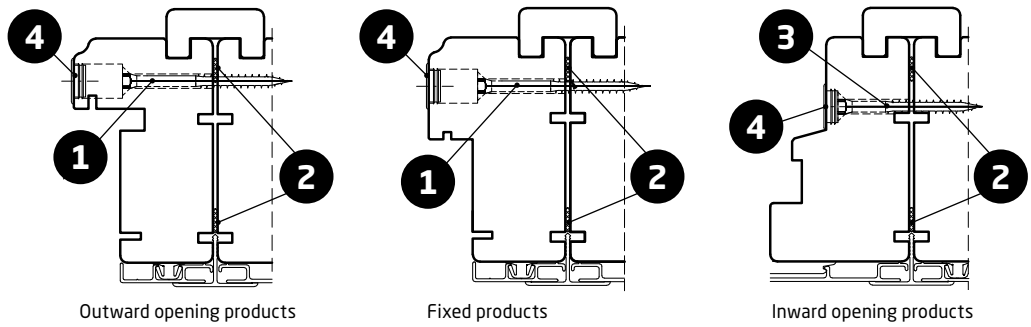
Please note that the following illustrations are for guidance only and do not take into account:

- Location and number of screw positions
- Load bearing fixings
- Tight weatherproof connections
- Consideration for size and location of the couplings for required fixings

## TIMBER



## ALUMINIUM CLAD



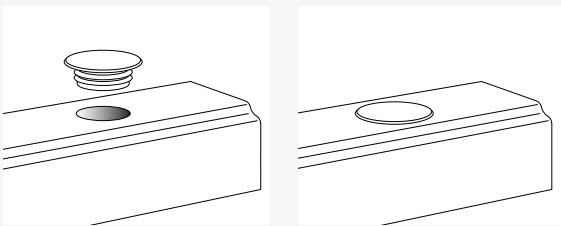
### VERTICAL FIXING REQUIREMENTS

- Frames  $\geq 588\text{mm}$  – 2 screws
- Frames  $\geq 588$  to  $988\text{mm}$  – 3 screws
- Frames  $\geq 988$  to  $1488\text{mm}$  – 4 screws
- Frames  $\geq 1488\text{mm}$  – 5 screws

### ITEM REFERENCE - VERTICAL

- 1 6 x 70mm screw – positioned internally
- 2 5 x 10mm sealing gasket
- 3 6 x 60mm screw – positioned internally
- 4 Cover caps – available to colour match

### COVER CAP



### Available to colour match

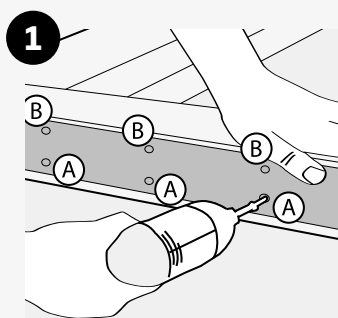
- |                        |          |
|------------------------|----------|
| 1. White               | 4. Red   |
| 2. Transparent/frosted | 5. Blue  |
| 3. Brown               | 6. Green |

# SITE COUPLING: STEEL INTEGRATION

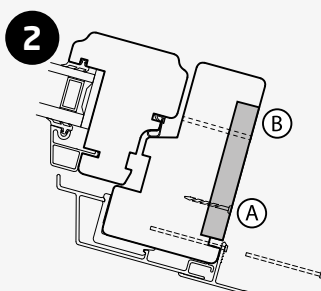
Please note that the following illustrations are for guidance only and do not take into account:

- Location and number of screw positions
- Load bearing fixings
- Tight weatherproof connections
- Consideration for size and location of the couplings for required fixings

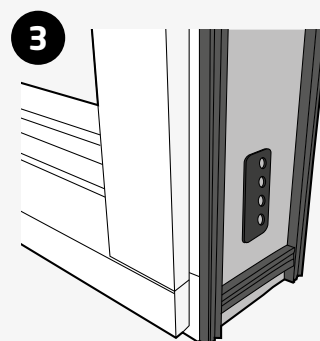
All structural steel including any support brackets and fixings to engineer's project specific specification and details.



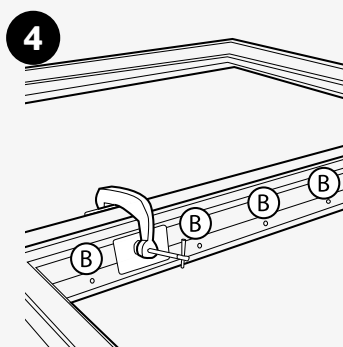
Place reinforcing steel in window rebate. Fix in place with specified screw at specified centre positions (A)



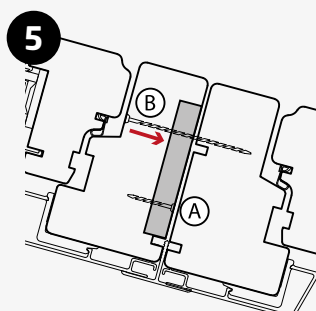
Drill pilot hole through steel plate and through window frame as shown for position (B). If products are aluminium clad, pin aluminium profile (RAS 255) in place



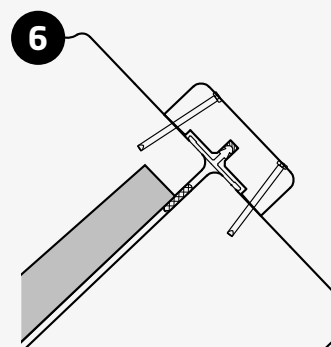
On adjacent frame, fix gasket to edge, top and bottom as shown. If available, fix 2mm spacer at top and bottom and at subsequent 500mm centres.



Align the products to be coupled then clamp together- taking care not to damage the surface of the product



Secure with specified fixing at position (B)



Fit timber cover over the aluminium RAS 310 T section and secure with adhesive. For non-aluminium clad products, fit further timber cover strip to the external face of the coupling joint by pinning

# CUSTOMER SERVICES

**WHO WE ARE?**

Our Customer Service Department has been established to complement our sales, project, and site teams. They are responsible for the management of any defects raised during the warranty period.

**HOW TO REPORT DAMAGE**

Any damages/shortages must be reported verbally to Site Service Coordinator in relevant office within 48 hours of delivery. NorDan UK will not accept 'unchecked' on POD. Any damage/shortages should be highlighted on the delivery note. Any report of damages/shortages received after this timescale may result in chargeable replacements.

# HOW TO REPORT A COMPLAINT - CUSTOMER SERVICE FOR HOUSE BUILDERS

**CUSTOMER SERVICES DIRECT**

Monday - Thursday 08.00 - 16.00  
Friday 08.00 - 15.30  
Saturday & Sunday Closed  
Phone: Livingston - 01506 449 197  
Aberdeen - 01224854633  
Email: customer.service@nordan.co.uk  
service.aberdeen@nordan.co.uk

**MAILING ADDRESS**

*Head Office -*  
**NorDan UK Ltd**  
3 Almondview Office Park  
Livingston  
EH54 6SF

*Aberdeen Office -*  
**NorDan UK Ltd**  
Norse House  
Greenwell Road  
East Tullos  
Aberdeen  
AB12 3AX

To ensure that we can deliver a first time and prompt response to each defect reported, our Customer Service Team request you provide the following information:

- Clients' details: Name, address, postcode, email & telephone number
- Full glazing bar detail and [or] door label (example attached) for each product issue
- Type of product: door / window /inward or outward opening /sliding door or fixed light
- Handles are they lockable / non-locking?
- Location of product / first floor/level etc.
- 3 pictures and any videos which may assist us to recognise the issue

When reporting product faults, as much information as possible must be provided ideally with the original Sales Order/Invoice Number so that original order can be traced.

**GLAZING BAR DETAILS  
SEE PAGE 76**

PRESS GLASS SA 2015/08/17 11:13 (28108/35) Z/65561/2015p.99 TH1,0 4/

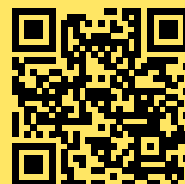
PRESS GLASS SA 2015/08/17 11:13 (28108/35) Z/65561/2015p.99 TH1,0 4/

# NORDAN UK WARRANTIES

**Find our warranties on-line.  
Follow the QR-code or type in  
[nordan.co.uk/warranty](http://nordan.co.uk/warranty).**



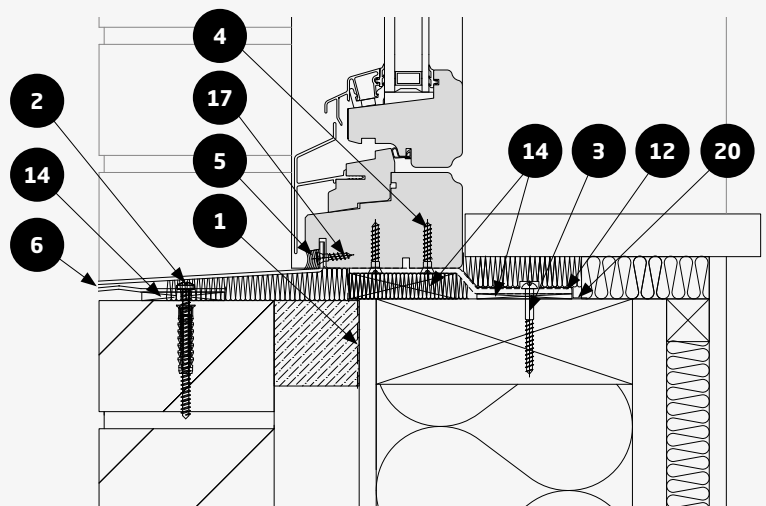
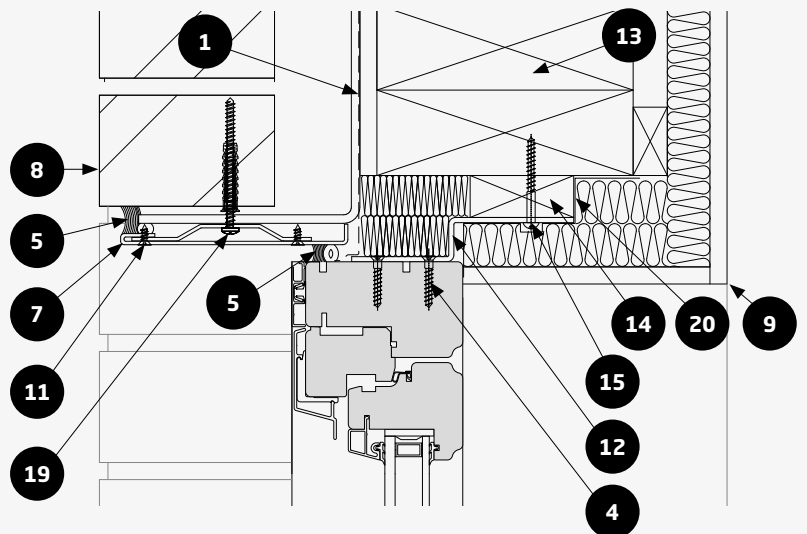
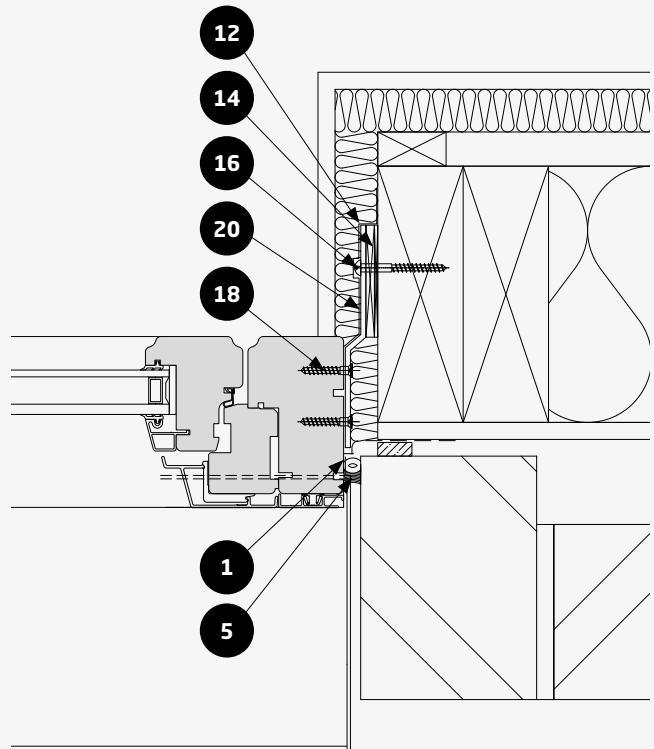
**FOR MORE DETAILS VISIT:  
[NORDAN.CO.UK/WARRANTY](http://NORDAN.CO.UK/WARRANTY)**



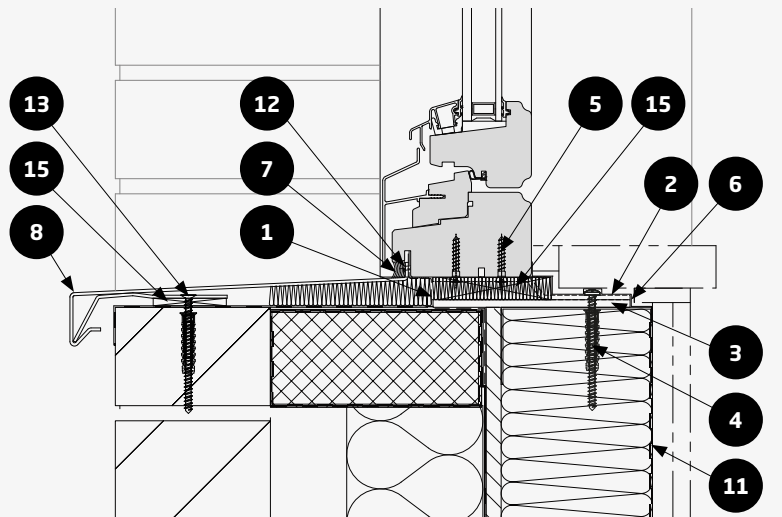
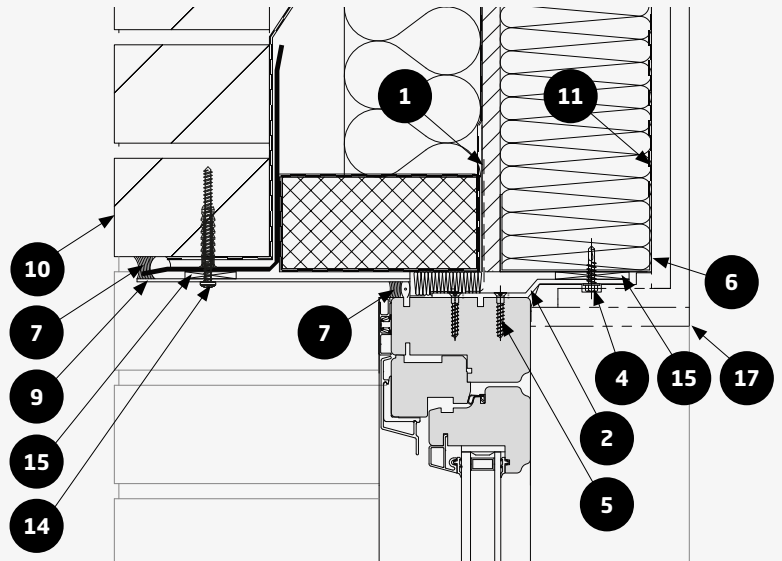
# GENERIC INSTALLATION DETAILS

## Brick/Timber

1. EPDM by others
2. Sill wind clip fixing as per engineer's calculations
3. Bracket fixing as per engineer's calculations
4. Wood screw as per engineer's calculations
5. Backing rod and silicone or compriband by others
6. Sill flashing by others
7. Head flashing by others
8. Brick external leaf
9. Internal finish by others
10. Bracket fixing as per engineer's calculations
11. Fixing screw by installer
12. Galvanized cranked fixing bracket by others fixed @ 150mm from-corners and max 600mm centres
13. Timber internal leaf
14. Packer by installer
15. Bracket fixing as per engineer's calculations
16. Bracket fixing as per engineer's calculations
17. Sill fixing by installer
18. Wood screw as per engineer's calculations
19. Flashing fixing by installer
20. Air tape (VCL) by others

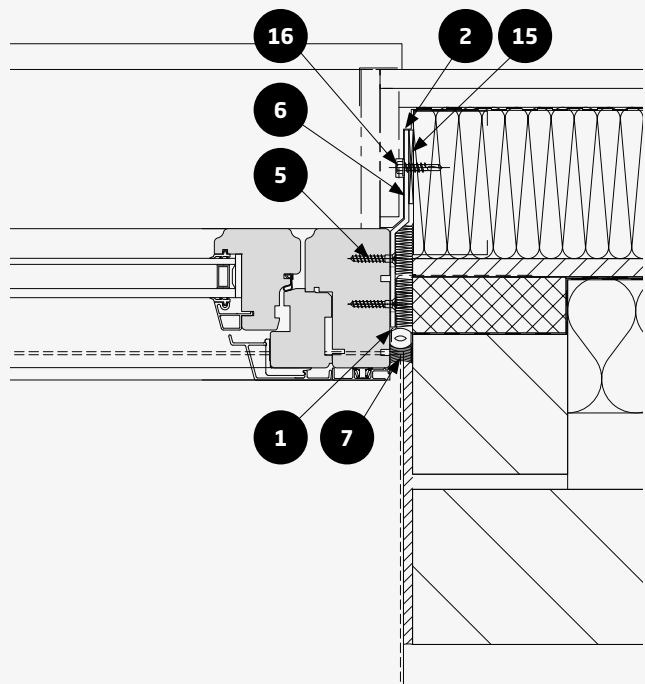






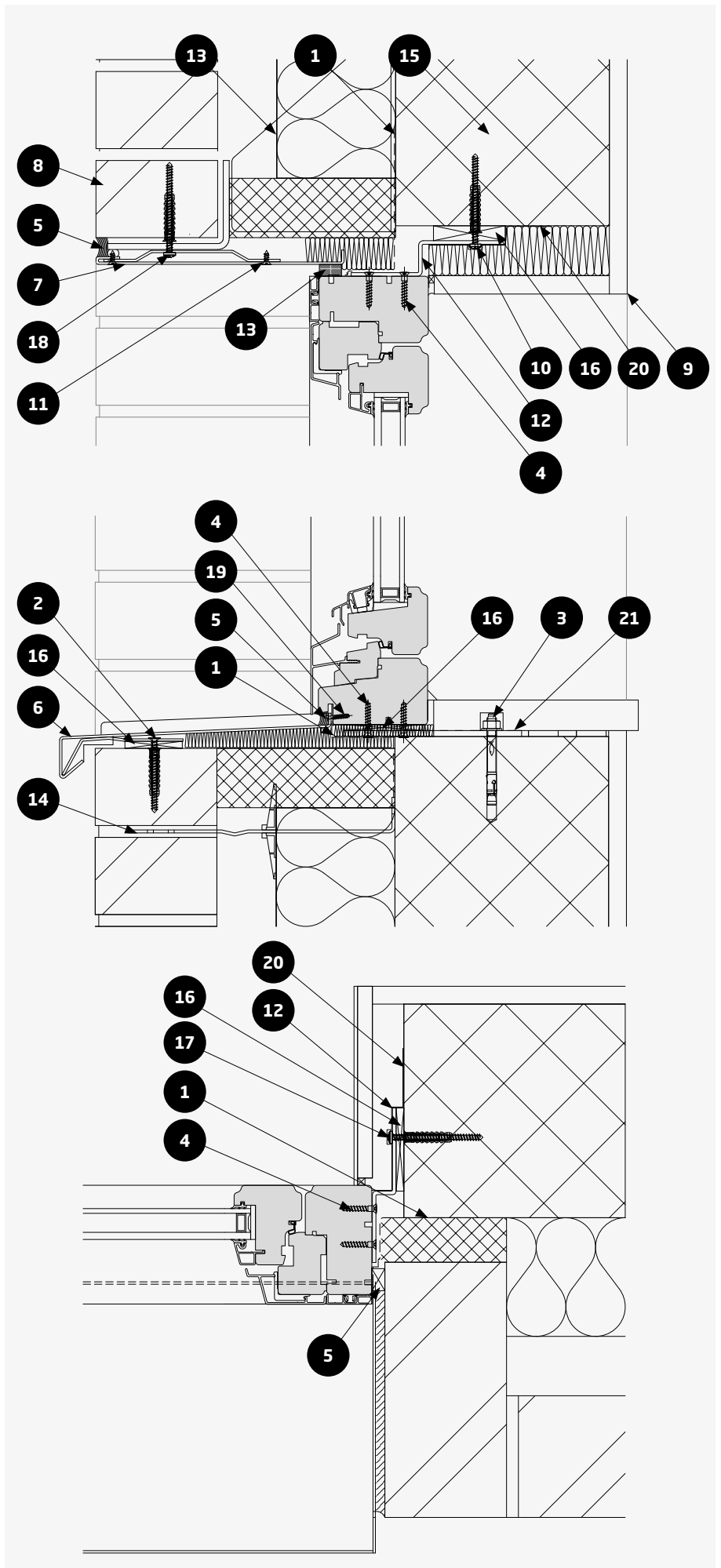
## Brick/SFS

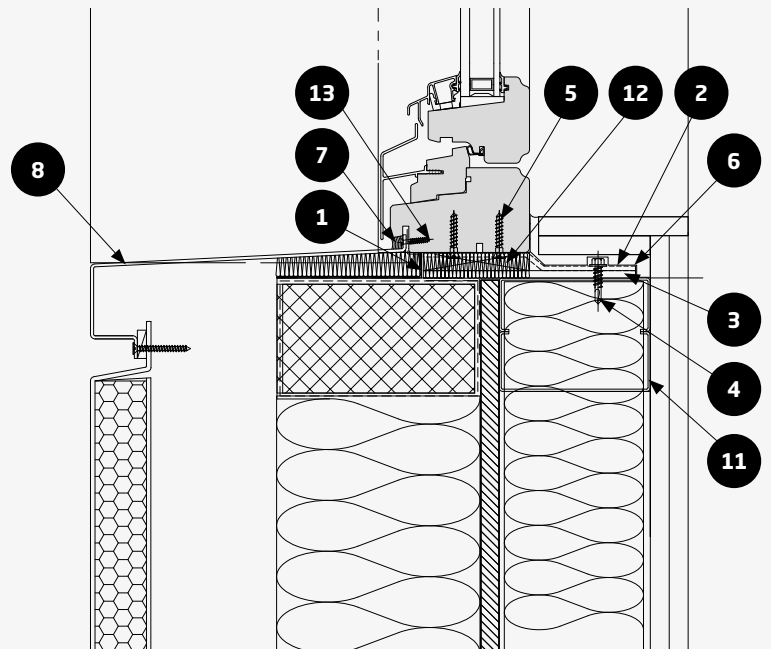
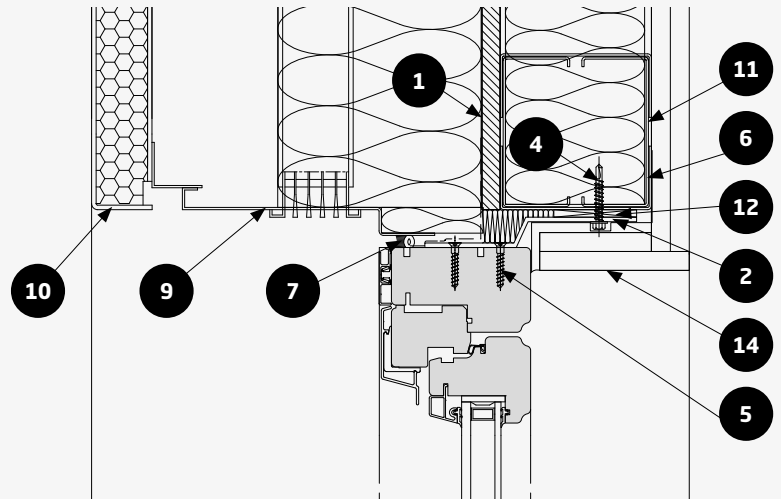
1. EPDM by others
2. Galvanized cranked fixing bracket by others fixed @ 150mm from corners and max 600mm centres
3. Deadload support plate (if required) by other
4. Tek fixing by others
5. Wood screw as per engineer's calculations
6. Air tape (VCL) by others
7. Backing rod and silicone or compriband by others
8. Cill flashing by others
9. Head flashing by others
10. Brick external leaf
11. SFS by others
12. Sill fixing by installer
13. Sill wind clip fixing as per engineer's calculations
14. Flashing fixing by installer
15. Packer by installer
16. Fixing as per engineer's calculations
17. Internal finish by others



## Brick/Block

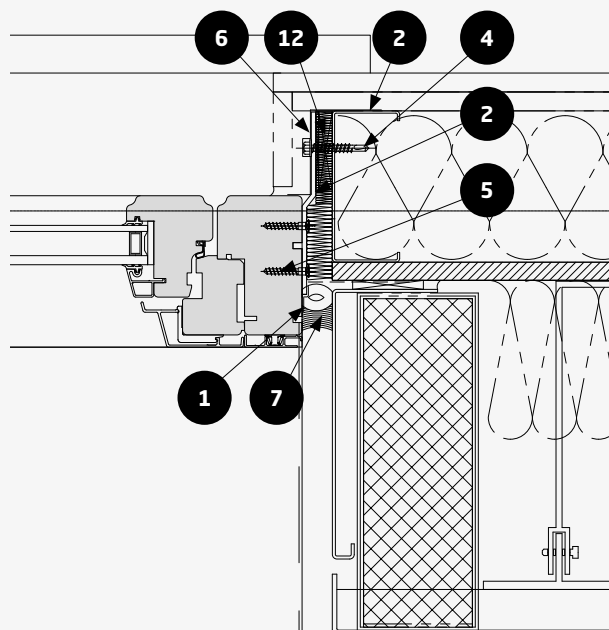
1. EPDM by others
2. Sill wind clip fixing as per engineer's calculations
3. Bracket fixing as per engineer's calculations
4. Wood screw as per engineer's calculations
5. Backing rod and silicone or compriband by others
6. Cill flashing by others
7. Head flashing by others
8. Brick external leaf
9. Internal finish by others
10. Bracket fixing as per engineer's calculations
11. Fixing screw by installer
12. Galvanized cranked fixing bracket by others fixed @ 150mm from corners and max 600mm centres
13. Cavity tray & insulation (as required)
14. Wall tie (as required)
15. Concrete block internal leaf
16. Packer by installer
17. Bracket fixing as per engineer's calculations
18. Flashing fixing by installer
19. Sill fixing by installer
20. Air tape (VCL) by others
21. Deadload support plate (if required) by other

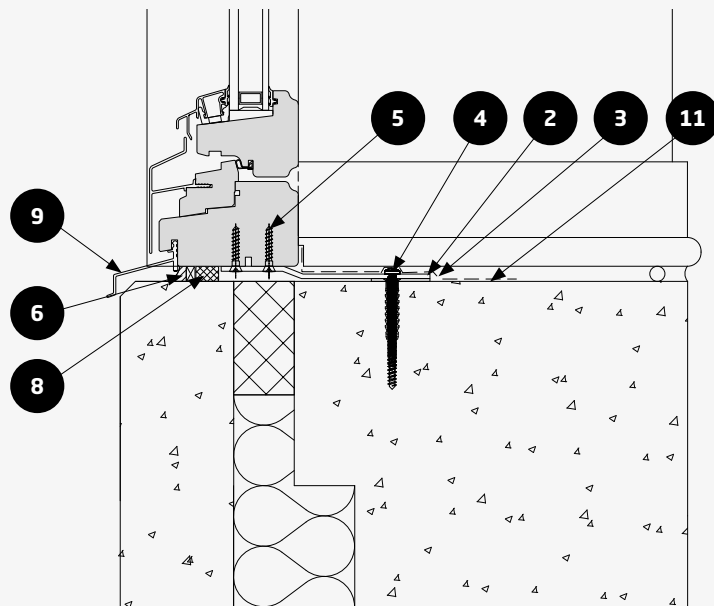
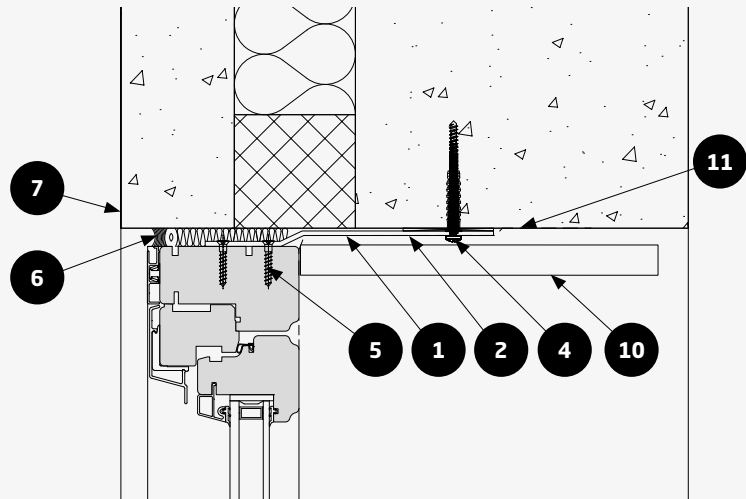




## Cladding/SFS

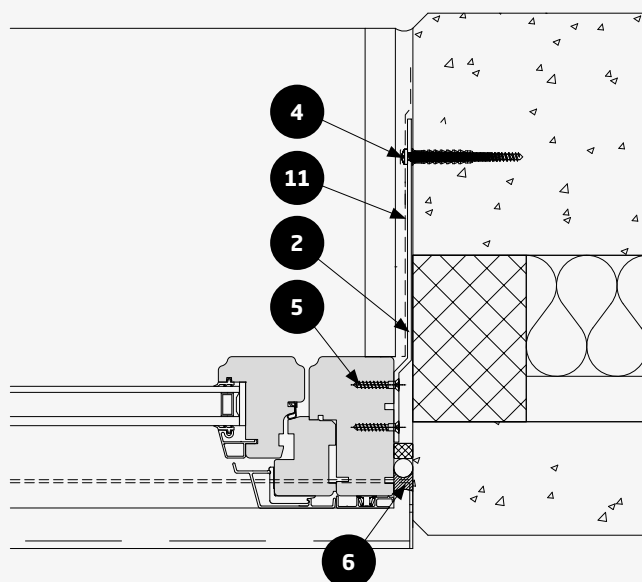
1. EPDM by others
2. Galvanized cranked fixing bracket by others fixed @ 150mm from corners and max 600mm centres
3. Deadload support plate (If required) by other
4. Tek fixing by others
5. Wood Screw as per engineer's calculations
6. Air tape (VCL) by others
7. Backing rod and silicone or compriband by others
8. Cill flashing by others
9. Head flashings by others
10. Cladding by others
11. SFS by others
12. Packer by installer
13. Sill fixing by installer
14. Internal finish by others





## Precast panel

1. EPDM by others
2. Galvanized cranked fixing bracket by others fixed @ 150mm from corners and max 600mm centres
3. De-load support plate (If required) by other
4. Bracket fixing as per engineer's calculations
5. Wood Screw as per engineer's calculations
6. Backing rod and silicone or compriband by others
7. Precast concrete by others
8. Packer by installer
9. Sill fixing by installer
10. Internal finish by others
11. Air tape (VCL) by others





Whilst every care has been taken in the preparation of content within this guide, which is believed to be correct, this is not warranted and end-users should satisfy themselves as to the correctness of information given. For further advice, please contact your local NorDan office.

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