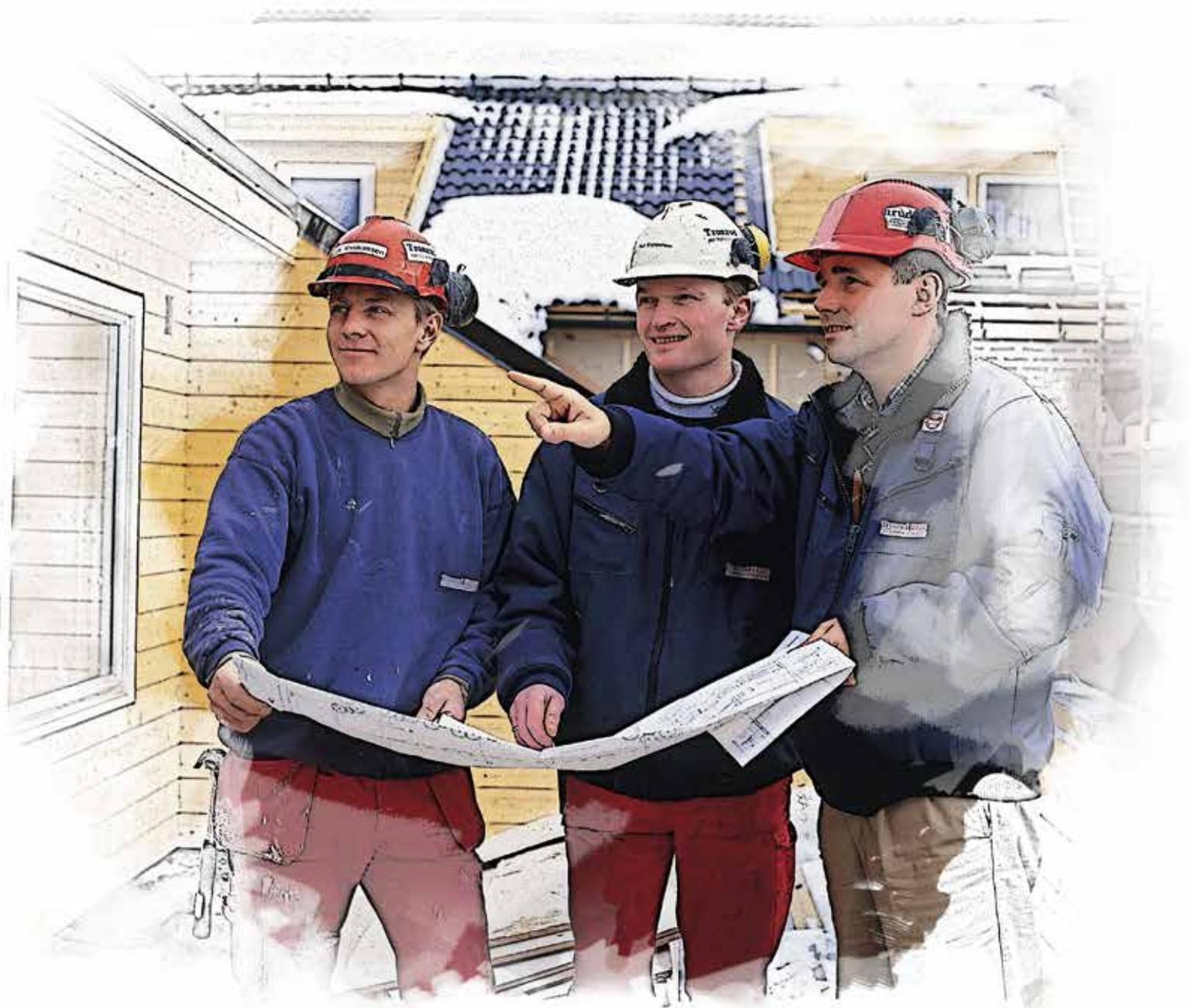


# OPERATION, MAINTENANCE & INSTALLATION MANUAL



# OPERATION, MAINTENANCE & INSTALLATION MANUAL

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Every effort has been made to ensure the contents of this manual is accurate at time of printing. However, because of continuous improvements to NorDan products and service, amendments may be made without notice.

If this information has been delivered along with NorDan products as part of a building project, please ensure it is passed to the end user/occupant to ensure operation and maintenance advice is followed. Please note that anyone undertaking maintenance or installation is responsible for carrying out a task specific risk assessment and method statement and retain responsibility for the safe undertaking of works.



# NorDan quality and service

NorDan is recognised across Europe as a leader in timber window and door design and innovation. Its exceptional quality products are used wherever high specification products are required. The new NTech Passive and Low Energy products add to the existing range of standard windows and doors.

Founded in 1926 in Norway, NorDan has a unique reputation for outstanding quality and real value for money. With large state-of-the-art factories able to produce over 2,500 windows and doors per day, a workforce of well over 1,000 and computer controlled production lines, NorDan manufactures in volumes sufficient to supply the largest projects whilst remaining competitive.

The advanced design and construction of NorDan's windows and doors guarantees high performance, low maintenance and durability. All products are manufactured from top quality North European Redwood from well managed sustainable forests. An optional aluminium cladding system, available in a wide variety of colours, protects the timber from the effects of weathering, whilst being virtually maintenance free.

NorDan has a policy of continuous research and development. Working with respected independent experts in the fields of energy efficiency, lifetime running costs and environmental impact ensures that products are always at the forefront of advanced fenestration technology.

It's not just the products that are environmentally friendly. Almost 100% of the energy produced in Norway is generated from 'zero carbon' hydro electricity and each stage of the manufacturing process is closely monitored to ensure minimal environmental impact.

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



# 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
- 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.

1		3		4		2 OFFER • NO.0761485.A		All drawings viewed externally	
Lnr	Mrk	Qty	Description	Width	Height	Net unit price			
020	W2	3	ND NTech Fixed frame w/sash Construction 100 mm frame incl. 8 mm alum. U-value product: 1,3W/m <sup>2</sup> K Weight 60 kg	888	2288		13		
			Without ventilator Inward opening tilt and turn sash						
			Glass Low E WES/Ar Construction 6+16G+ES4 Transmission LT/ST 70/48 ba: Lam Low E w/Toughened WES/Ar Construction 6,38ES+16G+4# Transmission LT/ST 70/44						
			Aluminium clad 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	2288			13		
			Surface finishing Product RAL 7012 Grey, Powder coated						
992		1	Non standard finishing				13		

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

# 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 NS-EN ISO 10077-1, 10077-2 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
- Product handings for OUTWARD opening windows are described from the OUTSIDE.
  - Product handings for INWARD opening products are described from the INSIDE.
- 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.

# Inward opening windows

### Three handled tilt & turn (ND, S3)

<p>ND</p>	<p>Inward opening tilt &amp; turn window. Right hand hung</p>			
<p>ND</p>	<p>Inward opening tilt &amp; turn window. Left hand hung</p>	<p>1) Closed position</p>	<p>2) Ventilation position (restricted)</p>	<p>3) Cleaning position</p>

### One handled tilt & turn (EV, S1)

<p>EV</p>	<p>Inward opening tilt &amp; turn window. Right hand hung</p>			
<p>EV</p>	<p>Inward opening tilt &amp; turn window. Left hand hung</p>	<p>1) Closed position</p>	<p>2) Ventilation position (restricted)</p>	<p>3) Cleaning position</p>

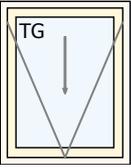
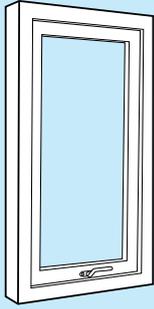
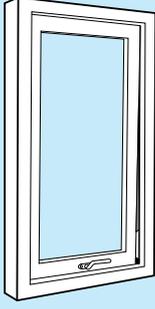
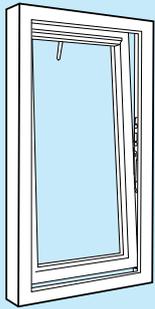
### Side hung (NS)

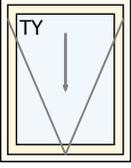
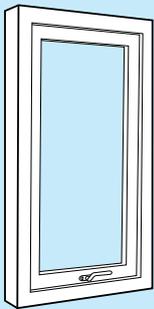
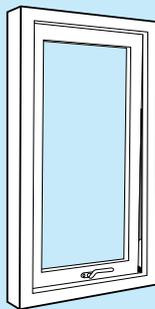
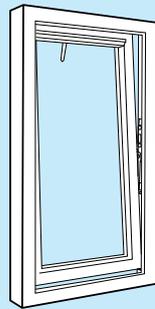
<p>NS</p>	<p>Inward opening side hung window. Right hand hung</p>			
<p>NS</p>	<p>Inward opening side hung window. Left hand hung</p>	<p>1) Closed position</p>	<p>2) Ventilation position (restricted)</p>	<p>3) Cleaning position</p>

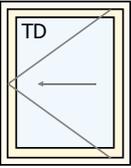
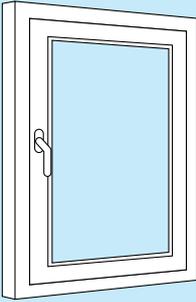
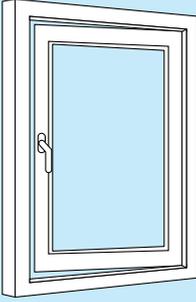
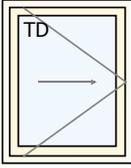
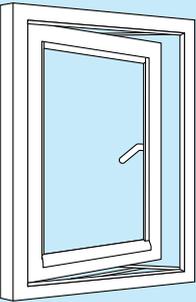
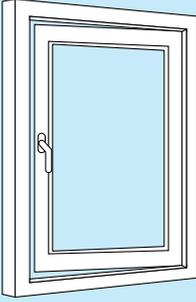
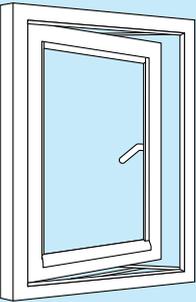
The NorDan inward opening window range includes the 3-handle or 1-handle tilt and turn, and depending on size, 1 or 2-handle side hung. For 3 handled tilt & turn windows  $\geq 1788\text{mm}$  wide, extra handles and locking points are included.

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 window

Top-Tech reversible (TG)			
 <p>TG ↓</p>	<p>Outward opening fully reversible window</p>		
		1) Closed position	2) Ventilation position (restricted)
			
			3) Cleaning position

Top-swing reversible (TY)			
 <p>TY ↓</p>	<p>Outward opening fully reversible window</p>		
		1) Closed position	2) Ventilation position (restricted)
			
			3) Cleaning position

Side swing (TD)			
 <p>TD ←</p>	<p>Outward opening side swing window. Right hand hung</p>		
 <p>TD →</p>	<p>Outward opening side swing window. Left hand hung</p>		
		1) Closed position	2) Ventilation position
			
			3) 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

## Single balcony doorsets (I1, U1, TE)

	<p>Inward opening single door. Right hand hung</p>		<p>Inward opening single door Left hand hung</p>		<p>Outward opening single door. Right hand hung</p>		<p>Outward opening single door Left hand hung</p>
--	--	--	--	--	---	--	---

## Double balcony doorsets (I2, U2, TX)

	<p>Inward opening double door, right hand door opening first "p" Indicates primary opening door "s" Indicates secondary opening door</p>		<p>Inward opening double door, left hand door opening first "p" Indicates primary opening door "s" Indicates secondary opening door</p>		<p>Outward opening double door, right hand door opening first "p" Indicates primary opening door "s" Indicates secondary opening door</p>		<p>Outward opening double door, left hand door opening first "p" Indicates primary opening door "s" Indicates secondary opening door</p>
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## Sliding doorsets (SD, 4S)

	<p>Sliding door with outside leaf sliding, right hand door slides "p" Indicates primary opening door</p>		<p>Sliding door with outside leaf sliding, left hand door slides "p" Indicates primary opening door</p>		<p>Double sliding door with outside leaf sliding, right hand door slides first "p" Indicates primary opening door "s" Indicates secondary opening door</p>
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# 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 'Wurth HHS 5000' (fully-synthetic creep oil with PTFE) or similar for lubrication of ironmongery. Care should be taken to avoid contact with timber to avoid staining.

## GOOD PRACTICE

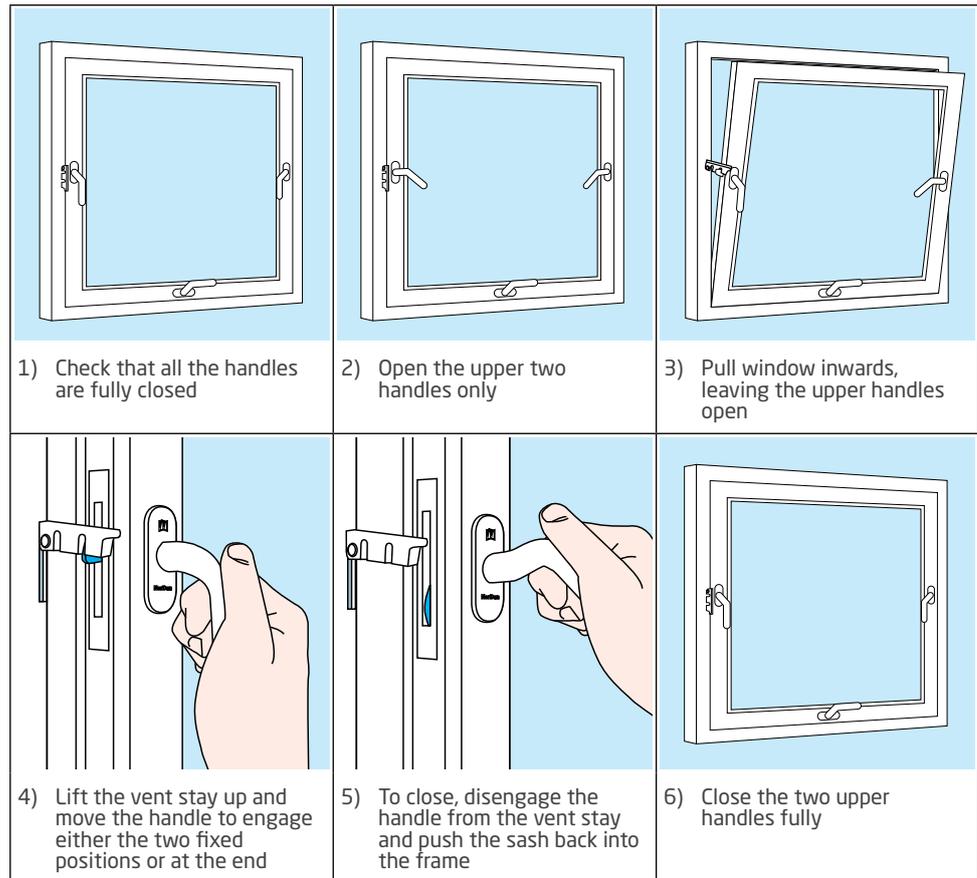
Always close a window or door when it is raining to protect its surface and finish. If not observed, the frame may swell and cause difficulty in closing. This is not only hazardous, but also a common cause of damage to internal finishings.

# Three handled tilt & turn (ND, S3)

## VENTILATION POSITION

For improved comfort, engage the vent stay when the window is in the ventilation position. This is located on the frame.

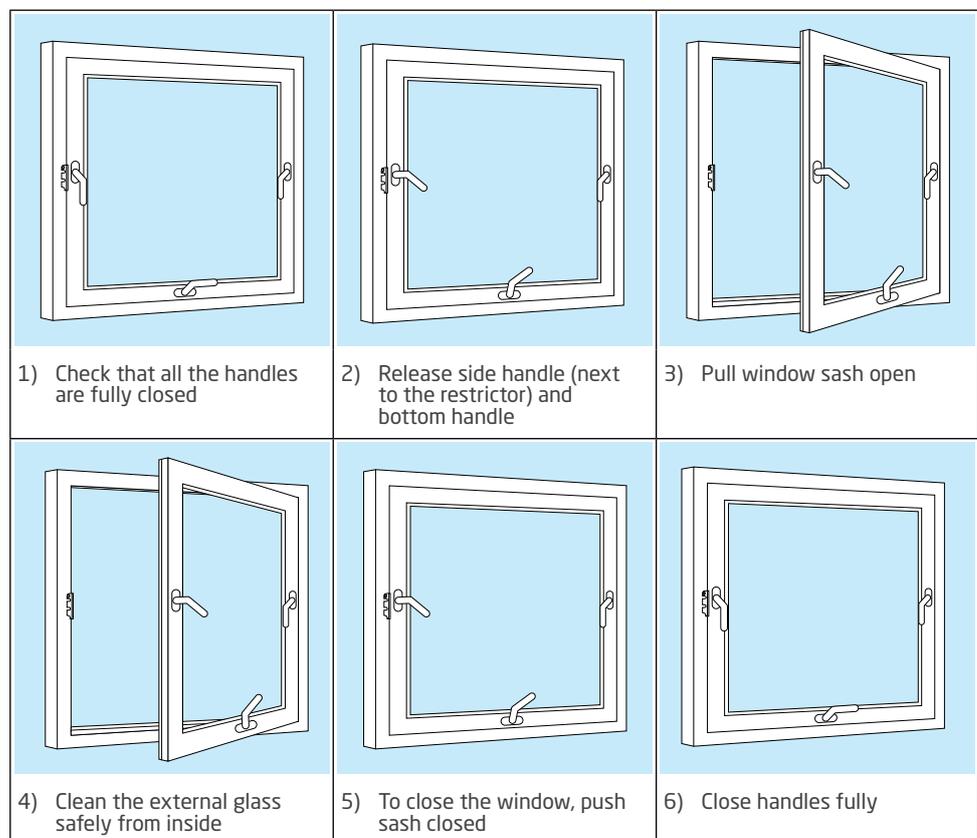
NOTE: Not all vent stay positions are possible with certain window heights



## CLEANING POSITION

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

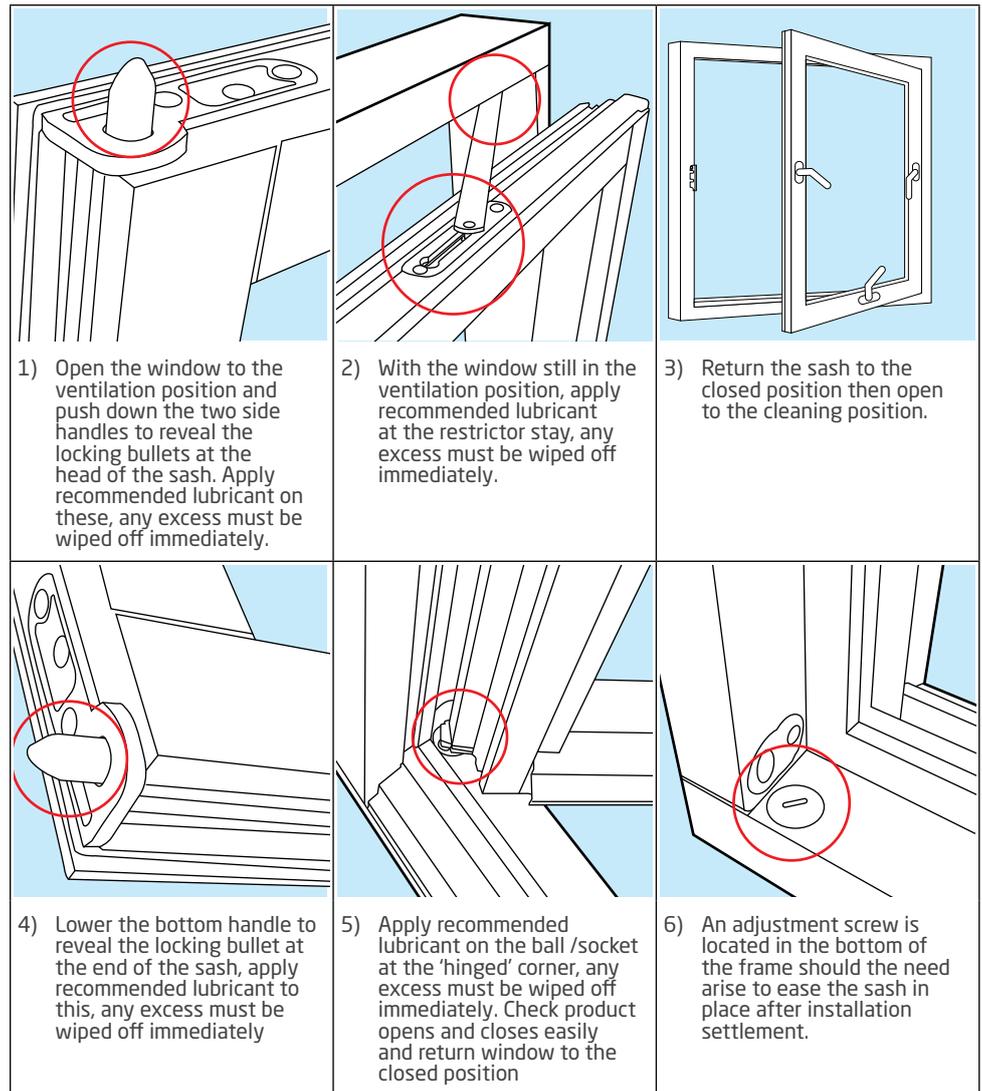
NOTE: Approximate opening is 67°, more than adequate to clean both sides of the window from the inside.



# Three handled tilt & turn (ND, S3)

## MAINTENANCE

Ensure the window is maintained regularly, following the standard guidelines.



Maintaining your NorDan windows couldn't be simpler. All you have to do is check them carefully at least once a year for the following signs:

- Look for (and remove) any airborne debris that might be trapped in between the frame and 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 weatherseal as this will reduce the window's performance

- Check that the handles move freely and smoothly. If they are stiff, carefully use a recommended lubricant on the locking tongues/bolts while in their extended position
- Check the glass does not have any water vapour inside the sealed unit or that the glass is damaged
- Check all timber surfaces for damage and note if the finishing (paint etc) needs refreshing
- Check all handles and ventilator controls are not loose. If they are then tighten them with an appropriate screwdriver. Tighten enough so the

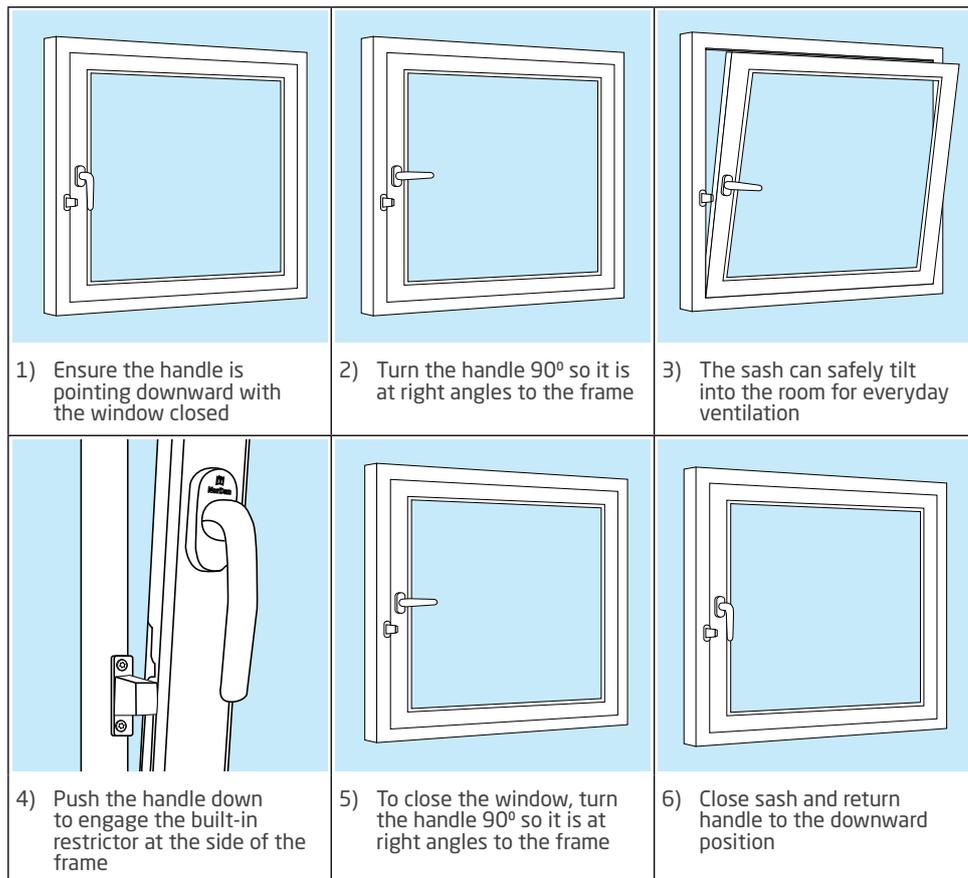
handles and controls work freely without being too loose. Do not overtighten

If in any doubt or you need help with anything to do with maintenance call your nearest NorDan sales office as featured on the back of this leaflet.

# One handled tilt & turn (EV, S1)

## VENTILATION POSITION

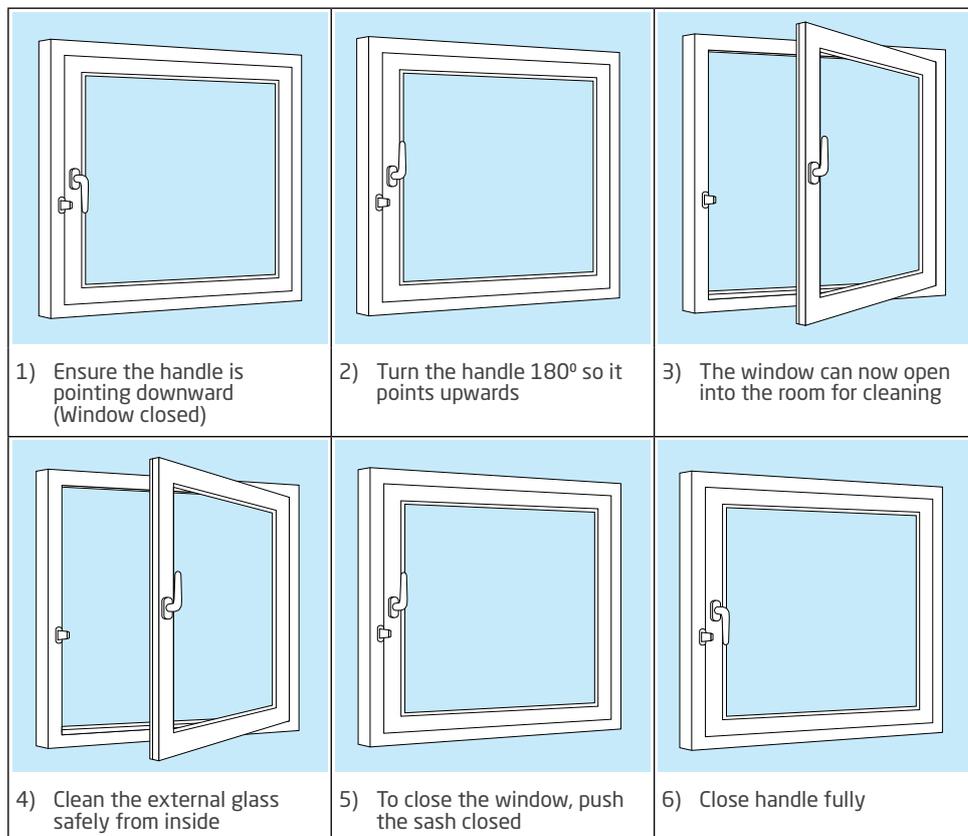
For improved safety, engage the night vent stay when the window is in the ventilation position. This is located on the frame.



## CLEANING POSITION

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

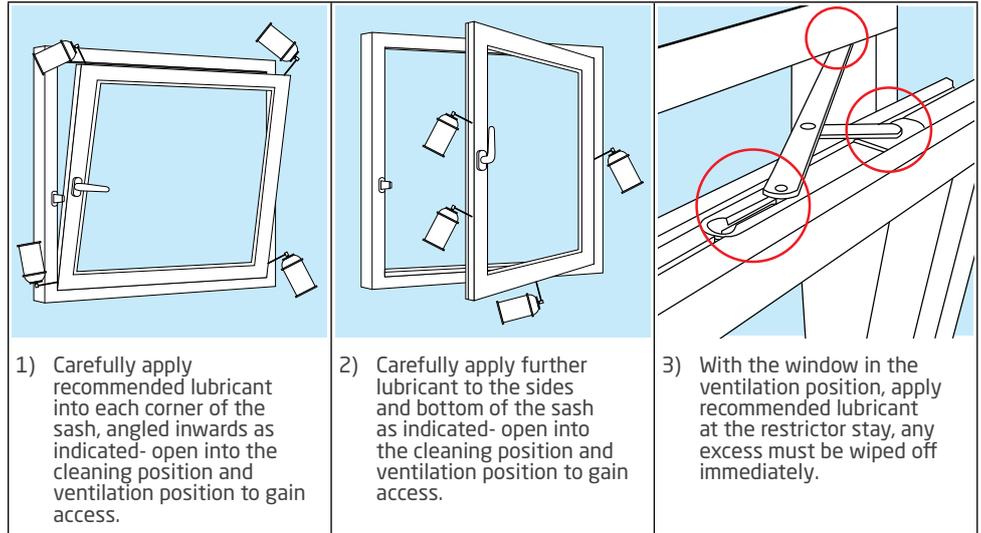
Note: Approximate opening is 90°, more than adequate to clean both sides of the window from the inside.



# One handled tilt & turn (EV, S1)

## MAINTENANCE

Ensure the window is maintained regularly, following the standard guidelines



Maintaining your NorDan windows couldn't be simpler. All you have to do is check them carefully at least once a year for the following signs:

- Look for (and remove) any airborne debris that might be trapped in between the frame and 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 weatherseal as this will reduce the window's performance
- Check that the handle moves freely and smoothly. If they are stiff, carefully use a recommended lubricant on the locking tongues/bolts while in their extended position

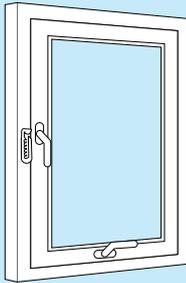
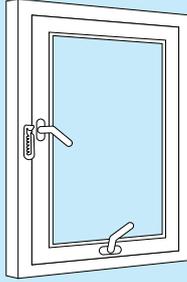
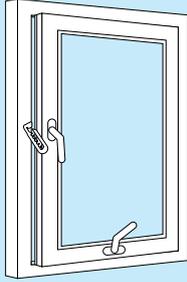
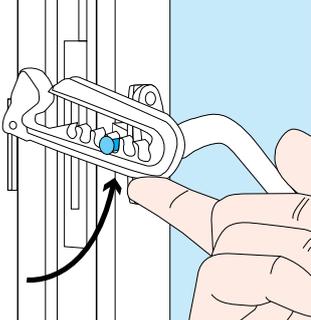
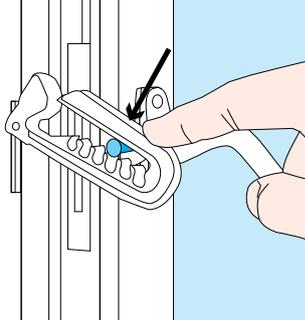
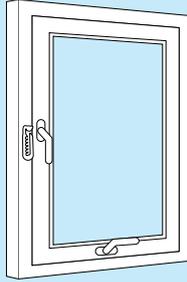
- Check the glass does not have any water vapour inside the sealed unit or that the glass is damaged.
- Check all timber surfaces for damage and note if the finishing (paint etc) needs refreshing
- Check the handle and ventilator controls are not loose. If they are then tighten them with an appropriate screwdriver. Tighten enough so the handles and controls work freely without being too loose. Do not overtighten

If in any doubt or you need help with anything to do with maintenance call your nearest NorDan sales office as featured on the back of this leaflet.

# Side hung (NS, S4)

## VENTILATION POSITION

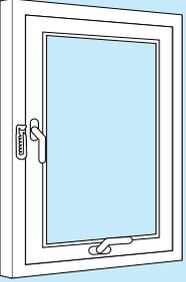
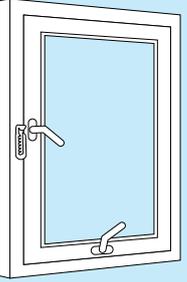
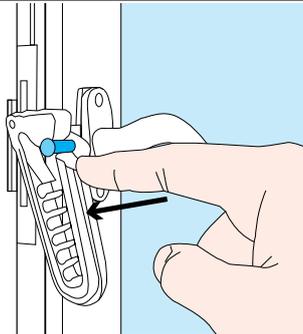
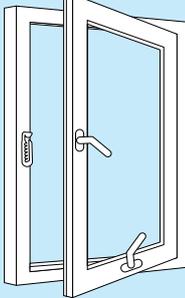
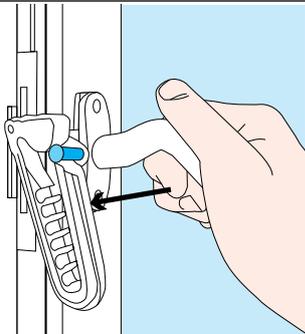
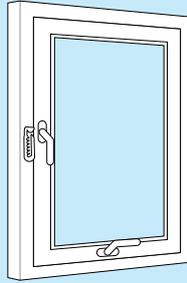
For improved safety, engage the restrictor when the window is in the ventilation position. This is located on the frame.

		
<p>1) Check that both handles are fully closed</p>	<p>2) Open both handles</p>	<p>3) Gently turn the sash into the room</p>
		
<p>4) Push the restrictor up so it engages one of the locking positions</p>	<p>5) To close the window, push the restrictor down to release from the locking position</p>	<p>6) Push the sash closed and turn the handles back to the closed position</p>

## CLEANING POSITION

In the interest of safety, do not use windows in the cleaning position for ventilation purposes. Always ensure that child safety restrictors are re-engaged when closing the window.

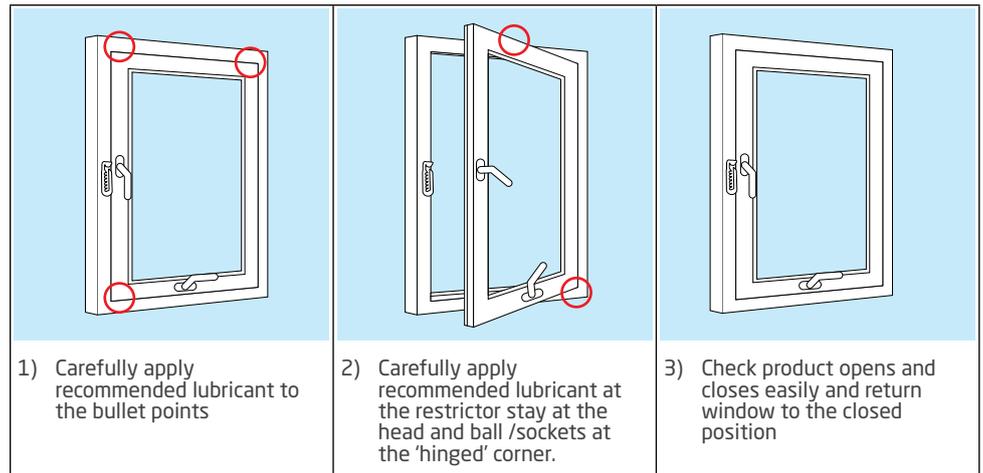
Note: Approximate opening is 90°, more than adequate to clean both sides of the window from the inside.

		
<p>1) Check that both handles are fully closed</p>	<p>2) Open both handles fully</p>	<p>3) Hold down the restrictor and gently pull the sash inwards so that the restrictor pin is free from the restrictor</p>
		
<p>4) Open the sash fully so the external glass can be easily cleaned from the inside</p>	<p>5) To close, push the sash back into the frame, making sure the restrictor engages fully</p>	<p>6) Close sash and handles fully</p>

# Side hung (NS, S4)

## MAINTENANCE

Ensure the window is maintained regularly, following the standard guidelines



Maintaining your NorDan windows couldn't be simpler. All you have to do is check them carefully at least once a year for the following signs:

- Look for (and remove) any airborne debris that might be trapped in between the frame and 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 weatherseal as this will reduce the window's performance

- Check that the handles move freely and smoothly. If they are stiff, carefully use a recommended lubricant on the locking tongues/bolts while in their extended position
- Check the glass does not have any water vapour inside the sealed unit or that the glass is damaged.
- Check all timber surfaces for damage and note if the finishing (paint etc) needs refreshing
- Check all handles and ventilator controls are not loose. If they are then tighten them with an appropriate screwdriver. Tighten enough so the

handles and controls work freely without being too loose. Do not overtighten

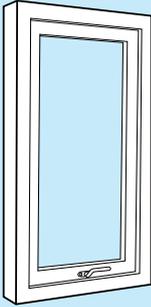
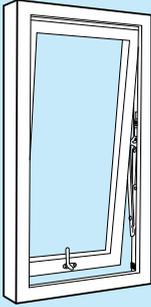
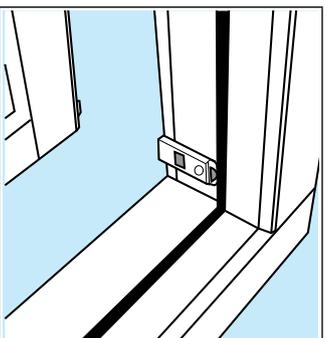
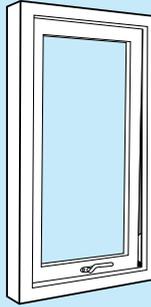
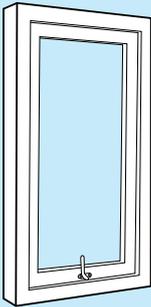
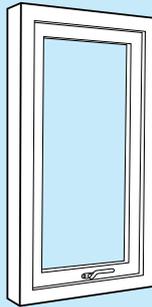
If in any doubt or you need help with anything to do with maintenance call your nearest NorDan sales office as featured on the back of this leaflet.

# Top-swing reversible (TY)

## VENTILATION POSITION

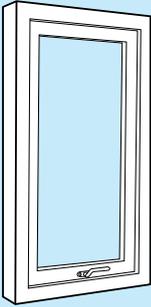
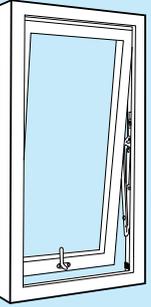
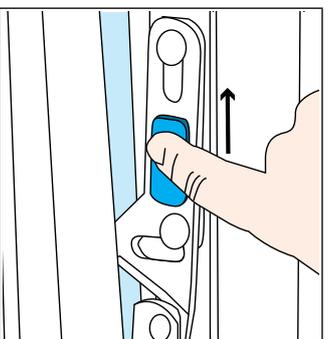
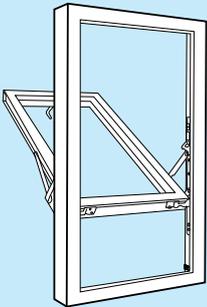
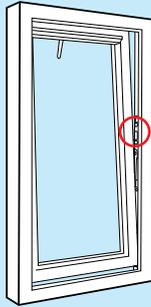
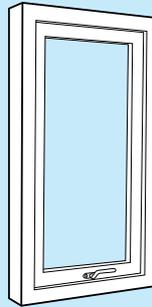
For improved safety, engage the restrictor when the window is in the ventilation position. This is located on the frame.

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

		
<p>1) Check the sash is flush with the frame and the handle is fully closed</p>	<p>2) Turn handle upwards and push sash outwards, sash is restricted</p>	<p>3) Locate the night vent stay position in the frame</p>
		
<p>4) Line up sash to night vent position and turn handle to closed position, check sash is held in place</p>	<p>5) To close window fully, open handle and pull the sash fully back into frame</p>	<p>6) Turn the handle to the closed position</p>

## CLEANING POSITION

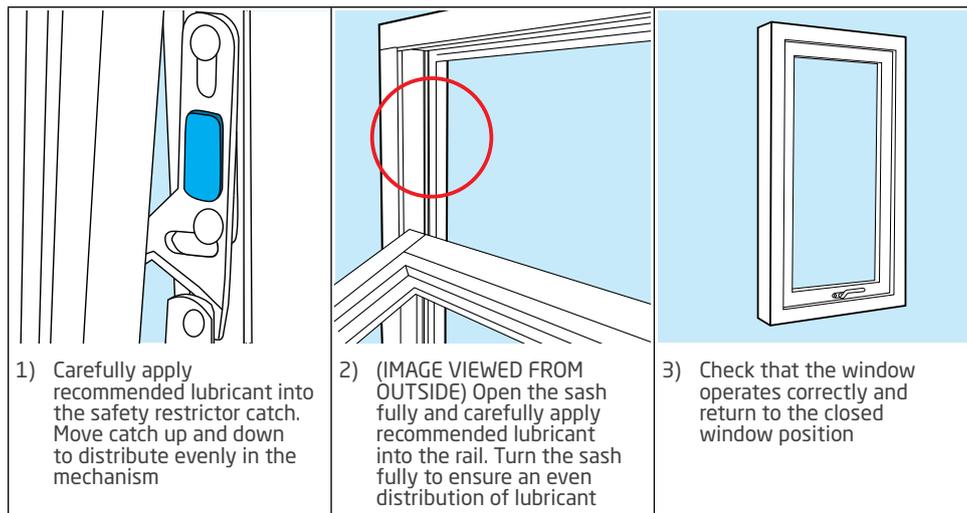
In the interest of safety, do not use windows in the cleaning position for ventilation purposes.

		
<p>1) Turn the handle fully into the open position</p>	<p>2) Push the sash outwards to the fixed safety locking position</p>	<p>3) Slide safety restrictor upwards (located in side of frame), gently push window sash out</p>
		
<p>4) Continue gently pushing sash out until fully reversed and locks securely in cleaning position</p>	<p>5) After cleaning, push safety restrictor up to release the lock, carefully return sash to closed position</p>	<p>6) Push the sash back into the frame and close the handle fully</p>

# Top-swing reversible (TY)

## MAINTENANCE

Ensure the window is maintained regularly, following the standard guidelines



Maintaining your NorDan windows couldn't be simpler. All you have to do is check them carefully at least once a year for the following signs:

- Look for (and remove) any airborne debris that might be trapped in between the frame and 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 weatherseal as this will reduce the window's performance
- Check that the handle moves freely and smoothly. If they are stiff, carefully use a recommended lubricant on the locking tongues/bolts while in their extended position
- Check the glass does not have any water vapour inside the sealed unit or that the glass is damaged
- Check all timber surfaces for damage and note if the finishing (paint etc) needs refreshing
- Check all handle and ventilator controls are not loose. If they are then tighten them with an appropriate screwdriver. Tighten enough so the handles and controls work freely without being too loose. Do not overtighten

If in any doubt or you need help with anything to do with maintenance call your nearest NorDan sales office as featured on the back of this leaflet.

# Top-Tech reversible (TG)

## VENTILATION POSITION

For improved safety, engage the restrictor when the window is in the ventilation position. This is located on the frame.

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

For operation and maintenance instructions for older versions of the side swing window, please visit the NorDan website:

<http://www.nordan.co.uk/NDUK/OM-archive/OM-Top-Swing-Classic-pre2013.pdf>



<p>1) Check sash is flush with the frame and the handle is fully closed</p>	<p>2) Turn handle upwards and push the sash outwards, the restrictor stops the sash opening fully.</p>	<p>3) Locate the vent stay position in the frame, line up the sash and turn the handle.</p>
<p>4) Window is fitted with an anti blow-back device which can be activated and de-activated by pushing the small lock out and back</p>	<p>5) To activate additional restrictor control, turn yellow control 180° clockwise with a screwdriver</p>	<p>6) To close the window fully, open the handle and pull the sash fully back into the frame. Turn the handle to the closed position</p>

## CLEANING POSITION

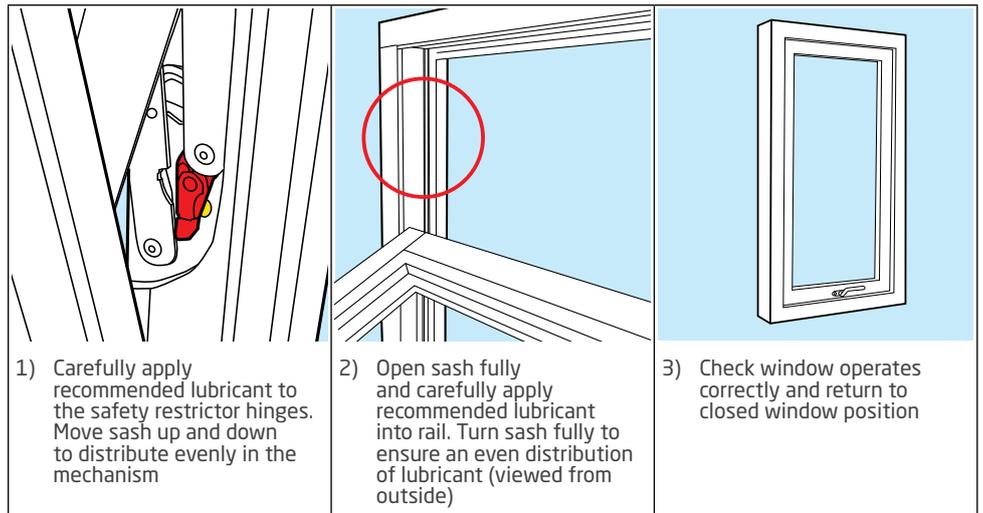
In the interest of safety, do not use windows in the cleaning position for ventilation purposes.

<p>1) Turn the handle fully into the open position</p>	<p>2) Push the sash outwards to the fixed safety locking position</p>	<p>3) Push safety restrictor lock away from you (located in side of the frame), gently push window sash out</p>
<p>4) Continue to gently manoeuvre sash out until fully reversed and locks securely in cleaning position</p>	<p>5) After cleaning, disengage safety restrictor by pushing lock away from you and carefully return sash to closed position</p>	<p>6) Push the sash back into the frame and close the handle fully</p>

# Top-Tech reversible (TG)

## MAINTENANCE

Ensure the window is maintained regularly, following the standard guidelines



Maintaining your NorDan windows couldn't be simpler. All you have to do is check them carefully at least once a year for the following signs:

- Look for (and remove) any airborne debris that might be trapped in between the frame and 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 weatherseal as this will reduce the window's performance
- Check that the handle moves freely and smoothly. If they are stiff, carefully use a recommended lubricant on the locking tongues/bolts while in their extended position
- Check the glass does not have any water vapour inside the sealed unit or that the glass is damaged.
- Check all timber surfaces for damage and note if the finishing (paint etc) needs refreshing
- Check all handle and ventilator controls are not loose. If they are then tighten them with an appropriate screwdriver. Tighten enough so the handles and controls work freely without being too loose. Do not overtighten

If in any doubt or you need help with anything to do with maintenance, call your nearest NorDan regional office.

# Side swing (TD)

## VENTILATION POSITION

For improved safety, engage the restrictor when the window is in the ventilation position. This is located on the frame.

For operation and maintenance instructions for older versions of the side swing window, please visit the NorDan website:

<http://www.nordan.co.uk/NDUK/OM-archive/OM-Side-Swing-clad-pre2014.pdf>



<p>1) To open window for ventilation, ensure handle is closed</p>	<p>2) Lift handle and push the sash outwards to the fixed safety locking position</p>	<p>3) Locate the vent position in the frame</p>
<p>4) Line up sash to vent position in frame and turn handle, check that sash is held in place</p>	<p>5) To close window, open handle and pull sash fully back into frame</p>	<p>6) Turn handle to closed position ensuring it is secure before leaving unattended</p>

## CLEANING POSITION

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

Note: When activating and de-activating the bottom safety restrictor in the sash, you may need to gently bring in sash initially to release safety lock.

<p>1) From the closed position, turn the handle fully into the open position</p>	<p>2) Push the sash outwards to the fixed safety locking position</p>	<p>3) Push safety restrictor outwards located in bottom of frame whilst pushing sash outwards</p>
<p>4) Continue to gently manoeuvre the sash outwards and sideways until it is fully reversed and locks securely in the cleaning position</p>	<p>5) To close, push safety restrictor to release cleaning lock, carefully return sash to closed position</p>	<p>6) Close sash and handle fully</p>

# Side swing (TD)

## MAINTENANCE

Maintaining your NorDan windows couldn't be simpler. All you have to do is check them carefully at least once a year for the following signs:

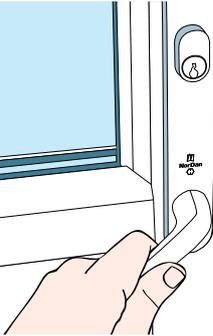
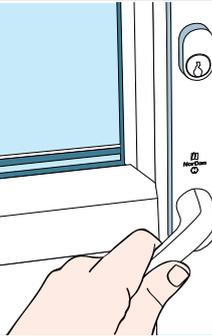
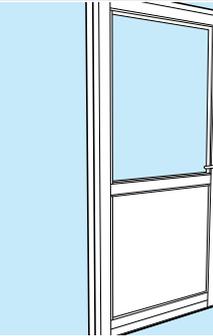
- Look for (and remove) any airborne debris that might be trapped in between the frame and sash. To do this open the window in the cleaning position
- Wipe or brush clean all surfaces and check the weather seal is clean, dry, continuous and undamaged. Never get any paint on the weatherseal as this will reduce the window's performance
- Check that the handle moves freely and smoothly. If they are stiff, apply recommended lubricant on the locking tongues/bolts while in their extended position
- Check the glass does not have any water vapour inside the sealed unit or that the glass is damaged.
- Check all timber surfaces for damage and note if the finishing (paint etc) needs refreshing
- Check all handle and ventilator controls are not loose. If they are then tighten them with an appropriate screwdriver. Tighten enough so the handles and controls work freely without being too loose. Do not overtighten

If in any doubt or you need help with anything to do with maintenance call your nearest NorDan sales office as featured on the back of this leaflet.

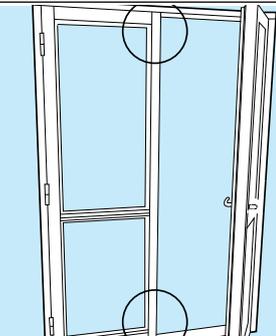
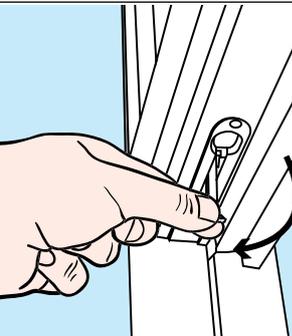
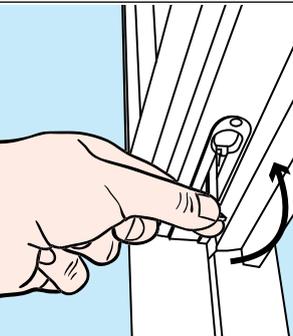
# Balcony doors (TE, U1, I1, TX, U2, I2)

## OPERATION (SINGLE DOOR)

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

		
<p>1) To open your door from the closed position, unlock using your key or thumbturn (if present)</p>	<p>2) Push the handle down to disengage the multi-point locking and open the door leaf</p>	<p>3) A wind-brake may be installed on your door which can be activated by lifting the handle up when the door is open</p>
		
<p>4) To disengage the wind-brake, simply push the handle down and the door will be able to move freely</p>	<p>5) To close the door, simply move the door back into the frame and lift up the handle to engage the multi-point locking</p>	<p>6) Ensure the door is locked and secure before leaving it unattended</p>

## OPERATION (DOUBLE DOORS)

		
<p>1) With the primary door open (as indicated above), locate the shoot bolts at the top and bottom of the secondary door</p>	<p>2) Move both bolts to allow the secondary door to move freely</p>	<p>3) To close the door, simply move the door back into the frame and push the shoot bolts back to the original position</p>

# Balcony doors (TE, U1, I1, TX, U2, I2)

## MAINTENANCE

Ensure the door is maintained regularly, following the standard guidelines

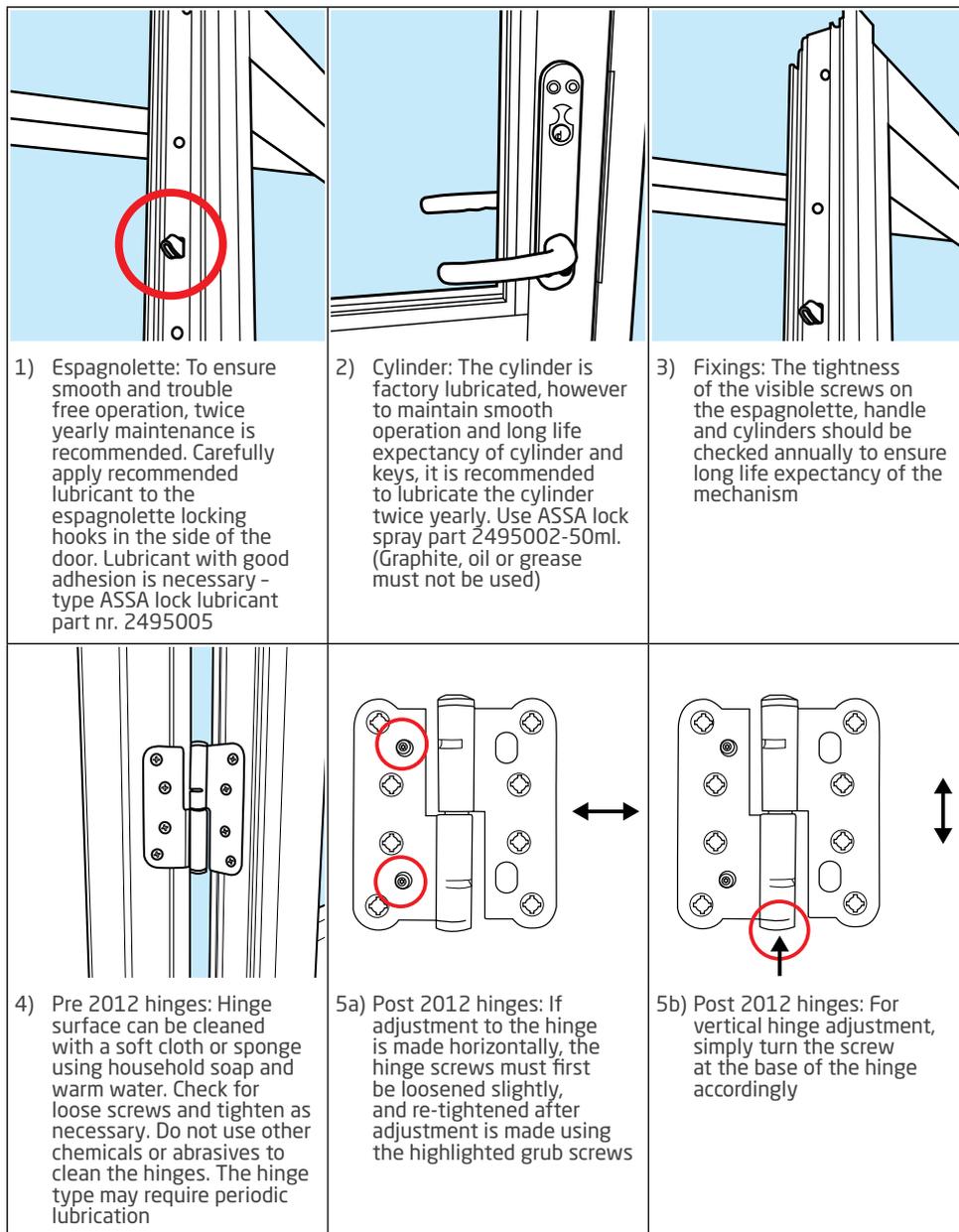
### NOTE:

- Do not paint over lock
- Avoid metal filings and similar particles coming into contact with the lock

## ADJUSTABLE HINGES

Your doors may have adjustable hinges installed. If the frame fitting is correct, then small adjustments can be made using a Tx20 Torx bit.

NOTE: The adjustable hinge does not require lubrication.



A door set comprises of two main parts. The door frame, which is fixed to the building, and a door leaf, which is the opening part.

- Closely inspect your doors at least once a year. Check 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 paintwork for any loose or flaking finishing. Remove loose paint with a stiff brush then re-coat

**IMPORTANT:** Every time you close your door always lift the handle up to engage the multiple locking. Please do this at all times 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. Always lift the handle up every time you close the door to engage the locking mechanism.

# Single sliding doorsets (SD)

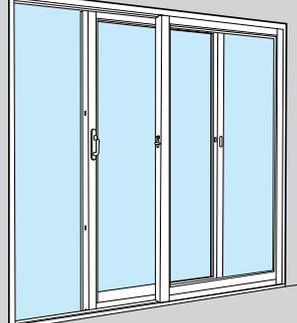
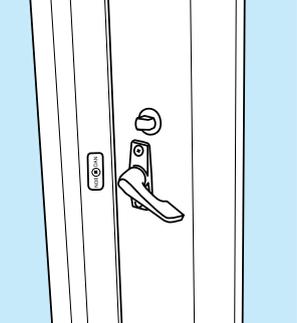
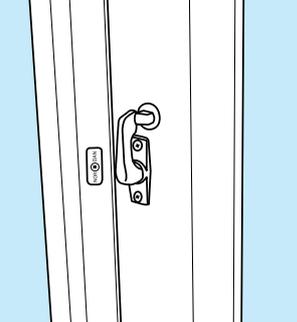
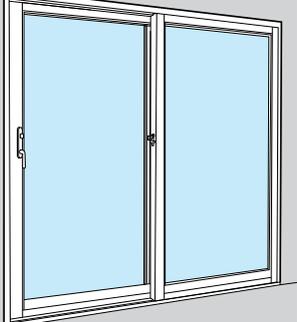
## OPERATION

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. The door can simply be stopped and restrained in any open position on the track by closing the door handle.

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

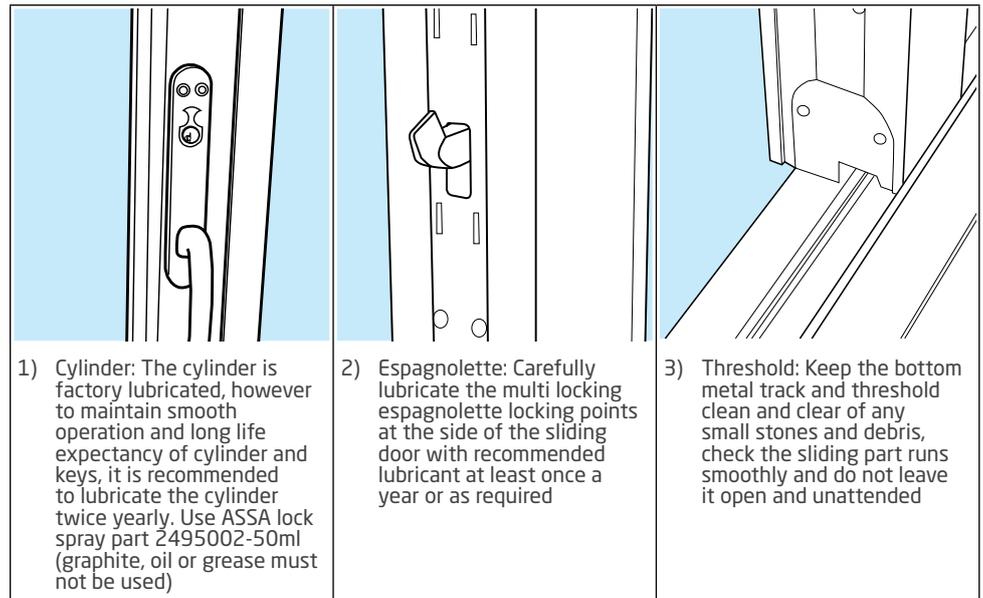
NOTE: Ensure that you make a note of the reference number on any door keys you have. This is essential information when ordering replacement keys.

		
<p>1) To open your door from the closed position, unlock it using your key or thumbturn (if present)</p>	<p>2) Release the central mullion lock by holding down the control button and turning the handle inwards</p>	<p>3) Push the handle down and the sliding door leaf is free to move</p>
		
<p>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</p>	<p>5) Do not leave the door unattended, even with the sliding door in the restricted position as no open door is safe from intrusion</p>	<p>6) To close the door, ensure the handle is pointing downwards and the central mullion lock is disengaged</p>
		
<p>7) Slide the door back against the frame and lift the handle. Engage the lock if a cylinder lock or thumbturn is present</p>	<p>8) Engage the central mullion lock before leaving the door for increased security</p>	<p>9) Ensure the door is locked before leaving it unattended</p>

# Single sliding doorsets (SD)

## MAINTENANCE

Ensure the door is maintained regularly, following the standard guidelines



A door set comprises of two main parts. The door frame, which is fixed to the building, and a door leaf, which is the opening part.

- Closely inspect your doors at least once a year. Check 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 paintwork for any loose or flaking finishing. Remove loose paint with a stiff brush then re-coat

**IMPORTANT:** Every time you close your door always lift the handle up to engage the multi-point locking. It is also essential that the centre mullion lock is also engaged. This 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. Timber needs discipline to hold its shape so you must always lift the handle up every time you close the door and engage the centre mullion lock.

# Double sliding doorsets (4S)

## OPERATION (PRIMARY DOOR)

Double sliding doorsets are produced as standard with two doors fixed and the two center 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.

NOTE: 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. For identification, the secondary door has a handle with a blank cylinder (no keyhole) on the inside, and a blanking plate (no thumbturn or cylinder) on the outside.

Ensure the central mullion lock is engaged whenever the sliding door has been fully closed. This provides stability and discipline for the timber and increased security.

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

<p>1) To open your door from the closed position, unlock it using your key or thumbturn (if present)</p>	<p>2) Release the central mullion lock by holding down the control button and turning the handle inwards</p>	<p>3) Push the handle down on the primary door (identified by either lock or thumbturn) and the door is free to move</p>
<p>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</p>	<p>5) Do not leave door unattended, even with sliding door in the restricted position as no open door is safe</p>	<p>6) To close the door, ensure the handle is pointing downwards and the central mullion lock is disengaged</p>
<p>7) Slide door back against frame, lift handle. Engage lock if a cylinder lock or thumbturn is present</p>	<p>8) Engage the central mullion lock before leaving the door for increased security</p>	<p>9) Ensure the door is locked before leaving it unattended</p>

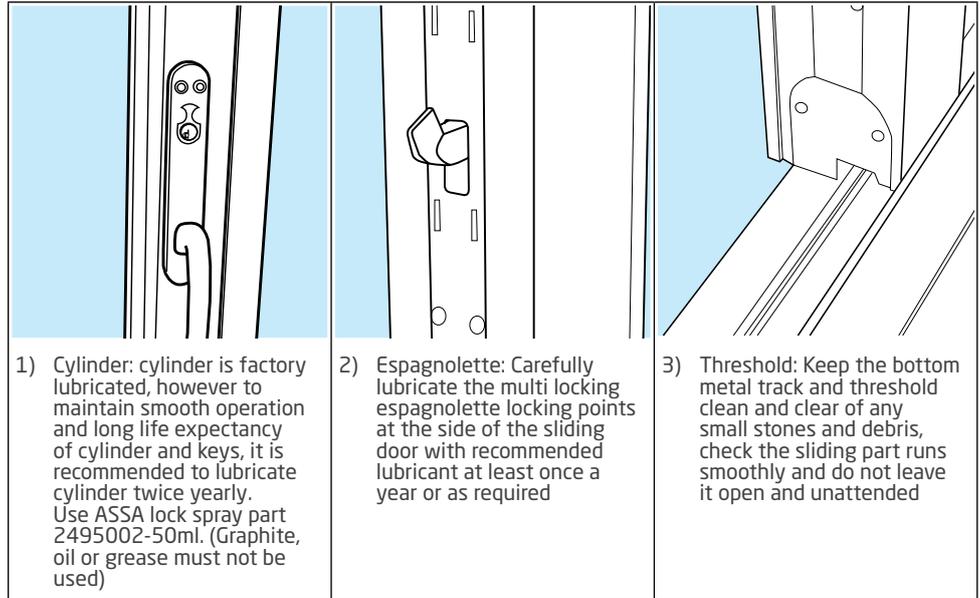
## OPERATION (SECONDARY DOOR)

<p>1) With primary door open (as indicated above), disengage central mullion lock</p>	<p>2) Push handle down to move secondary sliding door leaf open</p>	<p>3) To close secondary door, move sliding door leaf to closed position and ensure central mullion lock is engaged</p>

# Double sliding doorsets (4S)

## MAINTENANCE

Ensure the door is maintained regularly, following the standard guidelines



A door set comprises of two main parts. The door frame, which is fixed to the building, and a door leaf, which is the opening part.

- Closely inspect your doors at least once a year. Check 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 paintwork for any loose or flaking finishing. Remove loose paint with a stiff brush then re-coat

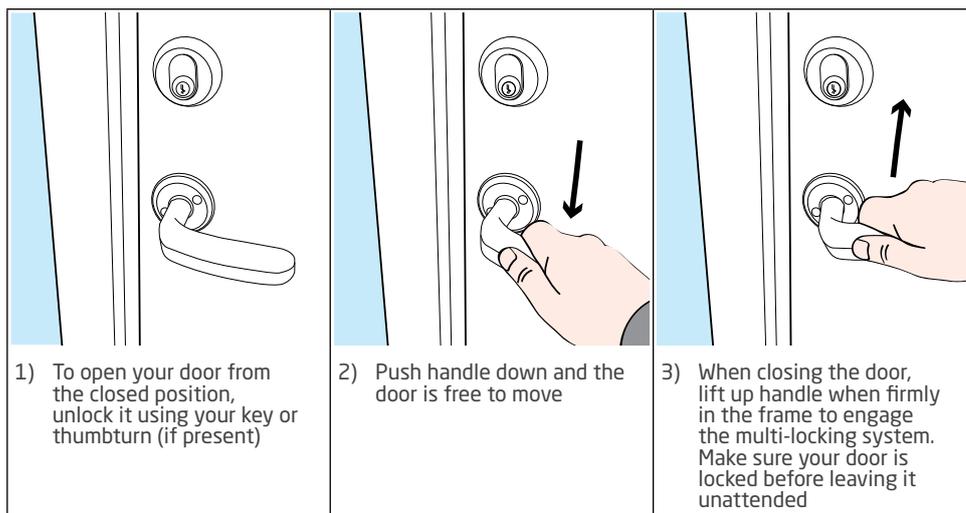
**IMPORTANT:** Every time you close your door always lift the handle up to engage the multi-point locking. It is also essential that the centre mullion lock is also engaged. This stops the door suffering from problems such as 'heat pull', bending and twisting. If you don't follow this rule the door may become difficult to use. Timber needs discipline to hold its shape so you must always lift the handle up every time you close the door and engage the centre mullion lock.

# External entrance doorsets

## OPERATION: SINGLE DOOR

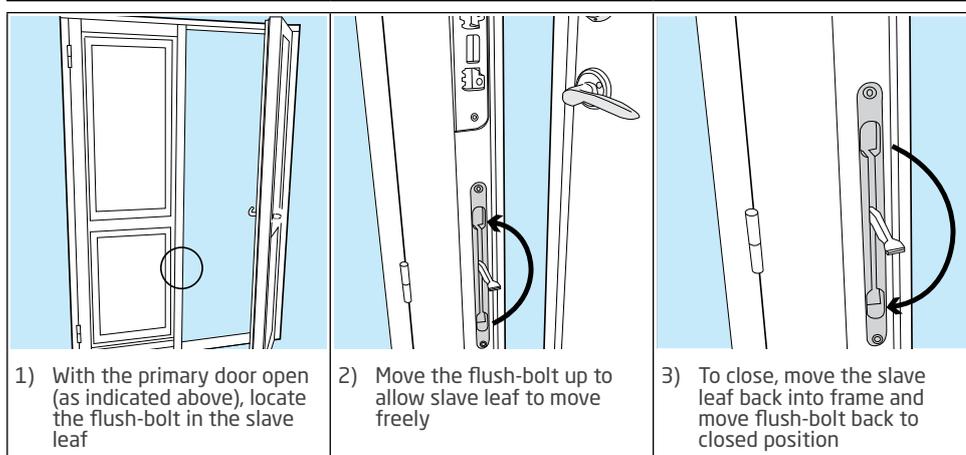
Always check the door is closed and locked before leaving it unattended.

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



## OPERATION: DOUBLE DOOR (OUTWARD)

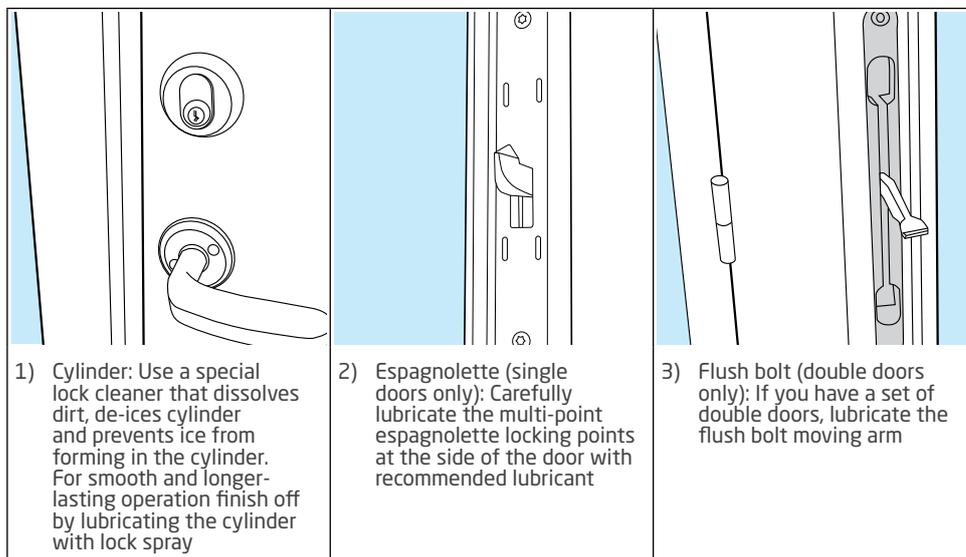
Note: Double doors have single point locking and flush-bolt for slave leaf.



## 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.



### Handles:

It is recommended that furniture polish or similar is used on a regular basis to maintain the coating. Properties close to the coast will require more frequent attention.

### Hinges:

When the hinges are in use they acquire a black coating of dust. This is best prevented by regular maintenance and lubrication.

### Threshold:

The surface must be kept clean. Clean with water and an appropriate cleaning agent.

### Note:

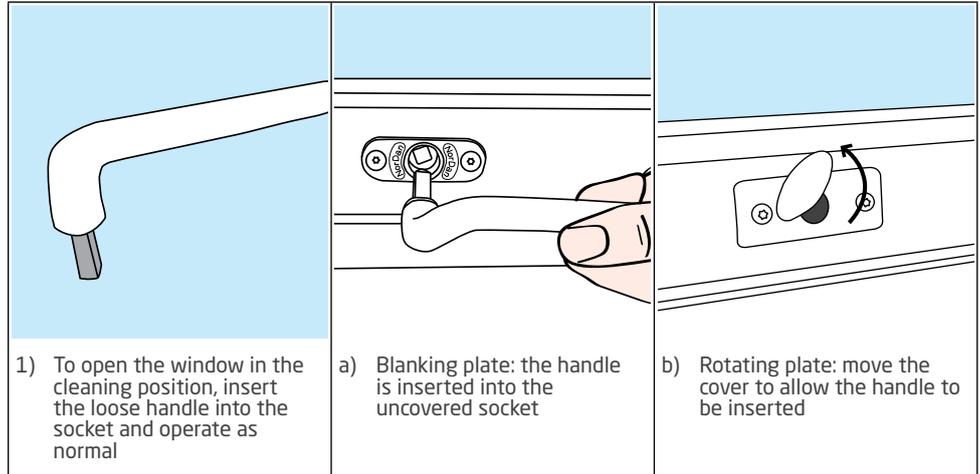
- Do not apply paint or oil to the silicon seal between the door and frame. This would impair the sealing function and elasticity of the materials.
- All door fittings included with the product have been surface-treated and should not be painted. This would impair their function.

# Product furniture: window handles

## LOOSE HANDLE WITH BLANKING PLATE

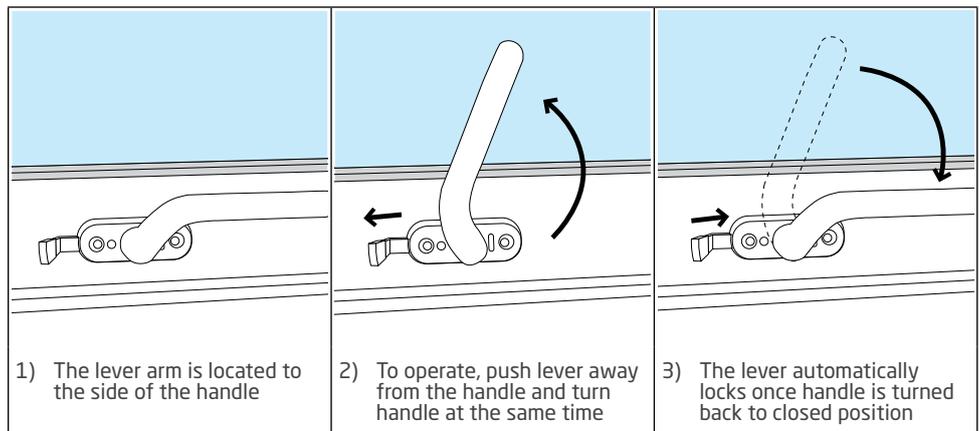
(INWARD OPENING WINDOWS)

Loose handles are usually located in the bottom of the sash to allow free access to the ventilation position yet restrict the cleaning position. Remember to keep your handle somewhere safe and accessible in case of emergencies.



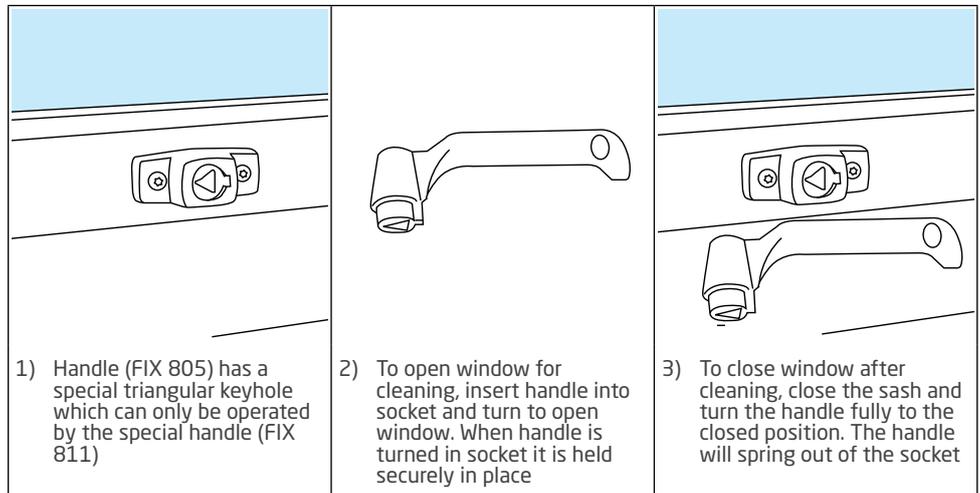
## CHILD SAFETY HANDLE

A lever operated handle is used to restrict the window opening and to improve safety and security



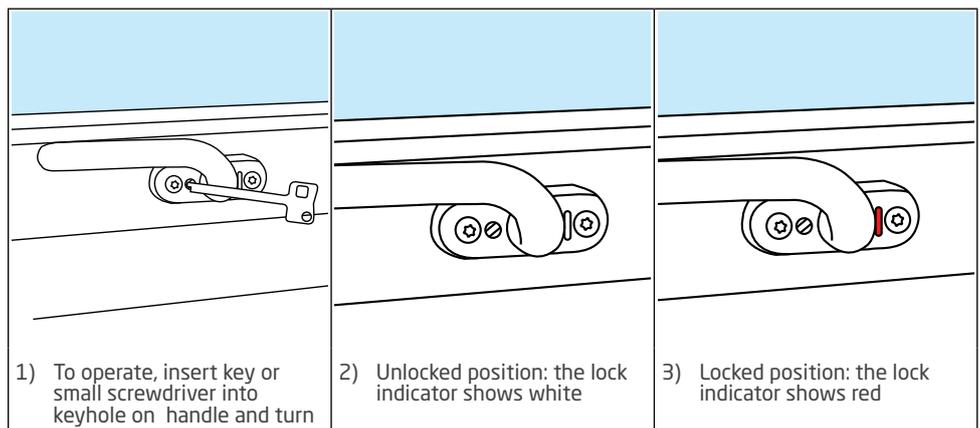
## SPRING LOADED HANDLE (FIX 805, 811)

The safety locking handle is usually fitted in lieu of the bottom handle. This provides added security in locations where supervised control of the opening functions of the window is required.



## KEY OPERATED LOCKING HANDLE

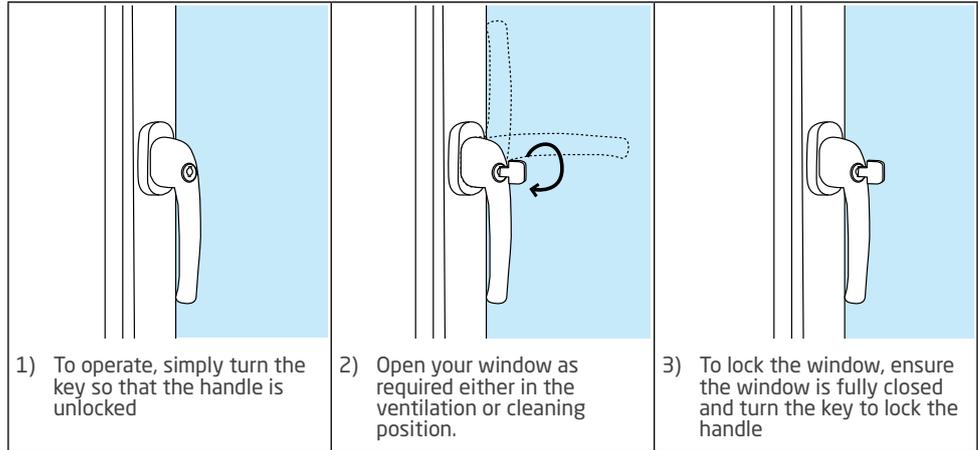
The key operated locking handle can be found in either the bottom or sides of the sash. It can be operated by a key or small screwdriver.



# Product furniture: window handles

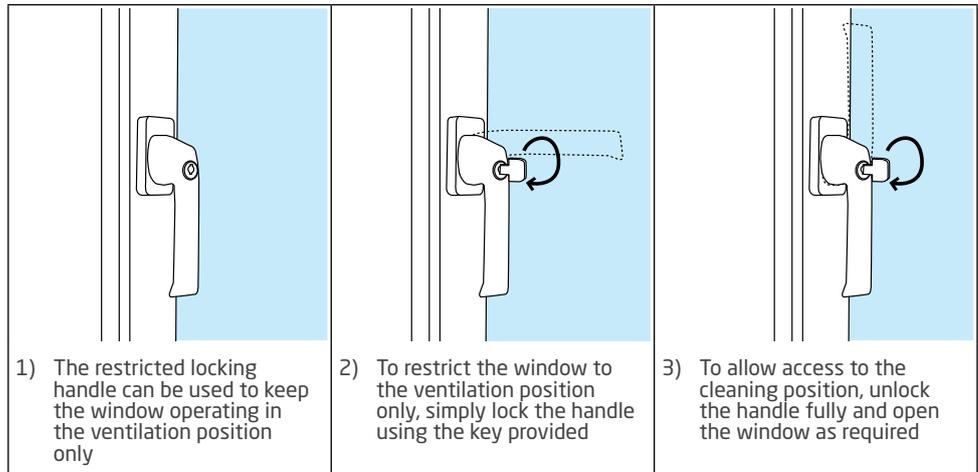
## FULLY LOCKING HANDLE

Fully lockable key-operated handle option for the one handled tilt & turn window.



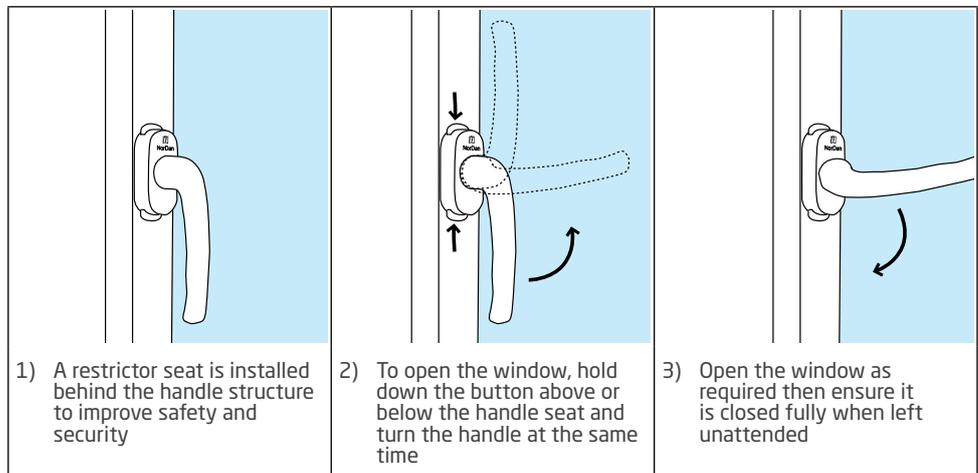
## RESTRICTED LOCKING HANDLE

The handle can be locked using the supplied key to restrict access to the cleaning position



## CHILD SAFETY HANDLE (U26)

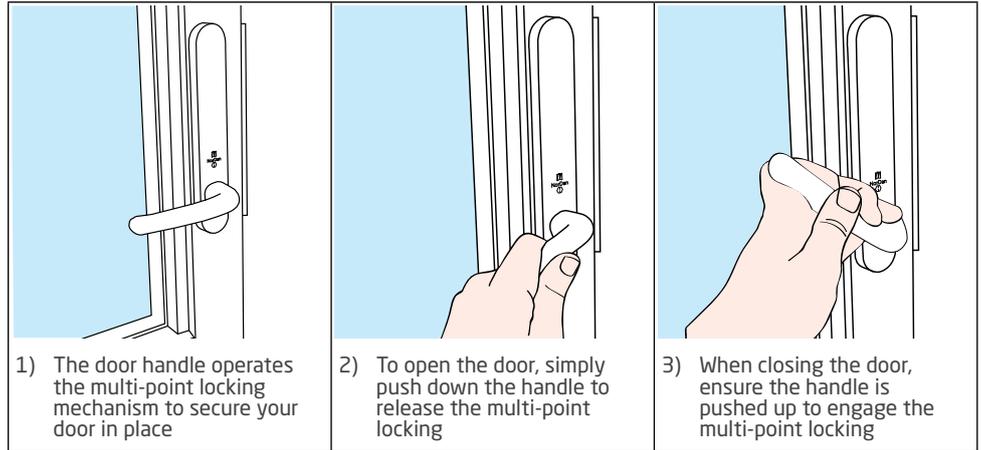
Optional handle for the one handled tilt and turn window for improved safety and security



# Product furniture: door handles

## BLANK HANDLE

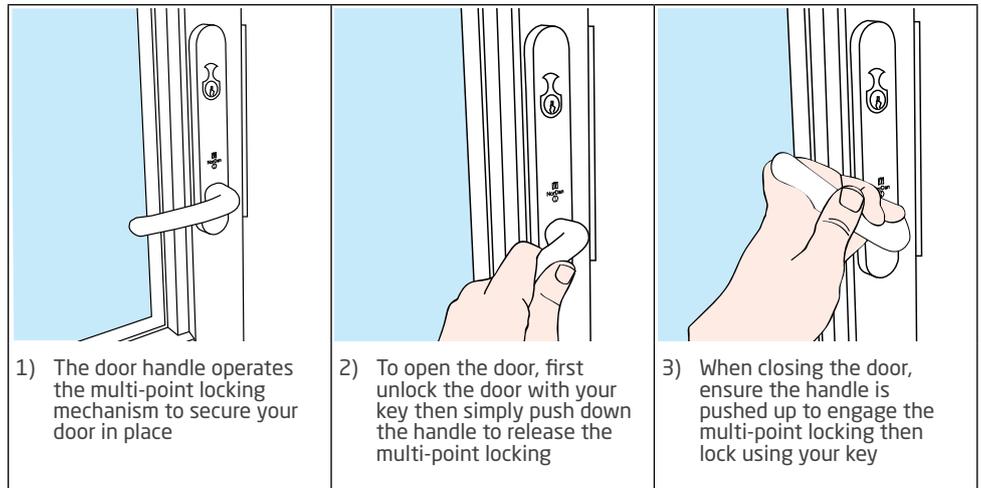
Blank handle plates have no locking operation



## KEY LOCKING HANDLE

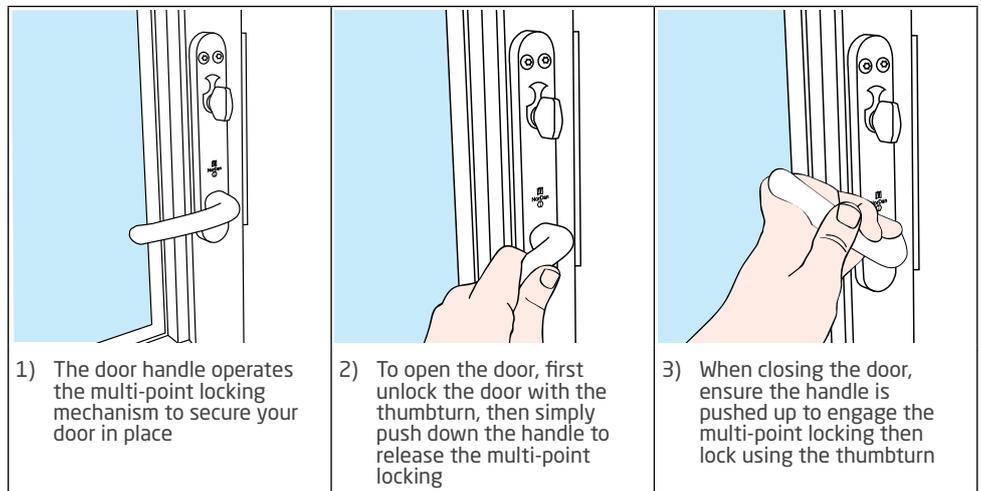
The key operated cylinder locking handle that can be supplied to NorDan balcony doors and sliding doors both inside and outside the door

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



## THUMBTURN HANDLE

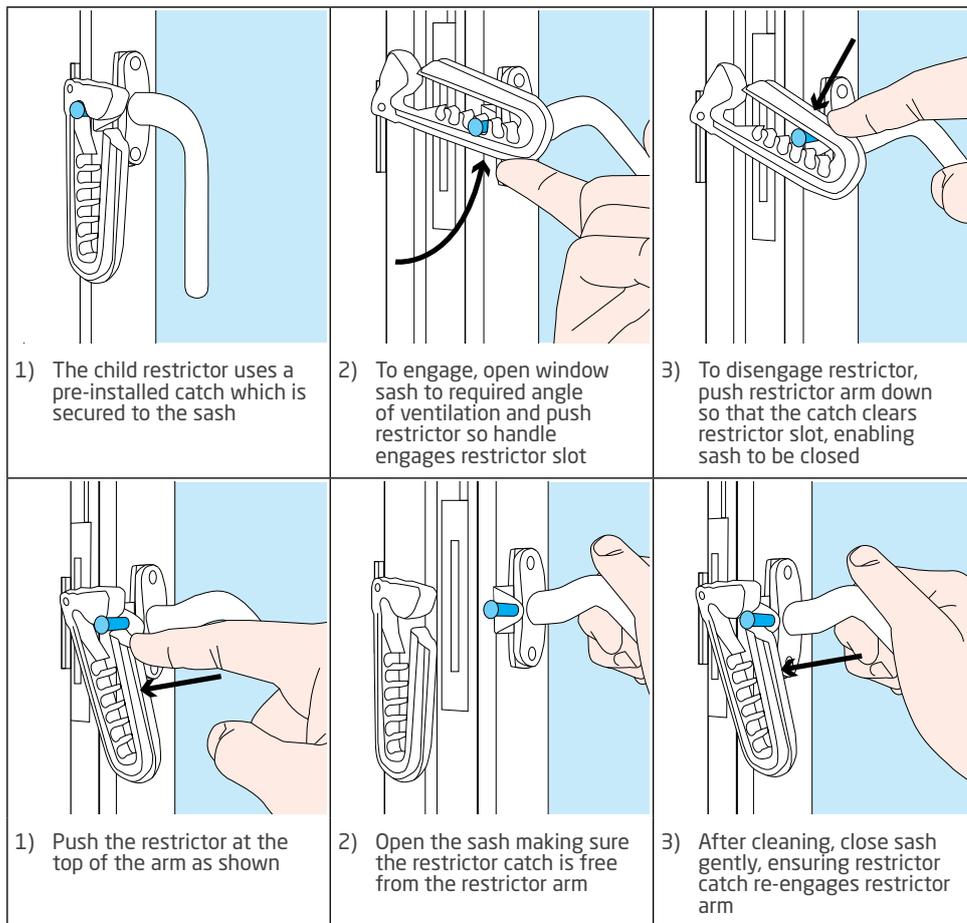
The thumbturn lockable handle can be supplied to NorDan balcony doors and sliding doors to the inside of the door



# Product furniture: restrictors

## CHILD RESTRICTOR

The optional ventilation restrictor can be found 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

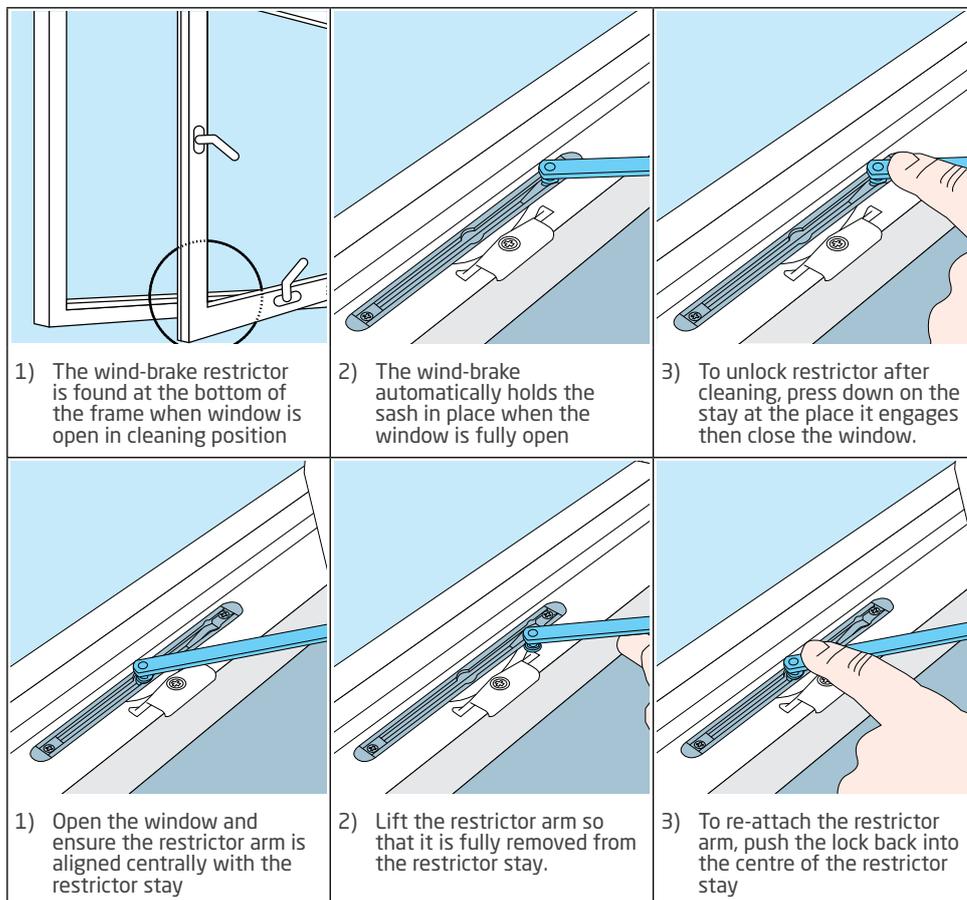


### Cleaning:

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

## WIND BRAKE

The optional factory fitted wind-brake for inward opening windows only is an additional safety device to restrict the movement of the sash when open in the cleaning position.



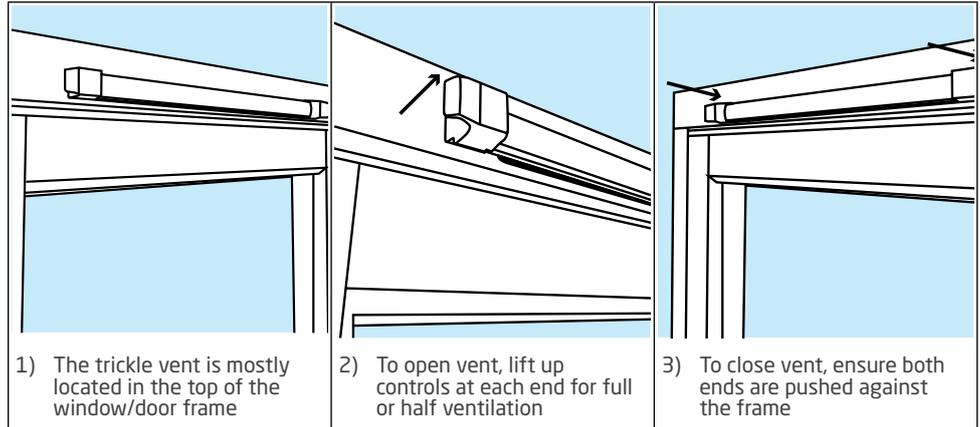
### Disengaging:

The wind-brake restrictor can be disengaged so the window can be opened fully for maintenance purposes.

# Product furniture: additional items

## TRICKLE VENT

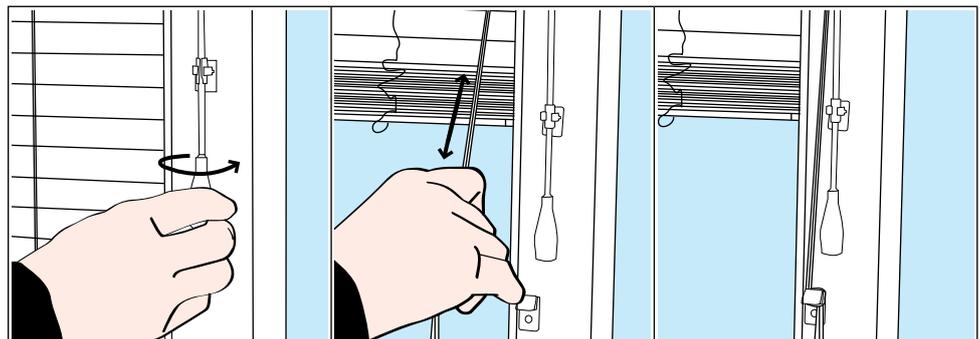
Trickle vents allow for the provision of background ventilation to improve air circulation and reduce the risk of condensation.



- 1) The trickle vent is mostly located in the top of the window/door frame
- 2) To open vent, lift up controls at each end for full or half ventilation
- 3) To close vent, ensure both ends are pushed against the frame

## SECONDARY SASH & VENETIAN BLINDS

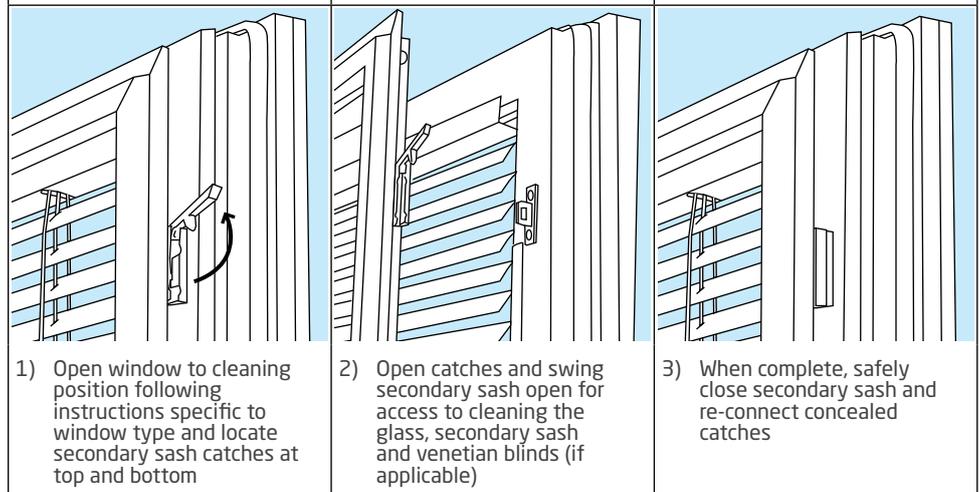
NOTE: Ensure cords are kept well out of reach of small children to avoid risk of injury



- 1) To adjust angle of blinds, rotate the control stick to your preferred configuration
- 2) To adjust height of the blinds, locate control cord to side of window and pull to raise or release to lower
- 3) Wrap control cord around control stay once the blinds are positioned as required

### Maintenance:

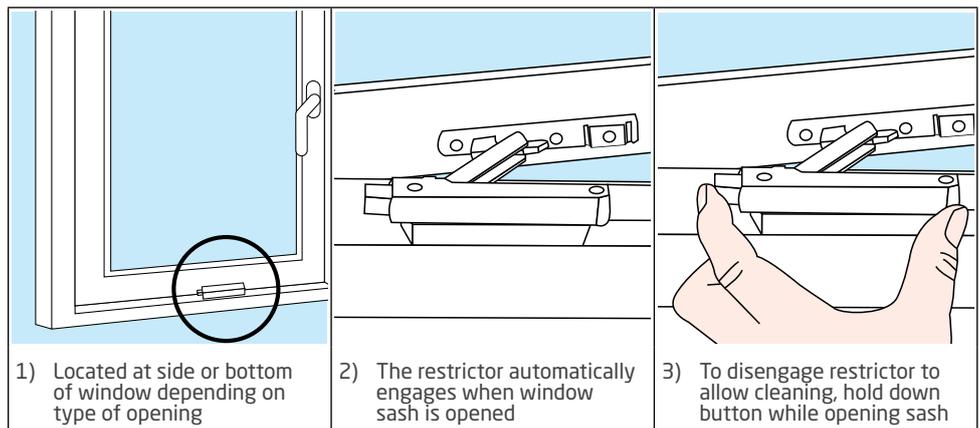
Secondary sashes are fitted to the external side of the main sash and can be used to improve energy saving and reduce maintenance. In the event of maintenance, simply follow these instructions.



- 1) Open window to cleaning position following instructions specific to window type and locate secondary sash catches at top and bottom
- 2) Open catches and swing secondary sash open for access to cleaning the glass, secondary sash and venetian blinds (if applicable)
- 3) When complete, safely close secondary sash and re-connect concealed catches

## PUSH BUTTON RESTRICTOR

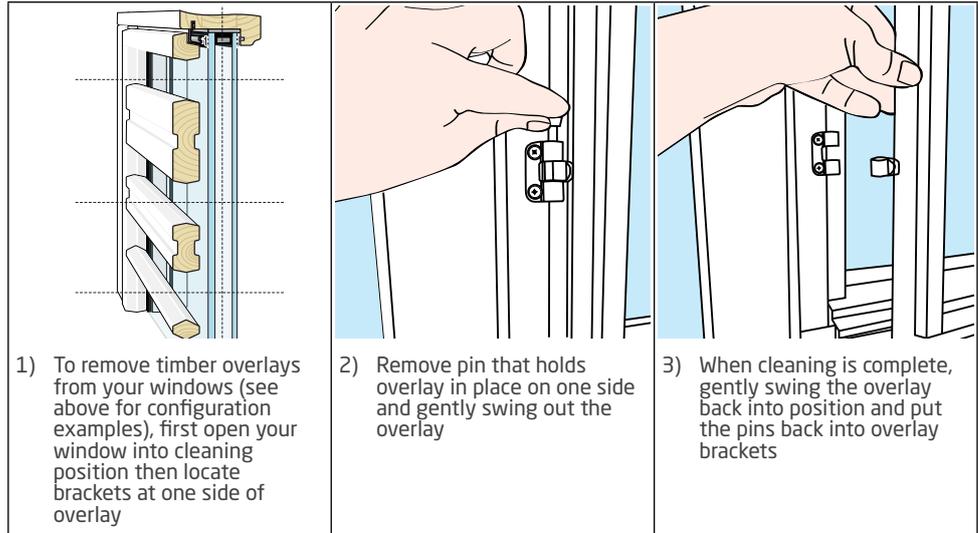
The safety catch restrictor for outward opening windows prevents the sash from slamming shut and also restricts the opening distance. It is operated with a button and lever mechanism.



- 1) Located at side or bottom of window depending on type of opening
- 2) The restrictor automatically engages when window sash is opened
- 3) To disengage restrictor to allow cleaning, hold down button while opening sash

# Product furniture: additional items

## TIMBER OVERLAYS



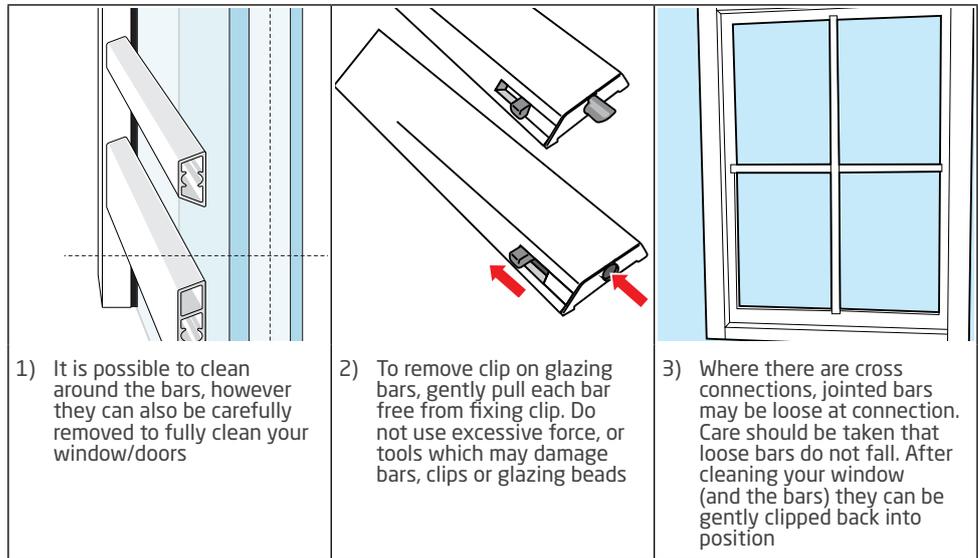
1) To remove timber overlays from your windows (see above for configuration examples), first open your window into cleaning position then locate brackets at one side of overlay

2) Remove pin that holds overlay in place on one side and gently swing out the overlay

3) When cleaning is complete, gently swing the overlay back into position and put the pins back into overlay brackets

## CLIP ON GLAZING BARS

Clip on glazing bars are delivered pre-installed to existing products. The bars are fitted using nylon clips located at the junction between the bar and the glazing bead. The clip should not be removed at any point.



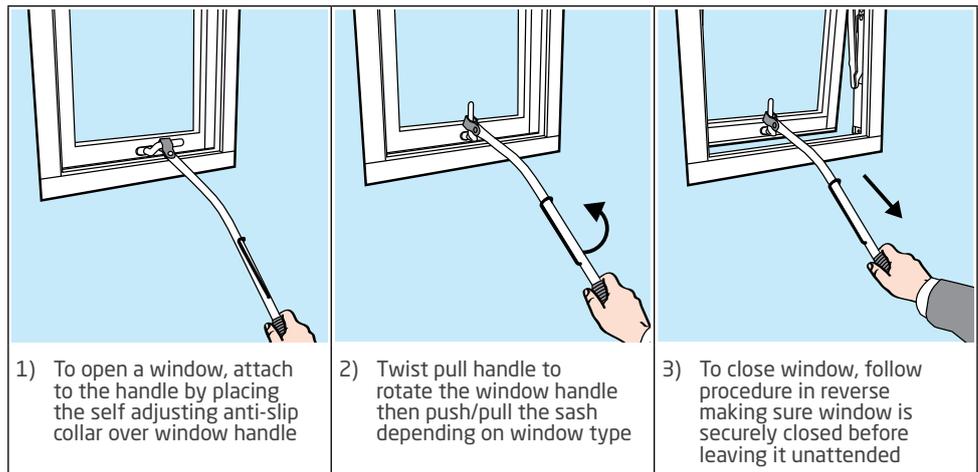
1) It is possible to clean around the bars, however they can also be carefully removed to fully clean your window/doors

2) To remove clip on glazing bars, gently pull each bar free from fixing clip. Do not use excessive force, or tools which may damage bars, clips or glazing beads

3) Where there are cross connections, jointed bars may be loose at connection. Care should be taken that loose bars do not fall. After cleaning your window (and the bars) they can be gently clipped back into position

## WINDOW PULL

The window pull can be used where height or access to handles is restricted. For more information, visit: <http://keydistribution.co.uk>



1) To open a window, attach to the handle by placing the self adjusting anti-slip collar over window handle

2) Twist pull handle to rotate the window handle then push/pull the sash depending on window type

3) To close window, follow procedure in reverse making sure window is securely closed before leaving it unattended



## General maintenance: Introduction

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, Wurth HHS-5000 is recommended unless otherwise stated. The lubricant has good adhesion, is easily applied and is less likely to drop 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

# General maintenance

## 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 AND 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 an oil/alkyd primer to the surface of the wood. Allow it to dry.
10. Apply a top coat of an oil/alkyd or acrylate paint. Apply several layers if necessary. You should not use acrylate 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:

1. Rub down with fine sandpaper and remove sawdust.
2. Apply an alkyd primer.
3. Apply a second top coat of the alkyd paint.

## STAINED WOODEN PARTS

Use only microporous stains on external surfaces. Outside, an oil/alkyd glaze (polymerised oil) is used which provides water-repellent elastic protection and which has good flexibility with the movement of the wood. With regards to the degree of pigmentation, you should consult your paint supplier. It is also possible to use a non-pigmented polymerised oil, but less pigment provides less protection against the sun's UV rays and if the wood is beginning to turn grey, the surface treatment has lost its protective effect.

- A non-pigmented semi-matt clear varnish (alkyd and amino resin), lustre 21, is used inside
- Check your windows properly at least once every year.
- If the exterior surfaces show signs of drying up, e.g. external cracks, mattness or greying, you should take care of the damage.
- Stained windows in exposed locations require maintenance at least once a year.

## STAINING EXTERIOR SURFACES

1. Rub down the surface with fine sandpaper and scrape away any resin which may have been released.
2. Brush away loose sawdust and dirt.
3. Wash the area with a cloth soaked in white spirit.
4. Fill any cracks, e.g. in corner joints or on the window ledge, with plastic filler.
5. Apply pigmented oil/alkyd glaze (polymerised oil) to the wood surface using a cloth, sponge or brush.
6. If the surface appears dry, apply a second coat of the same oil/alkyd glaze (polymerised oil).

## 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:

1. Rub down with fine sandpaper and remove sawdust.
2. Use a brush to apply a non-pigmented semi-matt clear varnish (alkyd and amino resin), lustre 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:

1. Wipe the cladding with a soft brush to remove dust and loose foreign matter
2. 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.

# General maintenance

## 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

Akzo Nobel US Grunn  
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).

#### TWO COLOURS

It is possible to have different opaque colours supplied internally/externally but not together with translucent, or any combination of translucent and lacquer. Opaque outside/lacquer inside is permitted. Please contact your local sales office for further information.

#### STANDARD PRE-TREATMENTS MICROPOROUS PAINT:

Akzo Nobel US Grunn  
Akzo Nobel Winflex T635  
Standard white NCS S0502 y

#### 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.

# SURFACE TREATMENT: EXTERNAL DOORSETS

## PAINTED PRODUCTS (CYD, MFD, CGP, CSL, FANLIGHT) ON DELIVERY

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. A painted product should also be treated with a liquid car wax (not containing abrasives or silicon) at least once per year in connection with the cleaning. If there are any signs of mould, use a cleaning agent that removes mould spores but does not scratch or dissolve the surface. Do not use paint strippers, scouring powder, steel wool or similar for this reason. Doors must regularly be checked for cracks and damage to the varnish. Any cracks or damage must be repaired immediately to prevent moisture from penetrating the construction. Be sure to check glass and decorative strips on the door. Restoration paint is available from your nearest paint supplier. NorDan recommend Dulux Trade Ultimate Woodstain Opaque with gloss 50 for this purpose.

Note: Doors painted in colours other than white must be maintained more carefully due to bleaching in direct sunlight.

Take care not to apply paint or oil to the silicon seal between the door and frame. This would impair the sealing function and elasticity of the material.

All door fittings included with the product have been surface-treated and should not be painted. This would impair their function. However, they should be maintained according to our maintenance instructions.

Note: Don't forget to treat the top and bottom of the door leaf as well.

Wood is a living material and the colour and grain structure may vary between different external storage doors. Doors with a veneered surface may have, or develop, small cracks in the surface due to sun, rain and wind. This does not affect the tightness or operation of the

door and does not entitle the purchaser to compensation or to return the door. Because of this it is important to treat the door regularly with an additional protective surface coating.

### GLAZED PRODUCTS

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).

NorDan's warranty does not apply to damage caused by deficient or insufficient surface coating or poor maintenance.

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.

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

The surface of the installed doors will be affected by the degree of exposure to the elements, for example if the door is in a north facing position or a carport. Different doors in the same property may therefore need to be maintained at different intervals.





# Replacing/fixing glass

The following information provides 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 also securing glass in products that were specified 'dry glazed'. Read these instructions carefully to minimise risk of injury and also to make sure your windows and doors stay in good working condition.

The following instructions depict the three handled tilt & turn window for illustrative purposes, however the same guidelines apply to all glazed products from opening windows to fixed lights, sliding doors and inward and outward opening doors.

**'Damaged Glazing':** To replace a damaged sealed unit, always ensure you have the correct tools and correctly sized replacement unit (width x height) in order that the procedure is carried out in one operation. The make-up of the sealed unit can be found in the spacer bar or order and line number from the original paperwork.

**'Dry Glazed':** 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 following the specific instructions found here.

Note: This fitting instruction does not take into account the product positioning in the building and additional instruction may therefore be necessary, for example (but not excluded to) working with ladders, scaffolding, lifting or inspection platforms, cranes etc.

## HEALTH AND SAFETY

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. As such, this information can only be used as a guide when preparing risk assessments and method statements for job specific activities.

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 have specific provision for the following:-

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

## WHAT YOU WILL NEED

- Safety equipment including gloves and goggles
- Glazing packers of various sizes (3mm for the bottom but a variety

for the top and sides in case the replacement glass size varies from the original)

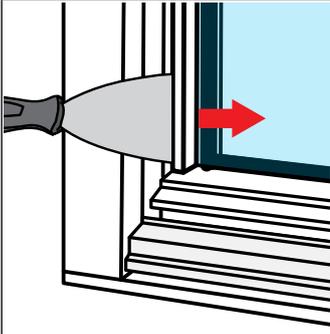
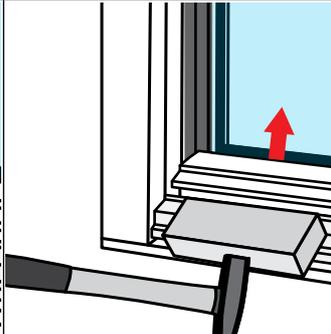
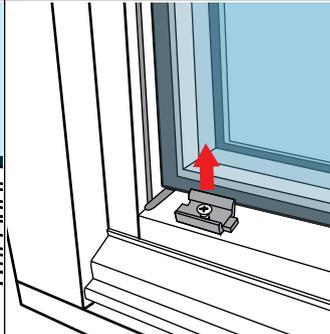
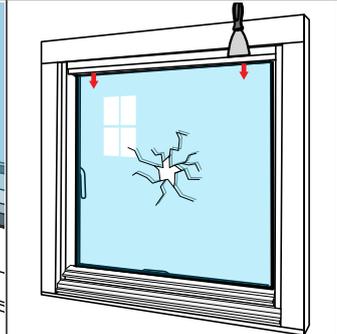
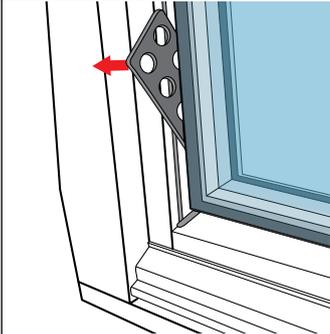
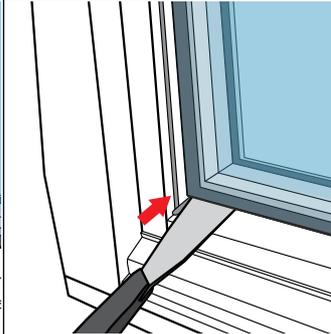
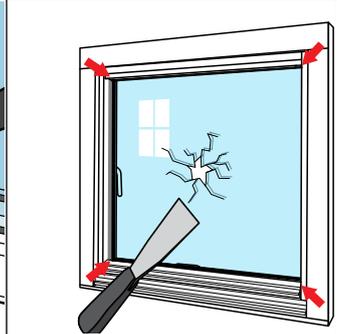
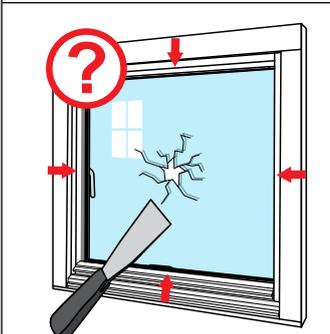
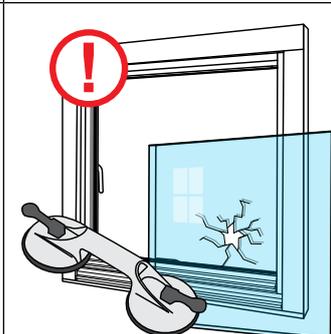
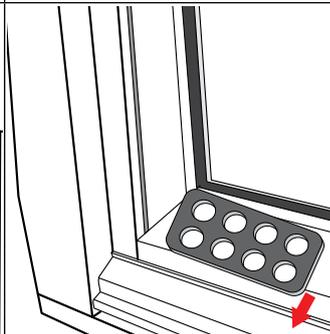
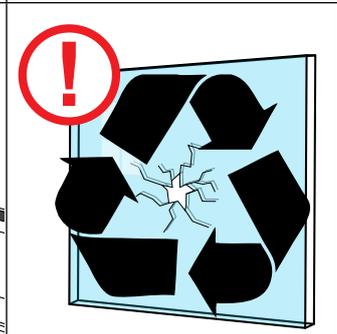
- Torx screwdriver (size T15)
- Small star head and 13mm flat blade screwdriver
- Claw hammer and soft hammer
- Broad bladed tool (old paint scraper etc.)
- Long thin bladed tool (sharp putty knife)
- Timber block
- Standard and long-nose pliers
- "Fix All High Tack" (or similar adhesive/security glue)

If any screws are used, please ensure they have sufficient corrosion resistance to class A2 or better.

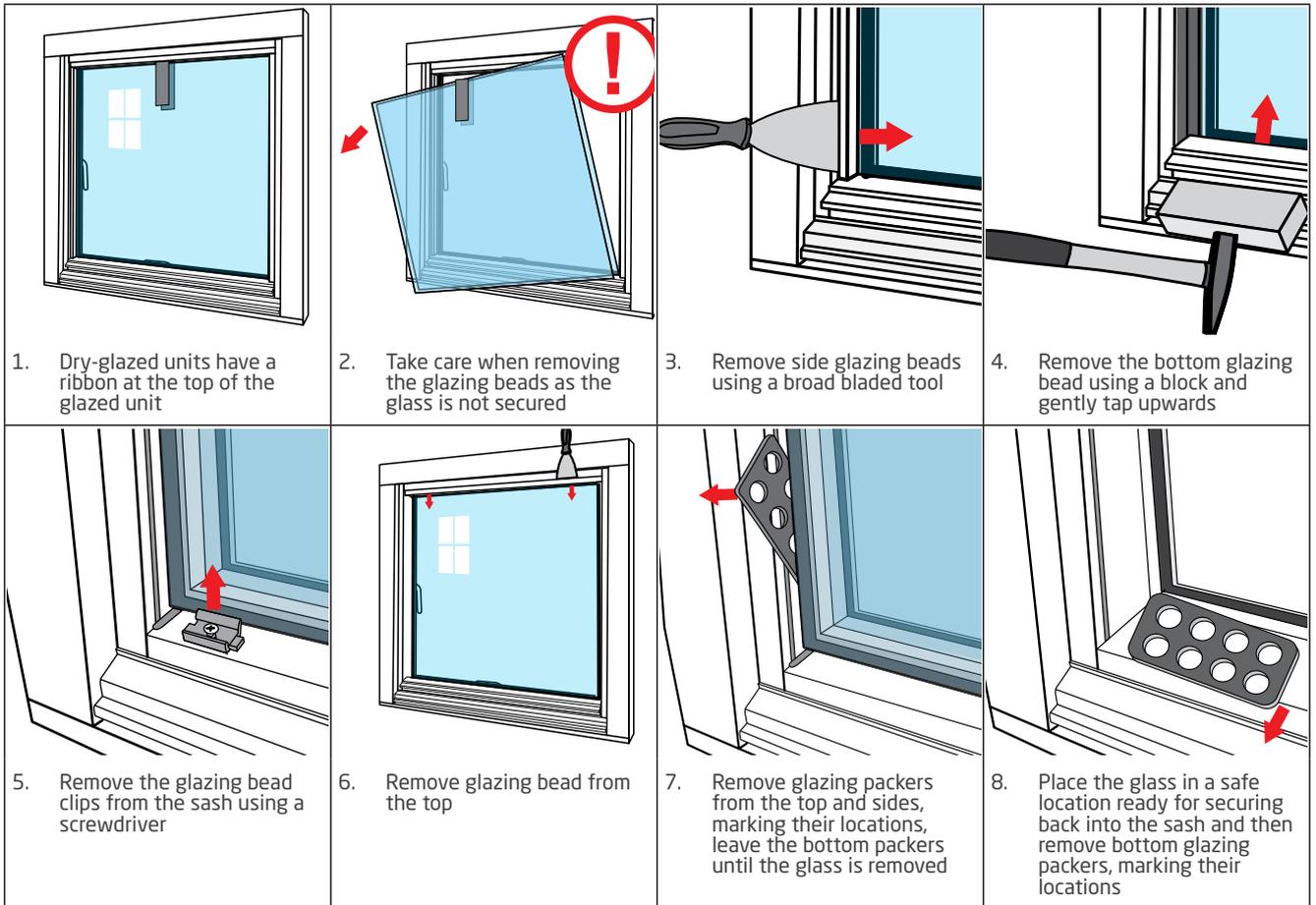
## REMOVING WINDOW SASHES

It is sometimes advantageous to remove window sashes and door leaves prior to removing or fitting glazing. The following guidelines will help you carry out this procedure to health and safety requirements and in a controlled manner. Please note that at least two people are required to remove a window sash or door leaf safely.

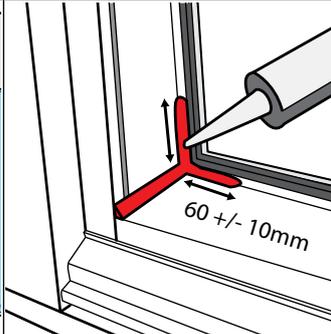
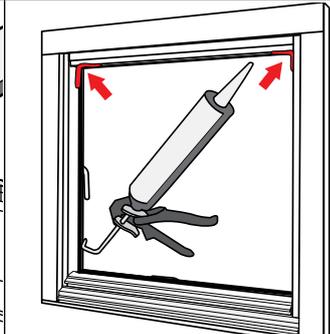
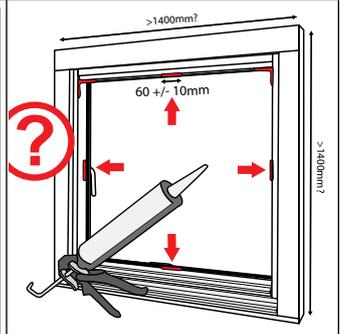
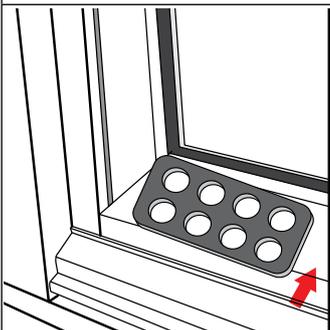
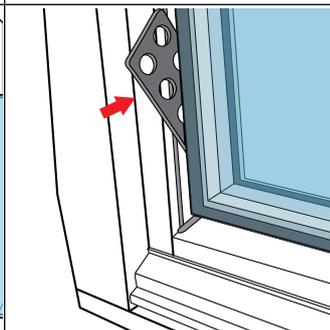
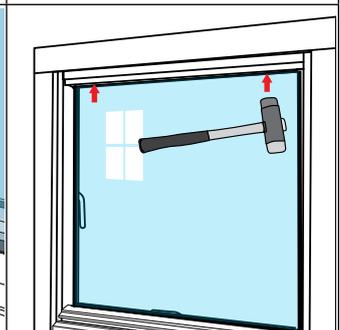
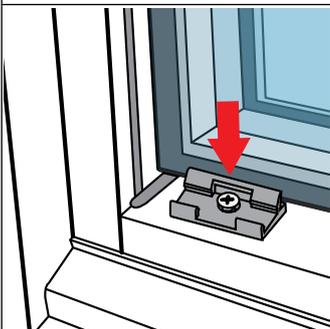
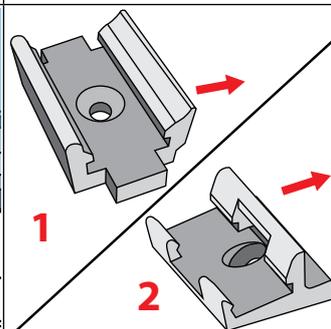
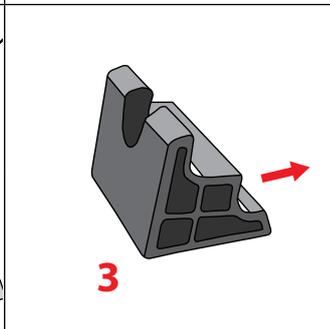
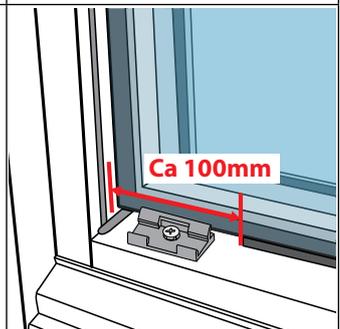
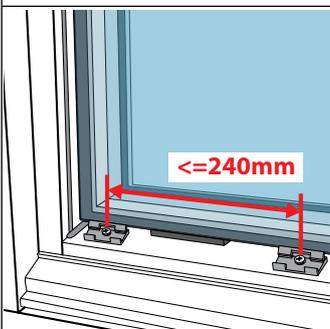
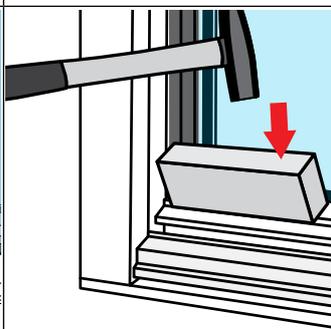
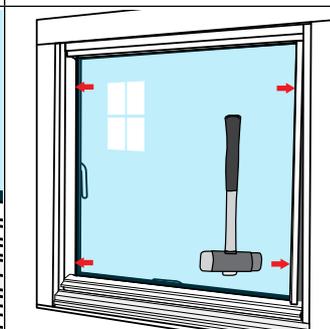
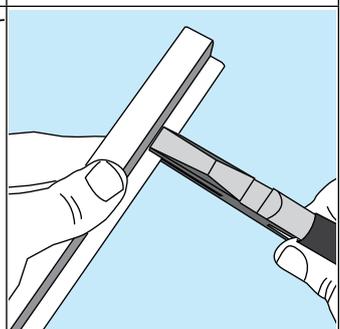
## REMOVING BROKEN SEALED UNITS

 <p>1. Check glass is safe. Remove side glazing beads using a broad bladed tool</p>	 <p>2. Remove the bottom glazing bead using a block and gently tap upwards</p>	 <p>3. Remove the glazing bead clips from the sash using a screwdriver</p>	 <p>4. Remove glazing bead from the top</p>
 <p>5. Remove glazing packers from the top and sides, marking their locations, leave the bottom packers until the glass is removed</p>	 <p>6. Break the glue seals by cutting into and away from the corners from the outside</p>	 <p>7. Break the glue seals by cutting into and away from the corners from the inside of the window</p>	 <p>8. Repeat cutting the glue seal in all four corners, internally and externally</p>
 <p>9. If centres are glued, remove accordingly</p>	 <p>10. Take care when removing the glass from the sash</p>	 <p>11. Remove bottom glazing packers, marking their locations and scrape clean any areas where glue had previously been applied</p>	 <p>12. Dispose of the glass in accordance with your local guidelines / regulations</p>

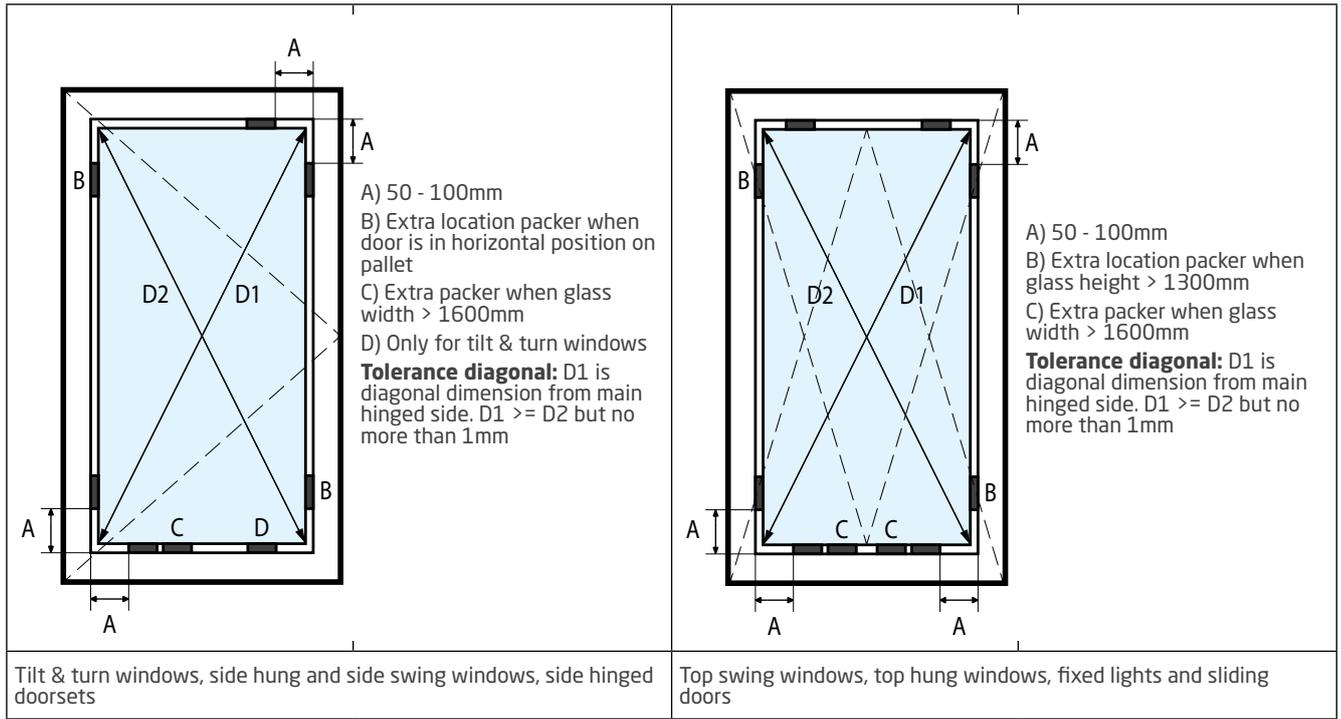
## REMOVING DRY GLAZED UNITS



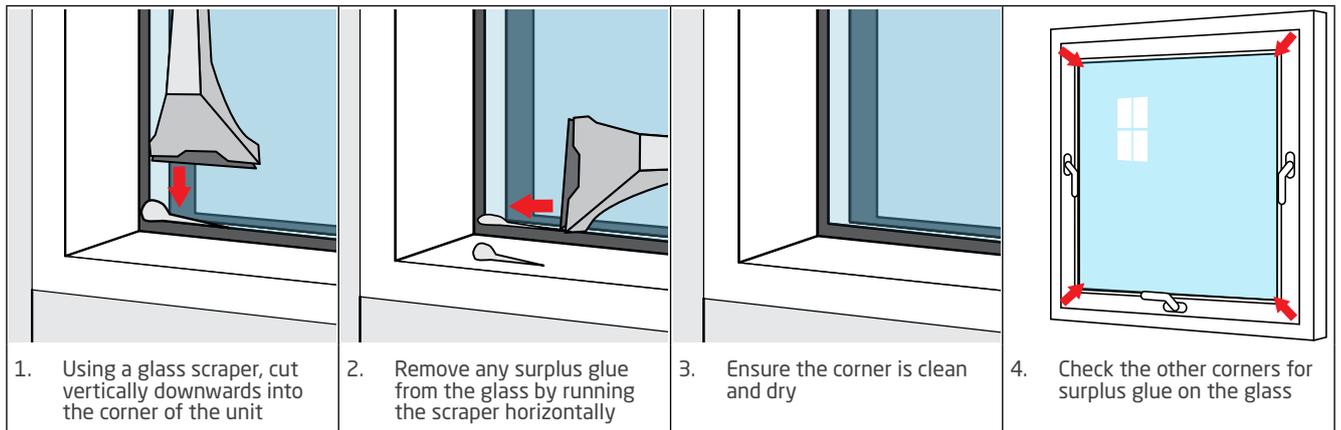
# FITTING GLAZED UNITS

 <p>1. Ensure replacement glazed unit fits accordingly with any stickers on glazing facing inwards</p>	 <p>2. Apply a run security glue in the bottom corners of the sash as indicated</p>	 <p>3. Apply security glue in the top corners of the sash but not front to back</p>	 <p>4. If glass height or width exceeds 1400mm, apply additional security glue as shown</p>
 <p>5. Re-fit bottom glazing packers where previously marked (if applicable). For loose glazing see 'Glazing packer locations'</p>	 <p>6. Insert sealed unit into sash ensuring a good contact is made in each corner and safety glass is installed facing the correct way</p>	 <p>7. Re-fit loose glazing packers as previously marked (if applicable). For loose glazing see 'Glazing packer locations'</p>	 <p>8. Apply 30-50mm security glue on the bead approx 100mm from each end and fit the top glazing bead</p>
 <p>9. Fit bottom glazing bead clips, ensuring the clip faces the right way as indicated</p>	 <p>10. Clip type 1: grooved edge installed against the glass Clip type 2: tallest edge installed against the glass</p>	 <p>11. Clip type 3: As shown</p>	 <p>12. Glazing clips should be positioned approximately 100mm between edge of frame and glazing packer</p>
 <p>13. Further clips are positioned along bottom with distances of no more than 240mm</p>	 <p>14. Fit the bottom glazing bead into place</p>	 <p>15. Apply 30-50mm security glue on the side glazing beads approx 100mm from top and bottom and fit.</p>	 <p>16. If any glazing beads are loose, crimp with pliers and apply further security glue if necessary</p>

## GLAZING PACKER LOCATIONS



## REMOVING EXCESS SECURITY GLUE WHEN DRIED (INTERNALLY ONLY)



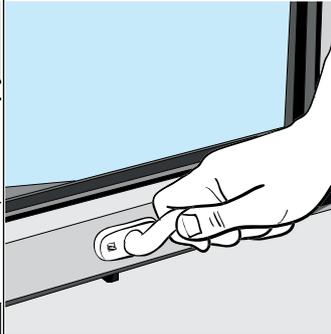
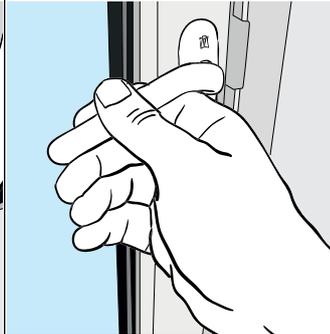
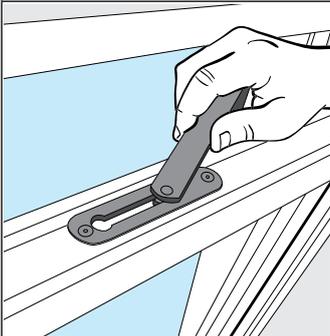
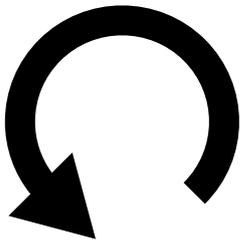
# Removing sashes and door leaves

It is sometimes advantageous to remove window sashes and door leaves prior to removing or fitting glazing. The following guidelines will help you carry out this procedure safely and in a controlled manner.

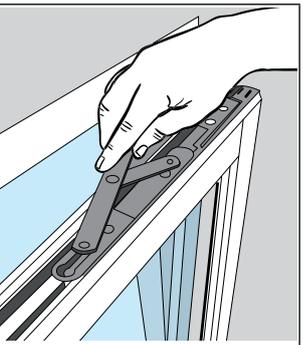
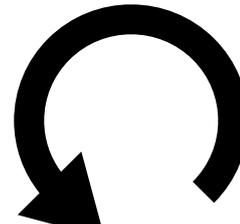
Removing sashes and door leaves should only be undertaken by suitably trained personnel who have carried out risk assessments and any other health and safety requirements.

**HEALTH AND SAFETY**  
**Note:** Please ensure that at least two competent people are required to remove a window sash or door leaf safely.

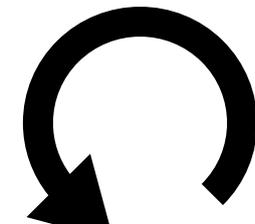
## REMOVING A TILT & TURN WINDOW SASH (THREE HANDED)

			
<p>1. Open the window into the side hung cleaning position (using the side and bottom handles)</p>	<p>2. Close the bottom handle with the sash open</p>	<p>3. Open the side handle on the 'hinged' side</p>	<p>4. Tilt the sash inwards by approximately 30° then lift it up and off the ball fitting located at the bottom of the 'hinged' side</p>
			
<p>5. Uncouple the steel holding stay at the head by sliding the sash to the hinged side of the window</p>	<p>6. Store the sash safely. To re-install follow these procedures in reverse</p>		

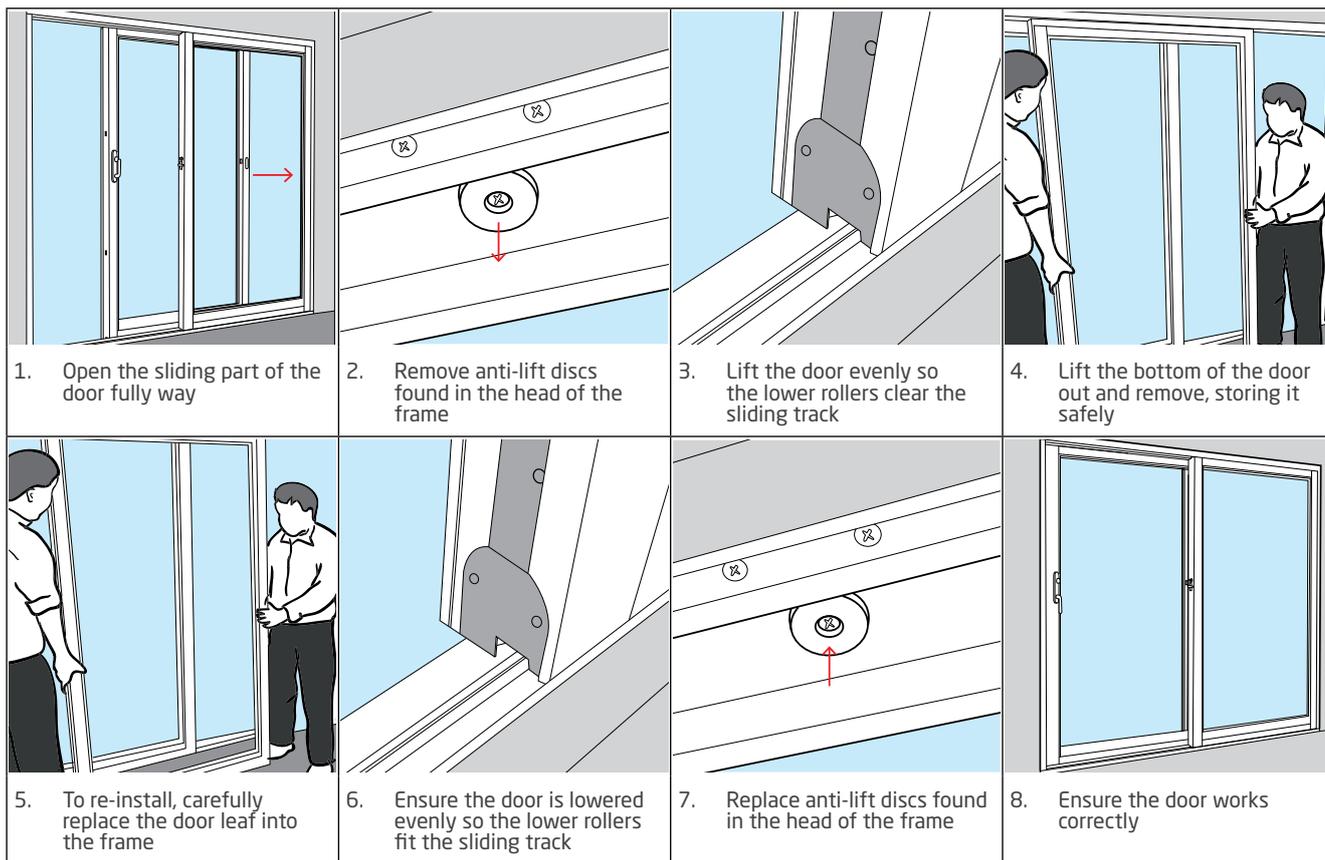
## REMOVING A TILT & TURN WINDOW SASH (ONE HANDED)

			
<p>1. Open the window into the side hung cleaning position (by turning the handle 180°)</p>	<p>2. Hold the button located in the side of the sash and turn the handle 90° into the ventilation position</p>	<p>3. With the sash at 90° to the frame, carefully lift up at the handle side and free the top restrictor arm, turning it to the side</p>	<p>4. Fully uncouple the steel holding stay at the head of the sash</p>
			
<p>5. Store the sash safely</p>	<p>6. To re-install the sash, follow the procedure in reverse</p>		

## REMOVING A BALCONY DOOR LEAF (SINGLE AND DOUBLE)

			
<p>1. Open the door by approximately 90° or more so that the door leaf clears the frame</p>	<p>2. Lift the door leaf off the hinges from the frame and store safely. <b>Note:</b> If a head fixing brake is installed, unscrew and remove prior to lifting the door.</p>	<p>3. To remove the secondary door (if applicable), follow the same procedure</p>	

## REMOVING A SLIDING DOOR LEAF





# 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: 2007, 'Code of practise for the survey and installation of windows and external doorsets' and Section 6 GGF data sheet 'Installation of windows and doors in domestic properties', 1996.

Copies of the publications are obtainable from:

Bsi, 389 Chiswick High Road, London, W4 4AL  
Tel: 020 8996 9000

Glass and Glazing Federation, 44-48 Borough High Street, London, SE1 1XB  
Tel: 0171 403 7177  
(<http://www.ggf.org.uk/publications>)

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
- Store units vertically, NEVER horizontally
- 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

## 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.

If the reveal is stepped by internal plaster and the new window is to be drawn in over the plaster then check the new window internal frame dimension to ensure the sash will open inwardly without obstruction. Determine the required manufacturing width accordingly.

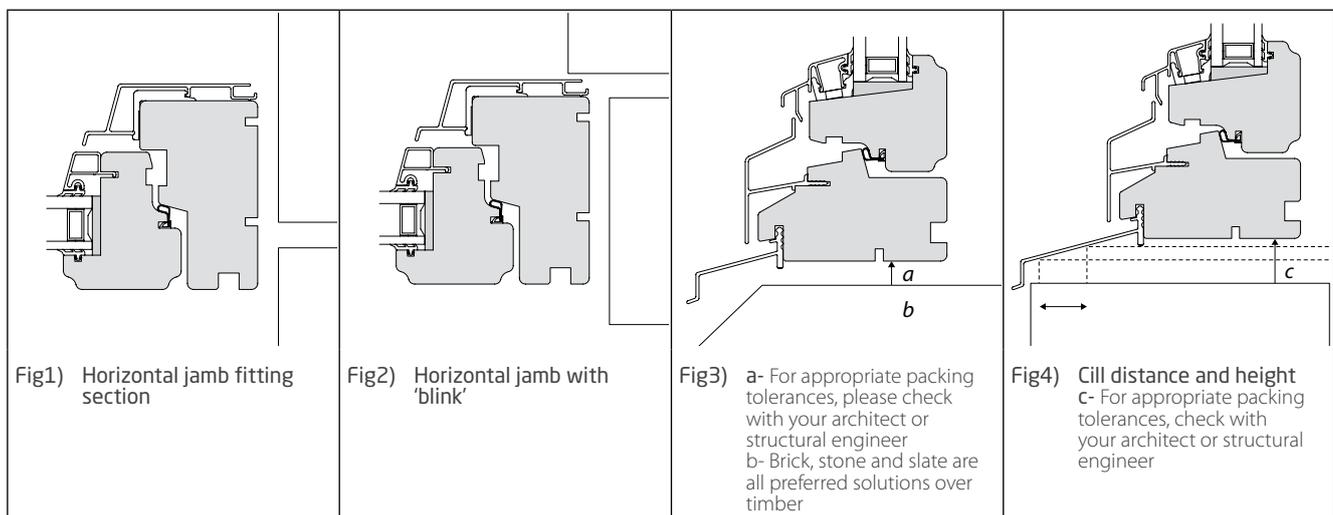
Where a wall is tiled and if the window is to be drawn in over the tiles then determine the required manufacturing width accordingly.

## 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.



# Delivery, handling and storage

## DELIVERY

### CHECKING DELIVERY

The delivery is subject to inspection of the goods. The inspection will be carried out by the installers, recipient of goods/contractor or a staff member of NorDan UK Ltd.

The contractor/installers are responsible for any damage to exposed surfaces and must report damage before handling (while checking delivery) and not afterwards.

When all the pallets are off-loaded the number of pallets and parcels must be totalled and checked against the delivery note & signed for.

### HANDLING

Products will arrive to site on shrink wrapped pallets.

### OFF - LOADING

Pallets are to be removed from the delivery lorry one at a time with the aid of a site forklift, crane, teleporter, hiab

### SLINGER/SIGNALLER

All off-loading must be Supervised by a qualified Slinger/Signaller, with the aid of a trained Banksman. This is a very important issue, specifically when using cranes.

The site lifting plan must be inspected and followed at all times. Pallets must be constructed well and loaded diligently.

### MANUAL HANDLING

Ensure the correct PPE is available and worn. First rule of manual handling:-

- Mechanise wherever possible

If this is not possible / practicable -

- Reduce the size of the load
- Calculate/know the SWL (safe working load)
- Get a suitable amount of people around the load

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.

Kinetic lifting practices must be used at all times to prevent injury and damages to products. Always remember, never continue with a lift if one member of the team is not comfortable.

## SAFE HANDLING OF GLASS

Same rules apply for as for manual handling with the following additions:

- PPE gloves, eye protection, hat, boots
- Lifting equipment
- Mechanical or manual
- Weight of glass
- Route to destination clear
- Final installation point ready
- Ensure safe access & egress to the workplace
- Ensure all persons involved with lifting understand what is required.
- Ensure the intended opening has been suitably prepared.

### DISPOSAL OF BROKEN GLASS

- Glass should be removed directly to a designated skip wherever possible
- Utilise steel/plastic bins if carrying broken glass to the skip
- If possible apply self adhesive film to the glass before breaking/removing
- Always wear gloves, goggles/ glasses and wrist protection

### 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.

### 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).

# 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.

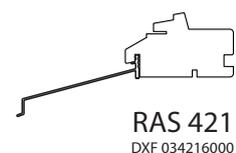
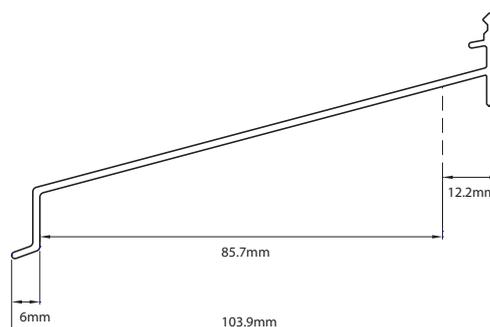
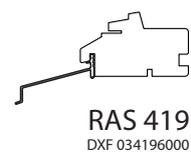
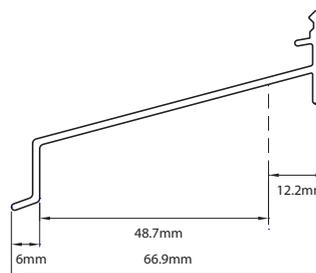
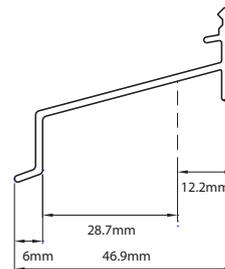
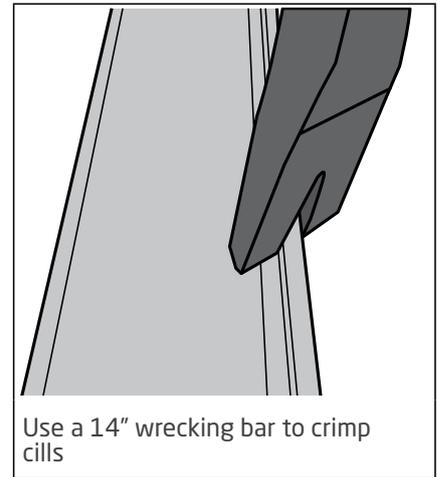
## ALUMINIUM EXTENSION CILLS

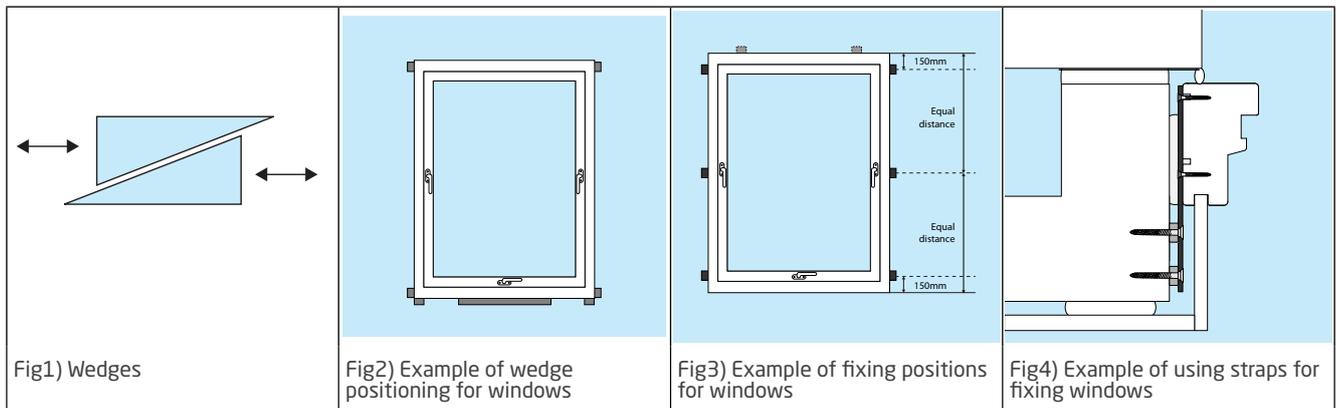
NorDan's aluminium extension cills attach directly to the threshold/cill section to divert water or moisture away from the fabric of the building.

Cills can be fitted after installation of the product. First, apply security glue along the cill groove with 50mm strips applied every 500mm. To ensure the

security glue 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')
- Never 'persuade' joinery into an opening. It either fits or it doesn't!
- Talk to us. We are here to help you

### 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

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.

Fixing straps should always be screwed with at least two screws in the window and two in the wall. One fixing (frame and wall) may cause the frame to drop!

#### **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. Providing mastic application stops short approx. 12mm from the bottom of jambs, 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 lock and refit an Evo 310, a 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.

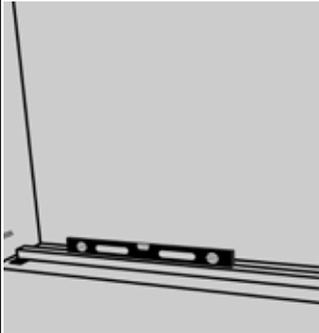
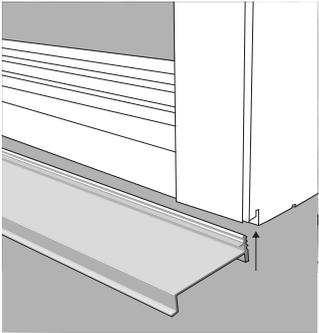
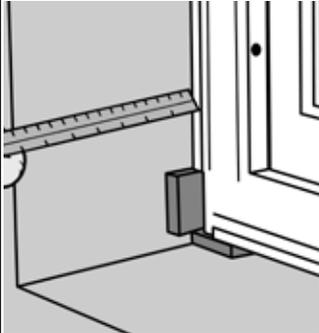
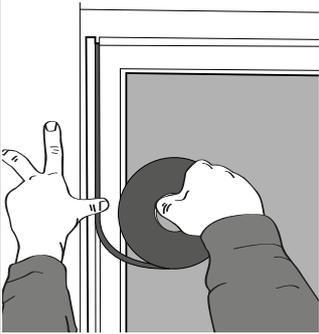
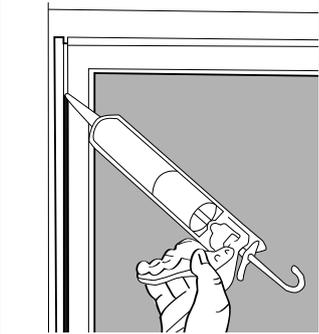
Sliding doors locks are fitted with T20 and bottom mechanism also requires a T30.

One handle tilt and turn windows are mainly T20. Small adjust has a T15.

# INSTALLING WINDOWS

## HEALTH & SAFETY

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

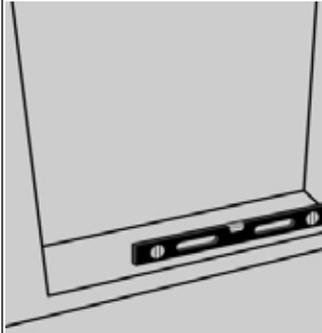
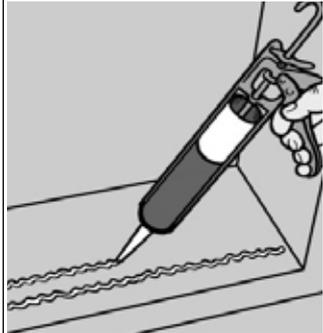
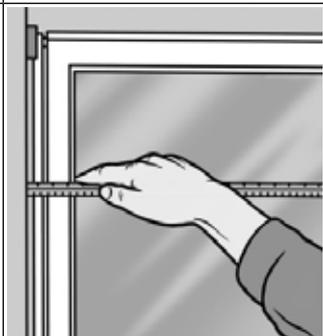
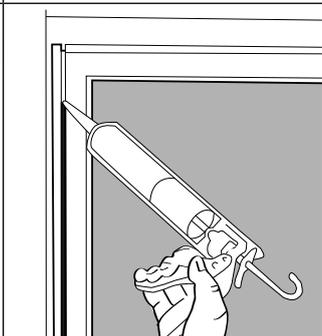
		
<p>1. <b>Inspect opening</b> Check that the opening is clear of debris and is structurally sound. Check that the measurements of the opening match the window for installation allowing for tolerances and that the opening is plumb and square</p>	<p>2. <b>Remove sash if the window is inward opening.</b> It is not recommended that outward opening sashes are removed</p>	<p>3. <b>Fit aluminium extension cill (if applicable).</b> Aluminium extension cills should first be crimped before fitting to the underside of the frame. Fix in place using recommended security glue</p>
		
<p>4. <b>Insert the window frame into the prepared opening</b> 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</p>	<p>5. <b>Fix frame into opening</b> 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</p>	<p>6. <b>Insert the sash into the frame and carefully apply downward force</b> (for three handed and one handed 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</p>
		
<p>7. <b>Adjust fixings</b> Adjust the fixings until the sash operates smoothly. Check that there is an even clearance between the sash and frame</p>	<p>8. <b>Apply expanding foam or foam tape (if applicable)</b> Spray all surfaces with water before using expanding foam, ensuring any manufacturer guidelines are followed</p>	<p>9. <b>Apply mastic (if applicable)</b> Apply an even bead of mastic around the window / wall junction or fit a cover facing if required</p>

# INSTALLING SINGLE AND DOUBLE BALCONY DOORSETS

## HEALTH & SAFETY

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

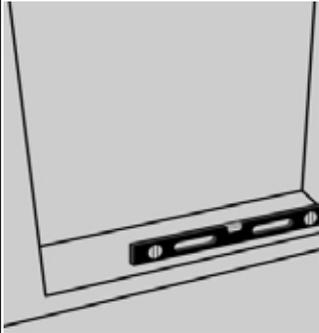
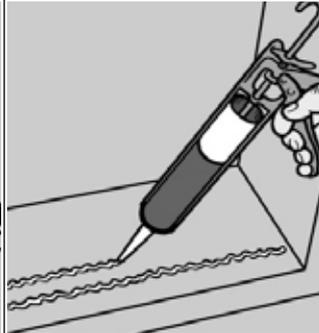
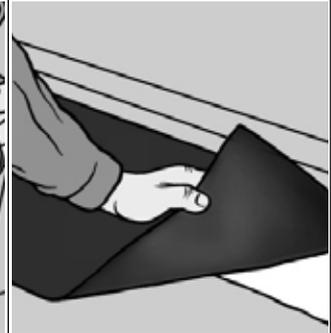
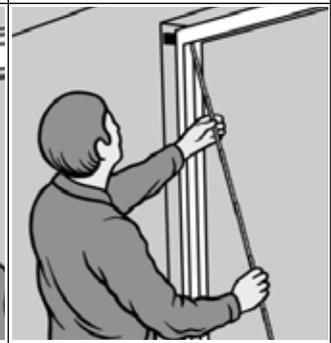
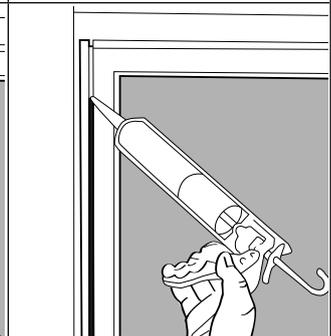
Note: Where the main structure is incapable of taking the load or providing a secure permanent fixing, refer to the contractor or client. If the main structure is timber frame, check that it is fully treated and protected from swelling.

		
<p>1. <b>Inspect opening</b> Check opening is clear of debris and is structurally sound. Never install a door into an incomplete opening. Check measurements of the opening match door for installation, allowing for fitting tolerances and opening is plumb and square</p>	<p>2. <b>Prepare floor</b> 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.</p>	<p>3. <b>Concrete construction</b> 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</p>
		
<p>4. <b>Remove door from frame</b> First remove any transportation packers from the bottom of the door leaves. Open the door by 90° and lift the door leaf off the hinges. Do not attempt this on your own. Observe health and safety guidelines at all times. Put the door leaf (leaves) in a safe place.</p>	<p>5. <b>Place the frame in the opening</b>, securing firstly with rot-proof dense wedges.</p>	<p>6. <b>Ensure frame is level and plumb</b> without twist. Hinged side must be level both ways before fastened. Do the same with lockable side (or other hinged side on double doors). Note: For timber frame, fix 38 x 50mm fire-stops to top and both sides. Screw through fire-stops onto the timber frame.</p>
		
<p>7. <b>Check levels and fixings</b> Refit the door leaf (leaves) then carefully apply downward force. This will remove any slackness in the door and fittings which effectively reduces future wear and tear. Check screws are tight.</p>	<p>8. <b>Check gap on the lockable side</b> is a little less than on the hinged side. Note: For double door sets, use an Allen Key to adjust the slip bolt keepers (positioned at top and bottom of frame) until the fixed leaf is tight against the seal on the frame.</p>	<p>9. <b>Apply expanding foam</b>, expanding tape and/or mastic (if applicable) Apply an even bead of mastic around the door / wall junction or fit a cover facing if required</p>

# 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.

		
<p>1. <b>Inspect opening</b> 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</p>	<p>2. <b>Prepare floor</b> 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</p>	<p>3. <b>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</b></p>
		
<p>4. <b>Remove door from frame</b> 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</p>	<p>5. <b>Place the frame in the opening, securing firstly with rot-proof dense wedges</b></p>	<p>6. <b>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</b></p>
		
<p>7. <b>Check levels and fixings</b> Refit the door and re-fasten all the screws checking that fixings are the correct distance apart</p>	<p>8. <b>Apply expanding foam or foam tape (if applicable)</b> Spray all surfaces with water before using expanding foam, ensuring any manufacturer guidelines are followed</p>	<p>9. <b>Apply mastic (if applicable)</b> Apply an even bead of mastic around the window / wall junction or fit a cover facing if required</p>

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

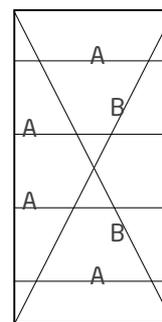
Use a caulking material that does not absorb moisture. Press the caulking material gently into the join from the inside. Do not caulk so hard that the sides of the frame buckle inwards.

### 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:



A= The horizontal measurement across the frame shall be identical at each of the four attachment points.  
M 10-21 and 10-20 = 920 mm  
M 9-21 and 9-20 = 820 mm  
M 13 -21 = 1220 mm  
M 14-21 = 1320 mm  
M 15-21 = 1420 mm  
M 17-21 = 1620 mm

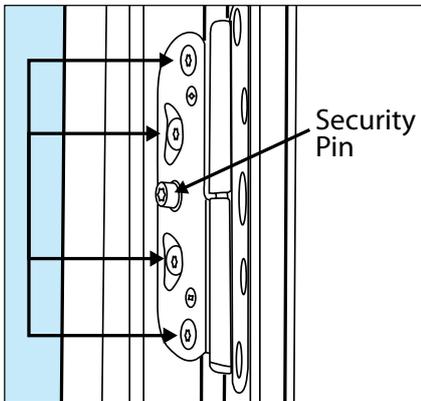
B= Diagonal measurements shall be identical

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. See below for information on how the hinges are used to adjust a door leaf. It is very important that the door is hung correctly in the frame, as otherwise it may become jammed. 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 mm. The distance between the lintel and the upper edge of the door leaf should be approximately 2 mm.

## HINGE ADJUSTMENT

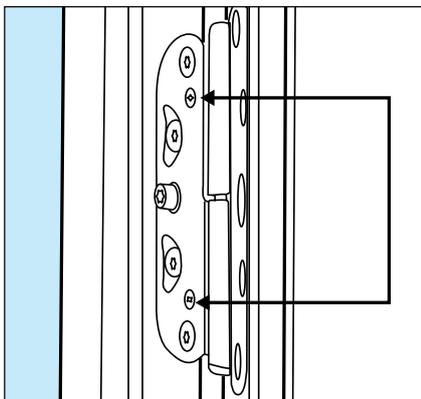
Before making any adjustment to the hinges, it is essential that the door frame has been fitted square and plumb and in accordance with the fitting instructions.

The door leaf can be re-positioned in opening by adjusting the hinges. Remove security pin then loosen all 4 no screws on hinge plate as shown below:



- Loosen these 4 screws slightly to allow hinge adjustment

Then, using a torque screwdriver, move the 2no adjusting screws to suit.



- Adjust these screws to suit

NOTE: All hinges to be adjusted evenly and re-tightened after alterations have been made.

The hinges can be continuously adjusted in a vertical direction by using an integral adjustment screw in the base of the hinge. Use a Torx screwdriver.

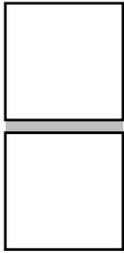
## STRIKE PLATE

Use a screwdriver when adjusting the strike plate. All doors are adjusted with the adjustable knock-out plate. Adjust the strike plate if the closing pressure is too low.

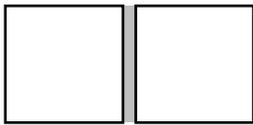
# Site coupling

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.



■ Horizontal coupling



■ Vertical coupling

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)	*	*	*	*



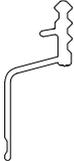
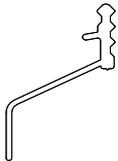
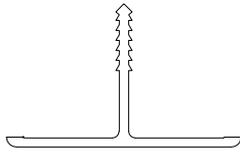
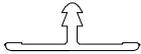
Supplied as standard



Unavailable



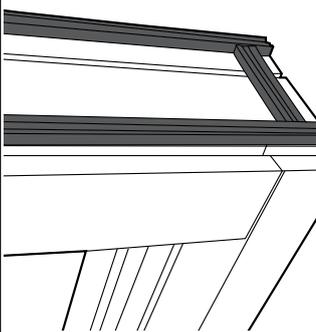
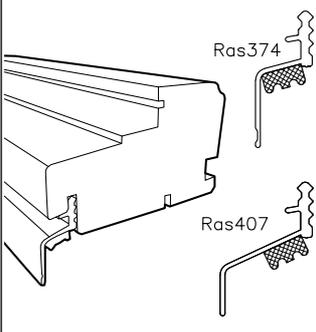
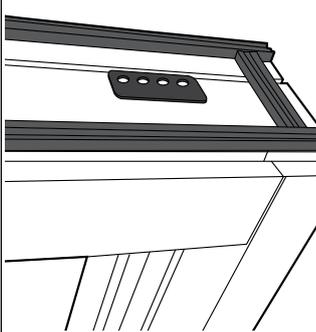
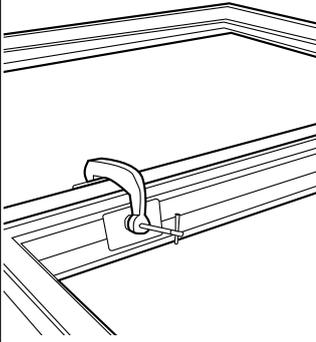
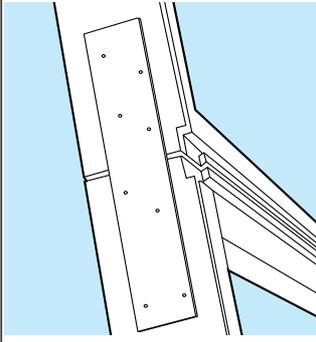
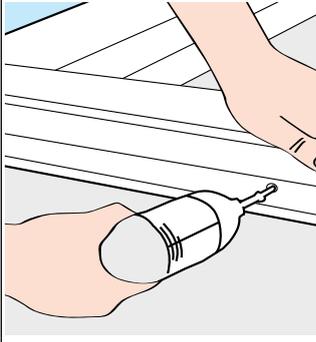
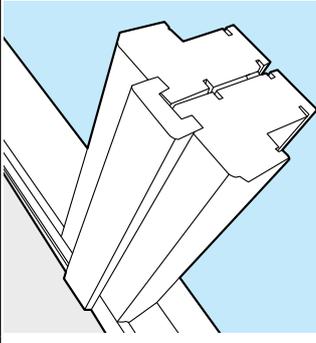
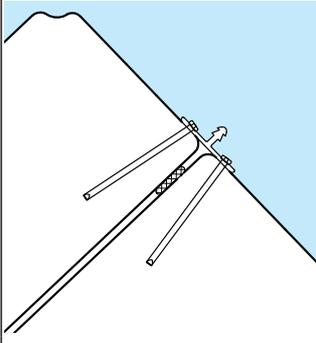
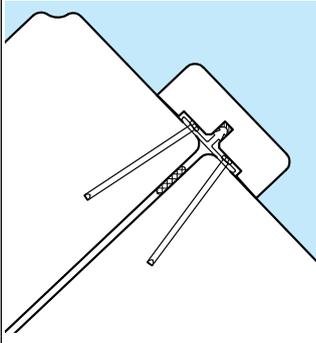
Available on request but recommended

		
Gasket 'E' profile	Coupling screws	Aluminium profile (RAS 374)
		
Aluminium profile (RAS 407)	Aluminium 'T' profile (RAS 255)	Timber profile (923)
		
Aluminium 'T' profile (RAS 310)	Timber 'C' profile for internal lining board grooves	Stabilising plate (RAS 406)

## SITE COUPLING: HORIZONTAL

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

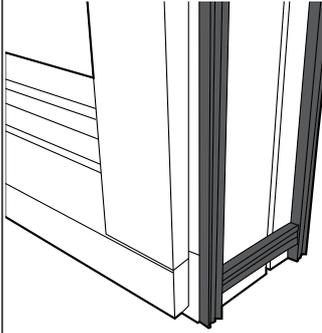
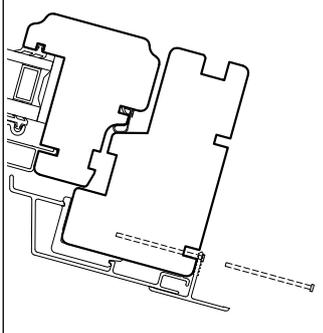
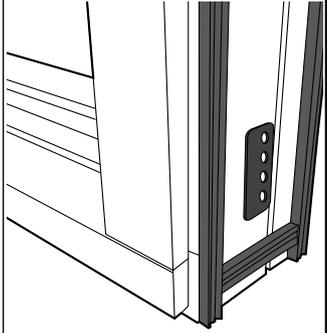
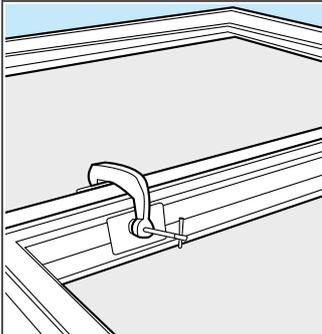
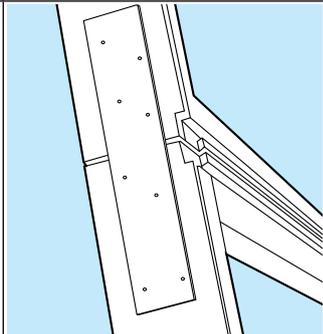
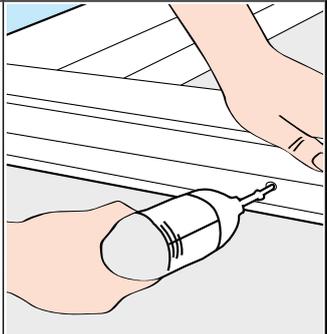
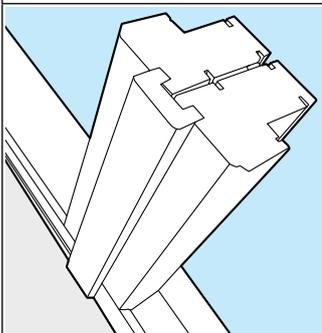
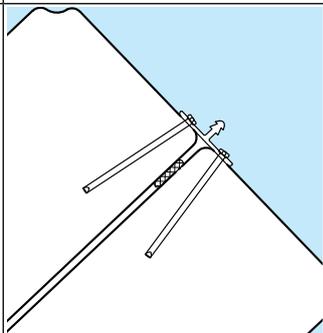
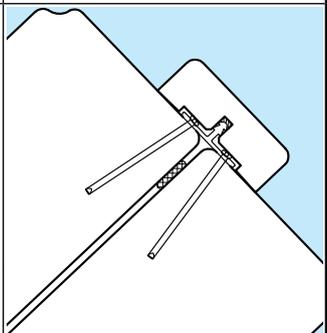
- Location and number of screw positions
- Load bearing fixings
- Tight weatherproof connections
- Consideration for size and location of the couplings for required fixings

 <p>1. Fix gasket as shown to the top edge of the bottom unit being coupled</p>	 <p>2. Apply gasket to underside of drip cills (RAS 374 for timber couplings and RAS 407 for alu-clad couplings) and secure to the bottom of the top unit being coupled</p>	 <p>3. If available, fix 2mm spacers at the top and bottom at intervals of no more than 500mm apart in between</p>
 <p>4. Align the products to be coupled then clamp together- taking care not to damage the surface of the product</p>	 <p>5. If available, secure the stabilising plate (RAS 406) at either end of the coupled products</p>	 <p>6. 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</p>
 <p>7. If lining boards grooves are present, tap timber coupling cover in place and fix with glue or pin</p>	 <p>8a. If lining board grooves are not present, pin aluminium profile RAS310 at the centre of the coupling joint</p>	 <p>8b. Fit the timber cover over the aluminium T section and secure with adhesive</p>

## 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

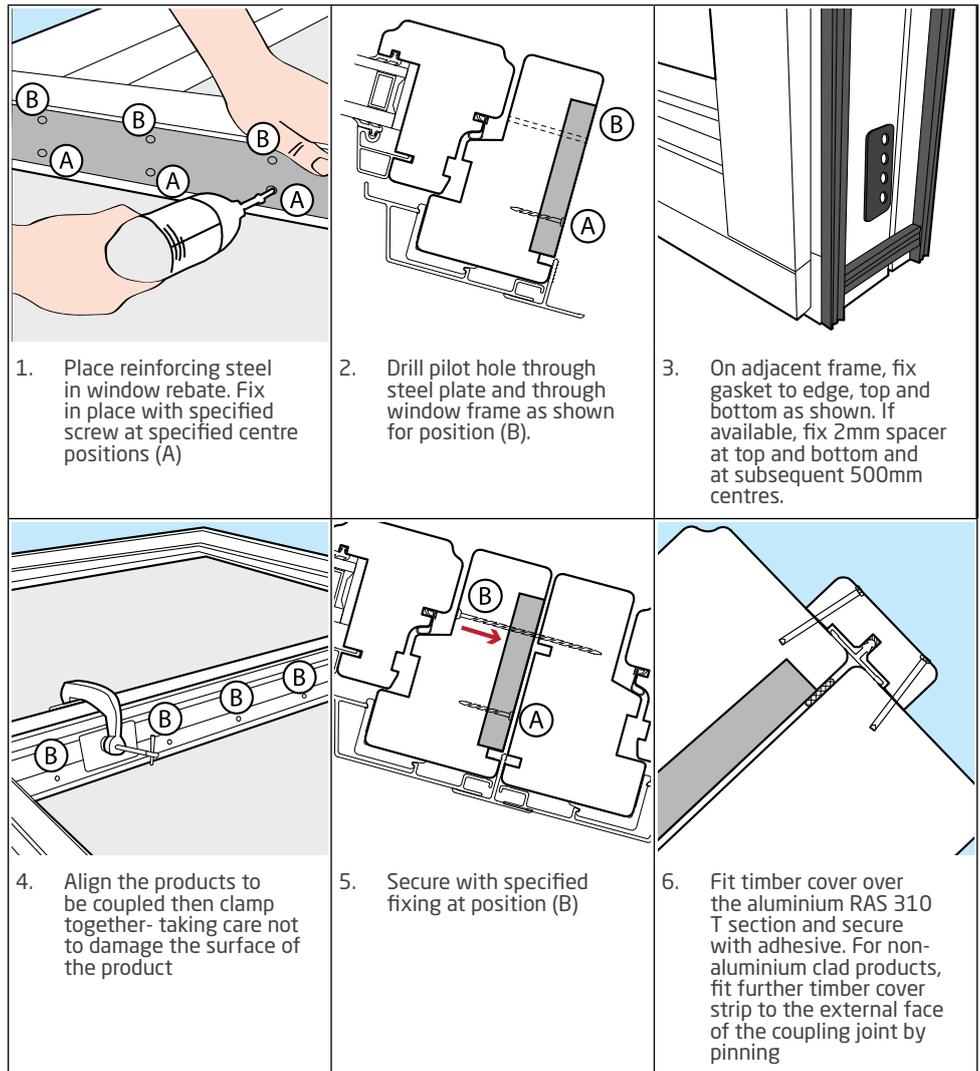
 <p>1. Fix sealing strip as shown to the side of one of the units being coupled</p>	 <p>2. If products are aluminium clad, pin aluminium profile (RAS 255) in place</p>	 <p>3. If available, fix 2mm spacers at the top and bottom at intervals of no more than 500mm apart in between</p>
 <p>4. Align the products to be coupled then clamp together- taking care not to damage the surface of the product</p>	 <p>5. If available, secure the stabilising plate (RAS 406) at either end of the coupled products as shown</p>	 <p>6. 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</p>
 <p>7. If lining boards grooves are present, tap timber coupling cover in place and fix with glue or pin</p>	 <p>8a. If lining board grooves are not present, pin aluminium profile RAS310 at the centre of the coupling joint</p>	 <p>8b. 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</p>

## 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.





## Customer services

### HOW TO REPORT DAMAGE

Any damages/shortages must be reported verbally to Site Service Coordinator in relevant office within 48 hours of delivery or received in writing within 5 days.

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

Complaints should be directed to regional project coordinators to handle, all reports/complaints relating to products must be reported using our SVR Form. For copies of this form, please contact your nearest NorDan UK regional office or visit the web address:

<http://www.nordan.co.uk/NDUK/SVR-Form-2014.doc>

When reporting product faults, as much information as possible must be added to this form, predominantly original Sales Order/Invoice Number so that original order can be traced.

Spacer bar details if glass issue reported or label details if main entrance doors issue reported.

Where possible, photographic evidence of product should be submitted along with this form which can then omit the need for an initial site inspection by our Service Engineer, this inevitably reduces the overall conclusion timescale of any site service issue.

## GLASS LABEL

The glass label can be found in the glazing spacer bar, located in the sash.



### Glass labels prior to 17/12/12

Text reads from left to right:  
Manufacturer - 01 (month) - 10 (year) - Glass size - Energi (Low E) - VKS/AR Warm edge /Argon - Configuration - NBI1013(Nor standard) - Q068/13(think this was related to a international standard)

### Glass labels from 17/12/12

Labels from 17/12/12 onwards have further information added including PI order number, line and pane.

Text reads from left to right:  
(1)P-mark (2) PRESS GLASS SA (3)2012/12/01 08:46 (4) Z/94558/2012 p.42 (5)TH1,0 4/16TERM07035/33.1 kl.2(B)2 Ar (6)545x944 (7)NORDAN MOI 360208 0560955/15/aa

- 1: Symbol for P-mark
- 2: Manufacturer
- 3: Production date and time
- 4: Manufacturer internal product reference
- 5: Configuration
- 6: Size
- 7: Customer name, stock place, purchase number, PI order number, line and position (pane)

## EXTERNAL DOORSET LABEL

External doorset labels can be found at the top of the door leaf as shown below.



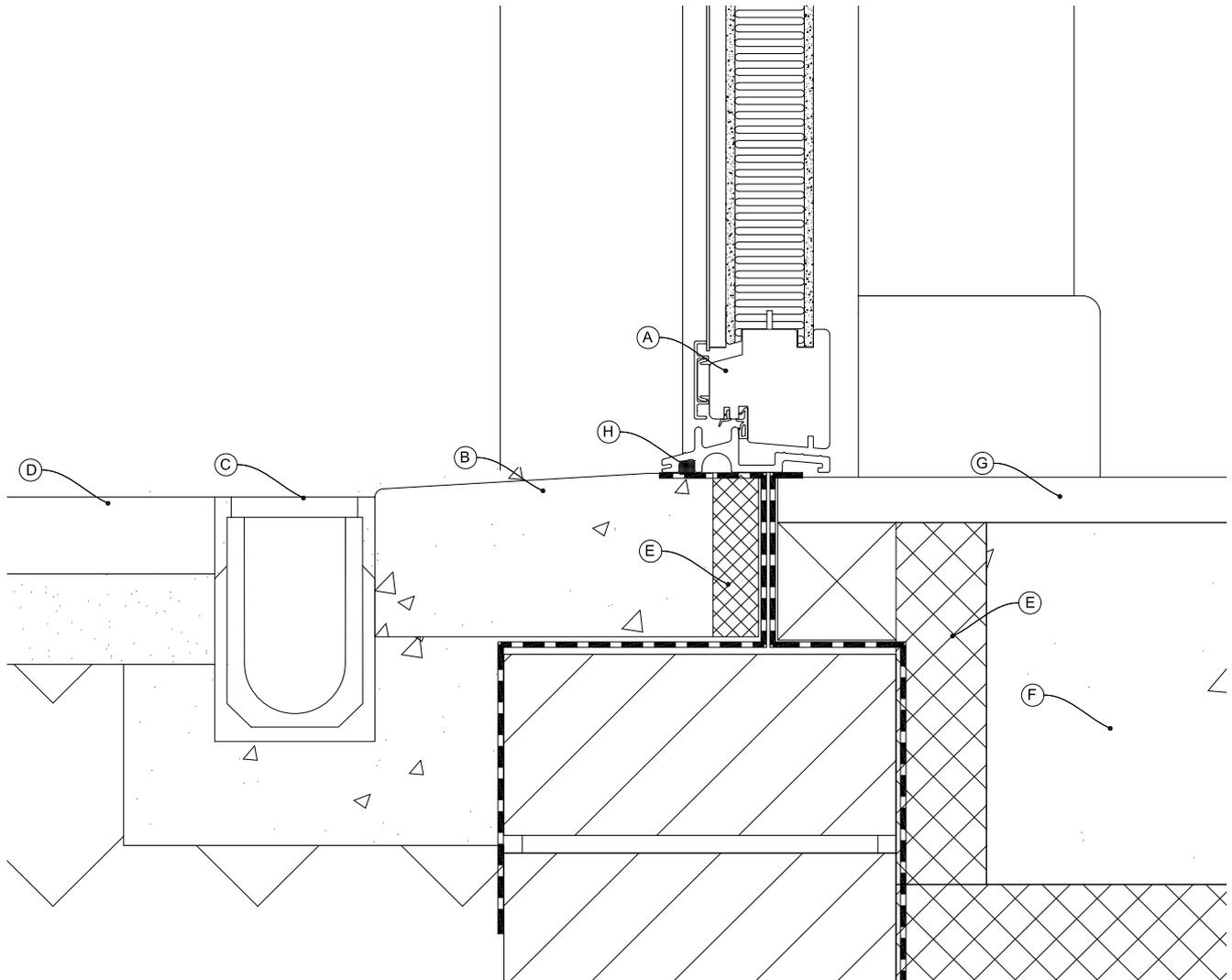
# 10 YEAR PRODUCT WARRANTY

Copies of the NorDan product warranty can be found on the NorDan UK website:

[http://www.nordan.co.uk/assets/brochures/UK\\_10Year\\_warranty.pdf](http://www.nordan.co.uk/assets/brochures/UK_10Year_warranty.pdf)

# Installation drawings

## TYPICAL DOOR THRESHOLD DETAIL



### KEY

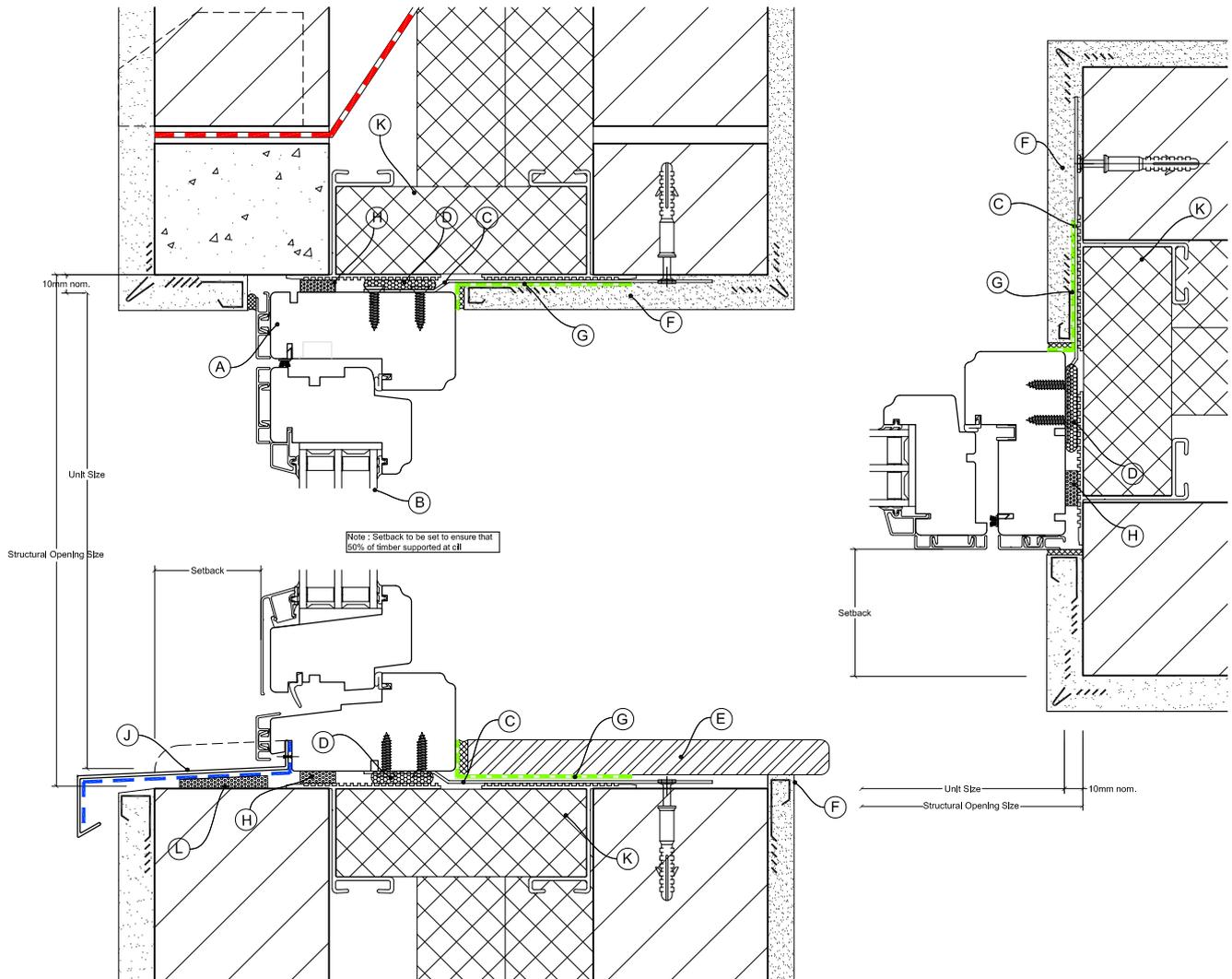
- A) Selected NorDan door system
- B) Concrete door cill by others
- C) Ground drain by others
- D) Paving construction by others
- E) Rigid insulation by others
- F) Floor construction by others
- G) Floor finish by others
- H) Mastic sealant

### NOTE:

Drawings are for illustrative purposes only and are not to scale

# Installation drawings

## 150MM BLOCK CAVITY PPC ALUMINIUM CILL



### KEY

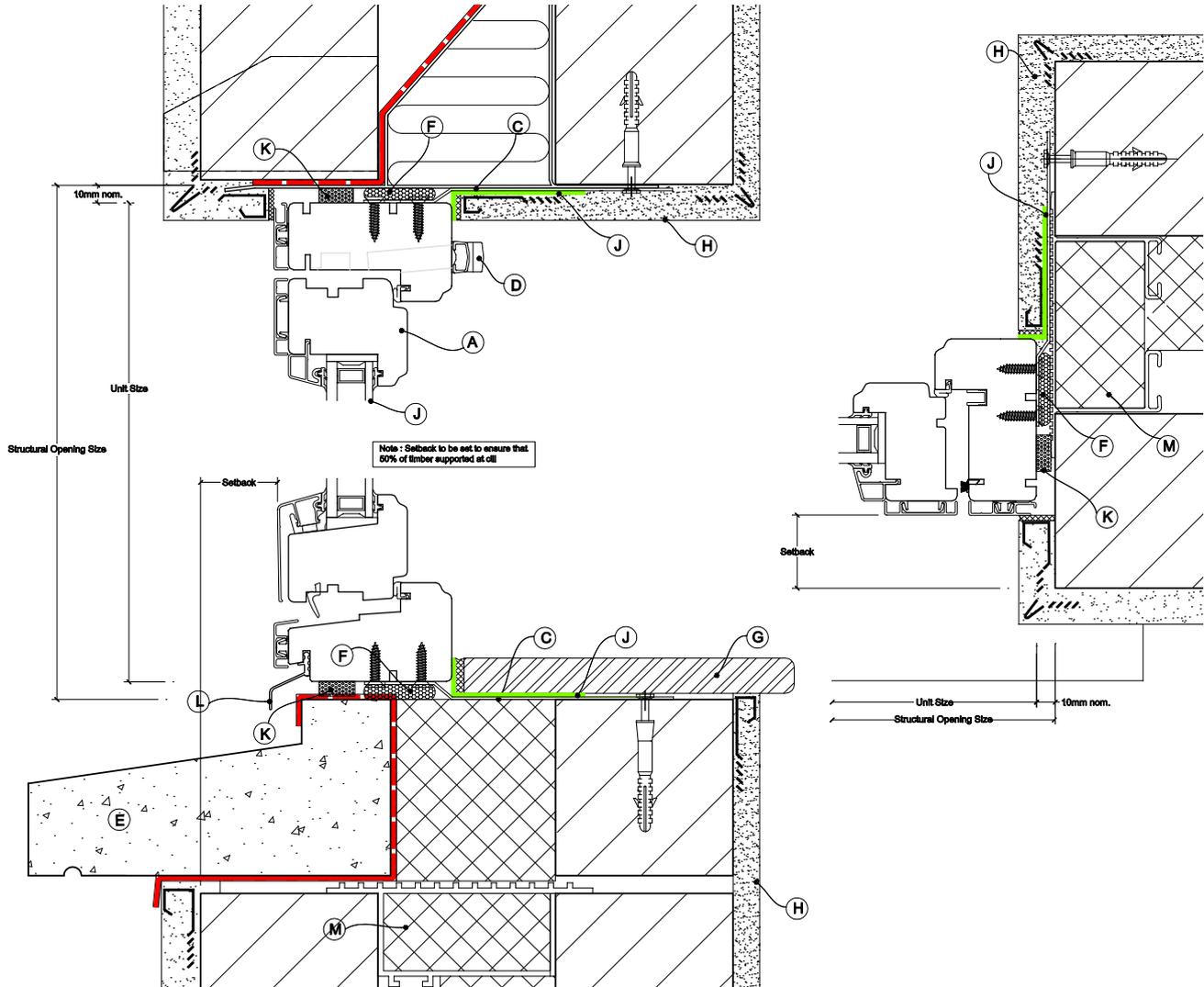
- A) Selected NorDan window system
- B) Glazing as specification
- C) Galvanised steel bracket fixed @ 150mm from corners and max. 600mm centres
- D) PU low expansion foam by installers
- E) Window board by others
- F) Internal finishes by others
- G) Tremco proprietary air tight taping (optional)
- H) Compriband 600 compressible frame sealer by installers
- J) PPC pressed aluminium cill backed with DPM by NorDan UK
- K) Cavalok insulated structural cavity closer
- L) Compressible seal between window cill and brick

### NOTE:

Drawings are for illustrative purposes only and are not to scale

# Installation drawings

## 100MM BLOCK CAVITY PRECAST CILL



### KEY

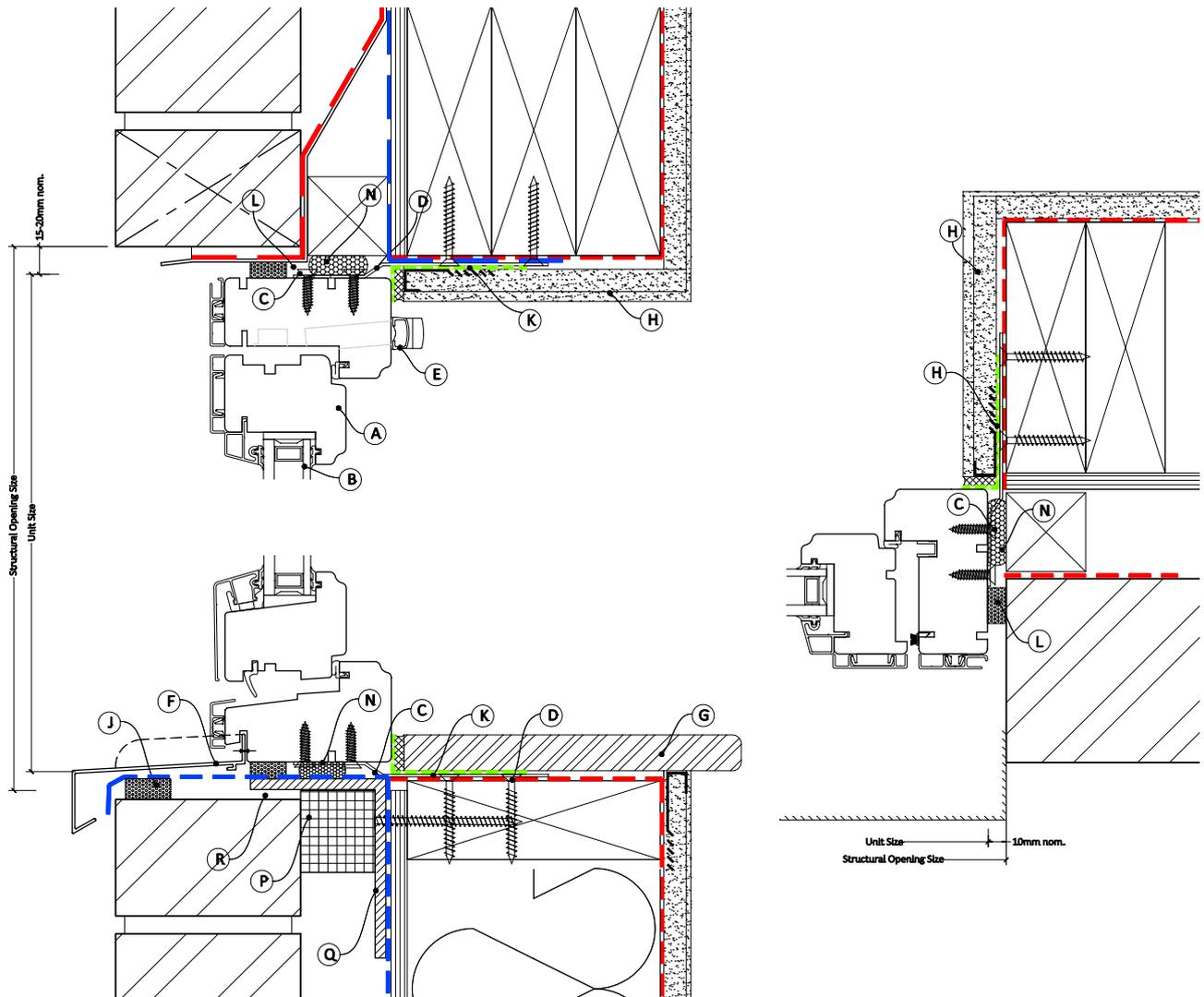
- A) Selected NorDan window system
- B) Glazing as specification
- C) Galvanised steel bracket fixed @ 150mm from corners and max. 600mm centres
- D) Controllable slot trickle vent supplied by NorDan UK (optional)
- E) Concrete cill by others
- F) PU low expansion foam by installers
- G) Window board by others
- H) Internal finishes by others
- J) Tremco proprietary air tight taping (optional)
- K) Compriband 600 compressible frame sealer by installers
- L) Extruded aluminium drop cill by NorDan UK (optional)
- M) Cavalok insulated cavity closer

### NOTE:

Drawings are for illustrative purposes only and are not to scale

# Installation drawings

## TIMBER FRAME WITH BRICK VENEER



### KEY

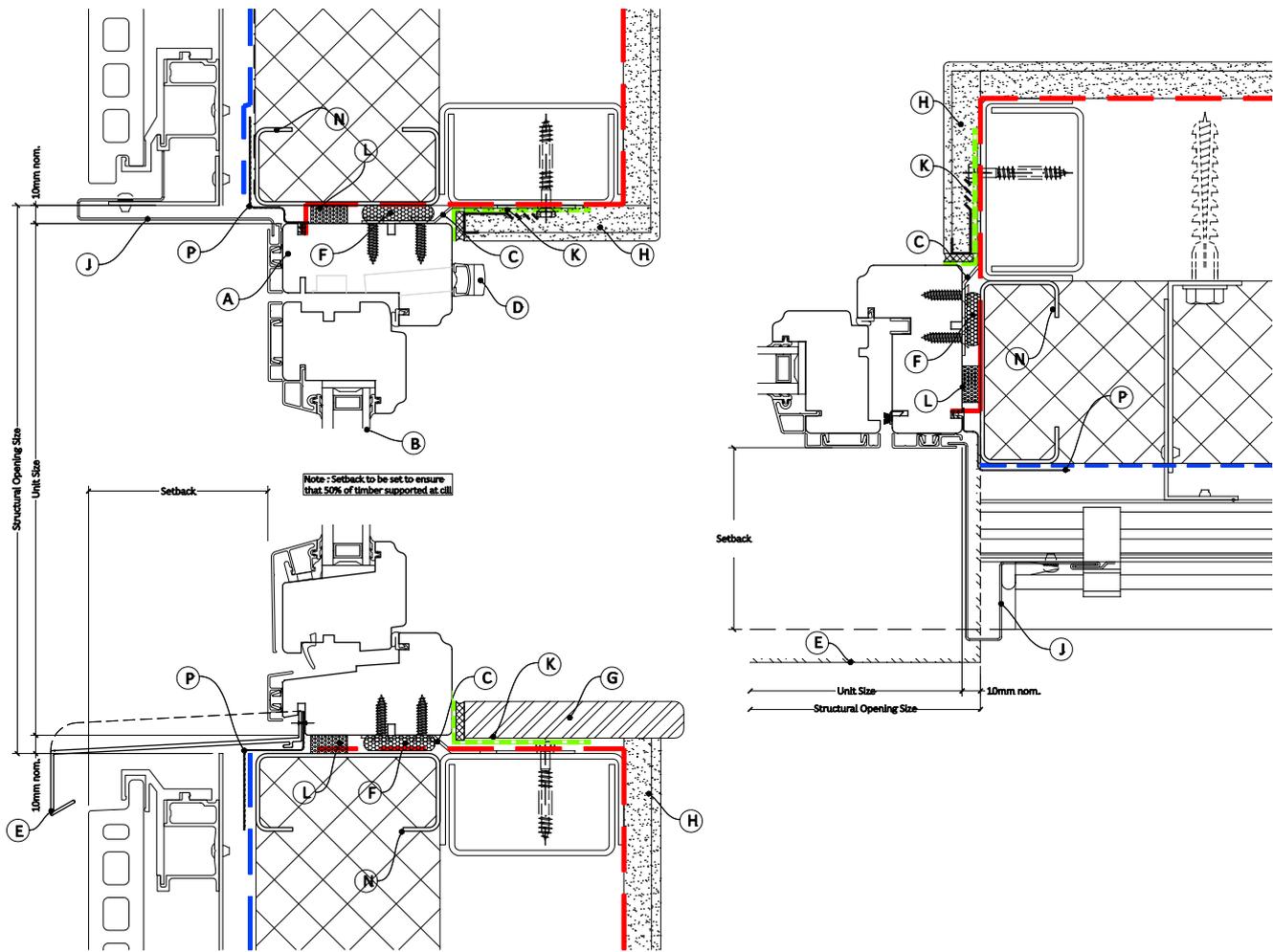
- A) Selected NorDan window system
- B) Glazing as specification
- C) Non-continuous tolerance packers as required
- D) 3mm galvanised steel strap
- E) Optional trickle vent
- F) PPC pressed aluminium cill by installers
- G) Window board by others
- H) Internal finishes by others
- J) Compressible seal between window cill and brick
- K) Optional air tightness taping by installers
- L) Compriband 600 compressible frame sealer by installers
- N) PU low expansion foam by installers
- P) Rockwool TCB Firestop or equal approved by others
- Q) Steel support angle by timber frame contractor
- R) Shrinkage gap between steel and brickwork

### NOTE:

Drawings are for illustrative purposes only and are not to scale

# Installation drawings

## RAINSCREEN CLADDING



### KEY

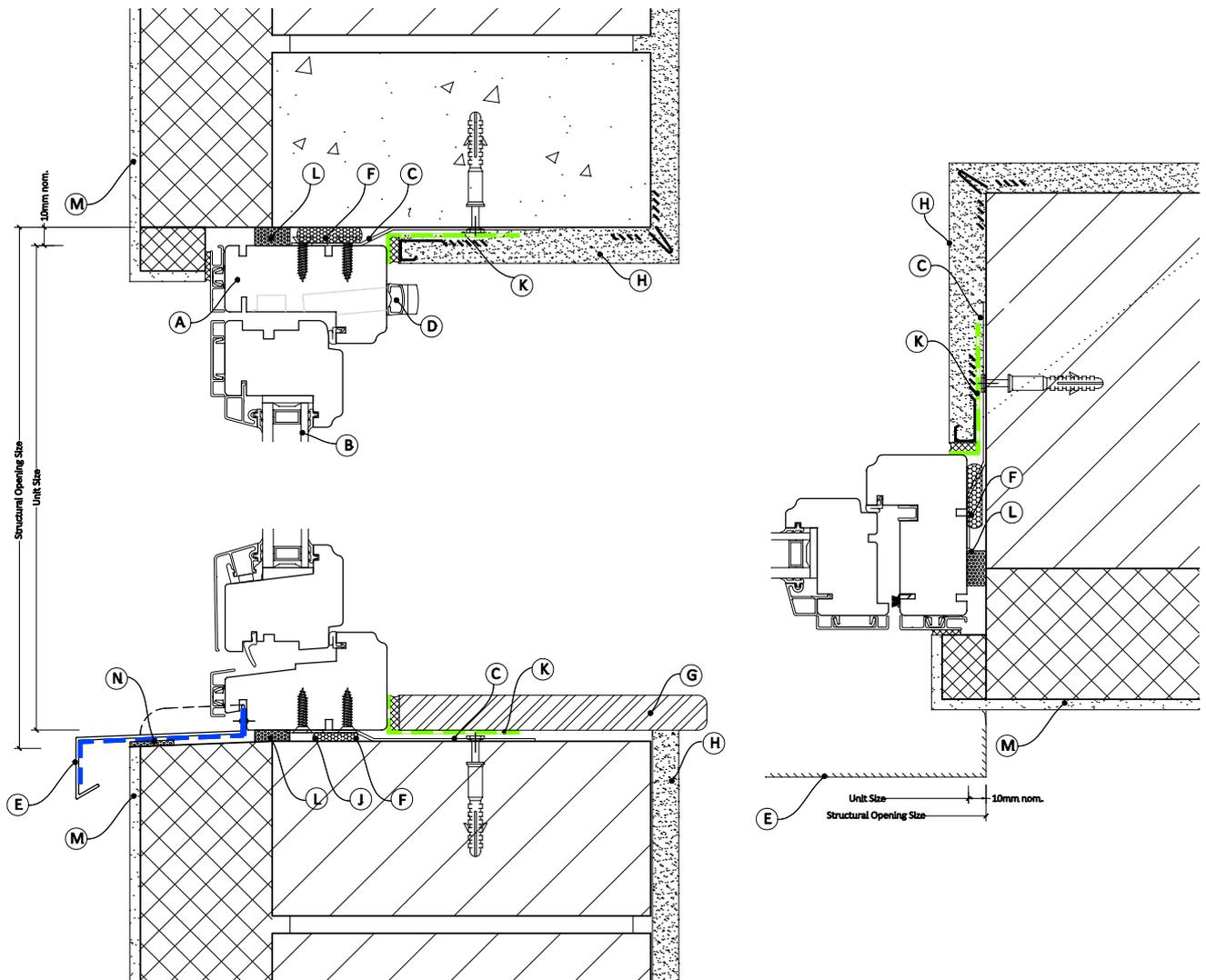
- A) Selected NorDan window system
- B) Glazing as specification
- C) Galvanised steel bracket fixed @ 150mm from corners and max. 600mm centres
- D) Controllable slot trickle vent supplied by NorDan UK (optional)
- E) Pressed aluminium PPC cill by others
- F) PU low expansion foam by installers
- G) Window board by others
- H) Internal finishes by others
- J) Pressed aluminium PPC flashings by others
- K) Tremco proprietary air tight taping (optional)
- L) Compriband 600 compressible frame sealer by installers
- N) Steel frame by others
- P) Illbruck duo flexible (with K01 gasket) by NorDan

### NOTE:

Drawings are for illustrative purposes only and are not to scale

# Installation drawings

## EXTERNAL INSULATED BRICKWORK



### KEY

- A) Selected NorDan window system
- B) Glazing as specification
- C) Galvanised steel bracket fixed @ 150mm from corners and max. 600mm centres
- D) Controllable slot trickle vent supplied by NorDan UK (optional)
- E) Pressed aluminium PPC cill by others
- F) PU low expansion foam by installers
- G) Window board by others
- H) Internal finishes by others
- J) Non continuous tolerance packers as required
- K) Tremco proprietary air tight taping (optional)
- L) Compriband 600 compressible frame sealer by installers
- M) External insulation and render system by others
- N) Seal tape by others

### NOTE:

Drawings are for illustrative purposes only and are not to scale

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