



THE COP26 HOUSE

OPERATION & MAINTENANCE MANUAL

NORDAN UK

IDENTIFYING YOUR NORDAN PRODUCTS

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

1. Line number of your quote
2. Offer number
3. Product reference from your drawing or schedule
4. Quantity of products with the same description
5. U-value of the whole product (which is calculated in accordance with BS EN ISO 1077-1, 1077-2 and the programme 'Therm')
6. Weight of the product
7. Glazing specification of the product (# indicates toughened or obscure glass), including light transmission/G value
8. Colour finish with individual details
9. Details specific to the product
10. Any note, specific to the particular product
11. Thickness and position of transom or mullion bars from top of frame
12. Manufacturing size of the product
13. Price for each product of this type
14. Aluminium cills included in your quote
15. Non standard finish

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

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

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



3		4		12	
Lnr	Mrk	Qty	Description		
020	W2	3	ND NTech Fixed frame w/sash Construction 100 mm frame incl. 8 mm alum U-value product: 1.3W/m ² K Weight 60 kg	5	
1		6	Without ventilator Inward opening tilt and turn sash		
			Glass Low E WES/Ar Construction 6+16G+ES4 Transmission LT/TST 70/48 ba. Lam Low E w/Toughened WES/Ar Construction 6.38ES+16G+4# Transmission LT/TST 70/44		
		8	Aluminium clad Product RAL 7012 Grey, Powder coated		
			Surface finishing Product RAL 9003 White		
		9	Details: No fixing holes No sub frame groove Wallside frame finished Chrome handles/stay Silver ventilator Lockable handle (53/54) fitted		
		10	Note (only for customer): TOO LARGE TO BE SINGLE OPENING SASH		
		11	Bar: 62 = Solid transom/mullion		
025	CILL	3	Article RAS5410 Surface finishing Product RAL 7012 Grey, Powder coated		
992		1	Non standard finishing	15	

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.

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

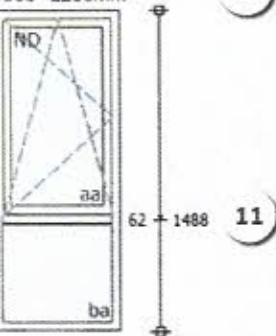
Pallets must not be stored in standing water, any pallets kept outside for a long period must be covered with additional tarpaulins to protect from weather

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

2 OFFER • NO.0761485.A

All drawings viewed externally

Width x height
888 x 2288mm



2288mm

13

13

EN: Handle function for Tilt and Turn with 3 handles

NO: H ndtakfunksjon for Sikkerhetsvinduer med 3 h ndtak

SV: Handtagsfunktion f r S kerhetsf nster med 3 handtag

DK: H ndtagsfunktion til Sikkerhedsvindue med 3 h ndtag

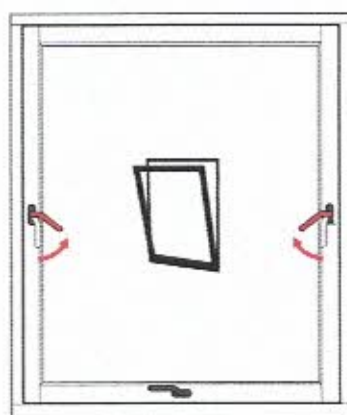
Tilt open • Luftestilling • V dringsl ge • Ventilations-indstilling

EN: Turn the handles on the sides and tilt the sash.

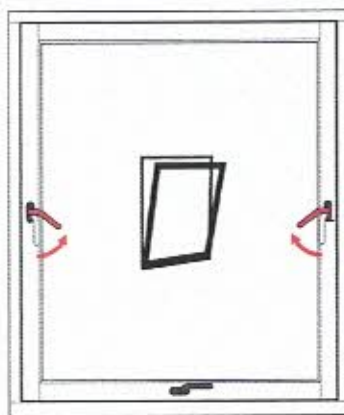
NO: Dreier vriderne p  sidene og vipper rammen inn.

SV: Vrid opp handtagen p  sidorna och vinkla ut b gen.

DK: Drej h ndtagene p  siderne og vink rammen ud.



EN: Left hand hung
NO: Vensterhengslet
SV: V nsterh ngd
DK: Venstre h ngt



EN: Right hand hung
NO: H yrehengslet
SV: H gerh ngd
DK: H jre h ngt

Turn open • Vaskestilling • Puttsl ge • Pudse-indstilling

EN: Turn the right and lower handle to open the window.

NO: Dreier opp h yre og nedre vrider for    pne vinduet.

SV: Vrid opp det h gra och det nedre handtaget f r att  ppna f nsteret.

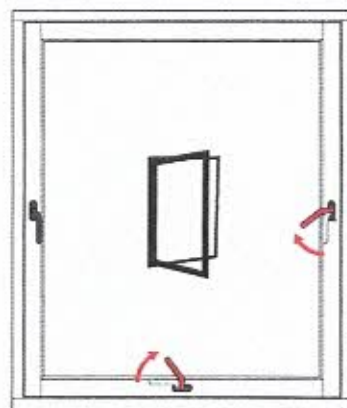
DK: Drej h jre og nedre h ndtag op for at  bne vinduet.

EN: Turn the left and lower handle to open the window.

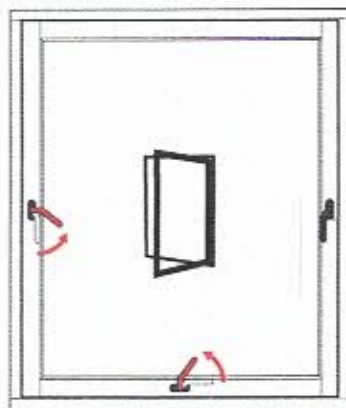
NO: Dreier opp venstre og nedre vrider for    pne vinduet.

SV: Vrid opp det v nstra och det nedre handtaget f r att  ppna f nsteret.

DK: Drej venstre og nedre h ndtag op for at  bne vinduet.



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EN: Handle function for Tilt and Turn with 4 handles

NO: H ndtakfunksjon for Sikkerhetsvinduer med 4 h ndtak

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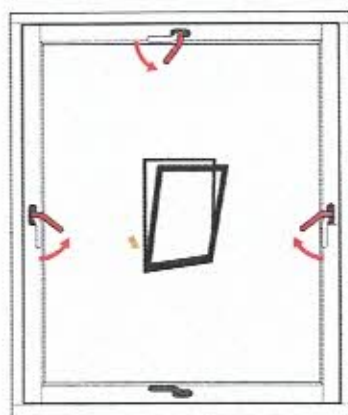
Tilt open • Luftestilling • V dringsl ge • Ventilations-indstilling

EN: Turn the handles on the sides and the top to tilt the sash.

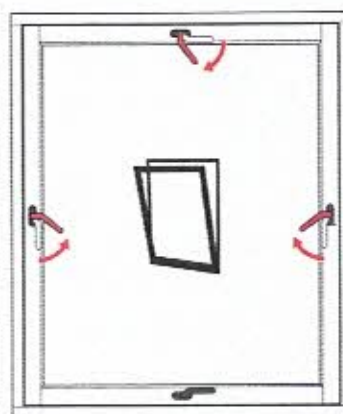
NO: Dreier vriderne p  sidene og  verst og vipp rammen inn.

SV: Vrid upp handtagen p  sidorna och i toppen f r att vinkla ut b gen.

DK: Drej h ndtagene p  siderne og  verst for at vinkle rammen ud.



EN: Left hand hung
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EN: Right hand hung
NO: H yrehengslet
SV: H gerh ngd
DK: H jre h ngt

Turn open • Vaskestilling • Puttsl ge • Pudse-indstilling

EN: Turn the right, top and lower handle to open the window.

NO: Dreier opp h yre,  vre og nedre vridere for    pne vinduet.

SV: Vrid upp det h gra,  versta och nedre handtaget f r att  ppna f nstret.

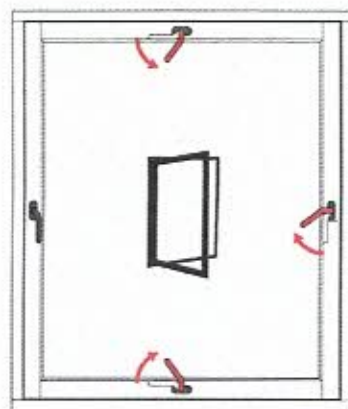
DK: Drej h jre,  verste og nederste h ndtag for at  bne vinduet.

EN: Turn the left, top and lower handle to open the window.

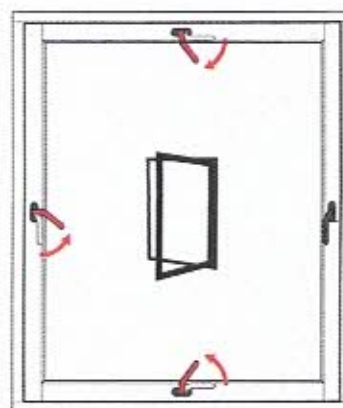
NO: Dreier opp venstre,  vre og nedre vridere for    pne vinduet.

SV: Vrid upp det v nstra,  versta och nedre handtaget f r att  ppna f nstret.

DK: Drej venstre,  verste og nederste h ndtag for at  bne vinduet.



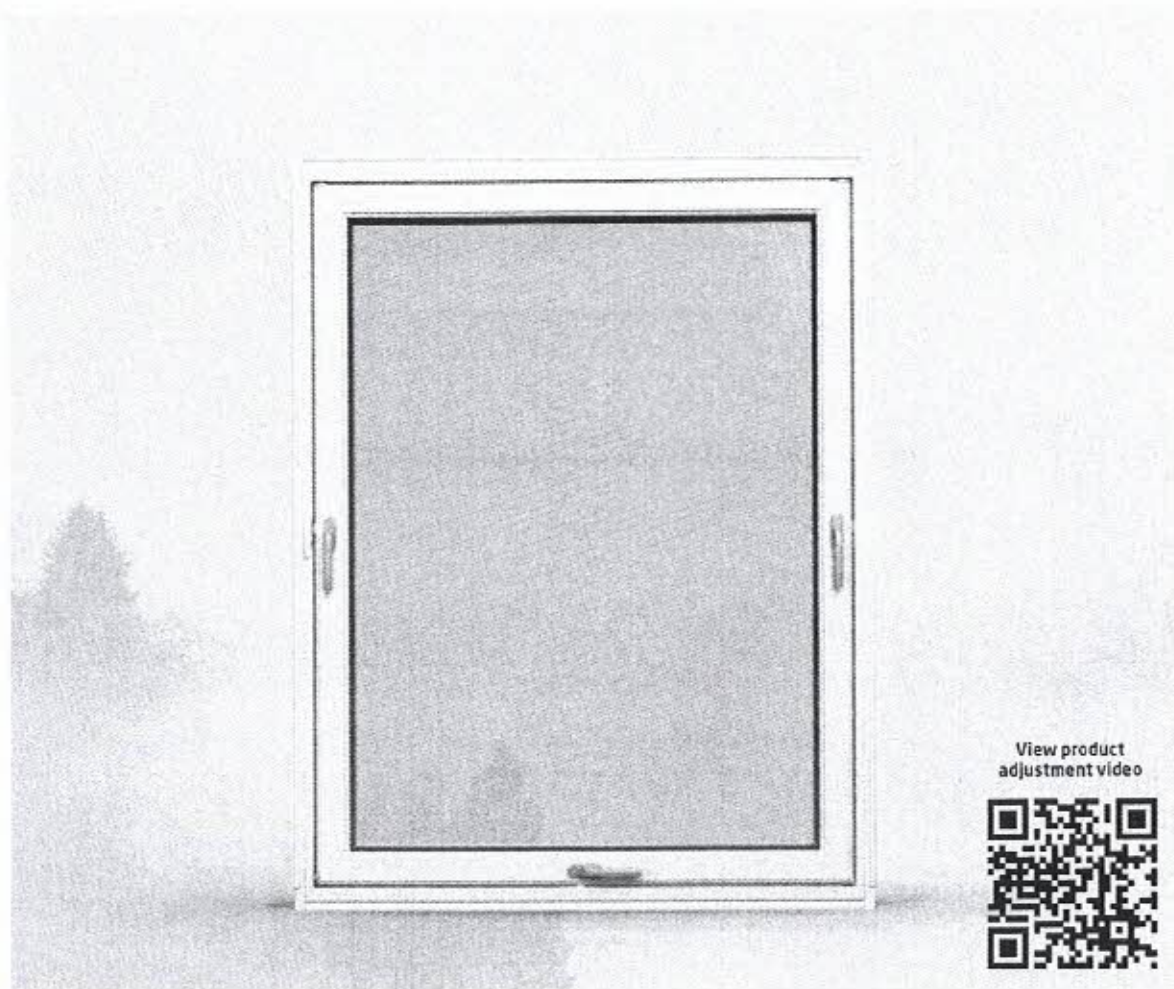
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EN: Right hand hung
NO: H yrehengslet
SV: H gerh ngd
DK: H jre h ngt

NORWEGIAN STORMGUARD

CODE: ND



1. CLOSED POSITION

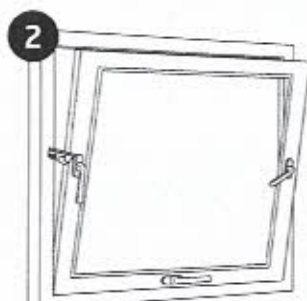
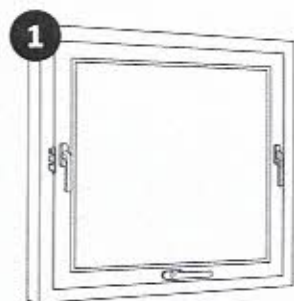
Check that all handles are set in the locked position.

2. TILT OPERATION

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

3. TURN OPERATION

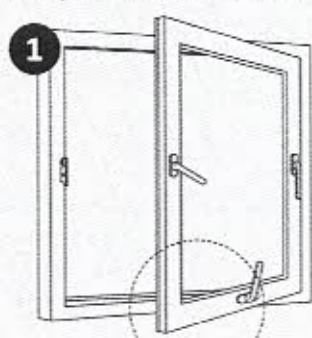
The turn option on the window opens into the room to a restricted angle of 60,5°; this in turn creates adequate room for cleaning of the external glazing from safely inside the property. On the hinge side of the sash, the window is fitted with a metal strike plate which ensures that the handle on the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



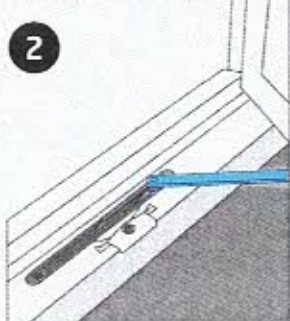
All three-handle tilt and turn window $\geq 1788\text{mm}$ in width: an extra handle / locking point will be fitted as standard to the centre of the top rail of the sash.

Friction stay

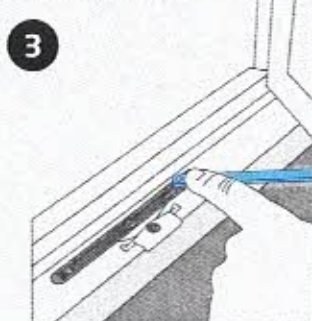
The optional factory fitted friction stay for inward opening windows only as an additional safety device to restrict the movement of the sash when open in the cleaning position.



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



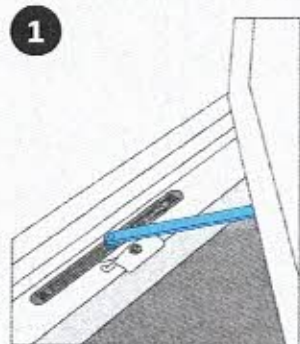
The wind-brake automatically holds the sash in place when the window is fully open.



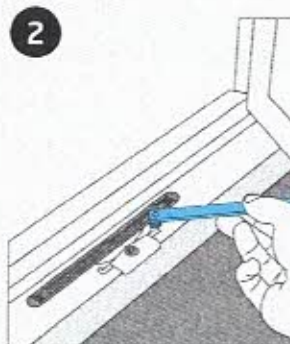
To unlock restrictor after cleaning, press down on the stay at the place it engages then close the window.

Disengaging

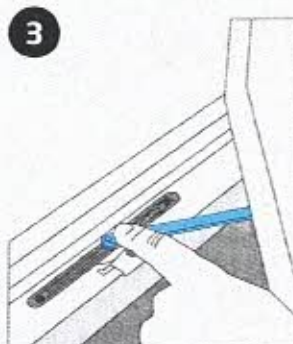
The friction stay restrictor can be disengaged so the window can be opened fully for maintenance purposes.



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



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



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



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

Alternate ironmongery

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

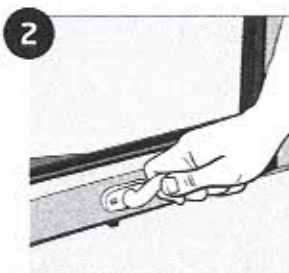
Locking handles with keys and additional restrictor stays are available to order. (Part numbers available on request through NorDan Solutions or NorDan Customer Services Department)

Removing the sash

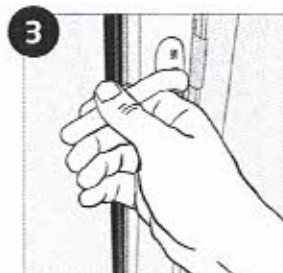
The ND StormGuard window also has a safety feature built in where the sash can be removed to carry out maintenance or reduce the overall weight of the whole product when installing on site. The sash can be removed by bringing the window into the turn position, engaging the bottom handle and then disengaging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



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



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



Open the side handle on the "hinged" side.



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



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



Store the sash safely to one side.



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

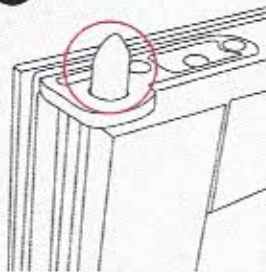


Please ensure that at least two competent people are required to remove a window sash safely.

Maintenance

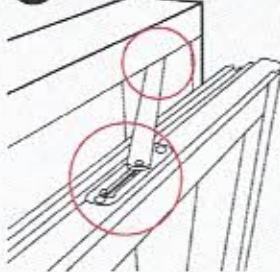
Ensure the window is maintained regularly, following the standard guidelines. Inspect the product once per year

1



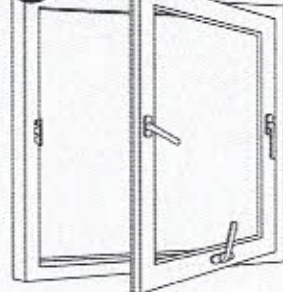
Open the window to the ventilation position and push down the two side handles to reveal the locking bullets at the head of the sash. Apply recommended lubricant on these, any excess must be wiped off immediately.

2



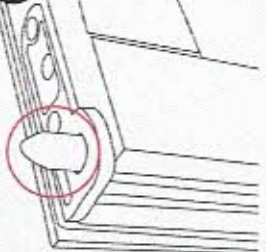
With the window still in the ventilation position, apply recommended lubricant at the restrictor stay, any excess must be wiped off immediately.

3



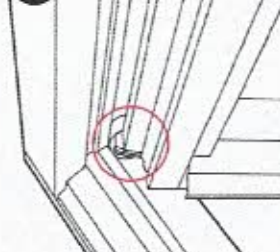
Return the sash to the closed position then open to the cleaning position.

4



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

5



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

6



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

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

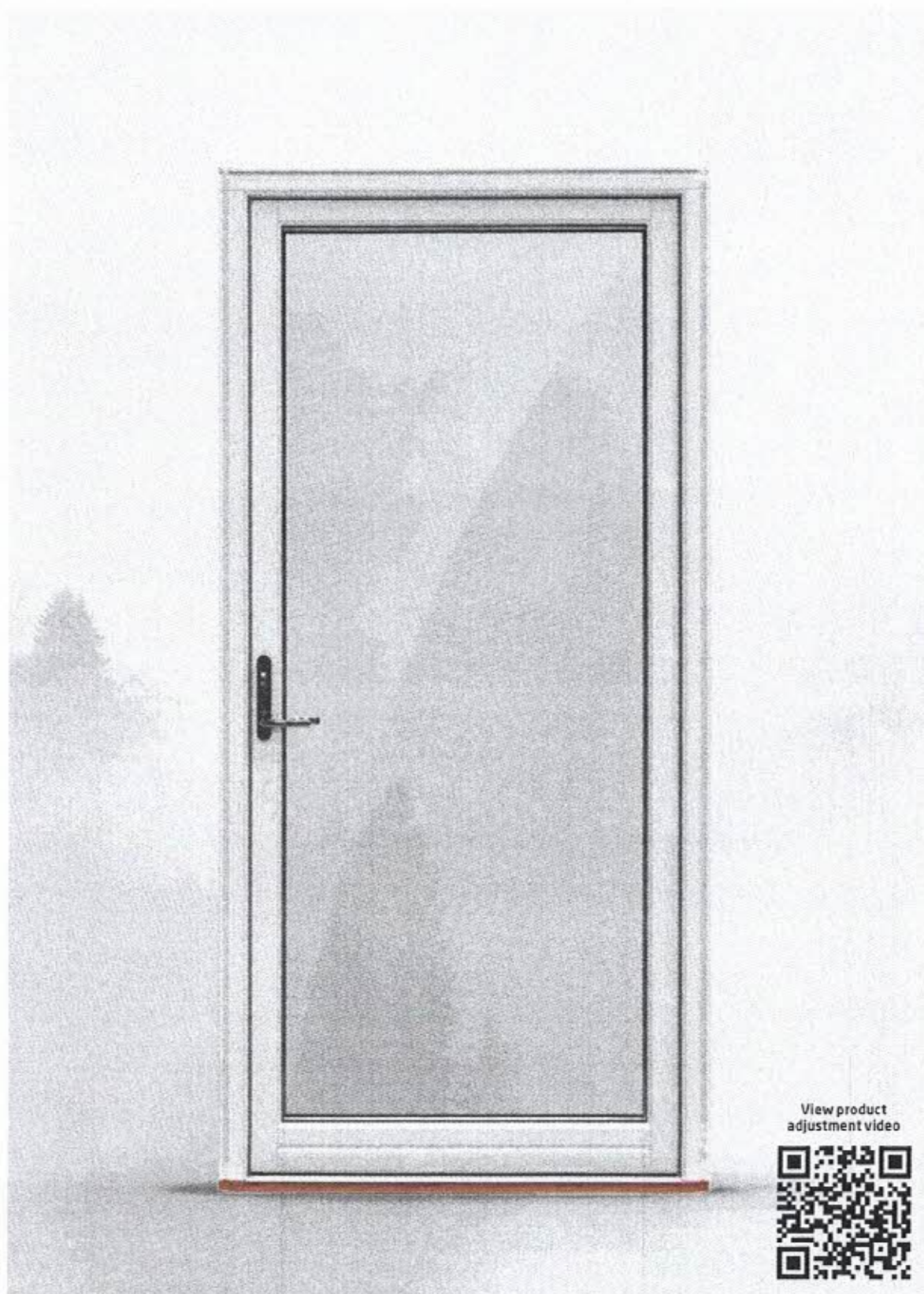
- Look for and remove any airborne debris that might be trapped in between the frame and the sash. To do this open the window in the cleaning position
- Wipe or brush clean all surfaces and check the weather seal is clean, dry, continuous, and undamaged. Never get any paint on the weather seal/gasket.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



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

BALCONY DOOR

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



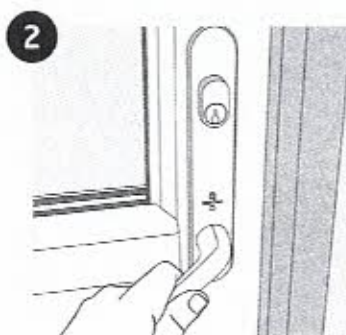
View product
adjustment video



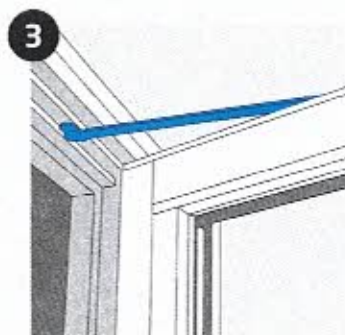
Balcony door



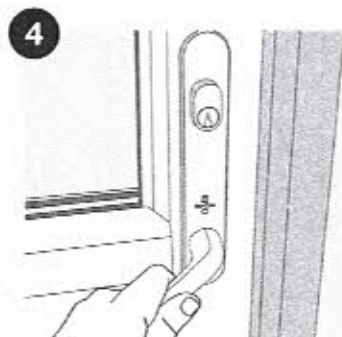
1 To open your door from the closed position, unlock using your key or thumbturn (if fitted).



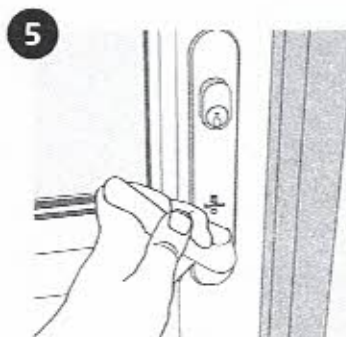
2 Push the handle down to disengage the multi-point locking and open the door leaf.



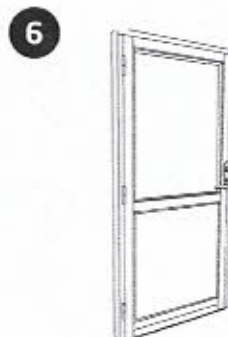
3 A friction stay may be installed on your door which can be activated by lifting the handle up when the door is open.



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



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

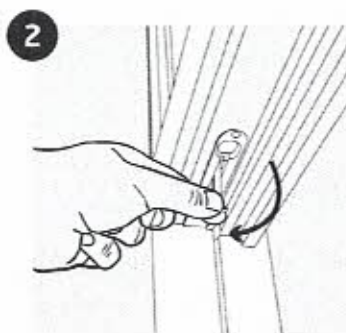


6 Ensure the door is locked and secure before leaving it unattended.

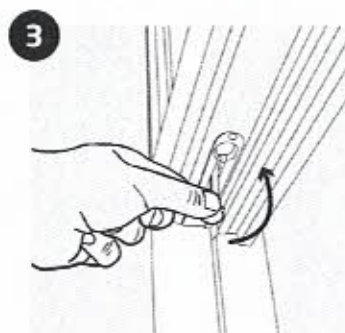
Double door



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



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



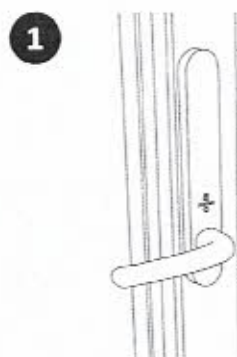
3 To close the door, simply move the door back into the frame and push the shoot bolts back to the original position.



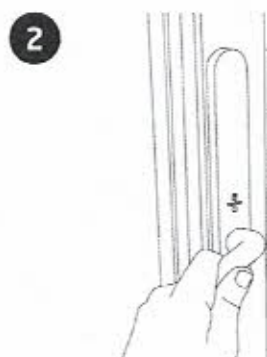
IMPORTANT FOR MANUAL MULTI-POINT ESPAGNOLETTE: Every time you close your door always lift the handle up to engage the multiple locking. Please always do this because it is the multiple locking that stops the door suffering from problems such as 'heat pull', bending and twisting. If you don't follow this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

Operation blank handle

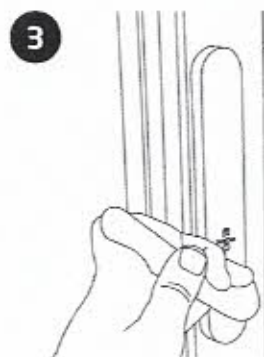
Blank handle plates have no locking operation.



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



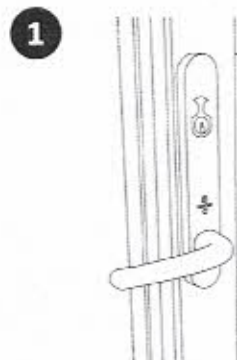
To open the door, simply push down the handle to release the multi-point locking



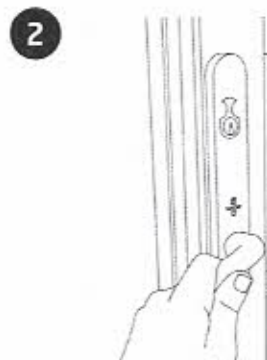
When closing the door, ensure the handle is pushed up to engage the multi-point locking

Key locking handle

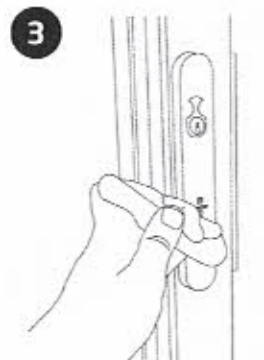
The key operated cylinder locking handle that can be supplied to NorDan balcony doors and sliding doors both inside and outside the door.



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



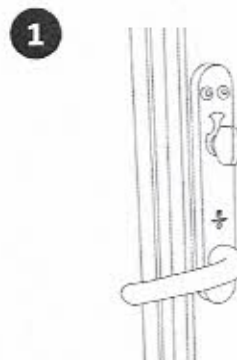
To open the door, first unlock the door with your key then simply push down the handle to release the multi-point locking



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

Thumbturn handle

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



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



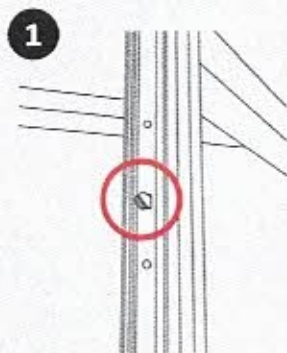
To open the door, first unlock the door with the thumbturn, then simply push down the handle to release the multi-point locking



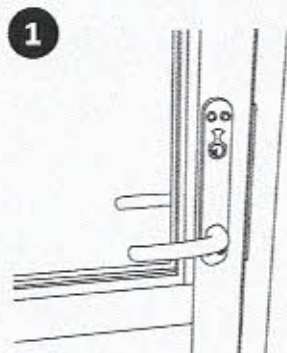
When closing the door, ensure the handle is pushed up to engage the multi-point locking then lock using the thumbturn

Maintenance

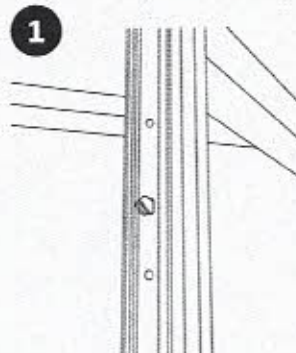
Ensure the door is maintained regularly, depending on frequency of use, load, and environment. It is important also to check that screws for the lock case, door fittings, handles and strike plates are tight.



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



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



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



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

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

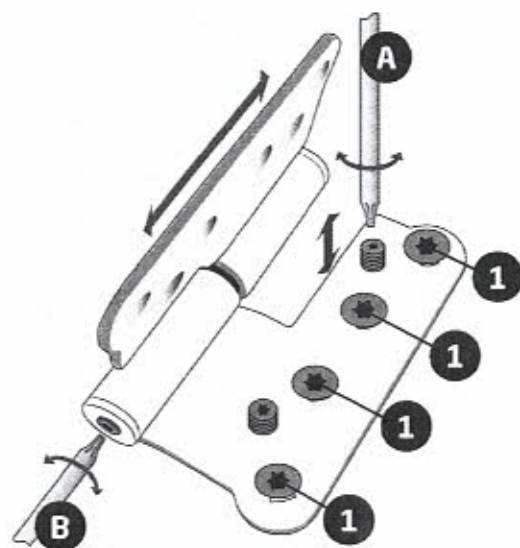
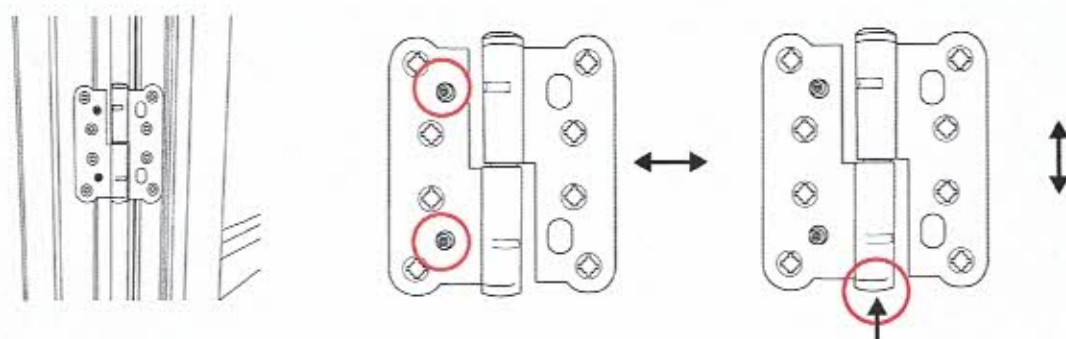
- Closely inspect your doors at least once a year. Check that the door opens and closes smoothly.
- Check the weather gasket set around the outside edge of the door leaf and ensure it is kept clean and remove any debris, also
- Check the threshold for any build-up of debris as this could restrict the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



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

Adjustment hinges

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



HORIZONTAL ADJUSTMENT

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

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

VERTICAL ADJUSTMENT

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

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

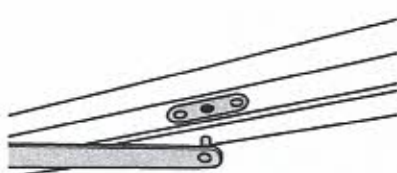
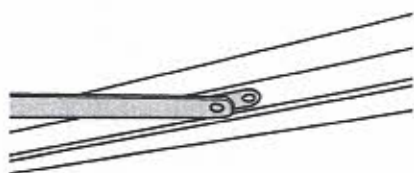
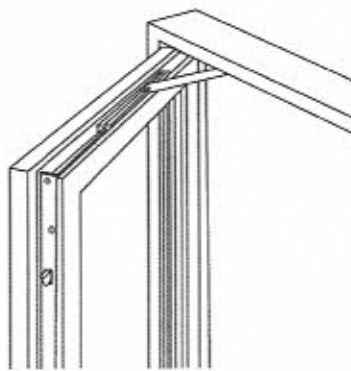
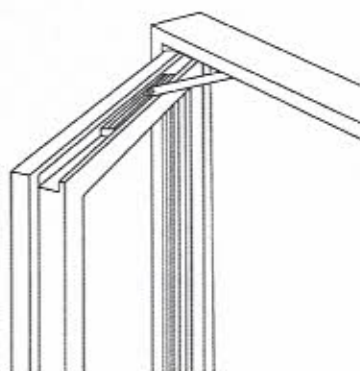
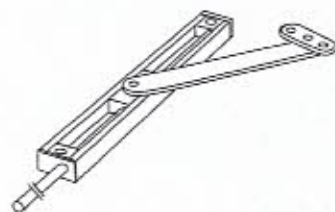


Due to the security pins that are part of the hinge, it is not possible to lift off the door leaf when the hinge is closed - as the horizontal adjustment screws locate into the slots in the door leaf section.

The FIX 150 Friction Stay is operated with the espagnolette handle

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

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



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



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



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



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



The hinges do not require lubrication

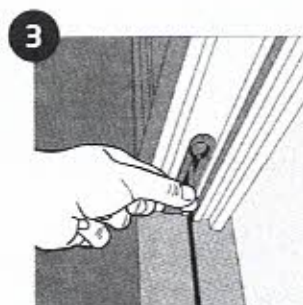
Removing the door leaf



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



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



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



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



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

SINGLE PATIO DOOR

CODE: 2P, SD



View product
adjustment video



Operation

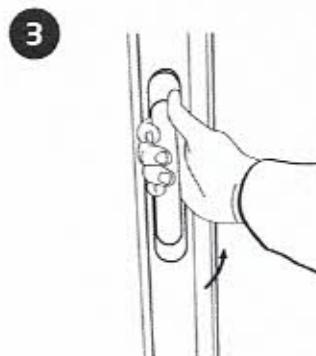
Single sliding doorsets are produced as standard with one side fixed and the other part sliding. The opening door is on the outside. When the door handle is released, the door moves out approximately 7mm and then can be easily moved sideways. The door can simply be stopped and restrained in any open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



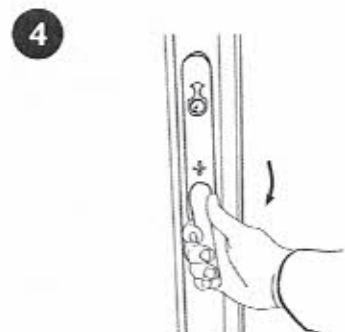
1 To open your door from the closed position, unlock it using your key or thumbturn (if present)



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



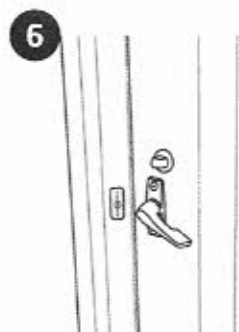
3 Push the handle up and the sliding door leaf is free to move



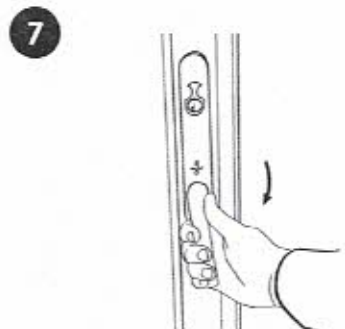
4 The door leaf can be held in position at any point along the frame by lowering the handle. This activates the anti-slide mechanism



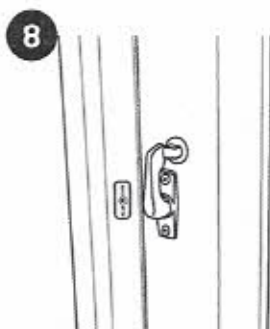
5 Do not leave the door unattended, even with the sliding door in the restricted position as no open door is safe from intrusion



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



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



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



9 Ensure the door is locked before leaving it unattended



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

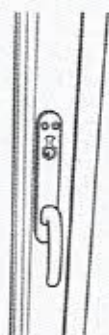


Ensure that you make a note of the reference number on any door keys you have. This is essential information when ordering replacement keys

Maintenance

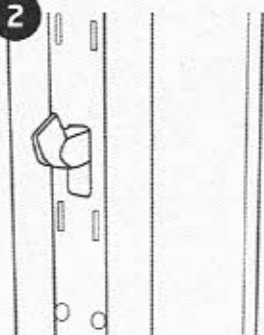
Ensure the door is maintained regularly, depending on frequency of use, load, and environment. It is important also to check that screws for the lock case, door fittings, handles and strike plates are tight.

1



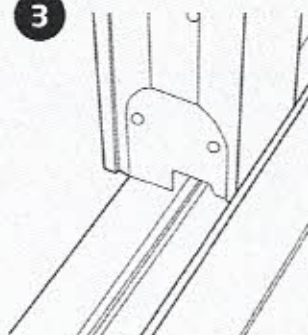
Cylinder: The cylinder is factory lubricated, however to maintain smooth operation and long life expectancy of cylinder and keys, it is recommended to lubricate the cylinder twice yearly. Use silicone spray.

2



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

3



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

IRONMONGERY

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

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



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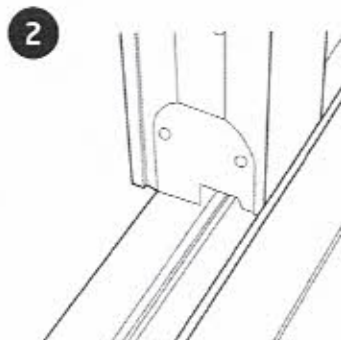
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Removing the door leaf

Minimum two persons required weight dependent



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



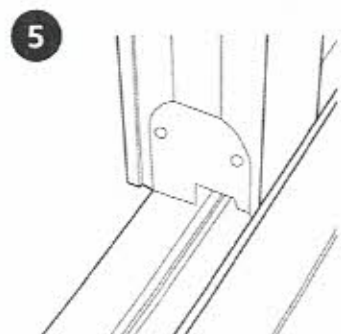
Lift the door vertically so that the bottom rollers clear the sliding track.



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



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



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



Check the door after installation for correct operation.



Manual handling assessment may be required



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

GENERAL MAINTENANCE

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

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

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

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

LUBRICANT

For lubrication of parts and product specific maintenance a silicone spray is recommended unless otherwise stated. This lubricant has good adhesion, is easily applied and is less likely to 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

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.