

***Instructions Manual  
2019***

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## ***Thank you for choosing Zyle Fenster timber windows and doors.***



Our products are designed to provide many years of high performance with minimal maintenance. This commitment to performance that lasts is backed up by industry-leading guarantees provided by our suppliers. To ensure your new windows and doors continue to look and perform at their very best for many years to come, it is essential they are operated and maintained correctly, following the instructions in the Owners' Manual. By following the step-by-step guide below this will also ensure that your guarantees remain valid.

### **1. PRODUCT LIABILITY AND WARNINGS**

#### **1.1. General information**

Zyle Fenster windows, doors, sliding elements and accessories are manufactured to the high-quality standards. Provided they are properly maintained and professionally serviced, they should last for many years to come. In this manual you will find basic information to help with this. Please be aware that disregarding this information can lead to invalidating the warranty and possible product liability claims. Functional impairments or wear and tear of parts, which usually occur during correct use, are not covered by the warranty. Any damage resulting from improper handling is excluded, as well as unintended use of the product and attempts of repair by anyone unqualified to do so. Correct use of windows and doors includes the opening and closing of sashes installed vertically. When closing sash windows, counter force of gaskets is allowed, all other kinds of use are not permitted.

#### **1.2. Warnings**



- Please take care that no objects get between the sash and frame and that no object is jammed when closing the window; please avoid sash being pressed against the window frame contrary to normal use or in an uncontrolled manner (e.g. through wind load), which may result in damage of hardware, destruction or consecutive damage of hardware, frame materials or other parts of window or door



- In case of wind and draft, window and door sashes must be closed and locked.



- Opened and tilted sashes do not meet requirements for tightness of joint gaskets, driving rain tightness, sound insulation, heat insulation and anti-burglary protection.



- Normal glass does not meet requirements for increased risk of breakage, anti-burglary protection and fire protection.



- Normal glass can break easily. Resulting in sharp glass edges and glass splinters posing a risk of injury. Fall-proof glazing (e.g. Juliette balcony/French balcony) which shows damage on the glass edges (flat chips) or cracks, has to be exchanged immediately as necessary security requirements can no longer be achieved.



- Entrance doors that have not been locked properly (e.g. locked only via the latch) do not meet requirements for anti-burglary protection.



- Security related hardware has to be checked regularly regarding its tight fitting and corrosion. If required, fixing screws must be tightened or parts have to be exchanged. Please store delivered glass separately in a dry place --> Moisture destroys edge area.



- All window and door elements which are designed to be opened, closed and locked have to be operated at least once a month to avoid damage through "inoperative wear and tear" (especially corrosion and stiffness). During construction works many mechanical, climatic and chemical strains can have an effect on windows and doors. Thus, protecting construction elements by covering them and ensuring proper ventilation to regulate humidity is essential.



- Please use appropriate adhesive tapes for protecting surfaces. Adhesive tapes have to be compatible with timber, plastic and aluminium surfaces. Adhesive tapes must be removed as soon as possible, when they are no longer needed. Alkaline leachates from facade and walls can cause irreversible damage on powder-coated and anodised aluminium surfaces. To avoid this, window and door frames must be cleaned and conserved periodically. If doors have been fitted with turning hinges which are screwed into sash protrusion, the sash has to be protected against “reveal impact“ through a stopper fitted on site. Otherwise, there is a risk of damage from strong forces which may affect the turning hinges



- Increased thermal load and heat accumulation on glass can lead to spontaneous glass breakages. Avoid part-shading of glass from external sun protection systems. Also heat accumulation on the glass resulted from heat sources (such as radiator, lights) and during sun exposure from very dark objects which are too near the glass on the inside or outside of the building. (Avoid attaching foils and paints to the glass). Moveable parts of bearing components of very frequently operated window and door elements need to be lubricated more frequently than once per year.



- All Aluminium Clad windows are delivered with Factory fitted protection tape fitted to External Aluminium Cladding in order to protect the surface during delivery and installation. Adhesive tapes must be removed as soon as possible after installation. Tapes can be hard to remove if left for longer than a month after the window/door has been installed.

### 1.3. Safety notices when operating



Risk of injury by getting stuck between window or door sash and frame.



Danger of falling objects and/ or related injury, e.g. caused by drafts..



Danger of falling through if sashes are open.

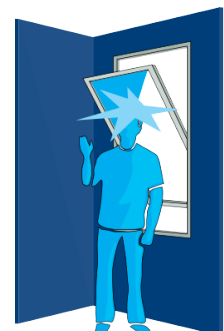
- Always observe the safety instructions when carrying out work to windows and doors
- Ensure children and anyone else who are unaware of the dangers are kept well away.
- Avoid spilling lubricants onto the floor or leaving tools unattended in the working area.



Risk of injury caused by sash impact when sashes are left open.



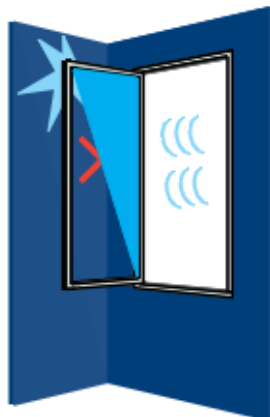
Load on the sashes or leaves can cause damage, deformation or destruction of individual elements..



Risk of injury caused by sash impact.



In case of double leaf elements, the active sash must always be opened first (except escape doors) to avoid damage to the lock or frame



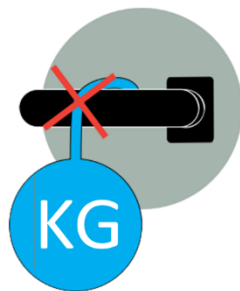
Sashes or leaves banging open in an uncontrolled manner (e.g. caused by wind) against wall recesses can damage the frame, fittings or the recess. Recommendation: use an opening limiter (regulates the opening distance) or a door stop.



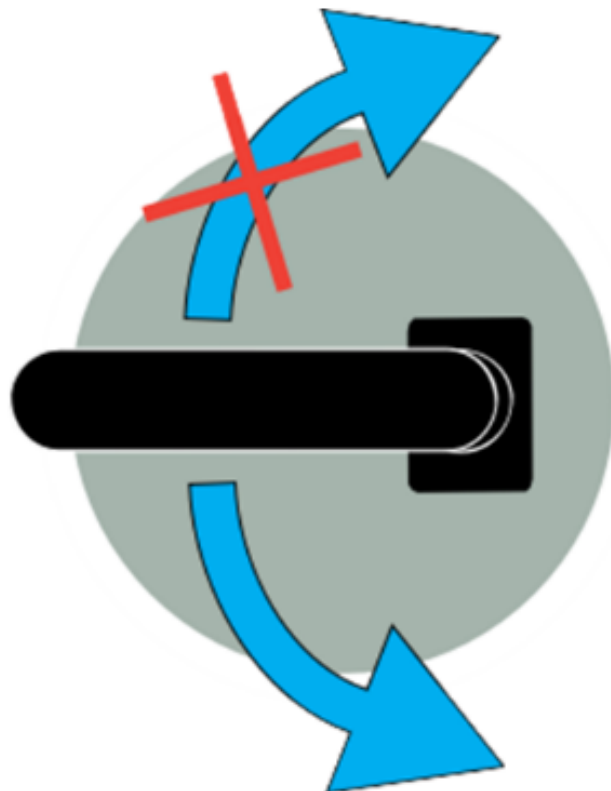
Obstacles (e.g. cables, flower pots) in the opening area between sash and frame can cause deformation and damage to frames and fittings.

#### 1.4. Incorrect uses of window and door handle:

Load on the handle can cause damage to the locking mechanism.



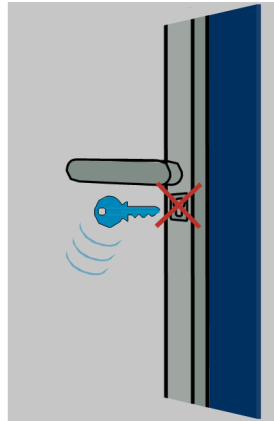
Operate the element handles only in the direction of the arrow as indicated in the manual and only up to the rotation stop zone. The handle and operating mechanism can be damaged otherwise.



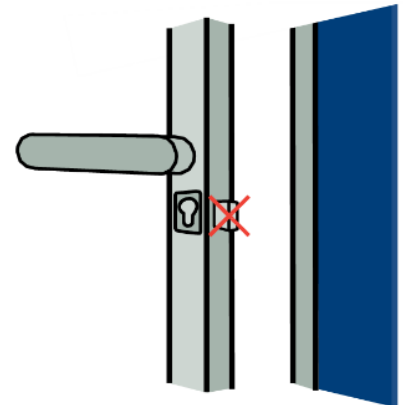
## 1.5. Incorrect uses of window and door lock



Never drill the fitting when the lock has been installed.

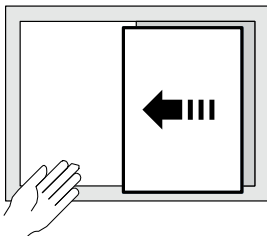


Do not force the lock in case of tightness or sluggish operation. Instead, the cause of the problem should be assessed and fixed by a professional.



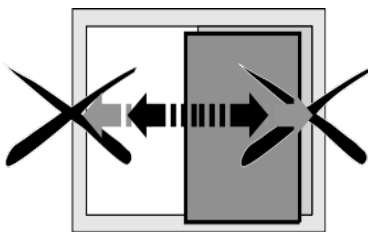
Do not close the door when the bolt is pre-locked: this will damage the lock and the door frame.

## 1.6. Safety notices using single, french or sliding doors



**Danger of injury due to parts of the body getting caught in the opening gap between sash and frame**

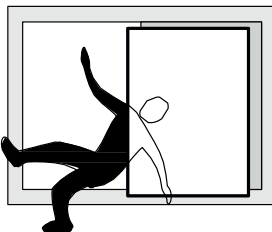
- When closing windows or French doors, never place your hand between the sash and the frame. Always proceed with caution.
- Children and people who are unable to assess the hazards must be kept away from areas of danger.



**Danger of injury and material damage due to pressing the sash against the edge of the opening (window reveal).**

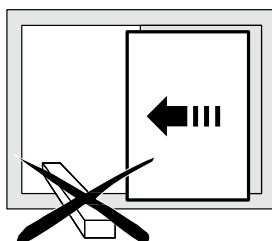
**Danger of injury due to uncontrolled opening and closing of the sash**

Refrain from pressing the sash against the edge of the opening (window reveal).



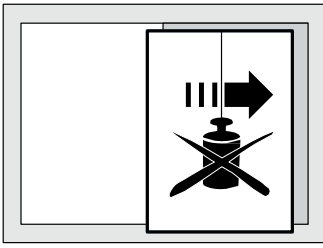
**Ensure that the sash is slowly guided by hand throughout the entire movement until the opening or closing positions are reached.**

> Children and people who are unable to assess the hazards must be kept away from areas of danger.



**Placing objects in the opening gap between the sash and the frame may result in injury or material damage**

- Do not place obstacles in the opening gap between the sash and the frame.
- Children and people who are unable to assess the hazards must be kept away from areas of danger.



**Danger of injury and material damage due to additional load on the sash**

- Prevent any additional load on the sash.
- Children and people who are unable to assess the hazards must be kept away from areas of danger.

**2. OPERATION**

**2.1. Opening types**

**2.1.1. Tilt & Turn window**

By operating the handle of a turn and tilt window, the window can first be opened inwards completely and in second position, the window can be opened in ventilation position.



**2.1.2. Tilt before turn window**

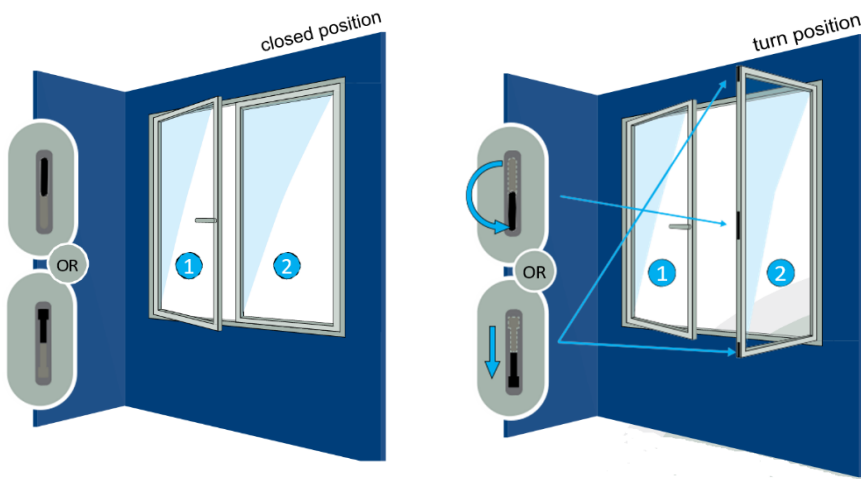
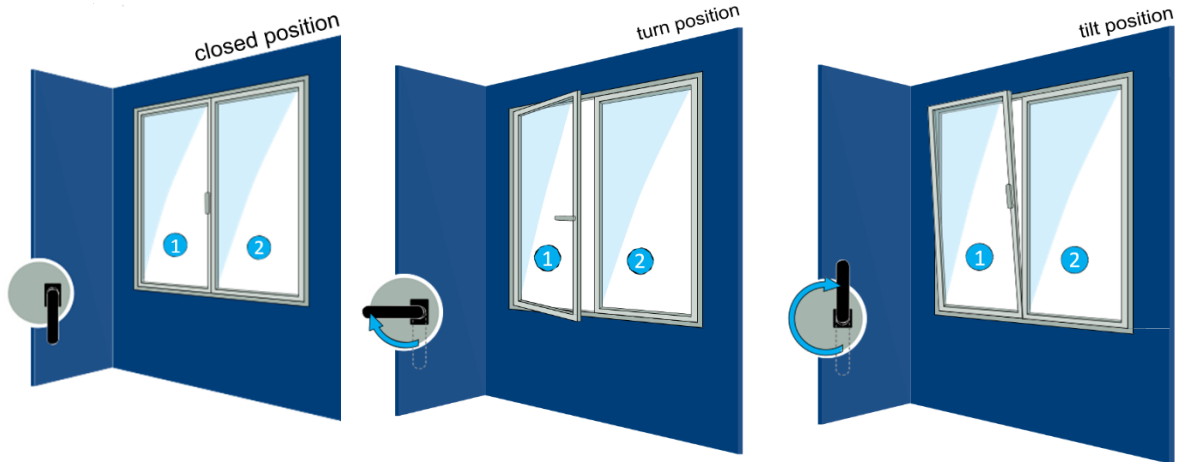
Operating the handle of the tilt before turn window will first allow the window to tilt for ventilation purposes. In second position the window can be opened completely inwards.

A specific application of the tilt before turn mechanism is realised in combination with a lockable handle: this handle will always allow the tilt position for ventilation, but will prevent unauthorised persons from opening the window completely.



### 2.1.3. Double casement window

A double casement window consists out of 2 sashes with a specific which can be opened following a specific sequence. The handle is mounted on the active sash. This active sash can be equipped with a side hung, a turn and tilt or a tilt before turn mechanism. These operating instructions are described in the previous chapters.



In order to open the inactive (or casement) sash, the active sash needs to be opened inwards completely. The inactive sash is equipped with locking bolts or a central locking mechanism. By unlocking these bolts or central locking mechanism, the inactive sash can be opened in side hung position. To close the window, simply reverse the order.

### 2.1.4. Outward opening

By operating the handle, the window sash is projected towards the outside, with limited opening angles. A position with the handle pointing downwards is not possible.



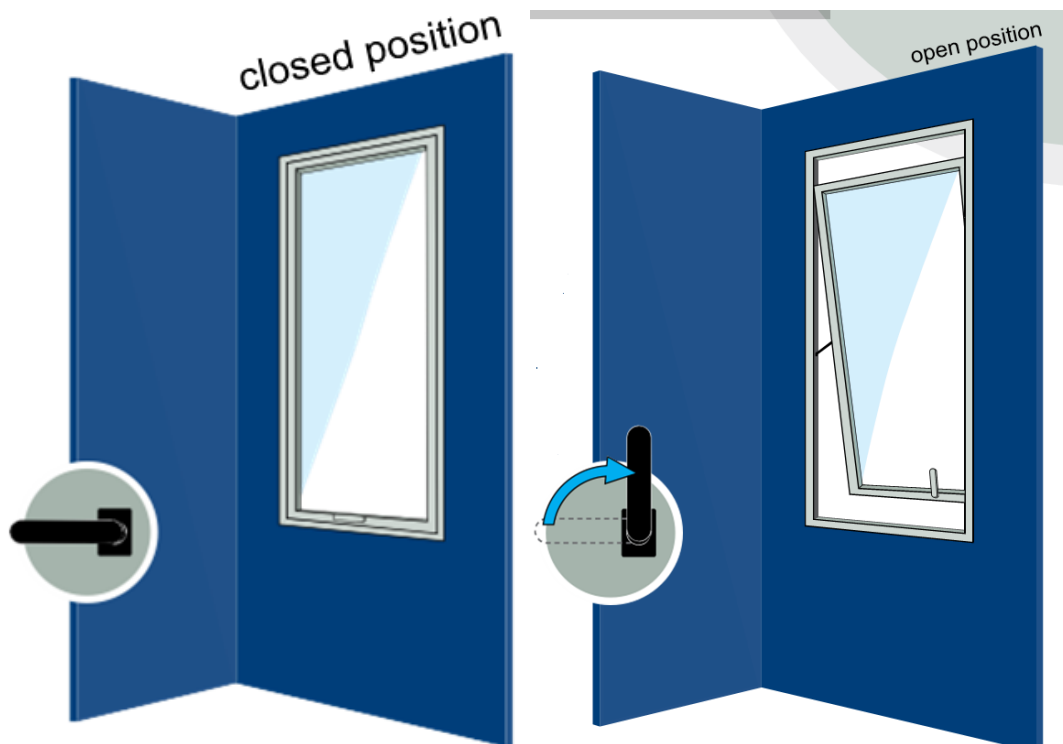
### Side hung window





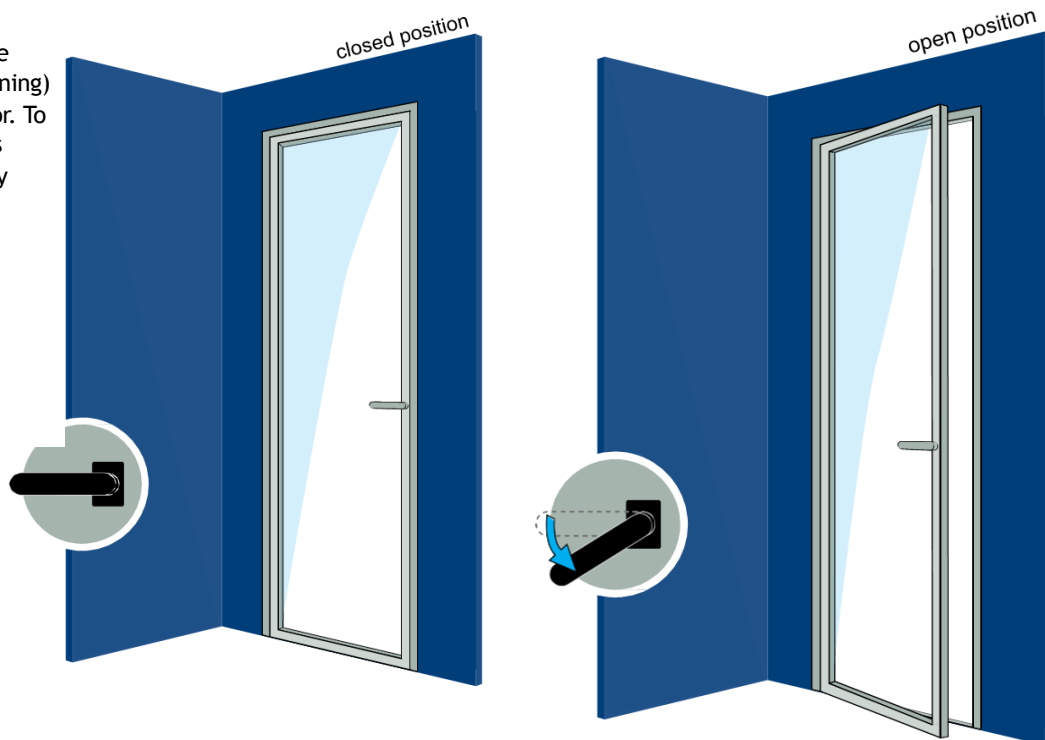
### 2.1.5. Outward opening top hung window

By operating the handle, the window sash can be opened towards the outside. An opening limiter is recommended in order to regulate the opening distance. A handle position with the handle pointing upwards is not possible.



### 2.2. Single doors

To open a single door, push the handle downwards while pulling (inward opening) or pushing (outward opening) the door. To close the door, leave the handle in its original horizontal position and simply push or pull until the door is closed.



### 2.3. Double doors

To open a single door, push the handle downwards while pulling (inward opening) or pushing (outward opening) the door. To close the door, leave the handle in its original horizontal position and simply push or pull until the door is closed.



In order to open the second door, open the first door as indicated in the previous sections. Subsequently, the locking bolts need to be unlocked before opening the second door. To close the doors, simply reverse the order.



## 2.4. Lift & Slide doors

By turning the door handle 180° into the sliding position, the sash is raised by several millimetres. In order to close the sash, slide it into the closed position and lower it again by turning the handle 180° from the downward to the upward position. If the lift sliding door is equipped with a locking mechanism, unlock it before operating the handle



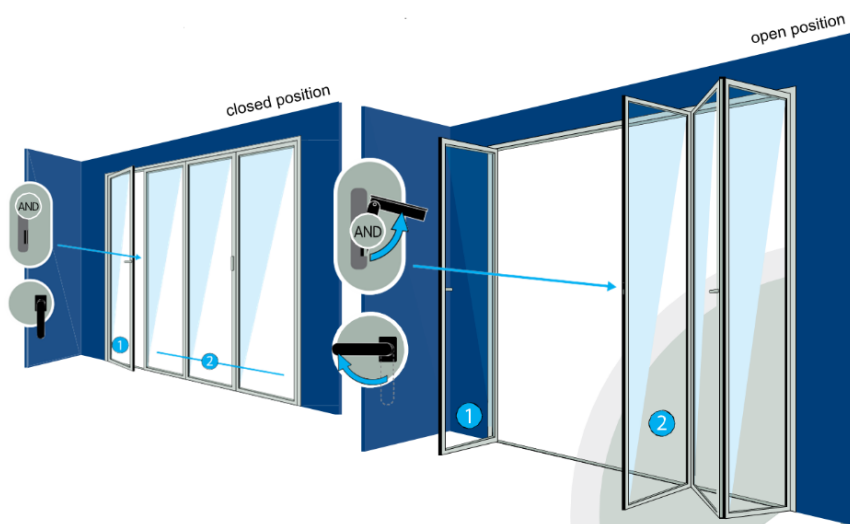
## 2.5. Folding doors

If the folding element is fitted with a walk-in door, this part of the element can

To open the folding element completely, open the first sash by turning the handle to the open position.

The first sash must be positioned 90° to the rail and consequently, you can open the second handle. Once the second handle is open, you can open the second sash by pulling (inward opening) or pushing (outward opening) the secondary handle, and also position it in a 90° angle.

To close the folding door, push the secondary handle (inward opening) or pull the secondary handle together with the auxiliary handle on the hinge (outward opening) until the sashes are positioned on top of the rail. Close the door by putting the handle in downward position. The primary sash can be closed consequently.



## 3. GENERAL GUIDELINES FOR DELIVERY & STORAGE

### 3.1. General guidelines for delivery

Windows, door sets and ancillary items should be checked upon delivery to ensure they are correct in line with the order, the delivery is complete and there are no visible signs of damage to the products or to the protective wrapping. Our joinery products are delivered on pallets with secure banding and packaging. Unloading by manual methods should always be carried out with adequate labour in accordance with current Health & Safety guidelines, or alternatively with the use of a forklift truck. Care should be taken that no damage is inflicted upon the product by the forks or during the unloading process.

Windows and Door sets should be lifted by the outer frame, not by the opening sashes, ironmongery, or decorative/solid glazing bars. They should be carried vertically to avoid any tendency to twist or distort the outer frame and cause damage to the connecting joints. Particular care should be taken when handling large or composite frames.

Remove products from pallet by lifting not dragging, and avoiding damage to or from projecting ironmongery or fittings.

### 3.2. General guidelines for storage and handing

Zyle Fenster windows and doors are produced with a carefully controlled moisture content.

The storage and handling of doors must be in accordance with the guidance as given by BS 8000 Part 5:1990. or BWF

The extended use of metal containers for site storage is not advised as this can lead to extreme conditions being created within, which can be detrimental to the performance of our products.

Store windows and doors under cover in a dry, well ventilated area. Glazed frames should always be placed in a vertical position.

If our products are required to be stored outside, ensure they are protected from the elements with a waterproof cover such as a heat resistant tarpaulin or the equivalent, and allow air circulation clearance between products. Where products are supplied on a pallet or shrink - wrapped, ensure that adequate air circulation can be allowed to flow freely to all products on the pallet and try to avoid direct sunlight. Avoid stacking our products flat as the factory applied surface coatings and factory glazing systems have been developed for vertical or angled drainage away from the wetted systems.

Protective wrapping should not be removed until the products are ready for installation or until absolutely necessary. Caution must be shown when using sharp objects such as knives etc. as removing packaging can cause damage to the product or finish. Regularly inspect the products whilst in storage to ensure the correct conditions are being met and to check fittings are in good condition.

If products are exposed to excess moisture during storage or at the time of fitting, components within the window may swell or distort, possibly causing lasting damage to the products appearance or function. This is not a manufacturing fault and therefore subsequent issues are not covered under our warranty.

Do not use windows and door frames as scaffold supports, walkways or formers and avoid all other misuse.

Please handle windows with care. Ensure that frames do not drag along the ground or floors of lorry decks. Impact loads on corners could damage the frames so they should not be put down unevenly or dropped. Take particular care with large windows and doors or combination frames. Avoid twisting as this can put undue stress on the frame joints.

## 4. GENERAL MAINTENANCE INSTRUCTIONS (FOR THE END USER)

- Water drainage channels need to be clear and, if necessary, cleaned.
- Check the joints between the window and the wall: if the joints are cracked, they need to be filled to prevent humidity entering between the jamb and the wall.
- Remove any mould that appears on the product surface.
- Check the wooden surfaces of the product and perform any maintenance needed.

We advise that any maintenance carried out be logged in the table at the end of the maintenance manual. For information on maintenance products, please contact sales outlets of Zyle Fenster.

#### 4.1. Maintenance of wood finishing

The function of finishing is to protect the wooden surface against adverse effects originating in the environment, e.g. humidity, UV radiation, environmental pollution, etc. Therefore, it is very important to check and maintain the wooden components of the products.



##### Cleaning wooden surfaces:

At least twice a year (preferably in spring and autumn), for timber windows and doors, need to be washed with clean water containing an added neutral cleaning product to remove any dust and other impurities that over an extended period will damage the finished surfaces and therefore the functionality of the product. Do not use corrosive, abrasive or similar cleaning agents and solvents.

Effects of the weather and the environment on the finishing layer of the product vary depending on the location of the building and the degree of protection of the products. Any damage detected during maintenance should be repaired immediately in order to prevent the wood turning grey/blue or the paint bleeding.



##### Treatment with maintenance products:

Once a year (twice per year for timber window & doors if situated in an area with aggressive and corrosive atmospheres such as near the coast (<10 km) or close to the estuary of large rivers (<5km ), above water, within industrial area, exposure to large traffic [motorways, railways, airports], very aggressive atmospheres [e.g. swimming pools] ). Preferably immediately after the above cleaning, treat the wooden sections with a maintenance product (e.g. PPG Woodcare Milk, Remmers Aidol Pflegeset or Sikkens Wood Coatings care set, or other suitable wax) according to the product instructions.



PPG Woodcare Milk



Remmers Aidol Pflegeset



Sikkens Wood Coatings care set

Inspect the corner joints of the members on the outside of the product. If there are cracks, sand and fill with a joint protection product that is neutral and suitable for exterior wooden surfaces as well as for finishing.

*For information on maintenance products, please contact sales outlets of Zyle Fenster.*

## 4.2. Maintenance of external aluminium cladding



Aluminium cladding is not maintenance free.

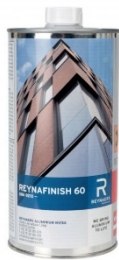


At least once a year the external aluminium surfaces of aluminium cladding windows and doors need to be washed with clean water containing an added neutral cleaning product to remove any dust and other impurities that over an extended period will damage the finished surfaces and therefore the functionality of the product. Do not use corrosive, abrasive or similar cleaning agents and solvents.

### External Aluminium Cladding - Treatment with maintenance products:

Once a year (twice per year for External Aluminium Cladding if situated in an area with aggressive and corrosive atmospheres such as near the coast (<10 km) or close to estuary of large rivers (<5km ), above water, within industrial area, exposure to large traffic [motorways, railways, airports], very aggressive atmospheres [e.g. swimming pools]). Preferably immediately after the above cleaning, treat the aluminium sections with a maintenance product (e.g. Reynafinish 60, Schüco Maintenance kit 298672 or other suitable wax for Aluminium surfaces) according to the product instructions.

Reynafinish 60



Schüco  
Maintenance kit  
298672



Every Treatment carried out to be logged in the table at the end of the maintenance manual including date of maintenance, works carried, name, surname and signature for maintenance operative. The warranty will not be valid if works have not been carried and recorder constantly as requested. For information on maintenance products, please contact sales outlets of **Zyle Fenster**.

## 4.3. Suggested redecoration cycles for opaque and translucent coating systems applied on a timber window

The maintenance period is greatly affected by exposure, building and joinery design. The table below demonstrates the maintenance schedule for fully factory finished windows and doors made from timber. It is important that the wooden parts of the windows are cleaned when the glass is cleaned, especially in highly built up areas where there is a lot of dirt pollution. This helps to avoid dirt contamination and reduces the chances of mould growth.

On sharp edges the coating film has a lower thickness. On these areas' maintenance may be required sooner. In coastal locations where dry sand blasting occurs, care & maintenance will be required on a far more regular basis than indicated in the table below.

Dark colours are highly susceptible to solar heat gain and therefore may create higher levels of substrate instability (mostly shown on and around joints). This may be further exacerbated with significant fluctuations in relative humidity.

Coating type	Window position	Ground floor & first floor	2 <sup>nd</sup> floor and above or on a hill side	Mountainous or Coastal regions
White or light-coloured paint	Set Back	8 - 10 years	6 - 8 years	4 - 6 years
	On Facade	6 - 8 years	6 - 8 years	4 - 6 years
Dark coloured paints or medium and dark stain finishes	Set back	6 - 8 years	4 - 6 years	3 - 4 years
	On Facade	4 - 6 years	4 - 6 years	3 - 4 years
Highly translucent stains such as light oak and pine	Set Back	3 - 4 years	2 - 3 years	1 - 2 years
	On Facade	2 - 3 years	2 - 3 years	1 - 2 years

Please note the timescales given above are just rough indications of what may be achieved. Certain hardwoods with a natural red or pink colour such as Sapele and Eucalyptus Grandis will tend to lighten significantly under light translucent shades such as light oak. **Please note that for our very light shades such as Natural Oak the lifespans in this table do not apply. They may require yearly maintenance and the colour of the timber under these will significantly change.**

#### 4.4. Repairing damage

Damage detected on finished surfaces needs to be repaired as follows:

Remove loose paint/varnish and sand the damaged area with fine sandpaper (such as P180...280) as needed. Clean and wash the sanded spot to remove any dust and dry it properly. Apply a layer of repair varnish or paint of suitable colour, using a high-quality synthetic brush designed for applying water-based acrylic paint. Once the first layer has dried, apply another layer to the surface.

Repairs should only be made if the temperature exceeds 8°C and relative humidity is below 85%, otherwise the coating systems may cure poorly, and performance may diminish. It is also not advisable to perform repairs in intensive sunlight.

When carrying out repairs, make sure that sash gaskets are not painted over. It is important for minor damage to be repaired quickly. Over time, minor damage may develop extensively and become difficult or impossible to repair. If there has been major damage, the manufacturer needs to be notified immediately.

#### Resin

Pinewood is a natural material containing resin which helps it better resist the effects of the weather. On hot summer days the temperature on the outer surface of the product may be quite high and this in turn may activate the excretion of resin. As a result, tiny dots of resin may appear on the surface of the wood. These may be removed carefully, using turpentine, white spirit or another suitable product.

**Please note:** Until the layer of paint cracks and comes loose from the surface of the wood, any excretion of resin is not a defect of finishing for the purposes of the warranty.

## 4.5. Maintenance of hardware

### Sash gaskets:

All opening sashes are provided with a durable and weather-proof rubber sash gasket. The gasket is installed in the groove in the profile of the sash.

At least once per year the gasket needs to be cleaned as needed using a regular window cleaning product. Do not use solvent (such as white spirit) to clean the gasket as this will do permanent damage.

Paint or wood protection products need to be prevented from getting on the surface of the gasket.

### Lever bolts:

Espagnolettes and multi-point locks have been lubricated by the manufacturer. To ensure the smooth operation of the mechanisms, espagnolettes and multi-point locks need to be oiled once or more frequently if necessary.

### Hinges:

The hinges of the window need to be lubricated once a year with non-freezing oil that does not accumulate dust (such as Teflon oil) preferably twice a year (more frequently, if needed).

Before any surfaces are lubricated, they need to be cleaned.

The tracks need to be clean and clear of physical obstacles. The tracks must not be painted over; however, they do need to be oiled, preferably twice a year.

## 4.6. Maintenance of threshold:

The hardwood parts of the threshold are treated with water-based paint. Compared to the other details, the threshold is exposed to harsher environmental conditions and is more likely to come into contact with water, snow, ice, dirt, etc. The threshold is also stepped on with shoes worn outdoors and may be subject to other mechanical contact (e.g. a wheelchair). The hardwood parts of the threshold are cleaned as needed - i.e. kept sufficiently clean to avoid damage to the wooden, metal, etc. parts. In the case of any signs of wear, the hardwood parts of the threshold must be re-coated. If necessary, consult the manufacturer!

## 4.7. Maintenance of glazing unit

### 4.7.1. Washing glass panes

Glass panes are mostly washed in Spring or Autumn (minimum temperature +5 °C). Use a proper window washing kit and suitable glass cleaning product to wash the glass panes. A good window washing kit consists of a window washer, a stand to attach the washer to, a squeegee and a rod (if needed, a telescopic rod of adjustable length).

Clean the glazing unit, starting on its outer side, as soiled areas are easier to detect when seen against light. To remove dirt or cleaning product fluid, use a dedicated squeegee. To dry the surface of glass it is not advisable to use newsprint, since printing ink soils and may damage the surface of the glass. If needed, improve the drying result with a piece of microfibre glass cloth, chamois or no-fuzz paper. Pay particular attention to the corners and edges of the glass surface.

**Please note :** when installing a glazing unit with a self-cleaning glass pane (for example SGG Bioclean) or when washing glass panes, it is important to adhere to these specific handling requirements:

- Never attempt to remove an individual stain from the surface without using water.
- Always use non-aggressive glass cleaning products.



- Do not use glass maintenance products containing silicone or abrasive particles. Do not use commercial cleaning products designed for a purpose other than cleaning glass.
- Do not use the following chemical cleaning products: sodium carbonate, bleach, detergent or spirit.
- Avoid contact between glass and any other sharp or abrasive objects, including jewellery, buckles, measuring tapes, razor blades, knives, sandpaper, etc.

#### 4.7.2. Scratches

Avoid objects with sharp edges coming into contact with the glass surface. Glass is strong but not scratch resistant. Only light scratches may be removed from the surface of glass using cerium oxide.

#### 4.7.3. Thermal stress

A rapid increase in the temperature of glass or a great difference in temperatures in glass creates thermal stress, as a result of which the glass may break.

Thermal fracturing occurs when the temperature difference between the centre and edge areas exceeds a certain critical limit. The following temperature differences should be used as guiding values:

- Reinforced glass, rolled glass and laminated glass: 20-30°C
- Float glass: 40-50°C
- Tempered glass: 80-100°C.

When changing windows, the thermal fracturing risk must be assessed according to glass type, glazing surface and orientation in terms of cardinal direction but also according to the glazing unit's internal and external sun protection means (lamellae, roll-up shutters, etc.) and frame colour.

Thermal fracturing is related to the physical properties of glass and therefore is not considered a defect that is subject to warranty rights or obligations. To avoid critical thermal stress:

- do not direct a stream of air or radiation from a heat source onto the glass,
- avoid direct contact between objects and the glazing unit.

The manufacturer is responsible for the glazing unit meeting the customer's specifications; the customer and/or designer is responsible for the glass being suitable for the conditions at the place of use. We recommend using tempered glass where there is risk of thermal fracturing (e.g. deep shadows from external structures on the southern elevations of buildings). Additional information on thermal stress in glass : <http://www.glassolutions.ee/knowledge-centre/how-to-guides>

### 4.8. Condensation (Windows and Doors)

#### 4.8.1. Internal condensation

Nowadays because of improved airtightness of buildings coupled with changing lifestyles more people are experiencing difficulties with condensation. Because this problem frequently manifests itself on windows and doors, there is a tendency to regard windows and doors as being in some way responsible. This is a totally erroneous viewpoint.

Condensation is water vapour from the atmosphere in the building and cannot possibly under any circumstances be generated by windows or doors. It is introduced into the air inside the building by the users of the building carrying out such activities as breathing, cooking, washing, showering, bathing, drying clothes etc. In the case of a new house the amount of water vapour generated by the users is significantly added to the materials used in the construction of the house itself drying out. When the house is warm the air accepts this water vapour until it reaches saturation point. As the house cools down the saturation point of the air drops and it can no longer hold the amount of water vapour, which it accepted, when warmer. This excess has to be deposited on the various surfaces in the room and the cold glass surface provides an ideal surface for this.

The formation of condensation on a surface does not indicate any problem with that surface - it merely indicates the presence of excessive levels of water vapour in the air. any surface will condensate given the right combination of two factors - difference between indoor and outdoor temperature and

relative humidity of the environment. For example, a particular glazed element will not condensate for an outdoor temperature of  $-2^{\circ}\text{C}$  and an indoor temperature of  $20^{\circ}\text{C}$  at a relative humidity of 50%. If however the relative humidity is increased by a mere 2% (e.g. boiling kettle, unloading dishwasher or similar) condensation occurs.

Windows and doors can help in recognising and dealing with a condensation problem. Initially the formation of condensation on windows and doors provides an early warning that there are excessive amounts of water vapour at large in the building. They provide a clean wipeable surface on which

condensation may form without causing a lot of damage unlike more porous surfaces such as paintwork, presses, clothes, furniture etc. Condensation forming on a window or door surface will cause a lot less structural damage than elsewhere in the building. The presence of heavy condensation on a window or door is a symptom of a problem with moisture control in the building - heed the warning but do not shoot the messenger!

The solution to condensation lies in maintaining the correct balance between heating and ventilation in a building and limiting activities which give rise to the buildup of excess water vapour. Heating creates a situation where the air in the building can absorb a lot of water vapour and ventilation ensures that as the air cools down the excess water vapour can escape instead of condensing on cold surfaces within the building.

A particular problem with moisture control may arise in a new building as the materials in the building itself go through a drying out process which may take a year or two. If this proves too difficult to manage by normal means a dehumidifier will help to control the problem.

**Remember these points:**

*Windows and doors do not cause condensation.*

*Windows and doors are safe clean surfaces on which condensation may form.*

*Condensation on windows and doors provides an early warning of a moisture control problem Windows and doors can be used to provide adequate ventilation to solve a condensation problem.*

#### **4.8.2. External condensation**

With improvements in the thermal performance of glass the phenomenon of condensation on the exterior surface of glazing has become more prevalent. External condensation occurs in particular climatic conditions with high humidity levels and/or particularly cold weather. It is not a defect in the glass or the windows, but it does demonstrate that the item is doing the job it's supposed to do - keeping heat in.

The low emissivity inner pane reflects heat back into the building preventing the outer pane from warming up. The outer pane presents a cool surface and, given the right temperature and humidity conditions, water vapour from the air will condense on it.

This was not an issue with traditional double glazing when there was much more heat loss through the inner pane so that the outer pane was warmed up by this wasted energy. Today, because of energy prices, global warming, the need to comply with building regulations and reduce carbon emissions, it is no longer possible to install inefficient glazing. In northern European countries which have much colder winters than we do, glazing with very low U-values has been used for some time and the phenomenon of external condensation is understood and accepted. It is considered much more important to conserve energy and have a warm comfortable indoor environment.

Customers are sometimes perplexed by the fact that condensation may occur on one house but not on another, on one window but not on another, indeed even on one pane but not on another. This happens because the surface

temperature of the glass is affected by the degree of shading from a roof overhang, a projecting reveal or lintel, a tree, another house or by a very minor difference in orientation.

There is nothing that can be done to predict where external condensation will occur or to avoid it. It does however indicate that the glazing is very energy efficient and is saving money by conserving heat. In most cases the condensation will disappear as soon as the window is exposed to a little sunshine or a breeze.

Further information on this topic can be found on major glass manufacturers websites eg. [www.pilkington.co.uk](http://www.pilkington.co.uk) or [www.saint-gobain.com](http://www.saint-gobain.com)

## 5. MAINTENANCE. OPERATION. ADJUSTMENT.

### 5.1. Inward opening windows (Tilt&Turn, Turn Only) hinge maintenance & adjustment

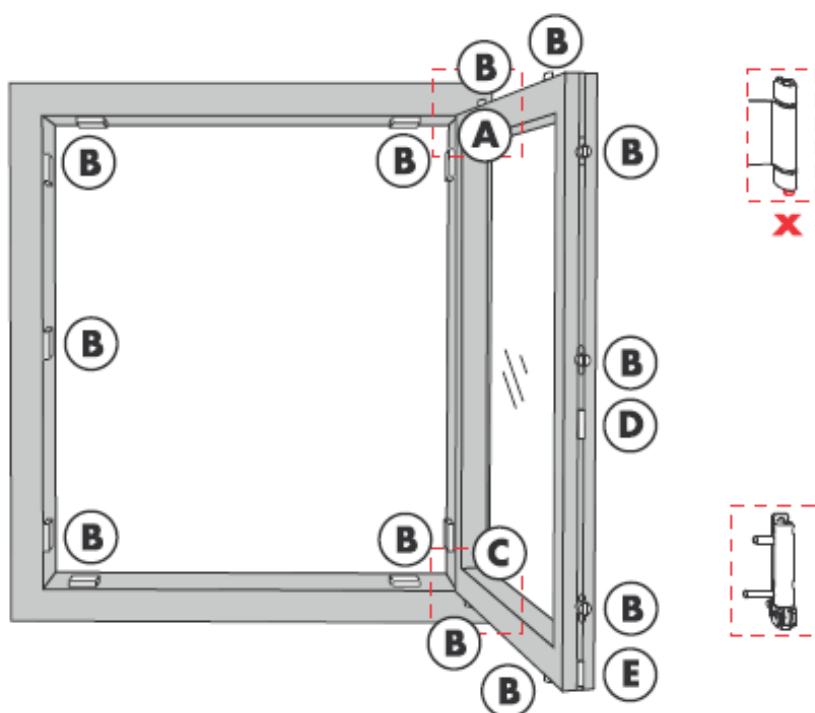
#### 5.1.1. Maintenance - inspection and lubrication

Check that all fittings marked  are secured and check for wear.

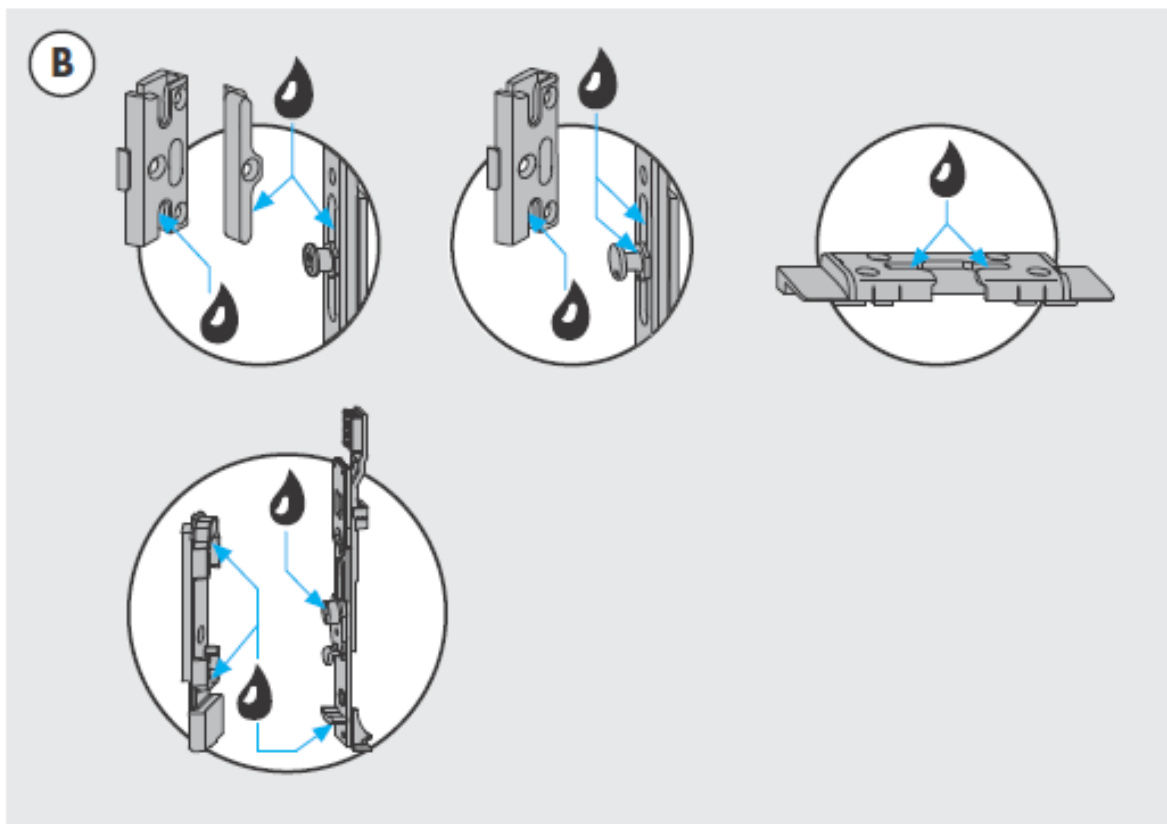
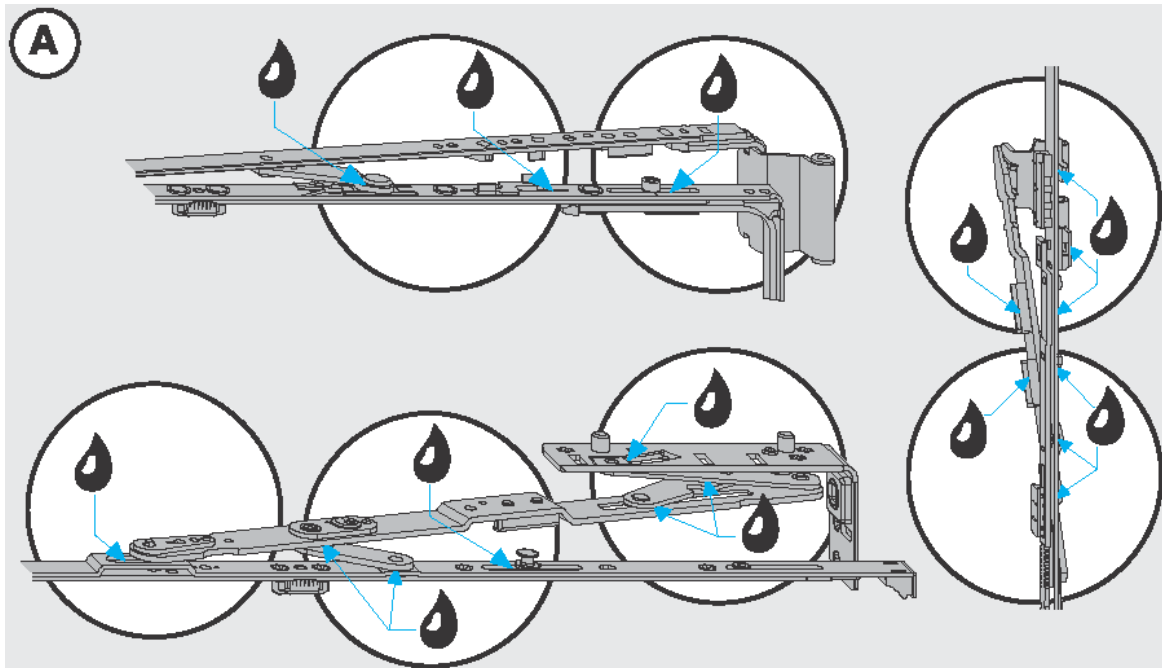
- Check that the top hinge pin (x) pushed in up to the stop. If it is not, slide it up to true stop manually.
- Check for loose fixing screws and check that the handle is secure. Tighten the loose fixing screws using an appropriate tool. Important: Do not over-tighten the screws.
- Have any worn/damaged fittings or overtightened screws replaced by a specialist company.

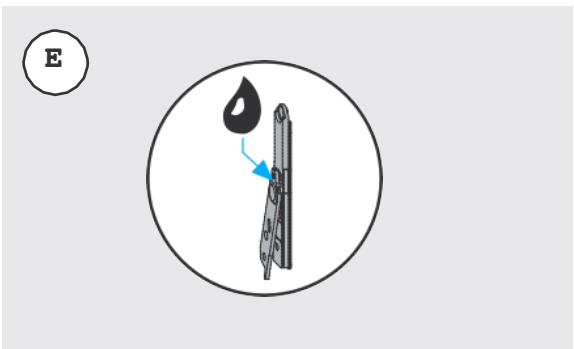
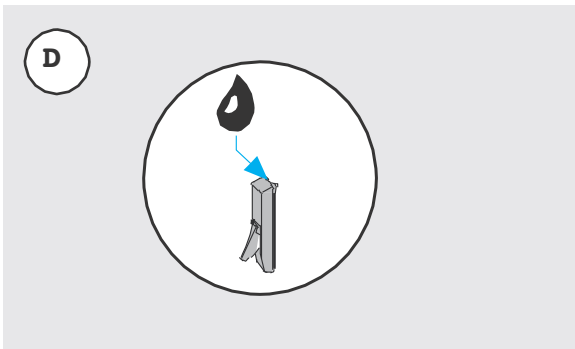
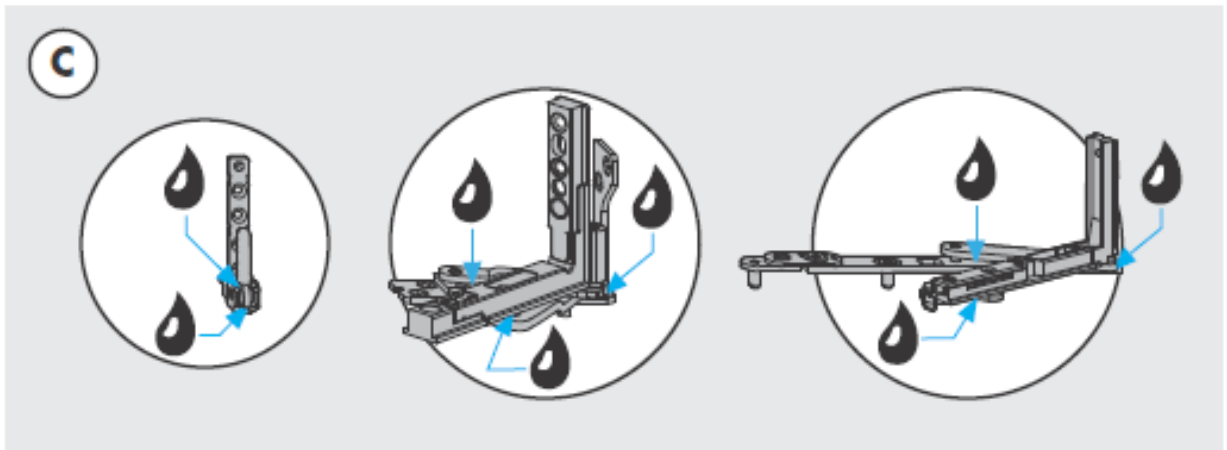
Grease or oil are all movable fittings and all locking points.

- Use only acid-free and resin-free oil or grease.
- Use a grease spray on the movable parts in the window sash and spray into all openings in the fittings. Then move the fittings into position several times until the grease is distributed. Wipe off any excess oil or grease.
- Grease the striker plates in the window frame using a firmer grease (consistency class 2 in accordance with DIN 51818) in the places where the locking cam engages with the striker plate.



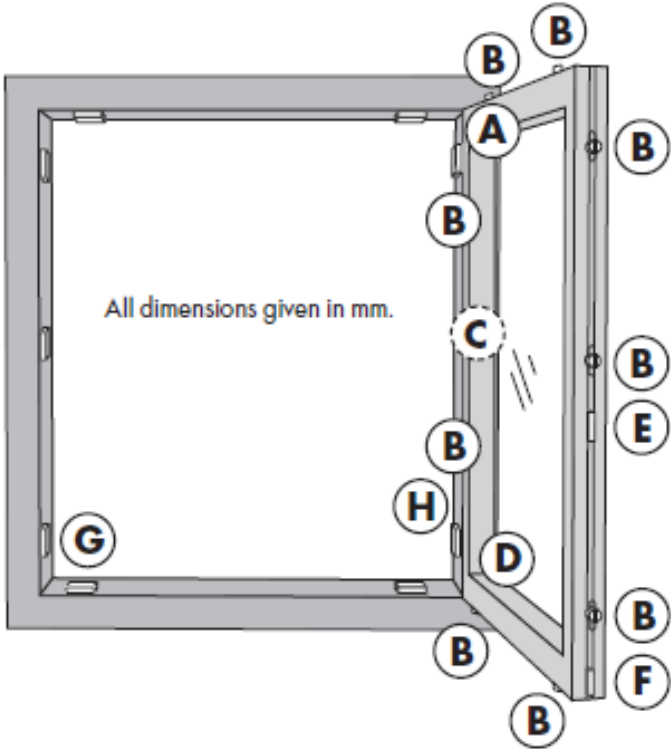
### 5.1.2. Maintenance - lubrication points





5.1.3. Making adjustments

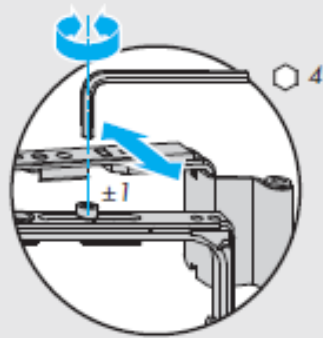
- (A) Stay and top hinge
- (B) Locking point
- (C) Tilt sash hinge (only for tilt sash)
- (D) Corner hinge - rebate corner hinge - bottom hinge
- (E) Door snapper
- (F) Sash lift
- (G) Run-up
- (H) Additional component (heavy)



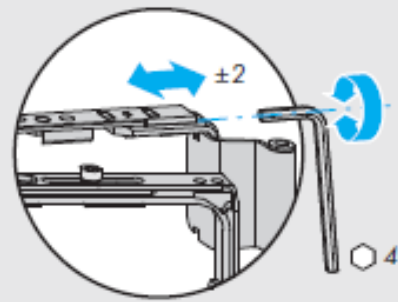
## **A** Stay

TITAN iP, AF

Pressure adjustment



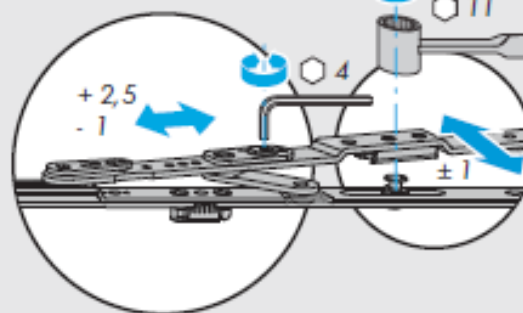
Side adjustment



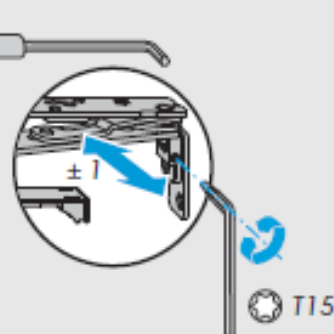
## **A** Stay

AX 24+

Side adjustment



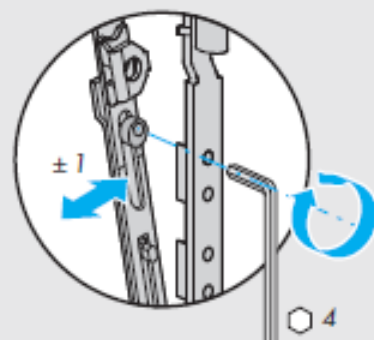
Pressure adjustment



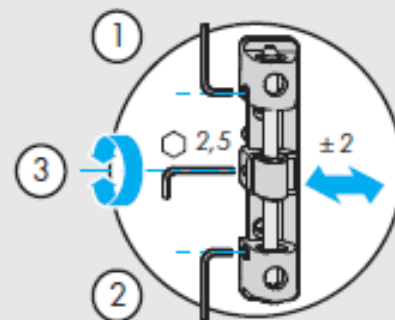
## **A** Stay/Top hinge

Arched head

Pressure adjustment

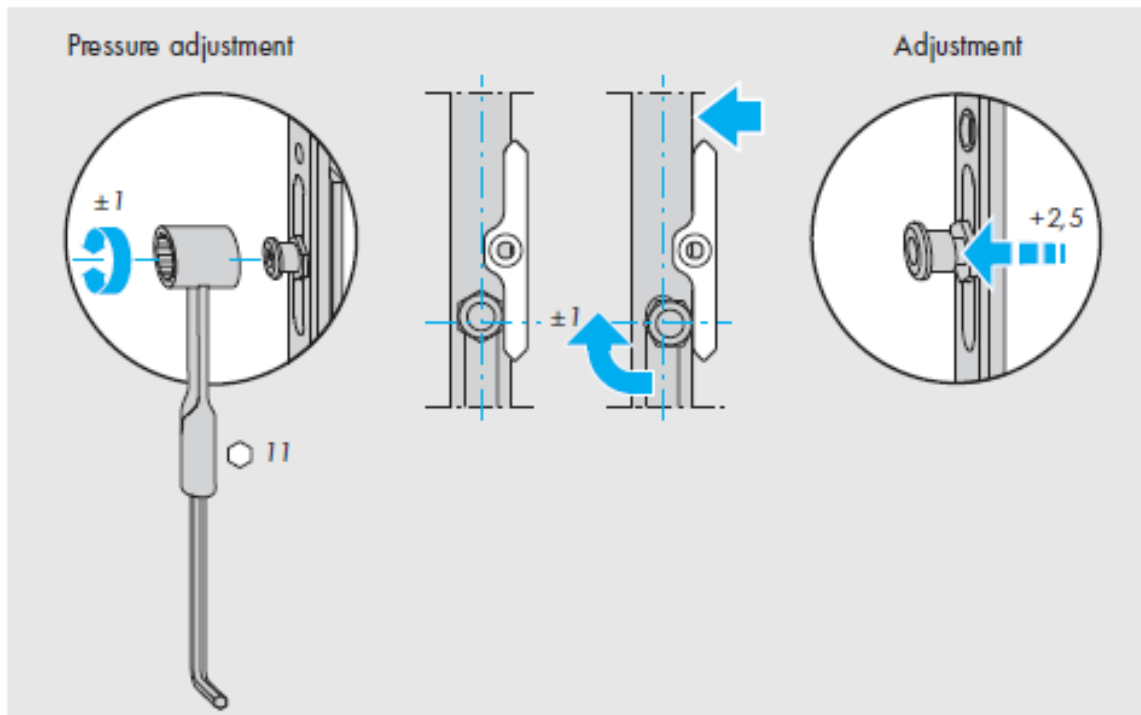


Side adjustment

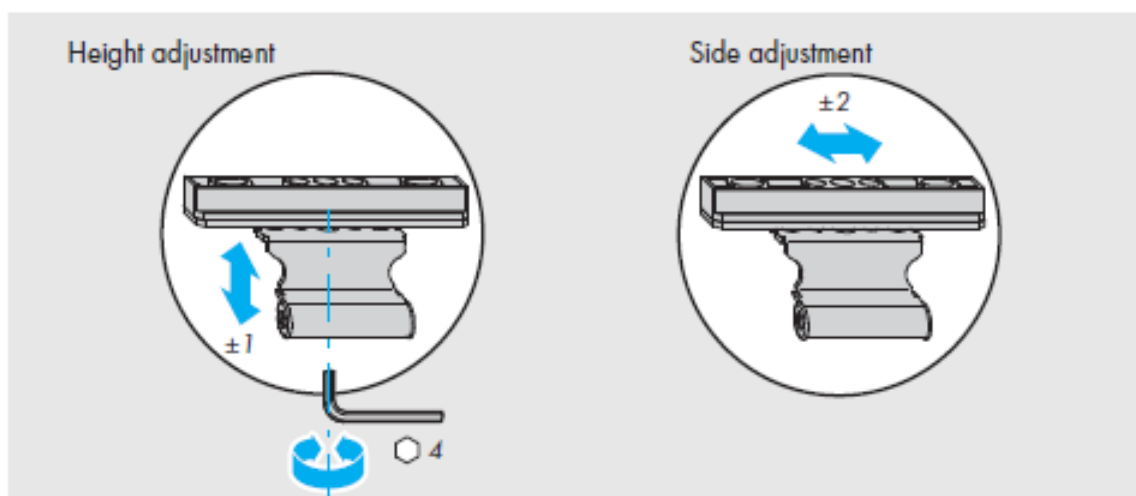


## B Locking point

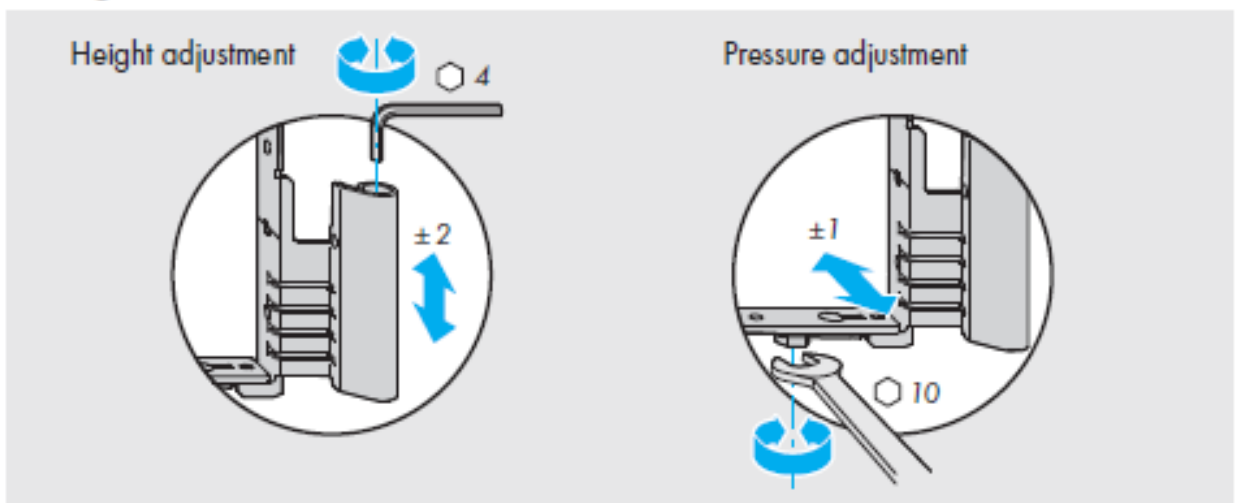
TITAN iP, AF - comfort mushrooms



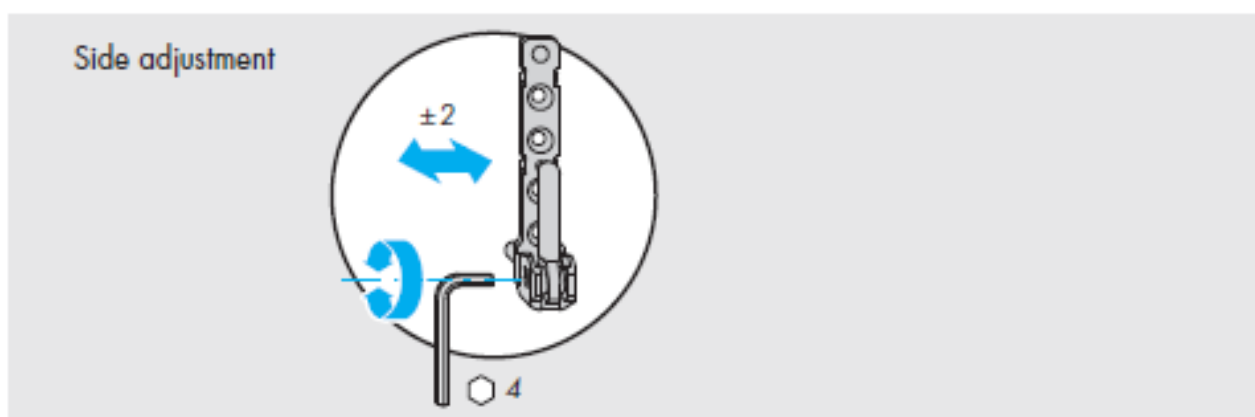
## C Tilt sash hinge



## Hinge side Si-line timber

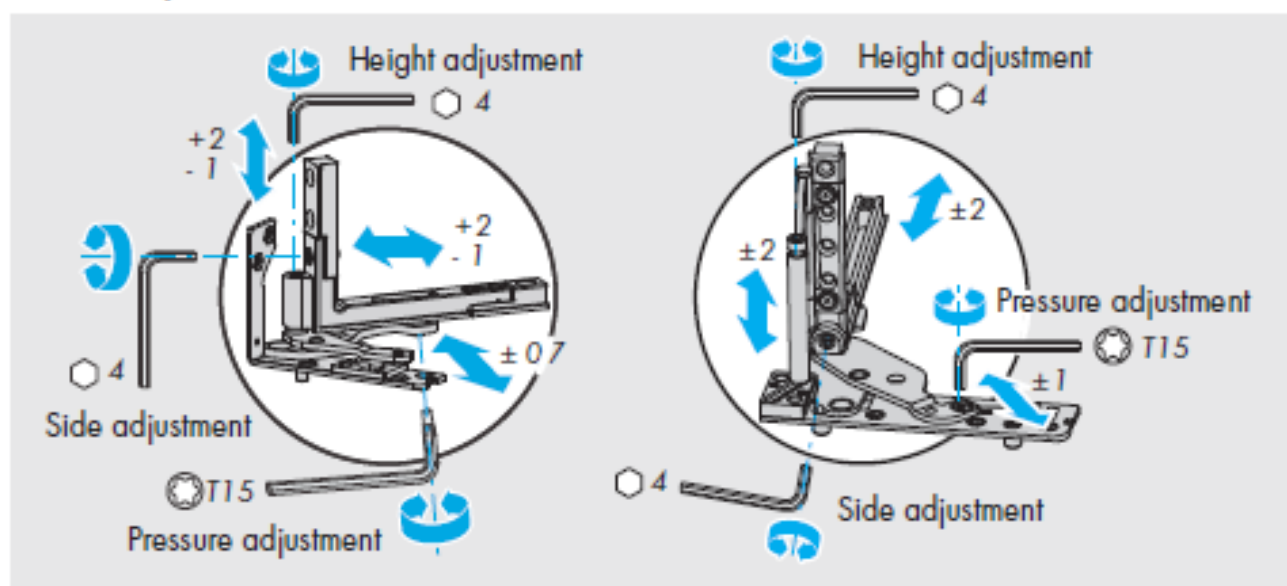


## D Bottom hinge

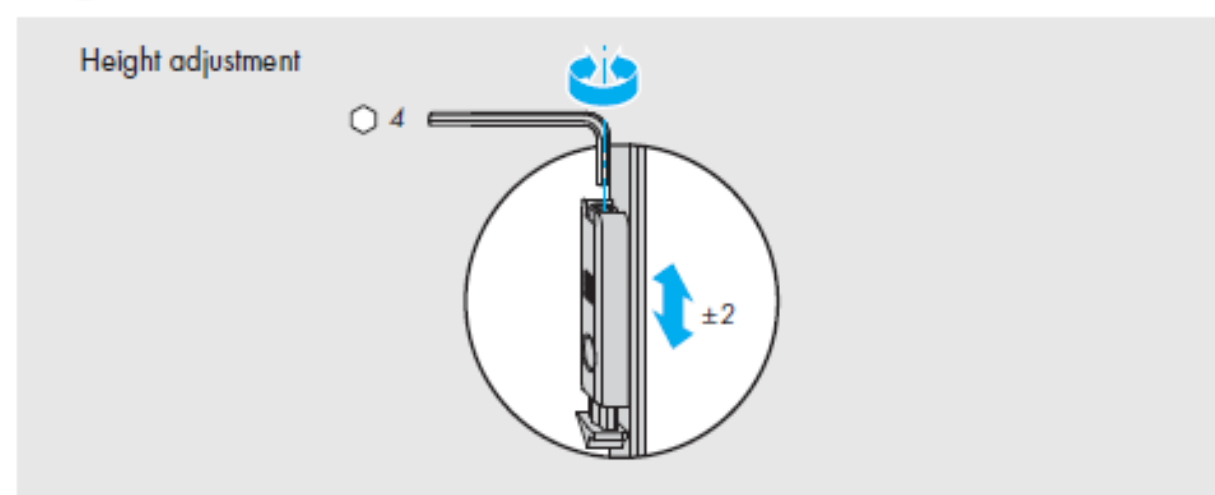


## D Bottom hinge/Corner hinge

AX 24+/AX 34



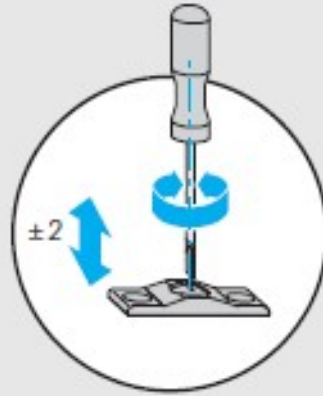
## E Snapper



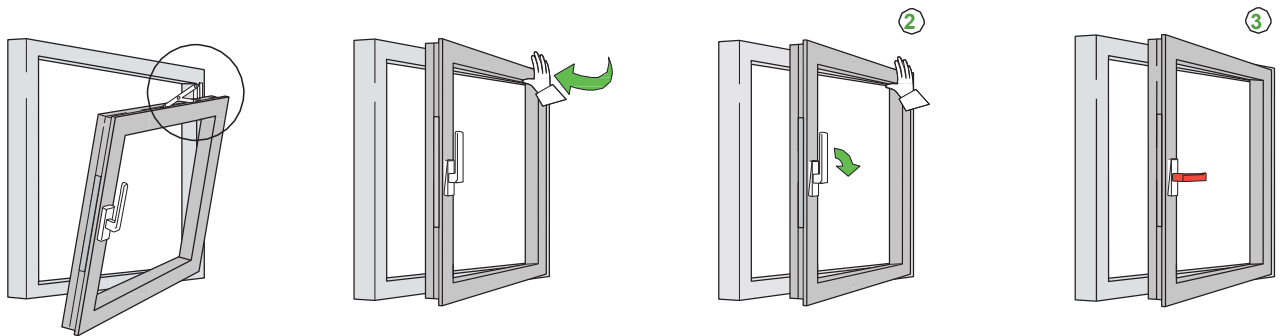


## G Arched head run-up

Height adjustment



### 5.1.4. Rectifying operating problems



### 5.2. Sliding folding doors opening mechanism maintenance

- The fold and slide element is equipped with high-quality SIEGENIA hardware.
- The following instructions must be adhered during the regular maintenance to ensure that its flawless functioning will be retained.
- Check all hardware components within the safety-related areas for faultless condition and faultless functioning.
- Bearings of the rollers and guiding rolls must be always be scrupulously clean and smooth-running. Clean and lubricate if necessary.
- If the fold and slide element has not been opened for a longer period, it may be subject to stiffness.
- Therefore, do not open the stiff sashes or hardware elements using jerks or force!
- Instead, determine and rectify the cause of the stiffness.
- Lubricate hardware components according to plan. E. g. use multi-purpose oil such as WD 40 or equivalent.
- Check the running and guiding rail for dirt. Clean if necessary.
- Close the fold and slide elements and keep closed if it is windy or raining.

## Scheme

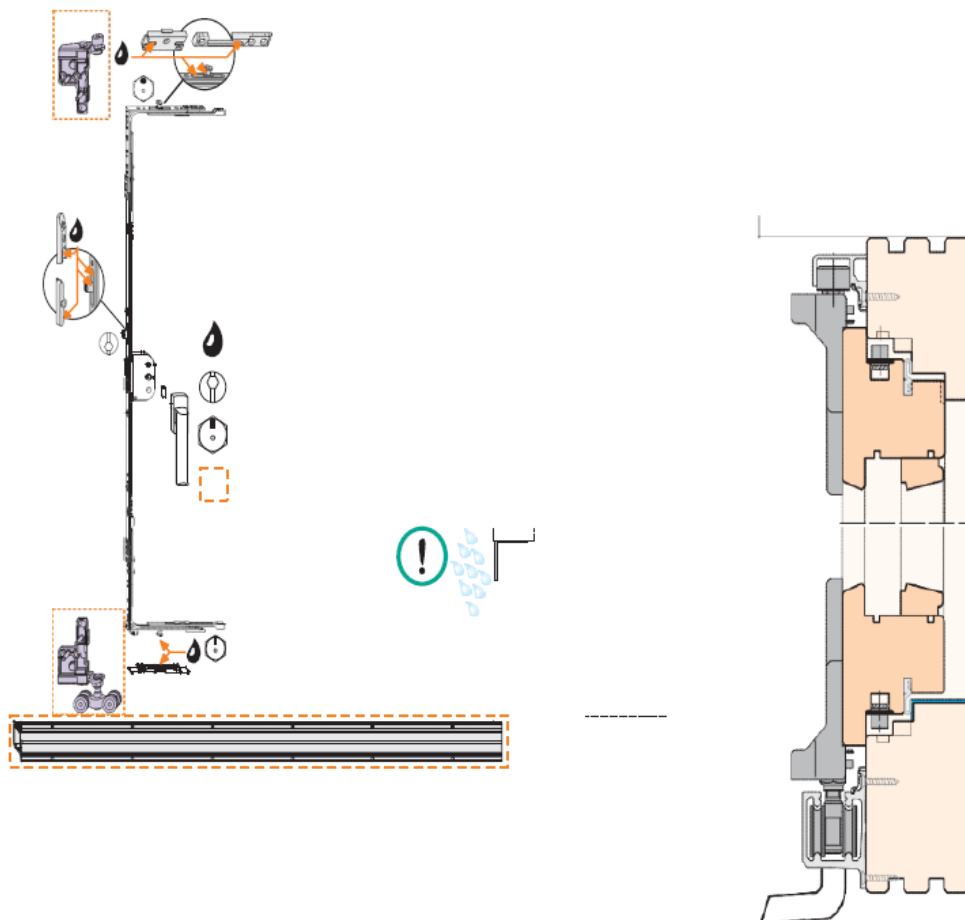
Only clean the fold and slide element with mild, diluted pH-neutral cleaning agents.

Never use aggressive, acidic or abrasive cleaning agents as they could damage the corrosion protection of the hardware components.

The following maintenance work in accordance with these maintenance instructions must be carried out at least once a year by a specialist window retailer:

- Grease or oil all movable hardware components and all locking positions ( ). (E. g. with multi-purpose oil WD 40) Only use grease or oil that is free of acid or resin.
- Check that all safety-relevant hardware components ( ) are secure and check for wear.
- Tighten the fixing screws if necessary and replace any defective hardware components.
- Only clean the fold and slide element with mild, diluted PH-neutral cleaning agents. Never use aggressive, acidic or abrasive cleaning agents as they could damage the corrosion protection of the hardware components.

To ensure that you get the maximum life out of your windows and hardware we recommend that all moving parts are lubricated once a year.



### 5.3. Lift & Slide doors opening mechanism maintenance

The lift-slide element is equipped with high-quality SIEGENIA hardware.

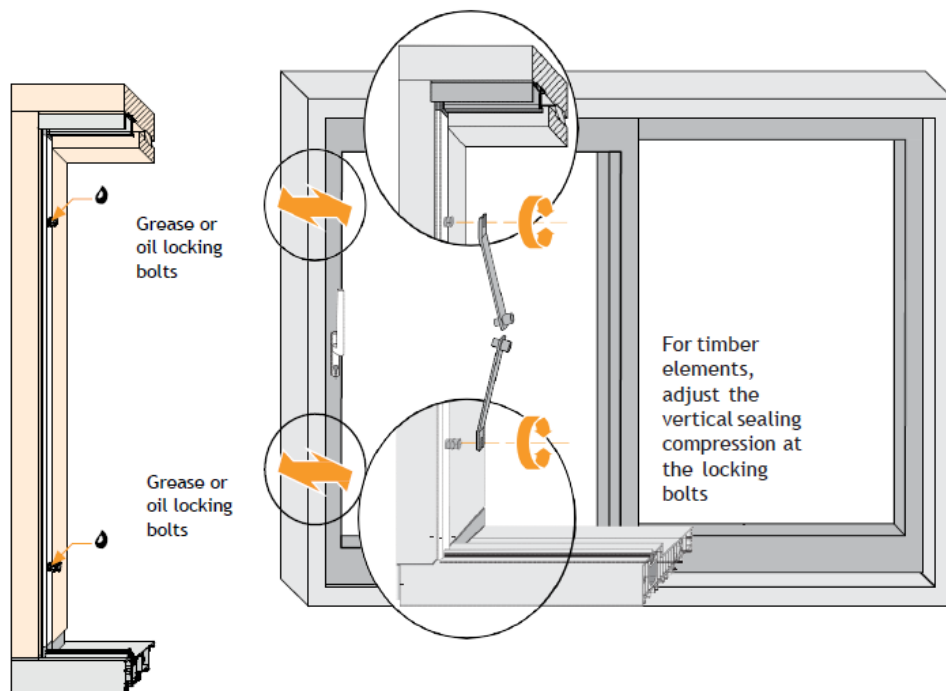
The following instructions must be adhered to during the regular maintenance to ensure that its flawless functioning will be retained:

- Check all hardware components within the safety-related areas for faultless condition and faultless functioning.
- Lubricate hardware components according to plan. E. g. use multi-purpose oil such as WD 40 or equivalent.
- Check the running and guiding rail for dirt. Clean if necessary. Close the lift-slide elements and keep closed if it is raining.
- Only clean the lift-slide element with mild, diluted pH-neutral cleaning agents.
- Never use aggressive, acidic or abrasive cleaning agents as they could damage the corrosion protection of the hardware components.

To ensure that you get the maximum life out of your windows and hardware we recommend that all moving parts are lubricated once a year.

The following maintenance work in accordance with these maintenance instructions must be carried out at least once a year.

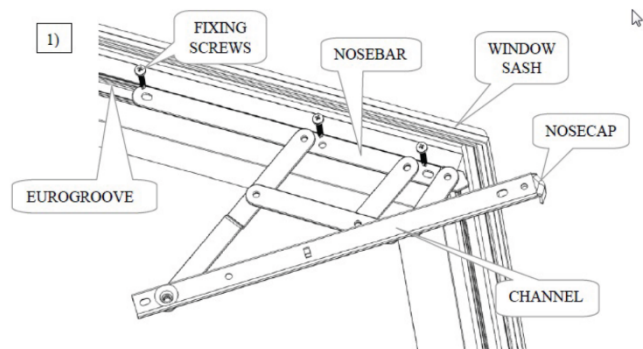
- Grease or oil all movable hardware components and all locking positions ( ). (E. g. with multi-purpose oil WD 40) Only use grease or oil that is free of acid or resin.
- Check that all safety-relevant hardware components are secure and check for wear.
- Tighten the fixing screws if necessary and replace any defective hardware components



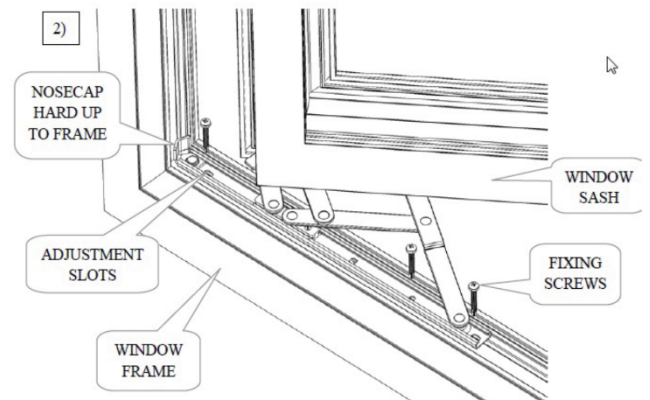
### 5.4. Casement Windows (Side hung, Top hung & Top Swing) maintenance

#### 5.4.1 Friction hinge fitting guide

STEP 1 - Place friction hinge nose bar onto the sash eurogroove and fix in position.



STEP 2 - Fit the sash to the frame. Ensure that the nose caps are pushed up to the frame corner and fix in position. Adjustment is provided by the adjustment slots if required.



### 5.4.2. Standard egress and easy clean hinge

#### Egress

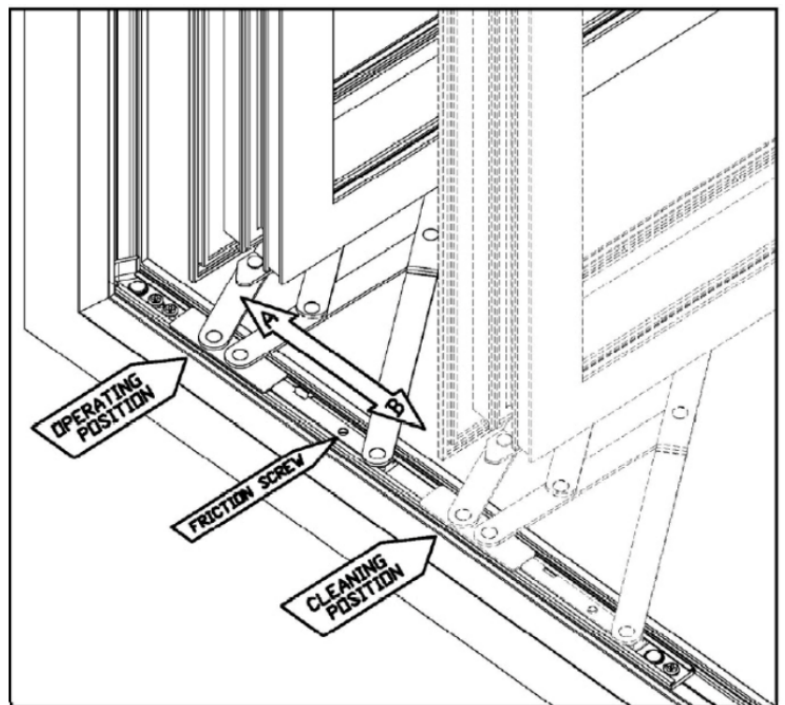
Under normal operation the window will open fully to 90° allowing the window to be used as an escape route in an emergency.

#### Egress easy clean friction hinge operating guide:

The Egress Easy Clean Friction Hinge doesn't require the operation of any buttons or catches and has an easy mechanism from the Egress to the Easy Clean function.

Follow the steps below to clean external surfaces.

1. The window opens initially to an egress position.
2. Open the window fully to release the top and bottom catches on the hinge.
3. Using both hands, hold the upright frame and slide the window evenly across (from A to B) from the OPERATING POSITION to the CLEANING POSITION.
4. The window is now in the easy clean position.
5. To reset the window hold the upright frame and slide evenly back (from B to A) to the original OPERATING POSITION, ensuring it is fully pushed back against the stops in direction A.
6. Close the window in the usual manner using the handle. There should be no need to use force.



#### Night vent position:

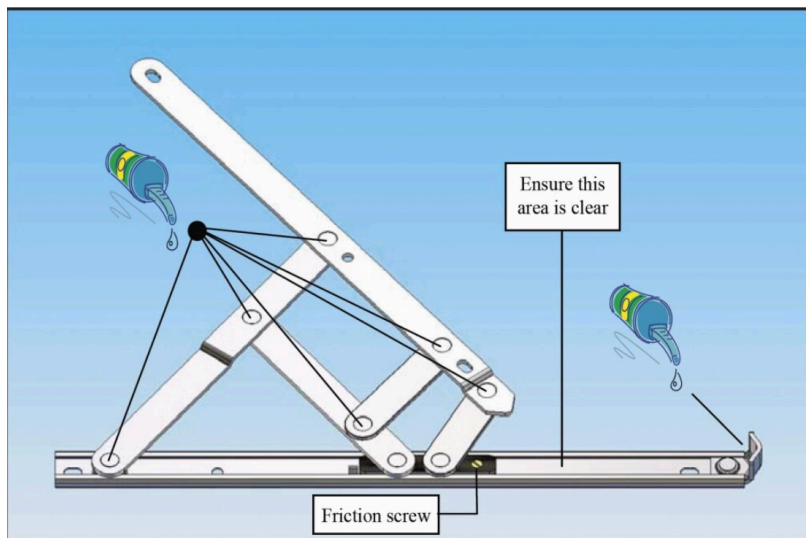
The window may be provided with a night vent keep which allows the sash to be opened slightly and locked in position to provide ventilation and security. This function is provided by a dual keep.

Dual Keep has a secondary locking position, which can be utilised by opening the window as normal by approximately 10mm and then returning the handle to the closed position ensuring that the locking system engages in the second position.

### Friction Hinge Maintenance:

#### Lubrication

Make sure the channel section is free of debris. All moving parts should be lubricated, using acid free oil or grease whenever the mechanism becomes dry, which is evident when any operation becomes more resistant to movement other than normal. To ensure that you get the maximum life out of your windows and hardware we recommend that all moving parts are lubricated once a year. Use light machine oil for this and any additional lubrication which may be beneficial, taking care that the lubricant does not stain the window.

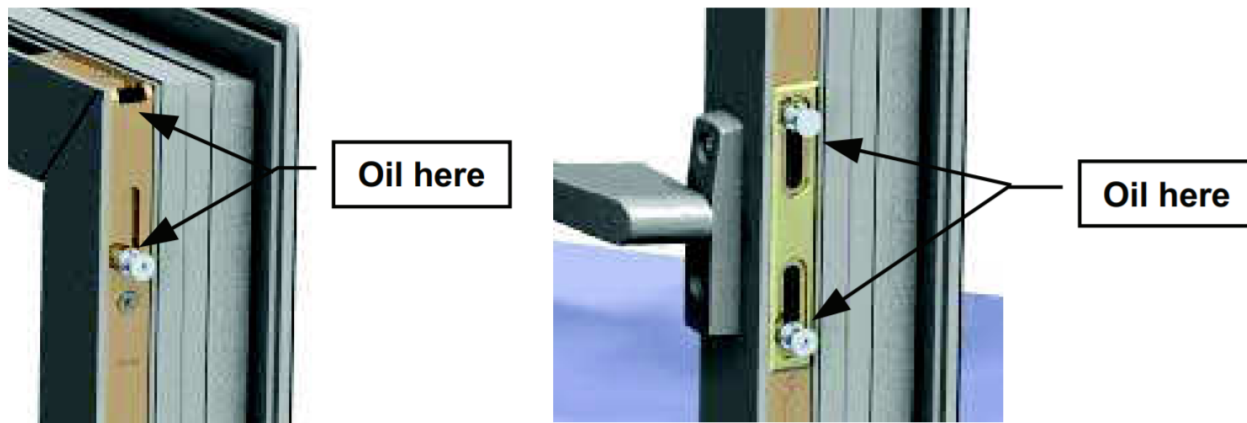


#### Penetrating oils:

Please do not use any type of penetrating oil (e.g. WD40, Duck Oil) on Nico friction hinges. These oils adversely affect the friction hinge slide.

#### Shoot bolt and Espagnolettes Maintenance.

Periodically wipe metalwork clean with a soft cloth. Lubricate cams and cam slots with light machine oil. Check the keeps and cams for a build up of debris and clean if necessary. If the window is in an area of high moisture, or a salt laden atmosphere, such as by the sea, then a periodic wipe with a cloth moistened with light machine oil will help prevent sticking. This will also enhance the corrosion resistance of the finish. Do not use window cleaner, or any



cleaner containing detergent or vinegar, as this could corrode the metal components of the lock.

#### Adjustment

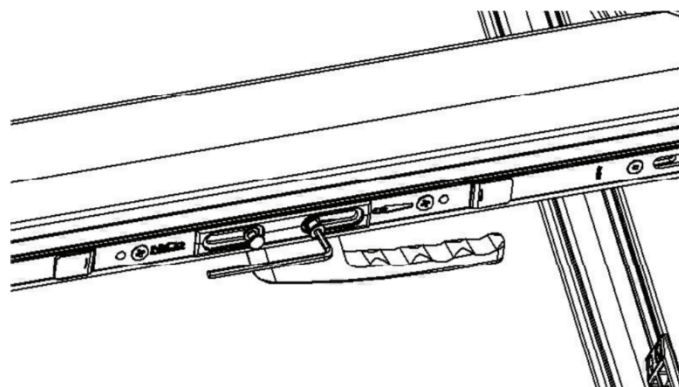
The eccentric locking cams can be adjusted, if necessary, to provide a perfect weather seal.

Use a 3mm Allen key on any cam with a hexagonal socket.

Turning the cam towards the outside of the window will tighten the seal, turning it towards the inside will loosen the seal.

## Top swing window

Hinge pivots of a top swing window need to be lubricated. Similarly, the tracks and the child proof lock require lubricating.



## 5.5. Entrance Doors maintenance & adjustment

The hinges, lock, locking points and ventilation retainer need to be lubricated with non-freezing oil (such as silicone oil) preferably twice a year (more frequently if needed). Use a lubricant approved by the manufacturer of the cylinders to lubricate the cylinders (i.e. Abloy lock spray).

Hinges need to be lubricated with non-freezing oil that does not accumulate dust (such as Teflon oil).

### Maintenance of exterior door

The lock and the locking points must be cleaned at least 2 times each year.

Examine the lock, striker bolts, handle and the tension of the fastening screws of the hinges at least once a year, re-tension if necessary.

Lubricate the locking points of the lever bolt with Petroleum Jelly, preferably 2 times per year. Silicone-based sprays and other similar products are not suitable lubricants.

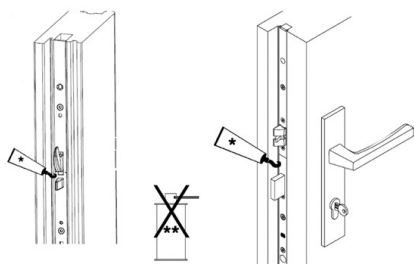


Figure 10.5 Lubricating the lever bolt

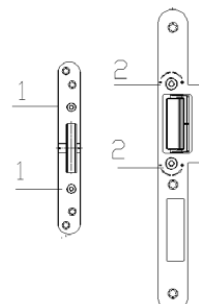


Figure 10.6 Locking point and striker latch bolt

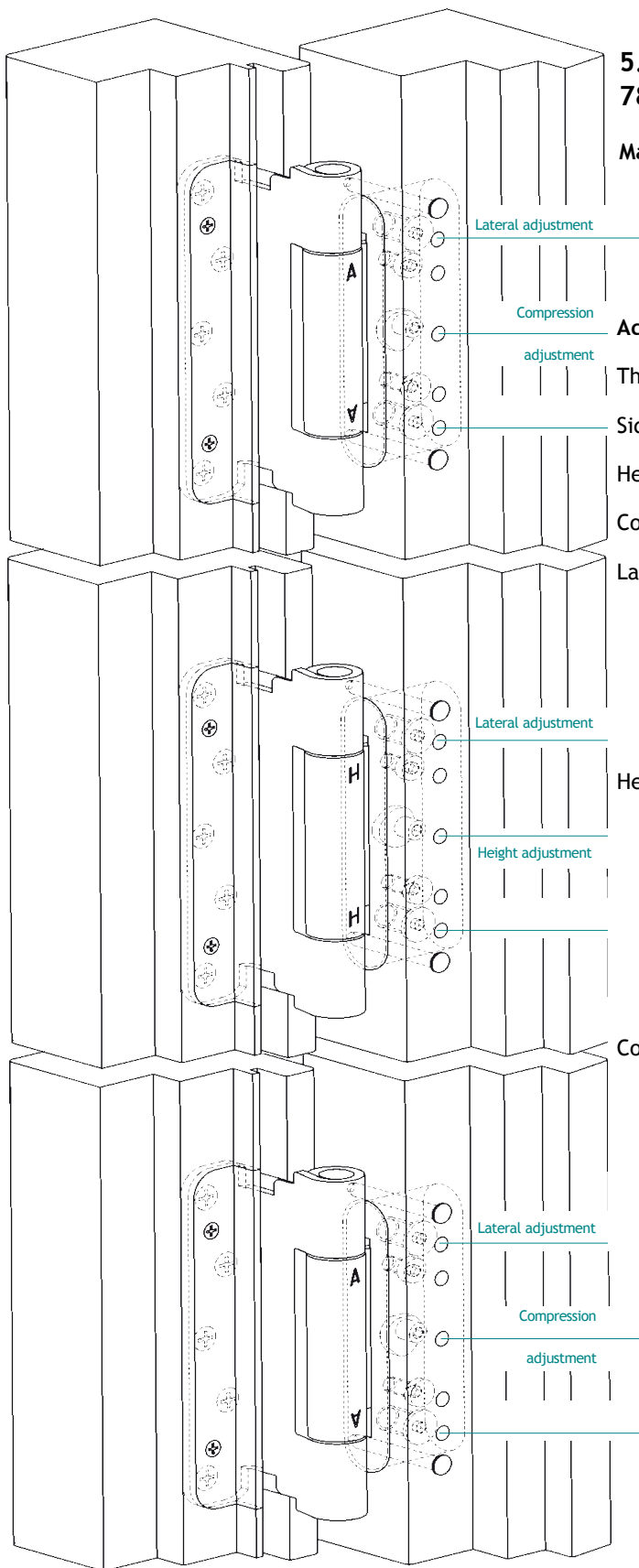
The doors are fitted with adjustable locking points and striker latch bolts. If necessary, adjust the strikers by turning the eccentric screws seen in figure 9.6 in the desired direction.

### CAUTION: Thumb Turn Euro Cylinder Operation

Please note, care should be taken when using a thumb turn cylinder. The thumb turn cylinder is spring loaded for security which is a safety feature whereby should the cylinder be attacked from the outside, it will prevent access to the lock mechanism.

In order to ensure that the lock is always in the correct position to prevent an external attack, it is essential that the thumb turn cylinder is pushed in to turn and must be released back to its original out position after every operation. If the thumb turn is left in the midway position, meaning that the spring mechanism has not been released, then you will encounter a problem whereby a key cannot be inserted fully from the outside.

On a lever/lever operation this means you could be locked out if a member of your household has locked the door from the inside and not returned the thumb turn to the correct position. On a lever/pad operation this means you could lock yourself out of your home if you do not return the thumb turn to the correct position on opening and



### 5.5.1. Maintenance & Adjustment for EUROPA 78/92 door hinge Baka Protect 4000

#### Maintenance

Smonswerk hinges are fitted with maintenance-free bearings and do not require lubrication. The hinges must be regularly cleaned with suitable cleaning agents, e.g. products by 3M and Stahlfix. Sandpaper, wire brushes or any other

#### Adjustment

Three-dimensionally, continuously adjustable

Side +/- 3.0 mm

Height +/- 3.0 mm

Compression +/- 3.0 mm

#### Lateral adjustment

- Turn both adjustment screws equally (max. one turn) in relevant direction.
- Avoid tilt knuckles and tension on the axis. Proper alignment is crucial!

#### Height adjustment

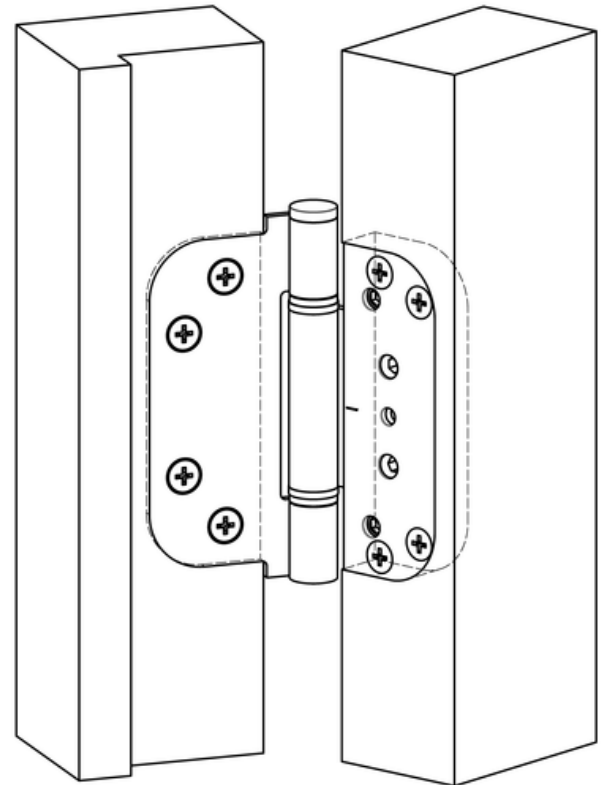
- Slightly loosen the clamping screws in the frame part of all hinges.
- Adjust the height by turning the eccentric adjustments of the middle hinge in the desired direction.
- Retighten the clamping screws.

#### Compression adjustment

- Slightly loosen the clamping screws in the frame part of all hinges. Adjust the compression by turning the eccentric adjustments of the upper and the lower hinge in the desired direction.

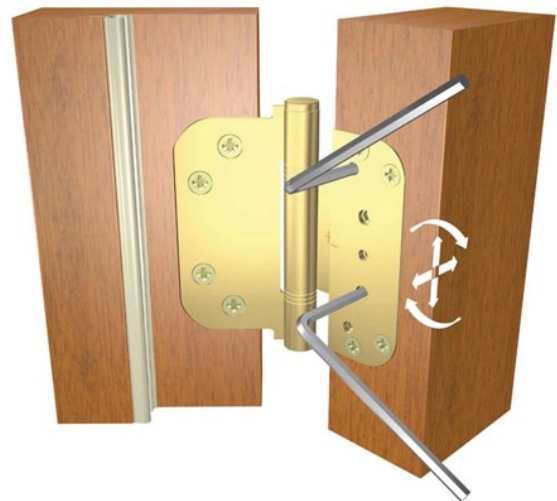


### 5.5.2 Maintenance & Adjustment for FLUSH CASEMENT door hinge Columbus 3D.



#### Adjustment

Three-dimensionally adjustable: Height +/- 3 mm, Side +/- 2 mm, Depth +/- 2 mm . All adjustments can be conducted by a 4 mm Allen key.



### 5.6. Vertical Sliding Sash Window operation and maintenance

#### Operation

##### Sliding

The fastener on the top of the sash meeting rail can be opened by unscrewing the locking screw and pushing the thumb pad allowing the catch to rotate free of the keep. Once done the sashes are free to slide up and down, usually by lifting up the bottom sash pulls or pulling down on the top sash eye or D handle. The movement may be restricted by the sash stops.

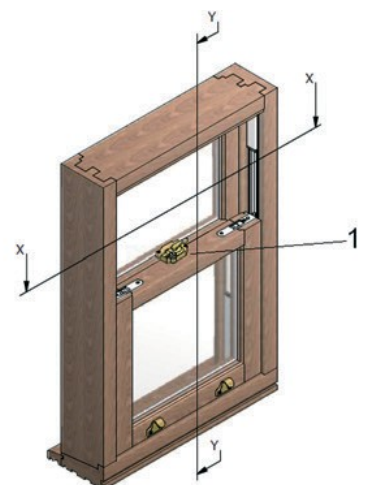


Figure 5.1. Vertical sliding sash



## Sash stops

Sash stops allow the sash to be opened to a fixed position to provide ventilation and security. The stops are activated by either a manual push and twist mechanism or a locking version using a supplied key. The stops are activated when the pin is protruding out of the body and inactive when retained inside the body.

## Tilt mechanism

The tilting mechanism, if fitted, is operated by sliding the two release catches on the bottom sash meeting rail towards the centre of the sash. Whilst holding the catches pull the sash towards you and down. To tilt the top sash, lower the sash to reveal the catches then repeat the process. To close, push the top sash back into the frame making sure the release catches click back into their original position, then repeat for the bottom sash.

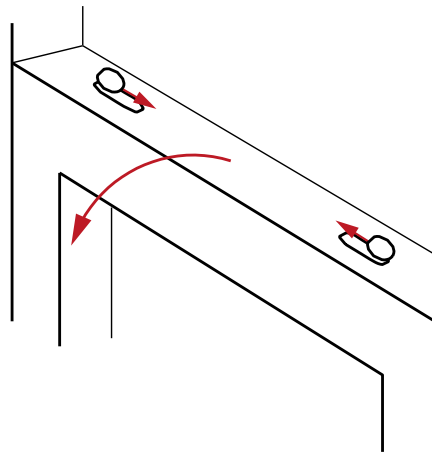


Figure 03: Operation of tilting spiral balance sash window

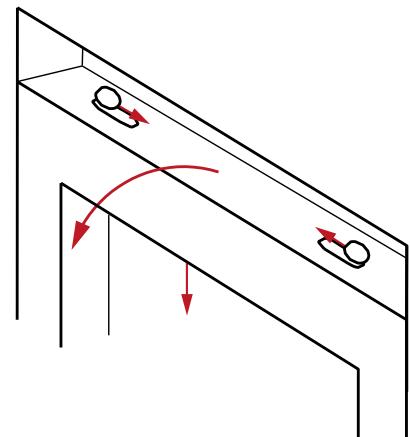


Figure 04: Adjusting a spiral balance sash window

## Maintenance

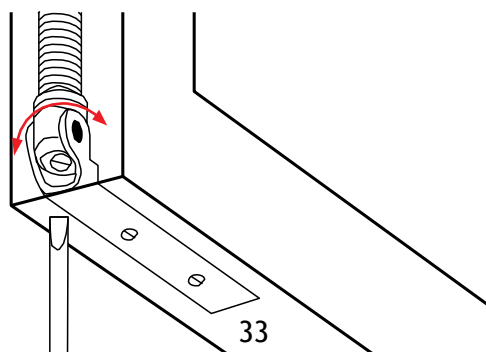
### Lubricating balances

Depending upon location, cleaning and lubrication of the balance may be desirable after a length of time, the period of which will depend on the window location and the frequency of use. A few drops of light oil applied via the top end of the tube will always improve the operation of the balance and extend its life.

### Adjusting balances

Try the sashes up and down to the limit of their travel. If there is a tendency for either sash to drop when in the up position, adjust the balance as follows (see Figure 04):

- Insert a screwdriver into the slot in the ratchet fitting at the bottom of the balance.
- Adjust by turning the ratchet in an anti-clockwise direction as viewed from underside. Please note, two clicks of the ratchet is equal to one complete turn.



## 6. WARRANTIES

Please read this section carefully - it sets out the warranties that Zyle Fenster offer relating to our standard sized windows and doors, and in particular includes details of when these warranty services do and do not apply.

Please be aware that the warranties in this handbook may NOT apply to non-standard Goods that you order, particularly over-sized windows or doors, as such Goods will not have been subject to Zyle Fenster rigorous testing and quality assurance procedures that all Goods

within our standard range undergo. If you are ordering any such non-standard or over-sized Goods and would like to know which warranties

apply, please first ask the Distributor or supplier for details. Otherwise, please get in touch with Zyle Fenster directly.

**Product warranty covers items detailed below:**

### **Wood frame & sash**

The Company warrants that all wood components are free from defects in workmanship and materials that could affect performance for a period of 30 years.

#### **2.1 Surface treatment**

The Company warrants that the standard opaque factory finished joinery is warranted for up to 10 years and the stain finishes up to 2-5 years against blistering or flaking but excluding natural resin exudation and movement around knots.

**Regular maintenance should be carried out as specified in the surface coatings maintenance section of this manual.**

#### **2.2 Aluminium Cladding Surface Treatment.**

The company warrants that No unnatural colour changes or cracked surfaces due to weather influences for anodised or powder coated window and door profiles made of aluminium” + “Regular maintenance should be carried out as specified in the External Aluminium surface coatings maintenance section of this manual.

### **Ironmongery & seals**

All other parts including handles, gears, hinges, vents are guaranteed for 5 years from date of installation. Should any part be deemed to be defective due to faulty materials or workmanship during that period a replacement part will be provided by the company. Surface finishes for ironmongery are not covered by this Warranty.

There will be no callout charge during the first year. Thereafter a callout fee to cover labour and travel expenses will apply.

### **Sash window spring balance**

The Company warrants the spring balance mechanism for a period of 5 years against functional failure.

There will be no callout charge during the first year. Thereafter a callout fee to cover labour and travel expenses will apply.

### **Double glazed units & glass**

The Company warrants that the glass will comply with the UK Glass and Glazing Federation’s visual quality standards.

The Company warrants that seals on double and triple glazed units will be free from failure (failure is taken to mean failure of the insulated glass unit resulting in penetration of moisture into the air space and appearance of moisture on the glass inside the airspace) for a period of 10 years from delivery. The warranty does not cover broken, cracked or shattered units.

There will be no callout charge during the first year. Thereafter a callout fee to cover labour and travel expenses will apply.

The Company reserves the right to supply a whole sash as an alternative to supplying glass for re-glazing on site. No other glass defect or phenomena are covered by this Warranty.

**This guarantee does not cover**

1. Any damage accidental or deliberate occurring on site after installation and specifically excludes damage to timber or to coating caused by cleaning practices or application of any chemicals or abrasive substances.
2. Any glass breakage occurring on site after installation
3. Any damage to timber or to coating caused by other operations in the build process and specifically excludes damage by cement, mortar, render or any cleaning operation to remove these substances
4. Failure of hinges due to the build up of cement, mortar, sand, grit or any other building debris in the moving parts
5. Failure of moving parts due to not having been lubricated regularly
6. Corrosion or discolouration of ironmongery caused by cleaning agents, chemicals or dirty water, from cleaning operations.
7. Faults on products which have not been maintained according to Zyle Fenster maintenance guide lines. The end user of this guarantee is responsible for maintenance and cleaning of the product.
8. Problems relating to the installation of product by personnel other than trained Zyle Fenster staff
9. Visual defects in glass, such as scratches or marks, which are not reported within 48 hours of installation. Such defects must be assessed according to the GGF Visual Quality Standards.
10. Any visual defects in the product that are not reported within three days of installation in writing
11. Any damage caused by condensation being deposited on windows and doors. Condensation is an indication of excess moisture in the building and is not a window problem.
12. Variations in the colour and grain of timber. Timber is a natural material - each tree grows under different conditions to a different shape and size. This makes variations in the colour and grain unavoidable.
13. No guarantee is given with regard to corrosion or filiform corrosion of External Aluminium Cladding on a Timber Aluminium windows.

**Warranty Conditions**

The guarantee associated with our fully finished products is on the condition that:

- The products have been stored & handled in accordance with our guidelines;
- The coating has not been subjected to physical (ladders etc.) or chemical (cleaning agents) damage;
- The coating has been repaired in accordance with the remedial maintenance sheet;
- The coating has not failed due to site glazing or as a result of ancillary items;
- The coating has not failed due to bad maintenance to the building, alterations or repair to the building, or by the buildings poor design;
- The coating has not been allowed to accumulate dirt and debris leading to excessive mould growth;
- The coating has not been duly exposed to excessive pollutants (industrial etc.) or heat (fire, heating appliances Etc.) or extreme weather conditions.

- All warranties are invalid if the product has not been paid for.

All “Zyle Fenster” products are manufactured to exacting quality standards, in a controlled environment and it is the responsibility of the Agent/ Installer/End User to ensure the product is fit for the intended use, has been properly installed, adjusted, used and maintained.

**Warranties become invalid due to the following:**

- The warranties do not apply if you deliberately or negligently damage the Goods, or if a third party does so (for example a burglar when forcing entry into the premises).
- The product has been installed improperly or modified due to improper installation.
- The product has failed due to the fitting of ancillary items such as window shading devices, blinds, security systems etc.
- The product has been damaged due to improper storage, installation, use or maintenance according to Zyle Fenster recommendations and guidelines.
- The product has been exposed to performance specification conditions beyond that which has been published in our brochure.
- The product has been damaged by water ingress other than through a defect caused by manufacturing, materials or workmanship.
- The product has been damaged due to condensation.
- The product has been damaged due to improper washing or cleaning.
- The product has been damaged during transit on other modes of transport other than that of “Zyle Fenster” standard method of Transport.
- The product has been damaged by accidents or acts of god.
- If the faults have been caused by other parts of the building in which they are installed (e.g. if your roof is faulty, or if your building or part of it is affected by subsidence).
- If you make a warranty claim after the deadline indicated in the warranty certificate.
- If you appoint a party other than Zyle Fenster (or an Zyle Fenster Distributor) to carry out the complete or partial replacement of the Goods or for repair or improvement works under a warranty claim.
- The specifier should make “Zyle Fenster” aware of any extreme climatic locations where the goods will be installed, i.e. islands, headland, beachfronts and mountain locations as the warranties may not be applicable in these exposed situations.
- Our high performance windows and doors meet the exacting standards of EN “Classification for weather tightness”. However in certain exposed locations weather conditions can exceed these. “Zyle Fenster“ would not become liable for those if not warned in advance.
- In the event of a component or part failing as a result of a defect caused by manufacturing, materials or workmanship our liability is restricted to the supply of a replacement product, parts, or provide a factory authorised repair to the existing product. No liability is accepted for any charges for installation, painting or storage or any other consequential costs.

**Reporting faults as soon as possible**

- If you become aware of faults of any kind affecting the Goods, you should bring these to the attention of your Zyle Fenster Distributor immediately after the Goods have been delivered to you.
- This means that as soon as you receive the Goods you should examine them thoroughly to check for any faults or damage.

- Your complaint will not be processed until you have notified the Zyle Fenster Distributor in writing about the reported fault, and they have expressly agreed in writing to address the issue.

#### How to make a warranty claim

- When to make a warranty claim? You should make a warranty claim as soon as you become aware of a fault with the Goods, but the latest deadline will be indicated in the warranty certificate.
- The earliest point when a warranty claim can be made is from the date on which the Goods are delivered, and this warranty claim period continues until the applicable deadline.
- The warranty period deadline only applies to your original order - therefore if you receive replacement Goods under the warranty service, this does not result in a new warranty period deadline or the original one being extended.
- If you delay making the claim beyond the warranty claim deadline, this may affect the validity of the warranty.
- Who to make a warranty claim to? You should first raise the warranty claim with the Zyle Fenster Distributor that has delivered the items to you.
- If this is not possible, then you should raise the warranty claim with us. To do so, you should contact our office in England or Ireland.
- Can I make the warranty claim by phone? No, all warranty claims have to be made in writing; this includes email or letter, but not text message nor social media.

#### Limits on future warranty claims

- If we perform warranty services, e.g. we repair or replace the Goods, then the original warranty period will still apply. In other words, there will not be a new warranty period from the point at which the Goods are repaired or replaced.

## 7. GENERAL GUIDELINES FOR INSTALATION

### 7.1. Maintenance of the product during installation, construction and repair works

#### General rules

- Avoid letting the wood become damp (for humidity control, also see below).
- All finishing damage needs to be repaired immediately (sand the damaged area and cover it with the repair paint included).
- When working with a disc cutter, during cutting avoid chips from getting on the product, which may result in so-called rust dots appearing on the surface of the product; sparks may damage the surface of the glazing unit.
- When carrying out works that may stain the products or affect them in any other way (e.g. plastering walls, painting, etc.), the owner of the products or the conductor of the works must make sure that the products are covered to avoid damage, e.g. wrapping the products in plastic before starting the work. To tape up the surface, only tape suitable for water-based acrylic systems for painting wood may be used (in case of questions, consult Zyle Fenster). Once the works have been completed, the protective film needs to be removed from the covered products as quickly as possible, or else the tape glue may damage the surface of the paint on the products.
- Use tape and plastic covers (incl. application, usage time and removal) according to the usage instructions of the manufacturer of the specific product. In any case, you should bear in mind that tape that has remained exposed to the sun and humidity for an extended period may damage finished surfaces. **The product warranty does not cover this type of damage!**

## Humidity control

- Zyle Fenster manufactures wooden windows and entrance doors finished with breathable, water-based wood paint designed for industrial use (including stains and varnishes). This means that the humidity of the wood under the finishing layer is adjusted in line with the environmental conditions. Excess interior humidity during construction has an adverse effect on wooden windows and doors.
- Wood humidity depends directly on the ambient humidity. When it stays in a given environment for a long time, wood takes on the equilibrium humidity in line with that environment. The relative humidity indoors must not be at a level that water condenses on windows.  $R_h = 40\% \dots 60\%$  (25...45% during the heating period). If the ambient humidity changes, humidity in the wood also changes, until a new equilibrium humidity is formed. As humidity in the wood changes, changes occur in the volume of the wooden member (cross section and contraction). \*
- Windows and entrance doors are produced using wood intended for dry indoor conditions. Windows and entrance doors need to be installed in the final stages of building, in order to minimise construction humidity and other construction-related stresses, which may affect products. The wooden sections of windows and entrance doors do not resist excessive humidity stress during construction, which is produced when, for example, floors are poured, masonry is laid, walls are plastered or any other wet construction materials are used.\*\* Construction humidity causes the wooden sections of the window to expand resulting in members expanding crosswise, irregularities at joints, and cracked glued joints. As the wood dries and humidity levels change, cracks may appear at the joints of the window. This may cause pressure on the gaskets resulting

**To prevent humidity damage to windows, the following guidelines need to be adhered to on the construction site:**

- The place for storing windows and entrance doors needs to be sufficiently ventilated during storage.
- Remember that the protective film on the packaging does not protect against humidity, only against major soiling and dust during transport, storage and installation.
- Once windows and entrance doors have been installed, the air inside the building needs to be sufficiently dry. If not, the air should be dried either by heating, ventilation, or using a condensation air drier.
- In winter, it is important to make sure that no water is condensed on the inside of doors or windows - constant exposure to water will subject wood to the same kind of damage as above. Moreover, if the sashes of the windows and doors freeze to the jamb this may result in further damage.
- The condition of windows and entrance doors needs to be checked regularly to detect and prevent humidity damage as early as possible.
- If windows and entrance doors are covered with film to prevent soiling, it is essential to check that no excess humidity accumulates between the film and the product. The room needs to be dried and the films need to be removed temporarily if humidity accumulates there.

It is important to remember that contemporary windows and doors are airtight. Thus, replacement of old windows and entrance doors may result in reduced ventilation. Faulty ventilation may cause humidity levels indoors to rise.

In naturally ventilated buildings, the following measures need to be implemented to ensure the quality of air indoors:

- Order windows with Trickle Vents that should be opened when the product is being used so that fresh air may enter the living premises.
- Open windows regularly to air the premises. Windows may also be left open in the ventilation position (also called micro ventilation).

Zyle Fenster recommends that alongside the replacement of windows and doors, the ventilation and heating

design of the property should also be considered.

Accumulation of excess humidity in a dwelling may cause mould to grow, which in turn may cause respiratory illness and damage to components of the building.

When new buildings are constructed, Zyle Fenster recommends introducing a controlled ventilation design with exhaust, supply and heat recovery. This will result in good quality indoor air and heating energy savings.



**Important:**

Inadequate ventilation can cause serious damage to the product and will invalidate the guarantees.

### **Cleaning glass surfaces after installation and construction**

The installation, construction and repair works (and similar) of windows and doors may cause a larger than usual amount of dirt (dust, particles of construction materials, composite mixtures, etc.) settle on the glass surfaces. Dust created during construction and maintenance, composite mixtures, etc. can be abrasive. When cleaning the glass surfaces, make sure to avoid scratching the glass (e.g. composite mixtures must be removed before they harden, using large amounts of water).



**Important:** Such scratches are not covered by the sales warranty.

## **7.2. Installation guidelines for timber windows**

- Timber windows produced by Zyle Fenster are designed and manufactured using the best available techniques to produce performance-rated products.
- These guidelines will help to ensure the installation of your windows lives up to their quality, performance, sustainability and looks. They give you confidence that best practice is being followed, whether the manufacturer or a third-party is installing your windows.
- Zyle Fenster Windows are delivered to site fully finished - coated, glazed and fitted with hardware in controlled factory conditions. Other windows may be available as joinery items supplied with a primer or stain base coat for site glazing and finishing. It is always advisable to choose factory-finished windows where possible.

### **7.2.1. Delivery, storage and handling on site**

- Units should be brought to site as close to installation time as possible. Check items on delivery to ensure they match the order, the delivery is complete and there are no signs of damage to the products or the wrapping.
- Take care not to damage the product during the unloading process. Lift windows and door sets by the outer frame, not by the opening sashes, ironmongery, or glazing bars. Carry them vertically to avoid twisting or distortion of the outer frame and damage to the connecting joints. Don't drag them.
- Avoid using metal storage containers, as excessive heat can damage the products. Where containers are used, ensure air can circulate freely to all products on the pallet and avoid storage in direct sunlight.
- Store inside on a minimum of three level, full-width, evenly-distributed bearers in a dry, shaded area clear of the ground. Ensure products stored outside are protected from the elements with a waterproof cover, such as a heat-resistant tarpaulin. Allow air circulation between products.
- Products should not be stored in a damp room or building - particularly where plastering will be carried out. Avoid storing products flat. Water lying on a horizontal window or door will cause the timber to swell and will invalidate the warranty.

- Take care, when using sharp objects, to remove packaging so as not to cause damage to the product or paint finish.
- Inspect products regularly while in storage to ensure the conditions are correct and to check the base coat, primer or finish coats are in good condition.
- Our joinery products are manufactured to a carefully controlled moisture content in line with the requirements of BS EN 942. Should they get wet in storage or during installation, their finish and operation could be compromised.

### 7.2.2. Glazing

- All factory-finished products undergo quality checks before glazing and again prior to leaving the factory. It is the installer's responsibility to ensure they are protected against site activities that could mark the glass. Do not use sharp instruments or abrasive pads to remove marks.
- Following the revision to the building regulations in guidance document Approved Document K 2013 for glazing in critical locations, the customer is responsible for indicating whether special safety glass etc. is required for specific locations.
- Glazing warranties only cover units that have been factory-glazed.

### 7.2.3. Planning and preparation

Installers shall ensure they:

- Have received and understood all necessary drawings, survey detail etc.
- Carry within their vehicle sufficient fixings, sealants, and architraves/trims for the installation.
- Ensure the availability of adequate protective coverings for the immediate vicinity of the installation and all walkways to the area.
- Have adequate availability of tools and personal protective equipment.
- Protect the safety of the customer and general public where the installation requires portable access equipment for working at height.
- Plan to install and seal the new windows and door sets on the same day that the existing windows or door sets are removed.
- Have in place arrangements for ensuring that, when unavoidable circumstances arise, structural openings, windows, and door sets can be made secure and weathertight.
- Give the customer enough notice of the sequence of installation and for the removal of any furniture, fittings or fixtures that may be damaged during the installation.

### 7.2.4. Good building practice

When installing and fixing Zyle Fenster windows, good site building practice should always be employed, including all health & safety observances. Zyle Fenster takes no responsibility for fitting carried out improperly by others.

Zyle Fenster working methods and installation recommendations are based on the requirements featured in BS 8213: Part 4: 1990, 'Code of practice for the installation of replacement windows and doors in dwellings' 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, UK Tel: 020 8996 9000  
Fax: 020 8996 7001  
Glass and Glazing Federation  
44-48 Borough High Street, London, SE1 1XB, UK Tel: 0171 403 7177

Fax: 0171 357 7458

Both publications serve the replacement market generally. The principles of good working practice described therein are the same for new build works including matters relating to health and safety.

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

### 7.2.5. Forming openings

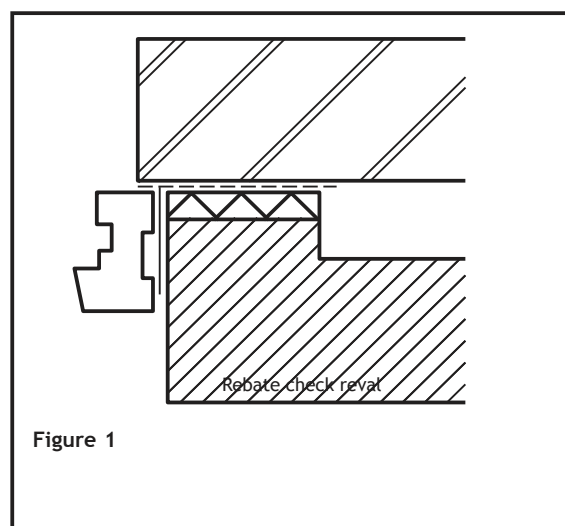
Windows can be fitted either during the course of construction or into pre-formed openings at a later stage.

Don't fit too tightly as this can lead to distortion of the frame. Side clearances however should not exceed 10mm on each side.

When not building-in, openings can be formed using either proprietary templates or site-constructed templates. These templates should produce openings that are in the order of 10mm to 20mm larger than the actual window size.

In exposed conditions, consider using a rebated check reveal.

(Figure 1)



### 7.2.6. Damp Proof Course (DPC)

The general applications of DPCs in clay or cement brick walls are; at ground floor concrete slab levels; around window and door frames; over arches and openings; in concrete framed multi-storey buildings, where lower roofs butt up against the upper levels of a building; and under copings on top of exposed walls or parapet walls.

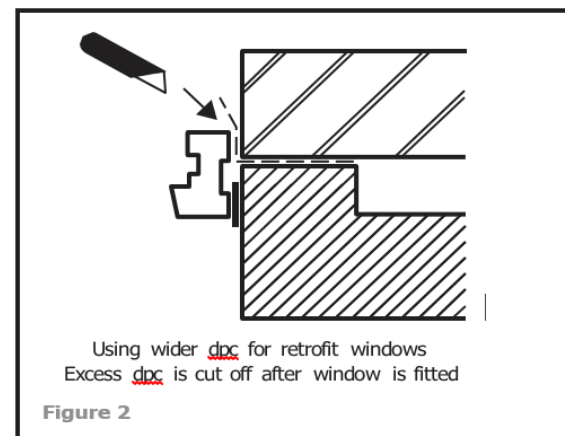
"Frequently, there is also an interface between DPCs in walls and flat-roof waterproofing systems, for example on balconies, terraces and parking decks."

The DPC should extend approximately 25mm into the cavity. If a thick block is used to close the cavity and form the reveal, a wider DPC will be required.

Vertical DPC's should extend continuously to the full height of the frame. In Scotland, Northern Ireland and areas of Very Severe exposure in England, Wales and the Isle of Man, 'check' reveals should be used. Additionally, an appropriate sealant is required between doors and windows and masonry

Fit DPCs as the construction proceeds, either by:

- fixing the DPC to the frame prior to building in
- or by fitting the DPC into the structure when making pre-formed openings.



In the latter case, it is often convenient to use a DPC that is wider than necessary. (Figure 2)

Avoid forming a cold bridge, which could lead to condensation.

### 7.2.7. Support

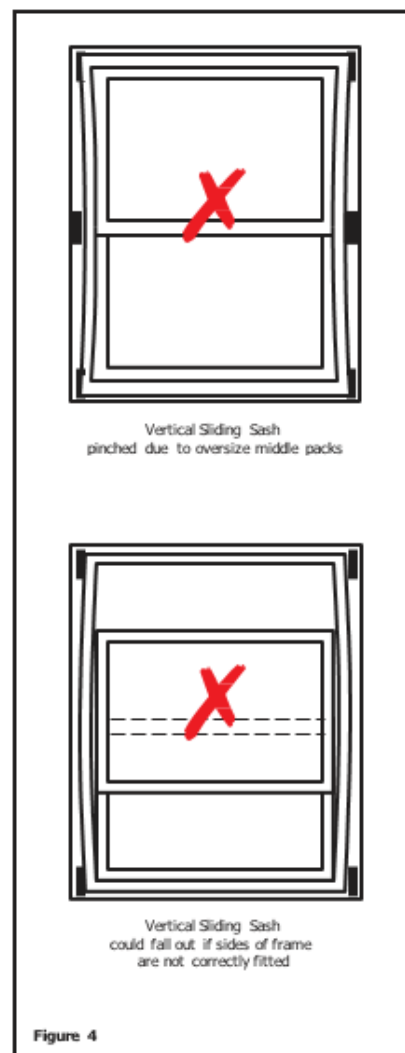
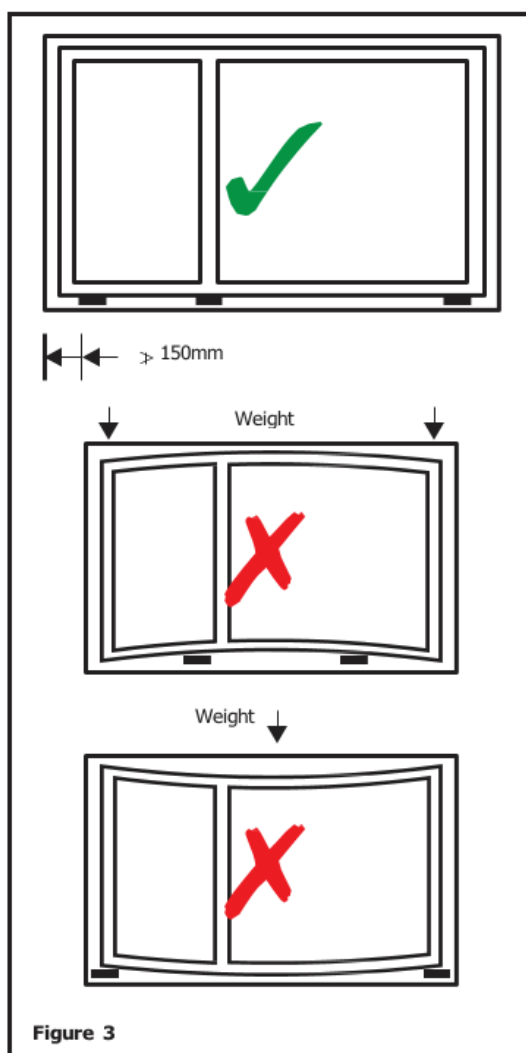
When building-in, use a mortar bed to provide continuous support at cill level. To prevent the mortar becoming too thin under the weight of the window, it may be necessary to support the window temporarily while the mortar bed sets.

Otherwise, support windows on durable packings at a maximum of 150mm from each jamb and beneath mullions.

The window should be fitted level and plumb. (Figure 3).

Support for the frame should prevent distortion and avoid damaging any protection or finish.

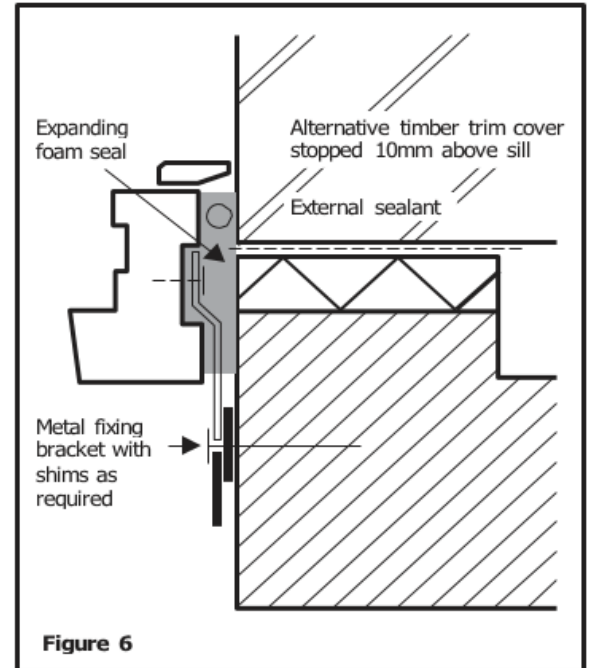
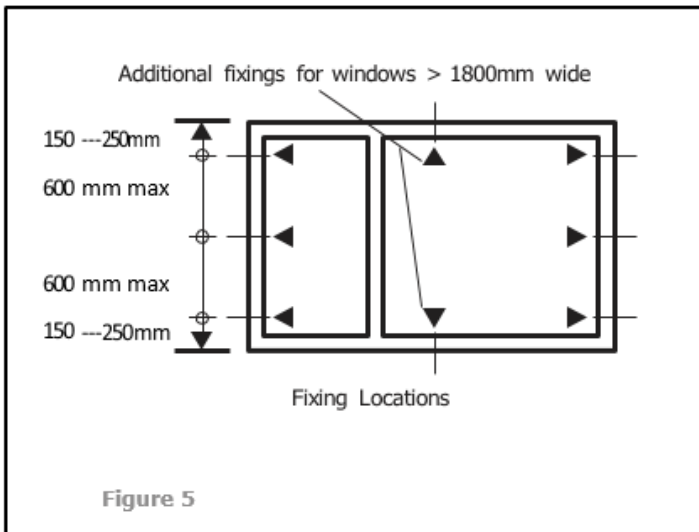
Locate side packings where fixings occur and ensure the window is fitted without distorting the frame.



Take particular care when providing packings for sliding sash windows, as even minor distortions can prevent movement of the sashes or introduce excessive clearance. (Figure 4)

Check the operation of the window before final fixing.

### 7.2.8 Fixings.



### 7.2.8. Fixings

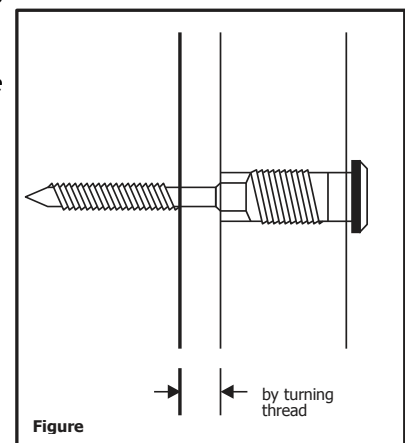
Side fixings should generally be between 150mm and 250mm from the top and bottom of the frame and no more than 600mm between centres.

Where a window is more than 1800mm wide or formed from two or more units, provide fixings at both the head and cill (Figure 5).

Special requirements may be necessary when fixing windows into preformed openings. Unless internally fitted fixing clips are used (Figure 6) you will have to fix through the frame. Choose unobtrusive locations.

Insulated cavity closers should be installed where appropriate, specific guidance on usage will be available from the manufacturer.

Purpose made nylon frame fixings are available, usually supplied complete with the screw. These use the same diameter hole through the timber as the substrate.



Alternative fixings include a proprietary screw device, which enables the window to be adjusted in position on the screw fixings. (Figure7)

### 7.2.9. Sealing

#### Perimeter sealing of windows and door sets

The gap between the window or door set and the aperture should be sealed to repel water and prevent air leakage while allowing for any movement that may occur between the frame and the aperture.

Replacement windows and door sets need only be sealed on the outside, whereas in new build sealing is required to both the inside and the outside. The correct sealant, selected to suit the construction and frame materials involved, will maintain its flexibility and adhesion throughout its service life. The sealant could either be a wet sealant or an impregnated foam tape.

#### Wet sealants

Wet sealants, e.g. silicones, should be tested and classified in accordance with **BS EN ISO 11600**<sup>1</sup> as class 20LM or 25LM (meaning they are low modulus with a movement capability of 20% or 25%). They should also be neutral curing, with good adhesion.

**Sealant manufacturers**<sup>2</sup> can be consulted on sealing large gaps and on sealant adhesion to specific substrates and materials and on whether primers are required. They can also propose sealant/primer systems, which will minimise the potential for staining.

The presence of old oil-based mastics and bituminous DPCs can adversely affect the behaviour or appearance of otherwise correctly specified and applied 'wet' sealants. This risk should be avoided by removal of unwanted mastic and by keeping newly applied sealant away from DPCs.

In situations where sealants rely upon atmospheric moisture to initiate curing, deep filling should be avoided.

For larger gaps a wet sealant should be applied against a firm backing, such as a closed-cell, circular, foam strip, so that it is forced against the sides of the joint during application. The sealant should not adhere to the foam strip.

#### **Impregnated foam tapes**

They should remain permanently flexible and accommodate at least the same joint movement as a 'wet' sealant as classified above. They should comply with DIN 18542 with exposure category of BG1.

Foam tapes do not require primers as they are held under compression within the joint, rather than relying on adhesion to the substrate.

#### **Notes**

<sup>1</sup>British adhesives and sealants association (BASA), Guide to the use of BS EN ISO 11600 <http://www.basa.uk.com/publications/guides.aspx>

<sup>2</sup>British adhesives and sealants association (BASA) list of members <http://www.basa.uk.com/membership/listofmembers.aspx>

BS EN ISO 11600:2003+A1:2011, Building construction. Jointing products. Classification and requirements for sealants

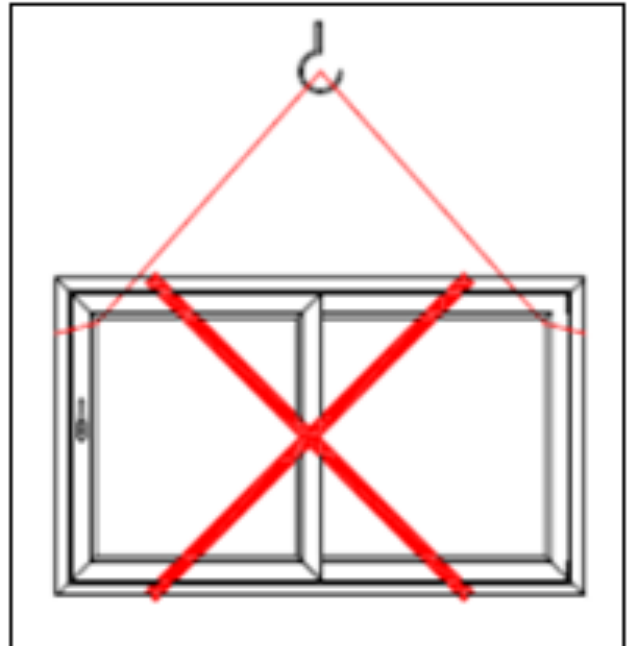
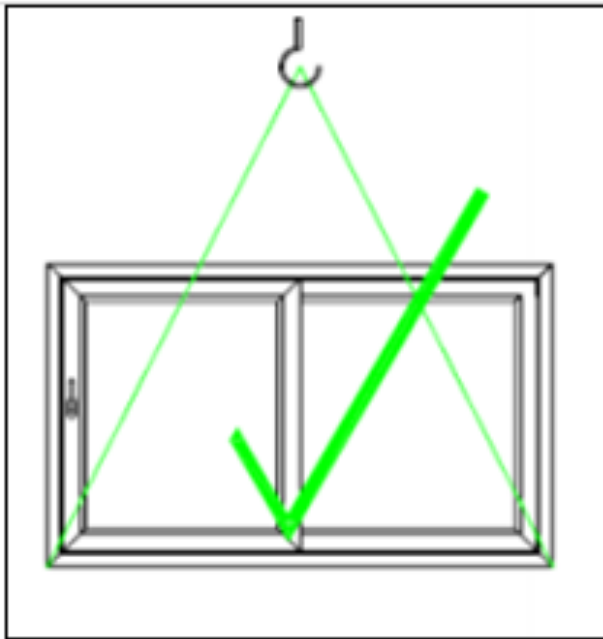
DIN 18542, Sealing of outside wall joints with impregnated sealing tapes made of cellular plastics - Impregnated sealing tapes - Requirements and testing.

### **7.2.10. Decoration**

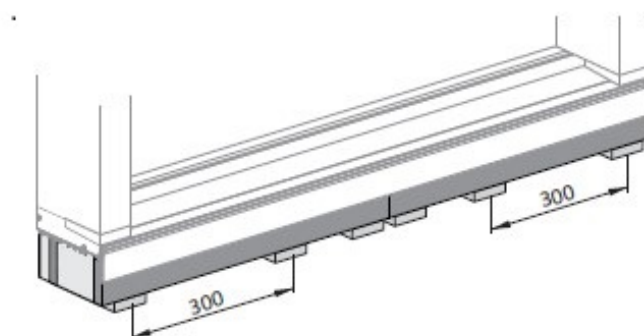
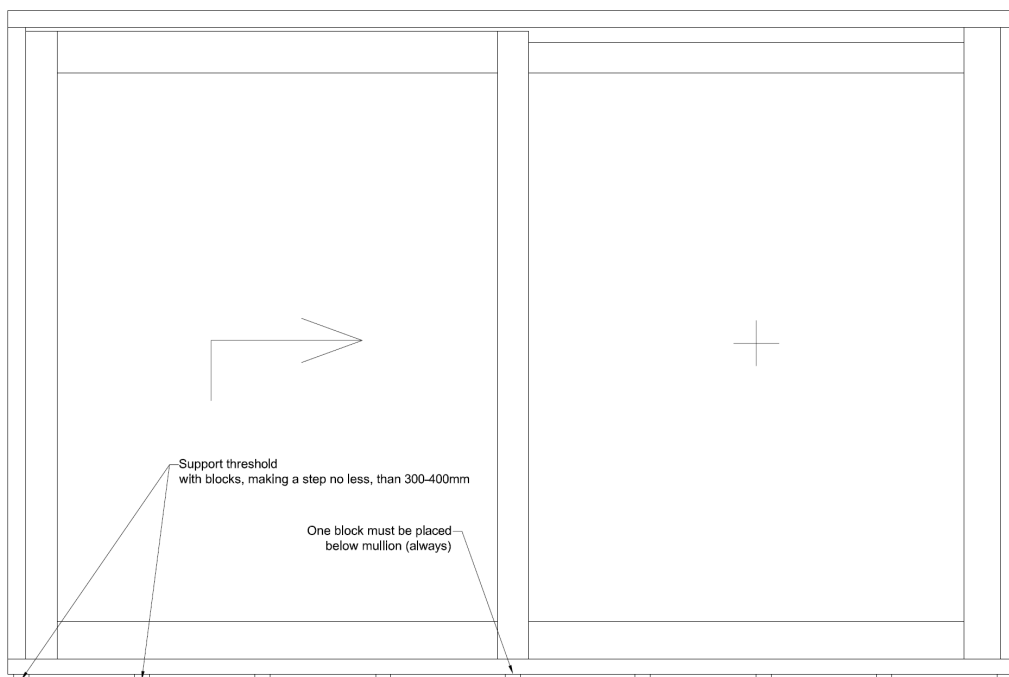
Wherever possible, windows and doors should be factory finished. Any further finishing should be carried out in dry weather using good exterior quality materials in accordance with the manufacturer's instructions (see the BWF's 'Care of timber windows on site' for advice).

### **7.3. General guidelines for installation of Lift & Slide doors**

**The Correct Way of Lifting and Handling** - Always lift frames from the lower outer edges and not from the top of the frame work.



**Fixing the Frame**

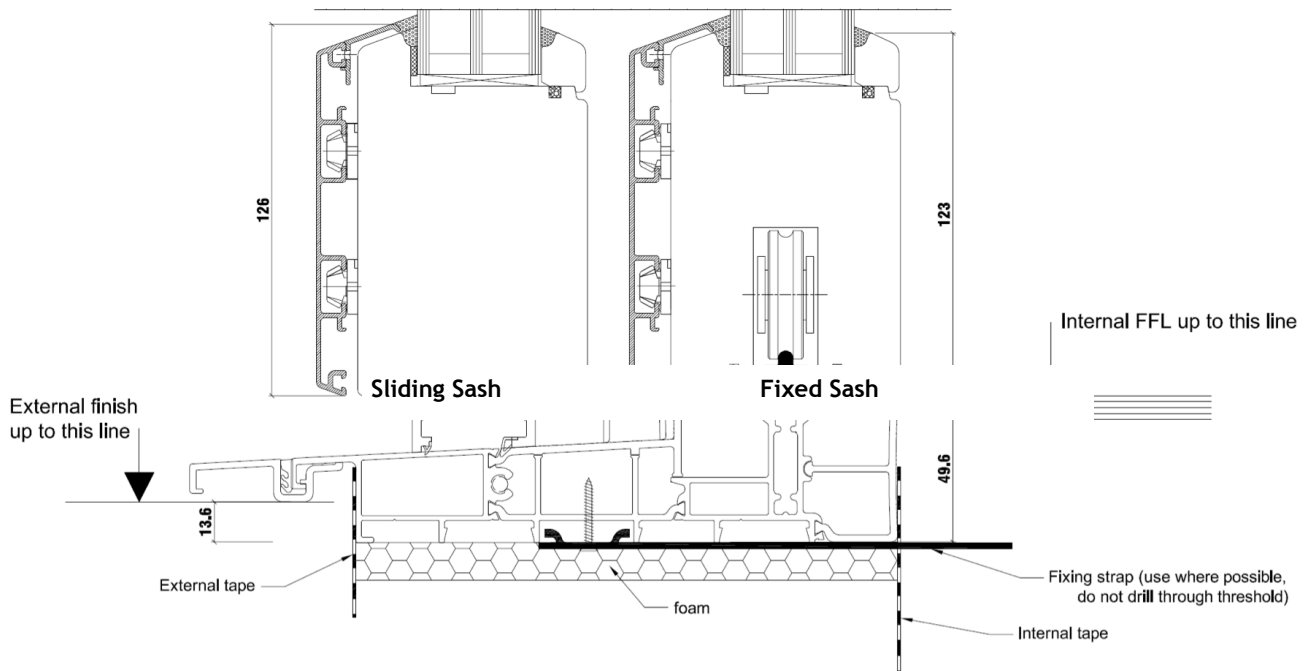


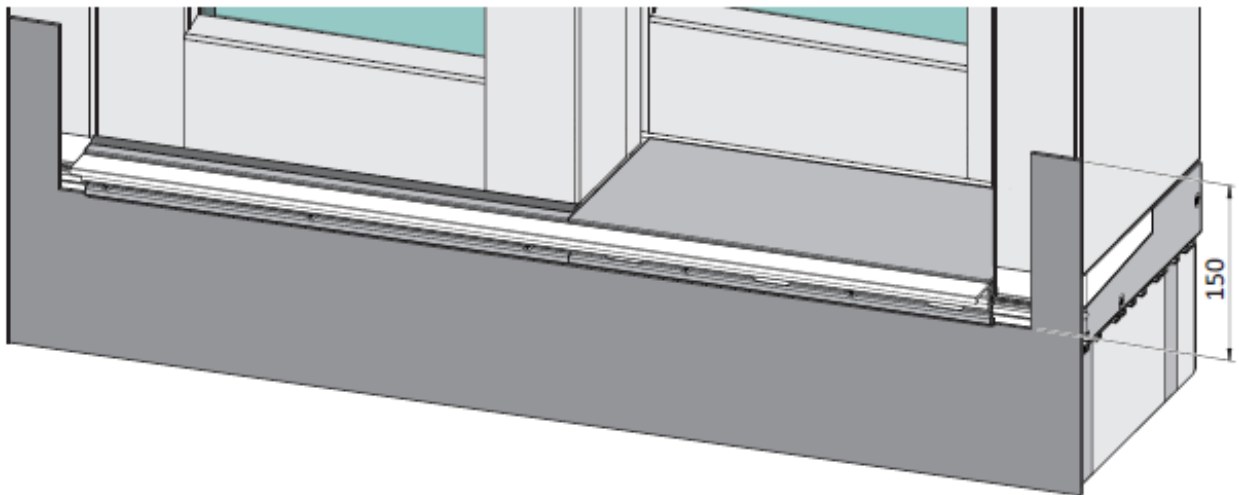
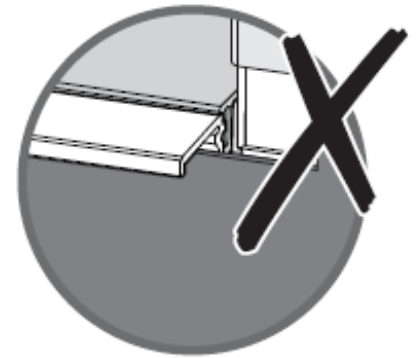
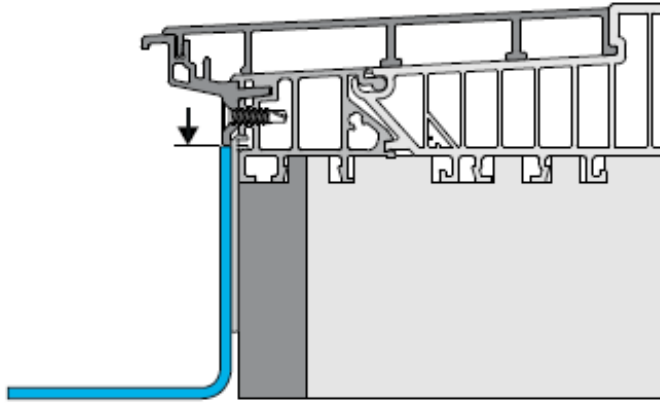
Place door in the opening. Adjust frame with laser and/or spirit level in horizontal and vertical direction. Laser is more recommended due to the size of the Lift & Slide doors. Frame tolerance allowed is max  $\pm 1\text{mm}$ . Make sure the door is not twisted over all surface of the door.

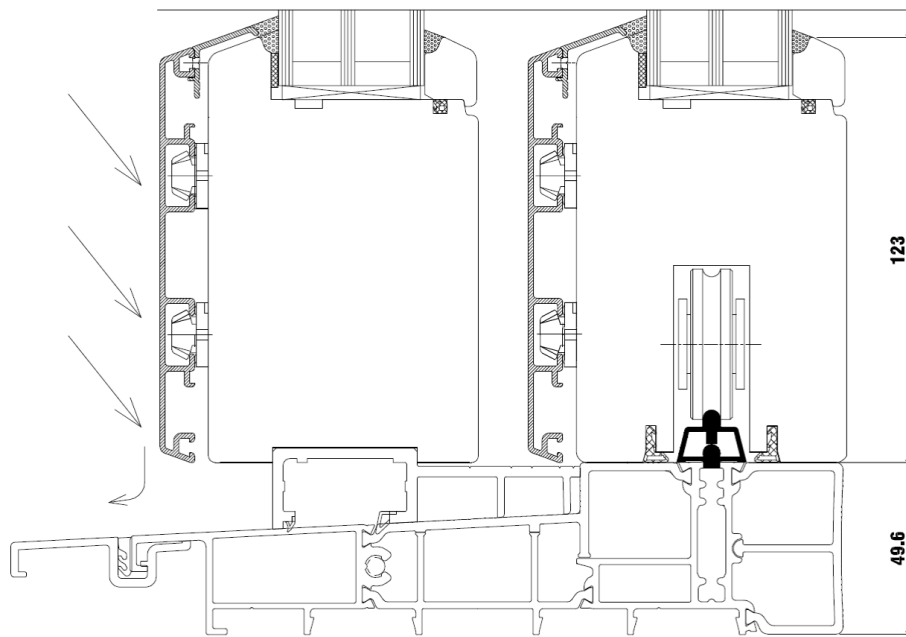
Fix timber jambs and top of the frame with through-fixing screws. We recommend to run the sash towards locking pins on the jamb to see, if the sash rail is parallel with the door jamb through all the height of the rail. Minor adjustment with the fixing screws on the frame jamb might be required. Bottom threshold can not be drilled and fixed through with screws. Use straps if necessary.

Seal frame with appropriate materials. Do not bend frame profile.

### Fixing the cill







#### Lift & Slide Door - Drainage

Please make sure cill drainage channels are kept open and free for water to drain off the cill when external cill being sealed.





