

WARRANTY CARD

Warranty of product based on **Hansen Millennium®**

Warranty terms.

Hansen Polska Ltd. provides a warranty for the assortment listed in the price offer and guarantees that products manufactured by the Company meet all technical requirements and standards placed.

The warranty is valid from the date of material receipt confirmation on the waybill document by the Buyer for the products. The warranty period is 2 years, and for individual elements:

Element	Warranty period
Glass	5 years
Paint coating	5 years
Fittings	2 years
Gaskets	5 years

The warranty covers:

- Durability and colour of profiles as well as the strength of structural connections
- Maintenance of functions and operational efficiency of fittings.
- Seal integrity of insulated glass units.

The warranty remains valid provided that the principles of utilisation, maintenance, and assembly, which are attached to this warranty card, are followed.

1. Mounting and user instruction
2. Door fittings maintenance instructions
3. Windows fittings maintenance instructions

The warranty does not cover:

- Adjustment of fittings and maintenance of windows and doors.
- Condensation on external and internal glass or glass breakage having occurred during utilisation`

- Flaws and damages resulting in a reduced product price, along with mechanical damage.
- Improper transportation carried out by the purchaser.
- Damages after installation of joinery work (any damages must be reported prior to the installation of aluminum joinery) and improperly executed joinery installation.
- Products with damaged paint coating due to dirt, use of inappropriate adhesive tapes, or chemical care products.
- Failure to remove protective film from profiles, adhesive and silicone residues following installation, as well as securing transportation racks on the construction site or during storage.
- Grilles and other protections that compromise the product's structure.
- • Causes unrelated to normal use or operation of joinery or its misuse, damage resulting from random incidents and natural disasters such as floods, fires, or strong winds.
- Flawed building construction.
- The buyer's own modifications (except for self-assembly of elements intended for it).
- Defects and damages resulting from exceeding technical standards specified in the buyer's order, where they acknowledged the possible consequences of these exceedances.
- Potential variations in shades of joinery due to the diversity within a given product batch.
- Irrelevant defects (i.e. those not affecting the functional value of the aluminum joinery).

Any external damage to glass and profiles must be reported within 30 days from the date of purchase. Claims made after this period will not be considered. Hansen Polska Ltd. is not liable for defects in windows and doors resulting from improper installation. The warranty for installation is provided by the installation company, which is responsible for the proper adjustment of windows and doors.

In case of acknowledging a valid complaint, Hansen Polska Ltd. will propose a solution to address the occurring defects within a period as short as possible, not exceeding 30 days from the date of acknowledging the complaint. This period may be changed in agreement with the client due to valid objective reasons. Before the service visit, please remove any additional elements (e.g., blinds, shades) not supplied with the window.

Cleaning and maintenance instructions.

Cleaning

Aluminum profiles can be cleaned using dishwashing liquid. Dissolvents and paint solvents must not be used. Abrasive cleaning agents are also unsuitable. It is recommended to conduct maintenance of windows and doors once a year: check the mounting bolts, inspect the locking mechanism, lubricate all moving parts of the fittings with a drop of machine oil, clean and maintain, or if necessary, replace damaged seals. Also, check the drainage system and, if needed, clean the openings.

Maintenance

Anodized or painted aluminum profiles should be cleaned with a soft cloth using gentle cleaning agents. Solutions with strongly alkaline or acidic compounds that may damage the oxide film or paint coating must not be used. Do not use cleaning agents with a pH below 5 or above 8. During cleaning, the temperature of the coatings and water should not exceed 25°C. After each cleaning, the surface must be immediately rinsed with clean cold water. Regular cleaning prevents the buildup of intense, hard-to-remove dirt. Maintenance of fittings must be carried out according to the recommendations of their manufacturers. Lime, cement, alkaline and abrasive cleaning substances (such as bleach or abrasive pastes) have particularly harmful effects on aluminum profiles, especially on decorative protective surfaces. Therefore, it's crucial to minimize any "wet" finishing work.

If mortar comes into contact with the aluminum surface, it must be immediately removed (preventing it from hardening). Failure to rinse it off may result in permanent discolouration and damage to the surface. Electrochemical oxidation of aluminum occurs when it comes into contact with other metals or their alloys. This corrosion progresses particularly rapidly in high humidity conditions. Hence, it's important to always separate aluminum from other metals with an insulating layer.

Maintenance, Care, and Cleaning of Stainless Steel INOX

The frequency of cleaning stainless steel elements is highly individual and depends on the level of usage and degree of dirt accumulation. It should be done at intervals which minimize the risk of rusting of stainless steel elements. It's recommended to clean them every 12 months with light contamination and every 6 months with heavy contamination.

Recommendations:

Stainless steel with a polished mirror finish can be cleaned using products designed for glass cleaning, as long as they do not contain chlorides. After cleaning, residues should be removed using water, preferably demineralized, and dried to eliminate streaks and watermarks. Cleaning tools recommended include cloth, suede leather, and nylon sponge. Alcohol-based products, including methylated spirits and isopropyl alcohol, as well as solvents like acetone, do not pose a threat to the anti-corrosive properties of stainless steel.

Prohibitions:

Do not use abrasive powders for cleaning stainless steel as they may cause scratches on the surface. Do not use products for removing mortar or diluted hydrochloric acid, bleaches, or silver cleaning agents. Do not use wire brushes made of carbon steel, steel wool scrubbers, or steel scouring pads.

To maintain stainless steel, use commonly available care products designed for ground and polished surfaces.

Note: During renovation work, it is important to protect windows with cover foil.

Catalogue of various types of contaminants on the surface of stainless steel depending on the environment:

Type of contaminant	Environment	Cleaning agents (Ready-to-use products)
Cement and mortat	Construction site	A solution containing a small amount of phosphoric acid, followed by water (preferably demineralized water).
Fingerprint stains	Daily use	Water with soap or detergent, glass cleaners without chlorides.
Oils and greases	Industrial	Alcohol-based solutions (such as methylated spirits or isopropyl alcohol), solvents like acetone, cleaners for chromium-plated elements.
Paints	Industrial	Paint-removing agents based on alkaline compounds or solvents.

Before commencing assembly work, the client is obligated to remove the film and inspect the structure for scratches and dents that cannot be the basis for complaints after window installation. Then, prior to installation, protect the joinery with protective film, shielding it from mechanical damage, particularly scratches, which can occur easily at the construction site or during installation.

Before securing the profiles, it's advisable to clean the joinery with a soft cloth using gentle cleaning agents. If the product is installed with evident defects, it does not qualify for warranty conditions. The manufacturer does not bear the costs associated with disassembling and assembling joinery with evident defects.

The protective film must be removed no later than 1 month from delivery!

Additional elements of repair, replacement, and substitutability:

If there are technological changes related to the introduction of new technologies (profiles, fittings, glass, other components) during the warranty period, then in the event of withdrawal or removal of elements requiring repair or replacement from the offer, the manufacturer will replace such elements with available ones of similar or comparable function.

Complaints.

Conditions for acknowledging a complaint report.

The complaint report should be submitted in written or electronic form and filed at the point of purchase (in the case of individual customers) or sent electronically to the following address: **sekretariat@hansepolska.eu**

The complaint report should include photographic documentation, especially in the case of damages or order discrepancies.

The complaint does not imply the withholding of payments for aluminum joinery. Goods that remain unpaid are not eligible for warranty. The claimant should provide unhindered access to the equipment during the warranty processes. The manufacturer's liability under the warranty is limited to the value of the purchased goods. The warranty neither excludes nor limits the buyer's rights as per the Civil Code, stemming from non-compliance of the goods with the contract.

Further information

Hansen Polska Sp. z o. o. is exempt from any claims and liabilities, including recourse claims, within the scope of the warranty, in the following circumstances:
Steel dust particles resulting from operations such as welding, cutting, drilling, and grinding of carbon steel will quickly cause rust on the surface of stainless steel.

Furthermore:

The glass colour is an inherent characteristic independent of the Guarantor and is not subject to complaints.

The phenomenon of interference (light refraction on the glass) is a feature of the glass and is not subject to complaints.

The appearance of "spots" on glass units during fogging is an inherent characteristic and is not subject to complaints.

The method of joining inter-pane frames ensures the sealing of glass units, and the aesthetics of its execution are not subject to complaints.

In case of product resale, the subsequent buyer is entitled to the warranty until its expiration. In the event of a groundless complaint report, all associated costs (according to the current price list for services and materials) will be borne by the Buyer (especially the costs of travel and service personnel's working time).

Products are stored and warehoused in accordance with the requirements of PN-B-05000:1996, meaning they are kept in enclosed, dry, and well-ventilated spaces.

The resistance of paint coatings to UV radiation, discoloration, and loss of gloss is determined by the technical requirements of the Qualicoat quality mark available on the website www.qualicoat.net.

The resistance of an anodized coating to discoloration and loss of gloss is specified in the technical requirements of the Qualanod quality mark, available on the website www.qualanod.net.

Structural glazing is carried out in accordance with the Quality Bond Quality Standards. The quality guarantee is issued for a period of 10 years. More information is available on the website <https://www.dow.com/en-us/market/mkt-building-construction/quality-bond.html>.

In matters not covered by this Warranty, the provisions of Polish law shall apply.



hansen

Attachments

1. Mounting and user instruction

Receipt and storage

Correct installation and maintenance affect the warranty.

It is essential that doors and windows are installed correctly in order to ensure optimal function and operation. Incorrect installation may cause functional problems, and such issues will not be covered by the warranty of the windows and doors .

When unloading and handling the various windows, make sure you use tools and methods that do not cause damage to the onstructions , and which do not subject installers to unnecessary ergonomic strain.

Upon delivery, the buyer must check that the delivery matches the terms of reference, and make sure that the windows and doors do not have evident faults, defects and signs of transport damage. In the event of grounds for complaint, the buyer must immediately contact Hansen Polska.

Labels and cork pads on glass panes should be removed within 1–2 weeks of delivery. Any corner protectors, covering film or other protective packaging must only be removed when installing the windows.

If stored outdoors, the windows must be placed on battens or pallets such that they do not make direct contact with the ground. The windows must be stored under a robust covering to protect them from rain and soiling. It must be possible to ventilate the area around the windows to limit the risk of condensation under the covering.

Any separate glass panes should be stored indoors

Installation

It is important that the windows are installed correctly to maximise their function and service life. The work should therefore be carried out by professional installers with experience in installing windows and exterior doors.

The instructions in this manual cover some of the main points – but not all detailed issues – regarding the installation work that may be relevant to the installation.

The glass panes are normally fitted into the windows prior to delivery, but in the case of large, rigid frames and large integrated windows, the panes will often require fitting after the installation of the windows. The panes must be fitted in accordance with the installation instructions.

The frame is fitted normally into the aperture in the wall.

Make sure there is a uniform joint width around the side and top sections of the frame, and pay close attention to the level of the bottom section of the frame in relation to the sill/floor level.

The clear gap (joint width) between the frame and the surrounding brickwork is normally approx. 12 mm. On the hinge side, the frame must be plumb along both the broad and the narrow sides. The frame must otherwise be adjusted and secured to ensure the correct stops and clearances between the sash and frame all the way around.

Securing in general

Windows and exterior doors must always be secured to the surrounding building section using mechanical means such as frame screws/dowels or brackets.

If expanding foam is used to plug the gap between the exterior frame surface and the surrounding brickwork, the window must still be secured to the surrounding building section mechanically, such as frame screws/dowels or brackets.

Fitting tilt-and-turn windows and doors

Position the window in the aperture for the door/window, and place spacers under the side frames and posts, if required.

(See the instructions/conditions for doors in the separate section).

Make sure that the bottom section of the frame is horizontal and straight. Adjust the hinge side of the frame so that it is plumb along both the broad and the narrow sides. Support the hinge side with a firm base, and secure it in place with appropriate frame screws.

It is important to make sure that the top and bottom securing devices are positioned as closely as possible to the top and bottom section of the frame, because the tilt/turn hardware is designed in way that transfers a part of the load to the horizontal parts of the frame.

During installation, it is important to adjust the clearance, i.e. the gap between the frame and sash, to suit the function of the window.

Adjust the closing side so that it aligns with the sash and makes full contact. All closing points must have sufficient clearance in order to provide optimal window functionality during operation. Make sure that the locking pin engages correctly. Then use appropriate frame screws to secure the rest of the window to a solid base.

The side, top and bottom sections of the frame must be equally square and must not bend, as this will cause functional problems.

After installation, remove any drilling dust from the frame and fittings. Then lubricate all closing points and articulated joints in order to assure long term and problem-free function. It is recommended that you wipe sealing profiles with a silicone stick.



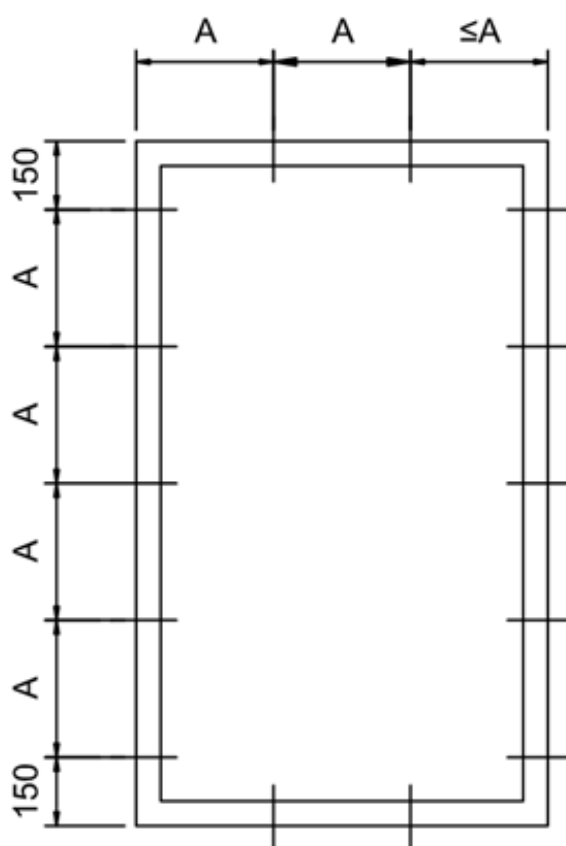
hansen

Fixings / distances / materials

It is important to ensure that the chosen securing method is appropriate for the relevant structure. Certain aspects of the surrounding structure may dictate the type and number of fixings.

Follow the guidelines below when securing HansenMillennium® windows

Distribute the fixing points as shown in the diagram ([Illustration 1](#)), but make sure there is no more than 600 mm between the fixing points.



The illustration above is a general guideline for installation.

If a different distance between fixing points has been calculated for the relevant project, the calculated distance shall be applicable.



hansen

Removing the glass pane

1. Loosen the glazing gasket with a glazing shovel to avoid damaging the glazing bead or the pane itself



2. Remove the glazing gasket





hansen

3. Remove the glazing beads – remember to secure the panes to prevent them falling out (e.g. use a suction pad and support).

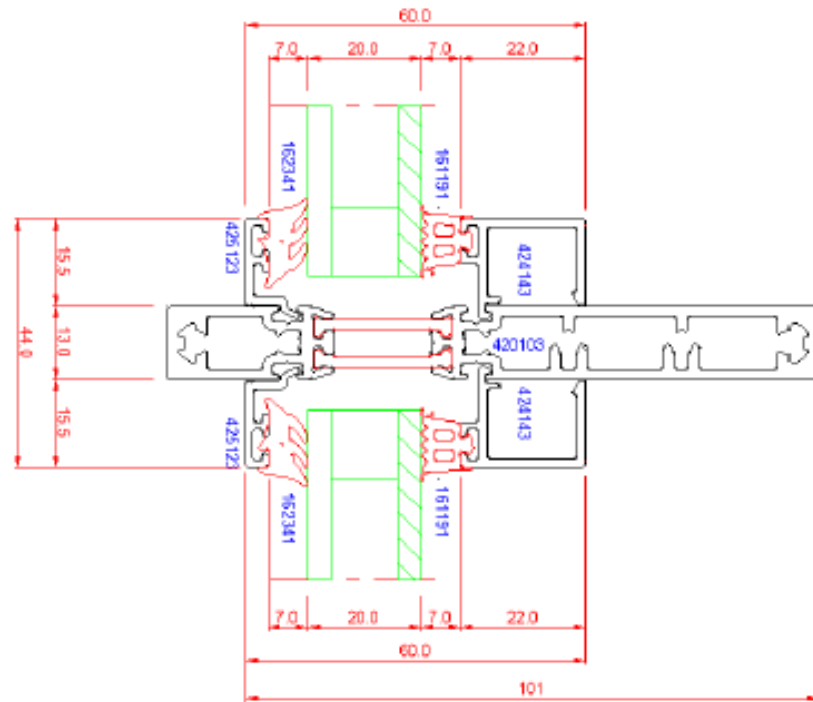


4. Lift the pane out

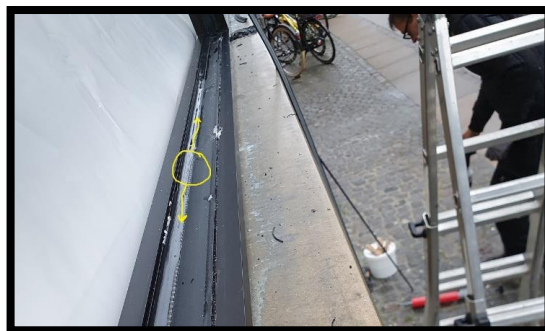


Sealing when using external rebate profile

When using the external rebate profile to mount the glass there is a risk that the effect of the drainage will be reduced. It is therefore very important to ensure the drainage water is controlled out of the system.



This is done by placing a joint of Sikasil WS 605 along the internal glazing bead. The sealant should be continued throughout the corners as illustrated below.



Fitting the pane support / glazing block

Position the pane on glazing blocks/ stainless steel pane supports. Make sure that the glazing block is sufficiently wide to support the outer layer of glass in the insulating glazing unit (IGU).

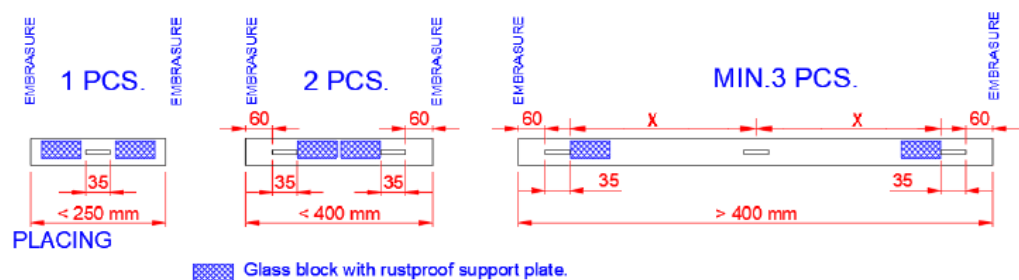
Once the pane has been fitted, the maximum permitted deflection in the transom is 2 mm. If the deflection exceeds 2 mm, contact the project manager.

If the pane weighs more than 200 kg, or is broader than 2,000 mm, or the project involves the use of T-profile transoms longer than 1,500 mm, contact the project manager to confirm the size/type (length) and positioning of the pane support.

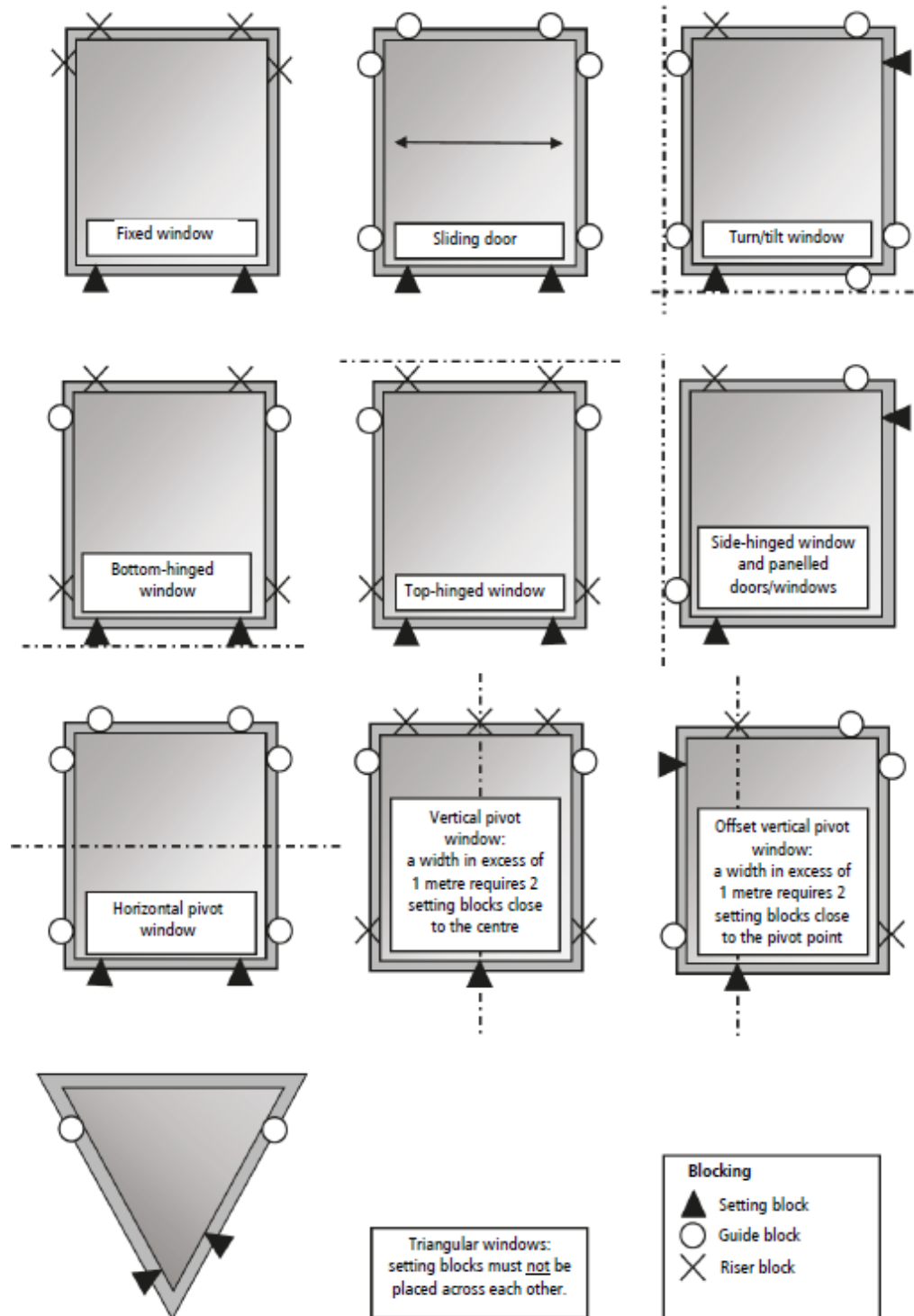
Position the extruded aluminium glass support on top of the crown and tilt it in behind the rubber slot to the correct position.



The position of the glass support may be a max. 100 mm from the corner of the glass to the centre of the support.



The glass supports must be positioned in accordance with EN 12488:2016 and the Technical Requirements.





hansen

If the window must be lifted using suction pads applied to the pane, this must be taken into account when positioning the glass support.

Place the glazing block wedge on top of the aluminium pane support

The glazing block wedge must be at least as wide as the thickness of the insulating glazing unit, and it must support the window's outer pane.



Installing the pane

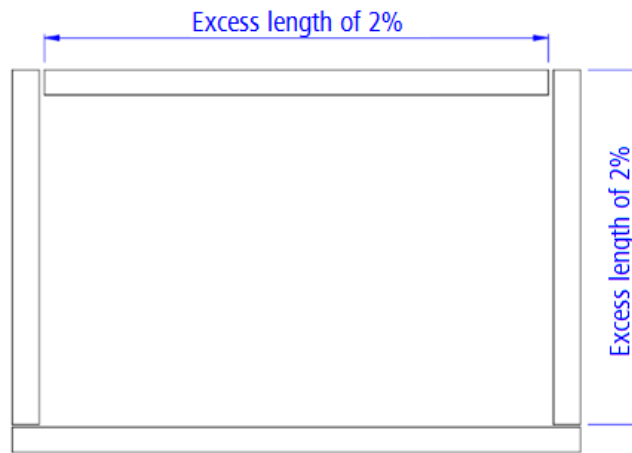
1. When inserting the pane, temporarily secure it in place with the top and bottom glazing beads. For example, insert a glazing block wedge or a similar plastic device that will not damage the glass.



2. Then insert the vertical glazing beads, which must also be hold in place with glazing block wedges.
Position the pane correctly and “clamp” it in close contact with the exterior glazing gasket using e.g a glazing shovel.



3. The temporary glass fastening shall be maintained until beginning the installation of the internal glazing gasket.
However for a maximum of 16 hours due to the risk of thermal breakage of the pane.
4. When inserting glazing gasket, it may be necessary to use new gaskets
(discard the removed gasket).
Adjust loose gaskets in accordance with the following instructions:
 - a) The uppermost horizontal gasket is placed between the vertical glazing beads
 - b) The lower horizontal gasket is through-going
 - c) An excess of 2% shall be added to all lengths to counteract shrinkage over time.



5. Use a lubricant (e.g., glycerine) when inserting glazing gasket. First insert the gasket at both ends and press the gasket down.



6. Ensure that the gasket's thickness is adjusted to fit tightly to ensure air-tightness and water-tightness.



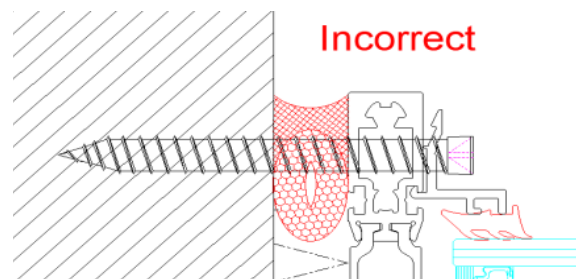
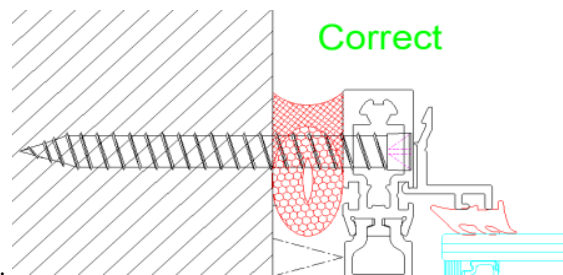


hansen

Click glazing bead – window delivered with the pane

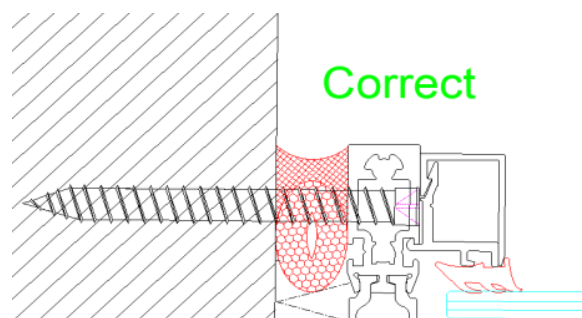
1. When windows are delivered with the pane and the click glazing bead.

First step of the installation is screwing it to the wall. Correct screwing is very important, otherwise, installation of the cap of glazing beads will not be possible.



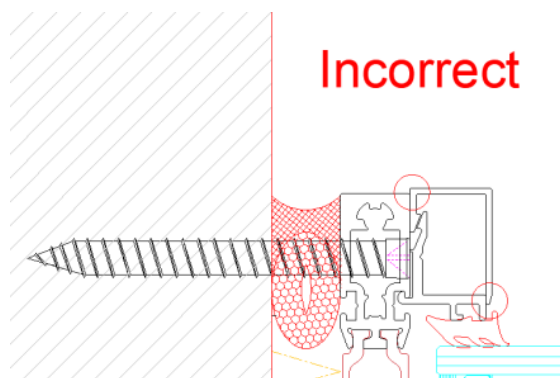
2. Next step is the Installation of the cap profile. Use a rubber or plastic hammer.

The correctness of the installation of the cover can be checked easily. If cap is installed correctly, then the face of the cap must be lower than the face of the frame or transom.

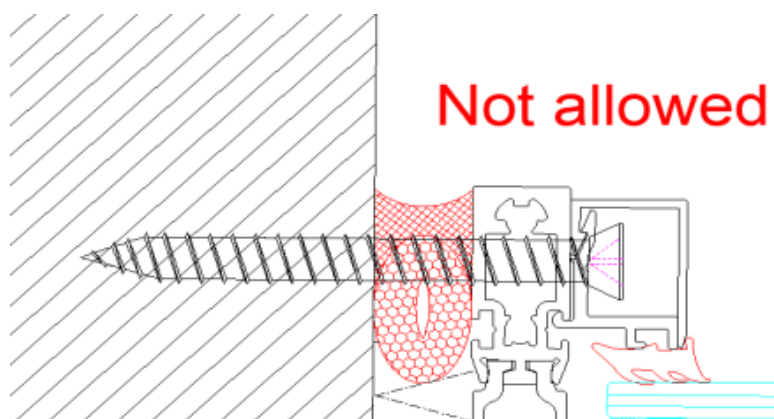
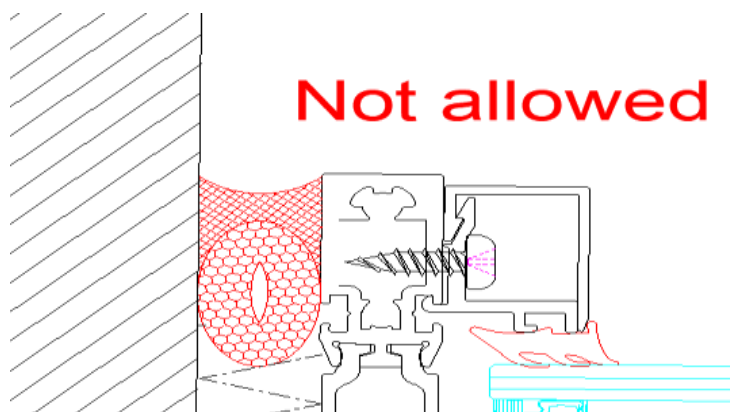




hansen



Important! Do not screw a basic of glazing beads by screw to the frame or to the wall by mounting screw. If bead will by screwed, removing of the pane will be very difficult or almost impossible because cap will have no lose, so not possible to remove without destroying of window elements.



Installation of Millennium doors.

1. Insert the door frame into the aperture so it is flush with the wall on both sides. Support the door with, e.g., wedges.



2. Position the frame so that it is plumb in all directions and adjust with wedges.





3. The hinge side is installed first - it must be 100% plumb.
(When the door is opened, it must stay in the position in which it is placed)
Installation holes are drilled through the door hinge.

Spacers of the same size as the distance between the frame and wall are placed adjacent to the hinge prior to fixing. Spacers must support the interior and exterior of the frame. There must be room to establish the correct joint before chocking.





hansen

4. The bottom wedge is removed and replaced with a spacer



5. If necessary, the frame is adjusted to ensure that it closes at the bottom first



hansen

Tilt and turn window

Tilt and turn window

The tilt and turn window (also called a side/bottom-hung window) is an inwards-opening window, which has both a tilt and turn function. The tilt function is used for daily ventilation, while the turn function is primarily used when cleaning the exterior of the pane. The window may have closing points all around it, depending on its size, but is still operated with only one handle, which is installed in the side sash.

Closed position.

In the closed position, the handle is turned downwards.

Tilt function (bottom-hung) and ventilation position

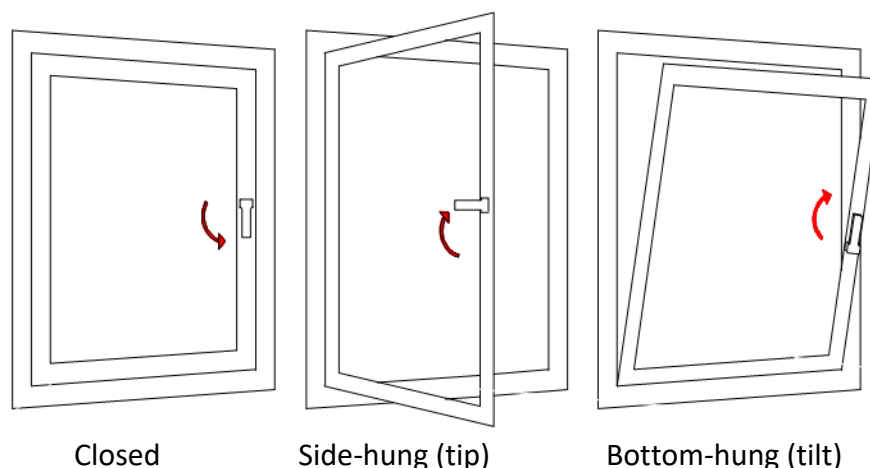
The handle is turned from the lowest closing position to the vertical position, after which the sash can be tilted inwards, providing an opening of approx. 10-15 cm, depending on the size of the sash. The hardware can also be supplied with a function that holds the sash in the tilt position with an approx. 1 cm opening at the top. This position is achieved by moving the handle from the closed position to 45°, which is halfway between the closed and tilt positions.

Turning function (side-hung)

The handle is turned to 90°, and the sash can be opened in the side-hung position. If the hardware is operated incorrectly, the handle is turned to the horizontal position, the sash is pressed into the frame rebate and the handle is placed in the vertical position. From here, the window is closed again by placing the handle in the locked position, and the hardware is now back in its starting position.



hansen



Separating sash from frame

The sash is opened approx. 60° into the turned (side-hung) position, after which the locking pin in the shear on the top sash is lifted slightly, turned 90° anti-clockwise, and lifted out of the hardware in the sash. Then the maloperation lock is released by pressing on the small bracket on the sash next to the handle and by placing the handle in the tilt position. The sheer can now tilt freely - press the small button at the end of the red connecting rod, and the sheer can be lifted clear. Lift the sash away from the bottom hinge and remove it from the frame.

Maintenance, cleaning and lubrication

General information – Maintenance

HansenMillennium® aluminium windows and doors require only minimal maintenance. Under normal conditions, this means simply washing the external surfaces at regular intervals with warm water and a neutral cleaning agent to remove any dirt. The moving hardware parts should also be lubricated as required, and at least once a year. Simultaneously ensuring that all sliding rails, guiding rails, sealing beading and the like are kept free from dust and dirt will keep the element functioning smoothly for many years.

General information – Cleaning

The exterior aluminium sashes and frames will inevitably be affected by the surrounding environment, in which urban and industrial areas with high levels of traffic and air pollution, and coastal areas where the air is salty, will have a greater impact on the surface than rural areas with cleaner air. The façade sections should be cleaned and washed at regular intervals, and at least twice a year. This can be done at the same time as the windows are washed.

Wash the sashes and frames with warm water and a neutral cleaning agent (e.g. a car washing agent) and dry them afterwards.

General information – Lubrication

It is important to lubricate and maintain all hardware types to ensure smooth, unobstructed operation and the functions of windows and doors on an everyday basis. It is also a requirement for maintaining the windows' warranty. The frequency of lubrication and maintenance required depends on the use and exposure of the fittings to the weather, environment, air pollution etc. Experience shows that hardware used in, e.g., urban areas, industrial areas, areas with high traffic volumes and coastal areas with briny air need lubricating and maintenance work more often than hardware used in areas with less corrosive conditions.

Stainless steel handles and hardware

Our stainless steel handles and hardware are made of matt-brushed stainless steel - AISI 304 - as standard, which matches modern buildings and provides optimum corrosion protection. The products can be used anywhere, for internal and external installation, where the products will offer optimum function and quality.

NB.

All hardware is lubricated during installation at the factory. Please note, however, that it is the responsibility of the party/contractor who is responsible for the installation to ensure that all moving parts, with the exception of friction parts/slide rails, are treated with a suitable lubricant prior to hand-over to the developer. Generally speaking, all moving parts of hinges and closing/locking hardware are lubricated as required, but at least once per year.



hansen

Materials and surfaces

Stainless steel is particularly suited to operations that require high durability and hygiene and good corrosive resistance. Stainless steel forms a thin, protective oxide film that provides a closed, durable surface which provides great resistance against mechanical stress.

In spite of its nickel content etc., stainless steel is considered a non-allergenic material for door handles, hardware, etc. A number of component parts may be made from other materials, such as polymers, brass or aluminium. The decision to use these materials considered the optimal function, production and durability of the product.

Cleaning and maintenance

At regular intervals you should check the function and installation of hardware, and tighten any loose fixings and clean the product's surfaces. In areas and environments with increased exposure to sulphur and nitrogen oxides and in coastal environments with saline precipitation, the protective oxide film on stainless steel may be corroded, creating a stain of reddish brown flakes, which can resemble rust. This corrosion is, however, only superficial. This staining can be easily prevented or removed with normal cleaning of the surface. Clean with warm water, mild detergent, soft brushes or synthetic polishing sponges. In special cases, use a polishing agent particularly formulated for stainless steel. Never use scouring/steel pads or steel brushes, as this may damage the surface! The product is only covered by the warranty when it has been correctly installed and maintained.

Environmental issues

Stainless steel does not emit any harmful vapours or metals of their own. Stainless steel is generally not classified as environmentally hazardous waste, but since the material contains, among other things, heavy metals, the products are disposed of as iron/metal commercial waste, which ensures optimum sorting and recycling.

Specific lubrication instruction – Tilt and turn hardware

Hinges, lock rollers and strike plates on tilt and turn (side/bottom-hung) windows and doors are lubricated with acid-free oil or grease while repeatedly activating them. Sheer hardware and

friction brakes must be lubricated in all joints while repeatedly activating them in order for the lubrication to move along the reciprocating moving arms. Lubrication must be applied both externally to the joints and in the gap between the arms. For this purpose, use a penetrating acid-free oil, followed by a long-lasting acid-free grease spray.

Sliding surfaces

All sliding surfaces are made of anodised aluminium and must be periodically cleaned in accordance with climate conditions and the degree of air pollution. It is recommended that you rub the surface with a cloth or sponge. Never use abrasive cloth, steel wool, soda or any other cleaning or polishing materials containing alkalis or acid on these surfaces; only neutral cleaning agents (car washing agent).

Espagnolettes

These are lubricated with acid-free oil or an acid-free grease spray in the lock housing, by the hook bolts and on strike plates. The lubrication must be combined with repeated activation.

General information regarding inspections of gaskets

Sealing profiles and glass tape should be inspected at the same time as the annual lubrication.

Gaskets

Gaskets are made from EPDM rubber, which is made from a combination featuring a solid base and a soft cell rubber contact area. Gaskets require no maintenance as such, but should be kept clean and free of debris. To do this, wipe it down once a year with a firmly wrung-out cloth that has been dipped in warm water and a neutral cleaning agent. The gaskets will benefit from being rubbed with a silicone stick to reduce friction during use. Also check that the position and adhesion of the gaskets are not compromised and



hansen

the profiles still perform their sealing function. All gaskets have been loosely installed in a continuous groove, simplifying the removal and reinstallation of the gaskets for most window types in the event of damage which requires replacement or in connection with surface treatment maintenance. Gaskets must never be painted over.

Glass tape

Our glass tape is made of rubber products that need no particular maintenance other than being kept clean and free from dirt as described under sealing profiles

Maintenance – powder-coated surface

As standard, the exterior aluminium is chrome-free and surface treated with polyester powder coating. This treatment produces an extremely strong and weather-resistant surface that requires minimal maintenance. In practice, this means that it only needs to be washed a couple of times a year with a soft brush or a cloth dipped in warm water, and a neutral cleaning agent (car washing agent). Small scratches in the surface treatment will not have any impact on the durability of the element because exposed aluminium quickly forms a natural oxide layer that prevents corrosion and the occurrence of white rust.

Maintenance – anodised surface

The external aluminium may be delivered anodised. After the aluminium profiles have undergone the chemical pre-treatment process and have been thoroughly cleaned, they are subjected to an electrolytic process. Direct current is run through the profiles, which become anodised, resulting in the surface metal being converted into oxide. The process continues until the desired layer thickness has been achieved. An anodised surface treatment provides particularly effective resistance to corrosion in most environments. The surface is also extremely smooth and dirt-repellent and can look “new” for protracted periods.

Anodised aluminium profiles are almost maintenance free, as long as the surface is cleaned regularly. In practice, this means washing it a couple of times a year with a soft brush or a cloth dipped in warm water, and a neutral cleaning agent (car washing agent).



hansen

Window panes

Interior condensation on insulating glazing units.

Interior condensation can form on insulating glazing units depending on:

- The volume of moisture generated by the activity of the residents
- Heating in the room
- Ventilation conditions.

If condensation runs down a window pane and into the sash/frame structure for an extended period of time, this can lead to the development of mould.

There are several things/conditions that can cause moisture in homes. Be aware of the following:

- New windows close considerably more tightly than old ones. After replacing windows, you will therefore need to ventilate your home more often (and for longer) than previously.
- Newly built houses must be ventilated more often than old ones. The drying out phase for new buildings can last for more than a year. This also applies to extensions and renovations.
- An adult person, or a medium-sized dog, emits approx. 2 litres of water per day.
- Cooking, bathing/showering and washing and drying clothes for two adults and two children will easily generate 3–5 litres of water per day.
- Problems with humidity increase when the room temperature is lowered, and they decrease when the room temperature is raised. Even a short-term reduction in the temperature (at night, for instance) can cause condensation to form on the windows.
- Tight curtains and broad window sills/frames can cause the air to stand still around the window panes. This makes the air cold and humid and causes condensation to form on the glass.
- Insufficient ventilation produces a poor indoor climate that can cause coughing, headache, stinging eyes, rashes and allergic reactions in the airways.
- A residence that has been subjected to high levels of air humidity for 8–14 days must be aired particularly thoroughly. The best way to do this is to leave 2–3 windows open in the ventilation position all day long, at the same time as you raise the temperature 4–5°C above the normal level for 8–10 days. You can also leave the cooker hood switched on in the kitchen 24/7.
- Days with calm, sunny weather will produce more solar gain than the heat that escapes during normal ventilation.
- Finding the optimal point for saving energy and minimising problems with moisture is a balancing act.



hansen

External condensation on insulating glazing units.

It is mainly in recent years that people have started experiencing external condensation (dew) on energy-saving windows. Condensation forms when radiation into the open air results in the temperature on the outermost layer of glass falling below the dewpoint temperature of the outdoor air. This condition typically arises during periods in which the relative humidity (RH) of the air approaches 100%. External condensation on energy-saving windows typically forms in the spring and autumn months – usually at night and in the early morning hours, until it disappears with the sun and the wind. The problem can be especially noticeable in April and September. This is often due to the window panes transmitting little heat, thus not helping to remove the exterior condensation. The problem is especially common on integrated windows with triple glazing.

Thermal breakage

When installing insulating glazing units in the sash and for Millennium window designs, HSHansen a/s has taken into account the fact that the glass “works” as a natural response to temperature fluctuations.

If a thermal window is subjected to uneven heat influences, this can cause thermal breaks in the glass.

If, for example, the window is exposed to partial shadow, or if (especially dark-coloured) streamers, posters or signs are affixed to the window, or if the window is painted over fully or in part, or if plastic film/a sun filter is applied to the glass.

The same can occur if heat-reflecting materials are placed close to the window, or if ventilation is complicated by heavy curtains, blinds or large plants which can cause uneven heating of the window pane.

Under such conditions, insulating glazing units can absorb so much solar energy that the tension causes the glass to crack in a distinctive manner.

To prevent thermal breakage under such conditions, toughened glass must be used for insulating glazing unit. Damage caused by the conditions mentioned above is not covered by the warranty issued by HSHansen and the glass supplier.



hansen

Warm edge

Warm edge is a spacer moulding between the layers of glass in low-energy windows. This spacer moulding conducts less heat than a conventional spacer, meaning that it increases the temperature along the edge of the window pane. As a result, the heat bridge is reduced, minimising the risk of interior condensation in the edge zone. As a part of the production process, the warm edge spacer is fitted in the individual insulating glazing unit before the window is assembled and finished. This means that the point of application can differ minimally from pane to pane in individual glazing units. This deviation does not, however, affect the insulating abilities of the warm edge.



hansen

2. Door fittings maintenance instructions



Fuhr multisafe 803

Installation, operation and maintenance instructions

LOCKING FUNCTION

External: The locking and unlocking action is carried out by means of a double turn of the key. The latch is retracted via the transmission mechanism with the cylinder key.

Internal: See external, the latch can also be retracted by using the lever.

MAINTENANCE

Owners and users of buildings are advised that the following maintenance work has to be carried out at least once a year:

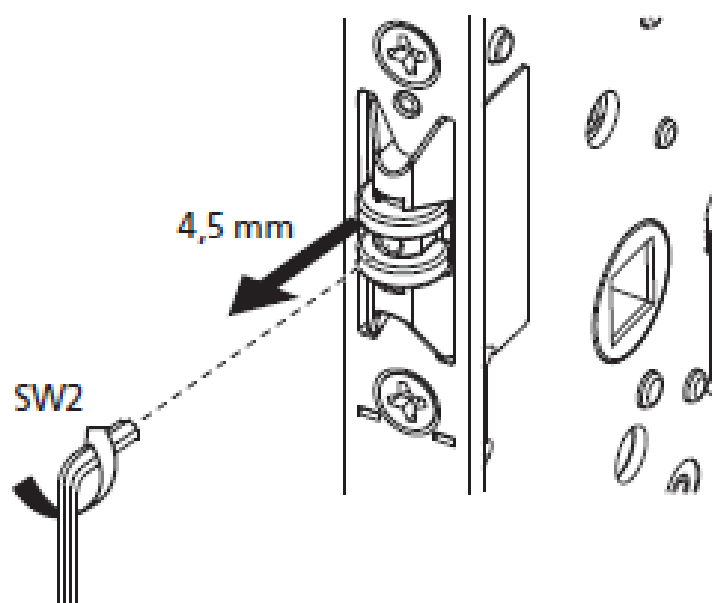
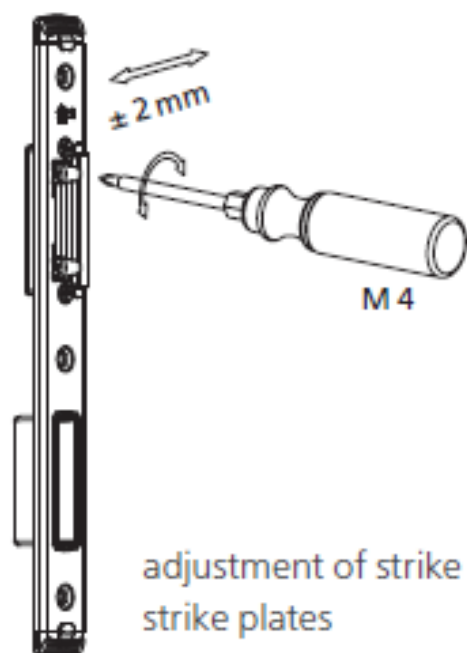
- All movable parts and locking parts have to be oiled and their working order checked.
- Safety-relevant hardware should be checked for wear and tear and a continuous firm fit.
- Depending on requirement fixing screws have to be tightened or the damaged or worn parts exchanged for original parts by an authorized specialist.
- Only cleaning and care products that do not affect the hardware's anti-corrosion qualities must be used.
-

IMPORTANT: The points outlined above are intended as an addition to the FUHR Product Liability Information for door locks, see www.fuhr.de. Owners and maintenance building managers are instructed to comply with. In the event of non-compliance with these necessary instructions faultless operation of the locks cannot be guaranteed.



hansen

INSTALLATION NOTES

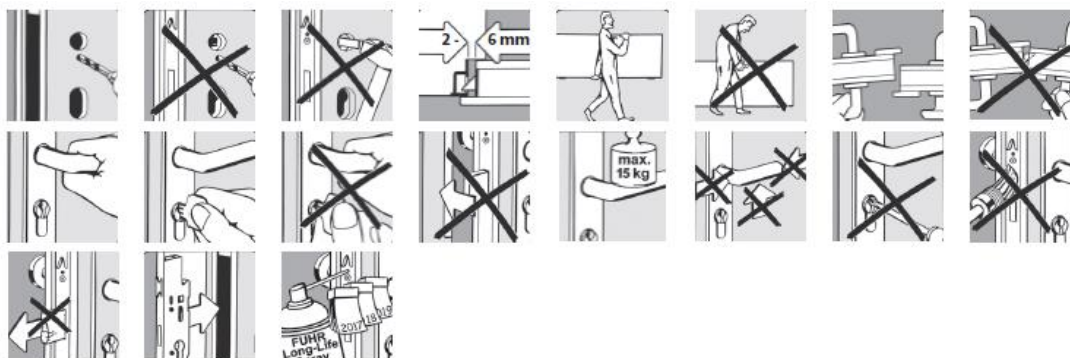


adjustment of roller latch



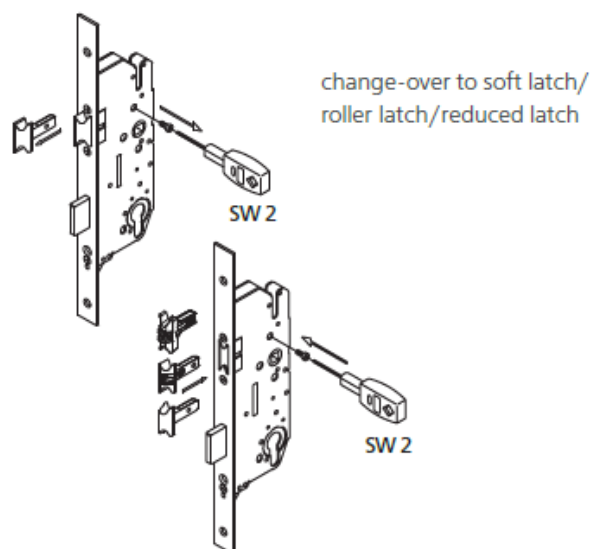
hansen

Installation instructions



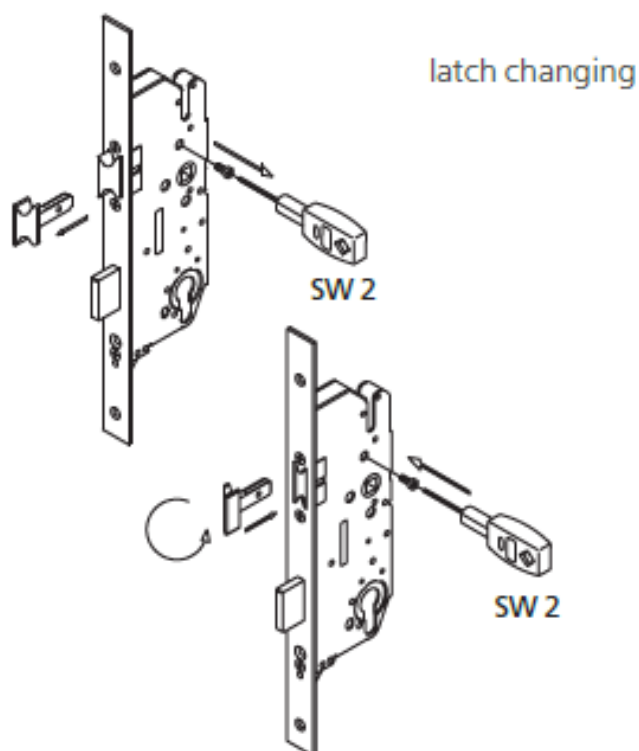
Solely profile cylinders according to DIN 18252 have to be installed.

- Door leaves and frame must run in parallel throughout the entire height.
- Mortise for the lock cases as per drawing.
- Mortise for the profile cylinder and lever must be in alignment.
- Never drill the fitting when the lock has been installed.
- All contamination such as shavings as a result of drilling must be removed prior to the installation of the lock.
- Attach faceplate with screws of a 4 mm diameter and a length matching the profile system.
- Fixing screws have to be positioned perpendicular to the faceplate.
- Observe exact position of the strike plates as per drawing.
- Do not use force in the event of tightness or sluggish operation after the lock has been installed! The cause of the problem should be ascertained and remedied instead.
- Suitable protection must be applied to the door leaves during transportation even if the locks are bolted.





hansen



Fuhr multisafe 833/834

Installation, operation and maintenance instructions

Functions

LOCKING FUNCTION

By closing the door, two latching deadbolts (autosafe 833) or two latching and hook bolt combinations (autosafe 835) extend automatically to 20 mm. Both are secured against being pushed back. The door is unlocked by means of the handle or via the profile cylinder key from outside. The main dead-bolt can be locked by a simple turn of the key. The handle is blocked as a control or as child lock.

Restrictor function 833/834 (retrofittable option)

Internal: A 90° turn of the knob enables the restrictor function. A turn in the opposite direction disables the restrictor function.

External: The restrictor cannot be operated from the outside.

Day latch function 833/834 (optional version)

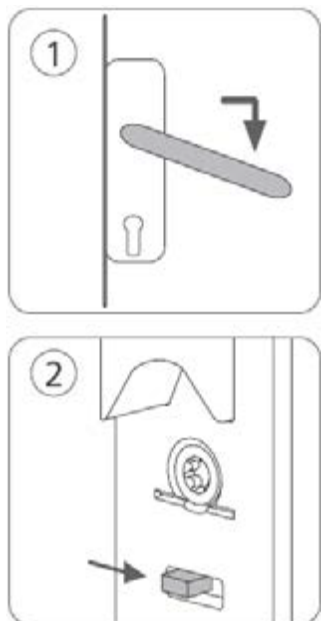
Day latch activation: Press the lever handle to the limit stop and hold on (1). Slide the day latch switch to the limit stop (2). Release the lever handle. The latching deadbolts (autosafe 833) or latching and hook bolt combinations (autosafe 835) now stay retracted; the main latch is still in function.

Day latch deactivation: Bring the day latch switch back into the starting position. The additional locking points are now in operation again.

* In order to use the day latch function a FUHR mechanical or electric strike has to be used



If a motor is retrofitted, a mechanical door strike without unlocking lever must be used, as the latch is not retracted by the motor.





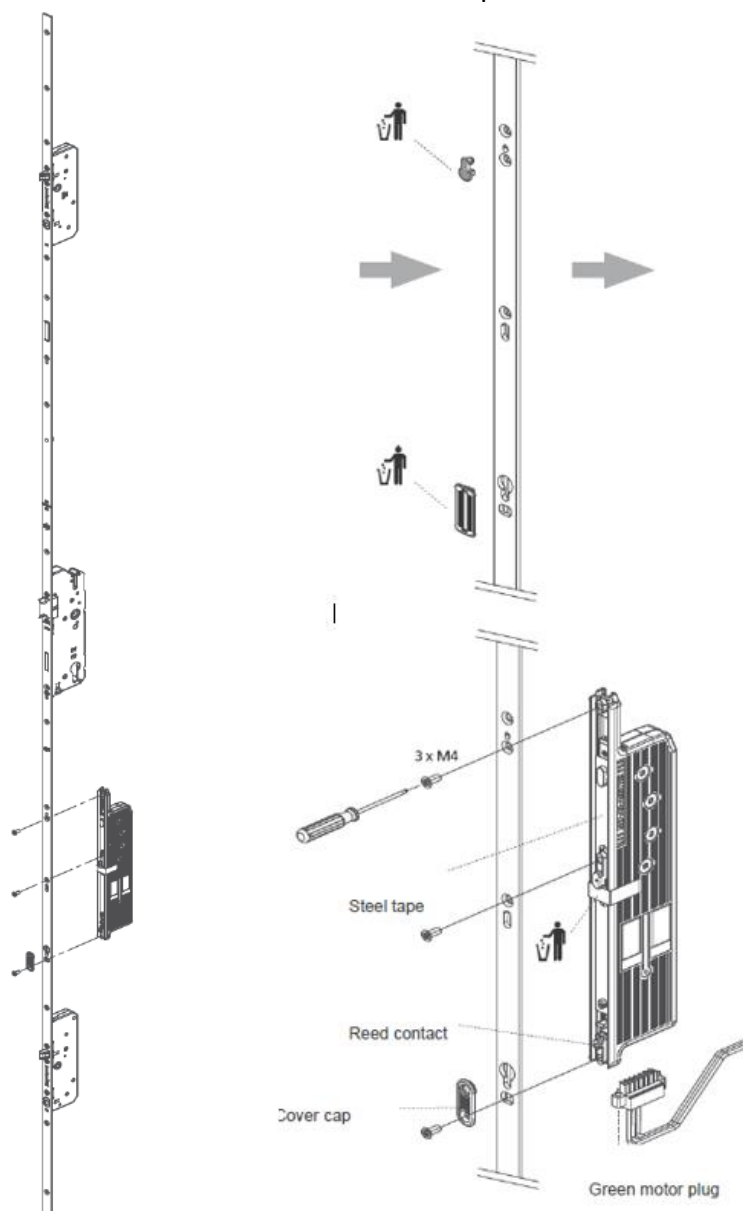
hansen

Installation notes

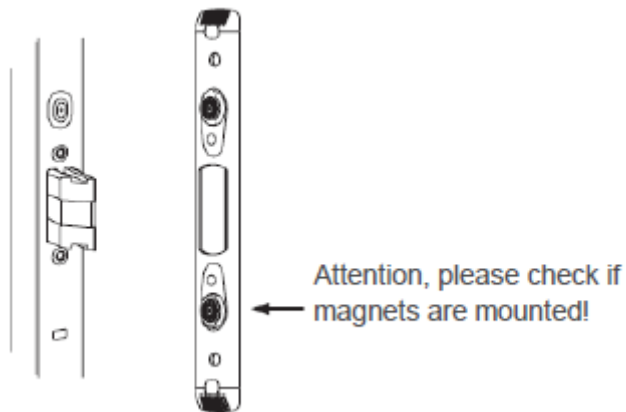
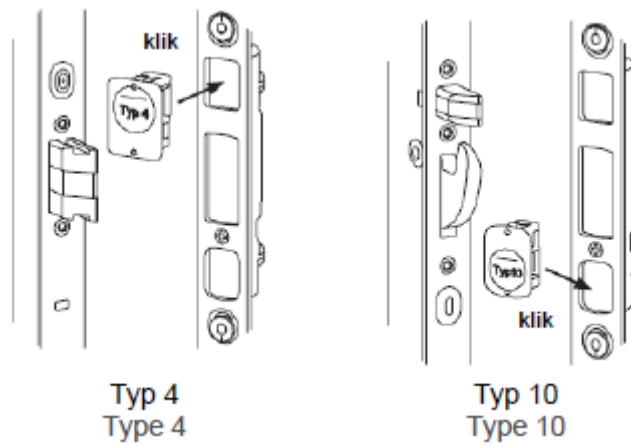
Installation Motor drive

The autosafe 833 can be upgraded to an autotronic 834 with motorised unlocking by mounting a motor drive as follows:

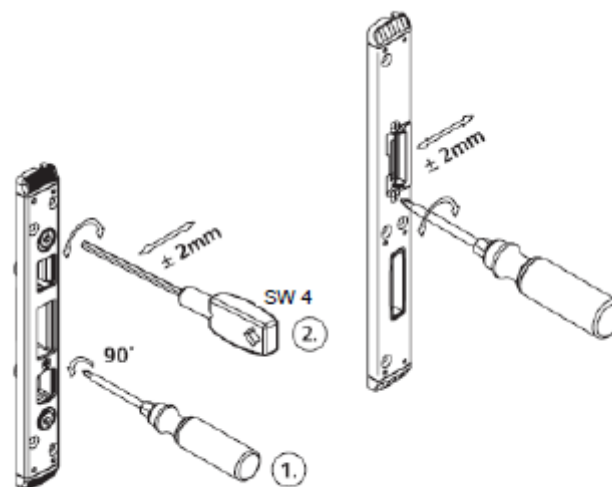
1. Remove the two black cover caps on the lock faceplate and the adhesive strip on the motor drive.
2. Place the motor drive behind the lock faceplate and make sure that the steel tape is correctly seated.
3. Now fasten the screws and the cover cap of the reed contact.



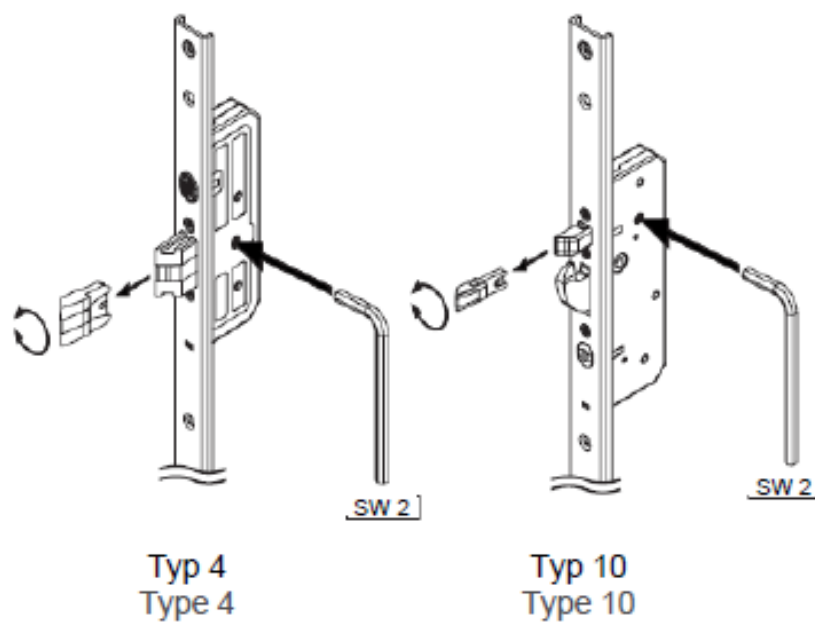
Standard/one-piece strike plate with magnet



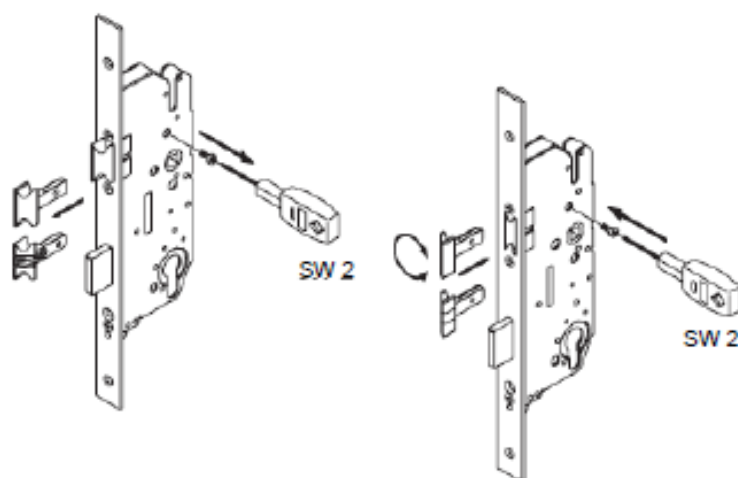
Adjustment of standard/one-piece strike plates



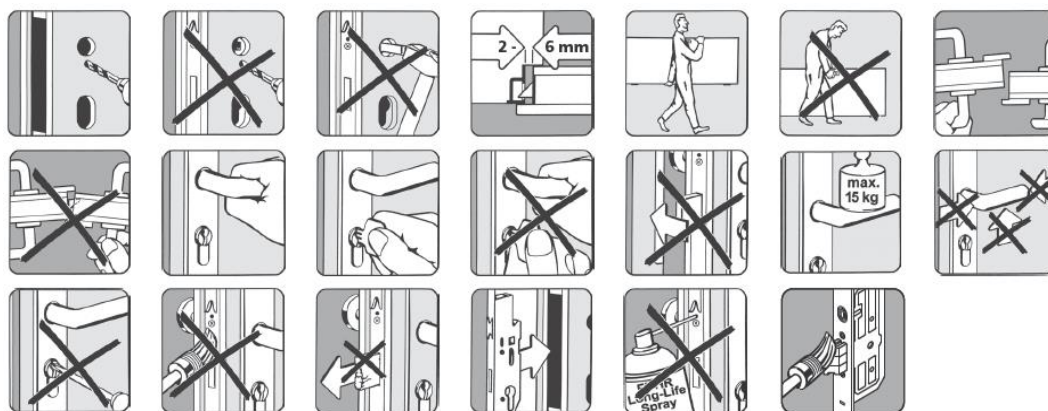
Latch changing type 4/10



Latch changing (change-over to soft-latch/reduced latch)



Installation and fixing instructions



Applicable for elements made of PVC, timber, aluminium or steel.

- Door leaves and frame must run in parallel throughout the entire height.
- Solely profile cylinders according to DIN 18252 have to be installed.
- Mortise for the lock cases as per drawing.
- Mortise for the profile cylinder and lever must be in alignment.
- Never drill the fitting when the lock has been installed.
- All contamination such as shavings as a result of drilling must be removed prior to the installation of the lock.
- Attach faceplate and strike plates with screws of a 4 mm diameter and a length matching the profile system.
- Fixing screws have to be positioned perpendicular to the faceplate.
- Observe exact position of the strike plates as per drawing.
- Observe by fixing the faceplate screws that the rods must have the room to move freely.
- For SKG-certified PVCu doors: Connect faceplate and strike plates to the reinforcing profile with at least two screws (Ø 4 mm).
- For SKG-certified aluminium doors: Attach faceplate and strike plates with the aluminium profile with screws of a 4 mm diameter, length matching to the profile system.
- For SKG-certified timber doors: Attach faceplate and strike plates with screws of a 4 mm diameter and 40 mm in length.
- Do not use force in the event of tightness or sluggish operation after the lock has been installed! The cause of the problem should be ascertained and remedied instead.
- Suitable protection must be applied to the door leaves during transportation even if the locks are bolted.

Owners and users of buildings are advised that the following maintenance work has to be carried out at least once a year:

- All movable and locking parts have to be checked for their correct function.

- When the door is open, lightly grease all protruding latches and bolts. Do not oil! Use only acid-free multi-purpose grease, e.g. FUHR contact grease (art. no. VNZ80077).
- Safety-relevant hardware should be checked for wear and tear and a continuous firm fit.
- Depending on requirement fixing screws have to be tightened or the damaged or worn parts exchanged for original parts by an authorized specialist.
- Only cleaning and care products that do not affect the hardware's anti-corrosion qualities must be used.

IMPORTANT: The points outlined above are intended as an addition to the FUHR Product Liability Information for door locks, see www.fuhr.de. Owners and maintenance building managers are instructed to comply with. In the event of non-compliance with these necessary instructions faultless operation of the locks cannot be guaranteed.

Fuhr multisafe 855 GL

Installation, operation and maintenance instructions

LOCKING FUNCTION

External: The locking and unlocking action is carried out by means of a double turn of the key. The latch is retracted via the transmission mechanism with the cylinder key.

Internal: See external, the latch can also be retracted by using the lever.

MAINTENANCE

Owners and users of buildings are advised that the following maintenance work has to be carried out at least once a year:

- All movable parts and locking parts have to be oiled and their working order checked.
- Safety-relevant hardware should be checked for wear and tear and a continuous firm fit.



hansen

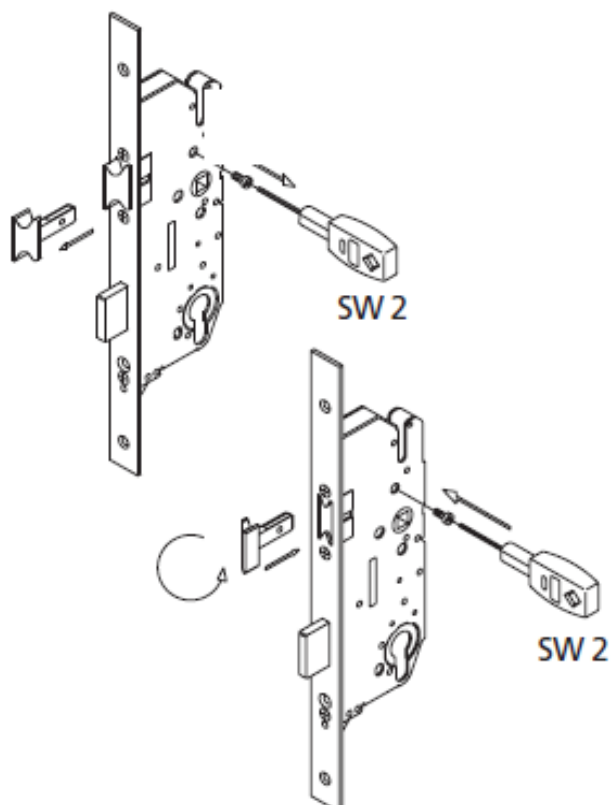
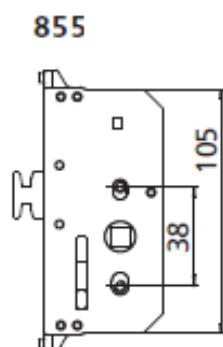
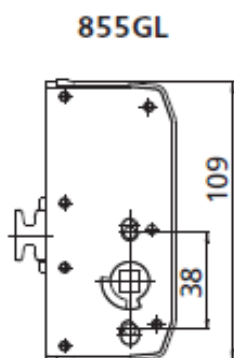
- Depending on requirement fixing screws have to be tightened or the damaged or worn parts exchanged for original parts by an authorized specialist.
- Only cleaning and care products that do not affect the hardware's anti-corrosion qualities must be used.
-

IMPORTANT: The points outlined above are intended as an addition to the FUHR Product Liability Information for door locks, see www.fuhr.de. Owners and maintenance building managers are instructed to comply with. In the event of non-compliance with these necessary instructions faultless operation of the locks cannot be guaranteed.

Installation and fixing instructions

restrictor lock, retrofitable

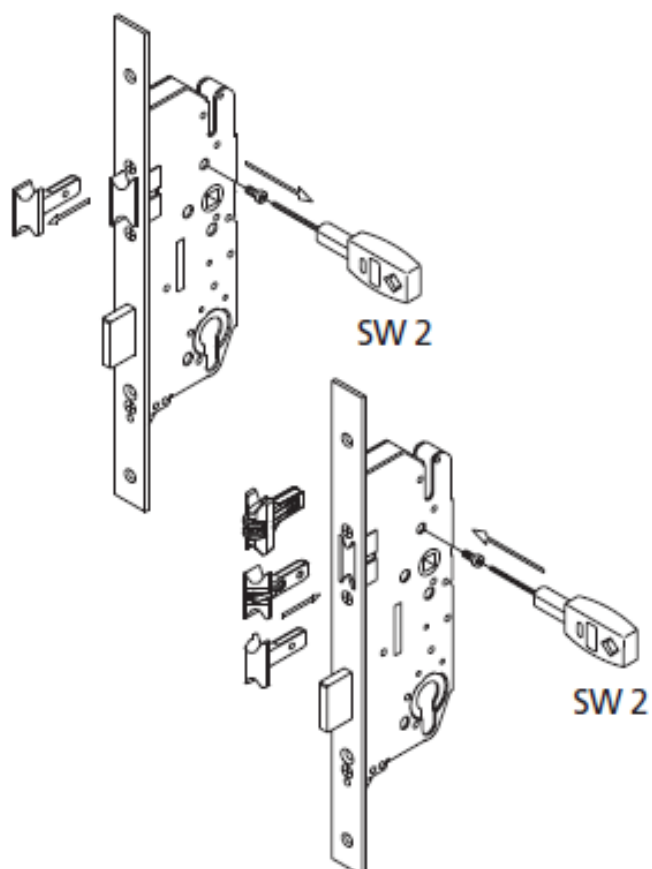
latch changing



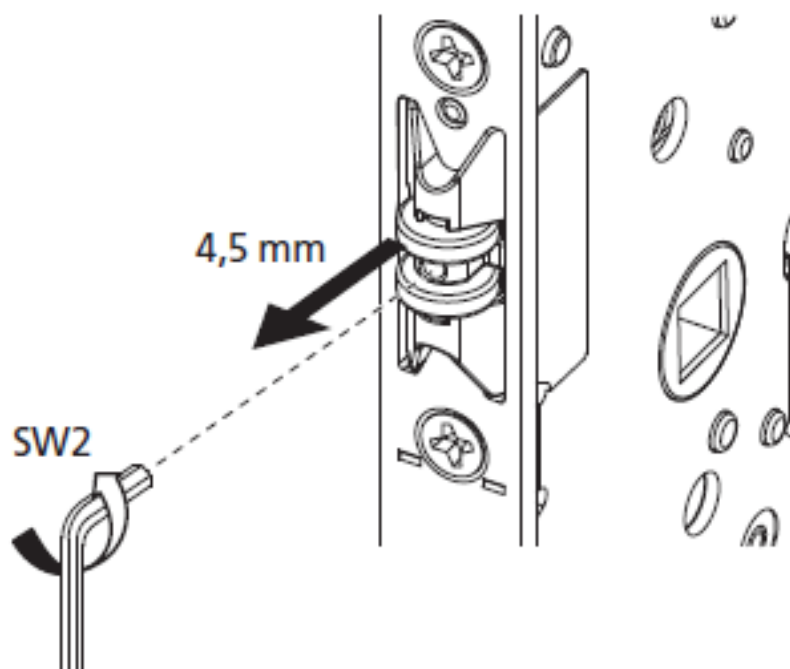


hansen

change-over to soft latch/roller latch/
reduced latch (855GL)



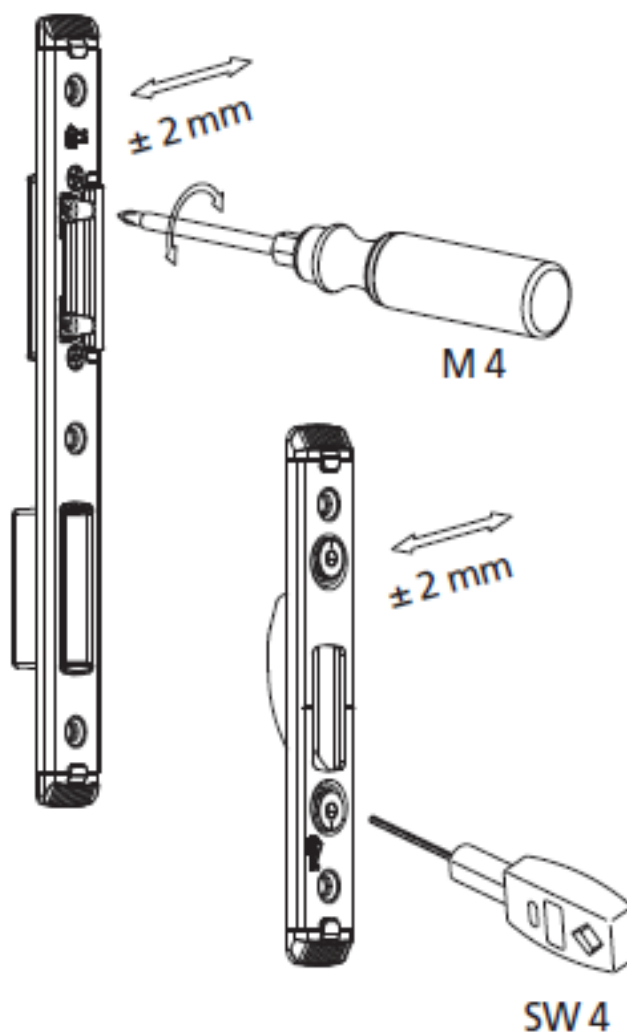
adjustment of roller latch (855GL)





hansen

adjustment of strike plates/one-piece strike plates





hansen

3. Windows fittings maintenance instructions



Sash installation and removal

Turn-tilt and turn double sash type

Preparing the sash:

- (If there is a fail-safe device, disconnect it.)
- Put fitting into the “tilt” position. This releases the central anchorage point.
- If Sash Hinge Rail FLS.SE is used, the height adjustment screw must be removed from the corner hinge before installing the sash.



Please note: Window builders must ensure that hinges and their anchorings are designed to support the expected loads and are professionally mounted.

Install sash at the bottom

See figure: Corner and Sash Hinges

- Open the corner hinge brackets (4) 90° .
- Lower sash onto the corner hinge brackets (4):
- Insert bolt (2) in the sash hinge top hinge point while inserting the bolt (3) in the sash hinge groove at the same time.
- If present, fit the sash hinge rod (1) into the slot on adapter

plate.

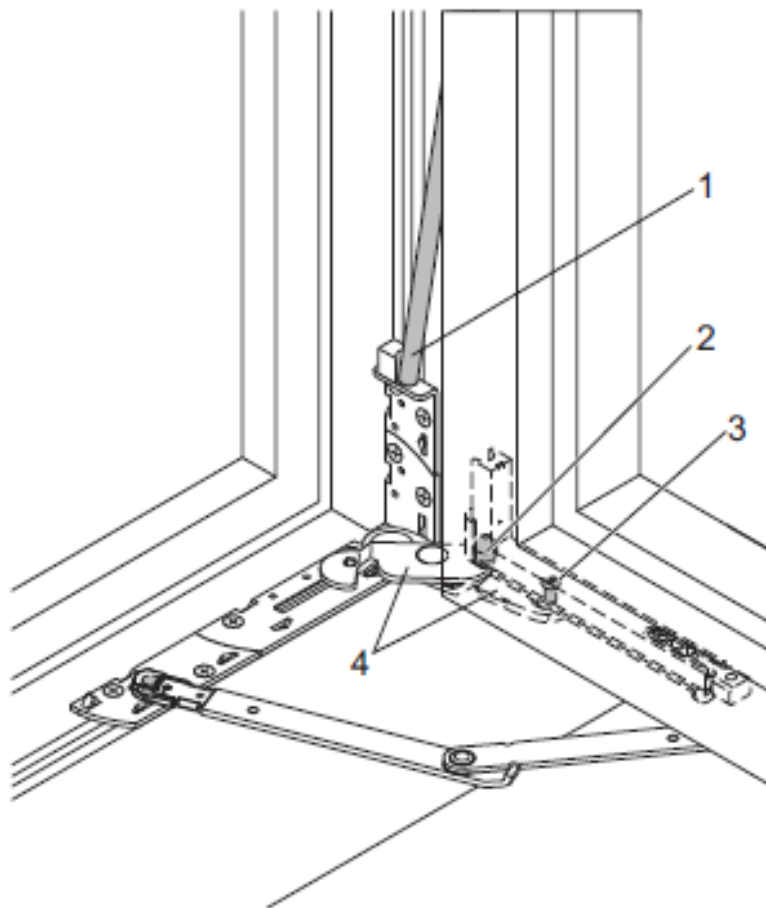


hansen

- If there is a Turn Limiter DB.SE:
- Place the turn limiter arm on the retainer pin, so that the stop spring clicks into place behind the retainer pin.



Warning! Risk of damage to the corner hinge. The corner hinge brackets must not bear the sash weight on their own. If Sash Hinge Rail FLS.SE is used, it must bear the weight of the sash. If necessary, readjust the sash hinge rail using the height adjustment.



Corner and Sash Hinges

Engaging the sash at the top

See figure: Shear S...SE

- Pivot mount securing device (1) out by 90° .
- Open shear 90o and place over the retaining bolt (4) on the top rod.
- Press in the shear bolt (3) into the opening in the counter bracket.
- Press the hammer head bolt into the elongated hole on the top rod. The shear arm should be flush with the top rod.
- Swivel the mount securing device (1) into position by hand, so that the stop spring (2) clicks into place.
- Set fitting to “Turn” position. Then check whether the shear is securely fastened to the top rod and the sash hinge to the corner hinge.
- Close the window.



Note: For the “turn double sash” version it is possible to use a turn hinge instead of a shear in case of low sash rebate heights (FFH), depending on the profile system. These frame parts are identical in their function and installation.

Disengaging sash at the top

See figure: Shear S...SE

- Unlocking the mount securing device (1) of the shear:
- Press down the stop spring (2) with a screwdriver while swivelling the mount securing device (1) outwards 90o at the same time.



Warning! Risk of Injury. The sash can fall out and cause injuries if the shear and top rod are not securely fastened. It is important to ensure the stop

spring is firmly in position.



The mount securing device (1) must be pivoted by hand - without the use of tools, such as a hammer, screwdriver, etc. - such that the safety spring (2) detents.



hansen

Function test

Turn-tilt type

See figure: Function test turn-tilt window

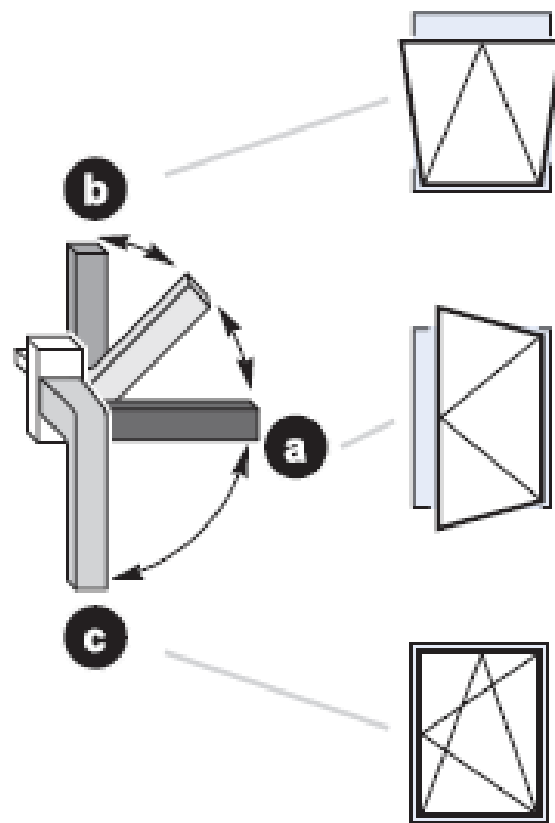
- Place the handle and operate once as follows to release the central fastening.
 - Push the handle down (c). The window is closed.
 - Move the handle to the central position (a). The window is unlocked; the sash can now be opened fully.
 - Close sash. Push the handle up (b). The window is unlocked; the sash can now be tilted.



Please note: Initial actuation is not as easy as actuation in normal operations. A clicking noise will be heard during actuation. Keep the window closed during actuation.



hansen



Function test turn-tilt window

Turn double sash type

See figure: Function test turn double sash window

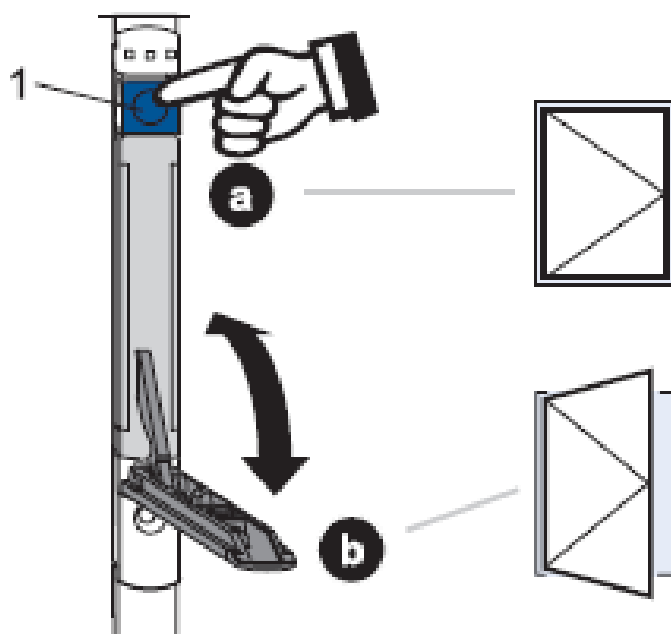
- Actuate the handle as follows to release the central fastening.
- Press the unlocking button (1) and press the lever down to its limit position.
- The window is unlocked; the sash can now be opened fully.



hansen



Please note: When you lift the lever for the first time, the gearing is “unblocked” and coupling to the connected fittings is established. Thus, the initial actuation is not as smooth as in normal operations. A clicking noise will be heard during initial actuation. Keep the window closed during actuation.



Function test turn double sash window

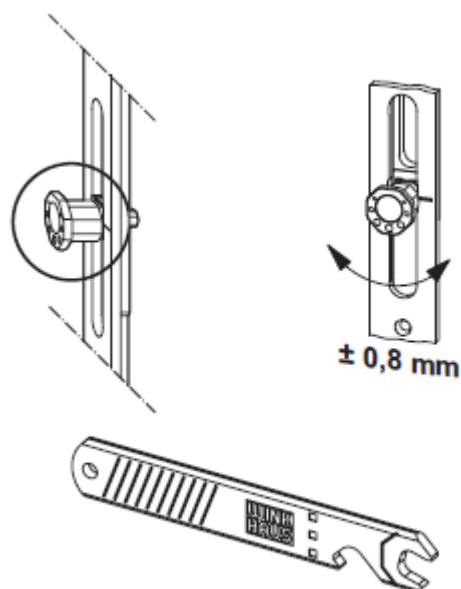


hansen

Adjustment options

Octagonal bolt

Regulate the contact pressure between the sash and the frame (+/- 0.8 mm) by turning the octagonal bolt. The adjustment can be carried out by means of the Winkhaus adjustment key (V.SCH.ACP-S) .



Octagonal bolt

Shears

The sash is raised and lowered by adjusting the shear slideway. The sash can be raised 2.5 mm and lowered 1.5 mm.





hansen

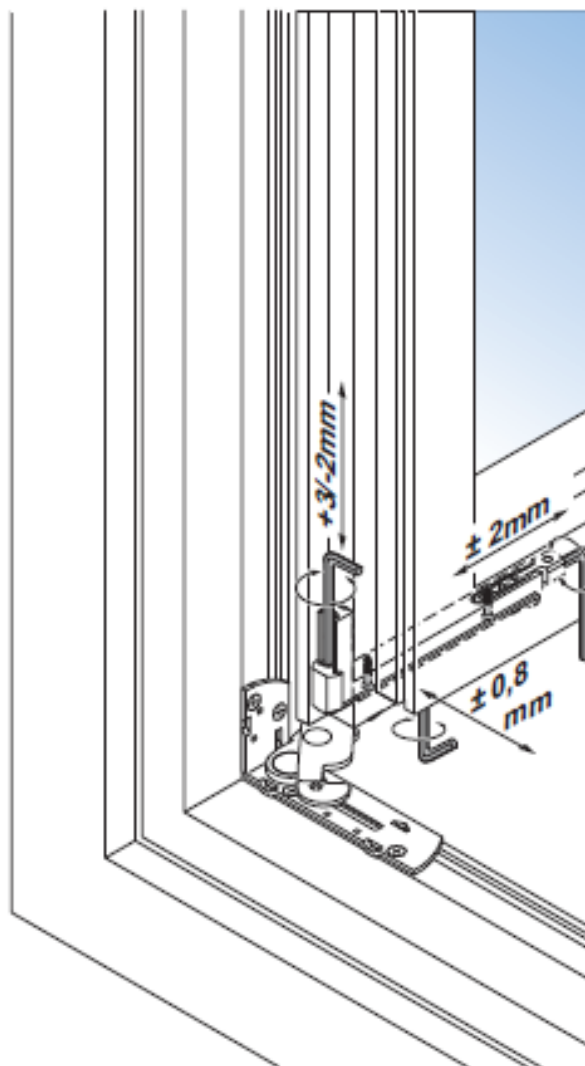


Shears

Corner hinge up to a sash weight of 100 kg

Height adjustment (+ 3 mm / -2 mm) and side adjustment (+/- 2 mm) for the sash hinge.

Pressure adjustment: +/- 0.8 mm



Corner hinge up to a sash weight of 100 kg



hansen

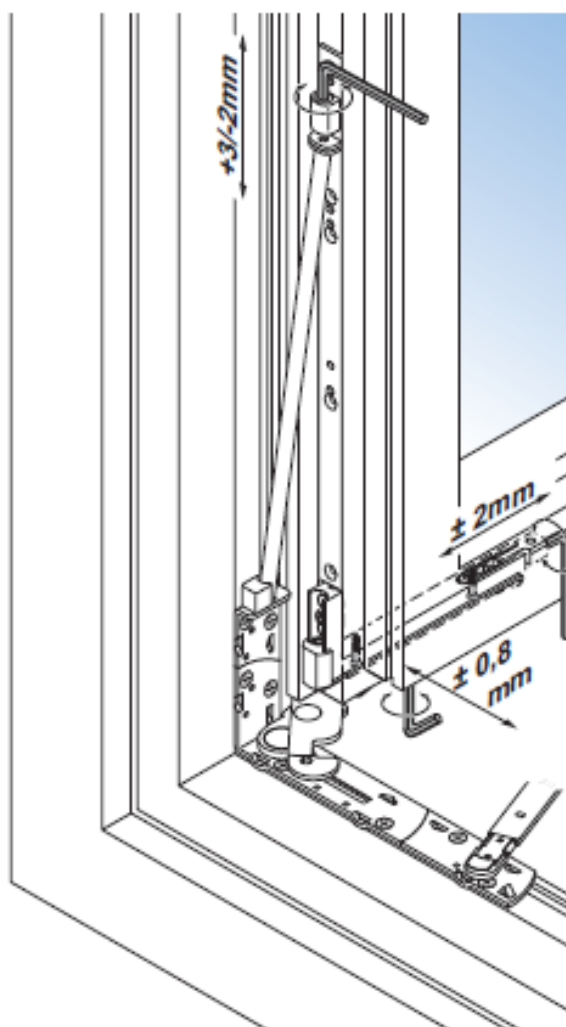
Corner hinge more than 100 kg sash weight.

Height adjustment (+ 3 mm / -2 mm) and side adjustment (+/- 2 mm) for the sash hinge.

Pressure adjustment: +/- 0.8 mm



Note: The sash hinge adjusting screw must be removed first. Loads are transferred by the Sash Hinge Rail!



Corner hinge more than 100 kg sash weight.



hansen

Adjustment and maintenance

Dual/triple function element

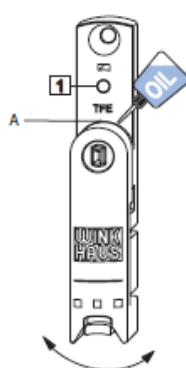
DFE/TFE activation

The DFE/TFE element is supplied in the neutral position. Please proceed as follows:

Drive in the protruding pin to fix in place (1).

Non-handed by swivelling out the lever once only.

Dribble a few drops of oil (free of resin and acid) onto lubrication points.

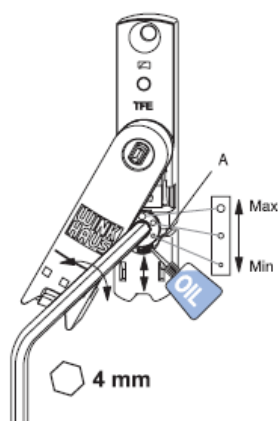


DFE/TFE activation

TFE – Retaining force of balcony door catch

Adjusting the holding force by re-setting the eccentric cam with a 4 mm Allen key.

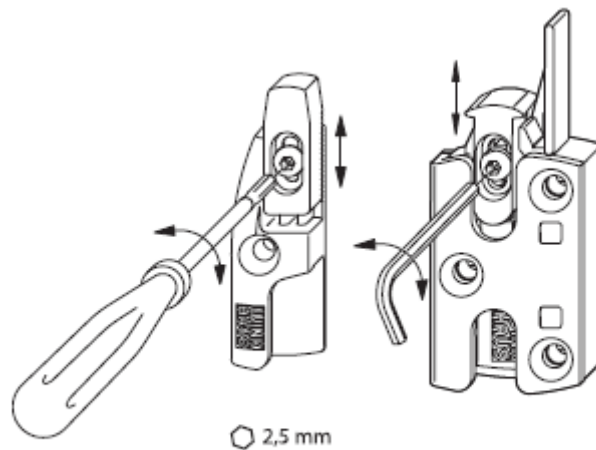
Dribble a few drops of oil (free of resin and acid) onto lubrication points.



TFE – Retaining force of balcony door catch

Frame part DFE/TFE

Height adjustment (+/- 3 mm) for sash support plate.
Each time fittings are adjusted, the DFE/TFE height setting should also be checked using a 2.5 mm Allen key.



Frame part DFE/TFE

Maintenance

Lubrication points

See figure: Overview of lubrication points
The figure shows the location of possible lubrication points which should be lubricated at least once a year.
Positions A, C, D = lubrication points relevant to function.
Position B = safety-relevant lubrication point



hansen



Please note: The fitting schematic shown adjacent does not necessarily match the existing fitting. The number of locking positions will vary depending on size and type of the window sash.



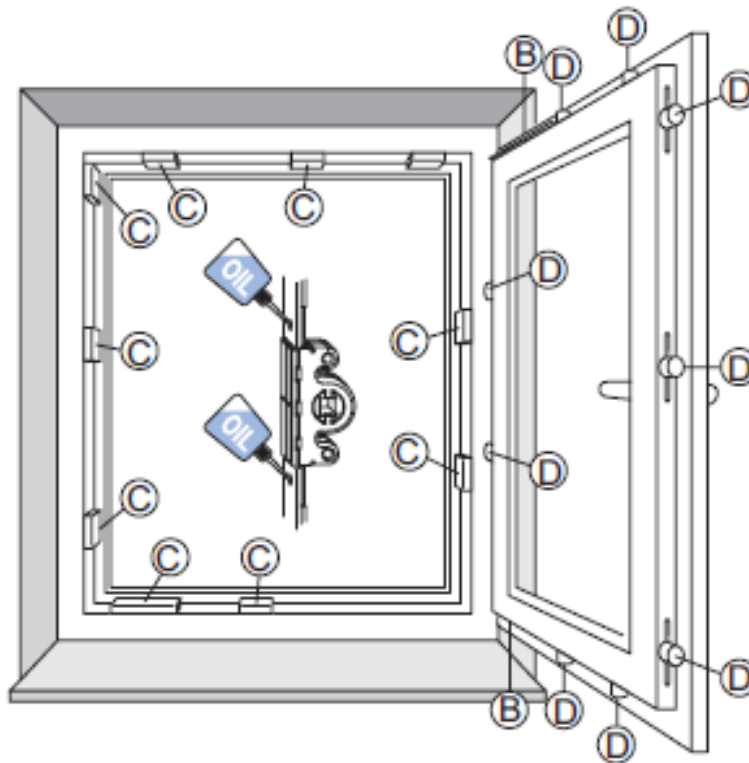
Attention! Risk of injury. The window could fall on removal and thus injure persons. Do not remove the window for maintenance.

Keeps

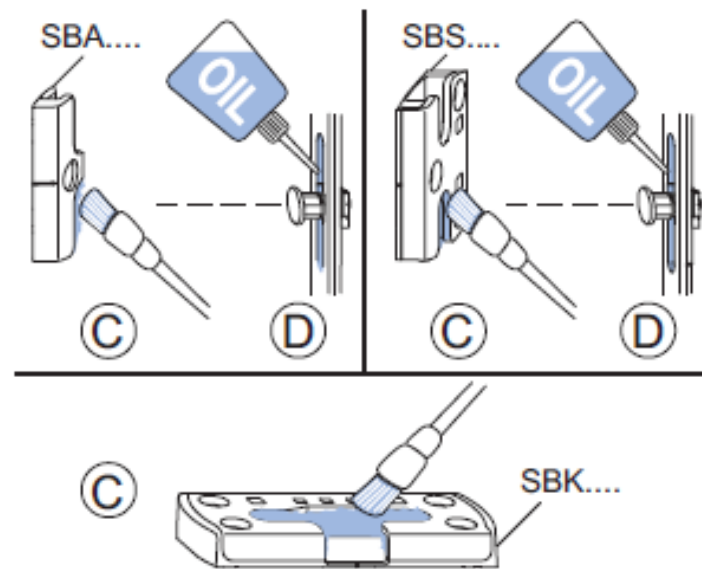
See figure: Lubrication points

To keep fittings running smoothly, you must lubricate the keeps once a year.

- Lubricate the keeps (C) at the run-in side with technical Vaseline or any other suitable grease.
- Coat the running surfaces of the locking bolts (D) with an oil that is free of resins and acids.



Overview of lubrication points

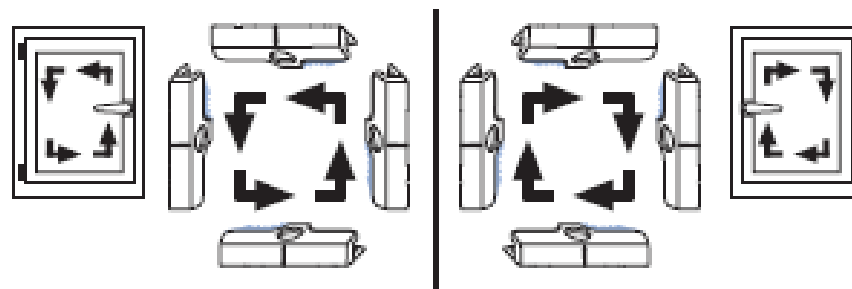


Lubrication points

Ascertaining the run-in sides

See figure: Run-in sides

- Left-handed window; handle right
- Right-handed window; handle left



Run-in sides

Lubrication points

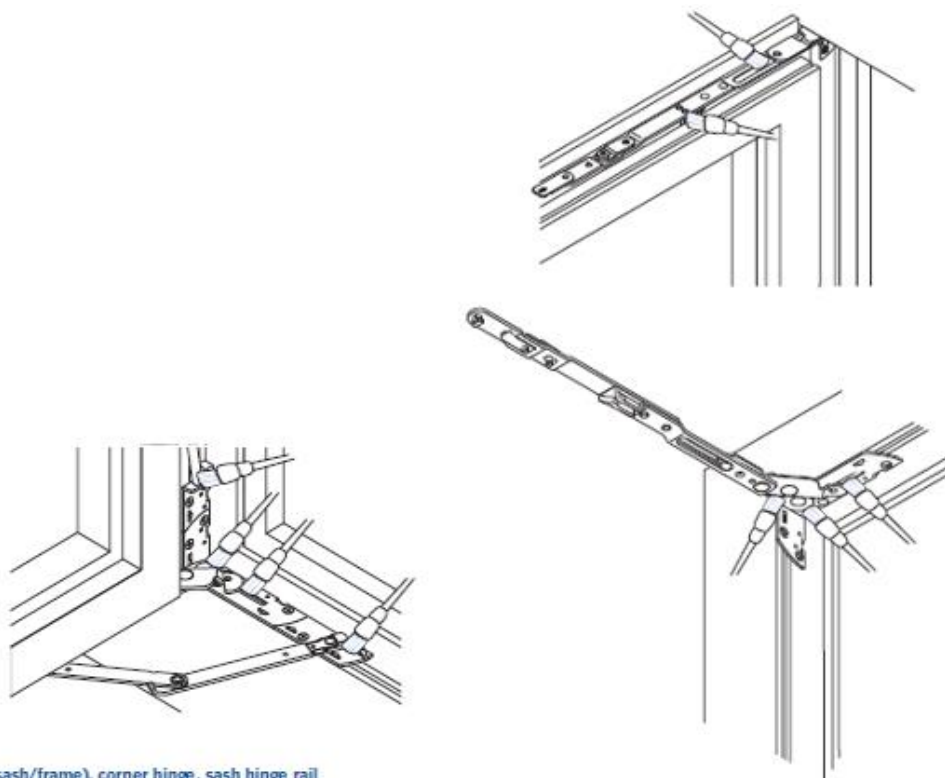
Shear and corner hinge

See figure: Shear (sash/frame), corner hinge, sash hinge rail
Fitting parts are to be tested regularly (at least once annually or semi-annually in school and hotel construction) to ensure they are seated firmly and checked for wear. Fastening screws are to be retightened and parts replaced as necessary. Their functionality is to be retested afterwards.

All moving contact points on the shear and the corner hinge should be greased with a suitable lubricant on a yearly basis.
Coat lubricating points with non-resinous, non-corroding grease.



Attention! Risk of injury. The window could fall on removal and thus injure persons. Do not remove the window for maintenance.



Shear (sash/frame), corner hinge, sash hinge rail