



Cleaning & Maintenance

All aluminium products from NorDan



Cleaning

The product should be cleaned regularly in order to preserve its quality. Clean products ensure an attractive appearance, longer durability and better performance.

- Do not use alkaline substances! Both aluminium profiles and glass are sensitive to alkaline substances and should never be subjected to the influence of such substances.
- If anodised or painted aluminium profiles and/or glass get in contact with for example cement water or finishing mortar, it is important to wash it away with fresh water, sponge or cloth.
- Do not use detergents with polishing additives or do not scrub with for example scotch-brite, since there is a great risk of mechanical damage. The products are best cleaned with fresh water and a sponge, however neutral detergents may be used.

Maintenance

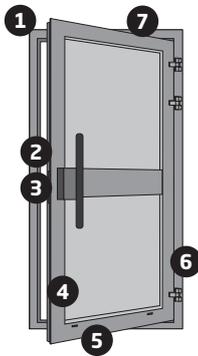
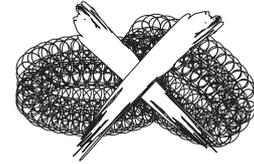
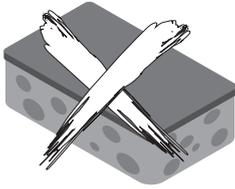
Regular checks and adjustments should be performed in order to ensure good performance and long service life.

- Moving parts of fittings and sliding elements should be lubricated slightly so that they do not jam.
- Ensure that aluminium guide rails in outward opening vertically and horizontally-hung so called gliding windows are clean and slightly lubricated with acid-free white petrolatum.
- Screw in fittings shall be checked so that they are tightened and that the position of the fittings is correct.
- In the case of construction elements - facades, windows, doors and roof glazing elements - ensure that the draining holes are not clogged, the glass seals and rubber seals are tight in the corners, the opening parts are supported correctly, and the covering profiles are fastened.

Interval	Maintenance
at least annually*	Check that hardware components are firmly seated and examine them for appearances of wear and tear. If necessary, tighten fixing screws and get a specialist company to replace worn components.
* every six months for school and hotel buildings	Lubricate all moving and locking points of the hardware, and check for faultless functioning

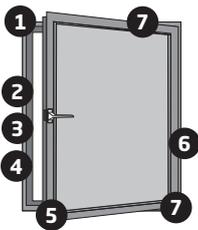
Galvanic corrosion

Avoid using materials that could initiate galvanic corrosion in aluminium profiles. Avoid using fasteners that could cause galvanic corrosion when installing solar shading, signs, etc.



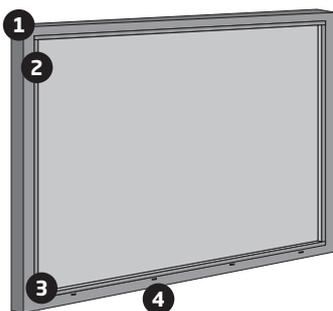
Entrance door

1. that doors can be closed and locked without problem.
2. that locks are lubricated and operate smoothly.
3. that fittings and locking components are securely tightened.
4. that glazing seals are well sealed at corners.
5. that drainage/ventilation holes for glazing units are not clogged.
6. that rubber rebate seals and brush seals are clean and undamaged.
7. that door closers are correctly adjusted.



Openable window

1. that windows can be closed without problem.
2. that screws on fittings and locking components are tight.
3. that sliding fittings are lightly lubricated.
4. that sliding blocks are fitted between frames and sashes.
5. that glazing seals are well sealed at corners.
6. that centre seals and rebate seals are clean and undamaged.
7. that frame bottoms are clean and drainage holes are not clogged.
This also applies to drainage holes in the underside of window sashes.



Fixed window

1. that the fixed window is undamaged and does not leak.
2. that glaslist are securely clipped in place.
3. that glazing gaskets are well sealed at corners.
4. that drainage/ventilation holes are not clogged.

Condensation

Internal condensation of the glass

You might be surprised that, despite the fact that you have super-efficient Hel Aluminium windows and doors in your house, you are still experiencing some condensation on the internal surface of your glazing. Normal living activities within the house (even breathing!) produce quantities of moist air and, in a property where all or most of the draughts have been eliminated thanks to your new windows, this air will alight on the internal surfaces of your house. Whilst it will not show up on well insulated walls (if it does, you have a serious problem), it will be obvious on the colder glass surfaces, especially those on outside walls. If you are cooking in the kitchen, for instance, and you do not have an extractor fan, then the whole surface of your window will steam up. In inhabited bedrooms, condensation is most commonly found at the bottom of the glass early in the morning but disappears as the house heats up and people start moving about. Condensation can be reduced by leaving the window tilt open to encourage a through-flow of air to help dissipate the moisture. Regular and abundant ventilation will prevent the occurrence of condensation water.

A quick wipe with a soft cloth or paper kitchen roll will remove the condensation - and clean your glass at the same time!

External condensation of the glass

People are often surprised to see external condensation on double or triple glazed windows, expecting the cause is a fault with the unit. Condensation on the outside of windows can be particularly noticeable

during the Autumn. External condensation occurrence actually demonstrates the effectiveness of the glazing. Previously, where condensation occurred internally the "cold spot" of the sealed unit is now external and proves that the heat is being retained rather than lost through the double or triple glazed unit. The condensation will naturally evaporate once the atmosphere warms up.

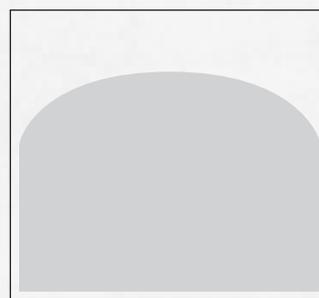
The phenomenon is a natural and predictable event caused by the outer pane of the glazing being colder than the glass that it replaced. With single glazing and older style double glazing a larger proportion of heat was lost to the outside through the glass. With modern low e glass products more of the heat is kept inside and the outer pane is not heated as much.

Moisture condenses out of the air onto a cold surface that is said to be below the dew point. The dew point varies with the air temperature and the amount of moisture it contains. In spring and autumn in particular the glass temperature can fall to a low level during the night and the dew point can be comparatively high in these seasons. The glass is more often likely to be below the dew point in these conditions and the moisture condenses onto the surface.

NB! If you find the inside of glass units misting up, contact your Dealer



condensation outside



condensation inside

Thermal breackage

Avoid thermal cracking

Glass can crack when exposed to stress. There are five different types of tension which can cause glass to burst:

1. Mechanical bending stresses - from the wind.
2. Thermal voltages - absorption from the sun rays.
3. Impact voltages - from flying objects, eg balls, hail.
4. Tension tensions - from the glass's own weight.
5. Torsional stresses - from the building or window frame.

Glasses designed for windows are usually only designed to handle wind loads.

Therefore, you must pay attention to the following to avoid cracks due to thermal voltages:

- The risk of thermal cracks is greatest in glass that absorbs a lot of solar energy, for example. window in vulnerable south. Avoid mounting dark blinds or blackout blinds. Avoid to put dark objects, such as a black pillow in the sun on the inside of the window, because it increases the absorption from the sun rays.

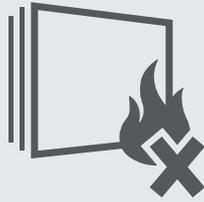
- Partial shading of windows from awning, blinds or blinds that sit too close to glass, signs or stickers on the glass, hot or cold air that is directly directed against the glass increases the thermal tension in the glass.

- Sunscreen film on glass will increase the thermal stresses when the glass is illuminated sun.

- Different types of glass (hardened versus flat glass, clear versus colored) have different absorption rates and thus also different properties to cope with thermal stresses. Thermal tempered glass tolerates loads significantly better than ordinary glass.

What happens is that at high temperature differences between the hot surface of the glass surface and the ones the colder edges expand the center zone so much that the tensile stresses that occur alongside the edges risk cracking in plain glass.

Avoid fireplaces near glass.



Corect handling guidelines for fire-resistant products

Fire resistant glass units are multi-laminated, made of float glass and assembled with a clear intumescent interlayer – “gel”.

The interlayers are sensitive to the following:

1. UV radiation.
2. Water.
3. High temperature.

In order to protect the fire resistant glass the following guidelines and procedures should be followed:

Protection from water

- The edges of each glass unit are secured with a special aluminum tape which protects against dampness and water.
- **The tape must not be damaged!** Please be careful during the whole process: during transportation, storage and installation.

Protection from high temperature

- Safe temperature, Pyrobel 17N: Above -40°C and below 50°C
- Safe temperature, Contraflam 60-3: Above 14°F (-10°C) and below 113°F (45°C)
- Safe temperature, Pyrobel 25: Above -40°C and below 50°C.
- Do not install in a place where the temperature exceeds 50 degrees Celsius (e.g. radiators, halogen lighting etc).
- Particular attention should be paid to the double-glazing units for external constructions, when the outer pane is of a highly absorptive type (e.g. coloured glass). In such cases, please provide full information regarding the parameters of the double-glazing unit, it's construction, place of installation, possible “blinds” etc. to enable calculations regarding the temperature for fire resistant glass unit.

Transportation and storage

- Transportation must be carried out in a “covered” truck. Fire resistant glass can not be exposed to UV radiation, high temperature or dampness. During transportation, it is necessary to make sure that the tape on the glass edges is not damaged. Please examine the tape is not damaged during the acceptance of goods before signing the CMR!
- Storage. Fire resistant products should be kept in a dry place in vertical position and protected from direct sun.

General safety

Regardless of what material windows and doors are made from, or how they operate whether opening in or outwardly, there are general safety recommendations designed to avoid accidents. Please read all the Health and Safety guidelines and ensure everybody follows them.

CLEANING

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

OPERATING

- Until you open the window you may not realize what the weather is like, so always take a firm grip of the handle when opening, and again when closing, in case of a sudden gust of wind.
- Only use window handle(s) when opening and closing, and always make sure your other hand, and other people's hands, will not get trapped in any of the sides of the window sash (bottom, sides and top).
- Never open outward opening windows so much so that there is a risk of children on bikes (for instance) or people walking or running into it.

TAKE NOTE

- Many types of reversible outward opening window ironmongery include a "scissor" type action. To avoid the risk of injury never encroach the ironmongery with a finger or hand!
- Never leave a window in a fully open, or a reversed cleaning position- not even for a second! Apart from inviting unwelcome guests, there is also the danger of a toddler falling out. Always use the recommended day-to-day ventilation position.
- Close all windows and doors in strong to gale force winds to avoid any damage caused by airborne debris, and ingress of bad weather. Leaving windows and doors open in bad weather is a common cause of damage to the product, and injury to people.
- Malfunction carries a risk of injury! Do not continue to operate the window, but make it safe and have it repaired immediately by a specialist window company.

