

# Koffman Windows Owner Maintenance Manual

## Operation

Your windows are fitted with brand hardware. Please make sure that the handle is always vertical at the top, or either horizontal or vertical at the bottom.

Other positions may cause handling malfunctions (excluding fittings with gap ventilation). For instance, the window sash could still turn when it is already tilted.

Don't panic! The hardware's stay arm can hold the window firmly and reliably at the top. Turn the handle to the tilt position, and press the sash back into the frame. Afterwards turn the handle from the tilt to the closed position.

Now you can open and close the window in the usual manner.

Never use excessive force to operate the handles/keys/hinges or any moving parts.

## Cleaning PVC-U profiles

Window frames with normal soiling can be easily cleaned with lukewarm water and a little washing up liquid. Under no circumstances may these profiles be cleaned with abrasive agents or dry dust cloths or similar.

Heavily soiled frames can be cleaned effortlessly with a special cleaning agent. Please contact supplier.

Clean and dry windows should be conditioned with special protective liquid supplied with your windows. Additional supplies can be purchased directly from Koffman Limited or their representative.

This needs to be applied min twice a year to all uPVC profiles.

## IMPORTANT

All cleaning and polishing agents containing solvents may not be used, specifically nail varnish removers or so-called "plastic cleaners".

## Cleaning aluminium surfaces

Aluminium must be cleaned at intervals if it is to retain its decorative look. After the components have been installed and before the official acceptance the windows must be subjected to basic cleaning. Clean cloths or sponges must be used for this purpose.

Anodised surfaces are cleaned with warm water to which a chlorine-free cleaning agent (e.g. washing-up liquid) has been added. The windows should be cleaned only with a cloth or sponge and water. In the case of heavily soiled surfaces we recommend special cleaners for anodised surfaces.

Subsequently polishing the aluminium with a dry, soft cloth yields a uniform surface free of streaks.

Powder finished components are cleaned of slight soiling in the same manner as anodised surfaces. After cleaning the components should be rinsed well with clear water. Heavily soiled components require special cleaning agents, e.g. finish restorers and polishes from the automotive industry. Afterwards dry off with a leather or dry cloth.

## IMPORTANT

Do not use acids, alkaline cleaners, scouring agents, pot cleaners, lyes, mortar, lime water, cellulose thinner, or similar.

## Gasket care

Also, the peripheral gaskets should be cleaned regularly of dust and other

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deposits. If a gasket should be pulled out of its receiving groove, you can press it back in with your thumb, starting at the retained section. Do not use sharp objects: they could damage the gasket.

### **Hardware maintenance**

Once or twice a year all moving parts in the fittings must be treated with a resin- and acid-free oil or grease. Hardware that no longer moves easily must be treated earlier. Silicone grease or spray can be used.

The hardware can be readjusted. This readjustment though should be left to the specialist, i.e. your window supplier. Only he knows exactly what to do.

### **Cleaning glass**

Glass is best cleaned with clear, warm water and a good chamois. If you apply too great a pressure, the gaskets may leave black stripes on the leather. If necessary, a little washing up liquid may be added to the water. Do not use abrasive care agents or agents containing solvents.

### **Glazing**

Unlike the old single glazing, you can see everything without distortion through your new insulating panes. This is the result of the particularly plane surfaces. Under certain angles, sunlight can refract in plane and parallel panes, and there is visible interference in the colours of the rainbow. This physical phenomenon is not a quality defect, and not therefore grounds for complaint.

### **Thermal insulation glazing**

Thermal insulation glazing consists of two or more glass panes. Between these panes there is dry air or a special gas. At their edges the insulating panes are provided with a special sealing compound that prevents air and moisture from entering.

The insulating properties are contributed solely by the enclosed gas, which has a low thermal conductivity.

### **Note on retrofitting louvers, roller blinds, and pleats:**

Air can circulate adequately between the window panes and indoor shades when there is an adequate gap between them.

This also serves to prevent the buildup of heat that could cause damage to the glazing. Please consult the fitting instructions issued by the supplier.

### **Why glass mists over**

In recent times there has been the occasional witnessing of a phenomenon that earlier was very rare indeed:

condensate on the weather side, i.e. the outside of the glazing. When obsolete insulating or single glazing has been replaced with a modern thermal insulation system, there are often disappointed or annoyed reactions when this phenomenon occurs and is seen to be a defect. Rightfully so? To answer this question, we must take a closer look at this phenomenon.

### **Condensate on the outside pane**

For windows to mist over both of the following must apply:

They must be colder than the ambient outdoor air, and this air must be saturated with moisture. Air can absorb only a certain quantity of moisture, and the

hotter it is, the more it can absorb. When this saturated air therefore comes up against a cold pane, it cools, and part of the moisture it contains liquefies on the surface: the water condenses on the pane, and the pane mists over.

In regions with high air humidity, for instance near water courses, it can happen in the early hours of the morning that the air heats up faster than the window pane. Water then condenses on the outer pane. This is basically no different than dew forming on grass. Above all roof windows are affected. Because they can “see” into the cold night sky, roof windows cool faster at night than vertical panes.

So why didn't this happen to the “old” insulating glazing? The answer is simple. The old pane exhibited considerably poorer thermal insulation, so a lot more heat was lost from the heated interior. The outer pane was therefore heated as well – at the cost of living comfort and a huge heating bill. This no longer happens with thermal insulation glazing.

The insulation between the inside and outside panes works, the heat stays indoors – and the outside pane stays cold. This means there is temporary condensation as described above.

### **Condensate on the inside pane**

On the other hand, condensate on the inside pane is a far rarer sight on modern thermal insulation glazing than on the old systems – for the same reason.

As a result of the enhanced thermal insulation the surface temperature of the pane is nearly as high as the temperature indoors. The panes then mist over only when the air contains too much hot water vapour, e.g. in the kitchen or the bathroom. So, there must be regular ventilation: otherwise excess air humidity can condense on the walls!

Further details can be found in 2.3.1 “Ventilation”.

Source: Bundesverband Flachglas (German flat glass association) and Profine GmbH.

### **Maintenance Records**

The owner must keep the record of all maintenance, repairs and adjustments and notify the supplier of any issues as soon as they arise.

Failure to adhere to maintenance requirements may shorten the life expectancy of the windows and doors and void the warranty.



