


## INFORMATION REGARDING YOUR NEW GLASS



Furthermore hints  
on cleaning and  
care

The background image shows a hand holding a white cloth and cleaning a glass surface. The glass is covered in white cleaning foam. The scene is set against a bright blue background.



## **Congratulations!**

Your new UNIGLAS® product is made of premium-quality glass, which is sure to give you many years of pleasure. Glass is one of today's most important building materials and is particularly flexible and versatile in use. Glass is a particularly robust and easy-care material.

Normal soiling that is properly removed at appropriate intervals is no problem at all for glass. Regular and product-specific care is generally important, as it maintains the long-term brilliance of this high-quality product.

We have compiled some basic information, hints and instructions for you about the care of your glass product.

And if any questions should still arise, your personal UNIGLAS® advisor will be pleased to assist you. You will also find your contact on the Internet at [www.uniglas.net/kontakt.html](http://www.uniglas.net/kontakt.html)



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## WINDOW CLEANING THE EASY WAY

As a fixed component of a building, glass is subject to natural and environmentally related soiling. Normal soiling should be removed from glass at appropriate intervals. Regular cleaning and care as well as the observation of the following instructions and hints help to maintain the durability of your glass.

### HINTS FOR PROPER GLASS CLEANING

- If there is still a label on the glass, remove it carefully. When doing so, make sure not to use any tools that may possibly damage the glass (cf. page 6).
- Regularly clean the glass surface with plenty of clean water and suitable cleaning agents such as e.g. vinegar, methylated spirits or a conventional glass cleaner. In case of heavy soiling, frequently replace the dirty water with clean water.

CLEANING OVERVIEW									
	Clean cotton cloth, soft sponge, window leather, silicone-free window squeegee	Microfibre cloth	Glass scraper, scouring agent, newspaper	Water with a dash of vinegar or methylated spirit	Conventional glass cleaning agents such as Ajax, petroleum ether or isopropanol	Cleaning spray such as Sidolin or similar, Radora Brilliant®	Cleaning vinegar, gall soap or lemon stone	Limescale remover, highly alkaline washing lyes	Cleaning agents containing ammonium chloride or ammonia
Smooth glass surfaces, float glass, toughened safety glass and laminated safety glass	■	■	■	■	■	■	■	■	■
Satinated, sand-blasted glass surfaces	■	■	■	■	■	■	■	■	■
Printed glass surfaces	■	■	■	■	■	■	■	■	■
Refined glass surfaces (easy to clean)	■	■	■	■	■	■	■	■	■
Antireflection-coated glass surfaces	■	■	■	■	■	■	■	■	■
Mirror	■	■	■	■	■	■	■	■	■
Patterned glass	■	■	■	■	■	■	■	■	■

- Use soft sponges, leathers, cloths and silicone-free rubber squeegees that are completely free from dirt and other foreign particles.
- Concrete or cement slurries, plaster and mortar must be immediately removed with care using plenty of fresh water.
- Persistent soiling such as e.g. paint or tar splashes or adhesive residues can be removed with petroleum ether or acetone. Cement residues, traces of silicone smoothing agent or similar stubborn streaks can be removed using Radora Brilliant® or conventional non-abrasive cleaning agents for ceramic cooking hobs in conjunction with fine industrial steel wool of type 00 or finer.
- Generally take care when using additional cleaning agents. Sealing profiles and silicone joints may be damaged by such ingredients, particularly in the edge areas of insulating glass.



Things you should absolutely avoid:

- The use of pointed, sharp metal objects such as e.g. razor blades, knives or glass scrapers. These can cause surface damage (scratches).
- The use of souring agents and unsuitable cleaning agents such as e.g. highly alkaline lyes, and solutions containing hydrofluoric acid and fluoride.
- The use of abrasive aids such as scouring pads, coarse steel wool, etc.
- The use of portable polishing machines. These lead to substantial wear of the glass and may cause optical distortions (lensing effect).
- Never clean glass windows with boiling water or with products intended for cleaning other glass materials.



## INTERFERENCE PHENOMENA

### WHAT ARE SIGNS OF INTERFERENCE PHENOMENA?

If several panes of float glass are arranged behind one another, as is the case in insulating glass, for instance, interference phenomena may arise in certain light conditions. These might be rainbow-type patches, stripes or rings, which change their position when pressure is exerted on the glazing.

These interference phenomena are of a purely physical nature and originate from the refraction of light and superposition effects. They are rare and always depend on the light conditions or position of the glazing and the resulting angle of lighting angle. If they do occur, then rarely when viewing from the inside, but rather in the reflection from the outside.

Such phenomena are rather not defects, but are rather proof of the absolute plane parallelism of the float glasses used, which then guarantee distortion-free vision.



## VENTILATION INSTEAD OF INTERIOR CONDENSATION

### HOW DOES CONDENSATE ARISE?

Steaming up (condensation) can be formed when moisturised air meets cold surfaces. The moist air cools down on the cold surface. As cold air can absorb less moisture than warmer air, causing it to fall below dew point. Hence, the moisture in the air condensates on the glass surface.

This phenomenon occurs particularly in rooms with a high level of air humidity. Modern, well-designed windows are far tighter than older window systems. This reduces heat loss, but also impairs the air exchange.

### HINTS FOR PROPER VENTILATION

- If possible, the room air should be completely exchanged four times a day, preferably by means of cross-ventilation. The warmer the outside air, the longer the ventilation period. In the winter months, two minutes may suffice, whereas ten minutes or more may be necessary during the summer.





- Permanent ventilation should be avoided during the heating period. The tilt position of the windows leads to the cooling down of the window reveal, which may cause mould formation. (Note: at a relative humidity of 50 %, water condensates at a room temperature of 10 °C, while mould can arise from 12 °C.)
- Such rooms should be thoroughly ventilated after showers, baths or cooking.

## VALUE RETENTION THE EASY WAY

Window frames, fittings, coatings or sealants are subject to a natural ageing process. In order to maintain the guarantee claims to prolong the service life of the insulating glass, the necessary maintenance work must be performed regularly and in due time. In particular the silicone joints and sealing profiles between the window frames and glass panes must be checked regularly. Because the penetration of water can only be permanently prevented if the seals are tight.



## EXTERIOR STEAMING UP

### HOW CAN GLASS STEAM UP ON THE OUTSIDE?

Have you experienced this, too? You have had UNIGLAS® | TOP Energy Saving Glass installed in your house to save heating energy. But after clear, cold nights, the new windows are steamed up on the outside in the mornings, which never happened with the old glass.

Now you will understandably be asking yourself why this happens and whether the cause is a product defect.

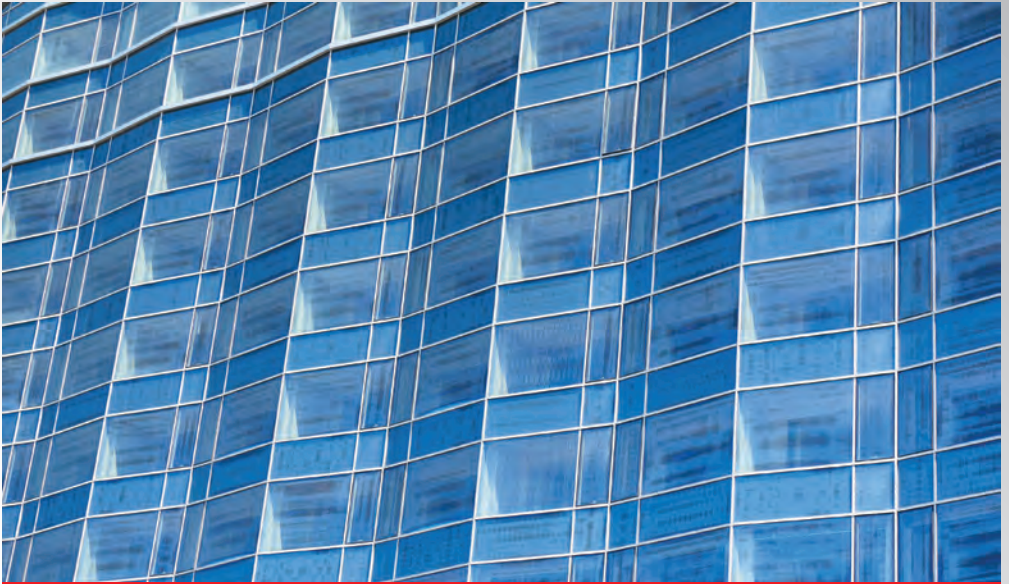
According to the laws of nature, each body and each component emits heat to its colder surroundings until temperature equilibrium is achieved. The clear night sky in the darker months is, for instance, much colder than the surface of the components. In windless conditions, the surface temperature of well-insulated windows drops below that of the outdoor air. If a high level of humidity also exists, then the temperature on the colder surface falls below the dew point of the air and condensation forms on your window panes.



A natural effect, which you can also notice on your lawn or on the car in front of the house.

But is such a formation of condensation attributable to a product defect? No, on the contrary. In the case of old insulating glasses, this effect does not occur due to the fact that they have inferior thermal insulation. Heat emissions from the building are lost through the windows. The outer pane is therefore unintentionally heated – forfeiting living comfort and consumed heating energy.

The better the thermal insulation of the insulating glass, the more probable the formation of external condensation. This is a sign of the superior quality of your windows. This means that the heat remains in the room and is hardly directed to the outdoor air. External condensation disappears as soon as the glass surface becomes warmer, for example from the sunlight.



## ANISOTROPIES

### WHAT ARE ANISOTROPIES?

Anisotropies are a physical effect on heat-treated glass such as toughened safety glass (TSG) or heat strengthened glass (HSG), resulting from the internal stress distribution.

A perception of dark-coloured rings, clouds or stripes in polarised light conditions or when observing through glasses with polarisation filter (particularly sunglasses), is possible and depends on the angle of vision.

Polarised light also exists in normal daylight. However, as daylight has different proportions of polarised light depending on the weather conditions, the time of day and the position of the sun, this phenomenon can be observed with various intensity levels.



## INSULATING GLASS EFFECT

### WHAT IS THE INSULATING GLASS EFFECT?

The space between the panes of an insulating glass window is hermetically sealed. The pressure conditions in this space between the panes correspond with the air pressure prevalent at the time of production. Atmospheric air pressure fluctuations, transportation to other altitudes and temperature changes cause the outer panes to 'bulge' inwards or outwards.

This means that, despite absolutely plane individual panes, distorted reflections inevitably arise. This effect depends on the shape and size of the window panes, the width of the space between the panes and on whether the product is double or triple insulating glass. In the case of triple insulating glass, the middle pane remains almost undistorted.

This phenomenon, which is caused by pressure differences, is physically related and unavoidable. At the same time it is proof of the complete tightness of the insulating glass unit.



## WETTABILITY

### WETTABILITY: DESCRIPTION AND CAUSE

Vacuum suction cups, product labels and cork pads required for transport purposes as protection against damage, and even the natural grease film on the human skin change the surface energy of the glass.

At these "contaminated" points, the size of the water droplets and the spreading of the water (= spreading behaviour) varies upon wetting the glass with water or steam as opposed to the untouched area.

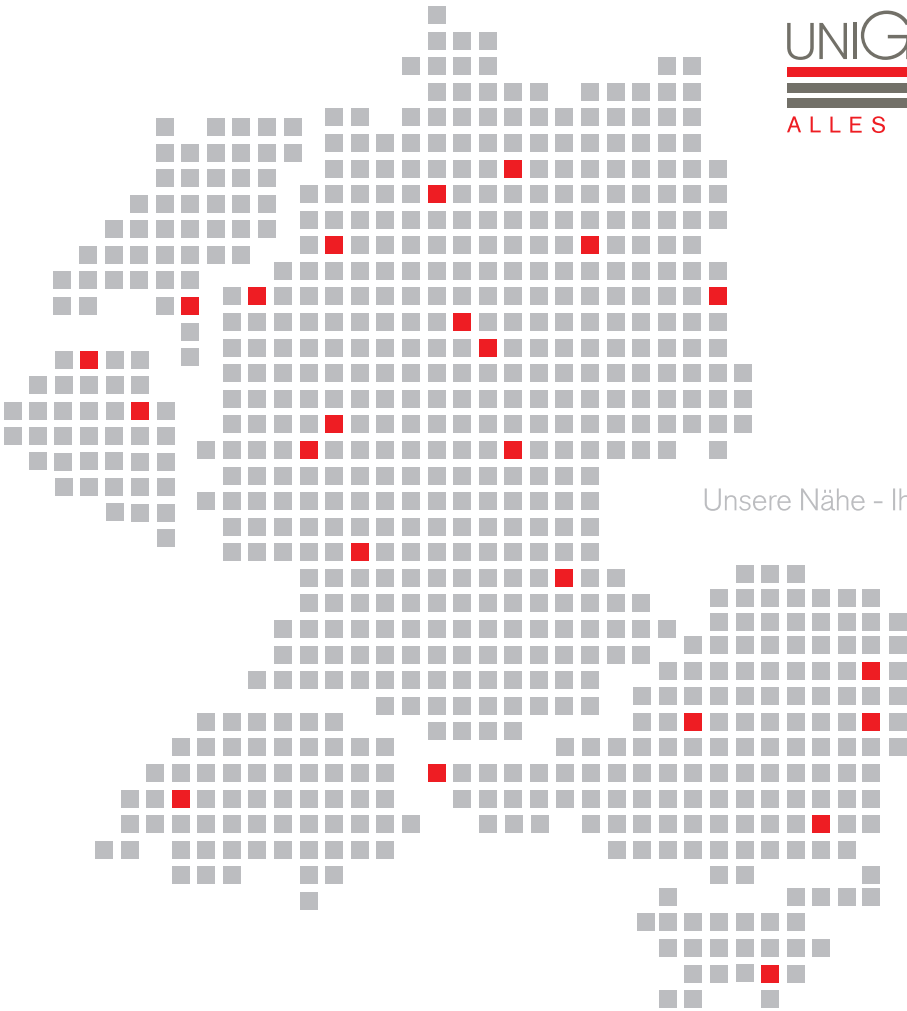
The different wettability of glass surfaces may already occur due to the common production procedures in the glass industry and therefore does not constitute grounds for complaint. This effect lessens sooner or later depending on the type of cleaning and the cleaning agents used. Frequently, conventional glass cleaning agents are not sufficient for fast and immediate removal. The even quality of the glass surface can only be restored when the interfering layers are infiltrated or removed.



Ammonical cleaning agents can therefore be recommended. In persistent cases, a mixture of 50 % diluted ammonia chloride solution and 50 % methylated spirits has proven useful. Linen cloth moistened with this solution and enriched with 'Vienna lime' can achieve excellent results when intensively rubbed onto the glass surface. Vienna lime chalk is available in well-assorted specialised dealerships and many drugstores.

Simple means are special cleaning agents for ceramic cooking hobs, which do not contain any abrasive scouring powders. Due to oil contained, however, they do leave a residual film on the surface. Radora Brillant<sup>®</sup>, is also excellently suitable, possibly also using steel wool grade 00 or finer.

Care must be taken when using abrasive stainless steel cleaning agents.



Unsere Nähe - Ihr Vorteil

 UNI GLAS®

**UNI GLAS GmbH & Co. KG**

Robert-Bosch-Straße 10

D-56410 Montabaur

Phone: +49 (0) 2602/94929-0

Fax: +49 (0) 2602/94929-299

Internet: [www.uniglas.net](http://www.uniglas.net)

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