SAINT-GOBAIN

INFORMATION ABOUT YOUR NEW GLASS

Cleaning and care instructions

SAINT-GOBAIN GLASS

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INFORMATION ABOUT YOUR NEW GLASS

Congratulations on purchasing your high-quality SAINT-GOBAIN GLASS product. To ensure that you enjoy it for many years to come, we have compiled some information for you. Glass is a building material with an enormous range of applications and is a particularly durable and easy-care material.

Regular cleaning of common surface contaminants generally prevents any adverse effects on glass performance. Nevertheless, proper maintenance is essential to preserve the brilliance and the sophisticated appearance of the glass surface.

Content

GLASS CLEANING

Glass as part of the facade is subject to natural and construction-related soiling. Normal soiling, cleaned professionally at appropriate intervals, does not pose a problem for glass. However, depending on time, location, climate, and building conditions, significant chemical and physical deposits of dirt can accumulate on the glass surface, making professional cleaning particularly important. Essentially, cleaning can be considered during two different phases: **Cleaning during the construction phase and cleaning during use.**

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GENERAL INFORMATION

The following cleaning instructions apply to all glass products used in construction.

During glass cleaning, it is essential to use a generous amount of clean water to prevent abrasive effects caused by particulate contaminants and to preserve the integrity of the surface. Suitable tools include soft, clean sponges, leather, cloths, or silicone-free rubber squeegees that are free of dirt and foreign matter.
The cleaning effect can be enhanced by using largely neutral cleaning agents or standard household glass cleaners. Use these with caution. Particularly in the edge area of insulating glass, certain ingredients can attack and damage sealing profiles and silicone joints, causing streaks to form. For cleaning, commercially available solvents such as spirit or isopropanol can also be used for cleaning grease or sealant residue.

WHAT YOU SHOULD AVOID

Chemical cleaning agents containing alkalis, acids, and fluoride-containing agents should generally not be used. Do not use sharp, metallic objects such as blades, scrapers, or knives, as these pose a particularly high risk of surface damage(scratches).
Do not use abrasive aids such as scouring pads, coarse steel wool, and abrasive cleaners. Do not use portable polishing machines. These cause significant abrasion of the glass mass and can result in optical distortions(lens effects). Never clean your windows with hot or boiling water or with products that are intended for the care of material other than glass.

	Cotton cloth, soft sponge, chamois leather, silicone-free squeegee	**Microfiber cloth**	**Glass scraper, cleaner, newspaper**	**Water with a splash of spirit or vinegar**	**Glass cleaner (e.g. Ajax, silicone--free), mineral spirits, isopropanol**	**Cleaning spray (e.g. Sidolin or similar)**	**Cleaning vinegar, gall soap or lemon stone**	**Limescale remover, alkaline lye**	**Salmiak or ammonia-based cleaning agents**
Smooth glass surfaces (float glass, laminated safety glass)	🟢	🟡	🔴	🟢	🟢	🟢	🟢	🔴	🟡
Mirror	🟢	🟡	🔴	🟡	🟢	🟢	🟢	🔴	🟡
Patterned glass	🟢	🟡	🔴	🟢	🟢	🟢	🟢	🔴	🟡
Printed glass surfaces	🟢	🔴	🔴	🟢	🟡	🟡	🟡	🔴	🔴
Satin-finished, sand-blasted glass surfaces	🟢	🟡	🔴	🟢	🟢	🟢	🟢	🔴	🔴
Anti-reflective glass surfaces	🟢	🔴	🔴	🟡	🟢	🔴	🔴	🔴	🔴
Finished glass surfaces (easy-to-clean glass)	🟢	🔴	🔴	🟢	🔴	🔴	🟡	🔴	🔴

Glass cleaning made easy

🟢 Well suited 🟡 Use with caution 🔴 Not suitable, may cause glass damage

CLEANING DURING THE CONSTRUCTION PHASE

As a general rule, aggressive contamination should be avoided during the course of construction. However, if this does occur, the contamination must be washed off immediately after it occurs by the person responsible using non-aggressive agents that leave no residue. In particular concrete or cement slurry, plaster, and mortar are highly alkaline and will cause chemical burns to the glass (clouding) if they are not immediately rinsed off with plenty of water. Dusty and granular deposits must be removed professionally, but under no circumstances should they be removed dry.

WHY DOES MY GLAS FOG UP?

Occasionally, a phenomenon can be observed that used to be rather rare: condensation on the outside (weather side) of the glass. Let‘s take a closer look at this phenomenon.

The phenomenon occurs when the outside temperature is lower than the inside temperature. Two conditions must be met for windows to fog up. They must be colder than the surrounding outside air, and the outside air must be saturated with moisture. Air can only absorb a certain amount of moisture, and the warmer it is, the more it can absorb (relative humidity). When moisture-saturated air hits a cold window, it cools down and must then release some of the moisture to the glass surface. The water condenses on the window and the window fogs up.

In areas with high humidity – e.g., near bodies of water or wet meadows – it can happen in the early morning hours that the air may warm up faster than the glass. This then leads to condensation on the outside pane. This is the same physical process as dew formation on grass. Skylights are particularly affected because they cool down more at night than vertical glazing because they “face” the cold night sky.

Why did this happen so rarely with “old” insulating glass in the past? Simply put: “old” insulating glass had significantly poorer thermal insulation than modern insulating glass. This meant that more heat was lost from inside the building. The outer pane was heated at the expense of living comfort and heating costs.

With modern thermal insulation glass, this no longer happens. The insulation between the inner and outer panes works very well, keeping the heat inside the room and the outer pane cold. This can sometimes lead to condensation on the outside. Condensation on the inside of the glass, on the other hand, has become less common with modern thermal insulation glass than with old glass, for the same reason. Thanks to good thermal insulation, the surface temperature remains almost as high as the room temperature. Therefore, the panes only fog up on the inside when the air contains a lot of moisture, e.g., in the bathroom or when cooking. This is why regular, proper ventilation is necessary, otherwise excess humidity can condense on the walls. Further information on ventilation can be found in one of the following chapters.

CONCLUSION

Condensation may temporarily form on the outside of glazing, usually when humidity is high in the morning hours. This is a physical effect that demonstrates the effectiveness of the high thermal insulation and does not constitute a defect. The glazing is designed to withstand high temperatures and pressure.

VENTILATION AGAINST INTERIOR CONDENSATION

As described above, condensation can form when air with a correspondingly high humidity level encounters cold surfaces. In rooms with high humidity, this phenomenon occurs more frequently than in rooms with lower humidity levels. Modern windows are more airtight than older window systems. Although heat loss is lower, the result is that air exchange is also lower. Therefore, frequent and proper ventilation is important. (At a relativeroom humidity of 50 %, water condenses at a temperature of 10°C, and mold can already form at 12°C).

Tips for proper ventilation

Open all windows for about 10 minutes (rapid ventilation). Because the air exchange takes place very quickly, the surfaces (walls, ceilings, furniture, etc.) do not cool down. This allows a lot of humid air to be removed to the outside in a short time. Cross ventilation(draught). 10 minutes of cross ventilation through opposite open windows is the most effective way to ventilate. The entire room air is exchanged, and the heat stored in the walls and floors heats up the fresh air very quickly. Continuous ventilation: With gap ventilation, such as with tilted windows, energy is wasted. The air is not completely replaced, and the walls and other surfaces cool down significantly. A lot of energy is needed to heat the surfaces up again. This is the worst ventilation method. If condensation forms on the inside of a window, ventilate vigorously and thoroughly immediately. Ventilate vigorously after showering and bathing. Only reopen the bathroom door after ventilating. Drying laundry in the home increases the relative humidity.

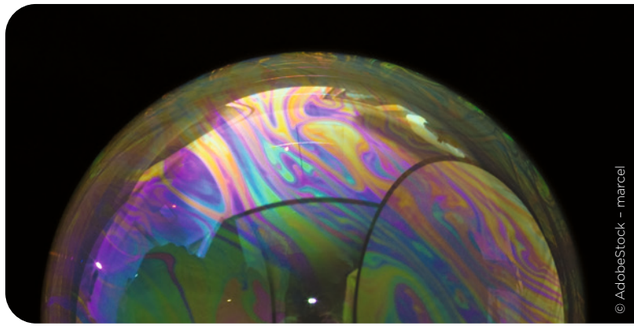
Wettability of glass

Vacuum suction cups, cork pads, product labels, and so on are used to protect glass from damage during transport. This changes the surface energy of the glass. Incidentally, the natural oil film on human skin does the same thing. At these “contaminated” points, when the glass is wetted with water or condensation, the spreading behavior of the water (spreading behavior) changes compared to the untouched surfaces. The different production processes commonly used in the glass industry can already result in different wettability. This is not a reason for complaint. Once the glass has dried again, these areas are no longer visible. Depending on the cleaning agents and cleaning method used, this effect will diminish sooner or later. Like all materials, window frames, coatings, and sealants are subject to a natural aging process. In order for insulating glass to achieve its expected service life, the necessary maintenance and inspection work must be carried out regularly. Since only a tight seal can permanently prevent water from penetrating, the silicone joints and sealing profiles between the frame and the glass must be checked regularly.

INTERFERENCES

What is interference?

If several sheets of float glass are placed one behind the other, e.g. in insulating glass, interference phenomena may occur under certain circumstances. Interference can take many different forms. It can appear as rainbow-like spots, rings, or stripes, which change position when pressure is applied to the glass.
Interference Interference is a purely physical phenomenon and is related to light refraction and superposition effects. It occurs rarely and depends on lighting conditions, the position of the glazing, and the incidence of light. The colorful iridescence of oil droplets on water or soap bubbles is exactly the same thing: optical interference.



Insulating glass effect

The cavity of insulating glass is hermetically sealed from the outside world. The environmental conditions prevailing at the time of production, such as temperature and meteorological air pressure, are practically enclosed in the cavity. Changing air pressure conditions, temperatures, or differences in altitude lead to different pressures between the environment and the space between the panes. The result is that the panes bulge or cave in. Despite flat individual panes, distorted mirror images are inevitable. The strength of this effect depends on the size and geometry of the glass panes, the width of the space between the panes and whether double or triple insulating glass is used. Physically speaking, insulating glass is a barometer. The deformation effects are therefore physically determined and unavoidable.

Anisotropies

In heat-treated glass such as tempered or Heat-strengthened safty glass physical effects known as anisotropies can be observed under certain conditions. Tempered glass and partially tempered glass are manufactured by heating the glass in a special furnace and then tempered glass and partially tempered glass are manufactured by heating the glass in a special furnace and then shock cooling it to create stress differences in the glass that make the glass more mechanically resilient and cause it to break into small, blunt-edged crumbs when damaged. This results in different stress distributions in the glass, which can be perceived under certain conditions. Depending on the viewing angle, dark-colored rings, clouds, or stripes can be seen in polarized light or with polarized glasses. Polarized light is also present in daylight. However, depending on the time of day and weather conditions, the proportions of polarized light always vary. This is why the anisotropies always appear with varying intensity.

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