FACADE GLAZING

CLEANING AND MAINTENANCE GUIDE

VERSION 2.0 – AUGUST 2024

Your Dreams, Our Challenge

This version of the guide replaces and cancels all previous versions.
Please check www.agc-yourglass.com regularly for any updates.

Important Preliminary Instructions

Read this manual carefully before performing any cleaning or maintenance work on decorative glass.

Glass is, by its very nature, durable, tough and easy to maintain. By following the guidelines in this document, you can ensure that it stays clean and bright for many years once installed.

1. Always clean and maintain glass under safe conditions.
2. Carefully read the manual(s) to determine which chemical agents and detergents can be used for cleaning and maintenance. Follow the instructions. When in doubt, contact the manufacturer.
3. Products containing hydrofluoric acid and fluorine derivatives must not be used, since they can damage the coating, enamel and/or surface of the glass.
4. Highly acidic and alkaline products must not be used, since they can abrade the glass surface.
5. Ensure the chemical compatibility between the products used and other components (seals, paints used on the frame, aluminium, stone, etc.).
6. The surface of etched glass should always be wet cleaned across the entire surface. Never perform spot cleaning.
7. Do not wash the glass when it is fully exposed to the sun. Avoid washing it when it is too cold or hot.
8. Take advantage of the washing process to inspect the seals, drainage and frame.
9. Make sure that the cloths, squeegees and other tools used for cleaning are always themselves clean and in good condition.
10. Ensure that the cloths and squeegees are soft in order to avoid scratching while cleaning.

CONTENT

1. INTRODUCTION AND GENERAL INFORMATION

The presence of dirt on glass surfaces is a common occurrence due to natural and building-related factors. Under normal circumstances, regular cleaning at appropriate intervals poses no issues for glass. However, depending on various factors such as time, location, climate and building conditions, substantial accumulations of water and and/or impurities in the form of chemical and physical deposits can occur on the glass surface. In such cases, professional cleaning and maintenance is crucial.

It is important not to walk on glass installed in roofs if it was not intended to support the weight of a person. Instead, personnel should step on the support structure or in areas close to the supports to prevent damage and ensure safety.

The purpose of this cleaning guide is to give advice on preventing and reducing soiling throughout the lifespan of glass products and to provide guidance on how to correctly clean glass products and how often.

There are general recommendations which need to be considered for window, facade and roof glazing design as well as during the installation phase.

Taking steps to prevent the build-up of dirt is the best way to prevent cleaning problems and lower cleaning costs.

1.1 During the design phase

- Make sure that water drainage and discharge systems are in place to prevent runoffs of polluted water over the glass.
- Make sure that it is possible to gain access to the glass so that it can be cleaned under safe conditions (e.g. without walking on the glass for roof glazing).
- Roof glazing with insufficient slope in central areas can cause water and dirt to accumulate, creating ponds and making maintenance critical. This type of glazing typically requires more frequent cleaning. In addition, if a significant amount of water accumulates on the glass surface, it can compromise the safety of the glazing.

More information can be found in our glazing guidelines as well as in other regulations and standards, which need to be followed in order to design an appropriate window, facade and roof system.

1.2 During the construction and installation phases

Glass can get dirty, especially during the construction phase of a building.

- Care must be taken at all times to prevent corrosive contamination, especially from plaster, mortar, concrete and cement slurry, all of which are alkaline and therefore capable of corroding the glass surface.
- Likewise, contamination from silicone adhesives, paints and varnishes should be avoided.
- Prevent metal from welding or grinding from coming into contact with the glass. This kind of damage cannot be repaired.
- Where necessary, protect the glass with a tarpaulin or plastic sheet, making sure to provide a dry, well-ventilated air space between glass and protecting material.
- Any such dirt or impurities must be washed off the glass immediately, during the construction phase itself. To do so in the right way, please see Section 2 below.
- Follow the glazing instructions (see www.agc-yourglass.com).

1.3 Frequency

- How often the glass needs to be cleaned will depend on the surrounding environmental conditions and pollution levels. Glass gets dirtier in dusty, industrial areas, in areas with lots of road traffic, in areas near the sea and in areas where it is not exposed to much rain.
- Failure to take certain precautions when designing the facade or installing the glass can also play a role. Glass should be cleaned frequently enough so that the ordinary cleaning regimen described above is sufficient.
- The recommended minimum frequency is every six months.

2. TYPES OF CLEANING

2.1 During the construction phase

- Aggressive soiling should be prevented during the construction phase.
- If aggressive soiling occurs, it should be immediately washed off by authorised personnel using non-aggressive cleaning agents.
- Concrete, cement slurries, plasters and mortars are highly alkaline and can cause damage to glass if not rinsed off promptly with plenty of water.
- Dusty and granular deposits should be removed professionally and not when dry.
- The building contractor is responsible for controlling the interaction between the various types of workers on-site and informing them about all relevant protective measures.
- Soiling can be minimised by optimising the construction process and implementing protective measures such as applying protective films to windows and facade surfaces.
- Initial cleaning aims to clean components after the completion of building work but may not remove all the dirt accumulated during the entire construction period.

2.2 During the installation phase

When glass is cleaned for the first time **after being installed** (end of project), it may be particularly dirty. We recommend the following steps:

- Remove protective films, labels and adhesive cork or interlayers as soon as possible. If there is any difficulty in doing so, solvents such as methanol, isopropanol, acetone or trichloroethylene may be used.
- Fingerprints and grease or putty stains can be removed with solvents such as acetone or methyl ethyl ketone (MEK) or ammonia provided they do not attack the seals and penetrate into the rebate.
- Rinse thoroughly to remove as much dust as possible.
- Follow the normal cleaning steps (see Section 4 below). Examine any remaining dirt marks.
- Very carefully remove any remaining deposits, such as sealing compound, putty, cement, etc., using a specially designed scraper or a razor blade. There is a risk of scratching the glass, so take great care at all times. This is especially true for coated glass, acid-etched glass and sandblasted glass.
- Follow the special cleaning instructions where necessary (see Section 2.4 below).

2.3 During use (normal cleaning procedure)

- Products containing hydrofluoric acid and fluorine derivatives must not be used, since they can damage the surface of the glass.

- Highly acidic and alkaline products must not be used, since they abrade the glass surface.
- In most cases, glass can be washed with plenty of clean water or glass cleaner and a soft sponge or rubber squeegee. When using a rubber squeegee, take care not to damage the coating with the metal handle.[1]
- To prevent damage, do not try to remove dirt or impurities while the glass is dry.
- During the cleaning process, do not apply excessive pressure, as this could causes scratches or stains on the glass surface. Glass cleaner should be applied evenly across the entire glass surface and then wiped off evenly. The more uniformly the surface has been wetted with cleaner and then wiped off, the lower the risk of creating stains. Never dry wipe using excessive pressure. If stains still appear, repeat this sequence.
- Once cleaned, the glass should be rinsed with clean water and wiped with a squeegee.
- When removing oily or greasy streaks (e.g. fingerprints), the cleaning agents should always be applied to the entire glass surface.

[1] AGC provides a soft sponge and glass cleaner in its FIX-IN Cleaning Kit for end users (available from www.agc-store.com)

2.4 Special cleaning procedure

When normal cleaning is not enough, the special cleaning procedure can be followed to clean the glass on a dry surface:

- Remove oily spots and other organic soiling with solvents such as isopropanol or acetone applied with a soft and clean lint-free cloth.
- Remove other residue by lightly polishing the surface with a suspension of cerium oxide in water (between 100 and 200 grams per litre).
- Rinse thoroughly and then follow the normal cleaning procedure explained above.

3. SPECIAL FINISHES AND GLASS TYPES

The glass products described below, featuring special finishes and/or coatings on the external surfaces, are high-quality products that require special care and attention when cleaning. Damage done to this kind of glass can be more conspicuous and/or may impair its function. Where appropriate, specific cleaning instructions from the individual manufacturers must also be followed, especially for glass with an external coating. Do not use a 'glass scraper' to clean the glass surface.

3.1 Glass with a coating in position 1 or 4

Coated glass, such as **Stopsol, Sunergy, Planibel G fasT** and **Planibel Low-e Anti-Fog**, features a durable metal oxide coating applied to the glass.

- No specific precautions are needed when the coating is positioned on the inside of the insulating glazing unit (position 2 or 3, i.e. in contact with the air/gas layer).
- For single glazing or when the coating is located on the outside of the insulating glazing unit (position 1, external side of the building, or position 4, internal side of the building), the ordinary and special cleaning regimens mentioned earlier are suitable.
- However, it is important to consider that the coating is a transparent and very thin metal surface that is being cleaned.

Remember the following:

- Scratching the coating will penetrate its surface. Any such scratches cannot be repaired.
- Excessive mechanical treatment may remove the coating in localised areas.
- Avoid any contact with metal objects.
- Do not use chemicals that can damage the surface irreparably.

3.2 Anti-reflective glass

Reflection-reducing coatings, also known as anti-reflection coatings, are applied to the outside or inside of the glazing. These coatings are designed to minimise reflections but are difficult to detect visually. For further information please refer to our cleaning guides for **Clearsight and Clearsight Lite**.

3.3 Self-cleaning glass

Identifying dirt-repellent and self-cleaning surfaces visually can be challenging. These coatings are typically applied to the weather-exposed side of the glazing unit due to their intended purpose (**Planibel Easy**).

- Mechanical damage, such as scratches, not only affects the visual appearance of the glass but can also compromise the functionality of the self-cleaning coatings in the damaged area.
- It is important to prevent deposits of silicone and grease on these surfaces.
- When using rubber scrapers, it is crucial to ensure they are free from silicone, grease or and any foreign substances.

3.4 Thermally prestressed glass

Thermally toughened glass and **heat strengthened glass** are marked permanently according to their product standards and can be used in combination with the above-mentioned coatings.

- The surface of thermally prestressed glass undergoes modifications during the thermal treatment, distinguishing it from standard float glass.
- In specific circumstances, the introduction of surface tension in prestressed glass can make damage more noticeable compared to annealed glass (float), sometimes with a delay in their visibility.

3.5 Laminated glass

Laminated glass, such as **Stratobel, Stratobel Strong, Stratophone** and **Stratobel Coloured**, consists of two or more glass panes bonded together with plastic interlayers. It can be used as part of an insulating glass unit.

- When the edges of the laminated glass are protected, no specific precautions are necessary.
- However, if the laminated glass is installed with free or accessible edges, it is important to ensure that they are dried quickly and thoroughly after cleaning.
- It is not recommended to attempt to remove stains from the interlayer or to remove the interlayer itself, even with clean tools.
- Therefore, it is crucial to carefully follow the guidelines and precautions outlined in this document.

In areas with high pollution levels, it is essential to seek treatments and products from experienced professionals. For example, you can visit www.djyms.com for more information.