



## Flat Glass Cleaning Guide

### Coatings

#### that make cleaning easier

Coatings are usually added on the outer glass surface already at the glass manufacturing plant. Titanium oxide coating reduces the need of glass cleaning. This two step function utilizes humidity and UV radiation of daylight to form an active molecular layer on the glass surface. Activation occurs within a few days, after which organic dirt is broken down by the coating and washed off with rain.

If the glass is very unclean, it can be washed with warm water, soap and a soft cloth. No drying is needed.

The coating lasts as long as the glass, it can't be worn off in normal use.

The coating doesn't contain hazardous substances, but is in fact environmentally friendly as it reduces the need of cleaning and, at the same time, the use of chemicals and clean water.



### Glass resists a lot, but not everything

It is recommended to wash glass regularly, at least once a year, depending on the surrounding area. Proper glass washing tools include a wet sponge or rag, soft lint free cloth and a decent squeegee.

**Windows and doors must be protected carefully during construction work because alkaline substances such as lime and cement solutions corrode the glass surface.** If these come in contact with glass it must be rinsed immediately. Rainwater from a plaster or concrete facade must be controlled to avoid draining to the glass surface.

Modern glasses often contain coatings. **Coated glass should not be rubbed or scratched. Do not add tapes on coated glass.**

### Glass cleaning notes

- + glass resists the effect of water and acids well
- + all glasses require washing to keep the glass surface in shape
- + coatings reduce the need for washing
- glass does not withstand hydrofluoric acid (HF) (glass etchant)
- glass does not withstand alkaline solutions
- to avoid scratching, the cleaning tools must be clean and as soft as possible
- tempered glass scratches more easily than normal float glass

### Recommended for:

- High buildings
- Areas with laborious access such as glasses on cliff side
- Glass roofs
- Glazing next to busy roads

Glass doesn't withstand alkaline solutions.

Rinse glass thoroughly before cleaning it with a washing machine or a substance.

Change the washing water frequently enough to avoid sand or other abrasive particles.

Glass can be treated afterwards with a protective coating to make the glass surface slippery and nearly non-sticky.



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### Warning

Remove all labels from the glass as soon as possible to avoid sun burn marks on the surface of the glass. Moisten the label before removing with soapy water or cooking oil.

### About Detergents

- use window cleaners or pH neutral detergents
- the composition of the dish soap may have changed if the washing result is not the same "as before"
- to remove suction cup marks use a mixture of water and citric acid (pharmacy product)
- remove silicone smudges with acetone or xylene
- clean grease spots with commercial solvents such as ethanol
- Vinegar is a good detergent, but beware of metal surfaces

### The most common mistakes in glass cleaning

- glass surface hasn't been cleaned from particles - the glass is scratched
- detergent leaves rainbow colours on the glass surface - incorrect detergent, polish the surface e.g. with a newspaper
- surface of the glass is gray - too alkaline detergent, glass polish substance can restore brightness (professionals)

### Please note!

Follow the window manufacturer's cleaning instructions, which are delivered to the construction site with the windows. Store the instructions. Also keep the window construction information where all the coatings and the features of the glass structure are mentioned.

### Safety Guide

- when the width of the window frame is 1,5 times bigger than height or when width is bigger than 1500 mm the frame must be supported from its lower edge during opening
- fire-resistant windows should always be supported when opening
- use harness or lift when cleaning high windows or windows that are located high

### Disadvantages of Cleaning

Even though it is advantageous to use a lot of water during glass cleaning, water should not be let to drain into other structures of the window element. Painted wood surfaces may react to excessive moisture. Dry the washing water carefully from the structures.

### Special Glasses

Modern windows often have some coating to improve e.g. window energy management. As a rule, sensitive coatings are placed inside the insulating glass unit so they can not be damaged. There are some exceptions like sun-protection, anti-fog and the already-mentioned easy-to-clean glasses, where coatings are on the outermost surface of the glass structure. When cleaning these surfaces, the manufacturer's instructions must be followed.

The main rule is that the glass should first be rinsed, then washed with mild soapy water using a soft cloth. Coated glass should not be scrubbed and it is not recommended to use a squeegee. Also, abrasive cleaning agents should not be used as they may leave clear or dark spots. **Use solvents on tricky stains, never sharp tools. It is prohibited to use strongly acidic or alkaline substances.**

### Basic Cleaning

- rinse the dirt with warm water
- make a mild washing solution with a liquid detergent which reduces the surface tension of the water
- in winter you can add alcohol in the washing water to prevent freezing
- wash with a soft cloth or sponge
- rinse and dry
- do not wash in direct sunlight

### Tricky Stains

- Find out the origin of the stain and the corresponding solvent, use solvents carefully and only on the stain. Rinse.
- As a last resort you can try cleaning with new polishing agents, grinding paste or 000-steel wool.
- Paint spots can be carefully removed with a decent scrap or other blade as wide and flat as possible
- rub only the stain - not the glass