

Leaflet for the cleaning of glass

1. Introduction

Glass as part of the front defeats the natural and building soiling conditions. Normal soiling, which are cleaned professional and in appropriate time periods, do not cause any problems to the glass. But there can be obvious chemical and physical soiling and depositions on the surface of the glass, depending on the time, location, climate and situation of the construction. In this case a professional cleaning is very important.

This leaflet ought to point out how to avoid and minimise soiling during the lifetime and also the professional and cleaning in time of different glass surfaces.

2. Methods of cleaning

2.1 During the building progress

Basically every aggressive soiling has to be avoided during the building progress. However should it happen, the soiling has to be cleared away immediately after forming, from the person who caused it, without remainders, using not aggressive detergents.

Especially mud of concrete or cement, rough cast and mortar are extremely alkaline and can corrode the glass (dim), if the glasses are not rinsed immediately with ample water. Dusty and granular depositions has to be cleared away professional, but never dry. The orderer is, for the reason of its contribution- and protection obligations, responsible for the regulation of the co-operation of the different plants, especially to inform the following plants about the necessary protection measurements.

Less soiling can be reached by an optimized building process and by separated charged protection measurements, as for example by fixing protection foils on the windows respectively front spaces. The so-called first cleaning has function, to clean the building components after completion. This cleaning is not able to remove all soiling caused during the time of the building progress.

2.2 During utilization

To keep the features of the glasses during the whole time of utilization, a professional, on the specific glass reconciled cleaning in appropriated intervals is essential.

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3. Cleaning forecastle for glass

3.1 In general

The following instructions for the cleaning are the case for all used glass products at the building site. When cleaning the glass there has always be used a lot of, possibly clean water, to avoid a scour effect caused by dirt particles. Soft, clean sponges, leather, rags or

rubber wipers are suitable as tools. The cleaning effect can be supported by the application of neutral cleaning agents or with common domestic glass cleansers. Are the soilings consisting of fat or residues of sealant_the cleaning can be made with common solvents as spirit or isopropanol. Alkaline lyes, acids and remedies with fluorine are generally, from all of the chemical cleaning remedies, not allowed to be used.

The utilization of peaked, sharp metallic objects, for example blades or knifes, can cause damages on the surface (scratches). A cleaning remedy is not allowed to attack the surface recognizable. The so-called "die down" with the glass plane for the cleaning of whole glass surfaces is not admitted. Are damages during the cleaning on the glass product or on the glass surface recognized, which were caused by the cleaning, the cleaning has to be interrupted immediately, and information about avoidance of further damages has to be brought in.

3.2 Special ennobled and on the outside laminated glasses

The following named special ennobled and on the outside laminated glasses are products of high quality. They call for special attention and care during the cleaning process. Damages can here be better recognizable or impair the function. For products with laminations on the outside to separate recommendations of each producer has to be paid attention when cleaning. The cleaning of the glass surface with the plane is not allowed.

- As outside laminations (position 1 = weather side) some sun protection glasses are listed. They are often perceptible on a very high flexibility even in the visible domain. Sun protection glasses are frequently at the same time thermical pre stressed, mainly for facing tiles or sun aprons.
- On the out- or inside of the glazing (Pos. 1 or Pos. 4) a reflection reducing layers (antireflection layers) can be attached, which are naturally difficult to perceptible.
- Outside- or inside lying thermal insulations (Pos. 1 or Pos. 4) show a special case. On special window constructions these layers exceptionally can not point at the air spacer of the isolated glasses. Mechanic damages of this layers usually show stripes as a lie abraded, because of the surface, which is a bit rough.
- Dust-rejecting/self-cleaning surfaces are optical hardly perceptible. Because of the utilization these layers are most arranged that the weather side is turned to the glazing. Mechanic damages (scratches) on self-cleaning layers do not just show a visible perceptible damage of the glass, but can also lead to a damage of the function at the damaged part. Depositions of silicon or fat on the surfaces should also be avoided. Therefore especially rubber wipers must be free of silicon-, fat- and foreign bodies.

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ESG BI-Tensit (toughened safety glass) and also TVG BI-Hestral (heat-strengthened glass) are marked durable according to the legislation and can be combined with the above mentioned laminations. As a result of the processing tempered glasses generally do not show the same extreme planarity like normal cooled mirror glasses. The installation is prescribed multiply, to come up to the legislative and normative legislations. The surface of ESG is changed, because of the thermatic tempering process, compared with float glass. A stress profile is generated, which leads to a better bonding strength. This can create another attribute of the surface.

The above mentioned ennobled and on the outside laminated glasses are products of a high quality, which require special attention and care when cleaning.

4. Further instructions

The utilization of portable polishing machines for the removal of damages on the surface causes a considerable abrasion of the glass mass. As a result there can be optic contortions, which are recognizable as "lens effect". The application of polishing machines is particularly not allowed for the mentioned ennobled and on the outside laminated glasses. If the "polishing" is applied on ESG it causes waste of the strength. Resulting that the security of the glass is not given anymore.

Surfaces of glass can be different wettable, which is for example explained by prints of stickers, rolls, fingers, residues of sealant, but also by environmental influences. This phenomenon is only recognizable, if the pane is moist, so also when cleaning the pane.

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