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1. general cleaning instructions

maintenance

All construction materials, such as window frames, coatings, sealants and gaskets are subject to an aging process. To ensure Warranty conditions and to increase the life-expectancy of insulated glass it is necessary to conduct regular performance checks. All necessary maintenance operations, such as renewal of frame coating, checking of gaskets and seals or glass, ventilation and pressure-equalisation openings etc. must be carried out in a timely and regular manner.

surface damage

Many factors may cause damage to the surface of the glass. It is necessary to take suitable protective measures against prevailing local conditions.

welding / grinding operations

Welding or grinding operations close to the windows require suitable protection of the glass surface to avoid pitting from weld-spatter or grinding sparks.

etching / leaching

Surface etching of the glass sheet may result from contact with chemicals which are common in building materials and cleaning agents. Particularly over long periods, such chemicals (e.g. Alkalis, acid solutions) lead to permanent etching. This applies to fresh concrete, plaster, render etc. when these materials come into contact with the glass surface.

water damage

It is also possible that long-term water effects can cause surface damage, in particular when a prolonged period of soiling exposure has occurred to the glass prior to building clean-down. Glass must be cleaned regularly, when necessary also during the construction phase.

patching of glass surfaces through abrasion of sealants

In some cases following installation of the glass and even after cleaning, misty patches may be visible on the inner and outer surfaces which can be difficult to remove. These patches are particularly visible in direct sunlight. From experience, these patches occur from contamination of the glass surface through sealant residues and/or sealant components which have remained from attempts at mechanical cleaning. Lubricants used in glazing with dry gaskets can cause the same effect.

If the glass surface has become soiled in this manner, it will likely be necessary to use special cleaning agents such as glass polisher and with much effort it may be possible to clean the glass of these patches. With externally-coated glass this method is not possible. When the window surfaces are cleaned again it may be possible that this contamination re-appears.

The sealant surface should be cleaned with a moist, soft cloth using household cleaning agents. Heavily soiled areas of sealant can be cleaned with white spirit. Abrasive cleaning agents and fluffy cloths should be avoided.

Apart from the above, it is possible that the patches have been caused by adjacent building materials e.g. paint from walls may also cause „fogging“. These are usually easier to clean.

See also:

- ift, Rosenheim Edition 3/95 (New edition 2/207) – Information centre for windows and doors
- Facades e.V.
- Notes on glass cleaning dated Feb. 2003 – Federal Association of Glaziers, Hadamar
- DIN 18545 „Abdichtungen von Verglasungen mit Dichtstoffen“

glass cleaning

Cleaning of the glass, as well as removal of residue from stickers and spacing-pads is to be carried out by the builder using mild cleaning agents. Soiling of glass which cannot be removed with normal wet-method with a lot of water, sponge, squeegee, leather; or commercially available spray cleaners and cloths, can be removed using a fine industrial steel wool or household cleaning agent.

Sharp-edged tools such as razor-blades and scrapers may cause fine scratches in the surface and the use thereof should be avoided. In particular it is necessary to remove cement clumps and other remains of building materials immediately, otherwise it is likely that the glass will be etched and may lead to the units becoming “blind”. Should residues of sealants come onto the glass during sealing works, they should also be removed immediately.

laminated safety Glass

Generally the same cleaning recommendations also apply to Laminated Safety Glass. In addition thereto it is possible that the exposed edges of glass may be subject to localised fogging or de-lamination as a result of using spirit or alcohol as a cleaning agent. We recommend these cleaning agents not be used.

metal-oxide coated glass has special cleaning instructions

Normal soiling should be dealt with as described above however, abrasive agents e.g. scouring agent or steel wool, must not be used. Stubborn spots of soiling e.g. paint or tar-spots or adhesive residues should be removed using suitable solvents e.g. spirit, acetone or gasoline and then cleaned with water. It is important to ensure that any solvents used do not come into contact with the edge seal of the insulating unit, gaskets or other organic materials (silicone joints) as they may become damaged.

unsuitable cleaning agents

Strong alkali solutions as well as acids, particularly liquid acids, and cleaning agents containing fluoride should never be used. These solutions may irreparably damage the coating and / or the glass surface. The cleaning of the facade and glass should be carried out in accordance with recognized industry standards.

2. cleaning of etched glass

Etched or „Satinised" glass has a slightly rough surface on one side. It is possible that this surface becomes soiled easier in comparison to the smooth surface. It is therefore necessary to use greater care in maintaining this kind of glass.

Cleaning agents that are free from silicone and acids must be used. Strong alkali solutions as well as acids, particularly liquid acids, and cleaning agents containing fluoride should never be used.

Cleaning of the glass, as well as removal of residue from stickers and spacing-pads is to be carried out by the builder using mild cleaning agents. Soiling of glass should be cleaned using the normal wet-method with a lot of water, sponge, squeegee, leather; or commercially available spray cleaners and cloths. Stubborn spots of soiling which cannot be removed with simple cleaning agents should be pre-cleaned using special cleaning agents (Pril, Ajax etc.) Subsequent cleaning with the normal wet-method is recommended. Use of steam cleaners with integrated suction have proven successful on stubborn areas.

Heavy soiling should be removed using suitable cleaning solutions but fine industrial steel wool or Sharp-edged tools such as razor-blades and scrapers must not be used. Cleaning solutions which contain abrasive particles are not recommended. Stubborn spots of soiling e.g. paint or tar-spots or adhesive residues should be removed using suitable solvents e.g. spirit, acetone or gasoline and then cleaned with water. It is important to ensure that any solvents used do not come into contact with the edge seal of the insulating unit, gaskets or other organic materials (silicone joints) as they may become damaged.

It is common that soiling to glass occurs when plastering works are carried out. Elements of lime in rendering materials will attack the glass surface unless they are removed immediately with a sponge and a lot of water.

Due to the multitude of possibilities of soiling, it is not possible to give recommendations for every case. If there are particularly stubborn areas of soiling we suggest that trials are made on the same surface which is not visible. The information contained in these instructions is based on many years of experience but may not necessarily be complete. Instructions shown on cleaning agents are to be followed.

3. particular cleaning notes for LITE-FLOOR

Generally, floors should be simple to clean. With simple cleaning it is to be understood that the cleaning of the floor is possible using proven cleaning methods from cloth to floor cleaning machines and liquid sprayers, and when using suitable cleaning agents even from a hygienic point of view.

Floor coverings with high slip-resistance typically require more effort in cleaning. Cleaning methods and cleaning agents should be determined according to the floor covering. For cleaning of floors with profiled or rough surfaces, cleaning machines with rotating brushes and liquid spray have proven effective. Their use, even in small areas, can be deemed economical.

The slip-resistance may be reduced by certain cleaning and maintenance agents. The choice of cleaning agent and its dosage should be checked.

When using liquid sprayers to clean floors it is necessary to ensure that the liquid pressure and temperature as well as the mix ratio of cleaning agent and water is so calibrated that no detrimental effects to the floor covering and joints occurs.

LITE-FLOOR with slip-resistant coating can be cleaned with a wet brush, household glass cleaner and wiped off with a squeegee. Cloths and sponges leave residue.

LITE-FLOOR CL does not have a slip-resistant coating. Cleaning can be carried out using commercially available cleaning agents.

LITE-FLOOR R and RTF have slip-resistant coatings in standard patterns. Small patterns with low areas of coverage are best cleaned using a wet brush, commercially available cleaning agent and a squeegee. Larger patterns and higher areas of coverage are best cleaned using a liquid cleaning machine with integrated suction. The addition of commercially available cleaning agent can be used dependent on the level of soiling and in accordance with manufacturer instructions.

LITE-FLOOR DESIGN 001 has a full coverage slip-resistance. Cleaning is recommended in regular intervals. The best results are obtained when cleaned in two stages. Initially a brush should be employed with dirt-loosening commercially available cleaning agent. The agent should be left to work depending on the level of soiling and in accordance with manufacturer instructions. Subsequently it should be cleaned with a liquid cleaning machine with integrated suction. Use of steam cleaners with integrated suction have also proven successful.

Due to the multitude of possibilities of soiling, it is not possible to give recommendations for every case. If there are particularly stubborn areas of soiling we suggest that trials are made on the same surface which is not visible. The information contained in these instructions is based on many years of experience but may not necessarily be complete.