

GLASS CARE

Glass itself does not exude, leach or bleed any residue or stain causing materials. The only practical remedy for glass which is corroded, scratched, weld splattered or etched is replacement. Prevention is better than cure. Protect glass and wash regularly.

TOUGHENED GLASS SPECIAL NOTE

Residues of surface grit may be present from the production process and this should not be dragged over the surface.

NEVER USE METAL SCRAPERS

THE FOLLOWING ARE THINGS TO DO

- DO clean glass when dirt and residue appear.
- DO determine if there is a coated surface exposed.
- DO exercise special care when cleaning coated glass surfaces.
- DO avoid cleaning tinted and coated glass surfaces in direct sunlight.
- Do start cleaning at the top of the building and continue to lower levels.
- Do soak the glass surface with a clean water and soap solution to loosen dirt and debris.
- DO use a mild, non-abrasive commercial window cleaning solution.
- DO use a squeegee to remove all of the cleaning solution.
- DO dry all cleaning solution from window gaskets, sealants and frames.
- DO clean one small window and check to see if procedures have caused any damages.
- DO be aware of and follow the glass supplier's specific cleaning recommendations.
- DO caution other trades against allowing other materials to contact the glass.
- DO remove plastic protective film ASAP or no later than 1 month from installation.

THE FOLLOWING ARE THINGS NOT TO DO

- DO NOT use scrapers of any size or type for cleaning glass.
- DO NOT allow dirt and residue to remain on glass for an extended period of time.
- DO NOT begin cleaning glass without knowing if a coated surface is exposed.
- DO NOT clean tinted or coated glass in direct sunlight.
- DO NOT allow water or cleaning residue to remain on the glass or adjacent materials.
- DO NOT begin cleaning without rinsing excessive dirt and debris.
- DO NOT use abrasive cleaning solutions, materials or solvents.
- DO NOT allow metal parts of cleaning equipment to contact the glass.
- DO NOT trap abrasive particles between the cleaning materials and the glass surface.

Cleaning

Architectural glass products must be properly cleaned during the construction period in order that visual and aesthetic clarity are maintained. Because glass products can be permanently damaged if improperly cleaned, glass producers and fabricators recommend strict compliance with the following procedures:

First determine whether the glass is clear, tinted or reflective. Surface damage is more noticeable on reflective glass compared with the other glass products. If the reflective coated surface is exposed, either on the exterior or interior, special care must be taken when cleaning, as scratches can result in coating removal and a visible change in light transmittance. Cleaning tinted and reflective glass surfaces in direct sunlight should be avoided. Cleaning should begin at the top of the building and continue to the lower levels. Commence cleaning by soaking the glass surfaces with clean water and a soap solution to loosen dirt or debris. Then, using a mild, non-abrasive commercial window washing solution, uniformly apply the solution to the glass surfaces with a non-abrasive applicator and follow with a squeegee to remove all of the cleaning solution from the glass surface. Ensure that no metal parts of the cleaning equipment touch the glass surface and that no abrasive particles are trapped between the glass and the cleaning materials. All water and cleaning solution residue should be dried from the window gaskets, sealants and frames.

Iridescence

Iridescence is a greasy or oily film on the glass and in many cases this effect results from leaching of alkali bearing substances. When iridescence involves large areas of glass, the only practical remedy is replacement. When relatively small areas are concerned, it can sometimes be removed by polishing with cerium oxide.

Corrosion and Staining

Glass is often thought to be invulnerable except for breakage, but will in fact corrode or stain if permitted. Surface corrosion or staining is often caused by the deposition of dissolved or suspended minerals in water droplets which are allowed to dry and harden on the glass. As the contaminated water droplets evaporate, the minerals (or salts) become more concentrated and form strong chemical bonds with the glass itself, leading to residues or stains that are difficult to remove, or a permanently damaged etched surface. Where dissolved minerals are the cause, spots (the characteristic raindrop shape) are often seen on the aluminium glazing surrounds as well as the glass.

Causes of Surface Corrosion

- Alkalis (high concentrations of lime) from concrete, plaster or cement work.
- Alkalis from agriculture paddock or crop dusting.
- Hard water sources (high calcium concentration).
- High concentrations of silica or hydrogen sulphide in geothermal areas.

Major surface damage occurs on building projects from the incidence of water run-off from concrete or plaster surface. Once installed on the construction site, glass should be protected from alkali attack from wet concrete or fresh mortar. Concrete frames at window heads should be designed so that any run-off is directed away from the glazing. Concrete surface treatments (with acid, sandblasting, grouting, waterproofing, etc) must be completed before glazing commences. During construction, glass should be regularly examined, at least monthly, and any direct, scum, alkali deposits or staining immediately removed by washing with clean water and soft clean cloths. If the deposits have been left to harden and chemically bond to the surface, some improvement may be possible by rubbing the area with a dilute solution or products such as Antiris or a mild abrasive such as jeweller rouge or cerium oxide. The use of acid does require great care to avoid marking adjacent surfaces and suitable safety equipment such as face masks and gloves should be worn. For more stubborn marks, restoration may be possible by using a high-speed mechanical buffer, utilising a soft pad and thin slurry of cerium oxide. As with any corrective treatment, a trial of the procedure should be carried out on a small unobtrusive area to gauge the effectiveness and suitability of the treatment

Weld Splatter and Abrasion

Splatter from welding can cause permanent surface damage. Weld splatter and general scratching from heavy abrasion can reduce strength and lead to breakages. When welding is taking place or abrasive processes carried out in close proximity to glass, heavy screening must be erected to protect the glass.

Condensation

When condensation forms and then dries repeatedly on a glass surface, it is possible that the surface may become stained. Moisture can leach alkali materials from glass, and evaporation can then concentrate the alkali solution, often forming water spots or runs on the glass surface. These can be hard to detect in certain lighting conditions and may prove difficult to remove. Measures should be taken to reduce the degree of condensation that forms. Appropriate ventilation or the installation of insulating glass units will reduce the likelihood of condensation repeatedly occurring. In cases of light damage, it may be possible to remove the marks by polishing with cerium oxide. Some special products of a weak acid formulation are also available. The use of such agents is a skilled procedure and not all commercial cleaners are experienced in their application.

Scratches and Metal Scrapers

Scratches can occur from hard pointed objects or poor handling, but most often occurs from the careless removal of foreign matter from the glass surface. Mortar splatter and paint are common offenders and efforts to remove after hardening almost always lead to surface damage. It is essential that the foreign materials are removed before they harden. Better still, if construction work continues after glazing, that the glazed areas are protected by adhesive plastic films or suitable tarpaulins or covers. One of the common mistakes made by non-glass tradespeople, including glass cleaning contractors, is the use of razor blades or other metal scrapers on a large portion of the glass surface. Using large blades to scrape a window clean carries a large probability for causing irreparable damage to the glass. The entire industry of glass manufacturers, fabricators, distributors and installers neither condones nor recommends any scraping of glass surfaces with metal blades or knives. Such scraping usually permanently damages or scratches the glass surfaces. When paint or other construction materials cannot be removed with normal cleaning procedures, a new 25mm razor blade may have to be used. The razor blade should be used on small spots only. Cleaning should be done in one direction only. Never scrape under the blade that could scratch the glass.