



ARCHITECTURAL GLASS CASE



ARCHITECTURAL GLASS CARE

Prelco architectural glass products undergo rigorous quality assurance inspections to ensure that we ship glass that is in good condition and meets all applicable standards. To maintain this high level of quality and minimize the risk of damage, we recommend you follow the simple guidelines outlined in this document.

1 INSTALLATION

STORAGE

The best source of information on how to properly store glass is the list of instructions printed on each case: read and follow them carefully.

In addition, we recommend that you place protective layers between lites and keep the glass and protective materials dry at all times, to prevent glass from staining. Store glass cases in a clean, cool, and dry place where temperatures are above the dewpoint.

Make sure that your storage space has good circulation of cool, dry air, particularly after long periods of humidity and temperature variations. If cases cannot be stored indoors, they must be protected from rain or water with tarps or plastic coverings, and they should be opened periodically to inspect and correct possible moisture accumulations, which could damage the glass.

Glass should never be stored in direct sunlight without being covered by a light-coloured opaque protective material.

HANDLING

Poor handling of architectural glass may lead to breakage, which could seriously injure individuals. That's why anyone who packs, unpacks, transports or installs architectural glass must follow all safety precautions, use proper equipment, and wear protective clothing. Cases should always be unpacked according to the instructions on the case. Individual glass lites must be stored on their edge at a 5° to 7° vertical angle on solid blocks or supports. The top and bottom edges of all lites must be cushioned with felt and separated by protective paper or another suitable material. If the glass must be laid flat, use felt-covered tables that are free of dust, sand, glass shards or any other debris.

2 MAINTENANCE

PROTECTION DURING CONSTRUCTION

Architectural contracts typically include a special clause about glass protection (and cleaning). This is usually the responsibility of the general contractor, not the glass manufacturer.

During the construction period, openings for glazing are usually marked in one way or another. This can be done with coloured flags, ribbons, or tape hung near the glass or tied to the head, jamb or sill

of the frame. Make sure that the markers do not touch the glass and that no identifying marks or coatings are applied directly to the glass.

To prevent weakening and subsequent breakage, heavy plywood or plastic sheets may be required for protection if welding, cutting, sandblasting, or other potentially damaging construction techniques are used near the glass.

3 SURFACE DAMAGE

CONCRETE STAINS

Glass can be stained or etched by alkaline or fluorine materials released from concrete or masonry during rain storms. Concrete frames at window heads should be designed to keep water from dripping onto the glass. Precast panels and other concrete wall materials should be thoroughly mixed, fully hydrated, and completely cured. Concrete surface treatments (acid, sandblasting, grouting, washout, waterproofing, etc.) should be finished, and any loose particles resulting from these operations should be removed before glazing is installed.

If glass is installed near or below concrete or other masonry surfaces exposed to the elements, conduct a monthly inspection of the glass throughout the construction period. Immediately wash the glass if any dirt, scum, deposits, or stains are found during this inspection. Glass must also be washed after rainstorms, to remove any potential humidity or corrosive deposits. Water falling on decorative stones or other alkali-bearing surfaces close to glass can splash onto glass surfaces, causing etching or staining. Protect glass surfaces from these splashes and wash them frequently.

WEATHERING STEEL STAINS

Weathering steels, such as Mayari R, Stelcoloy, and Cor-Ten, release oxides as they age. These oxide deposits can be removed from smooth glass without difficulty by cleaning when construction starts and at regular intervals during the aging period designated by the steel manufacturer.

ABRASIVE AND IMPACT DAMAGE

Glass may be damaged by welding spatter, sandblasting, wind-blown dirt or sand, or other abrasive objects. These types of damage weaken glass and increase the likelihood of glass breakage and injury, and lites with this type of damage should be replaced.

STAIN REMOVAL

You can spot a stain by its distinctive oil-film appearance. They are often caused when the protective materials between the lites get wet and then dry, if glass is improperly stored. If large quantities of glass are stained, the only practical remedy is replacement. If relatively few lites are stained, the stains can sometimes be removed.

4 CLEANING

REGULAR WASH AND RINSE

Wash, rinse, and dry glass at frequent intervals, especially during construction. Use a clean cloth and a mild soap, detergent, or slightly acidic cleaning solution. Immediately after washing, rinse with clean water, and promptly remove excess rinse water with a clean squeegee. It is best to clean glass starting at the top and finishing at the bottom of a building.

Because fingerprints, grease stains, smears, dirt, scum, sealant residue, scratches, and abrasions (on either surface) are more noticeable on reflective glass than on regular glass, reflective glass must be handled and clean with extra care. Protective material should be placed between lites of reflective glass at all times during storage and shipment.

The reflective coating on glass is usually applied on surface 2. Abrasive cleaners should never be used to clean glass, especially reflective glass. Never clean reflective or low-maintenance glass by scraping it and avoid using silicone-based products on low-maintenance glass, as they could contaminate it.

CLEANING WITH SOLVENTS

For glass surfaces with grease, resin, wax or oil stains, we recommend using acetone or isopropyl alcohol on the affected area only, taking care to not spread the stain. Afterwards, wash, rinse and dry the glass as usual. Do not apply too much solvent, as this could damage the glazing or the joints.

Do not use abrasive cleaning products that could produce hydrofluoric acid or fluoride salts to clean glass or any nearby surfaces, which can damage and corrode glass and potentially result in breakage. Clean glass with a non-alkaline, low-solvent product as needed.

CLEANING WITH SCRAPERS

To remove stubborn, stuck-on debris with a sturdy single-blade scraper, start by wetting the surface to be cleaned. Only use a scraper that is specially made for glass and only if nothing else has worked. Scrapers must be used with extreme caution and only on specific areas. Avoid back and forth motions, which could trap particles beneath the scraper's blade and cause scratching.

RECOMMENDED CLEANING PRODUCTS

Regular Cleaning

- Soft and clean cloths
- Mild liquid soap or neutral detergent products
- Distilled, demineralized or filtered water
- 100% nylon inspection gloves
- 0000 steel wool
- 440A steel blade or scraper
- Mr. Clean Magic Eraser by Procter & Gamble
- Sparkle Glass Cleaner by A.J. Funk & Co.
- Windex Glass & Surface by SC Johnson & Son, Inc.
- Mix of 1 part vinegar and 10 parts soft (low calcium and magnesium) water
- Lime A-Way by Reckitt Benckiser Inc.
- The Works Tub & Shower Cleaner by BioLab Inc.
- Basic H Classic Cleaner by Shaklee Corporation
- Formula 409 Glass & Surface Cleaner by The Clorox Company
- Dart 210 by Madison Chemical Co.
- Glass Washing Detergent by Billco Manufacturing Inc.
- Low E Detergent by Sommer & Maca Industries Inc.
- Buckeye Blue by J.P. Davies Co.

Tougher Stains (grease, resin, wax, oil, etc.)

- Isopropyl alcohol (for silicone residues)
- Acetone
- Methyl-ethyl-ketone
- 1,1,1 -trichloroethane
- Mineral spirits
- Acid Magic by Universal Chemicals & Supplies Inc.
- Cerium oxide (certain conditions apply)

5 DO'S

- Coordinate glass delivery with glazing installation schedules
- Remove all unopened cases from the job site
- Secure cases on both sides when stored vertically
- Check all glass edges and surfaces before transportation
- Wear gloves, safety shoes, hard hats, work gloves and other safety clothing while transporting glass
- Protect glass from welding spatter, sand-blasting and other forms of damage.

DON'TS

- Move partially unpacked cases of glass, as this could cause breakage or damage
- Let the protective materials between lites get humid, as this could cause stains
- Carry glass holding it by the lower edge of the lite
- Use fewer people that required to safely move large glass panels
- Slide one lite of glass on top of another
- Mark or coat glass surfaces with an "X" or any other identifying symbol.

REFERENCES

Handling

- Manual Flat Glass Packaging PPG
- Manual Glass Pack Handling System PPG Easy-End Open Case
- The Science of Glass Packaging

Glazing

- Technical Service Report N° 130:
- G-925, Installation Recommendations
- Tinted and Reflective Glass Technical Service Report
- N° 230: G-011, Installation Recommendations Window
- PPG's Recommended Glazing Practices for Insulating Units over 20 square feet in area.

Cleaning and Maintenance

- Technical memorandum: Care and Storage of Glass
- Technical report on glass: no 80-5: Masonry Cleaning Chemicals
- John W. Roots, Ph. D, Maintenance Manual for Glass & Ceramic, version 2.1, 2007, p. 13-14.
- PPG, TD-144 Recommended Techniques for Washing Glass, 2015, p. 8
- Pilkington, Technical Bulletin ATS-166, 2013, p. 4
- AVFQ, Guide de nettoyage et entretien du verre, 2018 (in French only)



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